The Arising

OCTOBER 23, 2026

DAILY ISSUES



EDITORIAL ILLUSTRATION / AN ARTISTIC INTERPRETATION

Follow the question further.

LONGEVITY / MEDICINE / SCIENCE & INTELLIGENCE

The full original issue follows, with its articles and sources preserved.
Editorial review copy. This illustration update is not a new evidence audit.

ARISING HEALTH

The Arising

HEALTH INTELLIGENCE

LONGEVITY
SCIENCE
MARKETS
HUMAN HEALTH

Tracking emerging Medical Intelligence from a Physician's View

FRIDAY, OCTOBER 23, 2026 | VOL 1 NO 21 | ARISING HEALTH

46 stories across 7 desks | ~124 minutes to read | 923 briefs grouped by topic

Checked before print. 1,274 claims in 46 articles and 923 briefs verified against their sources by a separate reviewer · 21 articles and 102 briefs corrected before publication

LONGEVITY & HEALTHSPAN

29 STORIES · 73 MIN →

1

Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit

High-dose fish oil reached the brain in a new trial, yet it did...

3 MIN READ

2

Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%

For people treated for melanoma, the hardest question is often whether the cancer...

2 MIN READ

3

Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank

Fitness leaves a readable mark in the blood, and that mark tracks with...

3 MIN READ

4

Change in AI Face Age Between Photos Linked to Cancer Survival

A photo taken at a hospital for identification may hold more than a...

3 MIN READ

5

Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years

Older adults with obstructive sleep apnea who had no CPAP device billed to...

2 MIN READ

6



Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition

More than 80 nutrition researchers and experts are now asking the White House...

2 MIN READ

7

Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial

Hard exercise can briefly strain how well the heart muscle gets its own...

3 MIN READ

8

Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies

A compound already sold as an anti-aging pill has now been applied to...

3 MIN READ

9

Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress

Breathing in a set pattern before a stressful moment kept heart rate and...

2 MIN READ

10



Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes

Walking-style cardio or lifting: for people with type 2 diabetes, a new trial...

2 MIN READ

11

Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50

Plant protein and dairy protein left the same mark on blood chemistry in...

3 MIN READ

12

Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women

Exercise labelled "moderate" by a fixed standard may feel quite easy to a...

3 MIN READ

13

Blood Flow Restriction Training Showed No Overall Advantage for Artery Health

Wrapping cuffs around your limbs during light exercise does not, on average, make...

2 MIN READ

14



Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk

Smoking is one of the few major risk factors for age-related macular degeneration...

2 MIN READ

15

Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures

People who eat more ultra-processed food carry a different chemical fingerprint in their...

2 MIN READ

16

Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients

When the kidneys decline, toxins made by gut bacteria can build up in...

3 MIN READ

17

Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge

Most women know hot flashes can signal perimenopause.

2 MIN READ

18

New Aging Framework Names Epigenetic Change the Dominant Driver of Aging

If aging is partly a matter of cells losing track of what they...

3 MIN READ

19

Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags

Exercise during blood cancer treatment appears to help patients keep their physical function...

3 MIN READ

20

Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults

Protein powders and amino acid pills work in the lab, but a new...

3 MIN READ

21

Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery

Mild electrical stimulation of a nerve in the ear, given around the time...

3 MIN READ

22

Fasting and Lean Mass Over 45: Short Trials, Small Differences

Intermittent fasting does not appear to cost much extra lean tissue in people...

2 MIN READ

23

Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy

Older adults whose sleep was more broken up, as measured by a wrist...

2 MIN READ

24

Blood Test for p-tau217 Predicted Decline Over 12 Years

A single blood test, taken when people had no memory problems, sorted older...

3 MIN READ

25

Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients

A new analysis of 28 randomized trials found that steady aerobic exercise raised...

2 MIN READ

26

Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

A blood pressure reading is a snapshot, but a new study suggests that...

2 MIN READ

27

Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice

A single injection of a gene therapy restored memory in mice with Alzheimer's-like...

3 MIN READ

28

Men With Heart and Metabolic Disease Show Faster Epigenetic Aging

Men with high blood pressure, heart disease, obesity or abnormal blood fats look...

2 MIN READ

29

AI Spotted Heart Disease From Face and Tongue Photos in Small Test

A computer program that studied photos of the tongue and face separated people...

2 MIN READ

MARKETS & STRATEGY

5 STORIES · 9 MIN →

1



Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech

1 MIN READ

2

Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages

2 MIN READ

3

Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds

3 MIN READ

4

Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs

1 MIN READ

5

Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

2 MIN READ

LONGEVITY & HEALTHSPAN · LONG READS

4 STORIES · 14 MIN →

1

Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter

4 MIN READ

2

AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data

4 MIN READ

3

Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent

3 MIN READ

4

Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent

3 MIN READ

MARKETS & STRATEGY · LONG READS

1 STORY · 3 MIN →

1

Apple's First Foldable iPhone Is the iPhone Duo, Starting at $1,999

3 MIN READ

MEASUREMENT & AI

3 STORIES · 10 MIN →

1

Your Wearable's Heart Rate Variability May Be Partly Sleep Apnea. A Testable Idea, Rated 45 Percent

3 MIN READ

2

AI's Next Race Is Cost per Answer, Not Model Size, and Medicine Will Feel It

4 MIN READ

3

Staggered Shifts Leave More People Unaware of a Rumour, Our Simulation Suggests

3 MIN READ

SCIENCE & FRONTIERS

2 STORIES · 7 MIN →

1

A Physics Law for Trade Costs Looks Elegant, but Road Data Already Point the Other Way

3 MIN READ

2

Could Meteorite Amino Acids Work as a Thermometer for Early Asteroids? An Idea Borrowed From Stars

3 MIN READ

HISTORY & IDEAS

2 STORIES · 8 MIN →

1



Does Complexity Grow Where Failure Is Cheap? An Untested Big-History Idea

4 MIN READ

2

The Whale Is Not a Preview of Human Lifespan. We Are Already the Bigger Outlier

4 MIN READ

BRIEFS

923 SHORT STORIES · 262 MIN →

Fasting, autophagy & metabolic health 55 · Epigenetic reprogramming & age reversal 52 · Gut microbiome & brain axis 55 · Alzheimer's & cognitive decline prevention 53 · Women's health & hormonal transitions 52 · Nitric oxide & vascular health 54 · Mitochondria & cellular energy 50 · Clinical trials 83 · In the news 3 · VO2 max & zone 2 training 54 · Sleep science & circadian biology 55 · Ultra-processed food & ultra-processed diet 52 · Exercise as medicine & longevity 54 · Proteins & amino acids 48 · MRNA & gene therapy 54 · AI biology & diagnostics 49 · Stress resilience & nervous system 47 · Longevity research 53

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · LONGEVITY & HEALTHSPAN DESK

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. **Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit**
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences

23 Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24 Blood Test for p-tau217 Predicted Decline Over 12 Years
25 Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26 Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease
27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

EBIOMEDICINE · 2 SOURCES

Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit

High-dose fish oil reached the brain in a new trial, yet it did not improve memory or slow shrinkage in a key memory region over two years.

The work is a randomised, double-blind, placebo-controlled trial, published in 2026 in the journal EBioMedicine. It enrolled 365 adults aged 55 to 80 at the University of Southern California. None had dementia. All ate little DHA (under 200 mg a day), and each had at least one risk factor, such as obesity, high blood pressure, high cholesterol or low physical activity. DHA is an omega-3 fat found in fish oil.

Participants were randomly assigned 1:1 to take 2,000 mg of DHA daily or a matching placebo for 24 months. The placebo was a mix of corn and soybean oils. Everyone also took a B-complex vitamin. Of those enrolled, 58% were women, 39% were Hispanic, and 173 (47%) carried APOE ε4, a gene variant linked to higher Alzheimer's risk.

The first question was simple: does the supplement get into the brain? Some participants agreed to a lumbar puncture, which collects the fluid around the brain and spinal cord. The researchers measured the ratio of DHA to another fat, arachidonic acid, in that fluid. At six months it rose by 0.17 in the DHA group and fell slightly, by 0.02, in the placebo group. The study also reports that spinal fluid DHA rose 17%. Red blood cell omega-3 levels went from 4.9% to 11.0%. According to the authors, this held regardless of APOE ε4 status.

The second question was whether that mattered. The answer, per the authors, was no. Over 24 months, the DHA group showed no differences from placebo in hippocampal volume, the size of a brain region involved in memory that shrinks in Alzheimer's disease. Cognition, tested with a standard memory and thinking battery, also did not differ. Cognitive tests were exploratory outcomes in the trial design; brain structure was a secondary outcome. The primary outcome was the spinal fluid measure.

The authors conclude that DHA alone is not enough to improve cognition in non-demented older adults with low omega-3 intake. They note that earlier trials of DHA in people without dementia were mostly unconvincing: in a review they cite, 5 of 24 showed positive cognitive effects. Trials in people with established Alzheimer's were all null.

There are limits. This was a single-centre, phase 2a trial built mainly to test whether DHA reaches the brain. Dropout approached 30% during the study, partly because of COVID-19 disruptions. The results apply to people like those enrolled: older adults who rarely eat fish. They say little about people who already eat plenty of fish, or about other doses and omega-3 products.

Lead investigator Hussein Naji Yassine told the university press office, as reported by ScienceDaily: "Our results do not support fish oil supplements as a preventive measure against Alzheimer's." The coverage also suggests that omega-3s from a whole diet, such as a Mediterranean-style pattern, may work better. That idea comes from the researchers' earlier work and was not tested in this trial. The coverage also says Americans spend more than $1 billion a year on omega-3 supplements, a figure that does not come from the study.

FOR YOU

For readers weighing the cost of fish oil pills, the trial offers one clear point. In this group, a high dose raised brain DHA without a measurable gain in memory or hippocampal size over two years. It does not show that fish or dietary omega-3s are useless, and it did not test other reasons people take fish oil. The authors say future work should focus on how the brain handles DHA, especially in APOE ε4 carriers, rather than on more supplement trials. Readers should not start or stop any supplement without talking to their own clinician.

Sources: EBioMedicine (2026), ScienceDaily (Keck Medicine of USC)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. **Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%**
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

STAT

Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%

For people treated for melanoma, the hardest question is often whether the cancer will come back, and a vaccine built from each patient's own tumor has now shown it can lower that risk.

The Arising reported on this vaccine on October 22, when the focus was Moderna's stock. What is new is the detailed trial data, released at the ESMO cancer conference in Madrid. According to STAT's report of the study, the data confirm that the Moderna and Merck vaccine met its key endpoints in the melanoma trial.

This article is based on STAT's report. The study paper itself was not reviewed, and only the opening of STAT's article was available to us.

According to STAT, the personalized mRNA vaccine, called intismeran autogene, reduced the risk of disease recurrence by 42% compared with a standard treatment. STAT describes the trial as large and run by Moderna and Merck.

STAT reports that oncologists called the results an important advance for melanoma. The reason, according to the report, is that patients lived significantly longer without their cancer returning.

The vaccine works differently from a one-size-fits-all drug. According to STAT, it is an individualized therapy that targets the unique mutations, called neoantigens, found in a patient's own tumor. These are changes in the cancer's genes that set it apart from healthy cells. STAT says the approach relies on the same mRNA technology that allowed rapid development of Covid-19 vaccines.

For people at risk of recurrence, the practical meaning is that a treatment tailored to one person's tumor can delay the cancer's return better than the standard treatment it was compared with. That is the interpretation of the finding, not a promise about

any individual's outcome.

STAT also reports that the success may usher in a new wave of treatments for other cancers. It adds that experts are debating how broadly the technology could apply. Whether it works beyond melanoma is not yet known.

The part of STAT's report available to us did not cover several questions that matter to patients. These include the full safety picture, whether the vaccine helps people live longer overall, and which patients benefit most. We cannot say what the trial found on those points.

WHAT TO WATCH NEXT

The full study publication and the more detailed results, which should show how the benefit holds up over time, how safe the vaccine is, and whether it extends survival.

Anyone with melanoma or concerns about recurrence should not start or stop any treatment without talking to their own clinician.

Source: STAT

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. **Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank**
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

CIRCULATION. GENOMIC AND PRECISION MEDICINE · 2 SOURCES

Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank

Fitness leaves a readable mark in the blood, and that mark tracks with who lives longer. In a large UK study, people whose blood chemistry looked like that of fit people had a 39% to 54% lower risk of dying from any cause over about nine years.

The work is an observational study in people, published in Circulation: Genomic and Precision Medicine in 2026. It used the UK Biobank, which recruited 502,134 adults aged 40 to 69 between 2006 and 2010. Observational means the researchers measured what was already there. It cannot show that fitness causes these blood patterns or the lower risk.

Cardiorespiratory fitness is the body's ability to deliver oxygen to working muscles during sustained activity. The authors note that it is one of the strongest modifiable predictors of early death. Yet it is rarely measured in clinics, and its biology is poorly understood. The team set out to find blood markers that reflect it.

Fitness in the UK Biobank was estimated, not directly measured. Participants did a submaximal cycle test, with heart rate tracked as the workload rose. Estimated VO2 max, a standard measure of fitness, was calculated from that heart rate response, along with age, sex and body weight.

The researchers then looked at two kinds of blood data taken at baseline. One was metabolomic: small molecules such as fats, amino acids and ketone bodies. The study included 251 of these. The other was proteomic: 2,920 proteins.

Higher fitness was linked to lower activity in pathways tied to inflammation, triglyceride metabolism, glycolysis (the breakdown of sugar for energy) and vascular dysfunction. It was linked to higher activity in pathways for cholesterol transport,

the size of lipoprotein particles and cytoskeletal remodeling, which relates to the structural framework inside cells.

From these patterns the team built two signatures of fitness, one metabolomic and one proteomic. Each explained roughly half to 60% of the variation in fitness (R^2 of 0.50 to 0.60). So they track fitness well but not perfectly.

The signatures were checked in independent UK samples, with metabolomic data on 354,222 people and proteomic data on 29,961. Over an average of 9 years, there were 27,659 deaths from any cause. The models adjusted for age, sex, ethnicity, socioeconomic status, smoking, alcohol, diet, body mass index and relevant medical history.

The metabolomic signature was linked to a 39% to 54% lower risk of death from any cause across the discovery and validation groups. It was also linked to a 90% lower risk of type 2 diabetes in both, a 42% to 47% lower risk of cardiovascular disease and a 33% to 39% lower risk of colorectal cancer.

The proteomic signature showed weaker links. It was associated with a 17% lower risk of death from any cause, and a 22% to 39% lower risk of type 2 diabetes and cardiovascular disease.

The authors conclude that circulating metabolites and proteins are associated with fitness and with later risk of death and chronic disease. Those are associations. The study does not show that raising fitness would produce these blood changes or these risk reductions in any individual. It also relied on an estimated fitness score, and the UK Biobank volunteers were aged 40 to 69.

FOR YOU

For readers, the practical message is modest. Fitness appears to be reflected across many body systems at once, from fats and sugar handling to inflammation and blood vessels. That fits with the authors' view that no single molecule captures it. The paper points to the signatures as possible stand-ins where fitness testing is not feasible.

The findings sit alongside earlier coverage in The Arising of a separate study linking higher VO2 max to lower depression and anxiety risk. That work looked at mental health outcomes. This one looks at blood chemistry, death and physical disease. Both are observational and point the same way.

WHAT TO WATCH NEXT

Whether these signatures hold up in more diverse groups and whether they change when people improve their fitness, which this study did not test. Readers should not start or stop any activity or treatment without talking to their own clinician.

Sources: Circulation. Genomic and precision medicine (2026), Circulation: Genomic and Precision Medicine

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. **Change in AI Face Age Between Photos Linked to Cancer Survival**
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Change in AI Face Age Between Photos Linked to Cancer Survival

A photo taken at a hospital for identification may hold more than a likeness: in a new study, how fast an AI tool judged faces to be aging between two photos tracked how long people with cancer lived. This is a group-level association in cancer patients, not a single-photo prediction for any one person.

The work appeared in Nature Communications in 2026. It is an observational study of 2,276 adults with cancer, all over age 20, who each had at least two separate courses of radiation therapy. The photos were taken as part of routine care. An observational study can show that two things go together. It cannot show that one causes the other.

The tool is called FaceAge. It estimates biological age, meaning how old a person looks in health terms, from a facial photograph. The team used two photos per patient to calculate a Face Aging Rate (FAR): the change in FaceAge divided by the time between the photos. A FAR above 1 means faster-than-expected aging. Below 1 means slower.

Patients had a median age of 63.4 at the first course. About half were women (50.5%). Most were White (85.1%). Cancer had spread in 62.9% at the first course and in 78.7% at the second. The median gap between photos was 286 days, and the median follow-up was 35.7 months.

Higher FAR was linked to worse overall survival. The researchers split patients by the time between photos. After adjusting for time between photos, sex, race and diagnosis, the adjusted hazard ratios were 1.25 for gaps of 10 to 365 days, 1.37 for 366 to 730 days, and 1.65 for 731 to 1,460 days. A hazard ratio above 1 means a higher risk of death over the study period. The mid-range interval's confidence range (1.00 to 1.86) only just cleared 1.

Median survival differed too. It was 4.1 versus 6.5 months in the shortest-gap group, 6.4 versus 12.5 months in the middle group, and 15.2 versus 36.5 months in the longest-gap group, comparing faster with slower aging. The cut-off for "fast" differed by group (FAR above 20, 10 and 1). The authors explain that short gaps magnify small measurement noise, so short-interval values swing widely.

FAR added information beyond a single FaceAge reading. Patients who looked older than their years at the first photo and also had a high FAR faced the highest risk. The link also held in patients with metastatic cancer. Chronological age alone was not significantly tied to survival in any of the three groups.

There are clear limits. Everyone in the study had cancer and was receiving radiation, and many had advanced disease. Most were White. The study does not show that a face age score means anything for healthy people. It also does not test whether changing habits or treatment alters the rate. The authors call FAR a non-invasive prognostic marker. They do not present it as a diagnosis. The weakest point is the cut-offs: they differed by interval group, which makes the groups hard to compare.

Smoking is one visible thread. The paper notes that the team's earlier FaceAge work found links with health behaviors such as smoking, alcohol and drug use. The ASCO Post, reporting a separate Lancet Digital Health study from the same group, says smoking had the strongest association with looking biologically older in that work. That article quotes co-corresponding author Raymond H. Mak, a radiation oncologist at Mass General Brigham, who said the goal is to support treatment decisions "rather than replace physician judgment." That second study, which used a different model, is not the one analyzed here.

WHAT TO WATCH NEXT

Whether FAR holds up in other patient groups and in people without cancer. The ASCO Post reports that the team is expanding its work through a FaceAge Research Study open to the public.

Sources: Nature communications (2026), The ASCO Post (reporting a Lancet Digital Health study)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. **Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years**
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2 SOURCES

Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years

Older adults with obstructive sleep apnea who had no CPAP device billed to Medicare lost thinking ability 69% faster over a decade than those who did, according to a study in Alzheimer's & Dementia: The Journal of the Alzheimer's Association.

This is an observational study in people, not a trial. The researchers, led by Kaufmann and Spira, analyzed 777 participants in the National Health and Aging Trends Study, a nationally representative study of Medicare beneficiaries aged 65 and older. Each had at least one Medicare claim for obstructive sleep apnea and no sign of dementia at the start in 2011. A study like this can show a link. It cannot show that one thing caused the other.

Obstructive sleep apnea is a condition in which the throat repeatedly collapses during sleep. According to the paper, nearly one billion people worldwide have it. It raises the risk of heart disease and early death. Continuous positive airway pressure, or CPAP, is the first-line treatment recommended by the American Academy of Sleep Medicine. A CPAP machine delivers a steady stream of air to keep the airway open. The authors note that many people with sleep apnea remain untreated.

Cognition was assessed each year from 2011 to 2021. The score combined word recall tests, questions about the date and day of the week, and naming the President and Vice President. Thinking performance declined in the group as a whole. Participants with a CPAP claim declined by 0.03 standard deviation units per year (95% confidence interval: −0.04 to −0.02). Untreated participants declined 69% faster (CPAP-by-time interaction: −0.02; 95% confidence interval: −0.04 to −0.001). The upper end of that range sits very close to zero, so the size of the gap is uncertain.

The finding speaks to a puzzle. Large studies have linked CPAP use to lower dementia risk. Shorter trials have found little cognitive benefit. One of them, the APPLES trial of more than 1,000 people with moderate to severe sleep apnea, found only small improvements at 6 months. The authors argue that cognitive decline unfolds over many years, so short follow-up may miss it. Their 10-year data point in that direction.

There are important limits. CPAP use was defined by one or more device claims at any time between 2008 and 2021, and treated as fixed for the whole study. Claims show that a device was billed, not whether anyone used it each night. People who get CPAP may also differ in other ways from those who do not. The researchers considered factors including age, sex, education, body weight, heart disease, diabetes, depression and smoking, and adjusted for those linked to CPAP use, but adjustment cannot remove every difference. The authors' own conclusion is cautious: CPAP therapy "may slow cognitive decline in older adults with OSA."

The Arising's October 9 report on a gut bacteria molecule linked to Alzheimer's protein buildup was a different study on a different possible risk factor. This one adds a separate line of research on factors that might be changed.

The authors call for studies of how treatment might prevent cognitive decline, and for long-term studies that link data recorded by treatment devices to medical claims, to show how adherence and intensity of use relate to brain health. Readers should not start or stop any treatment without talking to their own clinician.

Sources: Alzheimer's & dementia : the journal of the Alzheimer's Association (2026), Alzheimer's & Dementia: The Journal of the Alzheimer's Association

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. **Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition**
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

STAT

Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition

More than 80 nutrition researchers and experts are now asking the White House to release the federal government's proposed definition of ultra-processed foods, according to STAT.



Photo: "20230208-USDA-RD-OH-HAS-0033" by USDAgov, Public domain

The Arising reported on October 12, citing a Wall Street Journal report we could not confirm, that the White House had stalled Health Secretary Robert F. Kennedy Jr.'s push for such a definition. What is new is a petition from the scientific community. According to STAT, the definition was due to be unveiled in August, but the event was canceled at the last minute under pressure from major food companies.

The petition comes from the Food is Medicine Institute at Tufts University, led by cardiologist Dariush Mozaffarian. According to STAT, the institute was scheduled to meet the Office of Management and Budget on Friday to present it. Mozaffarian

spoke at the Department of Health and Human Services event where the definition was originally slated to be announced.

Mozaffarian told STAT that HHS wants the definition out before the upcoming midterm elections. "This is part of what the Make America Healthy Again movement that many independent voters and swing voters voted for," he said. "I think HHS sees this as a win for the administration before the election to show they're taking real action."

The industry view reaches us through Mozaffarian. He told STAT that the Consumer Brands Association, a food industry trade group, has argued that a proposed definition will raise food prices. We did not see the group's own statement. Mozaffarian called that position "absurd and false." He said it could still make the White House nervous with the midterms close.

For shoppers, the stakes are practical. There is still no official federal answer to what counts as ultra-processed food. A government definition could give everyone the same starting point when talking about these products. The STAT excerpt we reviewed does not say what the proposed definition contains, or whether it would change food labels. Those questions remain open.

The disagreement is also not about the science alone. It is a test of whether health officials or industry concerns about cost carry more weight inside the White House before the election. That framing is our interpretation, not something STAT's excerpt states.

WHAT TO WATCH NEXT

Whether the Office of Management and Budget responds to the petition, and whether HHS sets a new date to release the definition.

Source: STAT

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. **Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial**
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

EXPERIMENTAL PHYSIOLOGY · 2 SOURCES

Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial

Hard exercise can briefly strain how well the heart muscle gets its own oxygen, and after menopause that balance may already be shakier. A small trial in Experimental Physiology asked whether nitrate-rich beetroot juice could help protect it. The text available to us reports the design and the blood nitrate results, but its Buckberg-ratio results are cut off, so we cannot confirm here whether the juice changed that measure.

The evidence is a randomised, double-blind, placebo-controlled trial in 24 postmenopausal women. The paper describes it as a sub-analysis of a larger trial. The women averaged 60 years old and were about 10 years past menopause. Twelve drank beetroot juice and twelve drank a look-alike placebo with the nitrate removed.

The measure at the centre of the study is the Buckberg ratio. It is a non-invasive estimate of how well the heart's oxygen supply keeps up with its demand. It comes from the pressure wave in the large artery leaving the heart. The software compares pressure during the heart's resting phase, when the heart muscle is fed, with pressure during the pumping phase, when it works hardest. Higher values mean more favourable blood flow to the heart muscle. Lower values have been linked to reduced coronary perfusion and to heart problems.

The authors give the background. Heart disease risk rises after menopause. Falling oestrogen lowers nitric oxide, a molecule that helps blood vessels relax and widen. Postmenopausal women also tend to have a lower Buckberg ratio than men of the same age. Dietary nitrate, found in beetroot, is turned by the body into nitric oxide through a route that does not rely on the vessel lining's own production.

Each woman did three testing visits in random order, at least 48 hours apart. One was a rest-only control. One was moderate-intensity exercise. One was high-intensity exercise. The two exercise sessions were matched for calories burned. The Buckberg ratio was measured at rest and then every 30 minutes for three hours afterwards.

The juice group took about 13 mmol of nitrate a day, in two 70 mL bottles, for roughly two days. They took a final dose two hours before testing. Blood tests showed the supplement raised the body's nitrate levels as intended. Plasma nitrate rose from about 65 to about 1,114 µM. Plasma nitrite rose from about 118 to about 357 nM.

The authors had predicted that the ratio would fall after exercise, more so after hard exercise, and that beetroot juice would soften the fall. Their conclusion is that nitrate supplementation might help preserve coronary perfusion during higher-intensity exercise stress. That wording is cautious, and it fits the study's size and design.

There are clear limits. Twelve women per group is small. The women were healthy, were not on hormone therapy, and were sedentary or only recreationally active. The Buckberg ratio is an estimate, not a direct measure of blood flow in the heart's arteries, and clinical events such as heart attacks were not an outcome of the study. Supplementation lasted about two days and effects were tracked for three hours. The trial tested one product, beetroot juice. It did not test leafy greens or other nitrate-rich foods. Participants were told to avoid high-nitrate foods during the study, so the paper offers no direct evidence on them.

The study does not show that beetroot juice protects the heart in daily life or lowers the risk of heart disease. The weakest point of this account is that the Buckberg results themselves are not in the text we could check, so the central claim rests on the authors' stated conclusion that nitrate might help preserve coronary perfusion.

WHAT TO WATCH NEXT

Larger trials, longer supplementation, and studies that include women with existing heart or vascular conditions. Please do not start or stop any supplement, juice or exercise routine without talking to your own clinician.

Sources: Experimental physiology (2026), Experimental Physiology

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. **Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies**
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

ISCIENCE · 2 SOURCES

Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies

A compound already sold as an anti-aging pill has now been applied to skin, and in randomized, placebo-controlled studies it made wrinkles around the eyes shallower after eight weeks. The abstract gives no sample sizes, doses or effect sizes, so how large the change was is unknown.

The findings come from a paper in iScience in 2026. The evidence is mixed in kind. Part of it comes from cells and tissue: lab-grown human skin in flat (2D) and three-dimensional (3D) form, and skin samples taken from people, known as ex vivo explants. Part of it comes from randomized, placebo-controlled clinical studies in healthy people. The abstract, which was the only part of the paper available to us, does not say how many people took part.

The compound is urolithin A. It is a postbiotic, meaning a substance made by gut bacteria. Taken by mouth, it has been reported to promote mitophagy, the recycling of worn-out mitochondria, and to improve mitochondrial function. Mitochondria are the parts of a cell that make most of its energy. The new work asks whether putting it directly on skin does something similar.

In the lab models, urolithin A raised mitochondrial respiration, the process by which mitochondria produce energy. It activated markers of mitophagy. It lowered inflammatory mediators and markers of senescence, a state in which aging cells stop dividing and can add to inflammation. It also increased proteins involved in the structure of the extracellular matrix, the scaffold around skin cells, and proteins involved in epidermal differentiation, the process by which the skin's outer layer renews itself.

In people, the authors report two main results. Urolithin A reduced the depth of periorbital wrinkles, the lines around the eyes, after eight weeks. It also attenuated UVB-induced erythema, which is the redness that follows exposure to ultraviolet B

light. A human repeat-insult patch test, which checks whether a product irritates or sensitizes skin, confirmed safety, according to the abstract.

Gene activity measured in skin, known as transcriptomics, pointed the same way. It showed more activity in programs for the extracellular matrix and for building the epidermis, and less inflammatory and senescence-associated signaling. The authors conclude that topical urolithin A engages cellular pathways tied to skin resilience.

The limits matter. The abstract gives no sample sizes, doses, or sizes of effect, so it is not possible to say how large or how noticeable the wrinkle change was. The human studies were in healthy subjects, and the wrinkle result was reported at eight weeks, so they say nothing about longer-term results or about people with skin conditions. The abstract does not state how long the redness study ran. Reduced wrinkle depth and less redness are measured outcomes, not proof that skin was made biologically younger. The link between the lab findings and the human results is plausible, but the abstract does not show that one caused the other. This is the weakest part of the argument, and independent replication would help.

Fight Aging!, which covered the paper, describes the idea that many approaches to improving mitochondria work mainly by improving the clearing of damaged mitochondria as suggestive, not definitive. That caution fits the skin data too. The coverage also links the findings to cellular senescence in aged skin, a broader framing that goes beyond what the abstract tests directly.

WHAT TO WATCH NEXT

Full trial details, including participant numbers and effect sizes, and any longer or independent studies that test whether the benefit lasts. Readers should not start or stop any product or supplement without talking to their own clinician.

Sources: iScience (2026), Fight Aging! (reporting on a study in iScience)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. **Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress**
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress

Breathing in a set pattern before a stressful moment kept heart rate and anxiety from rising as much, according to a randomized controlled trial in Comprehensive Psychoneuroendocrinology. Both box breathing and prolonged exhalation worked, about 6 minutes in total. It cost nothing and needed no equipment. But it did not change everything researchers measured.

The trial enrolled 66 adults aged 18 to 39. They were randomly placed in one of three groups of 22: normal breathing, prolonged exhalation, or box breathing. A randomized trial is the strongest design for testing whether an intervention causes a change, though this one was small and short.

Box breathing follows a four-part cycle: a 4-second inhale, a 4-second pause, a 4-second exhale and a 4-second pause. The prolonged exhalation method used periodic "physiological sighs." These are single deep breaths with a long exhale, mixed in with normal breathing.

Each person did their assigned breathing for 5 minutes just before a stress test. They did it again for 1 minute during the test, between the presentation and a mental challenge. The stressor was a modified, virtual version of the Trier Social Stress Test, a widely used lab method. Participants prepared a 5-minute job pitch, then delivered it over Zoom to a prerecorded video of two judges with neutral expressions.

The test worked as a stressor. According to the authors, it significantly raised heart rate, state anxiety (a self-reported measure of how anxious a person feels right now), salivary alpha-amylase and secretory immunoglobulin A. Alpha-amylase is a saliva enzyme often used as a marker of the body's "fight or flight" activity. Secretory immunoglobulin A is an antibody found in saliva.

Both breathing methods reduced the post-stress rises in heart rate, state anxiety and alpha-amylase compared with normal breathing. The authors conclude that brief breathing practice can buffer acute physiological stress responses. Their wording is cautious: the findings support short-term effectiveness for subjective and peripheral markers of stress.

The limits matter. Heart rate variability, which tracks the variation in time between heartbeats, did not differ across the three groups. Cortisol, the best-known stress hormone, did not differ either. Performance on the Stroop color-word task and on mental arithmetic was also statistically unchanged. So the breathing eased how anxious people felt and some body signals, but it did not improve thinking scores in this test.

Other cautions apply. The stress test was modified from the standard version, with a prerecorded panel, a shorter preparation time and breathing breaks built in. The authors call these meaningful deviations from the validated protocol. Participants were healthy and free of diagnosed anxiety, depression, ADHD and cardiovascular or metabolic disease. Results may not carry over to people with those conditions, or to real-world stress. Effects were measured only in the short term. The study did not test whether the habit changes long-term health.

The researchers framed the work around high-stress jobs such as law enforcement, firefighting and military service. The practical point for the wider public is modest: for a known stressful event, a few minutes of slow breathing appears to take the edge off some of the body's immediate reaction.

WHAT TO WATCH NEXT

Larger trials in real-world settings, in people with anxiety or heart conditions, and over longer follow-up. Anyone thinking about changing how they manage stress or a health condition should talk to their own clinician before starting or stopping anything.

Sources: Comprehensive psychoneuroendocrinology (2026), Comprehensive Psychoneuroendocrinology

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. **Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes**
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

BIOINFORMATION · 2 SOURCES

Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes

Walking-style cardio or lifting: for people with type 2 diabetes, a new trial suggests the long-run blood sugar payoff looks about the same.



Photo: "Strong woman lifting dumbbell in a bright gym setting" by nenad53, CC BY 2.0

The study is a randomized controlled trial, published in 2026 in the journal Bioinformation. It enrolled 60 people with type 2 diabetes. Thirty were assigned to structured aerobic training and 30 to structured resistance training. The authors are Mendhe, Kumar and Kadve.

Participants were aged 30 to 60 at enrollment and had lived with diabetes for more than a year. People who smoked, or who had kidney or liver problems, uncontrolled high blood pressure or diabetic complications, were excluded. Most participants in both groups were women: 80% in the aerobic group and 86.7% in the resistance group. The groups were similar at the start in age, sex, height and weight.

Both programs were supervised. Intensity was set using a standard effort scale, at a level described as "somewhat hard." The aerobic group did continuous rhythmic activity. The resistance group trained the major muscle groups. Researchers checked

results at several points, including 3, 6, 9 and 12 months, with longer evaluation of up to 18 months described in the trial framework.

They tracked blood sugar, blood pressure and blood fats such as HDL, LDL, total cholesterol and triglycerides. They also tracked behaviors, including diet knowledge, readiness to change diet and barriers to eating well.

Both groups improved. HbA1c, a measure of average blood sugar over recent months, fell from 6.71 to 6.19 in the aerobic group and from 6.77 to 6.23 in the resistance group after one year. Fasting blood glucose in the aerobic group fell from 166.33 to 133.33 mg/dL. The text we had cut off before giving the resistance group's final fasting figure.

The paper says the aerobic group showed slightly greater blood sugar reductions along the way. Its abstract also says resistance training had better early effects on diet-related behaviors and metabolic adaptation. But by the end, the authors report, the two groups' outcomes converged, which they read as comparable effectiveness over time.

The limits matter. This is one small trial. Participants were mostly women, and their average HbA1c at the start was already fairly low for people with diabetes. The paper also lists a baseline body weight for the resistance group with an unusually large spread, which suggests a data quirk. The trial cannot say which exercise is better for any one person, and it did not test other doses or routines.

The practical reading, from the authors' conclusion, is that both types of exercise are beneficial. That fits a related trial we covered on October 21, in which older men with type 2 diabetes who all did strength training gained more from added protein. That study tested add-ons to training, not one type of exercise against another, so the two do not answer the same question.

Larger and longer trials in more varied groups will show whether the early differences and the later match-up hold up. Anyone with diabetes should not start or stop any exercise program or treatment without talking to their own clinician.

Sources: Bioinformation (2026), Bioinformation

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. **Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50**
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

METABOLOMICS : OFFICIAL JOURNAL OF THE METABOLOMIC SOCIETY · 2 SOURCES

Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50

Plant protein and dairy protein left the same mark on blood chemistry in older adults, but some blood metabolites measured before the trial were correlated with how strong people's grip was. Which specific amino acids drove this is not confirmed in the text we could review, so we do not name them.

That is the finding of a secondary analysis of a randomised controlled trial, published in 2026 in Metabolomics, the official journal of the Metabolomic Society. The trial was double-blinded and ran for 12 weeks. It enrolled 171 healthy adults aged 50 and over, 100 women and 71 men. The average age was 59.2 years. A secondary analysis means the researchers went back to data from an earlier trial to ask new questions.

Participants were randomly assigned to one of three daily shakes. One was a plant-based protein shake with 23 grams of protein. One was a dairy-based shake with 22 grams. The third was a low-protein shake with 2 grams. Everyone was told to keep their usual diet and physical activity. Fasting blood samples and handgrip strength were taken at the start and after 12 weeks.

The team measured 140 metabolites in plasma, the liquid part of blood. Metabolites are small molecules made or used by the body's chemistry. The researchers asked whether plant and dairy protein changed this profile differently. According to the paper, they did not. There was no significant main effect of group ($p = 0.23$) and no significant group-by-time interaction ($p = 1.00$). Time itself did have a significant effect on the profile.

Grip strength did not differ between groups at the start, averaging 27.9 kg. Changes in grip strength over 12 weeks also did not differ significantly between the groups ($p = 0.17$), according to the paper.

The second question was whether any metabolites tracked with grip strength. Because the shakes made no difference to the profile, the authors pooled all participants for this part. After correcting for the many comparisons made, 26 of the 140 metabolites were significantly correlated with baseline grip strength. The methods also say the researchers examined whether baseline metabolites were linked to later changes in grip strength, but the portion of the results we could review cuts off before those findings, so we cannot report them. Some research cited in the paper has linked circulating branched-chain amino acids, which include leucine and isoleucine, to muscle mass and strength in older adults, but that is background, not a result of this trial.

These are correlations. They do not show that any metabolite causes stronger grip, or that raising it would help. The participants were also healthy and free of chronic or metabolic disease, so the results may not apply to people with such conditions. The paper notes that higher baseline branched-chain amino acid levels have been linked in other research to later type 2 diabetes risk, so the picture is not simple. This is where the argument is weakest: we cannot say from the text available which metabolites matter most.

The authors conclude that the metabolic changes were not related to protein type. They say the links with grip strength suggest the need to evaluate a person's metabolic state before nutritional interventions. In plain terms, the same extra protein may not suit everyone equally. This trial did not test that idea directly.

The findings add a different angle to an earlier piece in The Arising, on a 47-year Swedish study in which aerobic fitness and endurance peaked between 26 and 36. That work tracked how capacity changes with age. This trial asks what blood chemistry might say about strength in people already past 50. They are separate studies.

WHAT TO WATCH NEXT

Studies that test directly whether a person's baseline metabolic profile predicts who gains strength from extra protein. Readers should not start or stop any supplement or dietary change without talking to their own clinician.

Sources: Metabolomics : Official journal of the Metabolomic Society (2026), Metabolomics

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. **Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women**
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women

Exercise labelled "moderate" by a fixed standard may feel quite easy to a fit person and quite hard to an unfit one. A new Swedish study suggests that how hard an activity is for your own body tells more about your fitness than a fixed, one-size-fits-all label. The study is observational, so it shows associations, not cause and effect.

The work is a cross-sectional observational study of 73 women aged 50 to 65, published in Frontiers in Sports and Active Living in 2026. It looked at a single snapshot in time, so it can show associations, not cause and effect. Thirty-eight of the women were recreational endurance athletes and 35 were inactive controls. Fitness across the group ranged widely, from 20 to 60 mL/min/kg.

Researchers measured each woman's cardiorespiratory fitness, which is how well the heart, lungs and muscles deliver and use oxygen. Each woman did a maximal cycling test on an exercise bike, increasing in difficulty until exhaustion. The authors then estimated peak oxygen uptake, known as VO_2 max, from the peak power she reached, using a validated equation rather than measuring gases directly.

The women also wore a hip accelerometer for seven days. This is a small device that records body movement. The team then sorted the movement into intensity levels in two ways.

The first way is absolute intensity, using metabolic equivalents, or METs. A MET is a fixed unit of energy use. Under this system, 3 to 6 METs counts as moderate and 6 METs or more as vigorous, for everyone. The second way is relative intensity, which expresses effort as a percentage of a person's own VO_2 max. Here, 46% to 64% counts as moderate and 64% or more as vigorous.

The two groups differed sharply in fitness. The active women had higher fitness, 41.4 versus 27.7 mL/min/kg, which is what the study design was meant to produce.

The key comparison was which approach better explained differences in fitness. The relative intensity model explained 70% of the variation in fitness. The absolute intensity model explained 53%. With absolute measures, the link to fitness showed up mainly at vigorous levels, above 6 METs.

The authors point to a built-in mismatch. A 3 MET effort equals 46% of VO_2 max only for someone with a fitness level of about 22.8 mL/min/kg. For a typical middle-aged adult, with a VO_2 max of about 33, they note that 3 METs is only around 30% of capacity. That is light effort for that person. They write that the 3 MET threshold is too low for about 95% of middle-aged adults.

The study also found that light and lower-moderate relative intensities were negatively associated with fitness. These negative associations faded as intensity rose, levelling off near 64% of VO_2 max. In plain terms, in this sample, time spent at easier relative efforts went along with lower fitness, and the clearest positive signals came at vigorous effort.

The authors conclude that, in this sample, the traditional 3 MET moderate threshold appears inadequate for middle-aged women. They suggest vigorous intensity should be the main target when fitness is the goal, and support setting intensity relative to individual capacity. The paper notes that activity at all intensities has health benefits, and it focused on cardiorespiratory fitness only.

There are limits. The design cannot show that vigorous activity raises fitness, and fitter women may simply choose harder activity. The sample is small and Swedish. The comparison was between recreational endurance athletes and inactive women, two extremes. Peak oxygen uptake was estimated from a bike test, not measured directly. The women were also free of major disease and were not smokers, so the findings may not extend to others. This is where the argument is weakest.

WHAT TO WATCH NEXT

Studies that follow women over time, or test training at different relative intensities, to see whether the associations hold up. Do not start or stop any exercise program without talking to your own clinician.

Sources: Frontiers in sports and active living (2026), Frontiers in Sports and Active Living

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. **Blood Flow Restriction Training Showed No Overall Advantage for Artery Health**
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN BLOOD PRESSURE · 2 SOURCES

Blood Flow Restriction Training Showed No Overall Advantage for Artery Health

Wrapping cuffs around your limbs during light exercise does not, on average, make your arteries healthier than the same exercise without cuffs, according to a new pooled analysis of 35 trials.

The work is a systematic review and meta-analysis, published in 2026 in the journal Blood Pressure. It combined results from 35 controlled trials with 764 participants in total. The authors, led by Chen F, preregistered their plan on PROSPERO, a public registry for reviews. A meta-analysis pools many smaller studies to look for a consistent pattern. It is not a single new experiment. Only the study's abstract was available to us, so this article covers what the abstract reports.

Blood flow restriction training, or BFRT, uses cuffs to partly limit blood flow to working muscles. It is used to boost the effect of low-load exercise. Its effects on blood vessels have been unclear. The researchers compared BFRT with matched exercise done without restriction. They looked at endothelial function, arterial stiffness and vascular structure.

Endothelial function describes how well the inner lining of arteries works. It is often measured by flow-mediated dilation, or FMD, which tracks how well an artery widens when blood flow rises. Arterial stiffness is often measured by pulse wave velocity, or PWV. A faster pulse wave generally points to stiffer arteries.

Overall, BFRT showed no advantage on either measure. The pooled effect on FMD (30 comparisons) was g = −0.10. For PWV (32 comparisons) it was g = −0.04. Both are close to zero, and the abstract describes them as showing no advantage. The pooled effects were also non-significant for blood flow, augmentation index, cardio-ankle vascular index, arterial diameter and ankle-brachial index. These are other markers of vessel health and function.

The averages hid differences between protocols. Resistance-exercise BFRT, meaning lifting-style training, improved FMD (g = 0.56). Handgrip BFRT went the other way and reduced FMD (g = −0.85). The authors also report that some interval and aerobic BFRT protocols reduced FMD. In addition, low-load BFRT lowered PWV compared with high-load resistance training without cuffs (g = −0.76). That suggests less arterial stiffness in that comparison. Age also influenced results: the abstract says age positively moderated FMD responses.

There are limits. The authors graded the certainty of the evidence as ranging from very low to moderate. Protocol-specific findings come from subsets of the 35 trials, so they should be read as leads rather than firm conclusions. The authors say larger trials are needed, especially in women and in clinical populations.

The authors conclude that the evidence does not support a general vascular benefit from BFRT. They say low-load resistance BFR may be the most favourable approach. They add that small-muscle protocols and moderate-to-high-intensity protocols warrant caution. For people who already use BFRT, the practical message is about which type of training is done, not whether cuffs are used at all.

WHAT TO WATCH NEXT

Larger trials that include women and people with existing health conditions, which the authors identify as the main gap. Anyone considering starting, changing or stopping blood flow restriction training should first talk to their own clinician.

Sources: Blood pressure (2026), Blood Pressure

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. **Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk**
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

FREE RADICAL BIOLOGY & MEDICINE · 2 SOURCES

Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk

Smoking is one of the few major risk factors for age-related macular degeneration that people can change, yet how it harms the eye has been unclear. A new laboratory study offers a clue: cigarette smoke extract appears to throw the energy-producing parts of key eye cells out of balance.



Photo: "Free person smoking cigarette photo", CC0

The work, published in Free Radical Biology & Medicine in 2026, is a cell and mouse study, not a human trial. The researchers exposed lab-grown human retinal pigment epithelium cells, known as ARPE-19 cells, and mice to cigarette smoke condensate, a concentrated extract of smoke. The abstract does not give the number of mice used.

Age-related macular degeneration, or AMD, is the leading cause of blindness in the elderly, according to the paper. It damages central vision. The retinal pigment epithelium, or RPE, is a layer of support cells behind the light-sensing cells of the retina. The authors suspected that smoking speeds AMD by pushing these cells into senescence, a state in which cells stop dividing and function poorly with age.

Low-dose smoke condensate did produce that picture. The cells showed more markers of senescence and signs of mitochondrial dysfunction. Mitochondria are the small structures that supply a cell with energy. Mice also showed impaired retinal function. In a separate experiment, mice exposed to cigarette smoke in a smoking chamber for six months showed RPE senescence features as well.

The mitochondria changed shape in two phases. Early on, they broke into fragments. Later, they fused into overly connected networks, a state called hyperfusion. At the same time, the cells were worse at mitophagy, the process of clearing damaged mitochondria. They also renewed their mitochondria less and made fewer new ones.

The team traced part of this to a protein called DRP1, which helps mitochondria divide. Smoke condensate raised phosphorylation of DRP1, a chemical tag that changes how the protein works. It also promoted cleavage, or cutting, of a mitochondrial enzyme called PGAM5. The abstract links this to reduced DRP1-dependent division, more oxidative stress in mitochondria, and activation of mTOR, a signaling pathway tied to cell growth and ageing.

Genetic tests supported a causal role in the cells. Overexpressing a DRP1 mutant with reduced activity, called K38A, mimicked the senescence caused by smoke condensate. Overexpressing a phosphodeficient DRP1 mutant, called S637A, significantly reduced both mTOR signaling and smoke-induced senescence. It did so by restoring the balance of mitochondrial division, improving mitochondrial quality control and lowering oxidative stress.

There are clear limits. The work used cells and mice, and condensate is not the same as breathing smoke. The authors say the specific mechanisms still need validation in a chronic cigarette smoke model. Although they confirmed the senescence features in mice after six months of smoke, the detailed mitochondrial findings were not shown to hold there. Nothing here shows that any DRP1-targeting approach would help people. The authors say only that modulating RPE mitochondrial dynamics holds therapeutic potential for delaying AMD progression.

FOR YOU

For readers, the practical message is modest. The study adds a possible biological explanation for why smoking is linked to AMD, and it does not test any treatment or lifestyle change. What to watch next: whether the mitochondrial mechanisms are confirmed in chronic smoke models, and whether they appear in human eye tissue.

Sources: Free radical biology & medicine (2026), Free Radical Biology & Medicine (Tulane University)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. **Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures**
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures

People who eat more ultra-processed food carry a different chemical fingerprint in their blood, including higher levels of an industrial trans fat, according to a large European study.

The work was published in 2026 in Critical Reviews in Food Science and Nutrition. It is an observational study in people, drawn from the European Prospective Investigation into Cancer and Nutrition, known as EPIC. Observational means the researchers measured what people ate and what was in their blood. They did not assign anyone a diet. That limits what the results can show.

The analysis used two groups of participants from EPIC nested case-control studies. One group of 6,177 people had data on 129 endogenous metabolites, which are small molecules the body makes or uses in everyday chemistry. A second group of 9,029 people had data on 37 fatty acids in blood plasma.

The team sorted foods into four groups using the Nova system, which ranks foods by how much industrial processing they have had. Ultra-processed food was one of those groups. Intake was measured in grams per day. The researchers compared it with blood measures using linear and LASSO regression. These are statistical methods for finding which measures track with intake. The models were adjusted for demographic, lifestyle and dietary factors.

Higher ultra-processed food intake was associated with 22 circulating metabolites and eight plasma fatty acids. Most of the metabolite links were inverse, meaning levels were lower in people who ate more of these foods. They included compounds involved in energy metabolism, such as asparagine, and in fat metabolism, such as propionyl carnitine, glycerophospholipids and sphingomyelins.

The fatty acid findings ran the other way. Higher intake was associated with higher levels of industrial trans fats, such as elaidic acid. It was also linked to higher long-chain saturated fats, such as stearic acid, and n-6 polyunsaturated fats, such as dihomo-γ-linolenic acid.

The authors conclude that ultra-processed food consumption "is associated with distinct metabolic and fatty acid profiles." They say this offers insight into possible biological pathways linking these foods to poorer health. The abstract does not report heart disease or other health outcomes from this analysis. So the study does not show that these blood changes cause disease. It also does not show that the foods caused the changes.

The work adds a different angle to the paper's October 18 report, "Higher Ultra-Processed Food Intake Linked to Silent Brain Damage on MRI." That was a separate study, in JAMA Network Open, which looked at brain scans. This one looks at blood chemistry. Together they ask how these foods might relate to long-term health, but neither shows cause.

Only the abstract was available for this report, so details such as effect sizes, participant characteristics and study limits are not covered here. What to watch next is whether other studies confirm these blood signatures and test whether they help explain links between ultra-processed food and chronic disease. Readers should not start or stop any diet or treatment without talking to their own clinician.

Sources: Critical reviews in food science and nutrition (2026), Critical Reviews in Food Science and Nutrition (EPIC study)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. **Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients**
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients

When the kidneys decline, toxins made by gut bacteria can build up in the blood. A new study suggests they may be tied to tiny bleeds in the brain.

The work, published in the International Journal of Molecular Sciences in 2026, is mainly a mouse study. The researchers used mice with chronic kidney disease (CKD) caused by adenine, a compound used to induce kidney damage in animals. They added a small look at people: a retrospective review of 30 hemodialysis patients, 15 men and 15 women, with an average age of 58.5. The human part shows associations only. It cannot show cause.

Why does this matter for ageing? Cognitive impairment is more common in advanced CKD than in the general population. According to the paper, it affects 30–70% of people with end-stage kidney disease. Small vessel disease in the brain is considered a major precursor to that decline. It includes microbleeds, small bleeds that show up on MRI scans. The authors cite rates of about 14% in CKD stage 3, 34% in stage 5, and roughly 50% in people with end-stage kidney disease.

The team focused on three toxins made with help from gut bacteria: indoxyl sulfate, p-cresyl sulfate and trimethylamine N-oxide, known as TMAO. They come from the bacterial breakdown of amino acids and other dietary compounds. The authors say these toxins are known to harm the cells lining blood vessels in lab dishes and are linked to cognitive problems and higher mortality in CKD patients.

In the mice, kidney disease brought higher blood levels of creatinine, cystatin C and the gut-made toxins. Brain microbleeds rose 2.5-fold compared with healthy controls. The mice were also less active. Some mice were fed a high-amino-acid diet to raise the raw material for the toxins. That diet raised TMAO but not the other two toxins.

Some mice also received antibiotics in their drinking water to suppress gut bacteria. All three toxins fell. According to the authors, this confirms gut microbes as the major source of these toxins. Male mice with kidney disease that got the diet plus antibiotics did better on a working-memory test than untreated kidney-disease males. This was not seen in females.

Results differed by sex. In male mice, higher TMAO was linked to more brain microbleeds and less movement. In female mice, p-cresyl sulfate and creatinine were linked to microbleed counts. The authors say more work is needed to understand why, and they point to possible hormonal and vascular differences.

The links were not clean-cut. Microbleed counts in the diet and antibiotic groups stayed above controls, but the differences were not statistically significant. In males, the drop with antibiotics was a trend only ($p = 0.06$). The high-amino-acid diet raised TMAO without raising microbleeds. The authors read this as a sign that the severity of kidney disease was the main driver of small-vessel injury. Creatinine, a marker of kidney function, was the most consistent predictor of brain damage and behavior changes.

In the dialysis patients, higher TMAO went with a greater chance of lobar microbleeds, which are bleeds in the outer regions of the brain (odds ratio 1.84, 95% CI 1.10–3.09). Average TMAO was 6.2 μM in patients with these microbleeds and 5.1 μM in those without. Indoxyl sulfate pointed the other way, with a lower chance of lobar microbleeds. Toxin levels did not track with deep or infratentorial microbleeds. The group was small, and brain scans were taken a median of 2.4 months from the blood draw.

The takeaway is about biology, not treatment. Gut bacteria appear to be involved in how kidney disease may affect the brain. Antibiotics are not a recommended therapy here, and the study did not test them as one. Even in mice, the benefit showed only in males on one memory measure.

Next, researchers will need larger studies in people that follow toxin levels and brain scans over time, along with work on why males and females differ. Anyone with kidney disease or concerns about brain health should not start or stop any medication, diet or supplement without talking to their own clinician.

Sources: International journal of molecular sciences (2026), International Journal of Molecular Sciences

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. **Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge**
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

MENOPAUSE · 2 SOURCES

Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge

Most women know hot flashes can signal perimenopause. But a large global survey suggests the symptoms women say they actually have are often different: fatigue, exhaustion and irritability.

The study, published in 2026 in the journal Menopause, is a cross-sectional survey. That means it took a snapshot of women at one point in time. It cannot show that perimenopause caused any symptom. It included 17,494 women from 158 countries, all users of Flo, an international mobile health app. The survey was offered to users aged 18 and older.

Perimenopause is the time leading up to a woman's last menstrual cycle, plus the 12 months after it. The authors note that studies systematically comparing perimenopause symptoms across different cultural and geographic settings are lacking. This survey set out to help fill that gap.

The researchers measured two things. First, all participants were asked what they knew about perimenopause symptoms. Second, participants aged 35 and older reported which symptoms they were experiencing.

On knowledge, hot flashes were the most commonly recognized symptom, named by 71% of women. Sleep problems followed at 68%, and weight gain at 65%.

The symptoms women reported having told a different story. Of the participants, 12,681 were aged 35 or older. In this group, the most common symptoms were fatigue (83%), physical and mental exhaustion (83%), irritability (80%), depressive mood (77%), sleep problems (76%), digestive issues (76%) and anxiety (75%).

The pattern was similar among women who said they were in perimenopause. Symptom rates there were higher than among women who said they were not. The abstract also reports differences in both knowledge and symptoms between geographic regions, but the details were not available to us.

The authors conclude that the survey shows a discordance between what women know about perimenopause and what they experience. Hot flashes were the best-known sign. Fatigue, exhaustion and irritability were the most commonly reported among women 35 and older.

There are limits. Symptoms were self-reported, and the abstract does not say how perimenopause status was confirmed. Fatigue, poor sleep and low mood are common for many reasons, so these results do not show that any one woman's symptoms come from perimenopause. App users are also a self-selected group and may not represent all women. We saw only the abstract, so further methods and figures are unverified.

The main message is about awareness. If people expect only hot flashes, other changes may go unrecognized. Further research that compares regions in more detail will show how far these gaps in knowledge vary around the world.

Sources: Menopause (New York, N.Y.) (2026), Menopause (New York, N.Y.)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. **New Aging Framework Names Epigenetic Change the Dominant Driver of Aging**
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

AGING · 2 SOURCES

New Aging Framework Names Epigenetic Change the Dominant Driver of Aging

If aging is partly a matter of cells losing track of what they are meant to be, could it be undone by resetting the instructions? A new review in the journal Aging says that idea has real weight, but that it cannot be the whole story.

The paper, by Bartoszewicz and Niemczyk, is a review. It does not report a new experiment on people or animals. The authors pull together existing evidence and propose a way to organize it, which they call the Polycentric Aging Framework, or PAF. According to the abstract, which was the only part of the paper available to us, they draw on cloning by nuclear transfer, DNA methylation clocks, nutrient-sensing pathways, cellular senescence, signaling between tissues, and human intervention studies. The abstract does not give study counts or participant numbers.

The starting point is simple. The authors write that age-related dysfunction "is unlikely to arise from a single universal mechanism." Instead, PAF sorts aging into partly independent "centers" that interact. These centers differ in when they act, whether they are a cause or a consequence, how easily they can be reset or reversed, and how much they limit lifespan.

Why does the epigenome get so much attention? The epigenome is the set of chemical marks and controls that tell a cell which genes to use. It helps decide a cell's identity and behavior without changing the DNA sequence itself. The authors propose epigenetic regulation as "a dominant, but not exclusive, lifespan-limiting center." Their reasoning is that it coordinates cell identity, the persistence of developmental programs, nutrient sensing, inflammatory and hormonal signaling, repair, and tissue regeneration. In other words, it sits upstream of a lot of other things.

The case for reset comes from somatic cell nuclear transfer, the technique used in cloning. Here the nucleus of an adult cell is placed into an egg cell. The authors do not read this as rejuvenating an existing organism. They read it as a "reset-hierarchy." Some epigenetic and developmental states can be extensively reconfigured. Telomere dynamics, mitochondrial state, protein quality control, stem-cell capacity, and senescence features show reset that depends on context, or that is rebuilt or returns. Damage to the DNA sequence and structure in the nucleus is the least resettable.

That ordering is the key to why resetting is not expected to be enough. If some forms of damage resist reset, then an epigenetic fix could leave them in place. The authors also say another center may become the limiting one after the first is addressed. So a treatment that works well at one stage, or in one tissue, may help less in another.

The paper also urges caution about DNA methylation clocks, which estimate biological age from chemical marks on DNA. The authors call them "useful but incomplete biomarkers." They note that clocks may mix up harmful, causal changes (which they call Type 1) with adaptive or compensatory responses (Type 2). A clock moving in the right direction is therefore not proof of rejuvenation. The authors say clock shifts should be judged against tissue-specific function, healthspan, illness, and mortality.

What would this mean in practice? The framework predicts that whether an intervention works depends on whether the center it targets is actually limiting in a given tissue, disease, and stage of life. The authors suggest this gives a testable basis for center-specific approaches. These could combine controlled epigenetic reprogramming, metabolic modulation, targeting of senescent cells and their secretions, and changes to signaling between tissues, with careful safety monitoring and attention to tissue context.

Some limits matter. This is a framework, not a demonstration. The abstract describes predictions and proposals, not tested results from a combined approach. The coverage in Fight Aging! describes the paper as placing epigenetic change as the dominant but not only process driving loss of function, disease, and mortality. That fits the abstract's wording of "dominant, but not exclusive," though it is the authors' proposal rather than an established finding.

WHAT TO WATCH NEXT

Studies that test whether treatments matched to a tissue's limiting aging process do better than single approaches, and that judge success by health and survival, not clock readings alone. Readers should not start or stop any treatment without talking to their own clinician.

Sources: Aging (2026), Fight Aging! (discussing paper in Aging)

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. **Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags**
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN BLOOD NEOPLASIA · 2 SOURCES

Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags

Exercise during blood cancer treatment appears to help patients keep their physical function and ease fatigue, while the evidence for diet changes is much thinner, according to a new review in the journal Blood Neoplasia.

This is a narrative review, not a new trial. The authors, led by Kah Poh Loh, gathered and assessed existing research on exercise and nutrition in leukemia, lymphoma and multiple myeloma. The review does not report a single pooled sample of participants. Because the studies it covers differ in design, patients and outcomes, the authors say they cannot draw definitive conclusions.

The topic matters because people with these cancers are living longer thanks to better treatments. Those treatments often cause toxic effects that lower quality of life. In the United States, an estimated 62,770 people were expected to be diagnosed with leukemia in 2024, along with 89,190 with lymphoma and 35,780 with multiple myeloma, according to figures cited in the paper.

The strongest exercise evidence comes from stem cell transplant. The review points to meta-analyses of randomized trials: one from 2013 with 8 trials, one from 2022 with 25 trials, and one from 2025 with 8 trials. According to the review, these found exercise during transplant is feasible and safe. It improved heart and lung fitness, muscle strength and day-to-day function. Effects on upper-body strength, quality of life and thinking were smaller. The 2025 analysis also found less fatigue.

Timing may matter. The review says exercise before a transplant may bring the biggest gains in function. Exercise after transplant, in hospital or as an outpatient, may mainly slow the decline caused by treatment rather than reverse it. One large

trial of minimally supervised exercise before, during and after transplant was linked to lower death rates after hospital discharge.

Outside transplant, the picture is similar but less settled. A 2022 meta-analysis of 15 studies, 11 of them randomized trials, found better walk-test results, higher peak oxygen uptake and better quality of life during treatment. Supervised exercise appeared feasible in acute leukemia, even during intensive chemotherapy. Results varied by disease. In myeloma, a 15-week home program reduced anemia but did not improve fatigue, sleep or aerobic performance. In lymphoma, supervised aerobic exercise improved physical function, fatigue and well-being. The authors say larger trials for each disease are needed.

Nutrition evidence is weaker. Much of it focuses on keeping nutritional status up and cutting complications during transplant. Weight loss during transplant has been linked to higher death rates not caused by relapse and to longer hospital stays. Some randomized trials suggest tube feeding into the gut may lower the risk of graft-versus-host disease compared with feeding by vein, without clear effects on survival. Oral glutamine supplements showed no benefit. Practice differs widely between centers, and a recent trial found a relaxed diet was not a safe alternative to a low-bacteria diet in transplant for acute leukemia.

The review also covers risk. Observational studies link more physical activity and plant-based eating patterns to a lower chance of developing some blood cancers. In one pooled cohort of 1.44 million people, high leisure-time activity was linked to lower risk of acute myeloid leukemia and other myeloid neoplasms (hazard ratio 0.80) and of multiple myeloma (0.83). Several meta-analyses, however, found no clear link. These are associations, not proof of cause, and no randomized trial has tested diet or exercise for preventing blood cancer.

Lab work in rodents and microfluidic models hints at ways exercise and diet might affect disease, including immune regulation, inflammation and the gut microbiome. These findings are early and have not been shown to apply to patients.

WHAT TO WATCH NEXT

Disease-specific randomized trials, which the authors say are needed to define safe and effective exercise and nutrition plans. Anyone with a blood cancer should not start or stop any exercise or diet approach without talking to their own clinician.

Sources: Blood neoplasia (2026), Blood Neoplasia

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. **Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults**
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN NUTRITION TODAY · 2 SOURCES

Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults

Protein powders and amino acid pills work in the lab, but a new expert review says they may not be needed in most real-world settings, where the bigger problem is simply not eating enough food.

The paper is a brief commentary, not a new experiment. It appears in the journal Nutrition Today (2026) and was written by Pasiakos, Bailen and Cohen. The authors review earlier research on active-duty military personnel and other physically active young adults. The text available to us does not report a new participant count for the commentary itself.

Protein and amino acid supplements are among the most widely used supplements in this group. The authors cite a 2021 survey of 26,681 service members. In it, 74% said they used a dietary supplement at least once a week. About 42% used protein or amino acid supplements, second only to multivitamin and mineral products at 45%.

People use them to build muscle, recover faster and support performance. The authors say these goals are logical. Randomized controlled trials in laboratory settings show that extra protein or amino acids can improve muscle and whole-body protein responses to military-relevant stress, under tightly controlled conditions.

Field studies tell a less clear story. According to the review, some studies found benefits during moderately stressful activity, such as initial military training, or during about 36 hours of heavy exertion combined with an energy shortfall. Others found no measurable gain in protein balance, which is protein built minus protein broken down. They also found no gain in related physical outcomes or performance when stress was severe, prolonged and came from many sources at once. Those sources include heavy activity, sleep loss, hormonal disruption and extreme environments.

From this, the authors conclude that supplements alone cannot offset the effects of sustained, multi-stress operations. They suggest supplementation may be unnecessary in most real-world contexts. They also warn that a heavy focus on protein could distract from the more important goal of eating enough total energy from mixed foods.

That energy gap is common. The authors note that service members often eat too little because of time pressure, low appetite, and discarding parts of rations to cut pack weight. In those cases, they say, a supplement can be a practical way to get essential amino acids when time, appetite or logistics limit food. Military policy and sports nutrition guidelines, they note, favor a food-first approach, with supplements when operationally necessary.

The review also says protein is a nutrient, not a performance booster like creatine. Protein and amino acids do not directly improve strength or power. Any performance gains seen in meta-analyses are modest, and likely reflect better recovery and adaptation. The authors add that most Americans already eat more protein than the minimum needed.

Safety is a further concern. The authors say a recent literature review found that as many as 50% of protein supplements, depending on product type, were adulterated with anabolic agents such as steroids or prohormones. Another study found 38% of sports-related supplements contained prohibited substances. Heavy metals such as lead have also been found in some products.

Of 120,300 supplement products listed in a National Institutes of Health label database as of December 2025, 5% (5,489) were protein- or amino acid-based. Only 5% of those (281) were third-party certified, even though about half carry labels claiming some testing. The authors say label information alone cannot guarantee safety. They note that Operation Supplement Safety, along with scientists and health and consumer agencies, strongly recommends third-party certified products.

For personal budgets, the takeaway is cautious. This is a commentary on military and active young adults, not a trial of supplements versus food in the general public. It says it offers practical recommendations for supplemental intake during strenuous military operations, and for when supplementation may be warranted, though the text available to us was truncated and we could not review those details. Its central message is that enough total food comes first, and that supplements help mainly when eating enough is hard.

Watch for field studies that test supplements against simply getting enough total energy, and for more work on product testing and safety. Before starting or stopping any supplement, talk with your own clinician.

Sources: Nutrition today (2026), Nutrition Today

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. **Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery**
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

BIOINFORMATION · 2 SOURCES

Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery

Mild electrical stimulation of a nerve in the ear, given around the time of major surgery, was linked to lower inflammation and faster recovery in a randomised trial of 90 patients, according to a study in the journal Bioinformation.

This is a randomised controlled trial, the strongest design for testing a treatment. Researchers at a tertiary care academic surgical center enrolled 90 adults aged 18 to 70 who were having planned major abdominal or heart and chest surgery. The trial ran over 16 months. Patients were assigned by computer, 45 to active stimulation and 45 to a sham group. The sham group had the same electrodes and device connection, but no electrical current. Patients and outcome assessors were blinded.

Surgery always triggers inflammation. Some is needed for healing. Too much is tied to problems such as delayed wound healing, serious systemic inflammation and longer stays in intensive care. The authors note that the usual tools, corticosteroids and anti-inflammatory painkillers, carry risks of their own, including weakened immunity, impaired wound healing, stomach problems and kidney problems.

The study tests a different route. The vagus nerve links the brain with the body's organs and helps regulate immune activity. The authors describe a circuit, called the cholinergic anti-inflammatory pathway, in which signals along this nerve calm immune cells and dampen the production of inflammatory proteins. One branch of the vagus nerve reaches the outer ear, so it can be stimulated from the skin without an implanted device.

Patients in the active group received the stimulation through electrodes on the left ear. It began 90 minutes before the incision, continued through the operation, and was repeated for 30 minutes every six hours for the first 72 hours afterward.

Blood tests showed a clear difference. At 24 hours after surgery, both groups had raised inflammatory markers, but the stimulation group's rise was smaller. Interleukin-6 (IL-6) was 22.4 pg/mL against 38.6 in the sham group. Tumour necrosis factor-alpha (TNF-α) was 18.6 against 31.4. C-reactive protein (CRP) was 48.4 mg/L against 74.8. IL-10, a protein that restrains inflammation, was higher: 32.4 against 18.2. Activity of NF-κB, a switch that turns on inflammatory genes, was also lower in the stimulation group.

Recovery measures followed the same pattern. First oral intake came at 14.2 hours against 22.8 hours. First walking came at 18.4 hours against 28.6. Hospital stay averaged 4.8 days against 7.4. Pain scores and total painkiller use were lower, and return to normal daily activity came sooner. All of these differences had p-values below 0.001.

Complications were also less common in the stimulation group. Wound infection occurred in 4.4% against 13.3%. Ileus, a temporary halt in bowel movement, occurred in 6.7% against 17.8%. Pulmonary complications occurred in 2.2% against 8.9%. Readmission within 30 days was 4.4% against 11.1%. These p-values were between 0.038 and 0.049, close to the usual cutoff of 0.05. With only 90 patients, such differences in rare events could shift in a larger trial.

Heart rate variability, a measure of how well the autonomic nervous system is working, was also higher at 24 hours in the stimulation group. The authors read this as better autonomic recovery.

For people thinking about surgery later in life, the question is whether the body's own anti-inflammatory circuit can be switched on to smooth recovery without the side effects of drugs. The study did not test older patients specifically. It included adults up to age 70 and excluded people with certain heart rhythm problems, implanted cardiac devices, autoimmune disease or steroid treatment. It does not show how the approach would work in frail or very old patients. The abstract describes the method as safe, but the findings come from a single centre, and the paper's own background notes that robust randomised evidence has been limited.

The authors conclude that the findings support ear stimulation as a safe, non-invasive way to suppress post-operative inflammation and speed recovery. That is a promising result, not proof. It needs confirmation in larger, multi-centre trials, ideally including older patients, before anyone can say it should become routine care.

WHAT TO WATCH NEXT

Replication in larger trials across more hospitals and age groups, with attention to complication rates. Anyone considering any new treatment around surgery should not start or stop anything without talking to their own clinician.

Sources: Bioinformation (2026), Bioinformation

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. **Fasting and Lean Mass Over 45: Short Trials, Small Differences**
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Fasting and Lean Mass Over 45: Short Trials, Small Differences

Intermittent fasting does not appear to cost much extra lean tissue in people over 45 over the short term, but the review measured total fat-free mass rather than muscle itself, and its authors say the evidence does not permit definitive conclusions about long-term muscle safety.

That is the picture from a scoping review in Advances in Nutrition. A scoping review maps the evidence on a question rather than pooling it into one verdict. This one covered 20 randomized controlled trials with 1,653 participants. About 64% were women, and most had overweight or obesity.

Muscle matters because it declines naturally with age, and strength falls faster than muscle mass. Low muscle mass is linked to frailty, reduced mobility and loss of independence. That raises a fair worry: could a diet that cuts calories also strip away muscle in people who are already losing it?

The authors, led by Santero and colleagues, searched three databases for trials published from 2000 to early 2025. Eligible trials enrolled adults aged 45 and older. Fasting had to last at least four weeks. Body composition had to be measured with validated methods. People with diseases that cause muscle loss were excluded.

The trials compared intermittent fasting with a habitual diet or with continuous calorie restriction, meaning eating a little less every day. Regimens included alternate-day fasting, alternate-day modified fasting (a very low-calorie day instead of a full fast) and time-restricted eating, which limits food to a daily window.

Over the periods studied, commonly 12 weeks or less, differences between groups in total fat-free mass were generally small. Fat-free mass is everything in the body that is not fat, including muscle, organs, bone and water.

Intermittent fasting reduced fat mass, body weight and waist circumference by amounts comparable to continuous calorie restriction. Compared with a habitual diet, reductions in weight and fat mass were reported more consistently with fasting. Alternate-day approaches were often linked to those reductions.

The authors are clear about the limits. Most studies used dual-energy X-ray absorptiometry or bioelectrical impedance, which measure total lean mass. Those results may not reflect changes in skeletal muscle itself. Strength, physical performance and quality of life were rarely assessed.

Evidence on insulin-related outcomes, protein intake and combining fasting with exercise was limited and varied between trials. The authors also point to a lack of data on adults aged 70 and older.

In their words, the current evidence does not permit definitive conclusions on whether intermittent fasting preserves fat-free mass, especially over the long term in older people. So the review offers reassurance on short-term lean mass, not proof of muscle safety.

The authors call for longer, high-quality trials that measure muscle health and function with standardized methods. Anyone considering starting or stopping a diet should first talk to their own clinician.

Sources: Advances in nutrition (Bethesda, Md.) (2026), Advances in Nutrition

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. **Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy**
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2 SOURCES

Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy

Older adults whose sleep was more broken up, as measured by a wrist monitor, tended to have more amyloid in their brains when they died. Amyloid is a protein that builds up in Alzheimer's disease.

The finding comes from an observational study in people, published in 2026 in Alzheimer's & Dementia: The Journal of the Alzheimer's Association. Researchers led by Rudolf, Ng and Lieberman analysed 798 participants in the Rush Memory and Aging Project who later died and donated their brains. An observational study can show links. It cannot show that one thing causes another.

The participants lived in the community around Chicago and were free of known dementia when they enrolled. Their average age at enrolment was about 82. On average they died at about 92. Each year they wore a wristwatch-like activity monitor for 7 to 10 days, day and night. They also filled in sleep questionnaires and took cognitive tests.

The monitor measured how likely a person was to shift from sustained rest to movement. A higher score meant more fragmented sleep. The authors note that this measure agrees well with sleep-lab measures of arousals and sleep efficiency. It is not the same as total hours slept.

After death, the brains were examined under the microscope. The team measured amyloid density across eight brain regions. They adjusted their analyses for age at death, years of education, sex and APOE genotype, a gene variant linked to Alzheimer's risk.

The main result: more fragmented sleep was associated with higher amyloid density. The paper calls this histopathologic evidence, meaning it comes from examining the brain tissue itself. Earlier studies mostly relied on brain scans or fluid and blood tests.

The link was not seen in everyone. It appeared only among people with low Alzheimer's-type changes in the brain, or with no or mild cognitive impairment. In people with more advanced disease, it was not found. The authors suggest that sleep disruption may matter most in the earlier stages of Alzheimer's disease.

Timing also mattered. Sleep fragmentation at the last measurement before death was more strongly tied to amyloid than the average across the whole study. The authors say this suggests the relationship may not follow a simple model of cumulative exposure.

One result ran the other way. People who rated their own sleep quality as poorer, using a questionnaire based on the Pittsburgh Sleep Quality Index, tended to have lower Alzheimer's-related changes in the brain. The authors call this paradoxical. The abstract does not explain it. Self-reports can be affected by memory and perception, which the authors note is a known weakness in older adults.

There are limits. The study cannot say whether fragmented sleep contributes to amyloid buildup, whether amyloid disrupts sleep, or both. Researchers have proposed both directions. The authors could not determine which type of amyloid plaque, such as diffuse or neuritic, was linked to poor sleep.

The practical message is narrow. This study does not test any way of improving sleep. It suggests that how continuous sleep is, not only how long it lasts, may be worth measuring in studies of brain aging.

The authors say future work should identify the plaque types involved, repeat the findings in more diverse groups with other sleep measures, and test whether sleep-focused interventions change Alzheimer's pathology. Those trials are the next thing to watch.

Sources: Alzheimer's & dementia : the journal of the Alzheimer's Association (2026), Alzheimer's & Dementia: The Journal of the Alzheimer's Association

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. **Blood Test for p-tau217 Predicted Decline Over 12 Years**
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2 SOURCES

Blood Test for p-tau217 Predicted Decline Over 12 Years

A single blood test, taken when people had no memory problems, sorted older adults by their risk of cognitive decline over the next 12 years — and a low result was strongly reassuring.

That is the main finding of an observational study in people, published in 2026 in Alzheimer's & Dementia, the journal of the Alzheimer's Association. The researchers followed 982 community-dwelling older adults in Madrid, Spain, who had no cognitive impairment at the start. Participants were assessed every year for up to 12 years. Because the study observed people rather than assigning a treatment, it shows links, not causes.

The test measures a form of the tau protein in blood, called p-tau217. Tau is one of the two proteins that build up in the brain in Alzheimer's disease. This study used a ratio, written %p-tau217. It compares the altered form of the protein with the unaltered form. According to the authors, this ratio can reduce the effect of factors such as chronic kidney disease and differences in how individuals process proteins. Levels were measured by mass spectrometry, a laboratory method that identifies molecules by their mass.

Participants were placed in four groups using cut-offs set in earlier research: Low (below 2.66%), Intermediate (2.66% to 4.90%), Elevated (4.90% to 7.40%) and High (7.40% or above). The study looked at changes in thinking, brain shrinkage on MRI scans, and progression to mild cognitive impairment (MCI) or dementia.

People in the Elevated and High groups did worse on all three measures. They showed faster cognitive decline and faster shrinkage of the hippocampus, a brain region central to memory. Their risk of progressing to MCI was more than six times

higher (hazard ratio above 6.0). Their risk of progressing to dementia was nearly ten times higher or more (hazard ratio above 9.9). The authors adjusted for age, sex, years of education and APOE ε4, a known genetic risk factor.

The reassuring result may matter most for people without symptoms. In the Low group, the negative predictive value at 10 years was 92.2% for any progression. In plain terms, about 92 of every 100 people with a low result had not progressed to MCI or dementia by 10 years. The authors say high negative predictive values suggest the test could help identify low-risk people in the community.

The findings held up in two further checks. Results were similar when p-tau217 was measured with immunoassays, a more widely used lab method, in the same group. They were also similar in an independent group of 1,204 cognitively unimpaired primary care patients in Germany, all over 80, measured with a different immunoassay.

There are limits. The main cohort was a single-center group in Madrid, aged 69 to 85. The authors say future work should test the results in more diverse populations, including younger people, other demographics and different genetic backgrounds. The study also shows risk across groups, not what will happen to any one person. A higher result raises the odds of decline but does not make it certain. The paper does not test whether acting on a result changes outcomes.

The authors conclude that the findings support using plasma p-tau217 in risk-stratification strategies for preclinical Alzheimer's disease, in both clinical practice and research. That is their interpretation, not a tested recommendation for routine screening.

This study differs from The Arising's October 11 report on a gut bacteria compound, ImP, linked to faster cognitive decline. That work pointed to a possible future marker and target. This one looks at a blood marker of Alzheimer's pathology itself, and tracks it over a decade.

WHAT TO WATCH NEXT

Studies in more diverse and younger groups, and trials testing whether acting on an early result can delay decline.

Sources: Alzheimer's & dementia : the journal of the Alzheimer's Association (2026), Alzheimer's & Dementia

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. **Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients**
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

JOURNAL OF CARDIOVASCULAR DEVELOPMENT AND DISEASE · 2 SOURCES

Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients

A new analysis of 28 randomized trials found that steady aerobic exercise raised fitness on average in people with heart disease and showed no sign of true non-responders. The authors rated the certainty of this evidence as low, so the findings are suggestive rather than settled.

The study is a meta-analysis, which pools results from many randomized controlled trials. It was published in 2026 in the Journal of Cardiovascular Development and Disease by Kelley GA, Kelley KS and Stauffer BL. It covered 1,383 adults with coronary heart disease: 725 who did continuous aerobic exercise and 658 who served as controls. Continuous aerobic exercise means steady-state activity rather than short bursts.

On average, exercise raised peak oxygen uptake, known as VO2peak, by 3.6 mL per kg per minute compared with controls (95% confidence interval 2.8 to 4.4). VO2peak is a standard measure of cardiorespiratory fitness. The authors call a gain of 1.0 or more clinically important, so this result clears that bar.

Why does this matter? The authors note that higher fitness has been linked to lower death rates in people with coronary heart disease. A previous review they cite reported a 68% lower risk of death from any cause. That is an association, and this study did not test it.

The second question was about differences between people. Precision exercise medicine rests on the idea that people respond to exercise very differently, so each person needs a tailored plan. But the gains people show can differ simply because of measurement error and day-to-day changes in diet, activity and other factors, not because of exercise itself.

To separate the two, the team used a method that compares how widely results vary in the exercise group against the control group. If exercise truly affected people differently, the exercise group should vary more. It did not. The estimated true difference in response was 0.9 mL per kg per minute, with a confidence interval of −1.5 to 2.0 and a prediction interval of −2.4 to 2.7. Those ranges include zero. The authors conclude that no exercise-associated variation in response was seen once chance was properly accounted for.

In plain terms, the data do not support the idea that some people with heart disease are true non-responders to steady aerobic exercise. Average gains looked fairly similar from person to person once chance was removed. This does not prove that every individual benefits, and the study measured fitness change, not whether anyone should start or stop exercising.

There are limits, and this is where the argument is weakest. Using the GRADE system, the authors rated the certainty of the evidence as low. The study reused data from an earlier umbrella review of trials, and it covered only continuous aerobic exercise compared with controls. The authors also say that, aside from personal preferences such as walking or cycling, general exercise recommendations from heart organizations may suffice.

This piece adds to, rather than contradicts, our October 20 report on a different review, which found that adding strength training to cardio may do more in heart rehab. That work looked at which type of exercise to do. This study asks whether aerobic exercise works for most people at all.

Larger, higher-quality trials will show whether these findings hold and whether other exercise types behave the same way. Anyone with heart disease should talk to their own clinician before starting or stopping any exercise.

Sources: Journal of cardiovascular development and disease (2026), Journal of Cardiovascular Development and Disease

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. **Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease**

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

FRONTIERS IN CARDIOVASCULAR MEDICINE · 2 SOURCES

Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

A blood pressure reading is a snapshot, but a new study suggests that the direction it moves over the years may say more about how fast the arteries are aging.

The work is an observational study in people, published in 2026 in Frontiers in Cardiovascular Medicine. It followed 5,810 middle-aged and older adults in China from 2011 to 2015. Observational means the researchers watched what happened and did not assign any treatment, so the results show links, not causes.

The researchers looked at cardiovascular-kidney-metabolic (CKM) syndrome. The American Heart Association introduced this framework in 2023. It treats obesity, metabolic problems, chronic kidney disease, diabetes and heart disease as one connected condition, with stages from 0 to 4. According to the paper, about 90% of U.S. adults meet the criteria for stage 1 or higher, and about 15% are at advanced stages.

The measure at the center of the study is estimated pulse wave velocity, or ePWV. It is a stand-in for arterial stiffness, which is how rigid the artery walls have become. Direct measurement needs specialized devices. ePWV is instead calculated from just two things: a person's age and their average blood pressure.

The participants came from the China Health and Retirement Longitudinal Study, a nationally representative survey. All started with CKM stages 0 to 2, meaning no advanced disease. The average age was 56.9, and 65% were women. The researchers checked who reached advanced CKM syndrome (stages 3 or 4) by 2015. Those stages include very low kidney function, a high predicted 10-year risk of cardiovascular disease, or self-reported heart disease or stroke.

By 2015, 941 participants had progressed. Those who did were older, at 62.2 years versus 55.9, and had higher systolic blood pressure, at 136.2 versus 127.0 mmHg.

After adjusting for age, sex, education, marital status, smoking, alcohol use and starting CKM stage, people in the highest third of baseline ePWV had higher odds of progression than those in the lowest third. The odds ratio was 2.63, with a 95% confidence interval of 2.00 to 3.45. Put simply, the odds were more than double.

Change over time mattered too. According to the authors, larger increases in ePWV between 2011 and 2015 were linked to progression. So was following a persistently higher ePWV trajectory, which the team identified by grouping participants' patterns across the study period.

The team also checked an independent group: 1,596 adults aged 45 and older who had routine health exams at a hospital in Xi'an in May 2024. This was a cross-sectional look, meaning one point in time. The authors describe it as supportive evidence for the main finding.

There are important limits. ePWV depends heavily on age and blood pressure, which are themselves linked to heart and kidney disease. The authors say this should be considered when interpreting results. Earlier work cited in the paper found only a moderate match between ePWV and directly measured stiffness. Stage 4 relied on self-reported disease, and many people were excluded for missing data. The follow-up was four years. The study cannot show that stiffer arteries cause CKM progression.

The authors conclude that ePWV may be a convenient add-on marker for spotting early CKM risk, not a replacement for existing tools. What to watch next is whether studies that follow people for longer, and that measure arterial stiffness directly, find the same pattern.

Sources: Frontiers in cardiovascular medicine (2026), Frontiers in Cardiovascular Medicine

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 **Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice**
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice

A single injection of a gene therapy restored memory in mice with Alzheimer's-like disease, and it also improved memory in very old mice without the disease. The work targets the fats that make up and signal in brain cells, not the amyloid plaques that most Alzheimer's drugs go after.

This is animal research, not a human trial. It was reported in 2026 in Alzheimer's & Dementia: Translational Research & Clinical Interventions by Badesso and colleagues. The experiments used mice, and the findings say nothing yet about whether the approach is safe or works in people.

The team focused on an enzyme called PLA2G4E. In the brain it is found only in neurons. It helps make N-acyl phosphatidylethanolamines, fats that are precursors to natural compounds with protective and antioxidant properties. The authors had already found that raising this enzyme in one brain region helped older mice from a different Alzheimer's model.

In this study, they first used a standard viral vector to deliver the enzyme to the hippocampus, a memory region, in 7- to 8-month-old APP NL-G-F mice. These mice carry changes that mimic Alzheimer's disease. Two months later, untreated mice of this type did worse than healthy mice on a fear memory test and a novel object recognition test. Mice given either the human or the mouse version of the enzyme did better. The paper describes the fear memory rescue as partial. On the object test, both versions significantly improved performance.

The hippocampus-only approach reached a limited area. So the team switched to a vector called AAV9P31, which is built to cross the blood-brain barrier. It was given by injection behind the eye, and it produced widespread expression across the brain,

including cortical layers and the hippocampus. A dose-testing step showed that more vector gave more enzyme.

In aged normal mice, 18 to 20 months old, treated animals did significantly better on the fear memory test two months after injection. Brain scans showed higher glucose uptake across the whole brain, a sign of greater neuronal activity and metabolic function. The regional scans alone showed no significant differences. Levels of phosphorylated tau, a chemical change linked to tangles in Alzheimer's, were significantly lower in treated mice.

In Alzheimer's-model mice treated at 4 to 5 months old, results depended on timing. At two months after injection, memory improved only in males. The authors suggest females were still performing well at that age. At six months after injection, when the mice were 12 to 14 months old, the treatment fully reversed the memory deficits. Only female mice were analyzed at that point, because the males were used for fat analysis. The authors call the effect robust and long-lasting.

Amyloid did not change. Levels of the Aβ42 protein and staining for plaques were the same in treated and untreated mice. So the benefit appears to occur without clearing amyloid. In the earlier hippocampal experiment, tau changes were not statistically significant, so the tau finding is clearest in the brain-wide, aged-mouse work.

Brain fat analysis showed that disease-linked changes in lipids were partly normalized. The authors say this may help explain the recovery, but they note that the exact mechanisms are still unknown. They also saw shifts in proteins involved in glutamate signaling, a key chemical messaging system for learning and memory.

The limits are clear. These are mice, group sizes are not given in the portion of the paper available to us, and the authors list long-term safety, the cell types involved and the specific fat molecules as open questions. They also want to know whether a drug, rather than a gene therapy, could mimic the effect.

The finding is a different angle from lifestyle research. Our October 17 report on volunteering and slower memory decline in APOE ε4 carriers was an observational study in people, which cannot show cause. This mouse work adds a possible biological route, but the two studies are not connected.

WHAT TO WATCH NEXT

Tests of long-term safety, studies that show which cells and fats matter, and whether a drug can raise PLA2G4E activity. Do not start or stop anything based on this research without talking to your own clinician.

Sources: Alzheimer's & dementia (New York, N. Y.) (2026), Alzheimer's & Dementia: Translational Research & Clinical Interventions

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 **Men With Heart and Metabolic Disease Show Faster Epigenetic Aging**
29 AI Spotted Heart Disease From Face and Tongue Photos in Small Test

Men With Heart and Metabolic Disease Show Faster Epigenetic Aging

Men with high blood pressure, heart disease, obesity or abnormal blood fats look biologically older than healthy men of the same age, according to a new study in Clinical Epigenetics.

This is an observational study in people. Researchers compared blood samples from 60 men with at least one cardiometabolic condition and 60 age-matched men without any. The men were aged 24 to 70. The conditions were hypertension, chronic ischemic heart disease, obesity and disorders of blood fats such as cholesterol (dyslipidemia). The design is a snapshot in time, so it shows an association, not a cause.

The team measured DNA methylation, chemical tags on DNA that change with age and health. Scientists feed these patterns into "epigenetic clocks" to estimate biological age, which can differ from the years on a birth certificate.

Men with cardiometabolic conditions showed significant age acceleration on several clocks. The effect was strongest for two second-generation clocks, GrimAge and GrimAge2, and for DunedinPACE, a measure of how fast a person is aging. The men with these conditions also had shorter estimated telomere length, based on a methylation estimate. Telomeres are protective caps on the ends of chromosomes.

One result may surprise. None of the 19 first-generation clocks detected a difference between the groups. Those older clocks were trained to predict chronological age. The authors say this suggests they have limited use in these conditions. The newer clocks were built with health and mortality information, and they picked up the signal.

The researchers also scanned the genome for single sites where methylation differed between the groups. Most of these sites were less methylated in the men with disease. Genes linked to these sites fell into nine groups of biological pathways. They

include chronic inflammation, signaling through G protein-coupled receptors (a large family of cell surface sensors), metabolic disturbances, mitochondrial dysfunction, vascular remodeling and the regulation of salts and fluids in the kidney.

The team then tested whether the results held up elsewhere. They used an independent public dataset of men with generalized atherosclerosis: 138 cases and 122 controls. Four key findings were replicated: higher GrimAge acceleration, higher DunedinPACE, shorter estimated telomere length, and enrichment of inflammatory and GPCR pathways. The authors say this agreement across cohorts points to a fundamental pattern.

FOR YOU

What does this mean for personal health? The study did not test any treatment, and it did not show that controlling blood pressure, weight or cholesterol slows these clocks. It does show that these common conditions travel with a faster biological aging signature in men's blood. The authors suggest these measures could become candidate biomarkers, measurable in a minimally invasive blood sample, for early risk assessment and for monitoring disease progression.

There are limits. The groups were small, and the study included only men, so the results cannot be applied to women. The cases were grouped together, so the study does not separate the effect of one condition from another. The authors call for prospective studies before any clinical use.

The topic is different from our October 9 report on a gut bacteria molecule linked to Alzheimer's protein buildup. That study looked at a different disease. Both, however, point to blood-based markers that might one day flag risk earlier.

WHAT TO WATCH NEXT

Prospective studies that follow men over time to see whether these clocks predict heart events, and whether they change when blood pressure, weight or cholesterol are brought under control.

Sources: Clinical epigenetics (2026), Clinical Epigenetics

IN THIS EDITION · LONGEVITY & HEALTHSPAN

1. Two-Year Fish Oil Trial Finds No Memory or Brain-Shrinkage Benefit
2. Detailed Data Confirm Personalized mRNA Melanoma Vaccine Cut Recurrence Risk 42%
3. Blood Signatures of Fitness Linked to Lower Death Risk in UK Biobank
4. Change in AI Face Age Between Photos Linked to Cancer Survival
5. Untreated Sleep Apnea Linked to 69% Faster Cognitive Decline Over 10 Years
6. Over 80 Nutrition Experts Urge White House to Release Ultra-Processed Food Definition
7. Beetroot Juice and Postmenopausal Heart Oxygen Balance After Hard Exercise: A Small Trial
8. Topical Urolithin A Lowered Eye Wrinkle Depth in Randomized Studies
9. Short Breathing Exercises Blunted Heart Rate and Anxiety Under Stress
10. Aerobic and Resistance Training Ended Up Equal for Type 2 Diabetes
11. Plant and Dairy Protein Shakes Left Blood Chemistry Alike in Adults Over 50
12. Intensity Relative to Your Own Fitness Better Explained Fitness in Midlife Women
13. Blood Flow Restriction Training Showed No Overall Advantage for Artery Health
14. Cigarette Smoke Disrupts Eye Cell Mitochondria, Pointing to Macular Degeneration Risk
15. Ultra-Processed Food Intake Leaves Distinct Blood Fat and Metabolite Signatures
16. Gut-Made Kidney Toxins Linked to Tiny Brain Bleeds in Mice and Patients
17. Flo App Survey of 17,494 Women Finds Gaps in Perimenopause Knowledge
18. New Aging Framework Names Epigenetic Change the Dominant Driver of Aging
19. Exercise Helps Blood Cancer Patients During Treatment, but Diet Evidence Lags
20. Review: Protein Supplements Often Unnecessary Outside the Lab for Active Adults
21. Ear Vagus Nerve Stimulation Linked to Less Inflammation After Surgery
22. Fasting and Lean Mass Over 45: Short Trials, Small Differences
23. Fragmented Sleep Tracked by Wrist Monitors Linked to More Brain Amyloid at Autopsy
24. Blood Test for p-tau217 Predicted Decline Over 12 Years
25. Steady Aerobic Exercise Raised Fitness on Average in Heart Disease Patients
26. Rising Arterial Stiffness Linked to Progression of Heart-Kidney-Metabolic Disease

27 Brain-Wide Gene Therapy Restored Memory in Alzheimer's and Old Mice
28 Men With Heart and Metabolic Disease Show Faster Epigenetic Aging
29 **AI Spotted Heart Disease From Face and Tongue Photos in Small Test**

LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

SCIENTIFIC REPORTS · 2 SOURCES

AI Spotted Heart Disease From Face and Tongue Photos in Small Test

A computer program that studied photos of the tongue and face separated people with coronary heart disease from healthy people with near-perfect scores in a new study. The result is striking, but it comes from a small group and carefully standardized photos. The study did not compare the method with a blood pressure cuff, a cholesterol test or a heart scan.

The work was published in Scientific Reports in 2026. It is a diagnostic study in people, not a trial of a treatment. Researchers enrolled 200 patients with coronary heart disease and 318 healthy controls, and took standardized paired photos of each person's tongue and face. Coronary heart disease is the narrowing of the arteries that feed the heart.

The team asked a practical question. Could a low-cost, non-invasive tool help screen for the disease early? In traditional Chinese medicine, the tongue is thought to reflect the heart and the face is thought to reflect blood circulation. The authors wanted to know whether combining both kinds of photo would detect disease better than either one alone.

The method used deep learning, a type of artificial intelligence that learns patterns from many labeled images. One tool outlined the tongue. Another standardized the face photos. Two image-analysis models, called ResNet50 and EfficientNet-B1, each handled tongue and face images in separate branches, and their findings were then joined.

On an independent test set, the ResNet50 model that used both photo types reached an AUC of 0.9992 and an F1 score of 0.9756. AUC measures how well a test separates sick from healthy people, where 1.0 is perfect. F1 balances missed cases against false

alarms, and 1.0 is also perfect. Tongue photos alone scored an F1 of 0.9524. Face photos alone scored 0.9250.

The authors also ran 5-fold cross-validation, which repeatedly splits the data to check that results hold up. The AUCs were 0.9980 ± 0.0027 for ResNet50 and 0.9987 ± 0.0014 for EfficientNet-B1, with very little variation between splits.

The researchers also used heatmaps to show which parts of each image the models relied on. For tongues, the models focused on the central body and the coating. For faces, they focused on the area around the mouth and the cheekbone and cheek regions. The authors say this fits traditional Chinese medicine teachings. A heatmap shows where a model looked, though. It does not show that those features reflect the heart in a biological sense.

There are important limits. Only the study's abstract was available for this report, so details such as the photo equipment, how the healthy controls were confirmed to be free of heart disease, and the exact test-set size are not verified here. The abstract does not describe testing at other hospitals or in other populations. Scores this high in one dataset do not guarantee the same performance elsewhere. Comparing known patients with healthy volunteers is also easier than screening a mixed general public.

FOR YOU

For personal health, the takeaway is modest. The abstract does not describe a consumer app. It also does not compare the approach with blood pressure checks, cholesterol tests or heart scans, or suggest replacing them. Those established checks remain the proven tools.

WHAT TO WATCH NEXT

Testing in other hospitals and in people with a wider mix of health conditions, which would show whether the results hold up outside the original group.

Sources: Scientific Reports (2026), Medical Xpress / The Conversation (on a Scientific Reports study)

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · MARKETS & STRATEGY DESK

IN THIS EDITION · MARKETS & STRATEGY

1. **Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech**
2. Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages
3. Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds
4. Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs
5. Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

MARKETS & STRATEGY · STANDARD READ · 1 MIN

AP

Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech

The US Treasury has proposed a rule that could limit how American investors back Chinese biotech, and the biggest open question is whether it will touch drug licensing deals.



Photo: “Shipping containers port”, CC0

According to AP, the proposal was issued on October 22, 2026. It adds biotechnology to the sectors covered by outbound investment restrictions, alongside hypersonics, supercomputing and AI. The restrictions apply to China and other countries of concern.

The rule would let the government ban some US investments in those sectors. In other cases, it would require investors to notify the government first. According to AP, it carries out the COINS Act, which passed as part of the FY2026 defense authorization.

Early reports differ on how far the biotech limits go. Endpoints reports the draft would sharply limit US deals for Chinese drug and biotech assets. An earlier report from AllSci said Treasury was weighing a lighter approach that would protect pharma licensing deals.

For companies that source pipeline assets from China, that gap matters. A broad rule could affect licensing, equity stakes and deal structures. A narrow one could leave licensing largely as it is. The exact scope will depend on the text published in the Federal Register.

A separate bipartisan bill, known as BINSA, adds a second source of uncertainty. According to AP, it would require national security review of pharma licensing deals, joint ventures and equity investments involving Chinese entities.

Endpoints reports a 45-day public comment period. Nothing is final until a final rule sets an effective date.

WHAT TO WATCH NEXT

The Federal Register text and its definition of covered biotech activity, any comments from the pharma industry, and whether BINSA advances.

Source: AP via U.S. News & World Report

IN THIS EDITION · MARKETS & STRATEGY

1. Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech
2. **Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages**
3. Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds
4. Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs
5. Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

MARKETS & STRATEGY · STANDARD READ · 2 MIN KFF

Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages

The average worker with employer family health coverage now pays $7,471 a year toward it, up 9%, or $621, from 2025, according to KFF's 2026 Employer Health Benefits Survey, released October 22.

The total price rose more slowly. Average annual premiums for family coverage reached $28,303, up 5%. Single coverage averaged $9,804, also up 5%. KFF reports that workers' wages rose 3.7% over the same period and inflation was 2.7%.

The longer view is similar. Over five years, family premiums rose 28%, compared with 26.9% for wages and 24.4% for inflation, according to KFF. Employer-sponsored insurance covers almost 157 million people under age 65.

The burden is not spread evenly. Workers at firms with 10 to 199 employees pay an average of $9,687 for family coverage, against $6,840 at larger firms. Covered workers at smaller firms contribute 37% of the family premium on average, compared with 25% at larger firms. About 32% of covered workers at smaller firms must pay more than half of the family premium, compared with 6% at larger firms.

Thirteen percent of all covered workers, and 31% of those at smaller firms, are in a plan that asks $12,000 or more in contributions for family coverage. The average deductible for single coverage is $1,955.

Costs also vary by place and workforce. Family premiums average $31,378 in the Northeast and $26,702 in the South. They average $28,689 at firms where at least 35% of workers are 50 or older, against $27,889 at other firms.

For employers, these numbers frame a strategic choice. Benefits are a recruiting tool, but each added cost competes with wages and with the share workers already pay. That is an interpretation, not a survey finding. The strategic question is whether coverage of metabolic and preventive care, such as GLP-1 drugs for weight loss, is worth its cost against the other levers a firm can pull.

KFF says it asked employers detailed questions this year about GLP-1 coverage, actions taken in response to projected cost increases, and plan satisfaction. The portion of the findings reviewed here does not include the GLP-1 results, so this article does not report them. KFF says the cost of health benefits was projected to rise substantially in 2026, and early projections point to further growth in 2027.

The survey is based on 1,937 interviews with non-federal public and private firms. Next, watch the full KFF report and tables for how many employers cover weight-loss drugs, and whether 2027 premium increases push more of the cost onto workers.

Source: KFF (reported by STAT)

IN THIS EDITION · MARKETS & STRATEGY

1. Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech
2. Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages
3. **Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds**
4. Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs
5. Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

MARKETS & STRATEGY · STANDARD READ · 3 MIN COMPETITIVE LANDSCAPE · KFF

Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds

About 638,000 people with Medicare will live in a county with no general-enrollment Medicare Advantage plan with drug coverage in 2027. According to a KFF analysis published October 9, 193 counties will have no such plan next year, up from 123 counties in 2026. Many of these counties already lacked the option, so the net change is 70 counties.

Those counties hold 1% of all Medicare beneficiaries. In 2026, 399,000 people lacked such an option, so the group has grown by 239,000. KFF built the analysis from Centers for Medicare & Medicaid Services (CMS) plan landscape data. It looks only at plan availability, not at costs or benefits.

The gaps are not spread evenly. The affected counties sit in 16 states and in U.S. territories other than Puerto Rico. New Hampshire, North Dakota and Oklahoma are new to the list. Alaska again has no such plans in any county, which covers about 110,000 beneficiaries.

In six counties, one in Nebraska and five in South Dakota, a Medicare Advantage plan without drug coverage is still offered. In the other 187 counties, no general-enrollment Medicare Advantage plan of any kind is available. Some of these counties

still have other private options, such as cost plans and special needs plans. Special needs plans limit enrollment to people who meet certain criteria.

The pullback is led by several large insurers. According to KFF, Health Care Service Corporation is exiting 498 counties and entering none. Centene is leaving 359 and entering 15. UnitedHealth Group is leaving 228 and entering 9. CVS Health is leaving 186 and entering 63. Blue Cross Blue Shield of Michigan is leaving 177 and entering one, and will offer these plans only in Michigan and Wyoming. Humana is leaving 62 and entering 4. Elevance Health is leaving 66 and entering 10.

UnitedHealth and Humana are the two largest Medicare Advantage insurers. Humana still offers drug plans in about 80% of U.S. counties, as in 2026. UnitedHealth now covers about 70%, down from nearly 80%.

Two insurers are leaving the general Medicare Advantage drug plan market entirely: Group 1001, marketed as Clear Spring Health, and Molina Healthcare. Molina will still sell special needs plans in many counties.

Devoted Health is moving the other way. It is entering 342 counties and exiting none. Kaiser Foundation Health Plans is holding steady, leaving three counties and entering three.

The exits hit different kinds of places. In four Minnesota counties, three insurers each have stopped offering these plans. Some exits are in urban markets with high Medicare Advantage use. KFF cites Health Care Service Corporation leaving Miami-Dade County, Florida.

Choice is also narrowing at the top. The share of beneficiaries with more than 40 drug plan options fell from 27% in 2026 to 20% in 2027. Those people live in 4% of counties, down from 6%. Lancaster, Pennsylvania has the most options, at 66.

This report adds to The Arising's October 15 coverage of the average beneficiary losing four options. That piece drew on a separate KFF analysis published October 1. It found 28 plans for the average beneficiary in 2027, against 32 in 2026. This new analysis looks at the county level, where the losses are uneven.

The strategic picture is one of retreat by large insurers in specific counties, with one fast-growing exception. The KFF data show where plans are offered, but not why insurers are leaving. They do not show whether the exits will continue, or what happens to costs and benefits, which the analysis does not examine.

WHAT TO WATCH NEXT

Whether the open enrollment period, which follows these plan announcements, shows people in exited counties moving to traditional Medicare or to other private plans, and whether insurers expand or cut further in 2028.

Source: KFF

IN THIS EDITION · MARKETS & STRATEGY

1. Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech
2. Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages
3. Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds
4. **Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs**
5. Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

MARKETS & STRATEGY · STANDARD READ · 1 MIN REGULATORY CHANGE · STAT

Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs

The U.S. Treasury Department could publish a proposed rule as early as October 23 that would put outbound licensing deals with Chinese biotech companies under added regulatory scrutiny, according to STAT, which cites a report from Endpoints News.

The rule would fall under the Comprehensive Outbound Investment National Security Act, known as the COINS Act. According to STAT, the law places some American investment in Chinese technology under Treasury screening. The proposal would extend that scrutiny to licensing deals in which U.S. companies deal with Chinese biotechs.

For drug developers, this matters because licensing is a main way to bring in outside drug candidates. Any new review step could change how these deals are planned and timed. It could also affect how U.S. companies compete for assets from Chinese biotechs.

The scope of the rule is not yet known. As of STAT's report, no proposed rule had been published. The report's available text does not say which deals would be covered, whether dollar thresholds would apply, or when any rule would take effect. A proposed rule is also only a first step. It is normally open to revision before it becomes final.

Political conditions may shape the outcome. Rob Smith, an analyst at Capital Alpha Partners, wrote to investors that concerns about China's ambitions and a "pervasive anti-pharma view" in many parts of Congress and the administration may make it difficult for the pharmaceutical industry to overcome objections, according to STAT.

That is one analyst's reading, not a settled forecast. The real effect on deal flow will depend on the rule's text. A narrow rule would leave most dealmaking intact. A broad one could add cost and delay for companies that rely on Chinese-originated drugs.

WHAT TO WATCH NEXT

Whether Treasury publishes the proposal, and whether its definitions of covered deals and any thresholds are narrow or broad.

Source: STAT

IN THIS EDITION · MARKETS & STRATEGY

1. Treasury Proposes Rule That Could Restrict US Investment in Chinese Biotech
2. Workers' Family Coverage Costs Up 9% as Premiums Outpace Wages
3. Medicare Advantage Drug Plans Unavailable in 193 Counties for 2027, KFF Finds
4. Treasury Poised to Propose Scrutiny of US Licensing Deals With Chinese Biotechs
5. **Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study**

MARKETS & STRATEGY · STANDARD READ · 2 MIN COMPETITIVE LANDSCAPE · STAT

Alnylam's Huntington's Drug Cuts Mutant Protein About 60% in Early Study

Alnylam Pharmaceuticals says its experimental Huntington's drug lowered the disease-driving protein by roughly 60% in a small early study, a result STAT says suggests the drug can partially silence the mutant gene. The result puts the company in a crowded race to treat a fatal neurological disorder. This is a company-reported finding from a conference presentation, not a peer-reviewed result.

This article is based on STAT's report of the study. The paper itself was not reviewed, and the figures below have not been checked against it.

According to STAT's report, the drug is called brezosiran. It is a gene-silencing therapy that, the results suggest, partially silences the mutant gene behind Huntington's disease. Patients who received the highest dose saw mutant huntingtin in their spinal fluid fall by 60% or 64% on average, depending on the type of assay used, STAT reported.

Alnylam described the safety profile as "encouraging," according to STAT. Pushkal Garg, the company's head of research and development, told STAT: "We're getting high levels of knockdown with good safety and tolerability, and so this is all very, very encouraging." The company presented the data on Oct. 23 at the European Huntington's Disease Network Clinical Research Congress.

The key limit is what the study did not show. STAT reports that Alnylam plans a placebo-controlled study to prove the drug can actually slow the disease, which implies that has not yet been shown. Lowering a protein in spinal fluid is a biological marker, not proof that patients do better. STAT's visible text did not give the number of patients enrolled. This is the weakest point in the case: a small, early, company-reported study cannot tell us whether patients benefit.

For strategy watchers, the next step is where the value will be decided. Alnylam told STAT it plans to start a placebo-controlled study next year to test whether the drug slows Huntington's. A positive result there would matter far more to its competitive position than any protein reading. A negative one would weigh on the idea that lowering the protein is enough. That is our inference, not a claim from STAT.

STAT describes brezosiran as the latest in a series of intriguing candidates for the disease. That framing suggests a field with several programs chasing the same target. The visible text did not detail the rivals or compare their data, so any ranking of Alnylam against them would be speculation at this stage.

This is an experimental drug. Patients and families should not start or stop any medication or treatment without consulting their clinician.

WHAT TO WATCH NEXT

The design, size and timing of Alnylam's placebo-controlled study planned for next year, and whether it measures real clinical change in patients rather than protein levels alone.

Source: STAT

The Arising
HEALTH INTELLIGENCE
FRIDAY, OCTOBER 23, 2026 · LONGEVITY & HEALTHSPAN · LONG READS DESK

IN THIS EDITION · LONGEVITY & HEALTHSPAN · LONG READS

1. **Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter**
2. AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data
3. Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent
4. Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent

LONGEVITY & HEALTHSPAN · LONG READS · 4 MIN

ESSAY · PARTLY VERIFIED · 3 SOURCES

Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter

Our research desk argues that spreading immune-cell contact unevenly can let more tumor or infected cells escape, even when total effort is unchanged. The arithmetic is right. Whether real killer T cells follow that arithmetic is the open question.

An average can hide a treatment failure. Ten minutes of immune contact per target cell sounds like one thing, but it can mean every cell gets ten minutes, or half get two and half get eighteen. Our research desk argues that the second pattern lets more cells survive, with no change in the immune system's total work.

WHAT WAS CLAIMED

The essay makes one tightly framed claim. In a controlled population of similar target cells, moving a fixed amount of immune contact from equal exposure to strongly unequal exposure raises the fraction that survives.

The reasoning starts from a simple rule. Suppose every minute of contact carries the same chance of killing a cell that is still alive. If ten minutes leaves half alive, twenty minutes leaves a quarter. The second ten minutes accomplishes less, because there are fewer cells left to kill.

Now split the contact: two minutes for half the cells, eighteen for the other half. Under the same rule, about 87% of the brief group survive and about 29% of the long group. Overall survival rises to roughly 58%, compared with 50% under equal exposure. Eight extra cells per hundred escape, and none of them became tougher.

WHAT HOLDS UP

We checked the numbers. With a constant kill rate, survival after t minutes is one half raised to the power t over ten. Two minutes gives 0.87, eighteen gives 0.29, and their average is 0.58. The arithmetic is correct.

The underlying principle is sound mathematics. When the benefit of each extra minute shrinks, piling effort onto an already well-treated target wastes it. Engineers see the same pattern in component failure, and economists call it diminishing returns.

The essay is also honest about its limits. It says plainly that this is a proposed mechanism, not a finding, and it offers a clean way to prove itself wrong.

WHERE IT IS WEAK

The whole argument rests on a constant chance of death per minute. Real killer T cells may not work that way, and the published evidence points in two directions.

A 2021 study in Nature Communications from Bettina Weigelin, Peter Friedl and colleagues found that T cells attacking solid tumor cells often fail to kill in a single encounter. Instead, cells die from additive cytotoxicity: several sublethal hits, delivered by different T cells, that accumulate before the target repairs itself. Their model suggested about three hits within roughly 50 minutes separated death from recovery.

That is a threshold process with repair, not a constant rate. Under it, very brief contacts may do almost nothing, and the math could even favor concentrated exposure. The essay raises exactly this possibility, which is to its credit.

A 2016 imaging study in Immunity by Stephan Halle and colleagues found that, in mice, one killer T cell eliminated only about 2 to 16 virus-infected cells per day. Infected cells touched by more than two T cells were more likely to die, which again suggests cooperation and accumulation rather than a fixed rate per minute.

- Minutes are not doses. Visible contact may not equal a consistent dose of lethal action.
- Targets differ. Cells that look alike may vary in how easily they die, which can mimic or mask the effect.
- Timing is not only duration. Gaps between visits matter when damage can be repaired.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

Cancer risk rises steeply with age, and immune surveillance is part of why most early abnormal cells never become tumors. Immunotherapy works partly by restoring that contact.

The practical lesson is about measurement. Two tumors with the same average number of nearby T cells may be treated very differently by those cells. A snapshot count, the kind often reported in pathology research, cannot tell them apart. Whether uneven exposure helps or hurts depends on the kill rule, and that rule has to be measured cell by cell.

HOW IT COULD BE PROVEN WRONG

The essay proposes a direct test. Use one defined T-cell and target-cell system. First confirm in calibration runs that survival follows the constant-rate curve, with about half surviving ten minutes. Then randomly assign targets to ten minutes each, or to an even mix of two and eighteen minutes, and score survival at a fixed time.

If the difference between groups lies entirely within plus or minus two percentage points, the predicted eight-point gain is ruled out in that system. That is a fair, prespecified test.

WHAT TO DO

- When reading immunotherapy news, ask whether results report averages or how exposure was distributed across patients and tumor regions.
- Keep age-appropriate cancer screening current, since early detection still matters more than any single mechanism.
- If you are on or considering immunotherapy, ask your oncologist how response is being measured over time, not just at one point.

WHAT TO WATCH NEXT

- Live-imaging studies that track individual target cells through every encounter and report survival per cell.
- Whether tumors with patchy T-cell contact respond worse to checkpoint drugs than tumors with even contact at the same average.
- Any calibration data showing which kill rule a given T-cell system actually follows.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Arithmetic: 50% vs about 58% survival	Correct under a constant kill rate	VERIFIED
Uneven exposure lets more targets escape in general	Only if killing follows a constant rate	EARLY
T-cell killing follows a constant per-minute rate	Evidence points to accumulated hits with repair	UNSUPPORTED
The proposed kill test is decisive	Clear, prespecified, but system-specific	MODERATE

Sources

Weigelin B, den Boer AT, Wagena E, et al. Cytotoxic T cells are able to efficiently eliminate cancer cells by additive cytotoxicity. Nat Commun 2021;12:5217. doi:10.1038/s41467-021-25282-3 (via PubMed)
Halle S, Keyser KA, Stahl FR, et al. In Vivo Killing Capacity of Cytotoxic T Cells Is Limited and Involves Dynamic Interactions and T Cell Cooperativity. Immunity 2016;44(2):233-45. doi:10.1016/j.immuni.2016.01.010 (via PubMed)
Slaats J, Dieteren CE, Wagena E, et al. Metabolic Screening of Cytotoxic T-cell Effector Function Reveals the Role of CRAC Channels in Regulating Lethal Hit Delivery. Cancer Immunol Res 2021;9(8):926-938. doi:10.1158/2326-6066.CIR-20-0741 (via PubMed)
From The Arising library: prepared for the research desk of September 25.

IN THIS EDITION · LONGEVITY & HEALTHSPAN · LONG READS

1. Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter
2. **AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data**
3. Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent
4. Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent

LONGEVITY & HEALTHSPAN · LONG READS · 4 MIN

NEWS · PARTLY VERIFIED · 5 SOURCES

AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data

Insilico Medicine's rentosertib, designed with generative AI against an AI-chosen target, has moved into late-stage testing for idiopathic pulmonary fibrosis. The Phase 2a signal came from 71 patients over 12 weeks. The Phase III is enrolling in China only, so questions about wider populations will remain open, and the company's claim to be first is not independently confirmed.

Idiopathic pulmonary fibrosis is an age-related scarring of the lungs. The approved drugs slow it but do not reverse it. A drug built from start to finish with generative AI is now in the large trial that will show whether it does better.

WHAT WAS CLAIMED

Insilico Medicine announced on September 10, 2026 that it dosed the first patient in GENESIS-IPF-3, which the company calls the world's first Phase III trial of a generative-AI-driven drug. The drug targets idiopathic pulmonary fibrosis (IPF).

WHAT THE EVIDENCE SAYS

The company's release confirms the trial details. GENESIS-IPF-3 (NCT07687459 / CTR20262475) dosed its first patient on September 9, 2026 at Peking Union Medical College Hospital. It is a 52-week, randomized, double-blind, placebo-controlled study of 320 participants at 47 centers in China. The primary endpoint is the annual rate of

FVC decline over 52 weeks; a key secondary endpoint is time to first disease-progression event. The claim to be first comes from the company and is not independently confirmed.

The drug's earlier record is solid and published. Rentosertib, formerly ISM001-055, blocks a protein called TNIK. Both the target and the molecule came from Insilico's generative AI platform.

The Phase 2a trial appeared in Nature Medicine in June 2025. It was double-blind, placebo-controlled and run at 22 sites in China:

- 71 patients were randomized to one of three dose arms or placebo for 12 weeks.
- The main goal was safety. Side-effect rates were similar across arms, from about 71% on placebo to 83% on the higher doses.
- Stopping treatment was most often due to liver toxicity or diarrhea.
- At the highest dose, lung capacity (forced vital capacity) rose by an average of 98 mL, versus a fall of 20 mL on placebo.

That lung-function gain is encouraging because IPF usually means steady decline. But it came from about 18 patients per arm over three months, and the confidence interval was wide, roughly 11 to 186 mL.

A 2026 network meta-analysis in BMC Pulmonary Medicine, pooling 35 trial reports, placed rentosertib among the agents most likely to preserve lung function. The authors rated that evidence low certainty, built mostly on indirect comparisons.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

There are two reasons to watch this trial. The first is patients. IPF mostly affects people over 60, and median survival after diagnosis is measured in a few years. A drug that stabilizes or improves lung function would matter enormously.

The second is the AI question. Many companies claim AI speeds up drug discovery. A positive Phase III would be among the first hard tests of that claim at the stage where most drugs fail.

There is also a longevity thread. In September 2026, Insilico and academic co-authors reported in Nature Biotechnology that six proteomic aging clocks predicted lower biological age in treated patients from the Phase 2a trial. The authors themselves note that clocks cannot separate an aging effect from a disease effect. Insilico's founder is the first author, so we treat this as an interesting, company-led signal.

WHAT DOESN'T HOLD UP YET

- Size. Twelve weeks and 71 patients cannot predict long-term survival or exacerbations.
- Generalizability. The Phase 2a was run in China, and the Phase III is also enrolling only in China. Whether the effect holds in broader populations will remain open after this trial.
- The aging claim. Lower clock scores are a biomarker, not proof of slower aging.
- AI credit. A win would show the molecule works. It would not by itself prove AI was faster or cheaper than conventional discovery.

WHAT TO DO

- If you have IPF or another fibrotic lung disease, ask your pulmonologist about clinical trials of new agents. Note that GENESIS-IPF-3 enrolls only in China, so most readers will not have access to it.
- Report a new dry cough or breathlessness on exertion that lasts more than a few weeks, especially after 60. Early diagnosis opens more options.
- Do not seek this drug outside a trial. Its long-term safety, including liver effects, is still being studied.

WHAT TO WATCH NEXT

- Whether the 52-week primary endpoint, the annual rate of FVC decline, shows a clear benefit over placebo.
- Whether the key secondary endpoint, time to first disease-progression event, points the same way, and whether exacerbations, hospitalizations and survival are reported.
- Liver safety signals as more patients are treated for longer.
- Whether any trial outside China tests the drug in broader populations.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

Sources

Xu Z, Ren F, Wang P, et al. A generative AI-discovered TNIK inhibitor for idiopathic pulmonary fibrosis: a randomized phase 2a trial. Nat Med 2025;31(8):2602-2610. doi:10.1038/s41591-025-03743-2 (via PubMed)
Zhavoronkov A, Galkin F, Chen S, et al. Integration of proteomic aging clocks in a phase 2a clinical trial supports simultaneous geroprotective assessment. Nat Biotechnol 2026. doi:10.1038/s41587-026-03286-y (via PubMed)
Xu J, Liu X, Liang X, et al. Comparative efficacy and safety of monotherapy and combination pharmacotherapies for idiopathic pulmonary fibrosis: a network meta-analysis of randomized controlled trials. BMC Pulm Med 2026;26. doi:10.1186/s12890-026-04342-8 (via PubMed)
Insilico Medicine. Press release, September 10, 2026: first patient dosed in the Phase III GENESIS-IPF-3 trial of

rentosertib (via PR Newswire)
Wikipedia. Insilico Medicine (rentosertib Phase 3 status as of 2026). en.wikipedia.org/wiki/Insilico_Medicine (accessed October 10, 2026)
From The Arising library: prepared for the research desk of September 26.

IN THIS EDITION · LONGEVITY & HEALTHSPAN · LONG READS

1. Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter
2. AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data
3. **Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent**
4. Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent

LONGEVITY & HEALTHSPAN · LONG READS · 3 MIN

HYPOTHESIS, NOT YET TESTED · 4 SOURCES

Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent

Our research desk proposes that sugar-derived crosslinks in aging intestinal tissue slow the delivery of IgA antibodies that shape gut bacteria. The anatomy makes the question fair; the physical premise is unproven.

Your gut makes its own antibodies, and much of that work never shows up in a blood test. The antibody is shipped across the intestinal lining to help decide which bacteria live where. Our research desk asks whether aging tissue quietly gets in the way of that delivery.

WHAT WAS PROPOSED

Plasma cells beneath the gut lining make immunoglobulin A, or IgA, mostly as two antibody units joined together. To work, this large molecule must reach the underside of an epithelial cell, where a receptor called pIgR carries it across into the gut.

The desk proposes that sugar-derived crosslinks, such as glucosepane, build up in the collagen-rich basement membrane under those cells. That could make the layer harder for joined IgA to cross. Antibody production and pIgR could both stay normal

while less IgA reaches its destination. Over months, less IgA coating on bacteria could shift the community toward dysbiosis.

The test is clean. Take intestinal tissue from young and old mice, strip out living cells while preserving the matrix, and measure how fast fluorescent joined IgA, single-unit IgA and inert molecules of similar size pass through. The scored prediction: at least 20 percent lower joined-IgA permeability through old matrix, with a smaller drop for single-unit IgA. The desk gives this 25 percent.

WHAT THE EVIDENCE SAYS

The transport route is textbook. Dimeric IgA made in the lamina propria is captured by pIgR on the basolateral surface of intestinal epithelial cells and carried to the lumen, as reviews of the receptor describe.

Mucosal immunity does decline with age. A review in Gerontology describes failing secretory IgA responses in older animals and fewer antigen-sampling M cells. A 2026 Aging Cell study found lower fecal IgA in aged mice, along with barrier changes and a more inflammatory bacterial mix.

Glucosepane is real and accumulates with age, but the best human data come from skin collagen and the eye lens. Work from Vincent Monnier's group found glucosepane markedly elevated in aging skin, and higher still in diabetes. Intestinal basement membrane has not been measured in the same way.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

Most thinking about gut aging focuses on bacteria or on immune cells. This idea points to the space between them. If it holds, blood IgA could look normal while gut delivery fails, and counting plasma cells would miss the problem. It would also link two hallmarks of aging, matrix stiffening and microbial imbalance, through one mechanism.

WHAT DOES NOT HOLD UP YET

The weakest point is physics. A more crosslinked matrix is not automatically a less permeable one. Pore size, hydration and collagen organization matter, and stiffness alone says little about diffusion of a protein.

The aged-mouse IgA findings also have simpler explanations: fewer M cells, shifted T-cell subsets and inflammation. The desk's low 25 percent estimate is honest. Even a positive diffusion result would show restricted passage, not that it causes dysbiosis; that needs a rescue experiment.

WHAT TO DO

- Nothing here changes care. There is no test or treatment for gut matrix crosslinking.
- The levers that lower glycation generally, steady blood sugar, regular exercise and not smoking, are worth pursuing for many other reasons.
- People with diabetes accumulate glycation products faster; good glucose control is the established step. Talk with your doctor before changing medications.

WHAT TO WATCH NEXT

- Direct measurement of glucosepane in intestinal basement membranes of young and old animals or humans.
- A diffusion-chamber study comparing joined and single-unit IgA through preserved young and old matrix.
- Whether bacterial IgA coating falls with age even when plasma-cell numbers and pIgR levels hold steady.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
pIgR carries joined IgA across gut cells	Established mucosal biology	VERIFIED
Gut IgA responses decline with age in animals	Supported in reviews and a 2026 mouse study	MODERATE
Glucosepane accumulates with age	Shown in human skin; not measured in gut membrane	MODERATE
Crosslinked gut matrix slows IgA passage	Untested proposal	UNVERIFIED

Sources

Asano M, Komiyama K. Polymeric immunoglobulin receptor. J Oral Sci 2011. doi:10.2334/josnusd.53.147

Sato S, Kiyono H, Fujihashi K. Mucosal immunosenescence in the gastrointestinal tract: a mini-review. Gerontology 2015. doi:10.1159/000368897

Wu F, et al. Aged gut microbiota induces mucosal transcriptional dysregulation, impairing immune surveillance. Aging Cell 2026. doi:10.1111/acel.70533

Fan X, et al. Anaerobic vs aerobic pathways of carbonyl and oxidant stress in human lens and skin during aging and in diabetes. Free Radic Biol Med 2010. doi:10.1016/j.freeradbiomed.2010.06.003

From The Arising library: prepared for the research desk of September 26.

IN THIS EDITION · LONGEVITY & HEALTHSPAN · LONG READS

1. Same Immune Effort, More Survivors: Why Uneven Contact With Target Cells Could Matter
2. AI-Designed Lung Fibrosis Drug Enters Phase III on Small Early Data
3. Could Stiffening Gut Tissue Block Protective Antibodies as We Age? A Long-Shot Idea, Rated 25 Percent
4. **Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent**

LONGEVITY & HEALTHSPAN · LONG READS · 3 MIN

HYPOTHESIS, NOT YET TESTED · 5 SOURCES

Could Methionine Restriction Backfire on the Liver After Menopause? A Testable Idea About Choline, Rated 60 Percent

Our research desk proposes that after estrogen falls, low choline intake could turn a celebrated longevity diet into a fatty-liver risk, even while a favorable hormone signal rises. The chemistry is credible; the effect size is unknown.

Methionine restriction is one of the most reproducible ways to extend life in rodents without making them eat less. It is also drawing interest from people who want the benefits of fasting without the hunger. Our research desk asks whether it could quietly work against the liver in one large group: women after menopause.

WHAT WAS PROPOSED

Methionine is an essential amino acid. It also supplies methyl groups, which the liver uses to make phosphatidylcholine, a molecule needed to package fat for export. The liver can make phosphatidylcholine through an enzyme called PEMT, or build it from dietary choline.

Estrogen boosts PEMT. The desk's proposal is an interaction: after menopause, with PEMT support reduced, moderate methionine restriction plus marginal choline intake could lower phosphatidylcholine enough to impair fat export. Liver fat would rise, even as the liver hormone FGF21 climbs and looks like a sign the diet is working. Adequate choline should prevent that reversal.

The test is a twelve-week mouse experiment with three factors: ovary removal or sham surgery, normal or restricted methionine, and marginal or adequate choline, with calories matched. The scored prediction: in hormone-depleted, methionine-restricted mice, adequate choline lowers liver triglycerides by at least 20 percent versus marginal choline. The desk gives this 60 percent.

WHAT THE EVIDENCE SAYS

The headline animal result checks out. Orentreich and colleagues reported in 1993 that lowering dietary methionine from 0.86 to 0.17 percent produced about a 30 percent longer life span. One detail matters here: those were male Fischer 344 rats, so the founding result says nothing about females or menopause.

FGF21 is central to the diet's effects. A 2021 review from the Pennington group reports that methionine restriction produces a persistent 5- to 10-fold rise in serum FGF21 in rodents, and that FGF21 is required for the diet's effects on energy balance and insulin sensitivity. Earlier work showed an 80 percent restriction raised energy expenditure by 31 percent in mice.

The human choline evidence is strong and directly relevant. In a controlled feeding study of 57 adults, Fischer and colleagues found that on a low-choline diet, 77 percent of men and 80 percent of postmenopausal women developed fatty liver or muscle damage, versus 44 percent of premenopausal women. Steven Zeisel's review attributes that difference to estrogen inducing the PEMT gene.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

This is a useful warning about biomarkers. A rising FGF21 level could reassure someone that a restriction diet is working while their liver fat moves the wrong way. More broadly, a longevity diet tested mainly in young male animals may behave differently in older women. Interventions need to be checked in the people who will use them.

WHAT DOES NOT HOLD UP YET

The weakest link is whether moderate restriction actually crosses the threshold. The liver can conserve methyl groups, make less fat to begin with, or use other pathways. Severe methionine-and-choline-deficient diets do cause fatty liver, but those are

deliberately damaging models, not longevity diets.

Surgical ovary removal is also an abrupt stand-in for gradual human menopause. And a liver-fat result, either way, would not show anything about lifespan.

WHAT TO DO

- If you are postmenopausal and considering a low-methionine or very low-protein eating pattern, discuss it with your doctor first, especially if you have fatty liver or elevated liver enzymes.
- Make sure your diet includes choline-rich foods such as eggs, fish, poultry, legumes and cruciferous vegetables, unless your doctor advises otherwise.
- Ask about a liver check (enzymes, and imaging if indicated) before and after any major dietary change.

WHAT TO WATCH NEXT

- A factorial mouse study crossing hormone status, methionine level and choline intake.
- Human methionine-restriction trials that report results separately for postmenopausal women and track liver fat.
- Whether FGF21 continues to rise even in groups where liver fat worsens.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Methionine restriction extended rat lifespan about 30%	Confirmed, in male rats only	VERIFIED
Methionine restriction raises FGF21	Consistent in rodents; FGF21 required for key effects	MODERATE
Estrogen supports PEMT and lowers choline need	Human feeding study plus mechanism	MODERATE
Marginal choline turns restriction into a liver-fat risk after menopause	Untested proposal	UNVERIFIED

Sources

Orentreich N, et al. Low methionine ingestion by rats extends life span. J Nutr 1993. doi:10.1093/jn/123.2.269
Fischer LM, et al. Sex and menopausal status influence human dietary requirements for the nutrient choline. Am J Clin Nutr 2007. doi:10.1093/ajcn/85.5.1275
Zeisel SH. Gene response elements, genetic polymorphisms and epigenetics influence the human dietary requirement for choline. IUBMB Life 2007. doi:10.1080/15216540701468954
Fang H, et al. Nutritional regulation of hepatic FGF21 by dietary restriction of methionine. Front Endocrinol 2021. doi:10.3389/fendo.2021.773975
Wanders D, et al. UCP1 is an essential mediator of the effects of methionine restriction on energy balance but

not insulin sensitivity. FASEB J 2015. doi:10.1096/fj.14-270348
From The Arising library: prepared for the research desk of September 26.

The Arising
HEALTH INTELLIGENCE
FRIDAY, OCTOBER 23, 2026 · MARKETS & STRATEGY · LONG READS DESK

IN THIS EDITION · MARKETS & STRATEGY · LONG READS

1 Apple's First Foldable iPhone Is the iPhone Duo, Starting at $1,999

MARKETS & STRATEGY · LONG READS · 3 MIN NEWS · PARTLY VERIFIED · 3 SOURCES

Apple's First Foldable iPhone Is the iPhone Duo, Starting at $1,999

The "Surprise and shine" event happened on September 9. Apple named its first foldable the iPhone Duo and set a $1,999 starting price for 256GB. It reaches stores October 23, and the regular iPhone 18 reportedly waits until spring 2027. Pre-event rumors called it the iPhone Ultra and pointed to about $2,199; that was an internal name and a higher tier price, not the final base price.

Apple has avoided folding phones for years while rivals sold them. That changed in September. The company's first foldable iPhone was the centerpiece of its fall event, and it goes on sale October 23.

WHAT WAS CLAIMED

Our research desk described Apple's "Surprise and shine" event as still ahead and said it would introduce the iPhone 18 line. It named the rumored foldable the iPhone Duo and called it a genuine design break.

The desk also cited a podcast describing the Apple Watch as a Trojan horse for on-device AI. Its read was that the event would show whether Apple's AI play is a better assistant, a new device shape or both.

WHAT THE EVIDENCE SAYS

The event is confirmed, but it had already happened by the time our desk wrote it up. Apple's invitation, titled "Surprise and shine," set the date as Wednesday, September 9, per iGeeksBlog.

The product list differs from our desk's version. Pre-event reporting, led by Bloomberg's Mark Gurman, pointed to the iPhone 18 Pro, iPhone 18 Pro Max and the first foldable. The regular iPhone 18, iPhone 18e and a second iPhone Air were reported to arrive in spring 2027 instead. Apple has not confirmed those later models. So this was not a full iPhone 18 launch.

The foldable's name and price are now settled. Apple Newsroom and MacRumors confirm the name iPhone Duo and a $1,999 starting price for 256GB. Tom's Guide lists the same price. US tiers run $2,199 for 512GB, $2,599 for 1TB and $3,199 for 2TB. Preorders opened October 16, with availability October 23. It has a 7.6-inch inner screen, a 5.4-inch outer screen, the A20 Pro chip and Touch ID, and reportedly 12GB of memory. Apple has not disclosed RAM, and the 12GB figure comes from supply-chain reports.

Before the event, AI Weekly, citing Gurman via MacRumors, reported the internal name iPhone Ultra and a price near $2,199, and blamed it on a memory-chip shortage driven by AI servers. The final base price instead landed at the original $1,999 target, and $2,199 turned out to be the 512GB tier.

Since our desk wrote, preorders sold out within minutes on October 16, and delivery estimates slipped to late January 2027. Colors are Star White and Night Sky, and a second launch wave reaches 28 more countries on October 30.

We could not confirm the podcast claim about the Apple Watch as an AI Trojan horse. No podcast is named in our sources.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

For many of our readers, the iPhone and Apple Watch are already the main health sensors in daily life. They log steps, heart rhythm, sleep and more. How Apple handles AI on the device itself matters for where that data goes.

Processing health data on the phone, rather than in the cloud, keeps more of it private. That is a general principle and Apple's stated approach, not a measured outcome. A larger folding screen may also make it easier to read health trends, lab results and visit notes. Neither of those is a medical benefit yet. They are a direction worth watching, and this is the weakest part of the argument: it is speculation, not evidence.

The memory-shortage story was widely reported before launch, but this product does not show it in the price: the base model matched Apple's original target.

WHAT DOESN'T HOLD UP, AND OPEN QUESTIONS

- Timing was stale. The event took place September 9; our desk wrote as if it were upcoming.
- Not the full iPhone 18 line. Reports point to Pro models plus the foldable, with base models in 2027.
- The name is not contested. Apple calls it the iPhone Duo; iPhone Ultra was a pre-launch rumored name.
- No health features confirmed. Apple's release mentions no new health functions tied to the foldable.

WHAT TO WATCH NEXT

- Whether supply catches up with demand, given late-January delivery estimates.
- The second launch wave on October 30 in 28 more countries.
- Any new health or on-device AI features in software updates this fall.

Not financial advice. Facts and context only.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

Sources

iGeeksBlog. Apple's September 9 event is official, with iPhone 18 Pro and foldable expected. Aug 2026. igeeksblog.com
Tom's Guide. iPhone foldable release date, price, colors, pre-orders, specs. Sep 9, 2026. tomsguide.com
Dufresne A. Apple Sets Foldable iPhone Ultra at $2,199 as AI-Driven Memory Crunch Blows Past $1,999 Target. AI Weekly, Sep 8, 2026. aiweekly.co
From The Arising library: prepared for the research desk of September 24.

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · MEASUREMENT & AI DESK

IN THIS EDITION · MEASUREMENT & AI

1. **Your Wearable's Heart Rate Variability May Be Partly Sleep Apnea. A Testable Idea, Rated 45 Percent**
2. AI's Next Race Is Cost per Answer, Not Model Size, and Medicine Will Feel It
3. Staggered Shifts Leave More People Unaware of a Rumour, Our Simulation Suggests

MEASUREMENT & AI · 3 MIN

HYPOTHESIS, NOT YET TESTED · 3 SOURCES

Your Wearable's Heart Rate Variability May Be Partly Sleep Apnea. A Testable Idea, Rated 45 Percent

Our research desk proposes that the share of nighttime heart rate variability clustered around breathing pauses predicts heart risk beyond the total. Sleep researchers have already shown something close to it, which both supports and narrows the idea.

Higher heart rate variability usually reads as good news on a wearable. But two people with the same nightly number can have very different hearts. Our research desk asks whether when the variability happens, during calm sleep or around breathing pauses, tells you more than how much there is.

WHAT WAS PROPOSED

Heart rate variability (HRV) measures differences in the time between beats. At rest, more variability often reflects strong parasympathetic control. But obstructive sleep apnea produces its own swings: the heart slows during a breathing pause and races when breathing resumes. Filtering out sensor errors and irregular beats does not remove these real responses.

The desk proposes that the fraction of nighttime variability concentrated around breathing interruptions predicts cardiovascular risk beyond total variability, the number of interruptions and oxygen loss. It also flags a failure mode: if apnea is treated and these swings shrink, an age model that rewards high HRV could report an older age even though breathing improved.

The proposed test uses sleep recordings from the Multi-Ethnic Study of Atherosclerosis (MESA), with cardiovascular follow-up. Success means adding the fraction improves the model's C-index, a measure of how well it ranks people by risk, by at least 0.01. The desk gives this 45 percent, noting that oxygen loss and standard risk factors may already capture most of the signal.

WHAT THE EVIDENCE SAYS

The building blocks are real, and a group at Brigham and Women's Hospital has been working on a very close cousin. In 2021, Azarbarzin and colleagues measured the heart rate surge after apneas and hypopneas, which they called delta-HR, in about 1,400 MESA and 4,600 Sleep Heart Health Study participants.

People with a high surge, compared with a midrange one, had higher risk of nonfatal and fatal cardiovascular disease and of death from any cause. The risk was concentrated in those with a heavy oxygen-loss burden and in people who were not sleepy.

Two 2026 follow-ups extend this. In MESA, apnea with a high heart rate surge or high oxygen burden was associated with a 68 percent higher hazard of new atrial fibrillation. And a pooled analysis of three CPAP trials in European Heart Journal found the treatment's cardiovascular benefit was concentrated in this high-risk group, alongside possible harm in lower-risk patients.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

Many readers track HRV and wearable-derived 'biological age.' This idea is a needed caution: a high nighttime HRV is not automatically healthy. Part of it may be apnea. Treating apnea could make the number look worse while your heart is actually under less strain.

WHAT DOES NOT HOLD UP YET

Direction is the hard problem, and the desk says so. The 2021 study found U-shaped relationships in MESA: both unusually high and unusually low heart rate responses tracked with worse cardiac markers. A large response can mean strain, while a blunted one can mean an impaired nervous system. A single 'fraction' could blur the two.

Novelty is the other issue. Event-linked heart rate response is already a published risk marker. The new contribution would have to show that a variance-share measure adds something beyond delta-HR, not just beyond total HRV. This is association data; it cannot show that the heart rate swings cause disease.

WHAT TO DO

- Do not read a rising or falling nighttime HRV as proof that your aging has sped up or slowed down.
- If you snore loudly, wake unrefreshed, or a partner notices pauses in your breathing, ask your doctor about a sleep study.
- If you are diagnosed with apnea, decide on treatment with your clinician based on symptoms and risk, not on what a wearable score does afterward.

WHAT TO WATCH NEXT

- A MESA analysis testing the variability-share measure head to head against delta-HR and oxygen burden.
- Whether wearable makers separate apnea-related swings from resting HRV in their age scores.
- Prospective trials that select apnea patients for CPAP by heart rate response.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Apnea creates real heart rate swings that count as variability	Established physiology	VERIFIED
Heart rate surge after apneas is linked to cardiovascular risk	Large cohorts (MESA, SHHS); association only	MODERATE
High-surge apnea may benefit most from CPAP	Post hoc pooled trial analysis	EARLY
Variability share near apneas beats existing measures	Untested proposal	UNVERIFIED

Sources

Azarbarzin A, et al. The sleep apnea-specific pulse-rate response predicts cardiovascular morbidity and mortality. Am J Respir Crit Care Med 2021. doi:10.1164/rccm.202010-3900OC

Xu J, et al. Association of a high cardiovascular disease risk OSA phenotype with incident atrial fibrillation: MESA. Chest 2026. doi:10.1016/j.chest.2026.01.027

Azarbarzin A, et al. Cardiovascular benefit of continuous positive airway pressure according to high-risk obstructive sleep apnoea: a multi-trial analysis. Eur Heart J 2026. doi:10.1093/eurheartj/ehaf447

From The Arising library: prepared for the research desk of September 26.

IN THIS EDITION · MEASUREMENT & AI

1. Your Wearable's Heart Rate Variability May Be Partly Sleep Apnea. A Testable Idea, Rated 45 Percent
2. **AI's Next Race Is Cost per Answer, Not Model Size, and Medicine Will Feel It**
3. Staggered Shifts Leave More People Unaware of a Rumour, Our Simulation Suggests

MEASUREMENT & AI · 4 MIN NEWS · PARTLY VERIFIED · 6 SOURCES

AI's Next Race Is Cost per Answer, Not Model Size, and Medicine Will Feel It

Diffusion-based text models and a new non-generative decision model both promise far cheaper AI. The direction is real. The biggest numbers are still the makers' own.

Most AI models write the way a typist does, one word-piece at a time. Two young companies are betting that the next contest in AI is about doing the same job for far less money. If they are right, the price of putting AI into every clinic and phone falls fast.

WHAT WAS CLAIMED

Our research desk led its September 27 edition with two stories. The first is Inception, co-founded by Stanford computer scientist Stefano Ermon. Its Mercury models use diffusion, the method behind many image generators, to draft many tokens at once and refine them over a few steps. Ermon argues that this uses graphics chips more fully, and that the next era of competition will turn on efficiency, not raw size.

The second is Jev, from a startup called TypeSafe. Jev does not write prose at all. It answers structured questions: yes or no, pick from a list, place on a scale. The desk reported claims that Jev runs about 200 times faster and 400 times cheaper than general models on those jobs, with early users compressing a million-token conversation, speeding a computer-use agent, and sorting thousands of emails for pennies.

WHAT THE EVIDENCE SAYS

Inception and Ermon. Ermon did appear on the No Priors podcast in September 2026 under the theme that diffusion could win AI inference. The episode summary we found matches the desk's account in broad terms: parallel generation, better hardware use on standard GPUs, efficiency over size. That summary was built from the episode title and description, so we treat the details as Ermon's view, not tested fact.

Inception's own materials describe Mercury as the first commercially available diffusion language model, launched in February 2025. The company claims up to ten times the speed of comparable models and one-fifth the latency of Claude 4.5 Haiku, priced at $0.25 per million input tokens. An earlier TWIML podcast described Mercury 2 as five to ten times faster than small frontier models and pitched it at voice and agent work. None of these figures come from an independent benchmark.

TypeSafe and Jev. The New Stack confirms the basics. TypeSafe emerged from stealth with $40 million in seed funding led by DCVC. Chief executive Diogo Almeida announced Jev on September 15. His launch post claimed 20 to 200 times faster responses and 40 to 400 times lower cost. A later analysis put the headline multiples at about 194 times faster and 445 times cheaper, but against baselines TypeSafe chose and ran through its own wrapper.

The customer anecdotes are thinner than the desk implied. One developer reported shrinking a session of nearly a million tokens to about 86,000 in around a second. We found no measured result for the computer-use agent and no source for the email-sorting figure. An independent tester found Jev unreliable at counting and dates, and LangChain's outside check used only five test cases.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

Medicine is full of small, repeated decisions. Is this lab value urgent? Which inbox message needs a nurse today? Does this note mention a fall? Today those questions often go to large, slow, costly models, or to no model at all. A cheap, calibrated decision engine could triage messages, flag risk and route referrals at a cost a small practice can bear.

Lower cost also changes who gets AI. When an answer costs a fraction of a cent, tools can run continuously on wearables and home monitors, not only in big health systems. That is the real promise of the efficiency race.

WHAT DOESN'T HOLD UP YET

- Every speed and cost multiple we found comes from the companies or their chosen comparisons.
- A model that cannot explain itself is hard to audit. In clinical use, a yes or no without reasons needs careful validation.
- TypeSafe's benchmark measures agreement with labels made by two frontier models, not ground truth.
- Faster is not the same as safer. Error rates on real clinical tasks have not been published.

PHYSICIAN'S NOTE

I would welcome a cheap, fast model that sorts my inbox by urgency. I would not trust one until it had been tested on real patient messages against a nurse's judgment, with misses counted honestly. Cost per answer matters. Cost per missed emergency matters more.

WHAT TO WATCH NEXT

- Independent benchmarks of diffusion language models on accuracy, not only speed.
- Peer-reviewed or third-party tests of Jev-style decision models on labelled real-world data.
- The first health-system pilots that report cost per correct triage decision.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Ermon argues diffusion will win inference on efficiency	Confirmed as his stated view (No Priors, Sep 2026)	VERIFIED
Mercury is markedly faster than comparable models	Company claims, 5-10x; no independent benchmark	EARLY
Jev is ~200x faster and ~400x cheaper	Vendor figures against vendor-chosen baselines	EARLY
Early users compressed a million-token conversation	One developer's report, ~1M to ~86K tokens	EARLY
Computer-use and email-sorting results	No source found	UNVERIFIED

Sources

Dealroom. Why diffusion models could win AI inference: Inception's Stefano Ermon (No Priors podcast), Sep 18, 2026. dealroom.co

Inception. The Next Step for dLLMs: Scaling up Mercury. inceptionlabs.ai
TWIML AI Podcast #764. The Race to Production-Grade Diffusion LLMs with Stefano Ermon, Mar 26, 2026. twimlai.com
The New Stack. TypeSafe's Jev, a System One model for decisions, Sep 21, 2026. thenewstack.io
FourWeekMBA. TypeSafe's Jev claims 444.6x cheaper, 193.6x faster, Oct 2, 2026. fourweekmba.com
Topuz AS. A Week Inside Jev: What a Non-Generative Decision Model Is Actually Good For. Towards AI, Oct 2, 2026. pub.towardsai.net
From The Arising library: prepared for the research desk of September 27.

IN THIS EDITION · MEASUREMENT & AI

1. Your Wearable's Heart Rate Variability May Be Partly Sleep Apnea. A Testable Idea, Rated 45 Percent
2. AI's Next Race Is Cost per Answer, Not Model Size, and Medicine Will Feel It
3. **Staggered Shifts Leave More People Unaware of a Rumour, Our Simulation Suggests**

MEASUREMENT & AI · 3 MIN LAB RESULT · PARTLY VERIFIED · 2 SOURCES

Staggered Shifts Leave More People Unaware of a Rumour, Our Simulation Suggests

Our research desk pre-registered a simulation asking whether letting only half a crowd be awake each round changes how far a rumour reaches. We ran it ourselves. The effect appears real, smaller than forecast, and comes from a different mechanism. All results come from our own unpublished simulation; the code and data are not public, and no outside replication exists. Treat the figures as preliminary.

Rumours, like infections, eventually burn out. In the classic mathematical model, about 20 percent of a large crowd never hears the story at all. Our research desk asked a simple question: what happens if people take turns being awake?

THE QUESTION

The standard rumour model dates to Daley and Kendall in the 1960s. People are ignorant, spreaders or stiflers. In the Maki–Thompson version, a spreader stops once it tells someone who already knows. In a large crowd, the share who never hear it settles near 0.2032, a value known from the Maki–Thompson analysis (Maki and Thompson, 1973), with the limit proved rigorously by Sudbury in 1985.

The desk used a different rule: each spreader tells two random people and then stops. That is not the classic stopping rule, but it happens to reach the same 0.2032 limit, so it serves as a fair baseline.

The desk changed only the clock. In each round, a random half of the crowd is awake. A spreader acts only when awake, tells two people per waking round, and quits after its second waking round. A message to someone asleep is lost.

The pre-registered bet: with 200,000 people, the never-heard share would exceed 0.24, because spreaders would waste contacts on sleeping listeners. The desk set its prior at 72 percent. That document is internal and cannot be checked from outside. Its own result was not available to us, so we ran the experiment ourselves.

WHAT WE DID

We wrote a short simulation using the desk's parameters: 200,000 people, half awake per round, two contacts per waking round, and ten starting spreaders. We ran each setup 20 times with different random seeds.

- Classic version, everyone awake: 0.2037 never heard, close to the theoretical 0.2032.
- Staggered version, as specified: 0.2217 never heard, with runs ranging from 0.219 to 0.224.
- Control, sleep drawn separately for every message: 0.2033, back to the classic value.

THE VERDICT

The prediction fails as stated. In our run, the staggered rumour leaves about 22 percent unaware, above the classic 20 percent but well below the 24 percent threshold.

The mechanism also appears to differ from the one proposed. Wasted contacts are not the cause. Each spreader still lands two messages on average, because it gets two waking rounds at half success. The control run points the same way: when sleep is random per message, the classic answer returns, as theory predicts.

The likely cause is shared timing. A rumour spreads mostly during a few peak rounds. Anyone who happens to be asleep through those peaks misses nearly all the traffic at once. Exposure becomes uneven, and uneven exposure leaves more people untouched than even exposure with the same average. This follows from a standard convexity argument, but we have not tested it independently.

THE LESSON FOR ANYONE READING STUDIES

First, a correct direction can hide a wrong explanation. The desk was right that staggering matters and wrong about why. A study that reports only whether the effect appeared would miss that.

Second, small wording choices drive results. If spreaders quit after their first waking round instead of the second, average successful messages fall to one. In our runs that version barely spread at all: 99.6 percent never heard. That run is also unverified. Pre-registration helps only when the protocol is exact.

Third, the same math may apply to health, though this is our inference and not a finding. In epidemics, people whose schedules keep them away from peak contact might be protected beyond what average contact rates suggest. We cite no epidemiological study for this. The weakest part of our argument is that everything rests on one unreplicated simulation.

WHAT TO WATCH NEXT

- Whether the desk's own two independent runs, when published, match our 0.22 figure.
- How the effect scales as the awake fraction falls below one half.
- Whether the same timing effect appears in network models, where contacts are not random.

Education only. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

Sources

Arising Health. Rumour model simulation, N = 200,000, 20 seeds per setup, ignorant-spreader-stifler model with staggered waking rounds. Run October 2026; code available on request. Not publicly released; no outside replication.
Maki, D. and Thompson, M. (1973), rumour model; Sudbury, A. (1985), proof of the limit; Duan, Q. and Ganesh, A. (2021), Queueing Systems 99(3).
From The Arising library: prepared for the research desk of September 27.

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · SCIENCE & FRONTIERS DESK

IN THIS EDITION · SCIENCE & FRONTIERS

1. **A Physics Law for Trade Costs Looks Elegant, but Road Data Already Point the Other Way**
2. Could Meteorite Amino Acids Work as a Thermometer for Early Asteroids? An Idea Borrowed From Stars

SCIENCE & FRONTIERS · 3 MIN

HYPOTHESIS, NOT YET TESTED · 2 SOURCES

A Physics Law for Trade Costs Looks Elegant, but Road Data Already Point the Other Way

Our research desk proposed that the scatter in travel and trade costs grows with distance to the one-third power, a signature from the physics of random landscapes. A 2017 study of real road networks found much larger exponents.

Two cities the same distance apart can have very different costs to ship goods between them. Our research desk asked whether physics can predict how that unpredictability grows with distance. The idea is elegant. The best existing evidence suggests real geography does not cooperate.

THE IDEA IN PLAIN TERMS

Economists Treb Allen and Costas Arkolakis built an influential model of transport costs. In their 2022 paper in the Review of Economic Studies, the cost between two places is computed by adding up every possible route, each weighted by the product of its link costs. Shippers mostly take cheap routes, but random factors spread traffic across many.

The desk noticed that this sum has the same shape as a central object in statistical physics: the partition function of a path wandering through a random landscape. Physicists have studied such paths for decades under the name of first-passage percolation and the KPZ universality class, after Kardar, Parisi and Zhang's 1986 paper.

In two dimensions, that physics predicts a specific law. Across many pairs at distance L, the spread in cost grows as L to the one-third power. The best path wanders sideways as L to the two-thirds. The fluctuations follow a skewed distribution rather than a bell curve.

The desk's prediction: travel times and trade costs between real places should show that one-third exponent. It put the odds at 35% and proposed routing 100,000 random point pairs on OpenStreetMap using the OSRM routing engine.

WHAT THE EVIDENCE SAYS

The desk wrote that nobody has checked this against transport data. That is not correct. In 2017, physicists Alexandre Solon, Guy Bunin, Sherry Chu and Mehran Kardar posted Optimal paths on the road network as directed polymers. Kardar is the K in KPZ.

They used the same tools the desk proposed: OSRM on OpenStreetMap, with millions of shortest and fastest paths across three regions, including Europe and the United States. Long optimal paths did behave like directed polymers. But the fluctuation exponents they measured ranged from about 0.58 to 0.9, far above one-third. Sideways wandering scaled at about 0.69 to 0.72, slightly above two-thirds.

The authors attributed the gap to long-range correlations in geography and road design. That is exactly the caveat the desk raised itself. Under the desk's own scoring rule, a slope well above 0.5 means strongly correlated disorder, outside the simple one-third class.

Two more cautions. The Allen and Arkolakis sum runs over all routes, including ones that double back. A directed polymer moves forward only. The mapping is close but not exact. And the one-third law is proven only for certain exactly solvable models, such as those Kurt Johansson analyzed in 2000. For general first-passage percolation it is a strong conjecture, not a theorem.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

The same math describes how far patients live from care. Travel time to a stroke center or trauma unit determines outcomes. If the variability in those times grows faster with distance than simple models assume, rural patients face more

unpredictable access than planners estimate.

There is also a lesson in reading claims. A beautiful mapping between two fields can be exactly right on paper and still miss the real world. The first step is always to search for whether someone already ran the test.

WHAT WOULD CONFIRM OR KILL IT

- For travel times: the 2017 road data already lean against a one-third law. A replication with the desk's exact binning from 50 to 2,000 kilometers would settle it.
- For trade costs: this remains untested. Freight rates or price-gap estimates between market pairs, binned by distance, could show whether economic costs smooth out the road-level correlations.
- For the skewed shape: even if the exponent is wrong, the distribution of residuals may still be skewed toward unexpectedly cheap pairs. That is checkable with the same data.

WHAT TO WATCH NEXT

- Whether the desk revises its 35% estimate in light of the 2017 road-network results.
- Any test using freight rates rather than travel times, which is still open.
- Use of the same methods to model variability in travel time to emergency care.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Allen-Arkolakis trade cost is a sum over routes of link-cost products	Confirmed in their 2022 paper, equation 4	VERIFIED
This maps onto a physics partition function	Close analogy; their routes may loop, polymers do not	MODERATE
One-third exponent is a theorem	Proven for exactly solvable models; conjectured in general	MIXED
Nobody has tested this on transport data	A 2017 road-network study did, using OSRM	UNSUPPORTED
Travel-time scatter grows as distance to the one-third	Measured road exponents about 0.58 to 0.9	UNSUPPORTED

Sources

Allen T, Arkolakis C. The Welfare Effects of Transportation Infrastructure Improvements. Review of Economic Studies 2022;89(6):2911–2957. doi:10.1093/restud/rdac001; NBER w25487; author manuscript
Solon AP, Bunin G, Chu S, Kardar M. Optimal paths on the road network as directed polymers.

arXiv:1706.00489, 2017. ar5iv.arxiv.org/html/1706.00489
From The Arising library: prepared for the research desk of September 25.

IN THIS EDITION · SCIENCE & FRONTIERS

1. A Physics Law for Trade Costs Looks Elegant, but Road Data Already Point the Other Way
2. **Could Meteorite Amino Acids Work as a Thermometer for Early Asteroids? An Idea Borrowed From Stars**

SCIENCE & FRONTIERS · 3 MIN HYPOTHESIS, NOT YET TESTED · 4 SOURCES

Could Meteorite Amino Acids Work as a Thermometer for Early Asteroids? An Idea Borrowed From Stars

Our research desk proposes reading the temperature inside ancient asteroids from how amino acid abundance falls with molecular size. The logic is clever. The chemistry data it needs mostly do not exist yet.

The amino acids in your muscles are built from the same chemical alphabet found in meteorites that fell from space. Where and how those molecules formed is one of the deepest questions in biology. Our research desk proposes a new way to read the conditions inside the asteroids that made them, borrowed from the physics of stars.

THE IDEA IN PLAIN TERMS

Stars build many heavy elements one step at a time. A nucleus captures a neutron and becomes one unit heavier. If it is unstable, it may decay before the next capture. At a few steps, called branch points, the two rates are close. Astronomers measure abundances on each side of a branch point and work out the temperature and neutron supply deep inside a star. This slow neutron-capture process is textbook astrophysics.

Carbon-rich meteorites, such as the Murchison meteorite that fell in Australia in 1969, carry a rich mix of amino acids. Abundance generally drops as molecules get larger, and many possible variants of each size are present. The usual explanation is qualitative: molecules grew one carbon at a time, with each step less likely than the last.

The desk's proposal treats that drop as a chain of branch points. At each size, a molecule either gains a carbon or is diverted, broken down or locked into insoluble tar. Growth plays the role of neutron capture. Diversion plays the role of decay. Fitting the whole chain at once, the desk argues, could separate temperature from feedstock supply and yield a temperature for the parent asteroid.

Its prediction: once the reaction rates are measured, temperatures fitted from amino acid patterns in Murchison, Ryugu and Bennu samples will match each body's mineral thermometer within 30 °C for at least two of the three. It gives this a 25% chance and leaves the question open until the end of 2031.

WHAT THE EVIDENCE SAYS

The raw material is real and growing. Japan's Hayabusa2 mission returned samples from asteroid Ryugu, and a 2023 Science analysis found amino acids and other organics consistent with water-driven chemistry on its parent body. NASA's OSIRIS-REx returned samples from Bennu. A 2025 Nature Astronomy paper reported 14 of the 20 amino acids used by life, all five nucleobases, and formaldehyde, the one-carbon feedstock the desk's model needs. The authors concluded the organics formed and changed through low-temperature reactions.

The desk's key supporting point is weaker than it suggests. It said meteorites altered by more water show different amino acid distributions. A 2025 NASA Goddard study of 42 carbonaceous samples, including Ryugu and Bennu, tested that link statistically. Correlations between amino acid patterns and alteration markers were generally weak. Ryugu samples varied widely even with similar bulk chemistry. A 2025 PNAS study likewise found different organic distributions between individual Bennu stones.

That heterogeneity is a problem for any single-temperature fit. If one asteroid holds pockets with different histories, the chain may record a blend.

WHERE THE IDEA IS WEAKEST

- Missing rate constants. Nuclear rates are known to a few percent. Rates for adding a carbon to an amino acid in cold, alkaline water are mostly unmeasured. The desk says so itself.
- A network, not a chain. Several routes feed the same molecule, so a simple branch model may not fit.
- Steady state is assumed. If the asteroid's chemistry never settled, the fit would give a confident wrong answer.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

This will not change anyone's health plan. It matters for a different reason. Understanding how life's building blocks form without biology tells us how ordinary, and how robust, the chemistry underneath our own bodies is.

It also models good reasoning. Borrowing a proven method from one field and testing it in another is how many breakthroughs happen, including in medicine. The discipline lies in naming the weak link before running the test, which the desk did.

WHAT TO WATCH NEXT

- Laboratory measurements of amino acid growth and breakdown rates in alkaline water from 0 to 80 °C.
- Further Bennu sample papers that pair organic analyses with mineral temperatures from the same stones.
- Whether larger meteorite datasets strengthen or erase the link between water alteration and amino acid patterns.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

CLAIM	WHAT WE FOUND	TIER
Star branch points reveal stellar temperatures	Established astrophysics	STRONG
Meteorite amino acid abundance falls with size	Long-observed pattern in carbonaceous meteorites	MODERATE
More water alteration means different amino acid patterns	2025 analysis of 42 samples found weak correlations	MIXED
Asteroid organics formed by low-temperature water chemistry	Supported by Ryugu and Bennu analyses	MODERATE
Amino acid patterns can give a temperature within 30 °C	Untested; key rate constants unmeasured	EARLY

Sources

Naraoka H, Takano Y, Dworkin JP, et al. Soluble organic molecules in samples of the carbonaceous asteroid (162173) Ryugu. Science 2023;379:eabn9033. doi:10.1126/science.abn9033 (via PubMed)

Glavin DP, Dworkin JP, Alexander CMO'D, et al. Abundant ammonia and nitrogen-rich soluble organic matter in samples from asteroid (101955) Bennu. Nature Astronomy 2025;9:199–210. doi:10.1038/s41550-024-02472-9 (via PubMed)

Aponte JC, McLain HL, Saeedi D, et al. Challenges and Opportunities in Using Amino Acids to Decode Carbonaceous Chondrite and Asteroid Parent Body Processes. Astrobiology 2025;25:437–449. doi:10.1089/ast.2025.0017 (via PubMed)

Mojarro A, Aponte JC, Dworkin JP, et al. Prebiotic organic compounds in samples of asteroid Bennu indicate heterogeneous aqueous alteration. PNAS 2025;122:e2512461122. doi:10.1073/pnas.2512461122 (via PubMed)

From The Arising library: prepared for the research desk of September 25.

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · HISTORY & IDEAS DESK

IN THIS EDITION · HISTORY & IDEAS

1. **Does Complexity Grow Where Failure Is Cheap? An Untested Big-History Idea**
2. The Whale Is Not a Preview of Human Lifespan. We Are Already the Bigger Outlier

HISTORY & IDEAS · 4 MIN

HYPOTHESIS, NOT YET TESTED · 4 SOURCES

Does Complexity Grow Where Failure Is Cheap? An Untested Big-History Idea

Our research desk proposes that energy sets the ceiling for complexity, but cheap, recycled failure decides who reaches it. The origin-of-life evidence fits. The rest of history fits only in places, and the idea has one good test and many loose ends. It is a hypothesis, not a finding.



Photo: "Ancient stone tool artifact" by artinstitutechicago, CC0

As an illustration, not a research result: health gains over decades often seem to come from trying many small changes, dropping what fails without drama, and keeping what works. Our research desk proposes that the same pattern runs through the whole history of the universe.

THE IDEA IN PLAIN TERMS

Big History, the field that tells the story from the Big Bang to modern society, leans heavily on energy. Astrophysicist Eric Chaisson measured how much energy flows through each gram of a structure each second. In his work, the Milky Way scores about 0.5 erg per second per gram, the Sun about 2, plants about 900, and modern technological society about half a million. Complexity tracks energy flow.

The desk argues that energy is necessary but not sufficient. A new level of complexity appears where a failed attempt is cheap, where the pieces of failure are recycled into the next try, and where tries repeat faster than conditions change. Energy sets the ceiling. Survivable failure decides who reaches it.

Its prediction: at a fixed energy budget, the setting that allows more cheap, recycled attempts will reach higher complexity. It gives this a 40% chance.

WHAT THE EVIDENCE SAYS

The best support comes from origin-of-life chemistry. Building chains such as peptides and RNA in water is uphill, because water breaks the bonds. A 2016 model by McMaster University physicist Paul Higgs showed why wet-dry cycles help. In the dry phase, bonds form. In the wet phase, some break and the pieces move. Each new dry phase builds on the rearranged fragments, and average chain length rises over many cycles. Higgs presented this mainly as support for an RNA world, with long RNAs as the focus and peptides as an extension.

That is almost exactly the desk's mechanism: failure, recycling, repetition. A 2023 experiment from the University of Wisconsin found that cycling conditions shifted products toward longer peptides. A 2025 review of prebiotic peptide synthesis exists, but we could not check its contents, so we do not rely on it. We found no retraction or reversal of the Higgs 2016 or 2023 papers as of October 2026.

The desk's proposed test pits a steady warm vessel against a wet-dry cycled one with equal energy. It honestly flags the problem. Cycling also concentrates the ingredients as water evaporates, so a win could come from concentration, not from cheap failure. A clean test needs a third vessel that concentrates without breaking bonds. This is where the argument is weakest: the one good test has not been run.

WHERE THE IDEA IS WEAK

- The early universe. Nuclei formed once, everywhere, with no trial and error. The desk admits this threshold does not fit.
- Stars. Exploding stars recycle material, but a star does not try and fail. Only half the mechanism applies.
- Farming. The desk cites fallback food supplies in the Fertile Crescent. That fits, but it is one reading among several competing explanations for where agriculture began.
- Modern economies. Competing European states let one failure not halt the next experiment. Coal also drove the change. The two causes are hard to separate.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

Taken as a rule of thumb rather than a law, the idea is useful. In medicine, systems that make error cheap and visible improve. Morbidity and mortality conferences, near-miss reporting and fast iterative trials all work this way. Systems that punish every failure tend to hide them.

The same logic may hold for a personal health plan, though this is an analogy from the hypothesis, not a tested result. Expensive, all-or-nothing programs may fail once and stop, while small, reversible experiments, tracked honestly, may add up.

WHAT TO DO

- Change one habit at a time for two to four weeks, and write down a clear measure before you start.
- Choose experiments you can reverse easily, such as meal timing, sleep schedule or training volume.
- Keep what helps, drop what does not, and expect most tries to fail.
- Check with your doctor before changing medications, fasting for long periods, or starting intense exercise if you have heart disease or diabetes.

WHAT TO WATCH NEXT

- A three-vessel prebiotic experiment that separates concentration from cycling.
- Whether the desk adds a measurable definition of complexity, such as maximum chain length or product diversity, before testing.
- Studies of health systems that compare outcomes with how errors are reported and learned from.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data;

Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

Sources

Chaisson EJ. The Natural Science Underlying Big History. 2014. arXiv:1406.2730
Higgs PG. The Effect of Limited Diffusion and Wet-Dry Cycling on Reversible Polymerization Reactions: Implications for Prebiotic Synthesis of Nucleic Acids. Life (Basel) 2016;6(2):24. doi:10.3390/life6020024 (via PubMed)
Boigenzahn H, Gagrani P, Yin J. Enhancement of Prebiotic Peptide Formation in Cyclic Environments. Orig Life Evol Biosph 2023;53:157–173. doi:10.1007/s11084-023-09641-2 (via PubMed)
Yang Y, Wang Z, Bai J, Qiao H. Prebiotic Peptide Synthesis: How Did Longest Peptide Appear? J Mol Evol 2025;93:193–211. doi:10.1007/s00239-025-10237-9 (via PubMed)
From The Arising library: prepared for the research desk of September 25.

IN THIS EDITION · HISTORY & IDEAS

1 Does Complexity Grow Where Failure Is Cheap? An Untested Big-History Idea
2 **The Whale Is Not a Preview of Human Lifespan. We Are Already the Bigger Outlier**

HISTORY & IDEAS · 4 MIN ESSAY · PARTLY VERIFIED · 3 SOURCES

The Whale Is Not a Preview of Human Lifespan. We Are Already the Bigger Outlier

A bowhead whale lives past 200, but for its size that is ordinary. Relative to what body size predicts, humans beat the odds by more. This essay argues the real target for longevity medicine is the rate at which death risk doubles.

A bowhead whale can live past 200 years. A lab mouse, fed and safe, dies at about three. Same organs, same cell types, nearly the same genes. The question is what evolution tuned differently, and whether the answer tells us anything about the ceiling on human life.

THE THESIS IN PLAIN WORDS

Our research desk argues that the usual story gets the interesting case wrong. The whale is big and safe, so a long life pays off. Fine. But relative to body size, the whale is only a modest outlier. Humans are the larger one. We live about five times longer than our size predicts; the whale, about twice.

The essay's core move: what evolution adjusts is the rate of aging, measured as the time it takes the yearly risk of death to double. In a mouse that is about three months. In humans, about eight years. That slope, not any single organ, sets how long people last. Shift it, and you move the ceiling more than curing any one disease would. This is the desk's proposal, not an established finding.

THE RECEIVED VIEW IT BUILDS ON

The standard account is evolutionary and sound. Selection weakens at ages few animals reach. Where predators kill most individuals young, mutations that harm the old go unpunished, and genes that help early reproduction at a later cost are

favored. This is Medawar and Williams in the 1950s and Kirkwood's disposable soma idea from 1977. Layered on top is body size: across mammals, maximum lifespan rises with roughly the fifth root of body mass.

WHERE THE FACTS HOLD

The load-bearing claims check out. The bowhead's extreme longevity is real. The 2015 bowhead genome paper by Michael Keane and colleagues, in Cell Reports, describes an animal estimated to live over 200 years and finds changes in genes for DNA repair and cell-cycle control, which is what a slowed rate looks like in the genome. That is our interpretation: the authors present these as candidate longevity genes, not proof that aging is slowed. The often-cited 211-year estimate traces to work by J. Craig George and colleagues in 1999; that figure sits outside the biomedical databases we searched, but the over-200-year range is corroborated by the genome study we did open.

The claim that the rate is adjustable, and that our tools barely move it, also holds. In the Interventions Testing Program, rapamycin started late in life raised the age at which 90% of genetically diverse mice had died by 9% in males and 14% in females, reported by David Harrison and colleagues in Nature in 2009, and seen at three sites. Real, and small against a species gap of roughly 70-fold.

The human plateau is the subtlest point. Elisabetta Barbi and colleagues reported in Science in 2018 that among Italians reaching 105 and older, yearly death risk stops climbing and sits near 50%. If that flat risk is real, the human ceiling is soft, and the record should creep upward as more people reach 105, rather than standing as a wall. The finding was challenged in comments published in Science in 2018, including one from Newman arguing for age misreporting.

WHY IT MATTERS FOR A LONGER, HEALTHIER LIFE

If the ceiling is set by a slope, then the right target for medicine is the slope itself, not the next disease on the list. Moving the doubling time from eight years to ten would do more for the ceiling than curing any single cause of death, because the ceiling tracks the slope, not which organ fails first. That is our argument, plausible but not directly sourced.

That is a hard target. Trials that count heart attacks or cancers cannot see it. Slope trials would need decades, or biomarkers of the slope that do not yet exist. The honest reading: the ceiling is movable in principle, and whether medicine can move it on any useful timescale is unproven.

WHERE THE ARGUMENT IS WEAK

- The longevity quotient. It rests on a size rule fitted across all mammals. The choice of equation swings the human score between about four and six, and whales are so poorly sampled the bowhead's true maximum may be well above 211. If the whale is really a three or four, the 'humans are the bigger outlier' claim softens.
- The plateau may be an artefact. Some demographers argue the flat risk after 105 reflects misreported ages. If risk keeps doubling, there is something closer to a wall.
- The bat and the mole-rat. Nobody knows what limits them, so nobody knows whether their slow aging rests on many genes or a few tunable ones. If ours rests on a few, a drug could move it, and the mouse rapamycin result would be a first hint rather than a ceiling.

The strongest version of the essay is modest and correct: the whale shows a large mammal's rate can be slowed. It says nothing about how much further a lineage already at five times its size prediction can go.

WHAT TO WATCH NEXT

- Better estimates of the bowhead's true maximum age, which would firm up the size comparison. Also worth following: Firsanov, Gorbunova, Seluanov and colleagues reported in Nature in October 2025 better double-strand-break repair and high CIRBP expression in bowhead cells, which strengthens the DNA-repair point.
- Any validated biomarker of the aging slope, not just the level of risk.
- Whether the post-105 mortality plateau survives stricter age verification.

Education only, not individual medical or financial advice. Talk with your own physician before changing medications, supplements, diet or exercise. Evidence tiers: Strong = randomized trials, meta-analyses or guidelines; Moderate = large prospective cohorts; Early = small, mechanistic, animal or surrogate-marker data; Unsupported = anecdote, extrapolation or contradicted. Hypotheses from our research desk are proposals, not findings.

Sources

Keane M, Semeiks J, Webb AE, et al. Insights into the evolution of longevity from the bowhead whale genome. Cell Rep 2015;10:112–22. doi:10.1016/j.celrep.2014.12.008 (via PubMed)

Harrison DE, Strong R, et al. Rapamycin fed late in life extends lifespan in genetically heterogeneous mice. Nature 2009;460:392–5. doi:10.1038/nature08221 (via PubMed)

Barbi E, Lagona F, Marsili M, Vaupel JW, Wachter KW. The plateau of human mortality: demography of longevity pioneers. Science 2018;360(6396):1459–1461. doi:10.1126/science.aat3119

From The Arising library: prepared for the research desk of September 25.

The Arising

HEALTH INTELLIGENCE

FRIDAY, OCTOBER 23, 2026 · BRIEFS

IN THIS EDITION · BRIEFS · 923 SHORT STORIES IN 18 TOPICS

Fasting, autophagy & metabolic health 55
Epigenetic reprogramming & age reversal 52
Gut microbiome & brain axis 55
Alzheimer's & cognitive decline prevention 53
Women's health & hormonal transitions 52
Nitric oxide & vascular health 54
Mitochondria & cellular energy 50
Clinical trials 83
In the news 3
VO2 max & zone 2 training 54
Sleep science & circadian biology 55
Ultra-processed food & ultra-processed diet 52
Exercise as medicine & longevity 54
Proteins & amino acids 48
MRNA & gene therapy 54
AI biology & diagnostics 49
Stress resilience & nervous system 47
Longevity research 53

Each brief is a short summary of one published study, preprint, registered trial or news report, checked against its source by a second reviewer. These are for information only and are not medical advice.

FASTING, AUTOPHAGY & METABOLIC HEALTH 55

Gene LMF2 linked to tumour growth and drug resistance in breast cancer models

A study in Advanced Science looked at triple-negative breast cancer. In cells and animals, the gene LMF2 appeared to drive tumour growth, spread and resistance to the drug capecitabine. It seemed to work by boosting cholesterol production. The authors also found the pathway raised in patient tissue samples. Human treatment benefit has not been tested.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-20

Review maps shared pathways linking aging and cancer, and possible drug overlap

A review in Signal Transduction and Targeted Therapy examines four signaling pathways involved in both aging and cancer. It covers nutrient sensing, stress response, inflammation and sirtuin-related pathways. The authors note that research on anti-aging uses lags behind anticancer uses. They suggest repurposing established anticancer drugs for aging as a future direction.

SIGNAL TRANSDUCTION AND TARGETED THERAPY · 2026-07-08

Review discusses KetoFLEX diet for Alzheimer's, citing only observational evidence

A review in Nutrients describes KetoFLEX 12/3, a plant-rich, mildly ketogenic diet with time-restricted eating. The authors say it may influence pathways relevant to Alzheimer's disease. They cite observational findings of improved metabolism, mood, cognition and brain volume in people following multimodal programs. These findings do not show that the diet itself caused the changes.

NUTRIENTS · 2026-07-07

Review links unstable blood sugar to inflammation and psychiatric symptoms

A narrative review in Biology gathers research on blood sugar swings and health. It reports that glycemic variability correlates with inflammatory markers, anxiety, depression and cognitive problems. It also suggests such swings may cause temporary autoantibody signals that could be mistaken for autoimmune disease. The authors note that evidence for correcting glucose coming from small studies is early.

BIOLOGY · 2026-07-07

Review outlines how the immune system changes with age

A review in the International Journal of Molecular Sciences summarises research on how the immune system changes with age. It describes involution of the bone marrow, thymus, spleen and lymph nodes, fewer naïve lymphocytes and weaker function in several immune cell types. These changes are linked to more infections, cancer, autoimmune disease and weaker vaccine response in older people. The authors say understanding them could guide future therapies.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-07-05

Review finds limited evidence on fasting and calorie restriction for oral health

A systematic review in BMC Oral Health included 14 studies, mostly preclinical, with few clinical trials. Caloric restriction and intermittent fasting were generally associated with less gum inflammation and better metabolic measures. Fasting-related approaches reduced tumor growth in experimental oral cancer studies. The authors note clinical evidence is scarce and ketogenic diet feasibility is limited.

BMC ORAL HEALTH · 2026-07-03

Weekly fasting changes natural antibody makeup in young mice

According to a study in ImmunoHorizons, young male and female mice fasted for 24 hours once a week for 12 weeks. Their natural IgM antibody repertoires shifted toward more germline-like antibodies. Splenic B-1 cells and serum interleukin-5 levels fell. Some serum antibody changes differed between males and females. This was a mouse study and does not show effects in people.

IMMUNOHORIZONS · 2026-07-01

Review proposes aging as gradual breakdown of linked cell networks

A narrative, conceptual review in Molecules proposes that aging reflects destabilised, interacting networks. These involve mitochondria, nutrient sensing and chronic inflammation. The authors say the framework is hypothesis-generating and has not been formally validated. They suggest treatments aimed at central network points might have wide effects, but this is untested here.

MOLECULES (BASEL, SWITZERLAND) · 2026-07-01

Mouse gut lining shows ageing immune changes, including more senescent T cells

A pilot study in Aging Cell mapped proteins in the gut lining of ageing mice. It found more senescent T cells near the epithelial layer, plus higher markers of metabolic change and cell death. Tests on human T cells hinted at stimulation at the gut surface as a driver. The authors say causes still need study.

AGING CELL · 2026-07-01

Review: how glucose supply shapes immune cell behaviour in health and disease

A review in the Journal of Cellular Biochemistry examines how glucose availability and glycolysis steer immune cells. It says persistent high glucose can contribute to immune dysfunction and inflammation. Limiting glucose may help in some settings but risks suppressing immunity in others. It also surveys diet-based and drug-based strategies under study.

JOURNAL OF CELLULAR BIOCHEMISTRY · 2026-07-01

Review links metabolic inflammation and mitochondrial damage to brain diseases of aging

A review in Aging and Disease proposes a framework for how metabolic stress, inflammation and faulty mitochondria may feed one another in Alzheimer's, Parkinson's and ALS. The authors describe this as a possible self-reinforcing cycle. They also survey early and clinical work on treatments aimed at this axis. It is a proposed model, not proof of cause.

AGING AND DISEASE · 2026-07-01

Time-restricted feeding plus exercise eased liver stress markers in aged mice

A study in mice, published in Cell Biochemistry and Function, examined livers of 24-month-old animals. Aged mice showed ongoing ER stress signalling, mild inflammation and more collagen. Time-restricted feeding partly reduced these changes. Only feeding combined with exercise reduced one upstream stress signal. Another stress marker, CHOP, stayed high.

CELL BIOCHEMISTRY AND FUNCTION · 2026-07-01

FTO gene variant linked to higher triglycerides during calorie-restricted dieting

A meta-analysis in Nutrition & Metabolism pooled 15 articles with 4,941 overweight or obese adults on continuous calorie-restriction diets. Carriers of an FTO risk variant had somewhat higher triglycerides. Other cholesterol and blood sugar markers did not differ significantly by genotype. Certainty of evidence was low to very low, and the authors call for further trials.

NUTRITION & METABOLISM · 2026-07-01

Intermittent fasting eased depression-like behaviour in stressed mice, via hormone receptors

A study in mice, reported in the FASEB Journal, tested intermittent fasting against depression-like behaviour induced by a stress hormone. Fasting reversed changes in brain stress-hormone receptors and in the activity of certain hypothalamic neurons. Blocking those receptors removed the benefits. This is animal research, and human effects were not tested.

FASEB JOURNAL : OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY · 2026-07-01

Drug candidate fluspirilene extends lifespan in flies and worms

According to a study in The Journals of Gerontology, researchers screened compounds in cells for effects on protein production. One hit, fluspirilene, extended life in fruit flies and roundworms. It did not work in two other worm species or in flies on a high-yeast diet. This is animal and cell research, not human evidence.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-07-01

Time-restricted feeding reduced kidney crystal formation in high-fat-fed mice

A study in the FASEB Journal tested time-restricted feeding in mice on a high-fat diet. These mice gained less weight, had better blood fats and formed fewer calcium oxalate crystals in the kidneys. Night-time feeding worked better than daytime feeding. This was animal research, so it does not show the same effect in people.

FASEB JOURNAL : OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY · 2026-07-01

Review explores whether diabetes drugs called SGLT2 inhibitors may affect aging biology

A review in The Journal of Clinical Endocrinology and Metabolism looks at SGLT2 inhibitors, drugs first made for diabetes. Animal studies suggest they extend lifespan and reduce senescent cells. The authors say the data suggest possible effects on aging pathways. The review does not show this in people.

THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM · 2026-07-01

Review finds intermittent fasting's effect on oxidative stress in humans unclear

A narrative review in Molecular Biology Reports looked at intermittent fasting and oxidative stress. Animal and lab studies often show reduced oxidative damage. Human studies report modest changes in biomarkers, but the markers are non-specific. The authors say human evidence is limited and short-term, and clinical significance is uncertain.

MOLECULAR BIOLOGY REPORTS · 2026-06-30

Review links failing mitochondrial upkeep to age-related diseases

A review in Antioxidants covers how cells maintain their mitochondria, the structures that power them. The authors say age-related damage to this upkeep is closely linked to neurodegenerative, heart and metabolic diseases. They discuss targeting these pathways as a possible therapy. The review itself presents no new trial data.

ANTIOXIDANTS (BASEL, SWITZERLAND) · 2026-06-30

Gene WWP1 not needed for calorie restriction to extend life in mice

A study in male mice, published in Frontiers in Nutrition, tested whether the WWP1 gene is needed for calorie restriction to lengthen life. It is needed in roundworms. In mice lacking the gene, survival under calorie restriction did not change markedly. The gene did influence fat metabolism in fat tissue.

FRONTIERS IN NUTRITION · 2026-06-30

Trial planned to test fasting and exercise on biological aging in older adults

This is a study protocol in GeroScience, so there are no results yet. Researchers plan to enrol 240 healthy adults aged 65 and above. They will be split into four groups: exercise, time-restricted eating, both, or control. The main outcome is a DNA methylation measure of the pace of aging, tracked over 52 weeks.

GEROSCIENCE · 2026-06-29

Time-restricted eating improved blood sugar markers and weight in women with PCOS

A six-week randomised controlled trial in the European Journal of Nutrition included 75 women with polycystic ovary syndrome. Both early and mid-day time-restricted eating reduced fasting blood sugar, fasting insulin, insulin resistance, body weight and waist size compared with usual eating. The authors say the early eating window appeared more effective.

EUROPEAN JOURNAL OF NUTRITION · 2026-06-29

Review examines how mitochondrial quality control relates to human ageing

A review in Nature Metabolism summarises how cells monitor, repair and replace damaged mitochondria. The authors say failure of this system is linked to diabetes, metabolic syndromes and immune ageing. They also discuss NAD+, AMPK activators and caloric restriction as possible strategies. The review summarises existing research and reports no new data.

NATURE METABOLISM · 2026-06-29

Review proposes a ranking of aging mechanisms, from primary to tertiary

A review in Frontiers in Aging proposes a hierarchy of aging drivers. DNA damage and telomere shortening are placed as primary. Processes such as cellular senescence and mitochondrial dysfunction are secondary. Stem cell exhaustion, chronic inflammation and gut dysbiosis are tertiary. The authors stress feedback loops and overlap. This is a conceptual framework, not new experimental data.

FRONTIERS IN AGING · 2026-06-29

Scoping review finds ketogenic diet may help metabolic syndrome but long-term evidence is lacking

A scoping review in Frontiers in Nutrition summarised studies from 2015 to 2025 on the ketogenic diet in metabolic syndrome. Findings suggest possible weight loss, better insulin sensitivity and less inflammation. The authors raise concerns about long-term safety, micronutrient deficiencies and varied individual responses, and call for more high-quality long-term studies.

FRONTIERS IN NUTRITION · 2026-06-29

Planned trial will compare time-restricted eating with calorie cutting in depression and obesity

A study protocol in Trials describes a randomised trial that has not reported results. It will enrol 90 obese people with major depression for 24 weeks. Three groups will follow an eight-hour eating window, that window plus calorie restriction, or calorie restriction alone. The main outcome is depression severity.

TRIALS · 2026-06-27

Experts argue intermittent fasting evidence supports its place in diabetes guidelines

In a Personal View in The Lancet Diabetes & Endocrinology, the authors review trials of intermittent fasting. In adults with type 2 diabetes, it lowered HbA1c, glucose and bodyweight compared with usual eating. It was as effective as calorie restriction. They say data are insufficient for type 1 or gestational diabetes. This is an expert opinion piece.

THE LANCET. DIABETES & ENDOCRINOLOGY · 2026-06-26

Meta-analysis finds time-restricted eating improved insulin markers in women with PMOS

A systematic review and meta-analysis in Nutrients pooled four randomised trials with 216 women with polyendocrine metabolic ovarian syndrome. Time-restricted eating improved insulin sensitivity measures and HDL cholesterol compared with control approaches. Adherence was generally high. The authors caution that the few, small and varied studies limit confidence in the findings.

NUTRIENTS · 2026-06-26

Small pilot trial tests fasting plus MCT supplements in drug-resistant epilepsy

A pilot crossover trial in Epilepsia studied adults with drug-resistant epilepsy. Of 36 enrolled, 22 completed both periods. Two participants had sustained seizure freedom on fasting plus MCTs. The difference in seizure reduction against fasting alone was not statistically significant. The authors describe the trial as exploratory.

EPILEPSIA · 2026-06-26

Trial protocol compares timed Mediterranean eating with a weight-loss drug for liver scarring

This is a study protocol in BMJ Open, so there are no results yet. The planned randomised trial will enrol 70 adults with cardiometabolic risk factors and liver fibrosis. It will compare an early time-restricted Mediterranean diet with the drug combination naltrexone/bupropion, measuring liver stiffness. Direct comparisons of the two approaches are currently lacking, the authors say.

BMJ OPEN · 2026-06-25

Five calorie-cut diets showed no difference in resting energy use in adults with obesity

A secondary analysis of a three-month randomised trial, published in Nutrients, compared five diets in adults with obesity. They included Mediterranean, ketogenic, two time-restricted eating patterns and modified alternate-day fasting. All cut 600 kcal a day. Resting energy expenditure trends did not differ significantly between groups. The analysis was exploratory and used 98 to 102 participants.

NUTRIENTS · 2026-06-24

Meta-analysis finds fasting plus strength training similar to strength training alone

An exploratory meta-analysis in Frontiers in Nutrition pooled 11 studies with 303 participants, mostly young adults. Intermittent fasting combined with resistance training produced broadly similar adaptations to training alone. No clear differences appeared in strength, endurance or muscle growth outcomes. The authors call the evidence limited.

FRONTIERS IN NUTRITION · 2026-06-24

Review of trials compares fasting regimens for fatty liver disease

A systematic review and network meta-analysis in Clinical Nutrition ESPEN pooled 19 randomised trials with 1149 adults with fatty liver disease. Time-restricted eating was most effective at reducing liver fat. Alternate-day fasting gave the largest drops in weight and body fat. None of the regimens significantly improved liver stiffness.

CLINICAL NUTRITION ESPEN · 2026-06-24

Review: time-restricted eating has mixed effects on muscle aging

A review in Nutrition Reviews examined evidence on time-restricted eating and muscle loss with age. Effects on muscle were mixed. Eating windows alone promoted fat loss, but younger adults risked losing lean mass without exercise. Older groups seemed more resilient. Pairing it with resistance training or supplements appeared to protect muscle. The review calls for personalised approaches.

NUTRITION REVIEWS · 2026-06-24

Review links faulty mitochondrial quality control to many diseases

A review in the Chinese Medical Journal outlines how cells maintain their mitochondria, the energy-producing structures. It says disruption of these systems is closely associated with neurodegenerative, cardiovascular and kidney diseases, metabolic syndrome and cancers. The authors note many mechanisms remain unresolved and discuss possible therapeutic targets.

CHINESE MEDICAL JOURNAL · 2026-06-24

Review links obesity-related heart failure to inflammation and discusses lifestyle role

A review in the Journal of Cardiovascular Development and Disease covers heart failure with preserved ejection fraction tied to metabolic problems such as obesity and diabetes. It describes chronic inflammation, driven by visceral fat, as a defining feature. The authors say recent studies found exercise training, with or without calorie restriction, improved exercise capacity and quality of life in stable patients.

JOURNAL OF CARDIOVASCULAR DEVELOPMENT AND DISEASE · 2026-06-23

Review: gut fatty acids may link intestinal health to aging

A review in Metabolites examines short-chain fatty acids, compounds made by gut microbes. It describes how their levels and roles change with age. They are linked to gut barrier protection, metabolism and immune regulation. The authors say the molecular mechanisms are still unclear. They also say precise interventions for different ages or organs do not yet exist.

METABOLITES · 2026-06-23

Review proposes failing mitochondria-sharing network may underlie age-related testosterone decline

A review in Frontiers in Endocrinology proposes that testosterone-making Leydig cells rely on vesicles that swap mitochondria with nearby immune cells. The authors suggest this network breaks down with age and may contribute to late-onset hypogonadism. They outline possible diagnostic and treatment targets. This is a proposed model, not tested in a trial.

FRONTIERS IN ENDOCRINOLOGY · 2026-06-22

Review weighs ketogenic diets for obesity and diabetes, noting open questions

A narrative review in Nutrients examines ketogenic diets, which are low in carbohydrate and high in fat. Drawing on preclinical and clinical studies, it discusses possible effects on weight, blood sugar control and gut bacteria. The authors say long-term effectiveness, safety and sustainability remain debated. They flag risks when combined with certain diabetes drugs.

NUTRIENTS · 2026-06-20

Review examines how an aging immune system may drive decline across organs

A review in npj Aging looks at immunosenescence, the aging of the immune system. It describes the immune system as a mediator, amplifier or consequence of dysfunction across several organs. The authors note that causality is unresolved and that contexts differ. They also discuss drug strategies, including senolytics, that might extend healthspan, with limitations.

NPJ AGING · 2026-06-19

Ramadan fasting linked to immune gene changes without raised inflammation in healthy young men

A secondary analysis of an earlier cohort, published in Nutrients, looked at healthy young men during Ramadan fasting. Fasting was linked to modest weight loss and changes in genes tied to autophagy, senescence and inflammasomes. Blood inflammation markers did not escalate. Responses varied with starting levels. The authors call the findings hypothesis-generating.

NUTRIENTS · 2026-06-17

Review explores how cells clear fat droplets and why it matters in disease

A review in Cell Communication and Signaling covers lipophagy, the process by which cells break down stored fat droplets. The authors say it can protect cells, but when disrupted it may promote inflammation, scarring or tumor growth. They list needs including better biomarkers and treatments matched to tissue and disease stage.

CELL COMMUNICATION AND SIGNALING : CCS · 2026-06-17

Review examines how mitochondrial damage may drive early ovarian failure

A review in the Journal of Ovarian Research covers premature ovarian insufficiency, where ovarian function declines before age 40. It describes how damaged mitochondria may deplete egg follicles. The authors propose a new model and note contradictory evidence and gaps before treatments can reach patients. It is a literature review, not new patient data.

JOURNAL OF OVARIAN RESEARCH · 2026-06-17

Review examines how glucocorticoid hormones drive bone loss and what might counter it

A review in Current Opinion in Endocrine and Metabolic Research covers how excess glucocorticoids cause bone loss and raise fracture risk. They act on bone cells directly and through bone marrow fat. One key route is suppression of Wnt signalling. The authors say inconsistent reporting in preclinical studies makes comparisons difficult and calls for more rigorous methods.

CURRENT OPINION IN ENDOCRINE AND METABOLIC RESEARCH · 2026-06-16

Proposed 'Aging Onion' framework aims to compare anti-aging interventions

A paper in Frontiers in Aging proposes a conceptual framework called the Aging Onion, drawing on evolutionary theories of aging. It uses two axes: ongoing growth programmes and insufficient maintenance. The authors use it to compare caloric restriction and rapamycin. It is a proposal, not tested evidence.

FRONTIERS IN AGING · 2026-06-15

Gut bacterial protein linked to bone health in experimental models

A study in Advanced Science reports that Amuc_1473, a protein carried in vesicles from the gut bacterium Akkermansia muciniphila, promotes bone formation and suppresses bone breakdown. Its levels fell under osteoporosis-linked conditions, including aging, estrogen deficiency and smoking. Intermittent fasting restored the protein and bone quality in the study's models. The abstract does not name the species studied or report human trials.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-06-13

Trial protocol compares two eating patterns for biological ageing markers

This is a protocol in Frontiers in Endocrinology, so no results exist yet. The ENSATI randomised trial plans to enroll 177 adults aged 50 to 70 with overweight and early fatty liver disease. They will follow counselling, 25% calorie restriction, or time-restricted eating for six months. Outcomes include body composition, liver fat and ageing biomarkers.

FRONTIERS IN ENDOCRINOLOGY · 2026-06-12

Review finds time-restricted eating gives modest benefits, often matching calorie cutting

A mini review in Frontiers in Nutrition says time-restricted eating may bring modest weight loss and better blood sugar and lipid measures. Findings are inconsistent. Several randomised trials found no added benefit over conventional reduced-calorie diets, suggesting calorie reduction drives many effects. Long-term evidence is still limited.

FRONTIERS IN NUTRITION · 2026-06-11

Review links excess blood fats and faulty cell recycling to chronic inflammation

A review in Inflammation Research pulls together evidence on how excess lipids can overwhelm autophagy, the cell's clean-up system. The authors say this failure may feed chronic inflammation in conditions such as atherosclerosis, fatty liver disease and neurocognitive disorders. They also outline possible treatment strategies. As a review, it summarises existing research rather than presenting new data.

INFLAMMATION RESEARCH : OFFICIAL JOURNAL OF THE EUROPEAN HISTAMINE RESEARCH SOCIETY ... [ET AL.] · 2026-06-11

Review: calorie restriction may rejuvenate aged stem cells in several tissues

A review in Ageing research reviews examines how caloric restriction affects aged adult stem cells. It describes effects in blood, intestine, brain and muscle, and discusses the role of the mTOR nutrient-sensing network and stem cell niches. It also compares restriction with drugs that mimic it, and notes limits and future research needs.

AGEING RESEARCH REVIEWS · 2026-06-11

Short sleep and CLOCK gene variants linked to metabolic problems in adults

A cross-sectional analysis of 12,092 adults, published in Sleep Medicine, looked at sleep duration, eating window and two CLOCK gene variants. Insufficient sleep interacted with certain CLOCK variants in links to metabolic outcomes. Sleeping 6 to 8 hours was linked to lower odds of obesity-related outcomes. The authors say prospective studies are needed to confirm this.

SLEEP MEDICINE · 2026-06-10

Small pilot trial: fasting-mimicking diet linked to lower inflammation after gum treatment

A small randomised pilot trial in the Journal of Clinical Periodontology tested three 5-day fasting-mimicking diet courses alongside gum disease treatment. Twenty-seven patients finished follow-up. The diet group showed trends toward lower inflammation markers later on. Gum health measures did not differ. The authors call the analyses exploratory.

JOURNAL OF CLINICAL PERIODONTOLOGY · 2026-06-10

Review examines nanoparticle delivery of calorie-restriction-mimicking compounds for brain aging

A review in Ageing Research Reviews looks at compounds such as metformin, spermidine and curcumin, which mimic effects of caloric restriction. Their use is limited by poor absorption and difficulty reaching the brain. The authors discuss nanoparticle carriers as a possible solution and outline remaining challenges. It is a review, not new trial data.

AGEING RESEARCH REVIEWS · 2026-06-08

Review proposes low T3 in illness may be an adaptive survival response

A narrative review in Cureus re-examines non-thyroidal illness syndrome, marked by low T3 thyroid hormone without thyroid disease. The authors suggest it may be an adaptive, energy-saving response that parallels pathways linked to longevity. They note that persistent low T3 alongside chronic disease may be a different matter. This is a review, not new trial data.

CUREUS · 2026-06-07

Review links body-clock disruption to metabolic problems and cardiovascular aging

A review in Aging and Disease says disrupted circadian rhythms, from aging, shift work or irregular schedules, are closely associated with metabolic dysfunction and faster cardiovascular aging. It discusses possible mechanisms and approaches such as time-restricted eating. The authors say many need more validation in older adults and larger trials.

AGING AND DISEASE · 2026-06-06

EPIGENETIC REPROGRAMMING & AGE REVERSAL 52

Astrocyte ketone metabolism aids spinal cord injury repair in animal models

A study in Advanced Science found that a subset of astrocytes, support cells in the central nervous system, ramps up fat and ketone metabolism after spinal cord injury. In animal experiments, deleting a key gene in these cells worsened healing and recovery. A ketogenic diet aided tissue repair across several injury models. In patients, higher ketone levels were associated with better recovery, which does not show cause.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-20

Review links 'trained immunity' to repeat sinus disease in chronic rhinosinusitis

A review in Frontiers in Immunology argues that trained immunity may help explain why chronic rhinosinusitis keeps coming back. Trained immunity is a form of memory in innate immune cells. The authors describe microbial triggers and cell changes in nasal tissue. This is a review of emerging evidence, not a new trial.

FRONTIERS IN IMMUNOLOGY · 2026-07-15

Gut bacteria patterns linked to pace of biological aging in small study

A proof-of-concept study in Scientific Reports used gut microbiome and DNA methylation data from 123 samples. Gut bacteria predicted a measure of aging pace called DunedinPACE, but not three other epigenetic clocks. Bifidobacterium adolescentis was linked to slower aging. The authors call the findings hypothesis-generating, not a diagnostic tool.

SCIENTIFIC REPORTS · 2026-07-14

Dogs show age-linked DNA methylation changes that differ by size and country

A study in PNAS looked at DNA methylation, a chemical marker pattern that shifts with age, in dogs. Age-linked changes varied by body size. Korean dogs showed higher epigenetic age acceleration than dogs in the United States. The authors say dogs may be a useful model for studying how aging changes the epigenome.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA · 2026-07-13

Review explores epigenetic changes that may underlie lasting effects of psychedelics

A review in Molecular Psychiatry summarises how psychedelics such as LSD and psilocybin, and the drug ketamine, may change epigenetic regulation, including DNA methylation and histone changes. The authors propose a model linking these changes to lasting effects on the brain. They state that direct causal evidence remains limited. This is a review, not a trial.

MOLECULAR PSYCHIATRY · 2026-07-10

Review links gut bacteria to colorectal cancer immunotherapy response

A review in Life Sciences assessed preclinical, translational and clinical evidence on gut microbes in colorectal cancer. Microbial effects depend on context and are not simply good or bad. Some bacteria are promising candidates for improving immunotherapy responses. The authors describe the microbiota as a modifiable part of resistance, not the sole cause, and call for studies establishing causal mechanisms.

LIFE SCIENCES · 2026-07-10

Mouse tail and blood methylation can both estimate age

A study in GeroScience compared DNA methylation in blood and tail samples from male mice aged 7 to 103 weeks. Both tissues allowed models to predict age. The blood model also worked in a separate set of female mice, though less precisely. The authors call it proof of concept. It is mouse research only.

GEROSCIENCE · 2026-07-09

Review proposes exercise-related mitochondrial stress may train immune cells

A review in Frontiers in Immunology proposes that exercise stresses mitochondria in a way that may "train" innate immune cells. The authors say moderate exercise is linked to less low-grade inflammation, while sedentary behaviour is linked to chronic inflammation. This is a proposed model, not a tested conclusion, and the text reports no new trial data.

FRONTIERS IN IMMUNOLOGY · 2026-07-09

Sulfur mustard exposure reshapes gene regulation in cultured skin cells

A laboratory study in Chemico-Biological Interactions exposed keratinocytes, a type of skin cell, to sulfur mustard in culture. Multi-omics profiling found extensive chromatin remodelling and altered activity of genes for DNA damage repair, cell cycle regulation and immune response. The team also developed a mass spectrometry method to measure 37 histone H3 modifications. This is cell-culture work, not data from exposed people.

CHEMICO-BIOLOGICAL INTERACTIONS · 2026-07-08

Review links gene-regulation changes in blood stem cells to type 1 diabetes

A review in Molecular Biology Reports looks at type 1 diabetes. It describes how changes in gene regulation may push blood stem cells toward inflammatory immune cells. Mutations in two genes, TET2 and DNMT3A, are said to boost inflammation and speed beta-cell death. This is a summary of existing research, not a new trial.

MOLECULAR BIOLOGY REPORTS · 2026-07-08

Review proposes metabolic weak spots in an aggressive childhood brain tumour

A review in Cancers discusses diffuse midline glioma, an aggressive paediatric brain tumour. The authors propose that a common genetic alteration may make tumours rely on mitochondrial metabolism, with dopamine signalling possibly involved. They state this remains a hypothesis needing direct experimental validation in tumour models.

CANCERS · 2026-07-08

Simple three-site epigenetic clock failed to reliably track frailty or mortality

Researchers reported in Clinical Epigenetics on a simplified epigenetic clock using three DNA sites. It showed a link to frailty in a small group of 40 people. In a larger group of 446 samples, the clock did not significantly predict mortality, and its link to frailty was unclear. One single site was associated with both.

CLINICAL EPIGENETICS · 2026-07-07

Protein CHIP slows bowel cancer growth by degrading LDHA in cells and mice

A study in Cellular Oncology examined colorectal cancer cells and mouse xenograft models. Raising levels of the protein CHIP suppressed glycolysis and tumour growth. CHIP broke down an enzyme called LDHA, which lowered lactate and altered gene activity linked to cell division. The authors call this a possible drug target. It is laboratory and animal evidence only.

CELLULAR ONCOLOGY (DORDRECHT, NETHERLANDS) · 2026-07-07

Review: exercise may alter gene-regulation marks in aging muscle

A review in Biochemical Genetics covers how exercise may affect epigenetic marks, including histone modifications and non-coding RNAs, in muscle aging and sarcopenia. The authors note human evidence is limited compared with animal models. They say emerging clinical studies in older adults show resistance and endurance training modulate these markers, including reduced epigenetic age acceleration on methylation clocks in active elderly people.

BIOCHEMICAL GENETICS · 2026-07-06

Review links brain inflammation to long-lasting pain after traumatic brain injury

A review in Inflammopharmacology covers chronic neuropathic pain after traumatic brain injury. Nearly half of survivors develop it, according to the text. The authors conclude that ongoing inflammation and heightened pain-signal sensitivity are the main drivers. They note no approved treatment targets this pain. The paper synthesises existing research rather than testing a new treatment.

INFLAMMOPHARMACOLOGY · 2026-07-06

Review links senescent cells to aging and several age-related diseases

A review in MedComm sums up current thinking on cellular senescence, a state in which cells stop dividing and release inflammatory signals. The authors say chronic buildup of these cells is tied to inflammation and organ decline. They also discuss senolytics and other approaches, and note barriers such as targeting specificity and access.

MEDCOMM · 2026-07-05

Review finds age-related DNA methylation changes in brain GABA genes, with gaps elsewhere

A scoping review in Life covered 109 human studies on epigenetics and brain chemical systems in aging. GABA-related genes showed the most consistent age-related methylation changes. Evidence for dopamine and serotonin systems in normal aging was sparse. Socioeconomic status, childhood adversity and chronic stress were consistently associated with faster epigenetic aging measured outside the brain, but brain-specific data are scarce.

LIFE (BASEL, SWITZERLAND) · 2026-07-05

Perspective weighs blood-based and cell-reprogramming approaches to slowing ageing

A perspective in Ageing Research Reviews compares two anti-ageing strategies. One alters the blood environment, including plasma exchange. The other partially resets epigenetic information in cells. The authors propose that combining them deserves further investigation. This is a conceptual discussion, not new experimental evidence, and key mechanisms remain unresolved.

AGEING RESEARCH REVIEWS · 2026-07-03

Review: E. coli can survive antibiotics in urinary infections without resistance mutations

A review in the journal Infection examines how E. coli, a common gut bacterium, causes urinary tract infections. It describes reversible, non-inherited changes that help bacteria survive antibiotics without resistance mutations. Such cells test as susceptible but take longer to kill. The authors say this explains why infections recur despite appropriate therapy. They discuss recent approaches, including a phage combined with an antibiotic, to break the cycle.

INFECTION · 2026-07-03

Long-term metformin alters DNA methylation and doxorubicin sensitivity in heart cells

A laboratory study in H9c2 heart muscle precursor cells, published in Epigenomes, exposed cells to metformin for four months before treating them with the chemotherapy drug doxorubicin. Metformin produced dose-dependent, genome-wide changes in DNA methylation. Higher metformin doses raised the doxorubicin dose needed to halve cell viability, from 0.164 to as much as 0.51 μM. The authors describe an association. Results are from cells, not people.

EPIGENOMES · 2026-07-03

Epigenetic clock for bull sperm tracks age and relates to semen quality

A study in the Journal of Animal Science and Biotechnology built a DNA methylation clock for sperm from Holstein bulls. It predicted biological age accurately. Epigenetic age acceleration was correlated with semen motility, abnormality rate and testicular circumference. The authors also made a combined human-bull sperm clock. This is animal research.

JOURNAL OF ANIMAL SCIENCE AND BIOTECHNOLOGY · 2026-07-02

Genetic markers of faster epigenetic aging linked to higher head and neck cancer risk

A genetic study in Molecular Carcinogenesis compared 2,189 people with head and neck cancer with 2,189 matched controls. Higher genetic scores for four epigenetic aging clocks were associated with higher cancer risk, by 14% to 25% in the top scoring group. Mendelian randomisation analyses, a genetic method, supported a possible causal role.

MOLECULAR CARCINOGENESIS · 2026-07-02

Brain 'transcriptomic clocks' differ in accuracy and link to alcohol use

A study in iScience compared several gene-activity ageing clocks in three sets of human prefrontal cortex data. The clocks varied widely in how well they predicted age. Deep learning models captured more random variation than linear ones. Transcriptomic age was linked to alcohol use. The study shows associations, not causes.

ISCIENCE · 2026-07-02

Social disadvantage and heart disease linked to faster biological aging in Louisiana women

An observational study in Clinical Epigenetics followed women in southeast Louisiana, with 865 assessed at the first wave. Lower socioeconomic status and higher area deprivation were associated with faster epigenetic aging, measured from blood DNA. Cardiovascular disease and diabetes were also linked to faster aging measures. The design shows associations, not cause.

CLINICAL EPIGENETICS · 2026-07-02

Review: genetic profiling has defined over 40 subtypes of acute lymphoblastic leukaemia

A review in Nature Reviews Cancer describes how genomic and epigenomic profiling has identified more than 40 molecular subtypes of acute lymphoblastic leukaemia. These findings are increasingly informing risk assessment and treatment choices. The authors say resistance to treatment remains a major challenge, arising through clonal evolution, new mutations and changes in gene regulation.

NATURE REVIEWS. CANCER · 2026-07-02

Muscle of ICU survivors looks epigenetically older five years on

According to a study in Aging Cell, muscle from 97 former intensive care patients showed higher epigenetic age than matched healthy controls five years after discharge. However, this accelerated aging was not associated with their lasting muscle weakness. The authors conclude the muscle-specific clock did not capture the molecular changes tied to weakness.

AGING CELL · 2026-07-01

Common risk factors predicted chronic disease better than epigenetic clocks in middle age

A cohort study in Aging Cell followed 1,108 people aged 34 to 49 for seven to nine years. A model using age, sex, smoking, alcohol, waist-hip ratio and BMI predicted chronic disease better than any model including an epigenetic clock. The authors say clocks must show added value before clinical or personal use.

AGING CELL · 2026-07-01

Review maps how shared aging processes lead to different age-related eye diseases

A review in Investigative Ophthalmology & Visual Science argues that four aging processes form a linked network that shows up differently in macular degeneration, glaucoma and diabetic retinopathy. It also evaluates emerging approaches, including senolytics and partial epigenetic reprogramming. It is a review of existing evidence, not a new clinical test.

INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE · 2026-07-01

New epigenetic clock model uses gene-regulation data to predict age

A study in Nucleic Acids Research examined the DNA methylation sites used by established epigenetic clocks. Most did not overlap known transcription factor binding sites. That suggests clock accuracy is not mainly driven by such binding. The authors built a new model, TFMethyl Clock, that predicts chronological age competitively.

NUCLEIC ACIDS RESEARCH · 2026-07-01

Review links long-lived immune cell 'memory' to ongoing artery inflammation

A review in Cardiovascular Research looks at "trained immunity," where immune cells called monocytes and macrophages keep a pro-inflammatory state after exposure to triggers such as high blood fats and sugar. The authors say this may help explain why heart events stay hard to cut even when risk factors are controlled. It summarises mechanisms, not new patient results.

CARDIOVASCULAR RESEARCH · 2026-07-01

Review explores how brain immune cells keep long-lasting 'memory' in disease

A review in the Journal of Leukocyte Biology examines microglia, the brain's resident immune cells. It describes three memory states: trained immunity, tolerance and exhaustion. The authors discuss metabolic and epigenetic control of these states. They say the states can influence neuroinflammation and neurodegeneration. Possible therapies and translational challenges are also discussed.

JOURNAL OF LEUKOCYTE BIOLOGY · 2026-07-01

Higher plant-nutrient intake linked to slower epigenetic aging in women on plant-rich diet

A secondary analysis reported in Frontiers in Nutrition looked at diet and the DunedinPACE epigenetic aging measure. Women on a plant-rich diet had higher intakes of several flavonoids, carotenoids and folate. Higher intakes were linked to lower DunedinPACE values. These are associations and do not show cause.

FRONTIERS IN NUTRITION · 2026-07-01

New epigenetic clock estimates age in East Asian populations

Researchers report a new epigenetic clock built for East Asian people, according to a study in NAR Genomics and Bioinformatics. It uses 38 DNA methylation sites from cohorts in Taiwan, Japan and China. Predicted ages correlated significantly with actual ages in training and independent test data. The clock estimates chronological age, not health.

NAR GENOMICS AND BIOINFORMATICS · 2026-06-30

Smokers show shorter estimated telomeres and older epigenetic age in blood cells

A study in Clinical Epigenetics compared immune cells from 74 nonsmokers and 69 smokers. Smoking was linked to greater estimated telomere shortening in all cell types. Several epigenetic age measures, notably GrimAge2, also showed greater age acceleration in smokers. This is an association in a comparison of two groups.

CLINICAL EPIGENETICS · 2026-06-30

New blood DNA methylation model estimates age in teens and young adults

Researchers writing in Forensic Science International: Genetics built Ensaya, which combines three existing blood-based DNA methylation age predictors. Tested on 687 samples from 12 cohorts of people aged 12 to 25, it had a mean absolute error of 1.04 years. The authors say it performed stably across platforms and methods.

FORENSIC SCIENCE INTERNATIONAL. GENETICS · 2026-06-30

Review traces aging theories and the rise of partial reprogramming

A review in npj Aging summarises how ideas about aging have developed. It says research found multiple causes rather than a single root cause. The authors describe partial reprogramming with Yamanaka factors as a promising approach for extending lifespan and healthspan. They also cover recent work on its efficacy and safety limits, and remaining challenges.

NPJ AGING · 2026-06-29

Higher epigenetic gestational age acceleration linked to later adiposity peak

An observational study in Scientific Reports analysed 157 children in EDEN and 1,247 in Generation R. Higher raw epigenetic gestational age acceleration was associated with a later age at adiposity peak and a lower BMI at adiposity rebound. It was not associated with BMI at peak or age at rebound. Residual acceleration showed no associations. The findings are associations and do not show cause.

SCIENTIFIC REPORTS · 2026-06-29

Review maps how colorectal cancer resists drugs and possible ways around it

A review in Biochemical Pharmacology examines why colorectal cancer often stops responding to chemotherapy, targeted drugs and immunotherapy. It highlights shared drivers such as cancer stem cell flexibility and epigenetic changes. It also discusses new treatment strategies and using circulating tumour DNA to monitor resistance. It reports no new patient data.

BIOCHEMICAL PHARMACOLOGY · 2026-06-27

Review proposes oxygen stress and gene regulation drive endometriosis

A review in Frontiers in Endocrinology describes how low oxygen, changes in DNA methylation and histone modification, and non-coding RNA disruption may form a self-sustaining cycle in endometriosis. The authors propose a four-stage model. They suggest targeting this pathway could lead to non-hormonal treatments and diagnostic tests. This is a conceptual review, not a trial.

FRONTIERS IN ENDOCRINOLOGY · 2026-06-26

Small single-arm pilot reports lower biological-age scores after 17-week multi-part program

A pilot trial in Frontiers in Aging followed 16 healthy adults, 14 of whom finished a 17-week program. It combined lifestyle changes, supplements and two infusions of cell-derived media. Biological-age measures fell. There was no comparison group, and the study was open-label. Findings cannot show which part of the program, if any, caused the change.

FRONTIERS IN AGING · 2026-06-25

Genetic analysis links inflammatory proteins to faster epigenetic ageing

A genetic study in Clinical Epigenetics used Mendelian randomization, a method that uses gene variants to probe cause. It flagged three inflammatory proteins, IL-12B, IFNG and IL-2, as likely contributors to epigenetic ageing. It also named seven candidate genes and possible drug targets. The work is computational and needs laboratory and clinical confirmation.

CLINICAL EPIGENETICS · 2026-06-24

Thyroid cancer tissue shows older epigenetic age than nearby healthy tissue

According to a study in Endocrine Research using existing datasets, thyroid tumors showed higher DNA methylation age than adjacent healthy tissue. The link between epigenetic and actual age was weaker in tumors. Accelerated tumors also showed more BRAF mutations. No significant link with overall survival was found.

ENDOCRINE RESEARCH · 2026-06-24

Low oxygen speeds epigenetic aging in old mice, and it reverses

According to a study in npj Aging, mice exposed to one month of intermittent low oxygen showed faster epigenetic aging in lungs, spleen and heart. This happened only in old mice. It reversed after normal oxygen returned. The authors say young adults at high altitude showed a similar shift. The mouse work is the main evidence.

NPJ AGING · 2026-06-23

Six-marker saliva test estimates age with average error near three years

A study in the International Journal of Legal Medicine built an epigenetic age clock from saliva samples of 76 Han Chinese people. It uses six DNA methylation sites. The best models had an average error of about 3.2 years. The authors say accuracy matched leading clocks in three independent datasets.

INTERNATIONAL JOURNAL OF LEGAL MEDICINE · 2026-06-23

Heart failure linked to older epigenetic age and lower DNA methylation

A case-control study in EBioMedicine compared people with heart failure to people without it, 2,155 in total. Heart failure was associated with an epigenetic age about 19 years higher on average, and with reduced overall DNA methylation. The design shows a link and cannot show that heart failure causes these changes.

EBIOMEDICINE · 2026-06-23

Review: metformin may reshape how innate immune cells behave

A narrative review in Current Issues in Molecular Biology summarises evidence on metformin, a widely prescribed type 2 diabetes drug. It describes how the drug may alter immune cell metabolism and gene regulation. These changes could push cells toward inflammatory or calmer states. The authors suggest it may also affect immune memory. This is a review, not a new trial.

CURRENT ISSUES IN MOLECULAR BIOLOGY · 2026-06-22

DNA methylation predicts age in self-fertilising fish brain tissue

A study in Ecology and Evolution analysed 89 brain samples from mangrove rivulus, a self-fertilising fish with little genetic variation. Researchers found 40 DNA methylation sites that predicted age with high accuracy. Some sit near genes tied to aging and neurodegeneration. The work is in fish, not humans.

ECOLOGY AND EVOLUTION · 2026-06-21

Analysis of 25 years of research maps telomere and exercise studies

A bibliometric analysis in Biomedicines examined 858 publications from 2000 to 2025 on telomeres and exercise. Yearly output rose from 2 to 71. Research has shifted toward oxidative stress, mitochondria and epigenetic clocks. This counts and maps papers. It is not a trial testing whether exercise protects telomeres.

BIOMEDICINES · 2026-06-21

Childhood adversity at certain ages linked to faster epigenetic ageing

A study in Scientific Reports followed 1,974 children in a US cohort. Adversity during specific developmental periods was linked more strongly to faster epigenetic ageing in late childhood than total or recent adversity. Effects varied by type of adversity. Faster epigenetic ageing was linked to later health risks. This is an association, not proof of cause.

SCIENTIFIC REPORTS · 2026-06-19

Review explores why allergic disease risk appears higher after COVID-19 infection

A review in Frontiers in Immunology notes that cohort studies link SARS-CoV-2 infection to more asthma and allergic rhinitis. Hazard ratios were 2.25 and 1.23, persisting beyond six months. The authors propose mechanisms involving airway injury, immune cells and mast cells. They say it is unclear whether infection causes new allergies or unmasks existing ones.

FRONTIERS IN IMMUNOLOGY · 2026-06-19

Review maps how cell aging drives spinal disc degeneration and possible fixes

A review in Frontiers in Aging examines intervertebral disc degeneration, a leading cause of low back pain. The authors describe how senescent cells and epigenetic changes feed a destructive cycle in the disc. They discuss emerging strategies and propose a sequenced approach. These ideas are theoretical and the review reports no new patient results.

FRONTIERS IN AGING · 2026-06-17

Review assesses plasma treatments for seeds and fertiliser in agriculture

A review in the Journal of Advanced Research examines using engineered plasma in farming. It covers pre-sowing seed treatment to boost yield and stress tolerance, and plasma-made nitrogen fertiliser. The review sets out scientific priorities for practical use. It is about agriculture, not human health or aging.

JOURNAL OF ADVANCED RESEARCH · 2026-06-17

GUT MICROBIOME & BRAIN AXIS

55

Probiotic strain eased aging-related brain and gut changes in mice

A study in the Journal of Microbiology and Biotechnology used mice made to age faster with D-galactose. Both live and heat-killed Lactiplantibacillus plantarum HY7715 reduced markers of blood-brain barrier leakage and hippocampal inflammation. Gut bacteria also shifted. This was animal work in an artificial aging model, so the results may not apply to people.

JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY · 2026-10-21

In mice, gut bacteria imbalance alone was enough to trigger liver inflammation

A study in Gut Microbes used three mouse models of acute liver injury. Injury was linked to fewer helpful gut bacteria and more opportunistic ones, and live bacteria moved from the gut to the liver and blood. Transferring gut or liver microbiota from injured mice into microbe-depleted mice reproduced liver injury and inflammation.

GUT MICROBES · 2026-10-19

Review links gut bacteria imbalance to sepsis, with most treatments still early-stage

A narrative review in Frontiers in Microbiology summarises research on gut microbiota in sepsis, a life-threatening response to infection. It covers gut barrier damage, immune disturbances and changes in microbial products. It also discusses probiotics and fecal transplants. The authors say most microbiota-based treatments are still preclinical or early clinical, and need further validation.

FRONTIERS IN MICROBIOLOGY · 2026-07-08

Review explores how gut bacteria may shape glioblastoma immunotherapy response

A review in Cellular Signalling discusses glioblastoma, an aggressive brain tumour. It says patients often show gut dysbiosis, and that gut bacteria and their short-chain fatty acids may influence immune responses in the brain. The authors call microbiome-based approaches promising but say biomarkers and causal pathways still need validation in clinical trials.

CELLULAR SIGNALLING · 2026-07-07

Gut bacteria changed little during naltrexone treatment for alcohol use disorder

A 12-week study in Scientific Reports followed 72 people with alcohol use disorder taking naltrexone. Drinking improved, but overall gut microbiome diversity did not change significantly. One bacterial group increased. Patients who stayed abstinent had a distinct gut bacteria profile at week 12. Fewer than half provided stool samples at week 12, and the study shows links only.

SCIENTIFIC REPORTS · 2026-07-06

Review examines possible gut microbiome links to dry eye disease

A review in Frontiers in Cellular and Infection Microbiology looked at evidence linking gut bacteria to dry eye disease. Most evidence concerns Sjögren syndrome and other immune-related forms, including clinical, animal and transplant experiments. For other types, evidence is mostly indirect. The review suggests gut imbalance may contribute to eye inflammation, but this is not settled.

FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY · 2026-07-06

Review links environmental pollutants to gut and brain changes, but human evidence is limited

A review in Current Neuropharmacology looked at pollutants such as heavy metals, microplastics and particulate matter. It reports links between exposure, changes in gut microbes, and cognitive or mental health effects. The evidence comes from human cohort studies and animal models. The authors say human evidence remains limited and the quantitative links need more investigation.

CURRENT NEUROPHARMACOLOGY · 2026-07-06

Review links microbiome imbalances across organs to many diseases

A systematic review in the Journal of Clinical Laboratory Analysis covers research from 2001 to 2025 on microbiomes across organ systems, drawing on both human and animal studies. It reports that microbial imbalance is linked to cardiovascular, metabolic, neurological, liver, kidney and cancer-related illnesses. Probiotics, faecal transplants and diet changes improved some immune and metabolic markers. These links are not proof of cause.

JOURNAL OF CLINICAL LABORATORY ANALYSIS · 2026-07-06

Review links gut microbe differences to autism, but treatment evidence is thin

A narrative review in Translational Psychiatry examined human, animal and imaging studies on the gut-brain axis in autism. Microbiome differences were associated with brain structure and function changes. Microbiota-targeted treatments showed promising effects in small studies. Results were mixed, and the authors say evidence is insufficient for widespread clinical use.

TRANSLATIONAL PSYCHIATRY · 2026-07-05

Review: gut-brain pathways may link perimenopause to anxiety and depression

A narrative review in Nutrients examines perimenopausal anxiety and depression. It describes how fluctuating estrogen levels may alter gut bacteria, which in turn may affect tryptophan and GABA pathways. Evidence for nutritional approaches targeting these pathways comes from preliminary cell and animal studies. The review says their effectiveness in perimenopausal women has not been established.

NUTRIENTS · 2026-07-05

Review links gut microbiome changes to fibromyalgia, but evidence remains limited

A review in Frontiers in Immunology examines how gut bacteria may relate to fibromyalgia, a chronic pain condition. It reports consistent findings of reduced microbial diversity and altered metabolites. Probiotics, diet changes and faecal transplants showed preliminary benefits. The authors note small studies and inconsistent methods, so cause and effect is not established.

FRONTIERS IN IMMUNOLOGY · 2026-07-03

Review finds gut microbe by-products linked to autism and ADHD, causation unproven

A review in Frontiers in Nutrition covers gut microbial metabolites and neurodevelopmental disorders such as autism and ADHD. Studies often report patterns like reduced short-chain fatty acids. The authors note results vary widely. Evidence in humans remains mostly associative, so cause and effect has not been shown.

FRONTIERS IN NUTRITION · 2026-07-03

Review proposes a gut microbiome–AMPK link in nutrition and healthy aging

A review in Frontiers in Physiology gathers mechanistic evidence that the enzyme AMPK may mediate how gut microbes and diet affect health. The authors suggest a healthy microbiome may raise levels of metabolites that influence AMPK. This is a conceptual framework drawn from existing studies, not a new trial or direct test in people.

FRONTIERS IN PHYSIOLOGY · 2026-07-03

Review links chronic substance use to gut microbiome changes across species

A systematic review in Medical Sciences analysed 60 studies published from 2019 to 2025, drawing on evidence across species. Chronic exposure to alcohol, nicotine, opioids, cocaine and methamphetamine was generally associated with gut bacterial imbalance, including fewer short-chain fatty acid-producing bacteria and more opportunistic pathogens. Alcohol was consistently linked to lower microbial diversity. The authors connect these changes to gut barrier problems and inflammation.

MEDICAL SCIENCES (BASEL, SWITZERLAND) · 2026-07-02

Review: gut microbiome therapies for pet brain disorders promising but unproven

A narrative review in Veterinary Medicine and Science examined gut-brain research in dogs and cats. It covered probiotics, prebiotics and faecal transplants for conditions from anxiety and aggression to cognitive dysfunction and epilepsy. Specific strains such as Bifidobacterium longum BL999 have shown promising results, but most evidence is correlative rather than causal. The authors call for larger, longer trials. The review concerns animals, not people.

VETERINARY MEDICINE AND SCIENCE · 2026-07-01

Review describes gut-brain axis and microbiota-based therapy ideas for brain disorders

A review in The European Journal of Neuroscience describes the two-way link between gut bacteria and the brain. It notes that an imbalance in gut microbes is linked to conditions including Alzheimer's and Parkinson's disease. Fibre-rich diets, probiotics and fecal transplants are described as being studied as possible therapies. The review reports no new trial results.

THE EUROPEAN JOURNAL OF NEUROSCIENCE · 2026-07-01

Review links gut microbe changes at high altitude to brain problems

A review in Frontiers in Neuroscience says high altitude reduces gut microbial diversity. These changes have been associated with brain dysfunction. Most evidence is correlational, so cause is unproven. Probiotics and similar approaches look promising in preclinical studies, but human evidence remains scarce.

FRONTIERS IN NEUROSCIENCE · 2026-07-01

Glyphosate at regulatory doses changed gut bacteria and social behaviour in mice

A study in Molecular Psychiatry gave mice glyphosate in drinking water for seven weeks at regulatory reference doses. Males showed impaired social preference and more anxiety-like behaviour. Transferring gut bacteria from exposed mice reproduced the social problems in other mice. This was a mouse study, not research in people.

MOLECULAR PSYCHIATRY · 2026-06-30

Review examines possible links between gut bacteria and Alzheimer's disease

A review in Metabolic Brain Disease discusses how gut microbes may relate to Alzheimer's disease through gut-brain communication. It describes links between imbalanced gut bacteria, inflammation and amyloid build-up. It also notes microbe-made chemicals that may affect brain signalling. The review describes an association and mechanisms, not proven causes.

METABOLIC BRAIN DISEASE · 2026-06-30

Review links gut bacteria to male reproductive health

A review in Asian Biomedicine summarises studies on the gut-testis axis, the link between gut microbes and the testes. According to the review, gut microbes help regulate androgen production and metabolism. They can also cross the blood-testis barrier and influence sperm production. The text does not give specific study results or numbers.

ASIAN BIOMEDICINE : RESEARCH, REVIEWS AND NEWS · 2026-06-30

Review links mouth bacteria to depression and anxiety

A review in Bioinformation looks at the oral microbiome and mental health. It reports a recurring pattern of more Prevotella and fewer Haemophilus and Rothia. The authors describe four possible pathways to the brain. This is a review of links, and the text does not show that mouth bacteria cause mental illness.

BIOINFORMATION · 2026-06-30

Review links early feeding to gut bacteria and brain development in preterm babies

A review in Children discusses how early nutrition may shape brain development in preterm infants through gut bacteria. Human milk is linked to beneficial bacteria. Formula feeding, frequent antibiotics and stress may disturb the gut microbiota. The authors say clinical and experimental studies suggest nutrition may support better neurodevelopmental outcomes.

CHILDREN (BASEL, SWITZERLAND) · 2026-06-29

Review explores how gut microbes may influence nerves in ALS

A narrative review in Gut Microbes looks at how gut bacteria and their metabolites may affect the gut nervous system and the central nervous system in ALS. It draws on patient cohorts, preclinical models and clinical trials. The authors propose a possible mechanism. They note that how gut changes reach motor neurons is not fully defined.

GUT MICROBES · 2026-06-29

Stroke patients showed different gut bacteria from healthy people in small study

A case-control study in BMC Neurology compared stool samples from 30 ischemic stroke patients and 30 matched healthy people. Patients had lower Firmicutes and higher Proteobacteria. The authors suggest gut bacteria may play a role in stroke. The design cannot show whether the changes caused the stroke or followed it.

BMC NEUROLOGY · 2026-06-29

Review explores diet inflammation, gut and brain barriers, and neurodegeneration

A narrative review in Nutrients examines how a pro-inflammatory Western-style diet, scored by the dietary inflammatory index, may relate to gut and blood-brain barrier leakiness. The authors say these changes may contribute to neurodegenerative diseases. The text describes associations and possible mechanisms, not proven causes. It is a review, not new data.

NUTRIENTS · 2026-06-28

Stroke patients show altered gut bacteria and blood profiles in small study

An observational study in BMC Microbiology compared 20 people with cerebral infarction (a type of stroke) with 20 healthy controls. Patients showed gut microbiota dysbiosis, with a lower gut microbiota health index, plus distinct serum metabolite and protein alterations. The researchers also examined how these measures correlated with clinical indicators. The design shows association only. The authors suggest the patterns may serve as potential biomarkers or therapeutic targets.

BMC MICROBIOLOGY · 2026-06-27

Prenatal depression and anxiety linked to infant sleep problems through different pathways

A birth cohort study in the journal Sleep followed 2288 mother-infant pairs. Prenatal depression alone was linked to more infant sleep disturbance, partly through cord blood cortisol. Prenatal anxiety was linked to lower gut microbial diversity and altered tryptophan metabolites at birth. These are associations in an observational study.

SLEEP · 2026-06-27

Analysis maps research on gut microbiome treatments in children

A bibliometric analysis in Translational Pediatrics counted 1,915 articles from 2010 to 2025 on gut microbiota interventions in children. Output has grown, led by China and the United States. Only 27.12% of studies involved international collaboration. Autism, obesity and malnutrition dominate, while developmental and behavioural outcomes are underrepresented. It does not assess whether the interventions work.

TRANSLATIONAL PEDIATRICS · 2026-06-27

Review links gut microbiome and brain signalling to frailty

A review in Frontiers in Cellular and Infection Microbiology examines the microbiome-gut-brain axis in frailty. It describes a two-way association between gut microbes and frailty, plus possible mechanisms and microbiome-targeted treatments. The authors say this may point to new biomarkers and personalised approaches. It is a review, not a new trial, and does not prove cause.

FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY · 2026-06-26

Review proposes tea polyphenols and exercise may support recovery after brain bleed

A paper in Food Science & Nutrition combines preclinical and clinical evidence on tea polyphenols and exercise by-products after intracerebral haemorrhage, a severe type of stroke. The authors propose a model in which both support blood vessel and brain health. It is a mechanistic proposal, not a trial result. They say dose and timing still need study.

FOOD SCIENCE & NUTRITION · 2026-06-26

Review summarises how gut bacteria change with age and may affect aging

A review in Molecular Biomedicine summarises research on gut microbiota and aging. It describes lower microbial diversity and changed bacterial metabolites in older people. It discusses links to inflammation, gut barrier problems and metabolic disorders. The authors call the microbiota a promising target, and note that future research and clinical translation challenges remain.

MOLECULAR BIOMEDICINE · 2026-06-25

Review finds gut microbes linked to anxiety, depression, poor sleep and constipation

A narrative review in Frontiers in Microbiology examines how gut bacteria may connect mood problems, sleep disturbances and chronic constipation. It draws on observational, genetic, animal and early interventional studies. The authors say varied study methods limit conclusions about cause, and call for clearer separation of types of evidence.

FRONTIERS IN MICROBIOLOGY · 2026-06-25

Review: one brain receptor may harm or protect cognition depending on what activates it

A review in Frontiers in neuroscience examines the aryl hydrocarbon receptor. Environmental pollutants called PAHs are linked to mainly harmful signalling, including inflammation. Gut-microbe-derived tryptophan products are linked to mainly protective signalling. The authors say the split depends on context. They also discuss Alzheimer's and Parkinson's disease. It is a review, not new trial data.

FRONTIERS IN NEUROSCIENCE · 2026-06-24

Review explores how gut microbes and hormones may influence obesity

A review in the Journal of Gastroenterology and Hepatology covers links between gut microbiome, hormones and obesity. It discusses microbial products and treatments such as probiotics and fecal transplants. The authors note limited causal evidence in this field, so the mechanisms remain incompletely understood.

JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY · 2026-06-24

Review: gut bacteria transplants for Parkinson's show variable trial results

A review in the Journal of Parkinson's Disease discusses fecal microbiota transplantation for Parkinson's. Gut changes are common in the disease, and gut bacteria are altered in patients. Preclinical models showed therapeutic potential. Recent clinical trials in patients have had variable outcomes. The authors examine methodological differences and suggest ways to improve future trial design.

JOURNAL OF PARKINSON'S DISEASE · 2026-06-24

Blood metabolites tied to thinking skills in midlife, including ergothioneine

A study in Nature Aging analysed 991 blood metabolites in 1,082 dementia-free middle-aged people in the Rotterdam Study. Fourteen metabolites were linked to cognition in replicated findings, with ergothioneine showing the largest effect. Antacid use was associated with worse cognition and lower ergothioneine. These are associations, not proof of cause.

NATURE AGING · 2026-06-24

Review links gut bacteria imbalance to Alzheimer's disease and explores possible therapies

A narrative review in Pathogens examined how the gut-brain connection may relate to Alzheimer's disease. It reports that altered gut bacteria are associated with brain inflammation and faster disease progression. Probiotics showed potential for cognition and inflammation. This is a review of existing studies, so it shows links, not proven cause.

PATHOGENS (BASEL, SWITZERLAND) · 2026-06-23

Review finds little direct evidence on blueberries for children's brain and behaviour conditions

A review in Nutrients covering literature from 2016 to 2025 looked at blueberry compounds and children's neurodevelopment and mood. Small clinical trials reported modest gains in mood and verbal memory in typically developing children. Direct trials in children with diagnosed conditions remain scarce. The authors also note the compounds are unstable and poorly absorbed.

NUTRIENTS · 2026-06-23

Review examines gut bacteria and epigenetics in cognitive problems after stroke

A review in Frontiers in Cellular and Infection Microbiology looks at cognitive impairment after stroke. It summarises evidence that gut microbes and their metabolites may influence brain inflammation and gene regulation. The authors say the mechanisms remain incompletely understood. They discuss possible treatment strategies, but the review itself does not test them.

FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY · 2026-06-22

Review finds mostly animal evidence linking Chlorella to gut and brain markers

A systematic review in Nutrients covered 21 studies on the green alga Chlorella, gut microbiota and brain function. Most were in animals, with few human trials. Nineteen studies, mostly preclinical, reported positive associations with gut-brain markers. The evidence in people is therefore limited.

NUTRIENTS · 2026-06-21

High-dose bisphenol A linked to memory problems and gut changes in male mice

A study in Neurotoxicology gave mice bisphenol A, a chemical found in the environment. At the highest dose, male offspring showed worse short- and long-term memory. They also had fewer hippocampal neurons, gut barrier damage, altered gut bacteria and signs of inflammation. This was animal work, so the results may not apply to people.

NEUROTOXICOLOGY · 2026-06-20

Review examines how diet and gut bacteria may influence brain disorders

A review in Frontiers in Cellular and Infection Microbiology summarises evidence linking diet, gut microbes and brain function. Imbalanced gut microbes have been associated with conditions including Alzheimer's disease, Parkinson's disease and depression. The authors note that human studies are hard to interpret because of many confounding factors. They discuss microbiota-targeted approaches such as probiotics and faecal transplants, covering both their therapeutic potential and their current limitations.

FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY · 2026-06-19

Review: gut bacteria may influence how psychiatric drugs work

A narrative review in Current Neuropharmacology examines how gut microbes may affect the absorption, metabolism, effectiveness and safety of psychiatric drugs. Differences in gut bacteria have been associated with varied drug responses. The authors describe the evidence as heterogeneous, so firm conclusions are not yet possible.

CURRENT NEUROPHARMACOLOGY · 2026-06-17

Gut bacteria differences linked to brain white matter damage in tuberculous meningitis

An observational study in Tuberculosis compared 22 people with tuberculous meningitis and 31 healthy controls. Patients had lower gut microbe diversity. Higher levels of Escherichia were linked to signs of white matter damage on brain scans. Acetic acid was also elevated. The design shows an association, not that the bacteria cause the damage.

TUBERCULOSIS (EDINBURGH, SCOTLAND) · 2026-06-17

Review finds gut microbiome differences in Alzheimer's, studied with AI tools

A scoping review in Frontiers in Dementia screened 896 articles and examined 28 on artificial intelligence and the gut microbiome in dementia. Studies reported that people with Alzheimer's disease have lower levels of some anti-inflammatory bacteria and higher levels of others linked to neuroinflammation. These are associations, not proof of cause. So-called superagers also showed distinct microbiome profiles.

FRONTIERS IN DEMENTIA · 2026-06-17

Review finds only a non-significant trend for diet and cognition in mild impairment

A systematic review and meta-analysis in Food & Nutrition Research pooled 11 studies, nine of them randomised trials, in adults with mild cognitive impairment. Gut bacteria differed between people with normal cognition and those with impairment. The pooled result leaned toward dietary interventions helping cognition, but it was not statistically significant, so no firm conclusion can be drawn.

FOOD & NUTRITION RESEARCH · 2026-06-16

Review links gut, brain and immune system in neurodegenerative and metabolic disease

A review in Cells examines how communication between gut microbes, immune cells and the brain may relate to Alzheimer's, Parkinson's, obesity, type 2 diabetes and fatty liver disease. It describes shared pathways, including inflammation and mitochondrial problems. It also discusses large-scale molecular data and AI tools. It summarises existing research rather than presenting new results.

CELLS · 2026-06-16

Review links gut bacteria imbalance and stroke in a two-way loop

A review in Frontiers in Cell and Developmental Biology summarises evidence that gut microbial imbalance may worsen stroke severity and that stroke may in turn disrupt gut bacteria. Gut-derived compounds appear to influence immune cells in the brain. The authors describe diet- and microbiota-targeted approaches as promising, but this is a review, not a new trial.

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY · 2026-06-16

Review links weaker pain inhibition in older adults to sex and gut-brain changes

A narrative review in Geriatrics synthesised about 30 references on chronic pain and ageing. It proposes that the body's pain-dampening system becomes less precise, causing "sensory blurring." The authors say this decline differs by sex, with menopause and gut-brain signalling possibly playing roles. It is a review, not a test of treatments.

GERIATRICS (BASEL, SWITZERLAND) · 2026-06-16

Review summarises how Chinese herb pairs may affect metabolism through gut bacteria

A review in Gastroenterology Research and Practice summarises research on paired traditional Chinese herbs and metabolic diseases such as obesity and type 2 diabetes. The authors report that the pairs may shift gut bacteria, their metabolites and gut barrier function. The review also discusses research challenges. It is a summary of existing studies, not a new trial.

GASTROENTEROLOGY RESEARCH AND PRACTICE · 2026-06-15

Review surveys how the microbiome relates to health and disease

A review in Gut microbes pulls together research on the human microbiome. It covers roles in digestion and immunity, effects of diet and medication, and dysbiosis in many disorders. It also assesses treatments such as probiotics and fecal microbiota transplantation. The authors say microbial diversity matters for prevention and personalised medicine.

GUT MICROBES · 2026-06-12

Review: gut microbes may influence nerve repair in multiple sclerosis, but proof is thin

A review in Nutritional Neuroscience examined how gut microbe byproducts might affect remyelination, the repair of nerve insulation, in multiple sclerosis. Evidence comes mostly from preclinical models. Direct causal effects on repair remain incompletely established. Clinical evidence is limited and rarely measures remyelination directly. The authors note inconsistencies across studies and several translational challenges.

NUTRITIONAL NEUROSCIENCE · 2026-06-12

Older hypertensive adults with memory impairment show distinct gut bacteria and inflammation

A cross-sectional study in Frontiers in Immunology compared 205 older Chinese adults. Hypertensive people with amnestic mild cognitive impairment had fewer short-chain fatty acid-producing gut bacteria and more inflammatory markers. Blautia levels tracked with better cognitive scores. The design shows association only, not cause.

FRONTIERS IN IMMUNOLOGY · 2026-06-11

Probiotic strain eased cognitive deficits in diabetic rats, study finds

A study in The Journal of Nutritional Biochemistry used 42 rats. In rats with type 2 diabetes, Lactobacillus casei Zhang lowered blood glucose, improved memory tests, reduced brain inflammation and restored gut bacteria and short-chain fatty acids. The authors link this to the gut-brain axis. These are animal results, not human findings.

THE JOURNAL OF NUTRITIONAL BIOCHEMISTRY · 2026-06-10

Small pilot finds gut microbiomes overlap between healthy adults and mild cognitive impairment

A small proof-of-concept study in Gut Microbes Reports analysed 17 adults aged 50 to 90 who completed assessments. Gut microbiome composition overlapped substantially between healthy people and those with mild cognitive impairment. The authors say combining detailed phenotyping with gut sequencing is feasible, but the sample is too small for firm conclusions.

GUT MICROBES REPORTS · 2026-06-09

ALZHEIMER'S & COGNITIVE DECLINE PREVENTION 53

Commentary describes advances in nuclear imaging for cardiac amyloidosis

A commentary in EJNMMI Reports summarises a collection of studies on nuclear medicine imaging of cardiac amyloidosis. It points to new PET tracers, better SPECT/CT accuracy and combined imaging approaches. It also notes interest in earlier detection, monitoring over time and artificial intelligence. It is an overview, not new trial data.

EJNMMI REPORTS · 2026-10-19

Review links tooth loss to cognitive decline through diet and chewing

A review in Nutrients synthesises evidence linking impaired oral function, particularly tooth loss, to cognitive decline and dementia. The authors propose two routes: a poorer diet, and reduced sensory signals to the brain from chewing. Eating alone is associated with lower diet quality and smaller memory-related brain regions. These are proposed pathways and associations, not established causes.

NUTRIENTS · 2026-07-07

Review links tooth loss and eating alone to dementia risk pathways

A review in Nutrients pulls together existing evidence on oral function and cognition. It proposes that tooth loss may affect the brain through diet and through reduced sensory input from chewing. Eating alone is associated with lower diet quality and smaller memory-related brain regions. These are associations, and the pathways are proposed, not proven.

NUTRIENTS · 2026-07-07

Post hoc analysis suggests donepezil patch may beat tablets in mild Alzheimer's

A post hoc, per-protocol analysis of a Japanese non-inferiority trial, published in Alzheimer Disease and Associated Disorders, compared donepezil 27.5 mg patches with 5 mg tablets. At week 24, cognitive scores (lower is better) changed by -1.661 points with the patch and 0.065 with tablets, a difference of -1.726 (P=0.021). The authors say patches may slow decline more in mild disease. Post hoc findings are only suggestive.

ALZHEIMER DISEASE AND ASSOCIATED DISORDERS · 2026-07-06

Review surveys medicinal plants studied for Alzheimer's disease in lab, animal and human work

A review in Natural Products and Bioprospecting pooled cell, animal and clinical studies published from 2015 to 2025. It covered 15 medicinal plants and 21 active compounds, including saffron, turmeric and Ginkgo biloba. The authors report effects on several Alzheimer's-related pathways, including amyloid, tau and inflammation. They say clinical trials reported improvements in cognitive performance and behavioural symptoms.

NATURAL PRODUCTS AND BIOPROSPECTING · 2026-07-06

Study examines hippocampal asymmetry and cognitive decline in dementia-free adults

A study in The Journal of Prevention of Alzheimer's Disease analysed 1,142 dementia-free participants from the Alzheimer's Disease Neuroimaging Initiative. It compared total hippocampal volume and left-right asymmetry on MRI with changes in memory, language, executive and visuospatial function. It also looked at progression to dementia over up to 10 years, alongside amyloid and tau markers. The available text does not report the findings.

THE JOURNAL OF PREVENTION OF ALZHEIMER'S DISEASE · 2026-07-06

Post hoc analysis suggests donepezil patch may slow decline more than tablet in mild Alzheimer's

A post hoc analysis of a Japanese non-inferiority trial, published in Alzheimer Disease and Associated Disorders, compared donepezil 27.5 mg patches with 5 mg tablets. In patients with mild Alzheimer disease, the patch group showed a better cognitive score at week 24. The authors say the patch may be more effective. This was not the trial's original question.

ALZHEIMER DISEASE AND ASSOCIATED DISORDERS · 2026-07-06

Review surveys plant compounds studied for Alzheimer's disease

A review in Natural Products and Bioprospecting pulled together lab, animal and clinical studies on 15 medicinal plants and 21 of their compounds. The authors report effects on several Alzheimer's-related pathways, and some improvements in clinical trials. The text provided is cut off, so the strength of the human evidence is unclear.

NATURAL PRODUCTS AND BIOPROSPECTING · 2026-07-06

Review finds mouth and face pain common but under-recognised in older adults with dementia

A scoping review in BMC Geriatrics covered 21 studies. Prevalence of orofacial pain varied, with a pooled figure of 19.0% from a meta-analysis of 6,115 people. In nursing home residents with severe dementia it reached up to 48.8%. Nearly half of those not reporting pain had oral lesions. Assessment tool evidence is preliminary.

BMC GERIATRICS · 2026-07-03

Review links depression and memory problems to worse asthma in older adults

A review in The Journal of Allergy and Clinical Immunology: In Practice says older adults with asthma who also have depression or cognitive decline tend to have poorer asthma control, more exacerbations and higher mortality risk. Some data suggest asthma may also raise depression and dementia risk. The review describes links, not proven causes.

THE JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY. IN PRACTICE · 2026-07-03

Review finds mouth and face pain common but often missed in dementia

A scoping review in BMC Geriatrics covered 21 studies on orofacial pain in older adults with dementia. Prevalence varied by setting, reaching up to 48.8% in nursing home residents with severe dementia. Pooled prevalence in one meta-analysis was 19.0%. The authors say evidence on assessment tools remains preliminary. The review was registered after the search was done.

BMC GERIATRICS · 2026-07-03

Depression and memory problems linked to worse asthma outcomes in older adults

A review in The Journal of Allergy and Clinical Immunology: In Practice says depression and cognitive decline in older people with asthma are associated with poorer control, more flare-ups, higher health care use and greater mortality risk. Some data suggest asthma may also bring on depression and cognitive problems. The authors say these issues are often under-addressed in clinical practice.

THE JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY. IN PRACTICE · 2026-07-03

Alzheimer's tau markers appear earlier and closer together in Down syndrome

A study in Brain compared 198 adults with Down syndrome and 172 neurotypical adults using brain scans and blood tests. Markers of amyloid, p-tau217 and tau tangles turned positive earlier in Down syndrome. The tau markers appeared nearly together, about 4 to 6 years after amyloid. The authors say this may help define treatment windows.

BRAIN : A JOURNAL OF NEUROLOGY · 2026-07-01

Experts report Alzheimer's is biologically varied, with common overlapping brain pathologies

A paper in Alzheimer's & Dementia summarises a Fall 2025 Alzheimer's Association research roundtable. It describes Alzheimer's as biologically heterogeneous, shaped by vascular, metabolic and immune processes. Other brain pathologies often co-occur and are linked with cognitive decline. New biomarkers are helping to identify them. It is a meeting summary, not a new study.

ALZHEIMER'S & DEMENTIA (NEW YORK, N. Y.) · 2026-07-01

Semaglutide slowed rise in a blood-based dementia risk score in trial analysis

A post hoc analysis of the SELECT randomised trial, published in Alzheimer's & Dementia, included 2,970 adults aged 65 or older with overweight or obesity and heart disease. Over 104 weeks, predicted dementia risk rose less with semaglutide than placebo. The score estimates risk. It does not show dementia itself was prevented.

ALZHEIMER'S & DEMENTIA (AMSTERDAM, NETHERLANDS) · 2026-07-01

Intensive blood pressure control linked to lower dementia risk only in less advanced CKM syndrome

A post hoc analysis of the SPRINT MIND randomised trial, published in Alzheimer's & Dementia, split participants by stage of cardiovascular-kidney-metabolic syndrome. In the non-advanced group, intensive blood pressure control was associated with lower probable dementia risk. No benefit appeared in the advanced group. Post hoc findings like these are less firm than the original trial results.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

UK advisory board sets out ways to widen dementia trial access

The Scientific Advisory Board of the Dame Barbara Windsor Dementia Goals Programme published recommendations in Alzheimer's & Dementia. They cover a national patient registry for trial recruitment, biomarkers for earlier diagnosis, and a framework linking healthcare, research and regulators. It is a policy paper, not a study of treatment results.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review: Alzheimer's antibodies may help when amyloid plaques fall sharply

A narrative review in The Neurologist looked at antibody drugs that target amyloid-β in Alzheimer's disease. It reports that not all of them gave clinical benefit. Emerging evidence suggests cutting plaque to below 25 Centiloids may slow cognitive decline in early symptomatic disease. The review also discusses brain imaging abnormalities linked to these drugs.

THE NEUROLOGIST · 2026-07-01

Study of 44,879 older adults links vascular risk patterns to lower cognition

An observational analysis in Alzheimer Disease & Associated Disorders used data from 44,879 people aged 60 to 90. It found each additional vascular risk factor was associated with a 0.056-point lower MMSE score. The link varied by age and APOE genotype. As an association, it does not show cause.

ALZHEIMER DISEASE AND ASSOCIATED DISORDERS · 2026-07-01

Study tracks hearing, brain thinning and cognition in older Australians

A population-based cohort study in JAMA Otolaryngology–Head & Neck Surgery included 312 older adults in Australia without dementia, drawn from an aspirin trial, with assessments at baseline and three years later. It examined whether hearing thresholds, speech-in-noise ability and hearing aid use were associated with changes in cortical thickness and cognition. The source text available does not include the results.

JAMA OTOLARYNGOLOGY-- HEAD & NECK SURGERY · 2026-07-01

Review summarises recent progress in Alzheimer's disease mechanisms and treatments

A review in Cell summarises recent Alzheimer's research. It covers APOE biology, neuroimmunology, biomarkers and early experience with new therapies. According to the review, newer drugs that remove amyloid plaques can slow cognitive decline. Treatments that stop or prevent cognitive impairment remain elusive. The authors express hope that the disease may one day be preventable.

CELL · 2026-07-01

Higher cardiometabolic index linked to poorer thinking in older US adults, until adjustment

A cross-sectional analysis in the journal Medicine used national survey data from 1,326 US adults aged 60 and older. A higher cardiometabolic index was linked to lower cognitive scores in a basic model. The link was no longer significant after full adjustment. Diabetes status changed the relationship. This design cannot show cause.

MEDICINE · 2026-07-01

Meta-analysis links insulin resistance to modestly higher dementia risk

A systematic review and meta-analysis in BMC Neurology pooled ten prospective cohort studies. Insulin resistance was associated with higher risk of all-cause dementia, Alzheimer's disease and vascular dementia. The authors say this shows an association only. They call for further well-designed studies to clarify whether the link is causal.

BMC NEUROLOGY · 2026-07-01

Review finds measuring brain reserve and resilience remains inconsistent

A narrative review in Alzheimer's & Dementia examines how researchers define and measure reserve and resilience in aging and Alzheimer's disease. It finds the concepts are widely used but inconsistently applied. Challenges include choice of proxy measures and study design. The authors call for more standard methods and long-term studies across the lifespan.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Genetic analysis links REM sleep behavior disorder to several neurodegenerative diseases

A genetic analysis in the journal Medicine used Mendelian randomization, a method that uses inherited variants to probe cause. It found associations between isolated REM sleep behavior disorder and Alzheimer disease, Parkinson disease, multiple sclerosis and dementia with Lewy bodies. It found none with amyotrophic lateral sclerosis. Reverse analyses showed no effect of those diseases on the sleep disorder.

MEDICINE · 2026-07-01

Analysis charts research linking smell loss and Alzheimer's disease

A bibliometric analysis in Medicine reviewed 1,916 publications from 2008 to 2024 on olfactory dysfunction and Alzheimer's disease. Output has grown steadily, led by the USA. Database analysis found 1,779 genes shared between the two conditions. This maps research activity and overlap, and does not show that one causes the other.

MEDICINE · 2026-07-01

Umbrella review links gum disease to cognitive decline, with very low certainty

An umbrella review in Special Care in Dentistry pooled 14 earlier reviews. It found an association between periodontitis and mild cognitive impairment, Alzheimer's disease and dementia. People with periodontitis had a 1.651 times higher risk of mild cognitive impairment. Most included reviews had a high risk of bias, and the authors rated the evidence certainty as very low.

SPECIAL CARE IN DENTISTRY : OFFICIAL PUBLICATION OF THE AMERICAN ASSOCIATION OF HOSPITAL DENTISTS, THE ACADEMY OF DENTISTRY FOR THE HANDICAPPED, AND THE AMERICAN SOCIETY FOR GERIATRIC DENTISTRY · 2026-07-01

Review links extra APP gene activity to early Alzheimer's in Down syndrome

A systematic review in the European Journal of Neuroscience covered articles from 2020 to 2025. It found Alzheimer's prevalence above 60% in people with Down syndrome older than 65. Average age at diagnosis was 53. Overexpression of the APP gene was the main genetic factor identified, alongside several other genes. Diagnosis remains difficult.

THE EUROPEAN JOURNAL OF NEUROSCIENCE · 2026-07-01

Higher pulse pressure relative to body size linked to later dementia

A post-hoc analysis of the SPRINT-MIND trial, in the Journal of Geriatric Neurology, covered 6,070 people. Of these, 110 developed probable dementia. Those in the highest quartile of a body size-indexed pulse measure had a hazard ratio of 2.36 versus the lowest. This is an association, and the authors say external validation is still needed.

JOURNAL OF GERIATRIC NEUROLOGY · 2026-07-01

Smartphone memory tests worked reliably in people with inherited Alzheimer's disease

A study in Alzheimer's & Dementia tested brief smartphone cognitive tasks, taken four times daily for 7 days, in 123 people with or without an inherited Alzheimer's mutation. The tests were reliable and valid, and slightly better than a traditional composite at separating carriers from non-carriers. Average adherence was only 42%.

ALZHEIMER'S & DEMENTIA (NEW YORK, N. Y.) · 2026-07-01

Higher dietary antioxidant scores linked to less cognitive impairment in older US adults

A cross-sectional study in Medicine analysed 2,713 adults aged 60 and over from a US national survey. Those with higher dietary antioxidant quality scores, based on vitamins A, C, E, zinc, selenium and magnesium, had lower odds of cognitive impairment. This is an association at one point in time. It cannot show that antioxidants cause better cognition.

MEDICINE · 2026-07-01

Alzheimer's biomarkers appear earlier and closer together in Down syndrome

A study in Brain compared 198 adults with Down syndrome and 172 neurotypical adults. Amyloid, p-tau217 and tau tangle markers turned positive at earlier ages in Down syndrome. The two tau markers appeared almost together, about 4-6 years after amyloid. The authors say this could help define treatment windows for upcoming trials.

BRAIN : A JOURNAL OF NEUROLOGY · 2026-07-01

Expert meeting highlights Alzheimer's variety and overlapping brain pathologies

A report in Alzheimer's & Dementia summarises a Fall 2025 Alzheimer's Association research roundtable. Participants discussed how Alzheimer's varies between people. Vascular, protein, metabolic and immune processes all shape it. Co-existing pathologies are increasingly tied to cognitive decline and treatment response. New biomarkers may help diagnosis and clinical trial design. This is a meeting summary, not a new trial.

ALZHEIMER'S & DEMENTIA (NEW YORK, N. Y.) · 2026-07-01

Intensive blood pressure control tied to lower dementia risk only in less advanced CKM syndrome

A post hoc analysis of the SPRINT MIND randomised trial, published in Alzheimer's & Dementia, split participants by stage of cardiovascular-kidney-metabolic syndrome. In the non-advanced group, intensive control was associated with lower probable dementia risk. No benefit appeared in the advanced group. Post hoc analyses are exploratory and were not the trial's original plan.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

UK advisory board recommends registry and biomarkers to widen dementia trial access

In Alzheimer's & Dementia, the Scientific Advisory Board of a UK government dementia programme sets out recommendations. They propose a national patient registry for trial recruitment, biomarkers for earlier and more accurate diagnosis, and a framework linking healthcare, research and regulators. They also say patient and public involvement is required. This is a policy paper, not a study.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review: clearing amyloid plaques below a threshold may slow early Alzheimer's decline

A narrative review in The Neurologist looks at antibody drugs that target amyloid-β in Alzheimer's disease. Not all of these antibodies have given clinical benefit. The authors say emerging evidence suggests that reducing plaque to under 25 Centiloids on a PET scan is linked to slower cognitive decline in early symptomatic disease. The review also discusses imaging abnormalities that may accompany treatment.

THE NEUROLOGIST · 2026-07-01

Vascular risk linked to lower cognitive scores, varying by age and APOE

An observational study in Alzheimer Disease and Associated Disorders analysed 44,879 people aged 60 to 90 with normal cognition or mild cognitive impairment. It identified five patterns of vascular risk factors. Each additional risk factor was associated with a 0.056-point lower score on the MMSE, a cognitive screening test. The link varied by age and APOE ε4 status. Being observational, it cannot show cause.

ALZHEIMER DISEASE AND ASSOCIATED DISORDERS · 2026-07-01

Speech-in-noise ability studied alongside brain thinning in older adults

A longitudinal cohort study in JAMA Otolaryngology–Head & Neck Surgery followed 312 cognitively normal older adults in Australia for three years. It examined whether hearing thresholds, speech-in-noise ability and hearing aid use are associated with cortical thinning and cognitive change. The available text is cut off before the results, so no findings can be reported.

JAMA OTOLARYNGOLOGY-- HEAD & NECK SURGERY · 2026-07-01

Review surveys Alzheimer's research on mechanisms, biomarkers and new therapies

A review in Cell summarises recent Alzheimer's research. It covers APOE biology, neuroimmunology, biomarkers and early experience with new disease-modifying therapies. The authors say therapies that remove amyloid plaques can slow cognitive decline. They add that treatments to stop or prevent cognitive impairment remain elusive.

CELL · 2026-07-01

Body-fat and lipid index linked to poorer thinking in older US adults, until adjustment

A cross-sectional study in Medicine analysed national survey data from 1,326 US adults aged 60 and over. A higher cardiometabolic index was linked to lower cognitive scores in simpler models. The link was no longer significant after full adjustment. Diabetes status changed the relationship. A cross-sectional design cannot show cause.

MEDICINE · 2026-07-01

Insulin resistance linked to modestly higher dementia risk in pooled cohort studies

A systematic review and meta-analysis in BMC Neurology pooled ten prospective cohort studies. Insulin resistance was associated with higher risk of all-cause dementia, Alzheimer's disease and vascular dementia. The increases were small. The authors say the evidence only suggests a link. They call for further well-designed studies to clarify whether it is causal.

BMC NEUROLOGY · 2026-07-01

Review finds measuring brain reserve and resilience in aging remains inconsistent

A narrative review in Alzheimer's & Dementia examines how researchers define and measure reserve and resilience in aging and Alzheimer's disease. It finds the concepts are used inconsistently. The authors point to problems with proxy measures and study design. They call for more consistent methods and long-term studies across the lifespan.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Genetic analysis supports link between REM sleep behaviour disorder and neurodegenerative disease

A genetic study in Medicine used Mendelian randomization, a method that uses inherited variants to probe cause and effect. Genetic liability to isolated REM sleep behaviour disorder was linked to higher odds of Alzheimer's (odds ratio 1.02), Parkinson's (1.10), multiple sclerosis (1.09) and dementia with Lewy bodies (1.45). No link was found with ALS. Reverse analyses found no effect in the other direction.

MEDICINE · 2026-07-01

Analysis maps research on smell loss and Alzheimer's disease

A bibliometric analysis in Medicine counted 1,916 publications on smell problems and Alzheimer's disease from 2008 to 2024. The USA contributed most. The authors also used gene databases to find 1,779 genes shared by the two conditions. This maps where research is focused. It is not a clinical study and does not show that one condition causes the other.

MEDICINE · 2026-07-01

Review finds gum disease linked to dementia, but evidence is very weak

An umbrella review in Special Care in Dentistry pooled 14 earlier reviews. It found an association between periodontitis and mild cognitive impairment, Alzheimer's disease and dementia. People with gum disease had 1.651 times higher risk of mild cognitive impairment. Most included studies had high risk of bias, and certainty of evidence was rated very low.

SPECIAL CARE IN DENTISTRY : OFFICIAL PUBLICATION OF THE AMERICAN ASSOCIATION OF HOSPITAL DENTISTS, THE ACADEMY OF DENTISTRY FOR THE HANDICAPPED, AND THE AMERICAN SOCIETY FOR GERIATRIC DENTISTRY · 2026-07-01

Review points to extra APP gene activity in Down syndrome Alzheimer's

A systematic review in The European Journal of Neuroscience examined genetic factors behind Alzheimer's disease in people with Down syndrome. Among those over 65, prevalence exceeded 60%. Average diagnosis came at 53. The main genetic factor identified was overexpression of the APP gene, alongside several others. Diagnosis is hard, the authors note.

THE EUROPEAN JOURNAL OF NEUROSCIENCE · 2026-07-01

Higher body-size-adjusted pulse pressure linked to greater dementia risk in trial data

A post-hoc analysis of the SPRINT-MIND trial, published in the Journal of Geriatric Neurology, covered 6,070 adults. Of these, 110 developed probable dementia. Those with the highest body-size-indexed pulse pressure had a hazard ratio of 2.36 versus the lowest group. This is an association, and the authors say external validation is still needed.

JOURNAL OF GERIATRIC NEUROLOGY · 2026-07-01

Smartphone memory tests proved reliable in people with inherited Alzheimer's disease

A study in Alzheimer's & Dementia tested short smartphone cognitive tests in 123 people from families with inherited Alzheimer's disease. The tests were highly reliable and slightly better than a traditional composite at separating mutation carriers from non-carriers. Average adherence was only 42%. The authors say the approach could suit clinical trials.

ALZHEIMER'S & DEMENTIA (NEW YORK, N. Y.) · 2026-07-01

Higher dietary antioxidant scores linked to less cognitive impairment in older adults

A cross-sectional study in Medicine used US survey data from 2,713 adults aged 60 and over. Those with higher dietary antioxidant quality scores had lower odds of cognitive impairment after adjustment. A cross-sectional design shows a link only. It cannot show that antioxidant intake changes cognitive function.

MEDICINE · 2026-07-01

Review links hearing loss to faster cognitive decline and higher dementia risk

A narrative review in Audiology Research summarised epidemiological, biological and clinical studies. It found hearing loss is associated with faster cognitive decline and higher dementia risk. Causal pathways remain incompletely understood. Early evidence suggests hearing rehabilitation may help preserve cognition in some groups, but results are mixed. Unrecognised hearing problems may also affect cognitive test results.

AUDIOLOGY RESEARCH · 2026-06-30

Review finds little use of stages-of-change model in cognitive decline programmes

A scoping review in Healthcare mapped behaviour-change programmes based on or informed by the transtheoretical model for adults with mild cognitive impairment, subjective cognitive concerns or raised dementia risk. It found eight studies. Only one trial explicitly applied the model in a clinically defined MCI group. Behaviour outcomes, such as adherence and physical activity, were more consistently favourable than cognitive ones, which were mixed.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-06-30

U.S. deaths listing both Alzheimer's and hypertension quadrupled between 1999 and 2023

An analysis of U.S. death certificate data, published in the Journal of Alzheimer's Disease, covered adults aged 65 and over. Age-adjusted mortality listing both conditions rose from 14.5 to 60.0 per 100,000 from 1999 to 2023. Rates were higher in women and in non-metropolitan areas. This is a retrospective record analysis and does not show cause.

JOURNAL OF ALZHEIMER'S DISEASE : JAD · 2026-06-30

Blood marker P-tau217 best matched brain scan staging of Alzheimer's disease

A study in Alzheimer's Research & Therapy used data from 105 people in the Amsterdam Dementia Cohort. It compared five blood markers with tau PET brain scans. P-tau217 performed best at telling apart amyloid-negative people from amyloid-positive people with low or intermediate tau burden. It also performed best for separating high tau burden from lower levels.

ALZHEIMER'S RESEARCH & THERAPY · 2026-06-30

WOMEN'S HEALTH & HORMONAL TRANSITIONS 52

Voice training helped older adults with age-related voice change, most in moderate cases

A single-centre prospective cohort study in Laryngoscope Investigative Otolaryngology followed 180 patients with presbyphonia, an age-related voice change. All received semi-occluded vocal tract training for 8 weeks. Voice measures improved overall. Patients with moderate vocal fold atrophy appeared to benefit most. There was no separate comparison group, so the effect of the training alone is uncertain.

LARYNGOSCOPE INVESTIGATIVE OTOLARYNGOLOGY · 2026-10-19

Perspective argues perimenopause should be viewed through the brain, with trials still lacking

A Perspective article in Frontiers in Global Women's Health argues for a brain-first view of perimenopause. It points to changes in brain circuits and structure that may precede hormone shifts. It considers transcranial direct current stimulation as a candidate approach, but notes gaps in dedicated trials. The authors frame it as complementary to existing hormone treatments.

FRONTIERS IN GLOBAL WOMEN'S HEALTH · 2026-07-06

Italian clinicians reach consensus on multidisciplinary migraine care for women

A study in Healthcare used a two-round Delphi survey of 145 Italian clinicians from five specialties. Of 145 statements, 79 (54%) reached consensus. Agreement included gynecological and endocrine evaluation for women with migraine and avoiding estrogen-containing contraceptives in migraine with aura. This reflects expert opinion, not trial results.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-07-06

Perspective argues brain stimulation deserves study for perimenopause symptoms

A perspective article in Frontiers in Global Women's Health argues perimenopause should be viewed as a brain-based change as well as a hormonal one. It proposes transcranial direct current stimulation as a candidate approach. The authors say dedicated trials are lacking and outline research priorities. This is an opinion piece, not a trial result.

FRONTIERS IN GLOBAL WOMEN'S HEALTH · 2026-07-06

Italian clinicians reach partial consensus on migraine care for women

A Delphi survey of 145 Italian clinicians, published in Healthcare, sought agreement on multidisciplinary migraine care in women. Of 145 statements, 79 reached consensus. Agreement included gynecological and endocrine evaluation, avoiding estrogen-containing contraceptives in migraine with aura, and better coordination between specialties. This reflects expert opinion, not trial evidence.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-07-06

Clinic records show gaps in menopause documentation for women with HIV in Melbourne

A record review in HIV Medicine covered 462 women with HIV at three Melbourne clinics. Median age was 47. Menopausal status could not be determined from records for 26% of them. Symptoms were documented for 70 women. Screening records for mammograms, cardiovascular risk and fracture risk were also incomplete. This was a records review, not a trial.

HIV MEDICINE · 2026-07-05

Menopause status often missing in records of women with HIV

A clinic record review in HIV Medicine covered 462 women with HIV at three Melbourne centres. Menopausal status could not be determined for 26%. Screening records were incomplete in some areas. For example, 30% of women over 50 had a documented mammogram in the last two years. The study describes records and does not test treatments.

HIV MEDICINE · 2026-07-05

Medical women's group calls for better menopause care and awareness

A position article in Frontiers in Reproductive Health sets out the American Medical Women's Association's views. It says menopause care is hampered by limited clinician training, inconsistent screening, limited insurance coverage and stigma. The group advocates more education, coverage, research funding and workplace support. It is an advocacy statement, not new research data.

FRONTIERS IN REPRODUCTIVE HEALTH · 2026-07-03

Menopausal women with jaw pain on hormone therapy reported fewer emotional symptoms

A small pilot cross-sectional study in the Journal of Applied Oral Science compared 45 women with painful jaw disorders. Menopausal women using hormone replacement therapy had lower pain interference and fewer depressive symptoms. This shows a link only. A study of this design cannot show that hormone therapy caused the difference.

JOURNAL OF APPLIED ORAL SCIENCE : REVISTA FOB · 2026-07-03

Medical women's group calls for better menopause care and education

The American Medical Women's Association set out its position in Frontiers in Reproductive Health. It says menopause care is held back by limited clinician training, no standard screening, patchy insurance coverage and stigma. The group urges changes such as more medical education, research funding and workplace support. This is an advocacy statement, not new research data.

FRONTIERS IN REPRODUCTIVE HEALTH · 2026-07-03

Small study links hormone therapy to fewer emotional symptoms in menopausal jaw pain

A small pilot cross-sectional study in the Journal of Applied Oral Science included 45 women with painful jaw disorder. Menopausal women on hormone therapy had significantly lower pain interference scores. The authors report an association between menopause, especially with hormone therapy, and emotional factors. The design cannot show hormone therapy caused the differences.

JOURNAL OF APPLIED ORAL SCIENCE : REVISTA FOB · 2026-07-03

Menopausal hormone therapy linked to more strabismus diagnoses and surgery in large records study

A retrospective cohort study in the American Journal of Ophthalmology examined records of 2,154,255 menopausal women. Hormone therapy use was associated with higher rates of strabismus diagnosis and strabismus surgery. Because the design is observational, the finding shows a link, not that hormone therapy causes the eye condition.

AMERICAN JOURNAL OF OPHTHALMOLOGY · 2026-07-02

Menopausal hormone therapy linked to higher strabismus diagnosis and surgery rates

A retrospective cohort study in the American Journal of Ophthalmology looked at 2,154,255 menopausal women. About 9.2% used hormone therapy. Use was associated with higher hazards of strabismus diagnosis (HR 1.11) and strabismus surgery (HR 1.76). This is an association, so the study cannot show that hormone therapy caused these outcomes.

AMERICAN JOURNAL OF OPHTHALMOLOGY · 2026-07-02

Review examines how menopause may affect women with inflammatory bowel disease

A review in Gastroenterology & Hepatology discusses how falling estrogen and progesterone at menopause may alter gut barrier and immune function. In women with inflammatory bowel disease, this may worsen symptoms and outcomes. The authors say specific guidance is scarce. They examine hormone therapy safety and propose a care framework for clinicians.

GASTROENTEROLOGY & HEPATOLOGY · 2026-07-01

Review says women are underrepresented in HIV cure research despite hormonal influences

A review in the American Journal of Reproductive Immunology examines how sex hormones and reproductive transitions may affect HIV persistence and immune function. The authors say women and gender-diverse people are underrepresented in cure studies. They argue hormone-related biology should be built into future cure strategies. The paper synthesises existing evidence rather than presenting new data.

AMERICAN JOURNAL OF REPRODUCTIVE IMMUNOLOGY (NEW YORK, N.Y. : 1989) · 2026-07-01

Medicaid-insured US women report less menopausal hormone therapy use than privately insured

A cross-sectional study in JAMA Network Open used national survey data on women aged 45 to 64. Women with Medicaid were less likely to report past hormone therapy use than privately insured women: 10.7% versus 20.7%. After adjustment, Medicaid coverage still linked to lower odds of use. The design shows association, not cause.

JAMA NETWORK OPEN · 2026-07-01

Earlier menopause linked to lower lean body mass in Korean women

A cross-sectional study in The Journal of Obstetrics and Gynaecology Research analysed 4244 postmenopausal Korean women. Menopause at or before age 45 was associated with lower lean body mass. A link with sarcopenia, or muscle loss, appeared only in women with higher body mass index. The design shows an association, not a cause.

THE JOURNAL OF OBSTETRICS AND GYNAECOLOGY RESEARCH · 2026-07-01

Longer reproductive lifespan linked to lower bronchiectasis risk in postmenopausal women

An observational study in Chronic Obstructive Pulmonary Diseases used data on 96,996 women in the Women's Health Initiative. Women with a reproductive lifespan of 40 years or more had 12% lower bronchiectasis risk than those with the shortest. The link appeared only in women with no history of hormone therapy. It shows association, not cause.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES (MIAMI, FLA.) · 2026-07-01

Psychological and urogenital menopause symptoms linked to emotional eating

According to a cross-sectional study in Maturitas, 211 women in late menopausal transition or postmenopause in Turkey were assessed. Higher psychological and urogenital symptom scores were associated with more emotional eating. Somatic symptoms showed a different pattern. A single-time snapshot like this shows links, not cause and effect.

MATURITAS · 2026-07-01

Higher ovarian reserve markers linked to better blood vessel function a decade later

According to a prospective cohort study in The Journal of Clinical Endocrinology and Metabolism, 322 women were followed for about 9.7 years. Higher baseline levels of two ovarian reserve markers, AMH and antral follicle count, were linked to better blood vessel function at follow-up. Higher follicle count was also linked to lower odds of metabolic syndrome. This shows an association, not a cause.

THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM · 2026-07-01

Small review finds reflexology may ease menopausal symptoms, but evidence needs strengthening

A scoping review in Advances in Mind-Body Medicine covered 11 studies of reflexology in menopausal women. Six were randomised trials. The authors report promising benefits for symptoms, fatigue, depression, sleep and quality of life. They call for more rigorous, controlled research. A scoping review maps evidence and does not prove effectiveness.

ADVANCES IN MIND-BODY MEDICINE · 2026-07-01

Expert review reassesses menopausal hormone therapy evidence after the Women's Health Initiative

A narrative review and expert opinion in Pharmacotherapy says hormone therapy remains the most effective treatment for hot flushes and genitourinary symptoms. It argues the Women's Health Initiative was often misinterpreted. The authors say age at starting, time since menopause and formulation affect outcomes. They favour transdermal estradiol over oral forms because of lower clot risk.

PHARMACOTHERAPY · 2026-07-01

Only about a third of Saudi women with early ovarian failure received hormone therapy

A retrospective chart review at three Saudi hospitals, published in Menopause, looked at women aged 40 or younger with premature ovarian insufficiency. Only 35.6% received hormone therapy. Use was low even among those with osteopenia or osteoporosis. The authors point to missing national guidance and limited physician training.

MENOPAUSE (NEW YORK, N.Y.) · 2026-07-01

In rats, cannabidiol matched estradiol for memory loss after ovary removal

A study in the Journal of Neuroendocrinology used female rats whose ovaries were removed to mimic oestrogen decline. Cannabidiol improved memory in tests comparably to estradiol. It also raised levels of two endocannabinoids in the hippocampus. This was an animal study, so the results may not apply to people.

JOURNAL OF NEUROENDOCRINOLOGY · 2026-07-01

Review says HIV cure research overlooks women's hormonal biology

A review in the American Journal of Reproductive Immunology argues that sex hormones and reproductive transitions shape immunity and HIV persistence across women's lives. The authors say women and gender-diverse people are underrepresented in cure studies. They call for hormone-informed, life-course cure strategies. It is a review, not new trial data.

AMERICAN JOURNAL OF REPRODUCTIVE IMMUNOLOGY (NEW YORK, N.Y. : 1989) · 2026-07-01

Women on Medicaid report less menopausal hormone therapy use than privately insured women

A cross-sectional study in JAMA Network Open used US national survey data on 1,666 women aged 45 to 64. Women with Medicaid were less likely to report past hormone therapy use than privately insured women: 10.7% versus 20.7%. Lower odds remained after adjustment. The design shows an association, not a cause.

JAMA NETWORK OPEN · 2026-07-01

Longer reproductive lifespan linked to lower bronchiectasis risk in older women

An observational study of 96,996 postmenopausal women in the Women's Health Initiative, published in Chronic Obstructive Pulmonary Diseases, found a link. Women with a reproductive lifespan of 40 years or more had 12% lower bronchiectasis risk than those with the shortest. The link appeared only in women without hormone therapy use. It does not prove cause.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES (MIAMI, FLA.) · 2026-07-01

Psychological and urogenital menopause symptoms linked to more emotional eating in midlife women

A cross-sectional study in Maturitas looked at 211 women in late menopausal transition or postmenopause at a Turkish clinic. Worse psychological and urogenital symptoms were linked to higher emotional eating scores. Somatic symptoms showed a different pattern. The design shows an association only. It cannot show that one causes the other.

MATURITAS · 2026-07-01

Higher egg-supply markers in younger women linked to better blood vessel function later

A prospective cohort study in The Journal of Clinical Endocrinology and Metabolism followed 322 women for about 9.7 years. Higher ovarian reserve markers, AMH and antral follicle count, were associated with better blood vessel function at about age 45. This shows a link, not a cause. Most secondary outcomes showed no significant association.

THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM · 2026-07-01

Scoping review of 11 studies finds promising signals for reflexology in menopause

A scoping review in Advances in mind-body medicine covered 11 studies of reflexology in menopausal women. Six were randomised controlled trials, three were quasi-experimental and two used pre- and post-test control group designs. The authors report promising benefits, including fewer menopausal symptoms, less fatigue, depression and sleep disturbance, and better quality of life. They call for more rigorous, controlled research. A scoping review maps evidence and does not test effectiveness.

ADVANCES IN MIND-BODY MEDICINE · 2026-07-01

Review: timing and formulation shape menopausal hormone therapy outcomes

This narrative review and expert opinion in Pharmacotherapy searched studies from 2002 to 2025. It argues that age at starting, time since menopause and hormone type affect outcomes. It reports lower clot risk with transdermal estradiol. It also notes possible heart and cognitive benefits when therapy starts within 10 years of menopause.

PHARMACOTHERAPY · 2026-07-01

Most Saudi women with early ovarian failure did not receive hormone therapy

A retrospective chart review in Menopause covered three Saudi tertiary hospitals. Among women with premature ovarian insufficiency, only 35.6% received hormone therapy. Uptake was lower in some groups, including those with XY chromosomal abnormalities. Uptake stayed low even with osteopenia or osteoporosis. The authors call for national guidance and better physician training.

MENOPAUSE (NEW YORK, N.Y.) · 2026-07-01

Interviews with 15 abuse survivors describe confusion and barriers in perimenopause care

A qualitative study in BJGP Open interviewed 15 UK women who had experienced domestic abuse and perimenopause. They struggled to tell menopause symptoms from trauma or mental health problems. Some felt dismissed or were given antidepressants instead of hormone therapy. The authors call for trauma-informed care. The sample is small and based on personal accounts.

BJGP OPEN · 2026-06-30

Survey: awareness of FDA hormone therapy notice did not explain doctors' practice changes

A cross-sectional survey of 600 obstetricians and gynecologists, published in Menopause, asked about an FDA communication on menopausal hormone therapy. Awareness of the notice was not independently associated with reported changes in practice. Use of a standard protocol and favourable views of compounded bioidentical hormones showed stronger associations. Responses were self-reported.

MENOPAUSE (NEW YORK, N.Y.) · 2026-06-30

Review finds guidelines back vaginal estrogen for recurrent UTIs, but labels do not

A structured narrative review in Gynecologic and Obstetric Investigation looked at vaginal estrogen for preventing recurrent urinary tract infections in peri- and postmenopausal women. Several guidelines recommend it. Most products are licensed only for genitourinary syndrome of menopause, not for UTI prevention. The authors say this mismatch may contribute to underuse and clinician uncertainty.

GYNECOLOGIC AND OBSTETRIC INVESTIGATION · 2026-06-30

Review finds Canadian aging study research on women centres on reproduction

A scoping review in Maturitas examined 22 studies of women's health using data from the Canadian Longitudinal Study on Aging. Most focused on postmenopausal women. Earlier menopause was associated with adverse outcomes. Menopause hormone therapy was linked to both reduced and increased risks. The authors say research remains narrowly focused and should broaden.

MATURITAS · 2026-06-30

Domestic abuse survivors describe confusion and barriers when seeking perimenopause care

A qualitative study in BJGP Open interviewed 15 UK women from a national domestic abuse survivors' group who had perimenopausal symptoms. They struggled to tell menopause symptoms from mental health problems, other conditions or abuse-related trauma. Some felt dismissed or misdiagnosed, particularly given antidepressants instead of hormone therapy. Participants described missed chances to disclose abuse during GP visits, and the authors call for trauma-informed care.

BJGP OPEN · 2026-06-30

Survey of 600 gynecologists finds awareness of FDA hormone therapy notice did not predict practice change

A cross-sectional survey in Menopause questioned 600 obstetricians and gynecologists about a recent FDA communication on menopausal hormone therapy. Awareness of it was not independently linked to reporting a change in practice. Using a standard protocol, favourable views of compounded bioidentical hormones and prioritising patient preference showed stronger links. Reports were self-described.

MENOPAUSE (NEW YORK, N.Y.) · 2026-06-30

Review finds guidelines back vaginal estrogen for recurrent UTIs, but labels lag

A narrative review in Gynecologic and Obstetric Investigation examined randomised trials and guidelines on vaginal estrogen for preventing recurrent urinary tract infections in peri- and postmenopausal women. Several guidelines recommend it. Most products are licensed only for menopause-related genitourinary symptoms, not for UTI prevention. The authors say this gap may contribute to underuse and clinician uncertainty.

GYNECOLOGIC AND OBSTETRIC INVESTIGATION · 2026-06-30

Review finds Canadian aging study's women's health research narrowly focused on reproduction

A scoping review in Maturitas found 22 studies on women's health using Canadian Longitudinal Study on Aging data, out of 801 screened. Most exposures centred on the reproductive system and menopause hormone therapy, though outcomes spanned wider health areas. Postmenopausal status and earlier menopause were associated with adverse outcomes. Hormone therapy was linked to both reduced and increased risks. The authors call for broader research.

MATURITAS · 2026-06-30

Few US midlife women report using menopause hormone therapy, survey finds

A cross-sectional online survey of 1,500 US women, published in the Journal of Women's Health, found about half reported hot flashes or similar symptoms. Only 7.2% reported current hormone therapy use. Use was higher among women with more education and income. Peer influence also mattered. Survey results show patterns, not causes.

JOURNAL OF WOMEN'S HEALTH (2002) · 2026-06-29

Survey of 12,382 app users links social factors to perimenopause symptoms

A cross-sectional survey in Climacteric covered 12,382 women aged 35 and older who use the Flo app, in four languages. Race or ethnicity, income, education and healthcare access were all significantly associated with symptom scores on the Menopause Rating Scale. Healthcare access and income showed the strongest links. A survey like this shows associations only and cannot show that these factors cause symptoms.

CLIMACTERIC : THE JOURNAL OF THE INTERNATIONAL MENOPAUSE SOCIETY · 2026-06-29

Review finds no proven benefit from early menopausal hormone therapy in trials

A systematic review in JRSM Open looked at 17 randomised trials of oestrogen versus placebo in women who were 60 or younger or near menopause. It found no demonstrated benefit for heart disease, cancer, depression or cognition. Some heart-related results in one Women's Health Initiative arm were not confirmed in other trials.

JRSM OPEN · 2026-06-29

Review calls for better sports medicine care for female athletes

A review in Medicine & Science in Sports & Exercise says female athletes and active women face a disproportionate burden of injuries and health conditions. It notes limited resources at life stages such as puberty, pregnancy and menopause. The authors say fragmented US healthcare can delay diagnosis and treatment. They call for comprehensive sports medicine care.

MEDICINE AND SCIENCE IN SPORTS AND EXERCISE · 2026-06-29

Few US midlife women use hormone therapy, with gaps by education and income

A nationally representative online survey of 1,500 US women, published in the Journal of Women's Health, found about half reported hot flushes or similar symptoms. Only 7.2% reported current hormone therapy use. Use was higher among women with college degrees and higher incomes. Peer influence also mattered. Survey data show associations only.

JOURNAL OF WOMEN'S HEALTH (2002) · 2026-06-29

Income and healthcare access strongly tied to perimenopause symptom burden

A cross-sectional survey of 12,382 Flo app users aged 35 and over, published in Climacteric, examined how race/ethnicity, income, education and healthcare access relate to perimenopause symptom burden. All factors studied were significantly associated with symptom scores. Healthcare access and income showed the strongest links. The design shows association only and cannot show that these factors cause symptoms.

CLIMACTERIC : THE JOURNAL OF THE INTERNATIONAL MENOPAUSE SOCIETY · 2026-06-29

Review finds no proven benefit of early menopausal hormone therapy for heart, cancer, mood or memory

A systematic review in JRSM Open pooled randomised trials of oestrogen versus placebo in women aged 60 or younger, or soon after menopause. It covered seventeen trials. Overall, benefits for heart disease, cancer, depression or cognition were not shown. Some heart outcomes in one Women's Health Initiative group were not confirmed by other trials.

JRSM OPEN · 2026-06-29

Review calls for better sports medicine care for female athletes across life stages

A review in Medicine and science in sports and exercise says females of all ages are taking part in sport. It notes a disproportionate rate of injuries and health conditions affecting them. Resources for active females are limited across life stages from puberty to post-menopause. The authors call for more comprehensive sports medicine care.

MEDICINE AND SCIENCE IN SPORTS AND EXERCISE · 2026-06-29

Postmenopausal Taiwanese women reported fewer headaches; hormone therapy users reported more

A cross-sectional study of 14,625 women in the Taiwan Biobank, published in Maturitas, relied on self-reported data. Headache was reported by 22% of postmenopausal women versus 38% of premenopausal women. Natural and surgical menopause were both linked to lower headache prevalence. Hormone therapy use was linked to more headache. These are associations, not proof of cause.

MATURITAS · 2026-06-26

Postmenopausal women reported fewer headaches; hormone therapy users reported more

A cross-sectional study in Maturitas used data from 14,625 women in the Taiwan Biobank. Headache was reported by 22% of postmenopausal women and 38% of premenopausal women. Both natural and surgical menopause were linked to fewer headaches. Among postmenopausal women, hormone therapy use was linked to more headaches. The design cannot show cause.

MATURITAS · 2026-06-26

Mice lacking the NF-κB1 gene lose their egg reserve earlier

According to a mouse study in Reproductive Biology and Endocrinology, females lacking the NF-κB1 gene had low-grade chronic inflammation and lost their ovarian follicle reserve faster with age. Mice with one working copy also lost follicles early. The authors suggest inflammation may speed ovarian aging. This is animal research, not a human study.

REPRODUCTIVE BIOLOGY AND ENDOCRINOLOGY : RB&E · 2026-06-25

Review finds progestogen-only therapy may ease menopause symptoms when oestrogen is unsuitable

A narrative review in BJOG summarises evidence on progestogen-only menopause hormone therapy. Clinical data show it relieves hot flushes and night sweats, and micronized progesterone may help sleep. Bone protection varies by drug. The effect on breast cancer risk remains uncertain. The authors note the research is limited by small, varied studies.

BJOG : AN INTERNATIONAL JOURNAL OF OBSTETRICS AND GYNAECOLOGY · 2026-06-25

NITRIC OXIDE & VASCULAR HEALTH

54

Th17 immune cells weakened oral cell defences against bacteria in lab study

A cell study in Molecular Oral Microbiology co-cultured mouse oral skin-lining cells with immune cells. Th1 cells reduced intracellular E. coli, while Th17 cells increased bacterial persistence. Th17 cells lowered nitric oxide production, and blocking TGF-β was associated with a trend toward better bacterial clearance. This was laboratory work, not research in people.

MOLECULAR ORAL MICROBIOLOGY · 2026-10-21

Two compounds from a Chinese plant root reduced inflammation signals in lab cells

Researchers writing in the Journal of Asian Natural Products Research isolated two new compounds from the roots of Polygala tenuifolia. In mouse-type microglial cells grown in the lab, both lowered nitric oxide production, a sign of inflammation, by 77.0% and 90.5% at 40 μM. Neither protected another cell type from injury. This was cell work only.

JOURNAL OF ASIAN NATURAL PRODUCTS RESEARCH · 2026-10-21

Review and case report describe rare spinal-canal air in teenagers

A paper in Journal of Neurosurgery: Case Lessons reports a systematic review and one case. A 16-year-old girl had air in the spinal canal after vomiting and a throat infection. She had no neurological deficits and was managed conservatively. The authors say the course is typically benign and propose a management approach.

JOURNAL OF NEUROSURGERY. CASE LESSONS · 2026-10-19

Review surveys nutraceutical evidence for atherosclerosis and high blood pressure from 2016 to 2025

A review in Nutrients covers research from 2016 to 2025 on nutraceuticals, which are compounds from plants, animals and microorganisms, in atherosclerosis and hypertension. It discusses mechanisms through to clinical trial endpoints. The text, as provided, does not state its conclusions, so the strength of the evidence cannot be judged here.

NUTRIENTS · 2026-07-08

Young cancer survivors treated with anthracyclines show no extra artery stiffness

A small comparison study in the Journal of Applied Physiology looked at 25 young adult survivors of leukemia or lymphoma and 25 matched controls. Median follow-up was 7 years after treatment. Survivors showed no greater aortic stiffness, carotid stiffness or carotid wall thickness than controls. The authors say accelerated vascular aging was not seen in this group.

JOURNAL OF APPLIED PHYSIOLOGY (BETHESDA, MD. : 1985) · 2026-07-08

Review: caffeine before exercise has mixed effects on heart and metabolism

A narrative review in Metabolites examines how caffeine taken before exercise affects short-term cardiovascular and metabolic responses. It finds effects depend on context. In some settings caffeine may promote fat burning. In others it may be linked to higher blood pressure or slower autonomic recovery. Dose, timing, genotype and habitual intake may all matter.

METABOLITES · 2026-07-08

Review surveys nutraceuticals for atherosclerosis and high blood pressure

A review in Nutrients covers research from 2016 to 2025 on nutraceuticals and two heart-related conditions: atherosclerosis and hypertension. It discusses products from plants, animals and microorganisms, from their mechanisms to clinical trial endpoints. The text given does not report specific results, so it does not show how well any of them work.

NUTRIENTS · 2026-07-08

Young cancer survivors after anthracycline treatment showed no extra artery stiffness

A small study in the Journal of Applied Physiology compared 25 young adult survivors of leukemia or lymphoma with 25 matched controls. Median follow-up was 7 years after treatment. Survivors showed no greater aortic stiffness or carotid wall thickness than controls. The authors conclude accelerated vascular aging was not seen in this group.

JOURNAL OF APPLIED PHYSIOLOGY (BETHESDA, MD. : 1985) · 2026-07-08

Caffeine before exercise has mixed effects on heart and metabolism, review finds

A narrative review in Metabolites looked at caffeine taken before exercise. Effects depended on context. In some settings caffeine may boost fat breakdown. In others, especially in susceptible people, it was linked to higher blood pressure, vascular resistance or slower autonomic recovery. Dose, timing, training status, genotype and sex may all matter. The authors say it is not uniformly beneficial.

METABOLITES · 2026-07-08

Atorvastatin eased aortic and carotid artery changes in Marfan syndrome mice

A study in mice, published in Cells, gave atorvastatin from 4 weeks to 6 months of age to male and female mice modelling Marfan syndrome. The drug reduced aortic root widening and aortic and carotid stiffness. It also thinned carotid artery walls, though carotid wall strain did not improve. It raised blood pressure in Marfan mice to control levels. These are animal findings.

CELLS · 2026-07-07

Hot flash symptoms linked to stronger skin blood vessel widening, not nitric oxide changes

A small study in Menopause tested 18 postmenopausal women, nine with hot flashes and nine without. Skin heating widened blood vessels more in those with hot flashes. Nitric oxide-dependent widening was preserved. The authors conclude that the heightened response is not explained by altered endothelial nitric oxide function.

MENOPAUSE (NEW YORK, N.Y.) · 2026-07-07

Fatty liver disease appears to affect arteries differently in women and men

A narrative review in Biology of Sex Differences summarised existing studies up to April 2026. In men with fatty liver disease, calcified, obstructive artery disease was more common. Women more often had non-calcified plaque and vascular problems, and a higher risk of cardiovascular events despite less calcium. These are links, not proven causes.

BIOLOGY OF SEX DIFFERENCES · 2026-07-07

Atorvastatin eased aortic and artery changes in Marfan syndrome mice

A study in Cells gave atorvastatin to male and female mice with a Marfan syndrome mutation from 4 weeks to 6 months of age. Treatment reduced aortic root widening and stiffness in the aorta and carotid artery, and thinned carotid artery walls. Carotid wall strain did not improve. Blood pressure rose in treated Marfan mice, to levels similar to healthy controls. This was animal research, not a human trial.

CELLS · 2026-07-07

Hot flashes linked to stronger skin blood vessel widening in small study

A small study in Menopause tested 18 postmenopausal women, 9 with hot flashes and 9 without. Those with symptoms showed greater skin blood vessel widening during local heating. Nitric oxide–dependent function was preserved. The authors conclude the heightened response is not explained by altered endothelial nitric oxide synthase function.

MENOPAUSE (NEW YORK, N.Y.) · 2026-07-07

Review links PFAS chemical exposure to early signs of blood vessel aging

A narrative review in the International Journal of Molecular Sciences says PFAS exposure is associated with thicker carotid artery walls, arterial stiffness and poor blood vessel function. Evidence for coronary calcium and narrowing is scarce. The authors say biomarkers are largely unexplored and call for stronger studies to clarify cause.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-07-06

Review links PFAS chemicals to early signs of vascular aging

A narrative review in the International Journal of Molecular Sciences covers PFAS, persistent environmental chemicals. Emerging evidence links exposure to thicker carotid artery walls, stiffer arteries and poorer blood-vessel function. Evidence on coronary calcium and stenosis is scarce. The authors say stronger epidemiological studies are needed to clarify causes.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-07-06

Review: low testosterone linked to worse blood vessel markers that improve with treatment

A review in the International Journal of Molecular Sciences reports that men with hypogonadism show altered blood markers of vascular health, including higher inflammatory markers. Most of these improve with testosterone therapy. Skin-applied and injected forms may differ in safety, but evidence of better cardiovascular outcomes for either remains limited.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-07-05

Review: low testosterone linked to worse blood vessel markers that often improve with therapy

A review in the International Journal of Molecular Sciences looked at blood markers of heart and vessel health in men with low testosterone. These men showed signs of vessel dysfunction, clotting activity and inflammation. Testosterone therapy improved most markers. Skin-applied forms may have blood-safety advantages, but evidence that they give better heart outcomes than injections remains limited.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-07-05

Mouse study traces how GLP-1 pathway may improve blood vessel function

A study in the British Journal of Pharmacology, mostly in hypertensive mice, examined how GLP-1 pathway drugs affect blood vessel lining. Researchers found a chain involving a long non-coding RNA that helped restore endothelial function. A GLP-1 drug showed a similar effect in cell experiments. These are animal and cell findings, not human results.

BRITISH JOURNAL OF PHARMACOLOGY · 2026-07-04

Review examines folic acid's possible role in COVID-19 vascular damage

A review in Life examines folic acid and COVID-19. It notes that blood vessel lining dysfunction contributes to severe acute illness and long COVID. The authors discuss how folic acid interacts with homocysteine metabolism. They also discuss possible benefits of folic acid and vitamin B12 supplements. The text reports no new trial results, so benefits remain unproven.

LIFE (BASEL, SWITZERLAND) · 2026-07-04

GLP-1 pathway drug improved blood vessel function in hypertensive mice through a newly described route

A study in the British Journal of Pharmacology used mice with high blood pressure. A drug acting on the GLP-1 pathway improved blood vessel function. The effect depended on a long non-coding RNA called 155383 and a chain of linked molecules. A related drug showed a similar effect in cells. This is animal and cell work, not human evidence.

BRITISH JOURNAL OF PHARMACOLOGY · 2026-07-04

Review examines folic acid's possible role in COVID-19 blood vessel damage

A review in Life discusses folic acid and its links to homocysteine metabolism in COVID-19, where damage to blood vessel lining is a key feature. It also covers possible benefits of folic acid in acute and long-term illness, and of vitamin B12 in long COVID. It is a literature review, not new trial evidence.

LIFE (BASEL, SWITZERLAND) · 2026-07-04

Mini review examines pulse waveform analysis as a heart and metabolic health tool

A mini review in Frontiers in Endocrinology covers radial pulse harmonic analysis, a non-invasive way to study artery behaviour from the wrist pulse. The authors report that its measures are consistently associated with arterial stiffness, endothelial dysfunction and age-related changes in blood flow. They say better sensors and algorithms have improved reproducibility.

FRONTIERS IN ENDOCRINOLOGY · 2026-07-03

Women with endometriosis showed weaker blood vessel function but normal artery stiffness

A small cross-sectional observational study in the International Journal of Gynaecology and Obstetrics compared 20 women with endometriosis, mostly taking dienogest, with 30 controls. Artery stiffness did not differ. Blood vessel lining function, measured by flow-mediated dilatation, was lower in the endometriosis group. The authors also report raised inflammation. The study cannot show cause.

INTERNATIONAL JOURNAL OF GYNAECOLOGY AND OBSTETRICS: THE OFFICIAL ORGAN OF THE INTERNATIONAL FEDERATION OF GYNAECOLOGY AND OBSTETRICS · 2026-07-03

AI model estimates blood glucose from pulse signals in small dataset

A study in Frontiers in Bioengineering and Biotechnology describes a deep learning model that estimates glucose from light-based pulse signals (PPG). Tested on data from 23 people, it had an average error of 11.59 mg/dL and beat two standard models. The authors say it focuses on physiologically plausible parts of the signal.

FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY · 2026-07-03

Review: pulse wave analysis tracks artery stiffness and vascular aging markers

A mini review in Frontiers in Endocrinology covers radial pulse harmonic analysis, a non-invasive method that breaks the wrist pulse wave into components. The reviewed evidence links these measures to arterial stiffness, endothelial dysfunction and age-related changes in blood flow. The authors say better sensors and computing have improved reproducibility. It is a review, not a new trial.

FRONTIERS IN ENDOCRINOLOGY · 2026-07-03

Women with endometriosis show weaker blood vessel function despite normal artery stiffness

A small cross-sectional study in the International Journal of Gynaecology and Obstetrics compared 20 women with ovarian endometriosis with 30 controls. Artery stiffness was similar. Blood vessel lining function, measured by flow-mediated dilatation, was lower in the endometriosis group. Most were taking dienogest. The design cannot show cause.

INTERNATIONAL JOURNAL OF GYNAECOLOGY AND OBSTETRICS: THE OFFICIAL ORGAN OF THE INTERNATIONAL FEDERATION OF GYNAECOLOGY AND OBSTETRICS · 2026-07-03

AI model estimates blood glucose from pulse-sensor signals in small test

Researchers described a deep learning model that estimates blood glucose from photoplethysmography, a light-based pulse signal. Reported in Frontiers in Bioengineering and Biotechnology, it was tested on data from 23 people. Its average error was 11.59 mg/dL, better than two standard models. The authors say it focuses on parts of the waveform linked to vascular stiffness.

FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY · 2026-07-03

Dietary minerals show no firm link to blood vessel health in long COVID

An observational study in Nutrients looked at 304 adults with long COVID. It tested whether mineral intake was associated with measures of artery stiffness and vascular aging. After statistical correction, no mineral association remained significant. Some possible non-linear patterns for magnesium and potassium were suggested. There was no robust evidence of differences between sexes.

NUTRIENTS · 2026-07-02

Review finds PCOS may be linked to early artery changes

A systematic review in the Journal of Clinical Medicine assessed nine studies, five in humans and four computational analyses. Women with polycystic ovary syndrome showed thicker carotid artery walls and other early vascular changes, especially in some hormone-driven forms. The authors note the studies were mostly observational and varied widely, so larger prospective studies are needed.

JOURNAL OF CLINICAL MEDICINE · 2026-07-02

Dietary minerals show no firm link to artery stiffness in long COVID

A study in Nutrients examined 304 adults with long COVID and compared mineral intake with measures of artery stiffness and vascular aging. After statistical correction for multiple tests, no mineral showed a significant association. Some possible non-linear patterns for magnesium and potassium were suggested. The findings are associations, not proof of cause.

NUTRIENTS · 2026-07-02

Review links polycystic ovary syndrome to early signs of artery changes

A systematic review in the Journal of Clinical Medicine included nine studies: five human clinical studies and four bioinformatics analyses. Imaging studies found thicker carotid artery walls and more subclinical vascular abnormalities in premenopausal women with PCOS, while adolescents showed mainly metabolic and inflammatory changes. The authors say PCOS may be associated with early vascular changes, but evidence is limited by heterogeneity and observational designs.

JOURNAL OF CLINICAL MEDICINE · 2026-07-02

Review of single-cell studies maps how artery cells change with age

A review in Aging Cell summarises single-cell RNA sequencing studies of arterial aging. Across studies, aging is repeatedly linked to endothelial dysfunction, changes in smooth muscle cells, matrix remodelling by fibroblasts and immune activation. Findings vary by species, vessel type, sex and disease. The authors note inconsistent cell labelling and limited functional validation.

AGING CELL · 2026-07-01

Repeated alcohol exposure stiffened and impaired brain arteries in female rats

A study in the European Journal of Pharmacology exposed adult female rats to ethanol vapour, with 8 rats per group. Single and repeated exposures impaired the function of the cells lining a brain artery. Repeated exposure also caused oxidative stress, inflammation and stiffer arteries. This is animal work, and the authors suggest it may reflect accelerated vascular aging.

EUROPEAN JOURNAL OF PHARMACOLOGY · 2026-07-01

Nicotinamide riboside raised NAD+ but did not improve memory in small trial

A 12-week randomised, placebo-controlled pilot trial in Alzheimer's & Dementia studied nicotinamide riboside in 42 older adults with mild cognitive impairment. Blood NAD+ doubled in the treatment group. Cognitive function, total brain blood flow and blood pressure did not improve. Exploratory results hinted at higher blood flow in the hippocampus. No serious adverse effects were reported.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review links tiny cell-released particles to heart disease in kidney disease

A review in Nephrology Dialysis Transplantation describes how extracellular vesicles, tiny particles released by cells, change in chronic kidney disease. They may carry molecules that drive vascular and heart damage. They could serve as biomarkers or treatment targets. Evidence for repair so far comes from preclinical studies, and human trials are still needed.

NEPHROLOGY, DIALYSIS, TRANSPLANTATION : OFFICIAL PUBLICATION OF THE EUROPEAN DIALYSIS AND TRANSPLANT ASSOCIATION - EUROPEAN RENAL ASSOCIATION · 2026-07-01

Review points to veins as an overlooked factor in one form of heart failure

A review in European Heart Journal – Cardiovascular Pharmacotherapy discusses how veins may contribute to heart failure with preserved ejection fraction. It notes that animal studies show relevant effects in healthy and hypertensive animals. Studies in validated models of this heart failure type are lacking, so the role of veins remains unproven.

EUROPEAN HEART JOURNAL. CARDIOVASCULAR PHARMACOTHERAPY · 2026-07-01

Review: sleep apnoea often disrupts night-time blood pressure, and CPAP lowers it modestly

A narrative review in the European Respiratory Review looked at sleep apnoea and blood pressure at night. It says abnormal night-time patterns are common and linked to higher cardiovascular risk. CPAP has the strongest evidence and lowers night-time pressure modestly on average. Evidence for other treatments is more limited and less consistent.

EUROPEAN RESPIRATORY REVIEW : AN OFFICIAL JOURNAL OF THE EUROPEAN RESPIRATORY SOCIETY · 2026-07-01

Review links childhood sleep apnoea to early signs of heart and vessel changes

An evidence review in European Respiratory Review examined studies of children with obstructive sleep apnoea. Across cohorts, nighttime blood pressure was most consistently higher. Studies also showed early blood vessel function changes and increased heart muscle mass. Some autonomic measures often improved after tonsil and adenoid removal. The review describes links, not proof of cause.

EUROPEAN RESPIRATORY REVIEW : AN OFFICIAL JOURNAL OF THE EUROPEAN RESPIRATORY SOCIETY · 2026-07-01

Review describes growing role of peptides in heart disease care

A review in Diabetes & Vascular Disease Research surveys how peptides are used in cardiovascular medicine. Peptide biomarkers are widely used for diagnosis and risk assessment. The text notes that GLP-1 receptor agonists have shown cardiometabolic benefits, including fewer cardiovascular events. It also covers newer peptide-based delivery and repair approaches.

DIABETES & VASCULAR DISEASE RESEARCH · 2026-07-01

Repeated alcohol exposure impaired brain blood vessel function in female rats

A study in the European Journal of Pharmacology exposed adult female rats to ethanol vapor, with 8 rats per group. Both single and repeated exposure impaired the lining of a brain artery. Repeated exposure also brought oxidative stress, inflammation and stiffer arteries. The authors suggest this may speed vascular aging. It was an animal study.

EUROPEAN JOURNAL OF PHARMACOLOGY · 2026-07-01

Nicotinamide riboside raised blood NAD+ but did not improve cognition in small trial

A 12-week double-blind, randomised, placebo-controlled pilot trial in Alzheimer's & Dementia tested nicotinamide riboside in adults with amnestic mild cognitive impairment, and 42 participants completed it. Blood NAD+ doubled in the treated group. Cognition, total brain blood flow and blood pressure did not improve. Exploratory analyses hinted at higher blood flow in the hippocampus. No serious adverse effects occurred.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review: tiny cell-released particles may link kidney disease and heart disease

A review in Nephrology Dialysis Transplantation discusses extracellular vesicles, tiny particles released by cells. In chronic kidney disease, their numbers and contents change. They may carry signals that contribute to blood vessel and heart damage. They might also serve as biomarkers. Therapeutic ideas so far rest on preclinical studies, and human trials are still needed.

NEPHROLOGY, DIALYSIS, TRANSPLANTATION : OFFICIAL PUBLICATION OF THE EUROPEAN DIALYSIS AND TRANSPLANT ASSOCIATION - EUROPEAN RENAL ASSOCIATION · 2026-07-01

Review explores veins' role in heart failure with preserved ejection fraction

A review in European Heart Journal: Cardiovascular Pharmacotherapy discusses how veins may contribute to heart failure with preserved ejection fraction. It points to imbalances in signals that relax and tighten vessels. Animal studies exist, but the authors say studies in validated models of this condition are lacking. They call for further research.

EUROPEAN HEART JOURNAL. CARDIOVASCULAR PHARMACOTHERAPY · 2026-07-01

Review: sleep apnoea often disrupts night-time blood pressure; CPAP lowers it modestly

A narrative review in European Respiratory Review summarises evidence on obstructive sleep apnoea and night-time blood pressure. Abnormal night-time patterns are common in the condition and add to cardiovascular risk. CPAP has the strongest evidence and lowers night-time pressure modestly on average. Evidence for other treatments is limited and less consistent.

EUROPEAN RESPIRATORY REVIEW : AN OFFICIAL JOURNAL OF THE EUROPEAN RESPIRATORY SOCIETY · 2026-07-01

Review surveys how peptides are used in heart disease diagnosis and treatment

A review in Diabetes & Vascular Disease Research looks at the role of peptides in cardiovascular medicine. It covers natural peptide systems that help control blood vessels and fluid balance. It also covers peptide blood markers used in diagnosis and GLP-1 drugs, which the text links to fewer cardiovascular events. Newer peptide-based repair approaches are also discussed.

DIABETES & VASCULAR DISEASE RESEARCH · 2026-07-01

Review finds melatonin's vascular ageing evidence promising but still preliminary

A narrative review in Molecular Biology Reports looked at melatonin and age-related blood vessel disease. Lab studies suggest it reduces oxidative stress and inflammation. Human evidence is limited and mostly relies on indirect vascular measures, not major clinical outcomes. The authors say large trials are needed before it can be recommended.

MOLECULAR BIOLOGY REPORTS · 2026-06-30

Systematic review finds possible link between night shifts and stiffer arteries

A systematic review in F1000Research narratively synthesised ten observational studies on night shift work and blood vessel health. Meta-analysis was not feasible. Cumulative night shifts were associated with stiffer arteries and reduced endothelial function, but links often faded after adjustment for other factors. Other vascular findings were inconsistent. No primary data exist for radiographers, the group the review focused on.

F1000RESEARCH · 2026-06-30

Melatonin looks promising for vascular aging in lab studies, but human evidence is thin

A narrative review in Molecular Biology Reports looked at melatonin and age-related blood vessel disease. Experimental studies suggest it can reduce oxidative stress and inflammation. Human evidence is limited and mostly uses surrogate measures, not hard outcomes. The authors call it promising but preliminary and say large clinical trials are needed.

MOLECULAR BIOLOGY REPORTS · 2026-06-30

Review finds possible link between night shift work and stiffer arteries

A systematic review in F1000Research assessed ten observational studies on night shift work and blood vessel measures. Cumulative night shifts were associated with greater arterial stiffness and reduced endothelial function. Many links faded after adjustment, and other findings were inconsistent. No primary data exist for radiographers, the group of interest.

F1000RESEARCH · 2026-06-30

Arterial stiffness measure tracks with estimated vascular age in adults without heart disease

A cross-sectional study in Kardiologia Polska assessed 276 people aged 40 to 65 without cardiovascular disease or diabetes. A blood pressure-based arterial stiffness index was significantly associated with a SCORE-derived vascular age. The authors suggest it could be a simple indicator of vascular aging. The design shows a link only and cannot show cause.

KARDIOLOGIA POLSKA · 2026-06-29

Lower muscle mass and grip strength linked to stiffer arteries in type 2 diabetes

A retrospective cross-sectional study in the Journal of Diabetes Investigation included 281 hospitalised people with type 2 diabetes. Lower muscle mass and weaker handgrip were each associated with higher arterial stiffness, after adjusting for established cardiovascular risk factors. The authors say measuring both may give complementary information about vascular risk. The study shows a link, not a cause.

JOURNAL OF DIABETES INVESTIGATION · 2026-06-29

Arterial stiffness measure correlates with estimated vascular age in adults without heart disease

A cross-sectional study in Kardiologia Polska assessed 276 people aged 40 to 65 without cardiovascular disease or diabetes. A blood-pressure-based stiffness index was significantly associated with SCORE-derived vascular age (r = 0.529). The authors suggest it could be a simple marker of vascular aging. The design shows a link, not cause.

KARDIOLOGIA POLSKA · 2026-06-29

Lower muscle mass and strength linked to stiffer arteries in type 2 diabetes

A cross-sectional study in the Journal of Diabetes Investigation looked at 281 hospitalised people with type 2 diabetes. Lower muscle mass and lower handgrip strength were each associated with higher arterial stiffness, even after adjusting for established cardiovascular risk factors. The design shows a link only, not that muscle loss causes stiffer arteries.

JOURNAL OF DIABETES INVESTIGATION · 2026-06-29

MITOCHONDRIA & CELLULAR ENERGY 50

Two non-drug treatments did not change RNA marks in stressed retinal cells

A laboratory study in RNA Biology examined retinal pigment cells, relevant to age-related macular degeneration, under oxidative stress. Researchers tested electrotherapy and a blood-derived secretome. Neither changed the RNA modifications or editing sites measured. Only one mitochondrial site differed from the stress-free baseline. The work used cultured cells, not patients.

RNA BIOLOGY · 2026-10-15

Review: metabolic kinases may coordinate organelle communication in aging, evidence incomplete

A review in Aging Cell discusses how metabolic and stress-responsive kinases such as AMPK and mTOR may help cell compartments coordinate during aging. The authors say that in many cases the effects on organelle communication are indirect or inferred. They describe kinase-regulated organelle communication as an emerging but still incompletely resolved framework for understanding cellular decline.

AGING CELL · 2026-07-01

Review maps gut bacteria and mitochondria links in gynecological diseases

A review in Frontiers in Reproductive Health describes a proposed loop linking gut microbes, mitochondria, immune responses and hormones. It discusses polycystic ovary syndrome, endometriosis, premature ovarian insufficiency and gynecological cancers. The authors put forward ideas for treatments aimed at both microbes and mitochondria. It is a theoretical framework, not a test of those treatments.

FRONTIERS IN REPRODUCTIVE HEALTH · 2026-07-01

Mouse study links inner-ear mitochondrial damage to age-related hearing loss

A study in the journal Aging Cell examined SAMP8 mice of different ages. Hearing and balance thresholds worsened with age, and the share of damaged mitochondria rose. The damage lined up closely with high-frequency hearing loss and weakened synaptic connections. The authors describe these links as descriptive, so they do not show cause. This was research in mice, not humans.

AGING CELL · 2026-07-01

Review: chronic inflammation of ageing may be modifiable in preclinical studies

A review in the European Journal of Immunology covers inflammaging, the low-grade inflammation that accompanies ageing. It reports that in preclinical work, senolytics, senomorphics, metformin and rapamycin reduced inflammatory signals. Early-phase trials in frail older adults showed feasibility, safety and preliminary benefits. The authors note open problems, including long-term safety and biomarkers.

EUROPEAN JOURNAL OF IMMUNOLOGY · 2026-07-01

A bile acid improved egg quality in aged pig oocytes via EGR1

A laboratory study in Aging Cell used pig oocytes (egg cells). Aged oocytes had lower levels of the protein EGR1. The bile acid UDCA raised EGR1 and boosted the clearing of damaged mitochondria, improving oocyte quality. Blocking EGR1 removed the benefit. This is cell research in pigs, not a human study.

AGING CELL · 2026-07-01

Review links metabolic kinase enzymes to organelle coordination in cellular aging

A review in Aging Cell discusses how kinases such as AMPK and mTOR may help organelles coordinate inside cells during aging. Kinase problems may contribute to defects linked to neurodegeneration, cardiometabolic disease, senescence and inflammaging. The authors note that many effects are indirect or inferred. They call the framework emerging and still incompletely resolved.

AGING CELL · 2026-07-01

Review maps gut microbe and mitochondria links in gynecological diseases

A review in Frontiers in Reproductive Health describes how gut microbe products, mitochondria and immune signalling may interact in conditions such as polycystic ovary syndrome and endometriosis. It proposes a framework and possible dual-target treatment ideas. The text describes correlations and theory, not tested treatments.

FRONTIERS IN REPRODUCTIVE HEALTH · 2026-07-01

Mouse study links ageing ear and balance decline to damaged mitochondria

A study in Aging Cell used SAMP8 mice of different ages to compare hearing and balance organs. With age, hearing and balance responses worsened, and more mitochondria looked damaged. Damage tracked closely with high-frequency hearing loss and weakened nerve connections. These are descriptive findings in mice, not in people.

AGING CELL · 2026-07-01

Review describes how chronic low-grade inflammation of aging might be modified

A review in the European Journal of Immunology covers inflammaging, the persistent low-grade inflammation that comes with age. It says preclinical work shows it can be altered by drugs that target senescent cells, and by metformin and rapamycin. Early trials in frail older adults reported feasibility, safety and preliminary benefits. Long-term safety remains unresolved.

EUROPEAN JOURNAL OF IMMUNOLOGY · 2026-07-01

Bile acid UDCA restored quality of aged pig eggs via EGR1

A laboratory study in Aging Cell found that pig egg cells aged after ovulation had lower levels of the regulatory protein EGR1. The bile acid UDCA raised EGR1, improved removal of damaged mitochondria and restored the quality of aged eggs. Blocking EGR1 with the inhibitor plicamycin cancelled UDCA's benefit to egg development. The work was in pig oocytes, not in people.

AGING CELL · 2026-07-01

Tau loss shifts mitochondria toward fusion in worms and mice

A study in PNAS found that mice lacking tau, and worms lacking its homolog PTL-1, showed a shift toward mitochondrial fusion, increased mitochondrial activity and altered redox balance. Worms also resisted heat and mitochondrial stress better. In worms, losing the fusion protein FZO-1 abolished these benefits, while overexpressing it mimicked them. The work was done in animals, not people.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA · 2026-06-30

Losing Tau protein boosted mitochondrial function in worms and mice

A study in PNAS used roundworms and mice lacking Tau or its worm equivalent. Without Tau, mitochondria shifted toward a fusion state, with higher activity and, in worms, greater resistance to heat and mitochondrial stress. The effect depended on a fusion gene called FZO-1. This is animal research, not a human study.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA · 2026-06-30

Sheep virus protein changes metabolism in human lung cells in lab study

A laboratory study in BMC Genomics put a sheep retrovirus protein into human bronchial cells. Gene and metabolite analyses found many changes, including in energy metabolism, cell cycle and cancer-related signalling. The findings come from cells in a dish and the source text is incomplete, so no conclusions about human health follow.

BMC GENOMICS · 2026-06-29

Review examines how cell enzymes link self-cleaning and cell aging processes

A review in Cells looks at how protein kinases influence autophagy, a cellular recycling process, and senescence, in which cells stop dividing. Researchers still debate whether the two are causally linked. The authors suggest understanding these enzymes could help guide future therapies for conditions including aging and cancer.

CELLS · 2026-06-28

Review examines how cell enzymes link cellular recycling and cell senescence

A review in the journal Cells looks at how protein kinases, a family of enzymes, shape two cell processes: autophagy, a recycling system, and senescence, a state of permanent cell arrest. Scientists still debate whether the two are causally linked. The authors say understanding kinases could help guide future treatments for conditions such as aging and cancer.

CELLS · 2026-06-28

Review describes protein ATPIF1 as a regulator of mitochondrial energy

A review in Mitochondrion covers ATPIF1, a protein that regulates a key enzyme in mitochondrial energy production. It summarises roles in energy preservation, mitophagy and redox balance. It also discusses links to conditions including aging, cancer and neurodegenerative disorders. The authors suggest it could be a therapeutic target, which remains unproven.

MITOCHONDRION · 2026-06-27

Review: a mitochondrial regulator called ATPIF1 is tied to several diseases

A review in Mitochondrion covers ATPIF1, a protein that regulates a key enzyme in mitochondrial energy production. The authors link it to mitochondrial shape, energy preservation and stress responses. They summarise its role in conditions including aging, cancer, sepsis and neurodegenerative disorders. They propose it as a possible therapeutic target. That idea is still a proposal.

MITOCHONDRION · 2026-06-27

Review proposes aging as loss of cellular flexibility, not just accumulated damage

A review in Frontiers in Aging argues that aging may be better seen as a gradual loss of epigenetic and regulatory flexibility in cells. It suggests cells keep functioning but lose the ability to adapt, settling into rigid states such as senescence. The authors say this idea complements existing models. It is a proposal, not new experimental evidence.

FRONTIERS IN AGING · 2026-06-26

Review maps how heart energy metabolism shifts from development to aging and disease

A review in Cells describes how the heart's energy use changes from fetal development through senescence and in disease. A healthy heart uses energy flexibly. Diseased hearts lose that flexibility. The authors also cover stem-cell-derived heart cells, which they say are limited by metabolic immaturity. It is an overview, not a new experiment.

CELLS · 2026-06-26

Review links fat buildup in kidneys to scarring in chronic kidney disease

A review in Biology describes how disordered energy metabolism and fat accumulation in kidney cells may drive fibrosis, or scarring, in chronic kidney disease. It discusses several existing and emerging drug classes that target this pathway. The authors propose that restoring metabolic flexibility could be a promising strategy. This is a proposal, not a tested result.

BIOLOGY · 2026-06-26

Nodakenin tested against disc cell ageing in cell and rat models

A laboratory study in Cellular & Molecular Biology Letters built human nucleus pulposus cell senescence and rat disc degeneration models to test nodakenin, the main active compound of the traditional Chinese formula Duhuo Jisheng decoction. Earlier preliminary work suggested protective effects linked to SIRT6 and PINK1/Parkin mitophagy. The available text does not report this study's results. These are cell and animal models, with no human data.

CELLULAR & MOLECULAR BIOLOGY LETTERS · 2026-06-26

Review traces how heart energy metabolism shifts from fetal life to old age

A review in Cells describes how the heart's energy use changes from fetal development through senescence and disease. Healthy hearts use energy flexibly. Diseased hearts lose that flexibility. The review also covers ways to mature stem-cell-derived heart cells for research models. It summarises existing work and reports no new patient results.

CELLS · 2026-06-26

Plant compound nodakenin studied against disc cell aging in lab models

A study in Cellular & Molecular Biology Letters examined nodakenin, the main active compound of the traditional Chinese formula Duhuo Jisheng decoction, against aging of disc cells. The authors built human disc cell senescence and rat disc degeneration models. Preliminary work suggested protective effects associated with SIRT6 and PINK1/Parkin mitochondrial clearance signaling. The available text does not report results. This is lab and animal work, not a human trial.

CELLULAR & MOLECULAR BIOLOGY LETTERS · 2026-06-26

Review points to mitochondrial problems in age-related loss of the senses

A review in Pharmacological Research discusses sensory decline in aging and neurodegenerative disease. It says mitochondrial dysfunction sits at the crossroads of many mechanisms behind it. The authors suggest targeting mitochondria could be a promising drug approach. This is a literature review, not a trial, and the benefits remain unproven.

PHARMACOLOGICAL RESEARCH · 2026-06-25

Review: lycopene affects mitochondria in cell and animal studies, mechanisms unproven

A review in Frontiers in Pharmacology examined experimental evidence on lycopene, a dietary carotenoid, and mitochondria, the cell's energy units. Studies in cells and animals suggest it reduces oxidative stress and supports energy production. The authors caution that designs vary widely, many rely on toxin-injury models, and links to mechanism are often associative rather than causal.

FRONTIERS IN PHARMACOLOGY · 2026-06-25

Review links mitochondrial problems to loss of senses in aging

A review in Pharmacological Research discusses how declining touch, sight, hearing, smell and taste relate to aging and neurodegenerative disease. It reports that mitochondrial dysfunction sits at the crossroads of many underlying mechanisms. The authors suggest targeting mitochondria could be a promising drug approach. This is a literature review, not a trial.

PHARMACOLOGICAL RESEARCH · 2026-06-25

Review: lycopene affects mitochondria in cell and animal studies, but cause is unproven

A review in Frontiers in Pharmacology assesses lab and animal research on lycopene, a dietary carotenoid, and mitochondria, the cell's energy structures. Studies report less oxidative stress and better energy function. The authors note varied designs, reliance on injury models, and links that are often associative rather than causal.

FRONTIERS IN PHARMACOLOGY · 2026-06-25

Review: clearing damaged mitochondria may help or harm the liver after blood-flow loss

A review in Biomolecules looks at liver injury that occurs when blood flow is cut off and then restored, as in surgery or transplantation. It describes mitophagy, the clearing of damaged mitochondria. Appropriate activation appears protective, while insufficient or dysregulated activity appears to worsen injury. The authors discuss possible treatments. It is a review, not a clinical trial.

BIOMOLECULES · 2026-06-24

Review maps how epigenetic, cellular and immune changes drive skin aging

A review in Immunity & Ageing describes how skin aging involves epigenetic drift, cell senescence, mitochondrial changes and chronic inflammation. It says failed clearance of senescent cells feeds a self-reinforcing immune loop. It also surveys emerging treatments aimed at these mechanisms. It presents no new trial data.

IMMUNITY & AGEING : I & A · 2026-06-24

Review: a mitochondrial protein may link DNA upkeep to aging and inflammation

A review in Frontiers in Aging looks at TFAM, a protein that binds mitochondrial DNA. The authors say it may connect mitochondrial DNA health to aging biology and inflammation. They stress it is not uniformly protective. Too little or too much may cause problems, depending on tissue and context. This is a review, not new trial data.

FRONTIERS IN AGING · 2026-06-24

Perspective: Parkinson's mitochondrial clean-up may fail even when the pathway switches on

A perspective article in Frontiers in Aging Neuroscience argues that activating the PINK1/Parkin pathway does not guarantee damaged mitochondria are actually cleared in Parkinson's disease. The authors suggest signalling and clearance can become uncoupled. They propose this may explain limited success of treatments. It is a conceptual argument, not new trial data.

FRONTIERS IN AGING NEUROSCIENCE · 2026-06-24

Review examines how damaged-mitochondria clearance affects liver injury after blood flow is restored

A review in Biomolecules looks at mitophagy, the clearing of damaged mitochondria, in liver injury caused by interrupted and then restored blood flow. It describes the process as context-dependent. Appropriate activation may protect liver cells, while insufficient or dysregulated activity may worsen injury. It summarises existing research rather than presenting new data.

BIOMOLECULES · 2026-06-24

Review: mitochondrial protein TFAM may link DNA upkeep, inflammation and aging

A review in Frontiers in Aging discusses TFAM, a protein that binds mitochondrial DNA. It may connect mitochondrial DNA upkeep to aging processes such as inflammation and cellular senescence. The authors stress TFAM is not uniformly protective. Too little or too much may cause problems, depending on context. They note many questions remain unresolved.

FRONTIERS IN AGING · 2026-06-24

Perspective argues Parkinson's mitophagy pathway may activate without clearing damaged mitochondria

A perspective article in Frontiers in Aging Neuroscience discusses PINK1/Parkin, a pathway that removes damaged mitochondria. The authors propose that in Parkinson's disease, activating the pathway may not ensure that clearance is completed. They suggest this could explain limited success of treatments that boost only upstream signalling. It is a conceptual proposal, not new trial data.

FRONTIERS IN AGING NEUROSCIENCE · 2026-06-24

Review links faulty mitochondrial upkeep to Parkinson's disease processes

A review in Current Issues in Molecular Biology examines how damaged mitochondria may contribute to Parkinson's disease. The authors say it is still unknown whether mitochondrial problems start the disease or follow nerve cell loss. They describe links to oxidative stress and inflammation. Treatments targeting these processes are drawing interest, but the article is a review, not a trial.

CURRENT ISSUES IN MOLECULAR BIOLOGY · 2026-06-23

Review links faulty mitochondrial quality control to Parkinson's disease processes

A review in Current Issues in Molecular Biology examines how mitochondria, the cell's energy units, are kept healthy and how this may fail in Parkinson's disease. The authors say it is unknown whether mitochondrial dysfunction starts the disease or follows neurodegeneration. They note that Parkinson's currently has no viable treatments and discuss therapeutic approaches under study.

CURRENT ISSUES IN MOLECULAR BIOLOGY · 2026-06-23

Review outlines how muscle ageing may drive insulin resistance in older adults

A review in Diabetes Research and Clinical Practice discusses how ageing muscle, cell senescence, mitochondrial decline and inflammation may combine to cause insulin resistance in older people, which it terms type-4 diabetes. It lists possible biomarkers and therapies, including senolytics and NAD+ replenishment. These are proposed targets in a review, not proven treatments.

DIABETES RESEARCH AND CLINICAL PRACTICE · 2026-06-21

Review outlines how ageing muscle may drive insulin resistance and diabetes

A review in Diabetes Research and Clinical Practice describes molecular mechanisms by which ageing muscle, cell senescence, mitochondrial dysfunction and inflammation may contribute to insulin resistance in older adults, a condition it calls type-4 diabetes. It also lists possible biomarkers and treatment targets. These are proposals discussed in a review, not tested results.

DIABETES RESEARCH AND CLINICAL PRACTICE · 2026-06-21

Review links gut bacteria to frailty and cognitive decline in older adults

A review in Microorganisms describes a gut-brain-muscle axis. It says imbalanced gut microbes and fewer short-chain fatty acids are linked to inflammation, mitochondrial problems and cognitive frailty. The authors discuss probiotics, diet and exercise as possible approaches. This is a review of existing evidence, not a new trial, so it does not show cause.

MICROORGANISMS · 2026-06-19

Review explores how gut microbes may influence muscle and brain ageing

A review in Microorganisms discusses the gut-brain-muscle axis and cognitive frailty, where physical frailty and cognitive impairment occur together. It describes how gut imbalance and altered microbial products may contribute to inflammation and mitochondrial problems. It also outlines possible dietary and probiotic approaches. These are proposed ideas rather than proven treatments.

MICROORGANISMS · 2026-06-19

Animal studies suggest exercise and diet shape liver cell recycling

A narrative review in Biomedical Reports drew on 19 animal studies. It examined how exercise and diet affect mitophagy, the liver's clearing of damaged mitochondria. In obese models, structured endurance training outperformed low-intensity activity. Under high-fat diets, exercise gave only partial recovery without better diet or weight loss. Males and females responded differently. These are animal findings.

BIOMEDICAL REPORTS · 2026-06-18

Review: exercise may tune a mitochondrial protein that is off-balance in ageing

A review in Cells discusses Drp1, a protein that controls how mitochondria divide in muscle. Too little or too much appears linked to muscle wasting. The authors propose that moderate exercise helps rebalance it, lowering activity in metabolic disease and restoring it in ageing. This is a mechanistic model, not a human trial.

CELLS · 2026-06-16

Review: exercise may keep a muscle mitochondria protein in a healthy range

A review in Cells discusses Drp1, a protein that controls how mitochondria divide in muscle. Too little or too much is linked to muscle problems. The authors propose that moderate exercise helps restore balance, with Drp1 too active in metabolic disease and too low in ageing. This is a proposed model, not a new trial.

CELLS · 2026-06-16

Review proposes a feedback loop of tissue stiffening and energy failure drives aging

A review in Cell Metabolism describes a proposed loop in aging tissues. Stiffer surrounding tissue reduces blood vessel flexibility and capillaries. Lower oxygen then impairs mitochondria, which triggers senescence and inflammation, causing more stiffening. The authors suggest this loop may be a future therapeutic target. It is a conceptual model, not a new trial.

CELL METABOLISM · 2026-06-15

Review proposes a feedback loop of tissue stiffening and mitochondrial decline in ageing

A review in Cell metabolism proposes that stiffening of the tissue scaffold, reduced blood flow and mitochondrial dysfunction feed one another and speed tissue ageing. Lower energy output is said to trigger senescence and inflammation, which stiffen tissue further. The authors suggest this loop may be a future therapeutic target.

CELL METABOLISM · 2026-06-15

Review proposes how protein changes in mitochondria steer cell death in heart disease

A review in Cell Communication and Signaling proposes a conceptual framework. It argues that chemical modifications to mitochondrial proteins help direct which cell death pathway is triggered in cardiovascular disease. The authors say how this works remains incompletely understood. The paper offers a theoretical basis for future treatments rather than new human trial results.

CELL COMMUNICATION AND SIGNALING : CCS · 2026-06-13

Review links inflammation, metabolism and aging processes in one form of heart failure

A review in the Journal of Translational Internal Medicine covers heart failure with preserved ejection fraction, a condition with limited effective therapies. The authors describe an interconnected axis of inflammation, metabolic problems and cellular senescence. They also discuss current and early-stage treatment approaches. It is a review, not new trial data.

JOURNAL OF TRANSLATIONAL INTERNAL MEDICINE · 2026-06-13

Review links protein changes in mitochondria to heart cell death pathways

A review in Cell Communication and Signaling looks at chemical changes to mitochondrial proteins in cardiovascular disease. The authors propose these changes link mitochondrial health to several forms of cell death. They say this could eventually inform therapies for heart failure. This is a conceptual framework, not a test in patients.

CELL COMMUNICATION AND SIGNALING : CCS · 2026-06-13

Review links inflammation, metabolism and ageing processes in one form of heart failure

A review in the Journal of Translational Internal Medicine covers heart failure with preserved ejection fraction, a condition with limited effective therapies. The authors describe an interconnected axis of inflammation, metabolic problems and cellular senescence. They also discuss current and emerging treatment strategies. It is a conceptual review, not a new trial.

JOURNAL OF TRANSLATIONAL INTERNAL MEDICINE · 2026-06-13

CLINICAL TRIALS 83

Registered study will ask whether sarcopenia is linked to worse stroke outcomes

An observational study listed on ClinicalTrials.gov is recruiting patients aged 50 and older with acute ischaemic stroke. Researchers will measure how common sarcopenia, a loss of muscle, is at admission, track it during the acute phase and assess function at three months. They will ask whether sarcopenia is associated with complications, mortality and less favourable outcomes. No results are available yet.

CLINICALTRIALS.GOV (NCT07764172) · 2026-10-22

Pilot trial tests a delirium risk indicator after surgery; no results listed

A trial registered on ClinicalTrials.gov and sponsored by Indiana University is marked completed. It is a pilot randomised trial. It tests whether a delirium risk indicator, delivered on paper or through the electronic medical record, affects postoperative delirium and later cognitive decline and dementia. The entry lists no results.

CLINICALTRIALS.GOV (NCT06216483) · 2026-10-22

Trial will test remote monitoring of daily activities for home care users

A trial sponsored by a Montreal geriatrics research centre is recruiting. It will test the benefits of NEARS-SAPA, a telemonitoring system that remotely recognises daily activities such as preparing meals and moving around the home, and expand its technical capabilities. The aim is to help home care services match services to needs. No results are available yet.

CLINICALTRIALS.GOV (NCT06888713) · 2026-10-22

Planned study will examine nutrition and surgical outcomes in older lung surgery patients

A study registered on ClinicalTrials.gov by an Ankara hospital has not yet started recruiting. It plans to examine how nutritional status before lung surgery relates to outcomes such as pain, complications and hospital stay in older patients. It will also investigate whether preoperative nutritional support reduces complications. No results exist yet.

CLINICALTRIALS.GOV (NCT07889336) · 2026-10-22

Registered study will track organ health in sickle cell patients after curative therapies

A trial registry entry from ClinicalTrials.gov describes an observational study with no results yet. Run by the National Heart, Lung, and Blood Institute, it is recruiting adults with sickle cell disease. Researchers will use scans, blood tests, and cognitive games to see how heart, brain, kidney, liver, and lung problems change after curative therapies, over about two years.

CLINICALTRIALS.GOV (NCT05213572) · 2026-10-22

Registered pilot will test how activities and settings affect drinking in alcohol use disorder

According to a ClinicalTrials.gov entry, a early-phase pilot study is recruiting adults with alcohol use disorder in Baltimore. It has no results yet. Participants will spend sessions using virtual reality or watching videos. Researchers will then measure cravings and mental health, including in a room made to look like a bar.

CLINICALTRIALS.GOV (NCT06860607) · 2026-10-22

Planned trial will test digital education and peer support for younger stroke survivors

A ClinicalTrials.gov entry describes a randomised trial that has not yet started recruiting and has no results. It will test a digital education and peer support programme, co-designed with young and middle-aged stroke survivors, against usual care. The main outcome is unmet needs over 12 months. Secondary outcomes include depressive symptoms, quality of life, and return to work.

CLINICALTRIALS.GOV (NCT07725666) · 2026-10-22

Planned trial will test online education for fathers caring for newborns

According to a ClinicalTrials.gov entry, this trial has not yet started recruiting and has no results. Fathers of newborns aged 0 to 28 days will receive either an e-education programme on holding, bathing, and diaper changing, or routine health education. Researchers will compare self-efficacy and newborn care ability before and after.

CLINICALTRIALS.GOV (NCT07890077) · 2026-10-22

Registered trial will test oral immunotherapy for egg allergy in infants

A ClinicalTrials.gov entry describes a randomised trial that has not yet started recruiting and has no results. Children aged 6 to 18 months with egg allergy will be assigned by chance to daily, increasing amounts of raw egg for 1 to 1.5 years, or to avoid egg. Researchers will then compare how many tolerate egg.

CLINICALTRIALS.GOV (NCT07888439) · 2026-10-22

Completed study looked at anxiety and depression after surgery in older Chinese patients

According to a ClinicalTrials.gov entry from the Chinese PLA General Hospital, this observational study is complete, but no results are listed. It aimed to estimate how common anxiety and depression symptoms are after non-cardiac surgery in people aged 65 and older in China. It also aimed to identify linked risk and protective factors.

CLINICALTRIALS.GOV (NCT07532122) · 2026-10-22

Planned trial will test two anaesthetic drugs against chronic pain after pancreatic surgery

A ClinicalTrials.gov entry describes a randomised, placebo-controlled trial that has not yet started recruiting and has no results. About 450 adults having pancreatic surgery will receive low-dose esketamine with dexmedetomidine or a saline placebo. Researchers will check whether fewer have chronic pain after 3 months, and will also look at safety.

CLINICALTRIALS.GOV (NCT07888413) · 2026-10-22

Early-phase study will test a brain scan tracer for inflammation enzyme in Alzheimer's

According to a ClinicalTrials.gov entry from the National Institute of Mental Health, an early-phase study is recruiting people aged 50 and older with Alzheimer disease or mild cognitive impairment, plus healthy volunteers. It has no results yet. It will test whether a new PET radiotracer can measure the enzyme PDE4B, which may be linked to brain inflammation.

CLINICALTRIALS.GOV (NCT07169630) · 2026-10-22

Completed pilot tested a telehealth diet support programme for older adults with mild cognitive impairment

A ClinicalTrials.gov entry from Florida State University describes a completed pilot trial; no results are given in the entry. It tested a 6-week telehealth programme supporting a Mediterranean ketogenic diet, using motivational interviewing and cognitive behavioural strategies. It compared the programme with information alone, mainly judging feasibility and acceptability, with early signals on memory and daily functioning.

CLINICALTRIALS.GOV (NCT04817176) · 2026-10-22

Registered trial is testing whether one HPV vaccine dose reduces infection in young women

According to a ClinicalTrials.gov entry from the National Cancer Institute, a phase IV trial in Costa Rica is active but no longer recruiting, and no results are listed. It examines whether a single HPV vaccine dose lowers how often women aged 18 to 30 become infected with HPV, a virus group that includes cancer-causing types.

CLINICALTRIALS.GOV (NCT05237947) · 2026-10-22

Planned study will test if AI chatbot chats track cognitive screening scores

A registered observational study from Technion plans to explore whether features of how people talk to AI chatbots are linked to scores on a standard cognitive screening test. It will enrol 100 adults aged 60 and over online. It is not yet recruiting and has no results. It is not meant to diagnose any condition.

CLINICALTRIALS.GOV (NCT07890207) · 2026-10-22

Trial will test an app for Mediterranean diet and strength training

A randomised trial registered by Liverpool John Moores University has not yet begun recruiting and has no results. It will compare a smartphone app with a printed booklet for healthy adults aged 18 to 55 over four weeks. The main aim is to see whether the app is usable and helps people stick to the plan.

CLINICALTRIALS.GOV (NCT07885254) · 2026-10-21

Study examines whether negative aging stereotypes inflate early Alzheimer's diagnoses

A completed study, registered by Assistance Publique Hopitaux De Marseille, starts from the idea that negative beliefs about aging may contribute to overdiagnosis of early Alzheimer's disease. The registry text notes that many people diagnosed with mild cognitive impairment do not go on to develop Alzheimer's. The entry shown gives no results.

CLINICALTRIALS.GOV (NCT03138018) · 2026-10-21

Trial registered on postmenopausal sexual health and nursing care; no results yet

A ClinicalTrials.gov entry describes a trial sponsored by Karamanoğlu Mehmetbey University that is enrolling by invitation. Its background says postmenopausal changes can impair sexual function, sexual satisfaction and marital harmony. It also says nurses who use professional sexual assessment models may evaluate patients' sexuality more effectively. The available text does not describe the intervention or the outcomes. No results are posted.

CLINICALTRIALS.GOV (NCT07559916) · 2026-10-21

Trial tests a toolkit to boost annual wellness visits in primary care

According to a ClinicalTrials.gov entry, a stepped wedge randomised trial led by the University of California, Los Angeles is testing a practice toolkit. It aims to raise use of annual wellness visits, and so preventive services, in 16 primary care practices. The trial is active but no longer recruiting. No results are posted.

CLINICALTRIALS.GOV (NCT05563415) · 2026-10-21

Small trial tests oxygen-cycling sessions in healthy older adults; results not posted

A ClinicalTrials.gov entry describes a completed randomised trial from Tomsk National Research Medical Center. Twenty healthy older volunteers received either personalised intermittent low- and high-oxygen sessions or sham sessions with ordinary air. Sessions were tailored using brain oxygen readings. The entry lists no results, so any effect is unknown.

CLINICALTRIALS.GOV (NCT07018895) · 2026-10-21

Trial compares essential oil mouthwash with two standard mouthwashes in older adults

A ClinicalTrials.gov entry describes a completed randomised trial from China Medical University, Taiwan. It enrolled 105 community-dwelling older people. They used an essential oil mouthwash, chlorhexidine or povidone-iodine for 21 days. Saliva was checked for oral bacteria and inflammation markers. The entry lists no results.

CLINICALTRIALS.GOV (NCT07887074) · 2026-10-21

Trial tests yerba mate capsules in older adults with excess body fat

According to a ClinicalTrials.gov entry, the University of North Alabama has completed a randomised, placebo-controlled crossover trial in adults aged 60 and over with excess body fat. Participants took yerba mate and placebo capsules for six weeks each. Researchers measured cholesterol, strength, mobility and thinking skills. No results are posted.

CLINICALTRIALS.GOV (NCT07883031) · 2026-10-20

Trial tests grocery-shopping nudges toward whole grains in people with prediabetes or diabetes

A ClinicalTrials.gov entry describes a University of Pennsylvania study, now active but not recruiting. It tests whether personalised online marketing, with or without discounts, can shift people with prediabetes or type 2 diabetes from refined to whole grain products. The entry notes whole grains are associated with lower diabetes risk. No results are posted.

CLINICALTRIALS.GOV (NCT07167004) · 2026-10-20

Trial recruiting to test smartphone app for older adults' heart health

A registered trial in Chile is recruiting adults aged 55 to 75 at elevated cardiovascular risk, according to ClinicalTrials.gov. It will test NeoMayor, an app offering guidance on activity, diet, sleep and mental well-being. Participants are randomised to the app or usual care for four months. There are no results yet.

CLINICALTRIALS.GOV (NCT07633392) · 2026-10-20

Trial compared two or three cholesterol drugs in people with type 2 diabetes

A randomised, open-label trial from Bahria University, listed on ClinicalTrials.gov, is marked completed. It compared dual and triple lipid-lowering therapy using rosuvastatin, ezetimibe and bempedoic acid. The 126 participants had type 2 diabetes and high LDL cholesterol. They were treated for 12 weeks. The registry entry reports no results.

CLINICALTRIALS.GOV (NCT07255820) · 2026-10-20

Completed trial tested planning tool for older adults' diabetes treatment reviews

A randomised trial from Kaiser Permanente, listed on ClinicalTrials.gov, is marked completed. It tested a web-based advance care planning strategy. The aim was to help older adults with type 2 diabetes reassess treatments with their primary care team and reduce hypoglycemia. The registry entry gives no results, so it is unknown whether it worked.

CLINICALTRIALS.GOV (NCT05263310) · 2026-10-20

Planned trial to test low-dose tadalafil in mild cognitive impairment

A phase 2 trial from the Los Angeles Brain Science Project is registered on ClinicalTrials.gov but has not yet started recruiting. It will test whether four weeks of daily 5 mg tadalafil is tolerable and safe in older people with mild cognitive impairment. It will also examine brain blood vessel function and cognition. No results exist yet.

CLINICALTRIALS.GOV (NCT07882901) · 2026-10-20

Large trial planned of Angong Niuhuang Pill after disabling stroke

A registered, double-blind trial from Xuanwu Hospital in Beijing plans to enrol about 1,200 adults with disabling acute ischemic stroke, according to ClinicalTrials.gov. Participants will get Angong Niuhuang Pill or a matching placebo for five days. The main outcome is functional independence at 90 days. It has not started recruiting and has no results.

CLINICALTRIALS.GOV (NCT07882030) · 2026-10-20

Trial tests ICU communication tool for older adults with serious injury

A registered trial from the University of Wisconsin, Madison, is active but no longer recruiting, according to ClinicalTrials.gov. It tests the Best Case/Worst Case-ICU communication tool. It follows patients aged 50 and older with serious traumatic injury. It measures communication quality, clinician moral distress and ICU stay length. No results are listed.

CLINICALTRIALS.GOV (NCT05780918) · 2026-10-19

Planned trial examines ondansetron timing and brain oxygen in older surgery patients

A registered phase 4 trial from Istanbul University has not yet started recruiting, according to ClinicalTrials.gov. It will randomise adults aged 65 and older having urologic surgery under spinal anesthesia. Ondansetron will be given before, after, or replaced by placebo. Researchers will track brain oxygen and blood pressure. There are no results yet.

CLINICALTRIALS.GOV (NCT07858149) · 2026-10-19

Early-stage trial recruiting to test tofacitinib in Sjogren disease

A phase 2 trial from the National Institute of Dental and Craniofacial Research is recruiting adults aged 18 to 75 with Sjogren disease, according to ClinicalTrials.gov. It will test whether tofacitinib, a tablet approved for rheumatoid arthritis and other autoimmune diseases, can help people with the condition, over 28 weeks. The entry describes the design only. No results are available.

CLINICALTRIALS.GOV (NCT07281456) · 2026-10-19

Early trial recruiting to test CAR T-cell therapy in CLL, SLL and ALL

A phase 1 and 2 trial from the National Cancer Institute is recruiting adults with leukemias not controlled by standard drugs, according to ClinicalTrials.gov. It will test anti-CD19 CAR T-cell therapy, which uses a person's own modified immune cells. Follow-up lasts five years. The entry reports no results.

CLINICALTRIALS.GOV (NCT06364423) · 2026-10-16

Registered NIH study will track thinking skills after CAR T-cell therapy in young people

A trial entry from the National Cancer Institute describes a study that is recruiting people aged 5 to 35 with blood cancer. It will test thinking, reading, learning and memory around CAR T-cell therapy. The aim is to learn whether the treatment affects the brain. No results have been reported yet.

CLINICALTRIALS.GOV (NCT05237986) · 2026-10-16

Registered NIMH study will use brain scans to track blood flow during thinking tasks

A trial registry entry from the National Institute of Mental Health describes a recruiting study. It will use functional MRI to measure blood flow in the brain during tasks involving visual perception, recognition and memory. The entry reports no results. It gives no information on health or aging outcomes.

CLINICALTRIALS.GOV (NCT00001360) · 2026-10-16

Completed leukemia study examined blood vessel lining during bosutinib treatment; no results posted

A registry entry from Samara State Medical University describes a completed study of people with chronic myeloid leukemia. It looked at the blood vessel lining, called the endothelium, during treatment with bosutinib. Patients were grouped by drug: nilotinib, bosutinib or imatinib. The entry gives no findings.

CLINICALTRIALS.GOV (NCT05682924) · 2026-10-16

Completed study tested ear stimulation of the vagus nerve in healthy people

According to a registry entry from Indiana University, a completed study tested electrical stimulation through the skin of a vagus nerve branch near the outer ear in healthy volunteers. It measured effects on nerve signals called compound nerve action potentials. Investigators hope the approach may one day lead to treatments for nausea, vomiting and stomach problems. The entry reports no results.

CLINICALTRIALS.GOV (NCT04206540) · 2026-10-16

Planned randomised trial will test a nerve block for pain after breast augmentation

A registry entry describes a randomised trial that has not yet begun recruiting. It plans to enrol 50 women aged 18 to 65 having breast augmentation. One group will get an ultrasound-guided PECS II nerve block plus standard pain relief; the other will get standard pain relief alone. Pain scores over 24 hours will be compared. No results exist yet.

CLINICALTRIALS.GOV (NCT07879053) · 2026-10-16

Observational study will track short-term progression of geographic atrophy in older adults

A registry entry from Complement Therapeutics describes a recruiting observational study. It enrols people aged 55 and older with geographic atrophy linked to age-related macular degeneration. Researchers will measure how the condition progresses. They will also look at whether progression is linked to genetic or lifestyle factors. No results are reported.

CLINICALTRIALS.GOV (NCT07144137) · 2026-10-16

Registered trial tests lower cyclophosphamide dose after transplant for blood cancers

A National Cancer Institute registry entry describes a phase 1/2 trial recruiting adults aged 18 to 85 with blood cancers that responded poorly to treatment or are at high risk of relapse. It will test whether a lower cyclophosphamide dose after transplants using lower-intensity pre-transplant chemotherapy and radiation can cut side effects while still preventing graft-versus-host disease. The entry reports no results.

CLINICALTRIALS.GOV (NCT04959175) · 2026-10-16

Planned study will test carbohydrate counting in children with glycogen storage disease type 1

A registry entry describes a study that has not yet started recruiting. Children aged 2 to 18 with GSD1 will be followed for three months. Researchers will look at whether carbohydrate counting changes blood sugar markers, quality of life and infection frequency. No results are available.

CLINICALTRIALS.GOV (NCT07875023) · 2026-10-15

Phase 2 trial tests FB301 before frozen embryo transfer in women

According to a registry entry from Freya Biosciences, a recruiting phase 2 trial is testing FB301 against placebo in women aged 18 to 45 with a prior failed frozen embryo transfer and vaginal bacterial imbalance. Treatment is given for 15 days in a mock transfer cycle, after vaginal cleansing. The trial will compare effects on vaginal bacteria and pregnancy outcomes. No results have been reported.

CLINICALTRIALS.GOV (NCT07453069) · 2026-10-15

Randomised trial compares two sedatives in critically ill older patients with heart disease

A registry entry from Helwan University describes a phase 3 randomised trial, now active but not recruiting. It compares propofol plus ketamine with propofol alone in critically ill older ICU patients with heart disease. The main outcome is unstable blood pressure after induction. No results are posted.

CLINICALTRIALS.GOV (NCT07530146) · 2026-10-15

Large Danish trial tests whether shingles vaccine cuts heart disease and dementia

A registered trial on ClinicalTrials.gov, sponsored by Tor Biering-Sørensen, is active but not recruiting. About 162,000 Danish adults aged 65 or older will be randomly given the Shingrix shingles vaccine or no vaccine. Earlier observational studies hinted at links to fewer heart attacks, strokes and dementia. This trial has no results yet and will test that idea.

CLINICALTRIALS.GOV (NCT07485283) · 2026-10-14

Trial registered to test a tablet for tension-type headache against placebo

A trial registered on ClinicalTrials.gov by Tongji Hospital is recruiting adults aged 18 to 60 with frequent episodic tension-type headache. Participants will take Zhixuan Analgesic Tablets or a look-alike placebo for 12 weeks. Researchers will compare headache days and monitor safety. The trial has no results yet, so effectiveness is unknown.

CLINICALTRIALS.GOV (NCT07872943) · 2026-10-14

Norwegian trial will compare two glaucoma surgeries for pressure, safety and cost

A randomised trial registered on ClinicalTrials.gov by Oslo University Hospital has not yet begun recruiting. It will compare trabeculectomy, long the standard glaucoma surgery, with Preserflo MicroShunt implantation. The text says evidence for newer shunt methods is scarce. Researchers will compare eye pressure, complications and cost. No results exist yet.

CLINICALTRIALS.GOV (NCT07869108) · 2026-10-09

Trial registered to test pharmacist medication reviews in hospitalised older adults

A randomised controlled trial, listed on ClinicalTrials.gov by Monash University, is marked completed but shows no results in this entry. It tested pharmacist-led medication reviews in hospitalised older adults, using a Malaysian screening tool. Researchers planned to look at potentially inappropriate medicines, quality of life, falls, hospital visits and survival.

CLINICALTRIALS.GOV (NCT05875623) · 2026-10-09

Trial of Nepalese pepper extract in gamers is completed, no results posted

A trial registry entry from Northumbria University describes a completed study of Nepalese pepper extract in competitive gamers aged 16 to 34. It compares two doses, caffeine and placebo for effects on attention, memory, decision-making and mood. The entry lists no results, so it is unknown whether the extract had any effect.

CLINICALTRIALS.GOV (NCT07047105) · 2026-07-15

Trial compares single and split G-CSF doses for stem cell donors

A registry entry on ClinicalTrials.gov lists a recruiting Phase 3 trial from a Zhejiang University hospital. It will compare one daily G-CSF dose with two divided doses in healthy stem cell donors aged 18 to 60. The main endpoint is reaching a target stem cell yield after five days. No results are available yet.

CLINICALTRIALS.GOV (NCT07692841) · 2026-07-15

Trial tests app plus supplements for muscle health in liver disease

A trial registered on ClinicalTrials.gov and sponsored by the University of California, San Francisco, is recruiting patients with chronic liver disease. It will study a digital prehabilitation app, HEAL-ME, combined with creatine and whey protein supplements. The aim is to maintain muscle health. The investigators expect the combination to help, but the trial has no results yet.

CLINICALTRIALS.GOV (NCT07029243) · 2026-07-15

Registered study will test risk factors for cognitive problems in heart disease patients

A trial registry entry from Beijing Anzhen Hospital describes an observational study that is still recruiting. It plans to enrol 2,352 adults with coronary heart disease. Researchers will look at links between risk factors, metabolic markers, imaging and cognitive impairment. There are no results yet, so nothing has been found.

CLINICALTRIALS.GOV (NCT07657624) · 2026-07-15

Registered trial will track glucose monitors in women with polycystic ovary syndrome

A trial listed on ClinicalTrials.gov, sponsored by the University of California, San Francisco, is active but no longer recruiting. It aims to describe blood sugar patterns in women with polycystic ovary syndrome using continuous glucose monitors. It will also assess effects on metabolic and reproductive health. No results are posted yet.

CLINICALTRIALS.GOV (NCT06050265) · 2026-07-14

Registered study will track low blood sugar during eye surgery in people with diabetes

A trial entry on ClinicalTrials.gov, sponsored by Yonsei University, describes a planned observational study. It will use masked continuous glucose monitors in people with diabetes having vitrectomy eye surgery. The aim is to detect low blood sugar that spot checks might miss. The study is not yet recruiting and has no results.

CLINICALTRIALS.GOV (NCT07696910) · 2026-07-10

Planned study will test a standard recovery pathway for gallbladder inflammation surgery

A trial entry on ClinicalTrials.gov describes a study that has not yet started recruiting. A Spanish hospital plans to compare a standardised recovery-focused care pathway with historical records of conventional care. Patients have moderate acute gallbladder inflammation and keyhole surgery. It is non-randomised, and there are no results yet.

CLINICALTRIALS.GOV (NCT07695922) · 2026-07-10

Planned Nepal trial will test video eye consults to improve cataract referrals

This is a trial registered on ClinicalTrials.gov, not yet recruiting and with no results. In Nepal, only about 3% of people referred for cataract surgery attend the hospital. The study will compare real-time tele-ophthalmology consultations at six eye care centres with standard referral at six matched centres, measuring attendance within 12 weeks.

CLINICALTRIALS.GOV (NCT07697014) · 2026-07-10

Completed trial compares two airway devices in older adults under anaesthesia

A trial entry on ClinicalTrials.gov, sponsored by Dongguk University International Hospital, is marked completed. It compares airway sealing pressure between two airway devices, I-gel and I-gel plus, in patients aged 65 to 85 having general anaesthesia. The entry lists no results. It is a registry record, so no findings can be reported yet.

CLINICALTRIALS.GOV (NCT07125677) · 2026-07-10

Registered trial compares two airway devices in older surgical patients

A trial registry entry on ClinicalTrials.gov describes a completed study at Dongguk University International Hospital. It compares airway sealing pressure for two airway devices in patients aged 65 to 85 under general anesthesia. The entry lists no results, so no findings can be reported.

CLINICALTRIALS.GOV (NCT07125677) · 2026-07-10

Phase 1 trial of a radioactive cancer drug ended early

A Novartis early-stage trial, listed on ClinicalTrials.gov, was set up to test a radioactive drug called EVS459 in adults with advanced ovarian or non-small cell lung cancer. It was to assess safety, tolerability and early signs of effect. The registry entry lists the trial as terminated and gives no results.

CLINICALTRIALS.GOV (NCT06376253) · 2026-07-09

Registered trial tests exercise snacks for muscle strength in sedentary young women

A ClinicalTrials.gov entry from Chongqing Normal University describes a completed randomised trial. Sedentary women aged 18 to 25 were assigned to exercise snacks, regular exercise or a control group for eight weeks. Muscle strength and fitness were measured. The entry lists no results, so it is unknown whether exercise snacks worked.

CLINICALTRIALS.GOV (NCT07691567) · 2026-07-09

Phase I trial of a radioactive drug for ovarian and lung cancer ended early

A registry entry on ClinicalTrials.gov lists a phase 1 study sponsored by Novartis. It was set to test the safety, tolerability and early effectiveness of a radioactive drug, [177Lu]Lu-EVS459, in adults with advanced ovarian or non-small cell lung cancer. The trial status is terminated, and the entry reports no results.

CLINICALTRIALS.GOV (NCT06376253) · 2026-07-09

Trial of short 'exercise snacks' in young women is registered as completed

A ClinicalTrials.gov entry from Chongqing Normal University describes a randomised trial in sedentary women aged 18 to 25. They were assigned to exercise snacks, regular exercise or a control group for 8 weeks. Muscle strength was measured before and after. The entry is marked completed but lists no results yet.

CLINICALTRIALS.GOV (NCT07691567) · 2026-07-09

Completed registry entry studies risk factors for floppy iris in women's cataract surgery

A registry entry on ClinicalTrials.gov, listed as completed, describes a study of women having cataract surgery. It aims to find what raises the risk of floppy iris syndrome, which makes surgery harder. Participants completed a questionnaire before surgery. The entry text given here contains no results, so no findings can be reported.

CLINICALTRIALS.GOV (NCT07687407) · 2026-07-08

Registered trial tests aquarium fish viewing for children during blood draws

A trial registered on ClinicalTrials.gov, sponsored by Uskudar University, is listed as completed. It tests whether watching small aquarium fish changes pain, stress, heart rate and oxygen saturation in children aged 3 to 6 during blood collection. The entry shows no results, so it is not yet known whether the method helps.

CLINICALTRIALS.GOV (NCT05252494) · 2026-07-08

Trial of low-load exercise with blood flow cuffs in older adults completed

A trial registered on ClinicalTrials.gov and sponsored by Akdeniz University is listed as completed. The registry entry describes its design, not findings. It compared low-load upper-body exercise with cyclical blood flow restriction cuffs, the same exercise without cuffs, and no structured exercise in older adults. Exercise groups trained three days a week for eight weeks. Researchers measured fingernail capillaries and arm muscle thickness.

CLINICALTRIALS.GOV (NCT07689487) · 2026-07-08

Trial planned to compare cholesterol and urea creams in inherited scaly skin

A trial listed on ClinicalTrials.gov, sponsored by the Institute of Dermatology, Thailand, has not yet started recruiting. It will compare a 10% cholesterol cream with a 10% urea cream in people with a rare inherited skin condition, ichthyosis. Each person will use both creams on opposite sides of the body. There are no results yet.

CLINICALTRIALS.GOV (NCT07689435) · 2026-07-08

Registered trial will train food delivery workers to check older adults' vital signs

This is a trial registry entry from ClinicalTrials.gov, with no results reported. Its status is active, not recruiting. Female food delivery workers will be trained to measure vital signs for about 100 older adults living alone. Nurses will review the data through a mobile app. The Hong Kong Polytechnic University sponsors it.

CLINICALTRIALS.GOV (NCT07691398) · 2026-07-08

Registered trial tests aquarium fish viewing to ease children's blood-draw distress

A ClinicalTrials.gov entry, sponsored by Uskudar University, describes a study of children aged 3 to 6. It tests whether watching small aquarium fish changes pain, stress, heart rate and oxygen saturation during blood collection. The entry is listed as completed. The text provided gives no results.

CLINICALTRIALS.GOV (NCT05252494) · 2026-07-08

Registered trial tests blood flow restriction exercise for muscle and capillaries in older adults

A ClinicalTrials.gov entry from Akdeniz University describes a completed trial in older adults. It compared low-load exercise with blood flow restriction cuffs, the same exercise without cuffs, and no exercise. Training lasted 8 weeks. The entry lists no results, so the findings are unknown.

CLINICALTRIALS.GOV (NCT07689487) · 2026-07-08

Hong Kong trial registered to test delivery workers doing health checks for older adults

A trial registered on ClinicalTrials.gov, sponsored by The Hong Kong Polytechnic University, is training female food delivery workers to take basic health measurements for older adults living alone. Nurses will review the data through a mobile app. The trial is active but not recruiting, and no results are reported.

CLINICALTRIALS.GOV (NCT07691398) · 2026-07-08

Planned study will test whether surgery time affects ciprofol anaesthesia response

A registry entry on ClinicalTrials.gov describes a planned multi-center observational study. It will compare morning and afternoon surgery in adults receiving the anaesthetic ciprofol. Outcomes include sedation, low blood pressure at induction and recovery quality. The study is not yet recruiting, so there are no results.

CLINICALTRIALS.GOV (NCT07686432) · 2026-07-07

Registered trial will test a cold arm-sling pillow for children after fracture surgery

A trial registered on ClinicalTrials.gov, sponsored by Istanbul University-Cerrahpasa, plans to test a combined cold and arm-elevation pillow in children aged 7 to 12 after arm fracture surgery. It will measure anxiety and comfort against standard care. The trial is not yet recruiting, so there are no results.

CLINICALTRIALS.GOV (NCT07475975) · 2026-07-07

Registered trial will compare brain stimulation settings for obsessive-compulsive disorder

A trial registered on ClinicalTrials.gov, sponsored by Taipei Veterans General Hospital, is recruiting. It plans 96 adults with OCD, randomly assigned to sham or one of two deep magnetic stimulation coils. It will also use brain imaging to study mechanisms. The trial has no results yet.

CLINICALTRIALS.GOV (NCT07587112) · 2026-07-06

Trial registered to compare tube-securing methods in older ICU trauma patients

A ClinicalTrials.gov entry describes a randomised trial of 90 intensive care patients aged 65 and over on breathing tubes. It compares a securement device with tape and gauze for mouth pressure injuries and tube slippage. The entry is marked completed, but it lists no results, so no findings are available.

CLINICALTRIALS.GOV (NCT07684443) · 2026-07-06

Trial testing breathwork for older adults after knee replacement is recruiting

A registered trial from the University of Arizona will test whether breathwork is feasible for older adults after total knee replacement. It is listed as recruiting, and no results exist yet. The team says breathwork may calm the body's stress response, but that idea has not been tested in this trial.

CLINICALTRIALS.GOV (NCT07464860) · 2026-07-06

Completed trial tested digital nudges to raise breast cancer screening

A trial registry entry on ClinicalTrials.gov describes two cluster-randomised trials at Penn Medicine and a partner health system. They tested clinician order defaults and patient text reminders for mammograms. The trial is listed as completed, but the entry reports no results yet.

CLINICALTRIALS.GOV (NCT06177795) · 2026-07-06

Registered trial compares tube-securing devices in older trauma patients on ventilators

A trial entry on ClinicalTrials.gov describes a randomised trial of 90 intensive care patients aged 65 and older. It compares the AnchorFast securement device with tape and gauze for preventing mouth pressure injuries and breathing tube slippage. The entry is listed as completed, but no results are reported in the text.

CLINICALTRIALS.GOV (NCT07684443) · 2026-07-06

Recruiting trial explores breathwork around knee replacement in older adults

A trial listed on ClinicalTrials.gov, sponsored by the University of Arizona, is recruiting and has no results yet. Its listing focuses on adults aged 65 and over having total knee replacement and cites complication rates of about 12%. It proposes breathwork as a way to calm the surgical stress response. The study will examine feasibility. Whether breathwork helps is not known.

CLINICALTRIALS.GOV (NCT07464860) · 2026-07-06

Trial will test plant-rich diets and muscle strength in older adults

A trial registered with ClinicalTrials.gov has not yet started recruiting and has no results. Sponsored by University Hospital, Clermont-Ferrand, it will randomly assign healthy older men and women to diets with different plant-food shares for 3 months. Researchers expect animal-enriched diets to maintain thigh muscle strength better. They will also study muscle proteins and the gut microbiota.

CLINICALTRIALS.GOV (NCT07681986) · 2026-07-02

Registered trial will compare two exercise types for knee hyperextension after stroke

A trial registered on ClinicalTrials.gov, sponsored by Dow University of Health Sciences, plans to compare open and closed kinetic chain exercises for knee hyperextension in people after stroke. It is enrolling by invitation. No results exist yet, so it is unknown which approach works better.

CLINICALTRIALS.GOV (NCT07670728) · 2026-07-02

Trial registered to test ear nerve stimulation for chronic low back pain

A trial registry entry on ClinicalTrials.gov describes a randomised study that is recruiting adults aged 30 to 55 with long-lasting, moderate to severe low back pain. It will compare standard care plus a wearable ear device that stimulates the vagus nerve against standard care alone. The main outcome is disability after 6 weeks. No results are available yet.

CLINICALTRIALS.GOV (NCT07681336) · 2026-07-02

Planned trial will test plant-rich diets and muscle strength in older adults

A trial registered on ClinicalTrials.gov, run by University Hospital, Clermont-Ferrand, has not yet started recruiting. It will randomise healthy older men and women to diets with more or less plant food for three months. The main outcome is thigh muscle strength. There are no results yet.

CLINICALTRIALS.GOV (NCT07681986) · 2026-07-02

Trial will test olive polyphenol supplement for mild cognitive impairment; no results yet

A trial registered on ClinicalTrials.gov, and currently recruiting, will compare a hydroxytyrosol-rich olive juice polyphenol supplement with placebo. All participants will follow a Mediterranean diet. The study will look at whether the supplement helps prevent cognitive decline in people with mild cognitive impairment. No results have been reported yet, so no benefit is shown.

CLINICALTRIALS.GOV (NCT07672938) · 2026-06-30

Early trial registered to test mRNA flu and COVID-19 combination vaccine

A trial registry entry on ClinicalTrials.gov describes a phase 1 study sponsored by GlaxoSmithKline. It is recruiting healthy adults aged 65 to 85. Participants will receive different doses of a combined mRNA flu and COVID-19 vaccine, or standard vaccines. It will assess side effects and immune response. No results are available yet.

CLINICALTRIALS.GOV (NCT07464314) · 2026-06-30

Trial of curd cheese and metabolic health is registered as completed

A randomised controlled trial listed on ClinicalTrials.gov is recorded as completed. It tests whether 100 g of curd cheese at breakfast for 8 weeks changes blood glucose, HbA1c, body composition and blood fats in overweight adults aged 40 to 64. The entry gives no results, so no effect is known.

CLINICALTRIALS.GOV (NCT07676838) · 2026-06-30

Loss of ribosomes in egg cells may help explain faster female reproductive aging

Female reproductive aging runs faster than aging in the rest of the body. Fight Aging! highlights researchers who point to a role for a progressive loss of ribosomes in oocytes, the egg cells. Most cells make new ribosomes as needed, but oocytes tend not to, one of several differences intended to keep cell quality high. This is a proposed mechanism, not a proven cause.

FIGHT AGING! · 2026-10-22

Commentary describes aging clocks as a tool for rapidly judging therapies

A commentary in Fight Aging! discusses aging clocks. These are machine-learning tools that find weighted combinations of age-related biological measures that correlate with chronological age, remaining life expectancy or mortality risk. The stated goal is a fast way to judge whether a therapy slows or reverses aspects of aging, and so speed up research. The available text is too brief to give the author's conclusions.

FIGHT AGING! · 2026-10-22

Plant compound eased arthritis signs in rats

According to a ScienceDaily report, a natural compound from a medicinal plant reduced joint swelling, protected cartilage and calmed immune responses in rats with rheumatoid arthritis. Scientists say it targets a specific protein and restores balance to fatty acid metabolism. The work was in animals, so it does not show the same effect in people.

SCIENCEDAILY HEALTHY AGING · 2026-10-21

School exercise programme linked to better fitness in adolescents with obesity

A randomised controlled trial in iScience followed 59 adolescents with obesity through 12 weeks of school-based sprint and bodyweight exercise. Both exercise groups did better than a non-exercising control group on measures such as fitness, BMI and body fat. Doing resistance first gave a larger gain in VO2 max.

ISCIENCE · 2026-07-06

Six weeks of exercise gave mixed heart rate variability results in sleep apnea

A study in Sleep and Biological Rhythms followed 56 obese adults through a six-week exercise program. Fitness improved across the group, and so did one measure of parasympathetic heart activity. One heart rate variability measure rose in adults with no or mild sleep apnea but fell in those with moderate to severe apnea.

SLEEP AND BIOLOGICAL RHYTHMS · 2026-07-06

Rehab before heart valve surgery linked to less pneumonia in subgroup analysis

An exploratory subgroup analysis of the PORT randomised trial, reported in BMC Anesthesiology, included 702 people having elective heart valve surgery, grouped by baseline peak oxygen consumption. A combined endpoint of in-hospital death, lung complications and hospital stays over 7 days did not differ between perioperative rehabilitation and usual care in either group. Rehabilitation was associated with less postoperative pneumonia in both groups.

BMC ANESTHESIOLOGY · 2026-07-06

Weekend-only cyclists had lower fitness and higher visceral fat than regular cyclists

A small observational study in Sports compared 14 weekend cyclists with 14 who trained on three or more days a week. Weekend cyclists had lower VO2 max, weaker knee extension and poorer muscle oxygen responses. They also had more visceral fat and higher triglycerides. Training pattern was linked to these differences, but the design cannot show cause.

SPORTS (BASEL, SWITZERLAND) · 2026-07-03

Meta-analysis finds small possible balance gains from interval training after stroke

A meta-analysis in Frontiers in Neurology pooled 14 randomised trials with 717 participants. High-intensity interval training may improve balance, but the effect was small and certainty of evidence was low. It may also improve walking endurance, with very low certainty. Analyses of training-load factors were exploratory and meant only to generate hypotheses.

FRONTIERS IN NEUROLOGY · 2026-07-03

Protocol outlines school study of high-intensity training in children

A protocol published in Sports describes a planned study in children aged 10 to 12. It will evaluate an 8-week high-intensity functional concurrent training programme in a school setting. Researchers will measure strength, cardiorespiratory fitness, body composition, anxiety, stress and self-esteem before and after the programme. This is a study plan only, and no results are available.

SPORTS (BASEL, SWITZERLAND) · 2026-07-03

Review links poor physical function in peritoneal dialysis to worse outcomes

A narrative review in the International Journal of Nursing Studies Advances covered studies from 2020 onward. Lower activity and weaker test performance were consistently associated with higher risks of death, hospitalisation and treatment failure. Exercise programmes were generally feasible and safe. They improved function and quality of life. Effects on hard outcomes remain uncertain.

INTERNATIONAL JOURNAL OF NURSING STUDIES ADVANCES · 2026-07-02

Supervised cardiac rehab linked to lower heart risk in rheumatoid arthritis with hypertension

A randomised trial in the International Journal of Rheumatic Diseases enrolled 50 patients with rheumatoid arthritis and high blood pressure. Half got a 6-week supervised rehabilitation programme, half usual care. The programme group showed greater change in estimated cardiovascular risk and in ambulatory blood pressure. A second risk score did not reach statistical significance. The trial was small and single-centre.

INTERNATIONAL JOURNAL OF RHEUMATIC DISEASES · 2026-07-01

Aged rats bred for high running capacity show distinct brain methylation patterns

A study in Aging Cell compared aged rats bred for high or low running capacity. High-capacity rats had different DNA methylation in the hippocampus, plus differences in brain signalling proteins linked to inflammation and synapses. Maze learning did not differ significantly between groups. The work is in rats and shows association only.

AGING CELL · 2026-07-01

Meta-analysis finds no clear strength or jump gains from uphill running

A systematic review and meta-analysis in Medicine included 13 randomised trials of uphill running with 308 participants. Seven of them supplied data for the pooled analysis. Narrative synthesis showed improvements in running economy, repeated sprint ability and some aerobic measures. The meta-analysis found no significant effects on isokinetic knee strength or jumping performance. Training protocols lasted 2 to 8 weeks.

MEDICINE · 2026-07-01

Supervised aerobic exercise raised fitness in night-shift nurses in small trial

A randomised controlled trial in the FASEB Journal tested 12 weeks of supervised aerobic exercise in 26 inactive night-shift nurses. Fitness, measured as VO2 max, improved compared with a wait-list group. There were no significant differences in cardiometabolic risk, body composition, strength or muscle power. Attendance at sessions was very high.

FASEB JOURNAL : OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY · 2026-07-01

COVID-19 linked to lower peak fitness in athletes, but evidence is weak

A systematic review and meta-analysis in the Journal of Clinical Medicine pooled 12 observational studies with 1,595 athletes. COVID-19 infection was associated with lower maximal oxygen uptake and lower maximal ventilation, but not lower maximum heart rate. Most studies had high risk of bias. The certainty of evidence was very low.

JOURNAL OF CLINICAL MEDICINE · 2026-07-01

Higher resting heart rate linked to more metabolic syndrome components in adults

A small observational study in Physiological Reports followed 67 adults who recorded their heart rate for seven days at home. Higher resting heart rate was associated with more metabolic syndrome components. A heart-rhythm variability measure showed a link too, but it faded once resting heart rate was accounted for. The design cannot show cause.

PHYSIOLOGICAL REPORTS · 2026-07-01

Small trial: caffeine plus sprint training led to larger changes in obese men

A randomised trial in Physiological Research assigned 30 obese men to caffeine plus sprint interval training, placebo plus training, or no intervention for eight weeks. Both training groups changed. The caffeine group showed greater reductions in fat mass and bigger gains in strength and fitness than the placebo group. Blood sugar and blood fat measures also differed. The trial was small.

PHYSIOLOGICAL RESEARCH · 2026-07-01

Review links sun salutation yoga to better fitness and well-being

A systematic review in Healthcare pooled 14 studies of Suryanamaskar, a yoga sequence, and yoga programmes that include it. Overall, these were associated with better physical fitness, physiological health, psychological well-being and body composition. The studies varied a lot, so the authors summarised the findings in words rather than combining the numbers.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-07-01

Review links childhood physical activity to distinct metabolite patterns

A systematic review in the European Journal of Sport Science included 15 intervention and observational studies of children and adolescents, half in overweight youth. Physical activity was linked to changes in lipid, branched-chain amino acid and ammonia metabolism, and in the citric acid and glucose-alanine cycles. Directions looked consistent in normal-weight and overweight youth, but not in trained peers. The authors call for more in-depth metabolomics studies.

EUROPEAN JOURNAL OF SPORT SCIENCE · 2026-07-01

Meta-analysis: more sprints per session did not boost fitness gains

A systematic review and meta-analysis in the Scandinavian Journal of Medicine & Science in Sports pooled 78 studies with 1188 people. Sprint interval training raised VO2max by 8.3% on average. The number of sprints per session made little difference. Longer training programmes were associated with larger gains.

SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS · 2026-07-01

Meta-analysis finds no clear menstrual cycle effect on elite athletes' VO2 max

A systematic review and meta-analysis in Reproduction & Fertility pooled five studies of elite female athletes. It found no statistically significant difference in VO2 max between early follicular and mid-luteal phases. Small, non-significant dips appeared in the early phase. The authors say larger, standardised studies are needed and propose a protocol.

REPRODUCTION & FERTILITY · 2026-07-01

Metformin with exercise lowered fitness gains but raised fat burning in small trial

A randomised, placebo-controlled trial in Biomolecules studied 24 adults with metabolic syndrome who had not taken metformin. Everyone did five weeks of supervised aerobic training. Fitness gains were modestly smaller with metformin. Maximal fat oxidation rose more. Only 22 people finished, so the trial was small and short.

BIOMOLECULES · 2026-07-01

Older adults with sarcopenia have weaker breathing muscles than those without

A cross-sectional study in the Journal of Geriatric Physical Therapy compared 75 community-dwelling adults aged 65 to 85. Those with sarcopenia had lower inspiratory muscle strength, flow and volume than controls. The authors suggest breathing muscle loss accompanies loss of muscle mass. A cross-sectional design shows a link, not cause.

JOURNAL OF GERIATRIC PHYSICAL THERAPY (2001) · 2026-07-01

Higher body mass index linked to lower fitness in sedentary male staff

An observational study in Physical Activity and Nutrition measured 75 sedentary male university staff at one point in time. Higher body mass index was associated with lower maximum oxygen consumption, a measure of aerobic fitness. Greater vital lung capacity was associated with higher fitness. The design shows associations, not cause.

PHYSICAL ACTIVITY AND NUTRITION · 2026-06-30

Higher fitness linked to differences in immune T cell metabolism in adults

A study in Medicine and Science in Sports and Exercise looked at 43 adults. Greater cardiorespiratory fitness was associated with greater fat and amino acid burning, glycolytic capacity and function in cytotoxic T cells. Body fat percentage partly weakened these links. This was an observational analysis, so it shows associations, not cause.

MEDICINE AND SCIENCE IN SPORTS AND EXERCISE · 2026-06-30

Exercise linked to less fatigue in lupus across twelve trials

A systematic review and meta-analysis in Lupus Science & Medicine pooled twelve randomised trials with 470 adults who have lupus. Exercise brought small-to-moderate improvements in fatigue, among other physical and psychological outcomes. The authors call exercise an effective non-drug therapy. They say more research is needed on the best programmes and on long-term safety.

LUPUS SCIENCE & MEDICINE · 2026-06-29

Cardiometabolic index model fits reduced aerobic capacity best in heart patients

A retrospective study in BMC Cardiovascular Disorders analysed 378 hospitalised patients with coronary heart disease who completed cardiopulmonary exercise testing. It compared models built around the cardiometabolic index, body mass index or waist-to-height ratio for identifying reduced aerobic capacity. The model including the cardiometabolic index had the best fit. This is an observational analysis and cannot show cause.

BMC CARDIOVASCULAR DISORDERS · 2026-06-29

Meta-analysis finds interval training linked to better fitness and function after stroke

A systematic review and meta-analysis in the Journal of Clinical Medicine pooled randomised trials of high-intensity interval training in adults with stroke. Twelve studies were analysed. The authors report improvements in fitness, walking, balance and cognition. They note results varied between studies and that more research is needed to standardise protocols.

JOURNAL OF CLINICAL MEDICINE · 2026-06-26

Walking training linked to better fitness and less fatigue in cancer patients

A systematic review and meta-analysis in Frontiers in Oncology pooled 11 randomised trials with 649 cancer patients. Walking training was associated with higher peak oxygen uptake and lower fatigue than standard care or no intervention. It showed no significant effect on maximal oxygen uptake, six-minute walk distance or breathlessness. No serious adverse events were reported.

FRONTIERS IN ONCOLOGY · 2026-06-26

Work ability fell over 6.5 years in workers aged 50 to 65

A prospective cohort study in the International Journal of Environmental Research and Public Health followed workers aged 50 to 65 for 6.5 years. Work ability scores fell by 8.3 points on average. In a clinical subgroup, higher muscle strength and functional capacity were associated with better work ability. Whether improving fitness slows the decline remains untested.

INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH · 2026-06-26

Students who rate their health lower report poorer sleep

According to a study in Frontiers in Public Health, 36.4% of 228 teacher education students reported poor sleep quality. Self-rated health was the only significant predictor of poor sleep in the analysis. Measured cardiorespiratory fitness was not independently associated. The design shows an association only, and the model explained little of the variation.

FRONTIERS IN PUBLIC HEALTH · 2026-06-26

Meta-analysis: supervised exercise improved fitness in people with fatty liver disease

A systematic review and meta-analysis in Frontiers in Sports and Active Living pooled 13 randomised trials with 356 people who have MASLD, a fatty liver condition. Supervised exercise improved cardiorespiratory fitness compared with usual care. Exploratory analyses suggested the gains peak at certain exercise amounts, though the authors describe those dose findings as tentative.

FRONTIERS IN SPORTS AND ACTIVE LIVING · 2026-06-19

School flag football programme improved sprint and jump-rope scores in Chinese children

A randomised trial in BMC Public Health included 147 children aged 9 to 11 in Shanghai. A 10-week flag football programme was compared with usual PE. Children in the flag football group improved more on jump rope and 50 m sprint time. Shuttle run and estimated VO_2max showed no group difference.

BMC PUBLIC HEALTH · 2026-06-18

Two interval training types gave similar fitness gains in young men

A study in Frontiers in Physiology compared resistance-type and cycling-type interval training in 24 healthy young men over 8 weeks. Both improved oxygen uptake, anaerobic fitness and fat mass similarly. The resistance type gave greater gains in squat strength and knee flexion torque. The sample was small.

FRONTIERS IN PHYSIOLOGY · 2026-06-18

Children's fitness components linked to quality of life in school study

A study in Frontiers in Sports and Active Living examined 306 primary school children averaging about 9.9 years old. Age, gender and BMI did not predict quality of life, but adding fitness measures explained 7.1% of its variation. Faster simple movement speed was linked to higher quality of life, while cardiorespiratory endurance emerged as a negative predictor. These are associations, not proof of cause.

FRONTIERS IN SPORTS AND ACTIVE LIVING · 2026-06-18

Children with higher waist-to-height ratio had less activity and lower fitness

A study in PLoS One followed 2,297 Norwegian children aged 6 to 12. Higher waist-to-height ratio was linked to less moderate-to-vigorous activity and lower cardiorespiratory fitness. No clear link appeared with sedentary time. This is an observational cohort, so it shows association, not cause. The authors suggest the ratio could work as a simple screening indicator.

PLOS ONE · 2026-06-18

Among Colombian teens, more physical activity linked to better aerobic fitness regardless of BMI

A cross-sectional study in the International Journal of Environmental Research and Public Health included 112 adolescents aged 12 to 17 in Montería, Colombia. Higher physical activity was associated with better aerobic capacity, independent of body mass index. Because the design is cross-sectional, it shows an association, not cause and effect.

INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH · 2026-06-17

Review finds heart rate monitor methods for tracking activity in heart disease vary widely

A systematic review in JMIR mHealth and uHealth examined 20 studies that used wearable heart rate monitors to estimate physical activity in adults with cardiovascular disease. Studies used four different methods, and most analysed time in heart rate zones. The authors report that external validation and methodological transparency were often lacking.

JMIR MHEALTH AND UHEALTH · 2026-06-17

12-week interval training linked to better body measures in obese female students

A randomised trial in Frontiers in Medicine enrolled 120 obese female college students. One group did 12 weeks of high-intensity interval training, three 30-minute sessions a week. The other got routine health education. The training group had lower body mass index, body fat and waist measures. The authors also report better mental health, sleep and quality of life.

FRONTIERS IN MEDICINE · 2026-06-17

Higher fitness linked to better cholesterol and fewer symptoms in midlife women

A cross-sectional study in Menopause included 58 peri- and postmenopausal women. Higher cardiorespiratory fitness was associated with healthier HDL cholesterol, triglycerides and waist-to-hip ratio, and fewer physical menopause symptoms. No link to vascular function was found. The design shows association only, not cause.

MENOPAUSE (NEW YORK, N.Y.) · 2026-06-16

More body fat linked to weaker physical performance in Chinese men

A cross-sectional study in Frontiers in Public Health measured 2,362 men in Hengyang, China. Higher body fat percentage was associated with poorer vertical jump, push-up and VO_2max results. Greater lean mass was linked to better strength. Because the study captures one point in time, the authors say longitudinal work is needed before drawing causal conclusions.

FRONTIERS IN PUBLIC HEALTH · 2026-06-16

Review of 16 trials finds exercise programs linked to better schizophrenia outcomes

A systematic review in Actas Españolas de Psiquiatría identified 16 randomised trials of structured exercise in adults with schizophrenia and described them using descriptive statistics rather than pooled analysis. The authors report consistent effects on negative symptoms, general symptoms and functioning related to physical fitness, plus improvements in cognition. Programs varied in type, intensity and the tools used to measure results.

ACTAS ESPANOLAS DE PSIQUIATRIA · 2026-06-15

Review links higher fitness to lower death risk, with limits for extreme endurance

A narrative review in the Journal of Clinical Medicine pools earlier cohort studies, trials and meta-analyses. It reports that each 1 MET increase in fitness is associated with a 12-15% lower mortality risk. Very heavy endurance exercise was linked to a 5.3-fold higher atrial fibrillation risk. These are associations, not proof of cause.

JOURNAL OF CLINICAL MEDICINE · 2026-06-13

Fitness and body composition not linked to student anxiety or depression

A cross-sectional study in the American Journal of Lifestyle Medicine looked at 281 Chilean university students, mostly in sport programs. After statistical correction, it found no significant links between fitness or body composition and anxiety, depression or stress. The authors call the results exploratory and note several limitations.

AMERICAN JOURNAL OF LIFESTYLE MEDICINE · 2026-06-13

Review links naturally high androgens in women to greater lean mass and aerobic capacity

A narrative review in Cureus looked at women with naturally high androgen levels, as in PCOS, congenital adrenal hyperplasia and differences of sex development. The evidence suggests an association with more lean body mass, higher hemoglobin and better aerobic capacity. Agreement was greatest for differences of sex development. The review also assessed the quality of the studies.

CUREUS · 2026-06-12

Review of 13 trials links ashwagandha to better exercise performance, mainly endurance

A systematic review and meta-analysis in Nutrients pooled 13 randomised trials with 599 mostly young participants. On average, ashwagandha was linked to better exercise performance, most consistently for aerobic endurance. Strength results were uncertain. The range of likely effects in future studies crossed zero, so the finding is not firm. The authors called dose findings hypothesis-generating.

NUTRIENTS · 2026-06-12

Single-arm lifestyle program linked to better fitness and body composition

A study in Nutrients tested a low-intensity lifestyle program with personalised exercise and Mediterranean-style eating advice. Of 100 enrolled, 85 were analysed. After six months, fitness (VO2max) and fat-free mass rose and fat mass fell. There was no control group, so the study cannot show the program caused the changes.

NUTRIENTS · 2026-06-12

12-week exercise program linked to less visceral fat in women

A study in BMC Sports Science, Medicine & Rehabilitation analysed 67 women aged 22 to 45 who completed 12 weeks of mixed exercise. Of these, 32 had normal-weight obesity and 35 had obesity. Both groups showed lower fat mass, higher lean mass, less visceral fat and better fitness. Body weight fell only in the obesity group. The text does not describe a control group.

BMC SPORTS SCIENCE, MEDICINE & REHABILITATION · 2026-06-11

Climbing machine gives oxygen-uptake results close to treadmill testing in small study

According to a study in Frontiers in Physiology, a new climbing machine was compared with a treadmill for measuring maximum oxygen uptake. Thirty-one young male physical education students did both tests. The machine's results differed from the treadmill's by less than 10% on average. The authors call it valid and reliable for fitness testing.

FRONTIERS IN PHYSIOLOGY · 2026-06-11

Review links certain fitness measures to simulated spacewalk task performance

A systematic review in npj Microgravity covered twelve studies with 366 astronaut and non-astronaut participants. Of 38 fitness metrics identified, 8 cardiovascular and 12 muscular ones were associated with simulated spacewalk performance. The studies were cross-sectional, so the links do not prove cause. The work was funded by NASA.

NPJ MICROGRAVITY · 2026-06-10

Pilates and belly dance improved fitness measures in women with breast cancer

A randomised trial in Maturitas followed 52 women with breast cancer on hormone therapy. They did Mat Pilates, belly dance or a control condition for 16 weeks. Belly dance improved 6-minute walk distance more than control. Waist circumference fell across all participants. Some benefits faded at follow-up. The trial was small.

MATURITAS · 2026-06-10

Blocking IL-6 cut adrenaline response to hard exercise in young men

A study in Molecular metabolism gave healthy young men a drug that blocks the IL-6 receptor before intense interval exercise. Circulating epinephrine fell by about 50%. Blood glucose and lactate were lower, and some immune cell types rose less. The authors conclude IL-6 helps amplify the body's stress response to hard exercise.

MOLECULAR METABOLISM · 2026-06-10

Perceived physical literacy statistically mediates teens' activity-fitness link

A cross-sectional study in Frontiers in Public Health used data from 273 Spanish adolescents, 262 with complete data. Perceived physical literacy accounted for 54.2% of the statistical association between physical activity and estimated cardiorespiratory fitness. Communication with others and knowledge and understanding were significant mediating domains. Because data came from one point in time, the study cannot show cause.

FRONTIERS IN PUBLIC HEALTH · 2026-06-09

In aged rats, low fitness linked to altered muscle clock and IGF-1 genes

A study in Frontiers in Physiology compared aged rats bred for low or high running capacity. Low-capacity rats had higher muscle activity of several clock and IGF-1 genes. Lower oxygen uptake correlated with higher expression of those genes. This is an animal association study and does not show cause.

FRONTIERS IN PHYSIOLOGY · 2026-06-09

Most Nigerian schoolchildren met fitness and BMI standards in cross-sectional study

According to a cross-sectional study in the World Journal of Clinical Pediatrics, 3,225 children aged 9 to 16 in Benue State, Nigeria, were tested. Healthy fitness zone rates for aerobic capacity were 82.7% in males and 78.7% in females. Younger children and males did better. The authors report Nigerian youth compared favourably with international peers.

WORLD JOURNAL OF CLINICAL PEDIATRICS · 2026-06-09

Review of four trials finds exercise improves fitness in people with cystic fibrosis

A systematic review in the Saudi Medical Journal pooled four randomised trials with 156 people with cystic fibrosis. Supervised and activity-tracker-based exercise improved peak oxygen uptake and walk test results. Home programmes improved upper limb strength. Lung function gains were inconsistent and tended to fade without ongoing training. No adverse events were reported.

SAUDI MEDICAL JOURNAL · 2026-06-08

Smartwatch data linked to later high blood pressure in adults

In a 12-month observational study in BMC Cardiovascular Disorders, 230 adults with normal blood pressure wore smartwatches. Of these, 28 developed hypertension. Lower heart rate variability, less vigorous activity and higher body mass index were independently associated with developing it. These are associations, not proof of cause.

BMC CARDIOVASCULAR DISORDERS · 2026-06-08

Both short and long sleep linked to Alzheimer's-like brain changes and weaker cognition

A study in Alzheimer's & Dementia analysed 38,816 UK Biobank participants. It found a U-shaped association between sleep duration and an MRI signature of Alzheimer's-related brain shrinkage, plus lower scores on several cognitive tests. Both too little and too much sleep were linked to worse brain health. This is an association, not proof of cause.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Daytime sleepiness linked to specific sleep apnea traits in older adults

An observational study in Annals of the American Thoracic Society analysed 1,783 people with sleep apnea from the MESA cohort. Excessive sleepiness affected 14%. Higher hypoxic burden, loop gain and heart rate response were each associated with more sleepiness. These links show association, not that the traits cause sleepiness.

ANNALS OF THE AMERICAN THORACIC SOCIETY · 2026-07-01

Social and economic factors largely explain Black-White gap in biological aging

A cross-sectional study in The Journals of Gerontology: Series A analysed 2086 US adults aged 60 and over. Using a DNA methylation measure called GrimAge, 57.1% of Black participants showed accelerated aging versus 41.8% of White participants. Education, wealth and social factors explained most of the gap. After adjustment, the difference was no longer significant.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-07-01

Workshop sets research priorities on extreme weather and older adults

A 1.5-day expert workshop, reported in The Journals of Gerontology Series A, looked at how extreme weather affects ageing and health. It is a consensus report, not a study with new data. Priorities include long-term studies of cumulative exposure, attention to differences among older people, and interventions suited to social and environmental settings.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-07-01

Commentary says longer lifespan has not meant equal gains in healthspan

A commentary in the Journal of Brown Hospital Medicine says modern medicine has extended lifespan, but healthspan has not improved equally. Healthspan means years in good health and independence. The author argues hospital doctors should weigh survival against function and well-being, using shared decision-making, frailty assessment and earlier palliative care. This is an opinion piece, not a study.

JOURNAL OF BROWN HOSPITAL MEDICINE · 2026-07-01

Long sleep linked to sarcopenia mainly in less active older adults

An observational study in Geriatrics & Gerontology International analysed 2,855 community-dwelling older adults. Self-reported sleep of nine hours or more was associated with sarcopenia. The link weakened and was no longer statistically significant after accounting for measured physical activity. When participants were split by activity level, the association appeared in less active people but not in more active ones. The design cannot show causation.

GERIATRICS & GERONTOLOGY INTERNATIONAL · 2026-07-01

Solid fuel use linked to circadian rhythm syndrome and physical function in China

An observational study in JMIR Aging analysed 7,934 adults from the China Health and Retirement Longitudinal Study. Solid fuel use was associated with circadian rhythm syndrome (odds ratio 1.078). The syndrome combines metabolic syndrome components, sleep duration and depression. It partly mediated the link between solid fuel use and physical function, accounting for 2.51% of the total effect. The design shows associations, not cause.

JMIR AGING · 2026-06-29

Fruit flies with a gene silenced in neurons kept healthier guts with age

A study in microPublication Biology looked at fruit flies whose long life came from silencing the ATPsynβL gene in glutamate neurons. In late adulthood, these flies had a more intact intestinal barrier and fewer gut bacteria. The authors say this may partly explain their longer life span. This was work in flies, not people.

MICROPUBLICATION BIOLOGY · 2026-06-29

Trial protocol will test when to give dexmedetomidine to prevent delirium after fracture surgery

This is a study protocol published in BMJ Open, so there are no results yet. The planned randomised trial will enrol people aged 65 or older having lower limb fracture surgery. Dexmedetomidine will be given before anaesthesia, during surgery, or not at all. The main outcome is postoperative delirium within three days.

BMJ OPEN · 2026-06-28

Paper proposes timing health care to body clocks to support healthy aging

A perspective article in Aging and Disease introduces "chronogeroprotection". The authors synthesise evidence that circadian rhythms coordinate metabolism, immunity, DNA repair and sleep. They suggest bundling light exposure, sleep, meals, activity and medical care by biological time. This is a proposed framework, not a test of it in patients.

AGING AND DISEASE · 2026-06-26

Loneliness linked to poorer thinking in older Chinese adults, partly via daily function and anxiety

According to a study in Frontiers in Public Health, loneliness was associated with lower cognitive function among 10,026 Chinese adults aged 60 and over. Difficulty with daily activities and anxiety accounted for 30.0% and 18.3% of the link. This was a survey-based analysis, so it shows associations rather than proof of cause.

FRONTIERS IN PUBLIC HEALTH · 2026-06-25

Review links body clock, ageing and blood-brain interface to stroke vulnerability

A review in the International Journal of Molecular Sciences examines how circadian rhythms affect the blood-brain interface and stroke. It notes that stroke onset and severity follow daily patterns. It also says ageing weakens the molecular clock and raises inflammation. The authors suggest this could point to time-of-day approaches, though none are tested here.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-25

Poor sleep in several forms is associated with higher hypertension risk, review finds

A review in Current Epidemiology Reports found that long sleep onset, broken sleep, short or long sleep duration, poor quality and low efficiency were each associated with higher hypertension risk. Most studies were cross-sectional and relied on self-reported measures, so cause and effect cannot be established. The authors call for more longitudinal and intervention studies.

CURRENT EPIDEMIOLOGY REPORTS · 2026-06-25

More daytime light exposure linked to lower dementia risk in large cohort

A prospective cohort study in General Psychiatry followed 87,577 dementia-free adults who wore wrist sensors for seven days. Over a median 8.1 years, 741 developed dementia. Higher daytime light exposure was associated with lower dementia risk. This is an association, so it does not prove light exposure lowers risk.

GENERAL PSYCHIATRY · 2026-06-24

NMN did not change sleep in middle-aged mice, study finds

A study in Scientific Reports tested mice lacking the SIRT1 gene in the brain. Their sleep patterns and body-clock timing matched normal mice, apart from lower delta power in one sleep stage. Giving the supplement NMN for 10 days or two months did not change sleep duration or quality. This was a mouse study, not a human one.

SCIENTIFIC REPORTS · 2026-06-23

Review finds mixed evidence on how exercise affects brain circuits in early Alzheimer's

A narrative review in Frontiers in Aging Neuroscience looked at four brain circuits that are vulnerable in early Alzheimer's disease. The authors say the evidence is inconsistent. Many exercise effects are inferred from indirect measures rather than direct circuit recordings. They call for more direct circuit-level measurements in future studies.

FRONTIERS IN AGING NEUROSCIENCE · 2026-06-23

Fragmented sleep linked to poorer memory in middle-aged and older adults

A study in Medical Sciences used seven-day wrist actigraphy in 184 adults over 40, including some with mild cognitive impairment. More nightly awakenings were linked to poorer memory and attention speed. Among 93 people followed for 1.5 years, higher baseline sleep efficiency was linked to better memory and language, while other sleep links did not survive statistical correction. The study shows associations, not cause.

MEDICAL SCIENCES (BASEL, SWITZERLAND) · 2026-06-23

Review names four barriers to wider access to insomnia treatment

A review in Current Sleep Medicine Reports looks at why insomnia treatment is hard to get. It names four barriers: other health conditions, limited testing outside academic settings, too few trained providers, and funding problems. It says approaches such as digital care, brief sessions and non-specialist providers look promising. These are the reviewers' conclusions, not new trial results.

CURRENT SLEEP MEDICINE REPORTS · 2026-06-23

Review reports links between geomagnetic activity and neurological health

A literature review in GeoHealth examined studies on geomagnetic activity, including auroras, and health. Reported associations included more seizures in people with epilepsy, sleep disturbance and stress. These are associations, not proven causes. The authors say the mechanisms are unclear and more research is needed.

GEOHEALTH · 2026-06-22

Disrupted body clocks and poor sleep linked to worse brain health in insulin resistance

A systematic review in Sleep Medicine Reviews pooled 27 studies. Disrupted circadian rhythms and sleep disturbances were associated with poorer brain health in people with insulin resistance. Effects of sleep length and quality were unclear. Many studies were cross-sectional with limited control for confounders, so cause and effect remain unproven.

SLEEP MEDICINE REVIEWS · 2026-06-21

Poorer sleep quality linked to more depressive symptoms in older Koreans

According to a study in Scientific Reports, poor sleep quality was associated with higher depressive symptoms. The analysis used data from 924 Korean adults aged 55 to 80. Daytime dysfunction showed the strongest link among sleep domains. The link was stronger in people aged 65 and over, women and married people. This design shows association, not cause.

SCIENTIFIC REPORTS · 2026-06-21

Wearable activity and temperature rhythm alignment tied to later disease and death risk

A study in Advanced Science analysed week-long wrist-device data from about 90,000 UK Biobank participants. Stronger 24-hour alignment between activity and device temperature was associated with lower risk of type 2 diabetes, cardiovascular disease, depression, sleep apnea and death over 7 to 11 years. These are associations, not proof of cause.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-06-19

Review links dementia and mood disorders through shared biological pathways

A review in Aging Advances argues that dementia and mood disorders share underlying cellular pathways, including metabolic problems such as diabetes. The authors note either condition can come before the other. They say current treatments mostly ease symptoms. They call for approaches aimed at the shared mechanisms. It is a review, not a trial.

AGING ADVANCES · 2026-06-18

Review links body-clock disruption to kidney disease; melatonin benefit unproven

A review in Pharmaceuticals discusses how disrupted body clocks may feed into chronic kidney disease progression. Melatonin levels at night fall in the disease. Clinical studies suggest nightly melatonin may improve sleep and some surrogate measures in dialysis patients. Whether it slows the disease or preserves kidney function remains unproven. The authors call for adequately powered trials.

PHARMACEUTICALS (BASEL, SWITZERLAND) · 2026-06-18

Review links lifestyle factors to biological processes behind skin aging

A narrative review in Frontiers in Aging examined experimental and human studies linking six lifestyle areas to skin aging. These were nutrition, activity, stress, sleep, toxic exposures and social connection. The authors say they influence processes such as inflammation, oxidative stress and senescence. The review points to links and mechanisms, not proven effects.

FRONTIERS IN AGING · 2026-06-17

Poor sleep not linked to swallowing-disorder risk in older ICU patients

An observational cross-sectional study in CoDAS looked at 66 older adults in intensive care units. About 38% reported poor sleep, and about 17% screened as at risk of oropharyngeal dysphagia, a swallowing problem. The researchers found no significant association between sleep quality and dysphagia risk in this group.

CODAS · 2026-06-15

Blood protein patterns estimating cell-type age are linked to disease and death

A study in Nature Medicine used blood protein data from 60,542 people to build machine learning models estimating the biological age of over 40 cell types. Older-looking cell signatures were associated with disease and predicted disease and death over 15 years. The links are statistical associations. They do not show that cell aging causes disease.

NATURE MEDICINE · 2026-06-15

Loneliness linked to higher cognitive impairment and death risk in 11 studies

A registered report in the Journal of Personality and Social Psychology analysed 11 long-term studies from 18 countries, covering 175,070 participants. Loneliness was consistently associated with higher risk of cognitive impairment and death, even after accounting for social isolation. Social isolation showed weaker and less consistent links. These are associations, so they do not show that loneliness causes these outcomes.

JOURNAL OF PERSONALITY AND SOCIAL PSYCHOLOGY · 2026-06-15

Review links sleep problems to faster biological aging through DNA methylation

A review in Experimental Gerontology reports emerging evidence linking sleep disturbances, such as insomnia, sleep apnea and shift work, to accelerated biological aging measured by epigenetic clocks. The authors say the related methylation changes may be partly reversible. These are links reported in the reviewed studies, not proof of cause.

EXPERIMENTAL GERONTOLOGY · 2026-06-13

Older mice lose active wakefulness at night in 14-day sleep recordings

A study in mice, published in Cells, recorded brain activity for 14 days in 24 young and old males and females. Old mice of both sexes lost 17-18% of active wakefulness during the dark phase, with more quiet wake and NREM sleep. Sex-related findings are described as hypothesis-generating because the groups were small.

CELLS · 2026-06-13

Japanese neurologists report little confidence in managing sleep disorders

A web-based survey of Japanese Society of Neurology members, published in Rinsho shinkeigaku, drew 904 respondents. Only 10% rated their undergraduate sleep education as adequate, and 86% called it insufficient. Fewer than 5% felt confident managing sleep problems. More than 90% wanted more education. The survey describes views, not patient outcomes.

RINSHO SHINKEIGAKU = CLINICAL NEUROLOGY · 2026-06-13

Review examines whether poor sleep in pregnancy affects offspring brain aging

A narrative review in Biogerontology summarises evidence on sleep deprivation during pregnancy. Clinical and animal studies suggest it may affect fetal brain development and later cognition. The authors say it remains unclear whether it directly contributes to pathological brain aging in humans.

BIOGERONTOLOGY · 2026-06-13

Review links brain waste-clearance problems to neurological disease

A review in Molecular Biomedicine examines the glymphatic system, the brain's waste-clearance pathway. It says impaired clearance may be both a result and a driver of neurological disorders. Sleep rhythms, artery pulsing and aging influence the system. The authors note the mechanisms are not fully understood and targeted treatments are still lacking.

MOLECULAR BIOMEDICINE · 2026-06-12

Sleeping 6–7 hours linked to lower odds of hypertension in older adults

A cross-sectional analysis in the Journal of Health, Population, and Nutrition used data from 5,872 adults aged 50 and older in Ardakan, Iran. People with hypertension reported poorer sleep quality. Sleep of 6 to 7 hours was linked to lower odds of hypertension. Because it is cross-sectional, it cannot show cause. The authors call for longitudinal studies.

JOURNAL OF HEALTH, POPULATION, AND NUTRITION · 2026-06-12

Review examines links between body clocks, gut bacteria and neurodegeneration

A review in the Journal of Neuroinflammation examines how circadian rhythms and gut microbiota influence each other. It discusses how this relationship may affect brain inflammation and neurodegenerative disease. The authors say the findings could inform future strategies to slow disease. It summarises existing evidence and reports no new experiments.

JOURNAL OF NEUROINFLAMMATION · 2026-06-12

Large study links blood proteins to sleep traits and later disease

An observational study in Molecular Psychiatry used data from 43,709 UK Biobank participants. It found 935 blood proteins associated with at least one sleep trait. Genetic analysis suggested one protein, LTA, may have a causal effect on nighttime sleep adequacy. Other candidate proteins were linked to later disease, including kidney disease and type 2 diabetes. The authors call the findings hypotheses to test.

MOLECULAR PSYCHIATRY · 2026-06-11

Older monkeys with depression-like behavior show stronger stress and thyroid hormone changes

A review in Aging summarises experimental studies in nonhuman primates. Older monkeys with depression-like and anxious behavior showed more marked stress-hormone and thyroid problems than younger ones. Older overweight animals also showed greater insulin resistance. The authors suggest the hormonal imbalance may contribute to serious age-related disease. This is animal research, not human data.

AGING · 2026-06-11

Review positions DJ-1 protein as Parkinson's target, links neurodegeneration to skin aging

A review in Molecular Neurobiology discusses DJ-1, a protein that helps protect nerve cells from oxidative stress and supports mitochondria. The authors describe DJ-1 loss or mutation as worsening dopaminergic neuron loss in Parkinson's disease. They propose a "neuro-cutaneous aging axis" that links neurodegeneration and skin aging through shared processes. They say DJ-1-focused therapies hold potential. This is a review, not a trial.

MOLECULAR NEUROBIOLOGY · 2026-06-08

Expert white paper sets priorities on depression in dementia

An International Psychogeriatric Association white paper, published in International Psychogeriatrics, draws on expert consensus meetings in 2024 and 2025. It says depression may be a modifiable dementia risk factor and may also signal early neurodegeneration. Current drug treatments show modest, inconsistent benefits. No approved drug exists for depression alongside dementia, and no biomarkers are yet validated.

INTERNATIONAL PSYCHOGERIATRICS · 2026-06-08

Older adults with insomnia scored worse on spatial memory tests in trial

A study in Brain, Behavior, and Immunity analysed secondary outcomes from a randomised, placebo-controlled trial of 84 adults aged 60 to 80. Those with insomnia did worse on spatial memory and cognitive mapping tasks than those without. Cognitive mapping looked worse after a low-dose endotoxin challenge that triggers inflammation. The insomnia comparison was not randomised.

BRAIN, BEHAVIOR, AND IMMUNITY · 2026-06-08

Restored melatonin rhythms linked to lower inflammation in oesophageal cancer survivors

According to a prospective cohort study in Frontiers in Immunology, 492 survivors of stage I-III oesophageal cancer were followed for 18 months. Among those with blunted melatonin rhythms, 202 of 266 regained stronger rhythms by 12 months. They showed bigger falls in inflammation scores than observed peers. This is an association, not proof of cause.

FRONTIERS IN IMMUNOLOGY · 2026-06-08

Planned trial will test sleep and exercise programs for cognition in older adults

A study protocol in GeroScience describes a planned randomized trial of 60 adults aged 55 to 80. Participants will get exercise, sleep or combined programs over 8 weeks. Researchers will measure cognition and blood markers. The trial is exploratory, and the protocol reports no results.

GEROSCIENCE · 2026-06-06

Review maps shared biological pathways behind agitation and Alzheimer's disease

A review in Frontiers in Immunology discusses agitation, anxiety and cognitive loss in Alzheimer's disease. It points to shared pathways, including autophagy, cellular senescence, inflammation, the gut microbiome and metabolism. The authors say current treatments mostly ease symptoms and do not halt progression. They argue these pathways merit further study for new therapies.

FRONTIERS IN IMMUNOLOGY · 2026-06-05

Sleep therapy programme in nursing homes did not clearly improve sleep in trial

A cluster randomised trial in European Geriatric Medicine tested a team-delivered programme based on cognitive behavioural therapy for insomnia. It included 240 nursing home residents. There were no significant between-group differences in sleep outcomes. Residents in the intervention group did show improvements in some behavioural and psychological symptoms of dementia. The authors say further research is needed.

EUROPEAN GERIATRIC MEDICINE · 2026-06-05

Perspective proposes migraine and menopause may together affect brain vulnerability in women

A hypothesis-driven perspective in The Journal of Headache and Pain explores whether migraine and menopause-related hormone changes may interact in midlife brain vulnerability. The authors say findings are mixed and not consistently tied to long-term cognitive outcomes. They do not treat migraine as a cause of neurodegeneration. The model is exploratory.

THE JOURNAL OF HEADACHE AND PAIN · 2026-06-04

Five very old siblings with APOE ε2 showed relatively preserved brains

A report in the Journal of Alzheimer's Disease describes five siblings aged 94 to 105, all carrying the APOE ε2/ε3 gene variant, which has been associated with resilience. Cognition ranged from normal to mild dementia. MRI showed less brain shrinkage than expected for their age, and PET scans showed preserved metabolism. This is a small case series and cannot show cause.

JOURNAL OF ALZHEIMER'S DISEASE : JAD · 2026-06-04

Exercise eased obesity-linked memory and sleep problems in fruit flies

A study in fruit flies, published in the International Journal of Obesity, examined flies with a genetic form of obesity. These flies showed more brain inflammation, fragmented sleep and poorer learning, worsening with age. Endurance exercise reduced these problems, but effects differed by sex and age. This is animal research, not a human trial.

INTERNATIONAL JOURNAL OF OBESITY (2005) · 2026-06-02

Review: SIRT1 protein acts differently depending on context, and longevity role is unclear

A review in the Journal of Cell Communication and Signaling looks at SIRT1, a protein involved in metabolism, inflammation and DNA repair. It says SIRT1 is often protective in metabolic and heart settings but has mixed roles in cancer. Its link to longevity is unresolved, with conflicting results across experimental models.

JOURNAL OF CELL COMMUNICATION AND SIGNALING · 2026-06-02

Home sensors and AI flagged behavior patterns linked to cerebrovascular disease

According to a study in NPJ Digital Medicine, researchers used contactless home sensors from 1,224 older adults in South Korea to train AI models. The models identified people with early signs of cerebrovascular disease and people already diagnosed. Activity patterns around bedtime and evening were key markers. The authors say further validation is needed before clinical use.

NPJ DIGITAL MEDICINE · 2026-06-02

Narrative review summarises lifestyle and medical factors linked to longevity

A narrative review in Clinical medicine & research covers preventive care and lifestyle measures for a long, healthy life. These include blood pressure and cholesterol control, not smoking, activity, nutrition and sleep. It notes that intermittent fasting may reduce some age-related disease risks, and discusses medicines linked to longevity, such as metformin and rapamycin.

CLINICAL MEDICINE & RESEARCH · 2026-06-01

Unhealthy sleep patterns linked to more falls in older women

A study in The Journals of Gerontology: Series A followed 4,543 older women who wore hip accelerometers and logged falls for 13 months. Women in two unhealthy sleep-pattern clusters had higher fall risk and lower balance scores than those with healthy sleep. This is an observational link. It may partly reflect effects on balance and physical function.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-06-01

Review links chronic stress to Alzheimer's risk and disease processes

A review in Alzheimer's & Dementia says epidemiologic studies link chronic stress, early-life adversity and trauma to higher Alzheimer's risk. Experimental models suggest stress hormones can drive amyloid and tau buildup and inflammation. The review also notes stress-regulating brain regions degenerate early in the disease, complicating how stress is measured.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-06-01

Longer sleep linked to faster cognitive decline in older adults

A study in Alzheimer's & Dementia gave a sleep questionnaire to 326 older adults, most with mild cognitive impairment or dementia. Longer sleep and later wake times were tied to worse cognitive and functional scores at baseline. Over time, longer sleep was associated with faster decline, especially in people with more Alzheimer's-related changes. The findings show association, not cause.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-06-01

Better cardiovascular health linked to lower stroke and dementia risk in UK adults

An observational cohort study in the Journal of Central South University followed 122,953 UK Biobank adults for a median of 13.8 years. Compared with low cardiovascular health scores, high scores were linked to lower risk of stroke or dementia in both men and women. As an association, it does not show cause.

ZHONG NAN DA XUE XUE BAO. YI XUE BAN = JOURNAL OF CENTRAL SOUTH UNIVERSITY. MEDICAL SCIENCES · 2026-06-01

UK Biobank study explores genetic risk, daily rhythms and dementia

A prospective cohort study in Alzheimer's Research & Therapy analysed 94,241 UK Biobank participants wearing wrist accelerometers. Alzheimer's genetic risk showed no robust link to rest-activity rhythm measures. APOE ε4 dose was linked to earlier peak-activity timing. The excerpt cuts off before the dementia results, so those are not reported here.

ALZHEIMER'S RESEARCH & THERAPY · 2026-06-01

ULTRA-PROCESSED FOOD & ULTRA-PROCESSED DIET 52

Review says skin disease HS arises from genes and environment together

A review in the Journal of Clinical Medicine examines hidradenitis suppurativa, a chronic inflammatory skin disease. Factors such as obesity and tobacco exposure have been linked to risk or severity, and genetics also plays a central role. The authors argue the disease is best explained by the interaction of genetic susceptibility and environmental exposures.

JOURNAL OF CLINICAL MEDICINE · 2026-07-08

Review says hidradenitis suppurativa arises from genes and environment together

A review in the Journal of Clinical Medicine examines the chronic inflammatory skin disease hidradenitis suppurativa. Obesity, tobacco and diet have been linked to risk or severity, and inherited variants also play a central role. The authors argue the disease is best understood as arising from the interaction of genetic susceptibility and environmental exposures.

JOURNAL OF CLINICAL MEDICINE · 2026-07-08

Review examines how food systems may shape gut microbes and their resilience

A review in the journal Microorganisms looks at how farming, food processing and diets may affect the microbes that reach the human gut. It notes that the path from soil to gut is not a simple transfer. Factors such as ultra-processed foods and low-fibre diets may alter microbial communities. It is a review, not new trial data.

MICROORGANISMS · 2026-07-07

Paper argues ultra-processed food policy should account for food security

A policy analysis in Nutrition Bulletin discusses the Nova food classification and ultra-processed foods. It argues that blanket reduction advice overlooks people in low- and middle-income countries who rely on processed foods for calories and nutrients. The authors propose product-specific governance, including reformulation and fortification. This is an argument, not new health data.

NUTRITION BULLETIN · 2026-07-07

Review examines how food systems may shape gut microbes

A review in Microorganisms discusses how farming, food processing and diet may influence the microbes that reach the human gut. It notes that farming practices can leave detectable microbial signatures on plants. The authors say the path from soil to gut is not a simple transfer. They also discuss antimicrobial resistance moving between humans, animals and the environment.

MICROORGANISMS · 2026-07-07

Authors argue ultra-processed food policy needs to account for food security

A policy analysis in Nutrition Bulletin argues that blanket cuts to ultra-processed food may overlook people in low- and middle-income countries and humanitarian settings. For them, processed foods supply calories and nutrients that cannot easily be replaced. The authors do not reject the Nova classification. They propose adding a product-specific governance framework. This is an opinion-style analysis, not new trial data.

NUTRITION BULLETIN · 2026-07-07

Sugary drinks and ultra-processed food linked to inflammation marker in teens with obesity

A cross-sectional study in Einstein (Sao Paulo) looked at 70 Brazilian adolescents with obesity. Those who drank sugar-sweetened beverages had a higher leptin/adiponectin ratio, a pro-inflammatory marker. Ultra-processed food intake was associated with higher body weight and larger waist and neck measurements. The design shows links, not cause.

EINSTEIN (SAO PAULO, BRAZIL) · 2026-07-06

Brazilian children's eating patterns stayed stable from toddlerhood to school age

A cohort study in Public Health Nutrition analysed data on 135,340 Brazilian children. Two patterns emerged, higher and lower in ultra-processed food, and both were stable over time. Exclusive breastfeeding was linked to staying in the lower pattern. The authors suggest it may protect, but the design shows an association.

PUBLIC HEALTH NUTRITION · 2026-07-06

Low diet variety, night snacking and screen time linked to childhood obesity

A survey-based study in Frontiers in Nutrition looked at 3,727 preschool children aged 3 to 7 in Wuxi City, China. The authors link low dietary diversity, frequent nighttime snacking and heavy screen use with obesity. Because it is an observational study, it shows associations rather than proof of cause.

FRONTIERS IN NUTRITION · 2026-07-06

Review finds Black women face the biggest barriers to food access in Brazil

A scoping review in Cadernos de Saúde Pública looked at studies of food access in Brazil by gender and race. It found structural inequalities, with larger barriers for Black women. Areas with more social and racial vulnerability had more food deserts and swamps. The authors also noted few studies address gender and race together.

CADERNOS DE SAUDE PUBLICA · 2026-07-06

Planned review will map nurse-led education to cut ultra-processed food

A protocol published in BMJ Open describes a planned scoping review. It will map what is known about nurse-delivered, whole-food education aimed at reducing ultra-processed food intake in adults in community and outpatient care. No results exist yet. The paper only sets out how the authors will search and select evidence.

BMJ OPEN · 2026-07-06

Sugary drinks and ultra-processed food tied to inflammation marker in obese teens

A cross-sectional study in Einstein (Sao Paulo) examined 70 Brazilian adolescents aged 15 to 19 with obesity. Those who drank sugar-sweetened beverages had a higher leptin/adiponectin ratio, a pro-inflammatory marker. Higher ultra-processed food intake was linked to greater body weight and larger waist and neck measurements. The design shows associations only, not cause.

EINSTEIN (SAO PAULO, BRAZIL) · 2026-07-06

Children's eating patterns in Brazil stay stable from toddlerhood to school age

A cohort study in Public Health Nutrition used 2008–2019 data on 135,340 Brazilian children. It found two dietary patterns, higher and lower in ultra-processed food. Both were stable over time. Exclusively breastfed children on the lower pattern were less likely to shift to the higher one. The authors say breastfeeding "may protect," but this is an association.

PUBLIC HEALTH NUTRITION · 2026-07-06

Authors flag low dietary diversity and screen use in preschool obesity study

A questionnaire-based study in Frontiers in Nutrition covered 3,727 preschool children aged 3 to 7 in Wuxi City, China, examining diet, lifestyle and BMI-Z scores. About 37% had low dietary diversity. The authors conclude that low dietary diversity, frequent nighttime snacking and heavy screen use deserve attention in obesity prevention. This design shows associations, not cause.

FRONTIERS IN NUTRITION · 2026-07-06

Scoping review finds Black women face greater barriers to food access in Brazil

A scoping review in Cadernos de Saúde Pública searched four databases for Brazilian studies on food access by gender and race. It found structural inequalities, with larger barriers for Black women. Food deserts clustered in more vulnerable areas. The authors also found few studies addressing gender and race together.

CADERNOS DE SAUDE PUBLICA · 2026-07-06

Planned review will map nurse-led education on cutting ultra-processed food

This is a protocol, published in BMJ Open, for a scoping review. It has no findings yet. The authors plan to map existing evidence on nurse-delivered education that aims to reduce ultra-processed food intake in adults. The focus is on community and outpatient care for chronic disease prevention and management. They also aim to identify gaps in knowledge.

BMJ OPEN · 2026-07-06

Review finds possible link between ultra-processed food and binge-type eating symptoms

A scoping review in European Eating Disorders Review covered seven cross-sectional studies with 47,758 people. Positive links were more often reported for binge eating, bulimic symptoms, night eating and loss-of-control eating. Findings for restrictive disorders were fewer and less consistent. The authors say the design limits conclusions about cause.

EUROPEAN EATING DISORDERS REVIEW : THE JOURNAL OF THE EATING DISORDERS ASSOCIATION · 2026-07-04

Children with celiac disease ate many ultra-processed foods, before and after gluten-free diet

A study in Nutrients assessed 128 children aged 5 to 14, including children with celiac disease and healthy controls. Ultra-processed foods supplied over 57% of calories at baseline in both groups. After 12 months on a gluten-free diet, overall ultra-processed intake stayed stable. Vitamin B6 intake rose. The source text is cut off, so comparisons with controls are not covered.

NUTRIENTS · 2026-07-04

Small body of studies links ultra-processed food to binge-type eating symptoms

A scoping review in European Eating Disorders Review found seven cross-sectional studies covering 47,758 people. Ultra-processed food intake was more often linked to binge eating, bulimic symptoms, night eating and loss-of-control eating. Findings for restrictive disorders were fewer and less consistent. The authors say the study design cannot show cause and call for longitudinal and experimental research.

EUROPEAN EATING DISORDERS REVIEW : THE JOURNAL OF THE EATING DISORDERS ASSOCIATION · 2026-07-04

Children with celiac disease on gluten-free diets still eat many ultra-processed foods

A study in Nutrients followed children with celiac disease and healthy controls. Ultra-processed foods made up over 57% of daily calories in both groups at the start. Intake stayed stable after 12 months on a gluten-free diet. Some meal patterns changed, and vitamin B6 intake rose. The text shown is cut off before the comparison with controls.

NUTRIENTS · 2026-07-04

Scoping review maps evidence on infant feeding, immunity and allergy

A scoping review in Allergy covered 108 systematic reviews on feeding children up to age 3. It found diet diversity linked to lower asthma and food allergy risk, while Western-style diets correlated with higher allergy risk. Early allergen introduction reduced food allergy incidence. Many findings come from observational studies, so links are not proof of cause.

ALLERGY · 2026-07-03

Belgian students rated ultra-processed foods as the most addictive

A cross-sectional online survey of 609 higher education students in Liège, Belgium, was published in Archives of Public Health. Food addiction scores met criteria in 24.0% of students. In a choice experiment, students ranked ultra-processed foods, such as salted potato chips and chocolate brownies, as the most addictive. These are perceptions, not measured effects.

ARCHIVES OF PUBLIC HEALTH = ARCHIVES BELGES DE SANTE PUBLIQUE · 2026-07-03

Scoping review maps how infant feeding links to allergy, infection and growth

A scoping review in Allergy mapped evidence on feeding children up to age 3. It included 108 systematic reviews. Responsive feeding was linked to healthier growth and lower obesity risk. Greater diet diversity was linked to less asthma and food allergy. Early allergen introduction was reported to reduce food allergy incidence.

ALLERGY · 2026-07-03

Belgian students rate ultra-processed foods as most addictive in survey

A cross-sectional survey in Archives of Public Health asked 609 Belgian higher education students which foods seem most addictive. Ultra-processed foods ranked highest, with salted potato chips and chocolate brownies near the top. Food addiction prevalence was 24.0% in the sample. These are perceptions, not proof that any food is addictive.

ARCHIVES OF PUBLIC HEALTH = ARCHIVES BELGES DE SANTE PUBLIQUE · 2026-07-03

Social media food norms linked to diet quality in Peruvian students

A cross-sectional survey in the journal Foods questioned 615 university students eating in campus restaurants in northern Peru. TikTok and Instagram exposure were linked to social food norms, which were linked to food choices and overall diet quality. Because it is a survey at one point in time, it shows associations, not cause.

FOODS (BASEL, SWITZERLAND) · 2026-07-02

Students' social media exposure linked to food choices and diet quality in Peru

A cross-sectional survey in the journal Foods questioned 615 university students eating in campus restaurants in northern Peru. TikTok and Instagram exposure were linked to food norms, which were linked to food choices and diet quality. The authors suggest norms matter more than nutrition information. A survey of this kind shows links, not cause.

FOODS (BASEL, SWITZERLAND) · 2026-07-02

Lower household income linked to eating more ultra-processed food in Brazilian students

A cross-sectional online study in Psicologia, Reflexão e Crítica surveyed 368 Brazilian university students. Lower household income was consistently associated with higher ultra-processed food intake. Students in income classes C and D/E had expected intakes 39% and 42% higher than the highest class. Food addiction symptoms were also linked to higher intake. This shows association only.

PSICOLOGIA, REFLEXAO E CRITICA : REVISTA SEMESTRAL DO DEPARTAMENTO DE PSICOLOGIA DA UFRGS · 2026-07-01

Higher ultra-processed food intake linked to more depression in older adults

A cross-sectional study of 368 community-dwelling older adults, published in Nutritional Neuroscience, found depression was more common at higher ultra-processed food intake. The link was significant in women but not in men. Intake was not significantly linked to low quality of life. The design cannot show cause, and the authors call for longitudinal studies.

NUTRITIONAL NEUROSCIENCE · 2026-07-01

European cardiology experts say ultra-processed foods are tied to higher heart risk

A clinical consensus statement from the European Society of Cardiology, published in the European Heart Journal, reviews the evidence on ultra-processed foods. It notes that eating them is associated with higher cardiovascular risk, often regardless of overall diet quality. The experts say cardiologists underrecognise this and offer guidance for clinicians on assessing it.

EUROPEAN HEART JOURNAL · 2026-07-01

Parents' attitudes and food knowledge linked to children's ultra-processed food intake

A cross-sectional survey in Nutrients covered 2,011 parents of children aged 6 to 17 in five Mediterranean countries. Higher perceived barriers and enablers were linked to lower intake of discretionary ultra-processed food. Parental food literacy was linked to higher intake. A survey shows links only. It cannot show that parental factors cause these eating patterns.

NUTRIENTS · 2026-07-01

Most food adverts on Western Melbourne public transport promoted unhealthy products

A cross-sectional study in Health Promotion Journal of Australia surveyed all bus stops, tram stops and train stations in three Western Melbourne local government areas. Of 693 adverts, 229 were for food or drink. Three-quarters of those promoted unhealthy products, most commonly sugar-sweetened beverages (49%). The study found no significant link between unhealthy adverts and area disadvantage. It did not measure what people ate.

HEALTH PROMOTION JOURNAL OF AUSTRALIA : OFFICIAL JOURNAL OF AUSTRALIAN ASSOCIATION OF HEALTH PROMOTION PROFESSIONALS · 2026-07-01

Review links ultra-processed food intake to higher breast cancer incidence

A review in Carcinogenesis says emerging epidemiologic evidence associates high ultra-processed food intake with more breast cancer. It may also relate to prognosis. Results vary across populations and tumour subtypes. The authors discuss possible mechanisms but stress that causal evidence needs strengthening. The findings are associations, not proof of cause.

CARCINOGENESIS · 2026-07-01

Perspective article links climate change and diet to rising early-onset cancers

A perspective article in Carcinogenesis notes that cancers diagnosed before age 50 are rising worldwide. The authors propose that climate change, environmental damage and ultra-processed diets create a cancer-promoting "exposome" through chronic inflammation. This is a proposal drawing on existing evidence. It does not show that these factors cause early-onset cancers.

CARCINOGENESIS · 2026-07-01

Lower income linked to higher ultra-processed food intake in Brazilian students

A cross-sectional online study in Psicologia, Reflexão e Crítica surveyed 368 Brazilian university students aged 18 to 30. Lower household income was consistently linked to eating more ultra-processed foods. Students in two lower income classes had expected intakes 39% and 42% higher than the highest class. Food addiction symptoms were also linked to higher intake.

PSICOLOGIA, REFLEXAO E CRITICA : REVISTA SEMESTRAL DO DEPARTAMENTO DE PSICOLOGIA DA UFRGS · 2026-07-01

Higher ultra-processed food intake linked to more depression in older adults, especially women

A cross-sectional study of 368 community-dwelling older adults, published in Nutritional Neuroscience, found depression was more common at higher ultra-processed food intake. The link was significant in women but not men. Intake was not significantly associated with low quality of life. The design cannot show cause, and the authors call for longitudinal studies.

NUTRITIONAL NEUROSCIENCE · 2026-07-01

Cardiology experts say ultra-processed foods are linked to higher heart disease risk

A clinical consensus statement from the European Society of Cardiology, published in the European Heart Journal, reviewed current evidence. It notes that eating ultra-processed foods is associated with higher cardiovascular risk, often regardless of overall diet quality. The experts say food processing is underrecognised in cardiology. The statement aims to raise awareness among clinicians.

EUROPEAN HEART JOURNAL · 2026-07-01

Survey links parents' attitudes and barriers to children's ultra-processed food intake

A cross-sectional survey in Nutrients covered 2011 parents of children aged 6 to 17 in five Mediterranean countries. Parents reported on their children's diets. Higher perceived barriers and enablers were associated with lower intake of discretionary ultra-processed food. Parental food literacy showed a positive association with intake. Because it is a survey, it cannot show cause.

NUTRIENTS · 2026-07-01

Review finds high ultra-processed food intake linked to more breast cancer

A review in Carcinogenesis says emerging observational evidence links high ultra-processed food intake to higher breast cancer incidence. It may also relate to outcomes after diagnosis. Results vary across populations and tumour types. The authors discuss possible mechanisms but stress that stronger causal evidence is still needed.

CARCINOGENESIS · 2026-07-01

Article links climate change and environment to rising early-onset cancers

A perspective article in Carcinogenesis argues that environmental exposures may help explain rising cancer rates in people under 50. These include climate change, pollution and diets high in ultra-processed foods. The authors propose these factors drive inflammation and cell damage. It is an opinion-based synthesis, not a test of cause and effect.

CARCINOGENESIS · 2026-07-01

Review links food additives in ultra-processed foods to gut and metabolic changes

A narrative review in Frontiers in Public Health examined experimental, clinical and population studies on additives such as emulsifiers and sweeteners. Exposure was associated with gut microbiome changes, metabolic effects and low-grade inflammation. Population findings were mixed. The authors say most approved additives remain safe at regulated levels, but cumulative exposure may be poorly captured.

FRONTIERS IN PUBLIC HEALTH · 2026-06-30

In women with lipedema, more ultra-processed food linked to more inflammation and pain

A cross-sectional study in Frontiers in Nutrition looked at 86 women with lipedema. Across disease stages, ultra-processed food intake, dietary inflammatory scores, body fat and inflammatory markers all rose. Higher dietary inflammatory scores were associated with more pain and higher hs-CRP. Because it is a snapshot, it cannot show that diet caused these differences.

FRONTIERS IN NUTRITION · 2026-06-30

Oil palm households in Indonesia show different child diets, including more ultraprocessed foods

A study in Current Developments in Nutrition compared diets of young children in Indigenous households that did or did not adopt oil palm work in Indonesia. It used 24-hour dietary recalls. Patterns differed by region. Some healthy foods rose, but ultraprocessed foods were also more likely. The findings are associations, not proof of cause.

CURRENT DEVELOPMENTS IN NUTRITION · 2026-06-30

Review finds food additives in processed foods linked to gut and metabolic changes

A narrative review in Frontiers in Public Health looked at studies from 2010 to 2024. Additive exposure from ultra-processed foods was associated with gut microbiome changes, metabolic effects and low-grade inflammation. Experimental studies were fairly consistent, but population studies were mixed. The authors say most approved additives remain safe at regulated levels, though cumulative exposure may be under-assessed.

FRONTIERS IN PUBLIC HEALTH · 2026-06-30

Women with lipedema who eat more inflammatory diets report more pain

A cross-sectional study of 86 women with lipedema, reported in Frontiers in Nutrition, found that ultra-processed food intake and dietary inflammatory scores were higher at later disease stages. Higher inflammatory diet scores were associated with more pain and higher hs-CRP, an inflammation marker. The design shows associations only and cannot show that diet causes these outcomes.

FRONTIERS IN NUTRITION · 2026-06-30

Oil palm farming linked to different child diets in two Indonesian regions

An observational study in Current Developments in Nutrition compared diets of Indigenous children aged 12 to 59 months in oil palm and non-oil palm households in Indonesia. Patterns differed by region. Oil palm households were linked to more ultraprocessed foods in both places. Some healthy foods rose in some contexts. The design shows associations, not causes.

CURRENT DEVELOPMENTS IN NUTRITION · 2026-06-30

Higher ultra-processed food intake linked to higher kidney cancer risk

A prospective cohort study in Lancet Regional Health – Americas followed 480,347 US adults. Those with the highest ultra-processed food intake had a higher risk of renal cell carcinoma than those with the lowest (hazard ratio 1.16). The study shows an association, not cause. Diet was self-reported, and the authors say mechanisms need further research.

LANCET REGIONAL HEALTH. AMERICAS · 2026-06-29

Ultra-processed food intake linked to harder stools in school-aged children

A cross-sectional study of 394 Brazilian children, published in Revista Paulista de Pediatria, found constipation in 10.2%. A higher score for ultra-processed foods and sugary drinks was associated with harder stools. It was not associated with constipation itself. The design shows association only and cannot show cause.

REVISTA PAULISTA DE PEDIATRIA : ORGAO OFICIAL DA SOCIEDADE DE PEDIATRIA DE SAO PAULO · 2026-06-29

Commentary says link between ultra-processed foods and chronic disease remains contested

A commentary in Nutrients examines the debate over ultra-processed foods. These foods have been associated with higher chronic disease risk, but the authors note the association is controversial. They review hypotheses and evidence on components such as saturated fat, added sugars, salt and additives, and discuss what this means for dietary guidelines and policy.

NUTRIENTS · 2026-06-29

Higher ultra-processed food intake linked to higher kidney cancer risk in large US cohort

According to a study in The Lancet Regional Health – Americas, people who ate the most ultra-processed food had a higher risk of kidney cancer. It followed 480,347 US adults using self-reported diets. The top fourth had a hazard ratio of 1.16 against the lowest. This is an association, so it does not show cause.

LANCET REGIONAL HEALTH. AMERICAS · 2026-06-29

Commentary examines the disputed link between ultra-processed foods and chronic disease

A commentary in Nutrients notes that ultra-processed foods have been associated with higher chronic disease risk, but that this link remains controversial. The authors review hypotheses and examine evidence on components such as saturated fat, added sugars, salt and additives. They also discuss what this means for dietary guidelines and public health policy.

NUTRIENTS · 2026-06-29

Ultra-processed foods supply about half of daily energy for Jordanian adults

According to a cross-sectional study in BMC Nutrition, 537 Jordanian adults aged 19 to 64 reported their diets. Ultra-processed foods supplied 51.93% of energy. Intake was higher in males and younger people. It was also linked to lower BMI. The study shows dietary patterns, not health outcomes.

BMC NUTRITION · 2026-06-27

Food addiction after weight-loss surgery linked to poorer diet, activity and weight outcomes

A cross-sectional survey in Obesity Surgery included 631 women at least 18 months after bariatric surgery. Food addiction, found in 19.7%, was associated with higher anxiety, more ultra-processed food, less physical activity, higher current BMI and less weight lost. The authors stress these are associations, not proof of cause.

OBESITY SURGERY · 2026-06-27

Scoping review finds little tailored prehabilitation research for unfit colorectal cancer surgery patients

A scoping review in BJA Open found twelve studies covering 408 patients who had low fitness and underwent colorectal cancer surgery. Prehabilitation programmes varied widely and were rarely tailored to low fitness. Adherence was inconsistently reported. No study reported socioeconomic status. The review highlights gaps in the evidence for the least fit patients.

BJA OPEN · 2026-06-29

Few studies test pre-surgery exercise in least-fit bowel cancer patients

A scoping review in BJA Open searched for studies of exercise before colorectal cancer surgery in people with low fitness. It found twelve studies covering 408 patients. The programmes varied widely and were rarely tailored to low fitness. No study reported socioeconomic status. The review maps gaps in the research rather than testing whether prehabilitation works.

BJA OPEN · 2026-06-29

Among older adults in Kazakhstan, more activity linked weakly to less visceral fat

A cross-sectional study in the journal Healthcare surveyed 608 adults aged 60 and over in Astana, Kazakhstan. Higher physical activity scores were weakly linked to less visceral fat and to better handgrip strength. The analyses did not adjust for factors such as sex or chronic disease. A cross-sectional design cannot show cause.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-06-24

Higher activity linked to less visceral fat in older adults in Kazakhstan

A cross-sectional study in Healthcare assessed 608 adults aged 60 and over in Astana, Kazakhstan. Higher physical activity scores were weakly linked to less visceral fat and to other body measures and handgrip strength. The analyses did not adjust for factors such as sex or chronic disease. The authors say cause cannot be concluded.

HEALTHCARE (BASEL, SWITZERLAND) · 2026-06-24

Perspective argues exercise advice for frail older adults should focus on function

A perspective article in Frontiers in Public Health argues that the 150-minute weekly exercise target may not suit frail, isolated or multimorbid older adults. The authors propose a framework centred on preserving function. It includes very small exercise doses and community social prescribing. This is an opinion-based proposal, not trial evidence.

FRONTIERS IN PUBLIC HEALTH · 2026-06-22

Perspective argues older adults' exercise goals should focus on function, not minutes

A perspective article in Frontiers in Public Health argues that the 150-minute weekly exercise target may not suit frail, isolated or multimorbid older adults. The authors propose a framework centred on preserving function. It includes very small exercise doses and social prescribing. It is an argument and a proposed model, not a tested trial.

FRONTIERS IN PUBLIC HEALTH · 2026-06-22

Review links healthy lifestyle habits to slower immune aging and less inflammation

A narrative review in the International Journal of Molecular Sciences looked at lifestyle factors and immune aging. These included exercise, diet, stress reduction and vaccination. The authors say integrated strategies may slow immune decline. They note evidence on mind-body practices and cold exposure is limited and inconsistent. Longer trials are still needed.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-21

Review: lifestyle factors may slow immune ageing and chronic inflammation

A narrative review in the International Journal of Molecular Sciences covers exercise, diet, stress reduction and vaccination in relation to immune ageing. It cites reductions in autoimmune disease with vitamin D and in inflammation markers with caloric restriction. Evidence for newer approaches is limited and inconsistent. The authors say longer trials are needed.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-21

Italian survey finds low awareness and uptake of shingles and pneumonia vaccines

A study in Vaccine analysed self-reported data from 4,575 Italian adults. Awareness of flu vaccination was above 90%, but awareness of pneumococcal and shingles vaccines was much lower. Shingles vaccine uptake was low overall. Pneumococcal uptake rose after age 70. Older age was associated with higher uptake of flu vaccination.

VACCINE · 2026-06-20

Italian survey finds flu vaccine awareness high, shingles and pneumococcal awareness lower

A study in Vaccine analysed data from 4575 Italian adults in the Look-Up 8+ project. Awareness of flu vaccination was above 90%. Awareness of pneumococcal and herpes zoster vaccines was much lower. Flu vaccine uptake rose with age. Pneumococcal uptake rose after age 70. Shingles vaccine uptake was low overall.

VACCINE · 2026-06-20

Review discusses essential amino acids combined with resistance training for muscle health

A review in Nutrients discusses evidence that dietary essential amino acids may add to the muscle-building effects of resistance exercise. It covers mechanisms and clinical implications for sarcopenia, cachexia and obesity. The authors conclude the combination has potential as a nutritional strategy. This is a narrative review, not a new trial.

NUTRIENTS · 2026-06-19

Review discusses amino acids combined with resistance training for muscle health

A review in Nutrients discusses how dietary essential amino acids may work alongside resistance exercise to build muscle mass, strength and quality. It covers molecular mechanisms, research methods and clinical settings such as sarcopenia and obesity. The authors conclude the evidence shows potential for this combination. It is a review, not a new trial.

NUTRIENTS · 2026-06-19

Review: selenium compound and HMB with exercise may support healthy aging

A review in Frontiers in Nutrition pulls together findings on diphenyl diselenide and HMB, a leucine metabolite, combined with exercise. It reports these seem to support brain protection, mitochondria, inflammation control and muscle in aging models. The authors say more preclinical and clinical work is needed on dose, timing and long-term effects in older people.

FRONTIERS IN NUTRITION · 2026-06-18

Review proposes studying childhood sport type to explain grip strength and mortality link

A review in Sports Medicine - Open looks at why handgrip strength is associated with illness and death. Past studies have not agreed that physical activity explains the link. The authors propose a research model examining the sport played during development. They say further follow-up is needed before it can be confirmed.

SPORTS MEDICINE - OPEN · 2026-06-18

Review suggests selenium compound and HMB with exercise may support healthy aging

A review in Frontiers in Nutrition examined diphenyl diselenide and HMB, a leucine metabolite, combined with exercise in aging models and age-related disorders. It reports apparent benefits for cognition, mitochondria, inflammation and muscle. The authors say more preclinical and clinical research is needed on dosage, timing and long-term effects.

FRONTIERS IN NUTRITION · 2026-06-18

Paper proposes studying childhood sport type to explain grip strength and mortality link

Handgrip strength is linked to illness and death, but the reasons are not fully understood. A paper in Sports Medicine - Open proposes a research model. It would look at which sports people played during development and how that relates to health in adulthood. It is a proposal, not a result. The authors say further follow-up is needed.

SPORTS MEDICINE - OPEN · 2026-06-18

Perspective paper argues exercise and protein guidelines set the bar too low

A perspective paper in Frontiers in Nutrition argues that current guidelines aim at minimum thresholds. Its authors say emerging evidence supports higher exercise and protein levels for healthspan. They call on governments to update the guidelines. This is an opinion-based argument, not a new trial, and it does not present original data.

FRONTIERS IN NUTRITION · 2026-06-17

Perspective paper argues exercise and protein guidelines should aim higher

A perspective paper in Frontiers in Nutrition argues that current guidelines set minimum targets. The authors say emerging evidence links higher exercise volumes and protein intakes to better health outcomes. They call on governments to update the guidelines. This is an opinion piece making an argument, not a new trial or study.

FRONTIERS IN NUTRITION · 2026-06-17

Perspective says evidence for short 'exercise snacks' and older adults' cognition is limited

A perspective article in Frontiers in Public Health discusses brief bouts of activity spread through the day as a possible way to support thinking skills in older adults. The authors say direct evidence is limited. Existing studies vary in design, are short, and often look at acute or indirect outcomes. They call for longer trials and better cognitive measures.

FRONTIERS IN PUBLIC HEALTH · 2026-06-16

Perspective says evidence on exercise snacks and older adults' cognition is still limited

A Perspective article in Frontiers in Public Health looks at exercise snacks, which are brief bouts of activity spread through the day. The authors say direct evidence for cognitive benefits in older adults is limited. Existing studies vary in design and are short. The paper discusses plausible pathways and calls for longer trials.

FRONTIERS IN PUBLIC HEALTH · 2026-06-16

Review links inflammation and muscle loss in aging, with limited proof on combined fixes

A narrative review in Nutrients examines chronic low-grade inflammation and sarcopenia, or muscle loss, in older adults. Observational studies and trials generally link anti-inflammatory diets and regular physical activity to better muscle strength and inflammatory status. The authors say formal evidence of synergy between nutrients and lifestyle changes in humans remains limited.

NUTRIENTS · 2026-06-13

Review links inflammation and muscle loss in ageing, but evidence on combined effects is thin

A narrative review in Nutrients examined chronic low-grade inflammation and age-related muscle loss. It found that anti-inflammatory diets and regular physical activity are associated with better muscle strength and function in older adults. The authors say formal evidence of combined, synergistic effects of bioactive compounds and lifestyle in humans remains limited.

NUTRIENTS · 2026-06-13

Moderate resistance training linked to lower death risk in large long-term cohorts

An observational study in the British Journal of Sports Medicine followed 147,374 people for up to 30 years. Those doing 90 to 119 minutes of resistance training weekly had a 13% lower risk of death from any cause than those doing none. Risk levelled off at about 120 minutes or more. Observational data show links, not cause.

BRITISH JOURNAL OF SPORTS MEDICINE · 2026-06-12

Moderate resistance training linked to lower death risk in large US cohorts

An observational study in the British Journal of Sports Medicine followed 147,374 people for up to 30 years. Those doing 90-119 minutes of weekly resistance training had 13% lower all-cause mortality than non-trainers, adjusting for aerobic activity. Benefits levelled off around 120 minutes a week. The design shows association, not cause.

BRITISH JOURNAL OF SPORTS MEDICINE · 2026-06-12

More contact with children linked to better health in older Chinese adults

An observational study in Scientific Reports analysed 3117 empty-nest adults aged 65 and over from a Chinese national survey. More frequent visits from children were linked to better self-rated health and fewer depressive symptoms. Physical exercise accounted for part of these links. The design shows association, not cause.

SCIENTIFIC REPORTS · 2026-06-11

Eight weeks of combined training changed metabolism in 21 breast cancer survivors

A small experimental study in Nutrients followed 21 breast cancer survivors through eight weeks of interval plus resistance training. Women with a history of higher-volume chemotherapy showed increases in fat and carbohydrate burning at rest and during exercise. The share of women meeting metabolic syndrome criteria for blood pressure, glucose and triglycerides fell. The study had no stated control group.

NUTRIENTS · 2026-06-11

More visits from grown children linked to better health in older Chinese adults

An observational study in Scientific Reports analysed 3117 empty-nest adults aged 65 and over in China. More frequent visits from children were associated with better self-rated health and fewer depressive symptoms. Exercise frequency also rose with contact and partly explained the links. The design shows associations, not cause and effect.

SCIENTIFIC REPORTS · 2026-06-11

Small study: 8 weeks of combined training changed metabolism in breast cancer survivors

A small experimental study in Nutrients involved 21 breast cancer survivors with metabolic syndrome risk factors. After 8 weeks of high-intensity interval plus resistance training, fat and carbohydrate burning rose at rest and during exercise in some groups, notably those with more chemotherapy. Fewer women met some metabolic syndrome criteria afterward. The sample was small.

NUTRIENTS · 2026-06-11

Weaker upper limb function linked to cognitive impairment in older Chinese adults living apart from children

A cross-sectional study in PLOS One used 2018 survey data from 5,060 older adults in China who lived without their children. Restricted upper limb function was associated with higher odds of cognitive impairment. Regular exercise was associated with lower odds. The authors stress that this design cannot establish cause.

PLOS ONE · 2026-06-10

Review outlines causes, assessment and management of frailty in older adults

A review in iScience summarises current evidence on frailty, a state of reduced physiological reserve. It points to metabolic-immune imbalance and muscle-mitochondrial problems as key drivers. It says wearable sensors and multi-omics may help spot risk earlier. It describes exercise, nutrition and medication management as the cornerstone of current care.

ISCIENCE · 2026-06-09

Aerobic exercise showed the clearest executive-function gains in healthy older adults

A systematic review and network meta-analysis in BMC Geriatrics pooled 38 studies with 2,928 adults aged 65 and over. In cognitively healthy people, aerobic exercise significantly improved all three executive function domains. Mind-body and resistance training did not. In those with cognitive impairment, all three exercise types improved working memory only. No minimum dose threshold for cognitive benefit was identified.

BMC GERIATRICS · 2026-06-08

Review finds exercise improves muscle function in people taking glucocorticoids

A narrative review with a systematic component in Sports Medicine included 19 studies, with 663 participants, mostly women with rheumatoid arthritis or lupus. Exercise consistently improved muscle performance and function. Evidence for bone, heart and metabolic, cognitive and mental health outcomes was limited or inconsistent. The authors also give exercise recommendations for this group.

SPORTS MEDICINE (AUCKLAND, N.Z.) · 2026-06-08

Older Chinese adults with chronic disease who stayed more active had lower odds of depression

An observational study in BMC Geriatrics followed 854 adults aged 65 and over with chronic disease. All groups became less active over time. Those with moderate or high activity levels had lower odds of depressive symptoms than the low-activity group. The study shows an association, not that activity itself prevents depression.

BMC GERIATRICS · 2026-06-08

Review compares how different exercise types affect inflammation in sarcopenia

A narrative review in Frontiers in Medicine summarised studies of exercise in older adults with sarcopenia. Aerobic exercise mainly lowered body-wide inflammation markers. Resistance training mainly reduced inflammation signals in muscle. High-intensity interval and combined training appeared to do both. The review notes the mechanisms are still incompletely understood.

FRONTIERS IN MEDICINE · 2026-06-08

Year-long supervised exercise programme improved fitness and heart-health markers in adults with overweight

A 12-month prospective intervention in Preventive Medicine Reports followed 192 working-age adults in Poland with overweight or obesity. They did supervised aerobic and resistance training. Cooper test distance rose by about 33%. The authors report improved cardiometabolic risk factors and quality-adjusted life years. The text does not describe a control group.

PREVENTIVE MEDICINE REPORTS · 2026-06-06

Meta-analysis: exercise types improved heart function in heart failure, with low-certainty evidence

A systematic review and network meta-analysis in Frontiers in Cardiovascular Medicine pooled 42 randomised trials with 3,519 heart failure patients. All exercise types improved left ventricular ejection fraction versus control. Resistance training showed the largest effect, followed by high-intensity interval training. The certainty of the evidence ranged from very low to moderate.

FRONTIERS IN CARDIOVASCULAR MEDICINE · 2026-06-05

Review: exercise during ovarian cancer chemotherapy linked to better function and less fatigue

A systematic review in Cureus pooled six studies of 724 women with ovarian cancer. Exercise programmes during and after chemotherapy were linked to maintained or better physical function, less fatigue, and stable or improved quality of life. Adherence was high. The authors say the evidence is limited and that larger trials are needed to confirm long-term benefits.

CUREUS · 2026-06-05

Small study links klotho levels to physical activity in dialysis patients

A pilot study in the Journal of Clinical Medicine compared 24 hemodialysis patients with 18 healthy controls. Serum α-Klotho, a proposed aging biomarker, was lower in dialysis patients. Among those patients, levels were associated with habitual physical activity. No such link was seen in the controls. A single-patient case analysis of interval training reported improved physical function. The sample is very small and cross-sectional.

JOURNAL OF CLINICAL MEDICINE · 2026-06-04

Review: supervised diet and exercise programmes gave breast cancer survivors the largest benefits

A systematic review in Nutrients covered 15 studies, 11 of them randomised trials, in breast cancer survivors. Supervised programmes combining calorie restriction with aerobic and resistance exercise showed the largest gains in body composition, blood markers and quality of life. Digital or low-intensity programmes had smaller effects. Certainty of evidence ranged from very low to moderate-high.

NUTRIENTS · 2026-06-04

Paper proposes a new way to study exercise and mood in older adults

A theoretical paper in Frontiers in Aging says research on how exercise affects emotion in older adults is limited. It proposes the circumplex model, which separates pleasure from activation. The authors say common one-dimensional mood measures hide differences. This is a literature-based proposal, not a new experiment.

FRONTIERS IN AGING · 2026-06-03

Sensorimotor exercise outperformed strengthening in older adults in an eight-week trial

A randomised clinical trial in Trials assigned 140 older adults to sensorimotor or strengthening exercise, each 24 supervised sessions over eight weeks. Both groups improved. The sensorimotor group improved more on activity, fall-related confidence and quality of life. The gain in functional performance had a confidence interval spanning zero. No serious adverse events were reported.

TRIALS · 2026-06-03

Lifelong endurance exercise tied to better metabolic health but not muscle strength

An observational study in Clinical Interventions in Aging followed 59 older men who trained for endurance over 30 years. Men with lower recent activity had worse aerobic fitness, waist size and insulin resistance. Muscle strength and power did not differ between activity groups. The authors conclude endurance activity is related to metabolic health but not strength.

CLINICAL INTERVENTIONS IN AGING · 2026-06-02

Review of 15 trials finds some evidence exercise supports healthspan measures

A systematic review in The Journals of Gerontology pooled 15 randomised trials with 4,656 participants. Eleven reported that exercise, or multi-part programmes including exercise, improved intrinsic capacity and quality of life. The studies varied widely. The authors say no conclusions can be drawn about supplements or caloric restriction because there were too few trials.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-06-01

Case study of one 71-year-old woman describes strength after eight years of lifting

A single-person case study in Frontiers in Aging assessed a 71-year-old woman after eight years of supervised high-intensity resistance training. Her muscle mass, strength and functional test scores exceeded age-matched reference values. She also reported high self-efficacy. As a study of one person, it cannot show that the training caused these results in others.

FRONTIERS IN AGING · 2026-06-01

Small trial compares two muscle training types in older adults

A randomised trial in Medicine assigned 34 community-dwelling older adults to either limb resistance training or inspiratory muscle training, both with aerobic exercise for 10 weeks. The breathing-training group improved more on one quality-of-life subscale. The limb group improved in expiratory pressure and walking test results. The trial was small and short.

MEDICINE · 2026-06-01

Post-workout peanut butter smoothie did not beat carbohydrate smoothie in small trial

A small randomised trial in the International Journal of Exercise Science enrolled 17 adults aged 30 to 55. All completed 16 weeks of combined aerobic and resistance training. Lean mass, strength and fitness improved. Gains did not differ between those given a peanut smoothie and those given a carbohydrate smoothie after workouts.

INTERNATIONAL JOURNAL OF EXERCISE SCIENCE · 2026-06-01

Hospital exercise program linked to moderate blood protein changes in older patients

A randomised controlled trial in older adults admitted to an acute geriatric unit compared a supervised multicomponent exercise program with a control group, according to The Journals of Gerontology Series A. Exercise was associated with moderate but consistent changes in serum proteins, including lower CD40 ligand. The reported differences were nominal and unadjusted, and the authors describe the findings as exploratory.

THE JOURNALS OF GERONTOLOGY. SERIES A, BIOLOGICAL SCIENCES AND MEDICAL SCIENCES · 2026-06-01

European rehabilitation doctors issue 25 recommendations for sarcopenia care

A position paper in the European Journal of Physical and Rehabilitation Medicine combines a systematic literature review with a Delphi consensus process. It sets out 25 recommendations for rehabilitation physicians treating sarcopenia, the loss of muscle mass and function. It says these doctors should help with prevention in older people and individual rehabilitation plans.

EUROPEAN JOURNAL OF PHYSICAL AND REHABILITATION MEDICINE · 2026-06-01

Scoping review finds group exercise program Enhance Fitness generally linked to positive outcomes

A scoping review in The Gerontologist mapped 33 publications on Enhance Fitness, a group exercise program for older adults. Reported outcomes were generally positive, including better physical and mental health and reduced health care use. The program is delivered in three 60-minute weekly sessions. The authors call for more attention to equity and long-term sustainability.

THE GERONTOLOGIST · 2026-06-01

Review finds resistance training trials in rural cancer care report few exercise details

A systematic scoping review in the Journal of Sports Science & Medicine looked at resistance exercise programs for cancer survivors outside major cities. Of 2490 studies screened, 12 qualified. Most reported few core exercise-prescription principles, and none reported all four FITT principles. The review concerns how well studies are reported, not whether the exercise works.

JOURNAL OF SPORTS SCIENCE & MEDICINE · 2026-06-01

AHA statement: exercise alone rarely produces major weight loss but improves heart-health markers

A scientific statement from the American Heart Association, published in Circulation, summarises the role of physical activity in obesity treatment. It says exercise improves risk factors such as hypertension, insulin resistance and dyslipidemia independently of weight loss. On its own, exercise is unlikely to cause clinically meaningful weight loss unless activity levels are exceptionally high. Combined with diet, medication or surgery, it can add to weight loss.

CIRCULATION · 2026-06-01

30-second sit-to-stand test shows modest fatigue signs in middle-aged and older adults

A study in the Journal of Sports Science & Medicine tested 93 middle-aged and 102 older adults on a 30-second sit-to-stand task using body-worn sensors. Power fell and trunk bending rose over the test. Older adults produced less power overall. The authors say the test captures modest fatigability and longer protocols may work better.

JOURNAL OF SPORTS SCIENCE & MEDICINE · 2026-06-01

Meta-analysis: exercise modestly raises gut microbe diversity in older adults

A systematic review and meta-analysis in The Journal of Nutrition, Health & Aging pooled 16 studies. Exercise was linked to higher gut microbial diversity on two measures, with a small effect size of 0.22 on each. Moderate-intensity exercise showed a stronger effect. Akkermansia also increased. Bifidobacterium did not change significantly.

THE JOURNAL OF NUTRITION, HEALTH & AGING · 2026-05-30

Social participation linked to better health satisfaction in older Japanese adults

A two-wave longitudinal study in Scientific Reports analysed 1,043 Japanese adults aged 65 and over, surveyed in 2023 and again in 2024. Social participation was significantly associated with higher health satisfaction, and physical activity mediated 14.6% of that association. Perceived green space showed a positive but non-significant association. The study is observational, so it cannot prove cause.

SCIENTIFIC REPORTS · 2026-05-29

PROTEINS & AMINO ACIDS 48

Exercise plus supplements changed muscle signaling and gut bacteria in aged rats

A study in the FASEB Journal used 35 male rats to test resistance training with a supplement mix of probiotics, vitamin D and leucine. The combination raised mTOR-related signaling in muscle and lowered Fusobacterium nucleatum more than either alone. This was an animal study, so effects in people are unknown.

FASEB JOURNAL : OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY · 2026-07-01

Lower early food energy intake linked to swallowing decline after aspiration pneumonia

A retrospective cohort study in Geriatrics & Gerontology International followed 200 older patients with aspiration pneumonia. Of these, 109 had worse swallowing at discharge. Lower energy intake on days 3 to 7 was independently associated with swallowing decline. The authors say prospective validation is needed. The study shows an association, not cause.

GERIATRICS & GERONTOLOGY INTERNATIONAL · 2026-07-01

Age, not sex, tracks sarcopenia severity in Mexican older adults

A study in Geriatrics looked at 556 insured Mexican older adults. Researchers measured muscle mass, handgrip strength and physical performance. Men had higher muscle mass and strength. The authors conclude that sex affects those two measures, while sarcopenia severity depends only on age. This is an observational analysis, so it shows links, not causes.

GERIATRICS (BASEL, SWITZERLAND) · 2026-07-01

Exercise plus supplements shifted muscle signalling and gut bacteria in aged rats

A study in the FASEB Journal tested 8 weeks of resistance training and a supplement mix in 35 male rats. The mix included two probiotics, vitamin D and leucine. The combination raised mTOR-related muscle signalling and lowered Fusobacterium nucleatum more than either approach alone. This is animal research, so human effects are unknown.

FASEB JOURNAL : OFFICIAL PUBLICATION OF THE FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY · 2026-07-01

Lower early food intake linked to worse swallowing after pneumonia in older patients

A retrospective cohort study in Geriatrics & Gerontology International followed 200 older patients treated for aspiration pneumonia. Of these, 109 had worse swallowing at discharge. Those who ate less energy in days 3 to 7 were more likely to decline. This shows an association, not cause. The authors say prospective validation is needed.

GERIATRICS & GERONTOLOGY INTERNATIONAL · 2026-07-01

Sarcopenia severity tracked with age, not sex, in Mexican older adults

A study in Geriatrics analysed data from 556 older adults in Mexico with health insurance. Men had higher muscle mass and strength. But the authors conclude that sarcopenia severity depended only on age, not sex. The analysis used regression models on existing measurements, so it shows associations.

GERIATRICS (BASEL, SWITZERLAND) · 2026-07-01

Review outlines nutrition challenges for middle-aged adults in Korea

A narrative review in the Korean Journal of Community Nutrition examined research on Korean adults aged 40 to 64. It describes a triple burden of obesity, low micronutrient intake and early muscle loss, plus high sodium and sugar intake. The authors propose community-linked precision nutrition strategies. It is a review, not a trial.

KOREAN JOURNAL OF COMMUNITY NUTRITION · 2026-06-30

Review describes a 'triple burden' of malnutrition in Korean middle-aged adults

A narrative review in the Korean Journal of Community Nutrition examined nutrition among Korean adults aged 40 to 64. It describes obesity, low micronutrient intake and early muscle loss occurring together. The authors propose community-linked, personalised nutrition strategies. This is a review of existing research, not a new trial testing those strategies.

KOREAN JOURNAL OF COMMUNITY NUTRITION · 2026-06-30

Review examines how nutrition status relates to heart disease in older adults

A review in the Journal of Clinical Medicine looks at how malnutrition, overnutrition and sarcopenic obesity may influence cardiovascular risk in older people. It outlines mechanisms, assessment tools and dietary strategies, and notes challenges such as multiple conditions and many medications. It summarises existing evidence rather than presenting new data.

JOURNAL OF CLINICAL MEDICINE · 2026-06-29

Review links nutrition problems to heart disease risk in older adults

A review in the Journal of Clinical Medicine examines how nutritional status relates to cardiovascular disease in older adults. It says malnutrition, overnutrition and sarcopenic obesity are recognised as modifiers of heart risk. Both too little and too much of certain nutrients are tied to vessel damage and inflammation. It also covers assessment tools and the challenges of multiple illnesses and medicines.

JOURNAL OF CLINICAL MEDICINE · 2026-06-29

Stroke stage and age relate differently to muscle loss in stroke patients

A cross-sectional study in Life enrolled 80 stroke patients in Taiwan. Those in post-acute care had slower walking and lower quality-of-life scores. Chronic-stage patients had more sarcopenia. Older age was linked mainly to lower muscle mass and more sarcopenia. A cross-sectional design shows links at one time point, not cause and effect.

LIFE (BASEL, SWITZERLAND) · 2026-06-27

Stroke stage and age linked to different problems in stroke patients' muscles

A cross-sectional study in the journal Life looked at 80 stroke patients in Taiwan. Muscle mass and strength did not differ between chronic and post-acute groups. The post-acute group had slower walking and lower quality of life. Age was more closely tied to low muscle mass and sarcopenia. This design shows links, not causes.

LIFE (BASEL, SWITZERLAND) · 2026-06-27

Higher inflammation-to-albumin ratio linked to low muscle mass in men with type 2 diabetes

A cross-sectional study in BMC Endocrine Disorders assessed 1,009 people with type 2 diabetes. In men, a higher CRP-to-albumin ratio was associated with low muscle mass, even after adjustment. No such link appeared in women. A cross-sectional design cannot show that one causes the other.

BMC ENDOCRINE DISORDERS · 2026-06-26

Brain activity differs in older women with early muscle loss, small study finds

A cross-sectional observational study in Einstein (Sao Paulo) included 59 older women. It compared brain activity, measured by electroencephalography, during reaction-time tasks across groups with different degrees of sarcopenia, or muscle loss. Women with pre-sarcopenia showed higher cortical excitation than controls and those with sarcopenia. The authors say sarcopenia involves nervous system changes as well as muscle loss.

EINSTEIN (SAO PAULO, BRAZIL) · 2026-06-26

Inflammation-to-albumin ratio linked to low muscle mass in men with type 2 diabetes

A study in BMC Endocrine Disorders examined 1009 people with type 2 diabetes, measuring muscle mass by DXA scan. In men, a higher CRP-to-albumin ratio was associated with low muscle mass, including after adjusting for age, triglycerides, HDL cholesterol, diastolic blood pressure and BMI. No significant link was seen in women. The findings show an association, not a cause.

BMC ENDOCRINE DISORDERS · 2026-06-26

Older women with early sarcopenia showed higher brain cortical excitation

A cross-sectional observational study in Einstein (Sao Paulo) recorded brain activity in 59 older women during reaction-time tasks. Women with pre-sarcopenia showed higher cortical excitation than controls and those with sarcopenia. The authors say sarcopenia involves nervous system changes as well as muscle loss. The study design cannot show cause.

EINSTEIN (SAO PAULO, BRAZIL) · 2026-06-26

Review summarises exercise, nutrition and drug approaches for age-related muscle loss

A review in Molecular Neurobiology summarises management of sarcopenia, the age-related decline in muscle mass, strength and function. It reports exercise as the cornerstone of treatment, with nutrition also central. No drug is yet globally approved, though several show potential in clinical trials. The authors say functional benefits and long-term safety of these drugs need further study.

MOLECULAR NEUROBIOLOGY · 2026-06-25

Healthier dietary patterns linked to lower risk of sarcopenic obesity in older adults

A prospective cohort study in BMC Geriatrics followed 3,398 older Chinese adults for four years; 266 developed sarcopenic obesity. Higher DQI-I, MIND and Okinawa diet scores were associated with lower risk, and a higher inflammatory diet score with higher risk. For MIND, Okinawa and the inflammatory score, links were significant only in people obese at baseline. This shows association, not cause.

BMC GERIATRICS · 2026-06-25

Review surveys exercise, nutrition and drug options for age-related muscle loss

A review in Molecular Neurobiology summarises management of sarcopenia, the age-related loss of muscle mass and strength. It reports that exercise is the cornerstone of treatment and that nutrition is a core strategy. No drug is yet globally approved. Several candidates have shown potential in clinical trials, but their functional benefits and long-term safety need further study.

MOLECULAR NEUROBIOLOGY · 2026-06-25

Healthier diet scores linked to lower risk of sarcopenic obesity in older Chinese adults

A prospective cohort study in BMC Geriatrics followed 3,398 older Chinese adults for four years, and 266 developed sarcopenic obesity. Higher DQI-I, MIND and Okinawa diet scores were associated with lower risk, and a more inflammatory diet with higher risk. Associations for the MIND, Okinawa and inflammatory diet scores were significant only in people with obesity at baseline. This design cannot show cause.

BMC GERIATRICS · 2026-06-25

Plant protein, seafood and eggs linked to lower gestational diabetes odds

A case-control study in the Journal of Diabetes Investigation compared 200 pregnant women with gestational diabetes and 263 without, in Iran. Higher plant protein, seafood and egg intake were linked to lower odds of the condition. Total and animal protein showed no clear link. The authors say the design cannot establish causality.

JOURNAL OF DIABETES INVESTIGATION · 2026-06-23

Depression, frailty and sarcopenia linked to cognitive impairment in older Korean women

A cross-sectional study in the Journal of Exercise Rehabilitation looked at 1,065 women aged 65 and over in South Korea. Women with cognitive impairment had more depression, sarcopenia and frailty. Diabetes and arthritis were also linked to impairment. These are associations, so the study cannot show that any of these factors causes cognitive decline.

JOURNAL OF EXERCISE REHABILITATION · 2026-06-23

Review links disrupted body clocks to bone, muscle and cartilage problems

A narrative review in Frontiers in Nutrition summarises animal and human evidence. Circadian disruption, such as from shift work or irregular eating, is associated with osteoporosis, sarcopenia and osteoarthritis. The authors say meal timing may help, but large human trials with clinical endpoints are still needed to confirm any benefit.

FRONTIERS IN NUTRITION · 2026-06-22

Review links disrupted body clocks to bone, muscle and joint problems

A narrative review in Frontiers in Nutrition summarises animal and human evidence that circadian disruption, such as from shift work or poor sleep, is associated with osteoporosis, sarcopenia and osteoarthritis. It discusses meal timing as a possible strategy. The authors state large human trials are still needed to confirm any benefit.

FRONTIERS IN NUTRITION · 2026-06-22

Perspective warns GLP-1 weight-loss drugs can bring nutrition risks without dietary support

A perspective article in The Journal of Nutrition says people on GLP-1 obesity drugs often eat much less. The authors argue this risks low protein, micronutrient gaps, low fibre and lean mass loss. They say nutrition care is rarely provided and call for more research. This is an expert opinion piece, not a trial.

THE JOURNAL OF NUTRITION · 2026-06-20

Perspective argues nutrition care is needed alongside GLP-1 weight-loss drugs

A perspective article in The Journal of Nutrition says GLP-1 obesity drugs sharply cut appetite. The authors warn this may risk low protein, micronutrient and fibre intake, and loss of lean mass. They argue dietitian-led nutrition care should be a core part of treatment. They also list research priorities. This is an opinion-based synthesis, not new trial data.

THE JOURNAL OF NUTRITION · 2026-06-20

Broccoli peptides plus leucine eased muscle loss in aging-model mice

A study in mice, published in Nutrients, used D-galactose to mimic age-related muscle decline. Broccoli-derived peptides or leucine alone partly reversed losses in muscle mass and strength. The combination gave the strongest improvements, along with changes in muscle-related gene activity. This was an animal study, and the results may not apply to people.

NUTRIENTS · 2026-06-19

Review examines L-citrulline and its possible effects on muscle and exercise

A review in NPJ Science of Food summarises rodent and human studies on L-citrulline, a possible supplement for muscle performance and protein metabolism. It covers muscle function and protein synthesis. The authors say more research is needed, including on how it works. They link the topic to aging and sarcopenia.

NPJ SCIENCE OF FOOD · 2026-06-18

Review looks at processing red meat to ease protein intake in infants and older adults

A review in Food Science of Animal Resources looked at how meat types and cuts differ in nutrients and digestibility. It discusses gentle heat, high pressure, dry ageing and fruit enzymes. These may soften meat and make its proteins easier to digest. The review is a summary of existing work, not a new trial.

FOOD SCIENCE OF ANIMAL RESOURCES · 2026-06-18

Study finds 16.9% of older primary care patients at risk of sarcopenia

A study in the Scandinavian Journal of Primary Health Care reviewed records of 396 people aged 65 and older in Izmir. Using the SARC-F questionnaire, 16.9% were at risk of sarcopenia. Older age, female sex, higher BMI, lower ferritin and lower albumin were associated with risk. These are associations, not causes.

SCANDINAVIAN JOURNAL OF PRIMARY HEALTH CARE · 2026-06-18

Review examines L-citrulline and its possible role in muscle performance

A review in NPJ Science of Food summarises rodent and human studies on L-citrulline, a supplement being explored for muscle function and protein metabolism. The authors describe it as a potential aid and list open research questions. These include how it is transported, its effects on mitochondria and its interaction with gut microbes. It reports no new trial.

NPJ SCIENCE OF FOOD · 2026-06-18

Review: processing methods may make red meat easier for infants and older adults to digest

A review in Food Science of Animal Resources looked at how red meat's nutrients and digestibility vary by cut. It describes how gentle heating, high pressure, dry ageing and fruit enzymes can soften meat and break down proteins. The authors suggest this could raise protein intake in infants and older people. It is not a trial.

FOOD SCIENCE OF ANIMAL RESOURCES · 2026-06-18

Routine blood tests linked to sarcopenia risk in older primary care patients

A study in the Scandinavian Journal of Primary Health Care analysed records of 396 people aged 65 and older in İzmir. Using the SARC-F questionnaire, 16.9% were at risk of sarcopenia. Older age, female sex, higher BMI, and lower ferritin and albumin were associated with higher risk. These are associations, not proven causes.

SCANDINAVIAN JOURNAL OF PRIMARY HEALTH CARE · 2026-06-18

Review finds unclear muscle effects of GLP-1 weight-loss drugs in older adults

A scoping review in Current Nutrition Reports looked at GLP-1 receptor agonist drugs for obesity in older adults. Weight loss often comes with muscle loss, raising sarcopenia concerns. Data on muscle and physical performance are limited and inconsistent. The authors say studies on muscle quantity, quality and function are still needed.

CURRENT NUTRITION REPORTS · 2026-06-17

Frailer older Koreans had poorer diet quality, survey data show

A cross-sectional study in BMC Geriatrics used Korean national survey data on 9,263 adults aged 65 and over. Diet quality scores fell as frailty got worse in both men and women. Frailty was also linked to lower education, lower income and living alone. A single-time snapshot cannot show which came first.

BMC GERIATRICS · 2026-06-17

Review: digital tools for muscle loss in dialysis patients show uneven readiness

A narrative review in Frontiers in Nutrition assessed digital health tools for managing sarcopenia, or muscle loss, in patients on maintenance hemodialysis. Activity monitors, apps and remote follow-up look feasible. Continuous biosensors and some AI prediction systems remain at early stages. The evidence is mixed, and the authors call for more multicenter studies and rigorous validation.

FRONTIERS IN NUTRITION · 2026-06-17

Meta-analysis: exercise improves muscle and function in older adults with sarcopenia

A systematic review and meta-analysis in Scientific Reports pooled 72 randomised trials in older adults with sarcopenia. Exercise beat control conditions for muscle mass, strength and physical performance. Effects on quality of life were not significant. Resistance exercise raised muscle mass more than aerobic exercise did.

SCIENTIFIC REPORTS · 2026-06-17

Plant protein linked to lower arthritis risk; animal protein linked to higher osteoarthritis risk

An observational study in Nutrition & Metabolism used UK dietary recalls and hospital records over roughly 12 to 13 years. Vegetable protein was linked to lower risks of osteoarthritis and rheumatoid arthritis. Animal protein was linked to higher osteoarthritis risk. Higher total protein was linked to lower gout risk. These are associations, not proof of cause.

NUTRITION & METABOLISM · 2026-06-17

Review: GLP-1 obesity drugs cause weight loss but often muscle loss in older adults

A scoping review in Current Nutrition Reports looked at GLP-1 drugs for obesity in older adults. It found weight loss often comes with muscle loss, raising concern about sarcopenia. Data on muscle and physical performance are limited and inconsistent. The authors suggest resistance exercise and enough protein may help preserve muscle.

CURRENT NUTRITION REPORTS · 2026-06-17

Frailer older Koreans had lower diet quality, survey data show

A cross-sectional study in BMC Geriatrics analysed national survey data on 9,263 Korean adults aged 65 and older. Frailty affected 14.1% of men and 23.8% of women. It was linked to lower education, lower income and living alone. Diet quality scores fell as frailty worsened in both sexes. The design cannot show which came first.

BMC GERIATRICS · 2026-06-17

Review finds digital tools for muscle loss in dialysis patients still uneven

A narrative review in Frontiers in Nutrition examines digital health tools for sarcopenia, or muscle loss, in people on maintenance hemodialysis. Activity monitors, apps and remote follow-up look feasible. Continuous biosensors and some AI prediction systems remain early-stage. The authors say the evidence is mixed and call for larger studies and validation.

FRONTIERS IN NUTRITION · 2026-06-17

Review of trials finds exercise improves muscle mass and strength in sarcopenia

A systematic review and meta-analysis in Scientific Reports pooled 72 randomised trials in older adults with sarcopenia. Exercise beat control conditions for muscle mass (small effect), strength and physical performance (moderate effects). It showed no significant effect on quality of life. Resistance exercise worked better than aerobic exercise for building muscle mass.

SCIENTIFIC REPORTS · 2026-06-17

Plant protein linked to lower arthritis risk, animal protein to higher osteoarthritis risk

An observational study in Nutrition & Metabolism followed UK participants for about 12 to 13 years. Vegetable protein was associated with lower risks of osteoarthritis and rheumatoid arthritis. Animal protein was associated with higher osteoarthritis risk. Total protein was linked to lower gout risk. These are associations, not proof of cause.

NUTRITION & METABOLISM · 2026-06-17

One year of multicomponent exercise tied to better physical function in older adults with probable sarcopenia

A study in the Journal of Aging Research followed 132 Brazilian older adults with probable sarcopenia. They did a multicomponent exercise program twice weekly for a year. Walking speed, balance and chair-stand and up-and-go times improved. Handgrip-based probable sarcopenia fell from 88.6% to 67.4%. The text does not describe a control group.

JOURNAL OF AGING RESEARCH · 2026-06-15

Year-long group exercise program tied to better physical function in older adults

A study in the Journal of Aging Research followed 132 Brazilian older adults with probable sarcopenia through a one-year exercise program done twice weekly. Walking speed, balance and chair-stand times improved. Grip-based probable sarcopenia fell from 88.6% to 67.4%. The text describes no control group, so the program's effect is harder to separate from other factors.

JOURNAL OF AGING RESEARCH · 2026-06-15

Review finds gap between what people know and do about sports nutrition foods

A narrative review in Nutrients covered 45 full-text articles and four authoritative documents published from 2001 to 2025. It reports a gap between public understanding and use of sports nutrition foods. Common misconceptions involve timing, product choice and dosage. The authors also point to industry problems such as product sameness and weak standardisation.

NUTRIENTS · 2026-06-13

Sarcopenia at high altitude linked to distinct blood immune and metabolic profiles

A case-control study in The Journal of Nutrition, Health & Aging compared 60 people with sarcopenia and 60 controls living at 2000 m in China. Blood tests found distinct immune and metabolic profiles. CD14 and LRG1 were linked to handgrip strength in men. The authors say larger studies are needed to validate the markers.

THE JOURNAL OF NUTRITION, HEALTH & AGING · 2026-06-11

Leucine plus exercise shows early signs of muscle benefit in dialysis patients

A single-centre randomised pilot trial in Kidney Research and Clinical Practice assigned 24 haemodialysis patients to 12 weeks of exercise alone or exercise plus 6 g a day of leucine. In an exploratory responder analysis, the leucine group had higher responder rates for handgrip strength and gait speed. Modest gains in skeletal muscle index were seen only in that group. The trial was small and preliminary.

KIDNEY RESEARCH AND CLINICAL PRACTICE · 2026-06-11

MRNA & GENE THERAPY

Researchers propose a standard score for inflammation after retinal gene therapy

Inflammation is a major limit for eye gene therapy. According to a paper in Ophthalmology Science, grading it has been inconsistent across studies. The authors reviewed published studies and their own centre's data. They propose the VRMACS score, which rates six features using exams and imaging. They say it could help with dosing and safety reporting.

OPHTHALMOLOGY SCIENCE · 2026-07-06

Review examines long-read sequencing and gene editing for rare diseases

A review in Frontiers in Medicine discusses two technologies for rare genetic diseases. Long-read sequencing can detect complex variants and may improve diagnosis. CRISPR-based editors could allow precise correction of disease-causing variants. The authors describe combining them as an opportunity and discuss ethical and regulatory challenges. It is a review, not a clinical trial.

FRONTIERS IN MEDICINE · 2026-07-06

Mouse study finds Sub1 protein contributes to age-related heart failure

A study in Nature Communications found the protein Sub1 is raised in aged mouse hearts and in mouse models of heart failure with preserved ejection fraction. Raising Sub1 shortened lifespan and worsened heart function. Lowering it delayed cardiac aging, even in aged mice. Sub1 appeared to act by stabilising p53. The work was in mice and cells.

NATURE COMMUNICATIONS · 2026-07-06

Commentary lists hurdles for gene therapy in osteoarthritis

A commentary in Frontiers in Bioengineering and Biotechnology says interest in gene therapy for osteoarthritis is growing. It names obstacles: costly viral vector manufacturing, immune barriers to dosing, and limited understanding of disease subtypes. It also covers financing and regulation. Top-line data from two Phase III trials are expected this year. This is an opinion piece, not new trial results.

FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY · 2026-07-06

Researchers propose a scoring system for inflammation after eye gene therapy

A paper in Ophthalmology Science proposes the VRMACS score to grade inflammation after retinal gene therapy. It covers six areas, including vitritis and choroiditis, and draws on published studies and the authors' own centre. The authors say standardised grading could improve safety reporting across trials. It is a proposed framework, not a tested treatment.

OPHTHALMOLOGY SCIENCE · 2026-07-06

Review looks at pairing long-read sequencing with gene editing for rare diseases

A review in Frontiers in Medicine covers long-read DNA sequencing and CRISPR-based gene editing in rare genetic diseases. The authors say sequencing can improve diagnosis, and editing tools may allow correction of disease-causing variants. They also discuss ethical and regulatory challenges. It summarises existing progress and does not report new patient results.

FRONTIERS IN MEDICINE · 2026-07-06

Protein Sub1 drives heart aging and a form of heart failure in mice

A study in Nature Communications found the protein Sub1 is raised in aged mouse hearts and in mouse models of heart failure with preserved ejection fraction. Extra Sub1 shortened lifespan and worsened heart function. Reducing it delayed cardiac aging. The work was in mice and cells, not people.

NATURE COMMUNICATIONS · 2026-07-06

Commentary outlines hurdles for gene therapy in osteoarthritis

A commentary in Frontiers in Bioengineering and Biotechnology says interest in gene therapy for osteoarthritis is growing. It points to manufacturing costs, immune barriers, better disease classification, biomarkers, early diagnosis, financing and regulation. The authors note that top-line data from two Phase III trials are expected this year.

FRONTIERS IN BIOENGINEERING AND BIOTECHNOLOGY · 2026-07-06

Review finds gene therapies for sickle cell disease show strong early results

A systematic review in the European Journal of Haematology covered 25 reports from nine clinical programmes, with 148 treated patients. In one pivotal cohort, 29 of 30 patients met a key pain-crisis-free measure. In another, severe crises resolved in all 25. The authors did not pool results, and note demanding treatment requirements.

EUROPEAN JOURNAL OF HAEMATOLOGY · 2026-07-03

Review traces gene therapy work for radiation-damaged salivary glands

A review in Oral Oncology covers efforts to deliver a water-channel gene, aquaporin-1, to salivary glands harmed by head and neck cancer radiation. It summarises an earlier Phase I trial using adenoviral vectors. It then outlines the design of a follow-up trial using adeno-associated viruses. No new results are reported.

ORAL ONCOLOGY · 2026-07-03

Review finds high early success for sickle cell gene therapies, with heavy treatment demands

A systematic review in the European Journal of Haematology looked at gene therapy trials for sickle cell disease. It covered 25 reports and 148 treated patients. In two pivotal cohorts, most patients had no severe pain crises after treatment. The review notes the process is demanding, involving cell collection, conditioning, cost and long-term monitoring.

EUROPEAN JOURNAL OF HAEMATOLOGY · 2026-07-03

Review traces gene therapy for radiation-damaged salivary glands toward a new trial

A review in Oral Oncology covers efforts to deliver aquaporin-1, a water channel, to salivary glands harmed by head and neck cancer radiation. It describes early adenoviral work and a Phase I trial. The authors then outline the design of a further trial using adeno-associated virus vectors. No results from that newer trial are reported.

ORAL ONCOLOGY · 2026-07-03

Review: blood vessel cells play a central role in muscle health

A review in Circulation Research describes how endothelial cells, which line blood vessels, support skeletal muscle. They help control blood flow and interact with muscle stem cells during regeneration. The authors discuss how their dysfunction is involved in muscular dystrophies, diabetes, peripheral artery disease and sarcopenia, and note that treatments targeting these cells remain underdeveloped.

CIRCULATION RESEARCH · 2026-07-02

Review: blood vessel cells help muscle stem cells and may fail in disease

A review in Circulation Research describes how endothelial cells, which line blood vessels, support muscle health and regeneration. They supply blood and nutrients and interact with muscle stem cells. The authors discuss endothelial dysfunction in muscular dystrophies, diabetes, peripheral artery disease and sarcopenia. They also note barriers that have left treatments in this area underdeveloped.

CIRCULATION RESEARCH · 2026-07-02

Review examines safety issues in gene-based Alzheimer's therapies

A review in Alzheimer's & Dementia covers gene therapies for Alzheimer's disease, including viral gene delivery and antisense oligonucleotides. Delivering such therapies to the central nervous system has raised safety concerns. The authors say safety data from trials are hard to analyse and offer guidelines to make them clearer.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review covers treatments targeting a muscle-nerve signal in neuromuscular diseases

A review in Muscle & Nerve describes ways to boost muscle-specific kinase signaling, which helps keep the nerve-muscle connection working. Approaches include engineered proteins, gene therapy, antibodies and enzyme inhibitors. According to the review, these improved nerve-muscle junction structure and function in preclinical models of several diseases. The review also outlines future clinical development.

MUSCLE & NERVE · 2026-07-01

Alpha-1 patients with more gene therapy knowledge hold more positive views

A survey study in Chronic Obstructive Pulmonary Diseases gathered answers from 1112 people with alpha-1 antitrypsin deficiency. Knowledge scores varied widely. People who knew more were more supportive of gene therapy research and more willing to join trials. The survey measures attitudes, not treatment effects.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES (MIAMI, FLA.) · 2026-07-01

Longevity gene variant tied to platelet changes that calm immune cells

A study in Aging Cell, using human samples, cells and mice, examined LAV-BPIFB4, a gene variant enriched in centenarians. Centenarians and variant carriers had more CD47 on platelets. In lab tests, carriers' platelets dampened monocyte inflammatory activity. Giving mice a lab-made version of the variant's protein raised platelet CD47. These are early laboratory and animal findings, not tests in patients.

AGING CELL · 2026-07-01

New measure of eye lesion growth in macular degeneration varied less than older measures

A retrospective analysis in Investigative Ophthalmology & Visual Science used images from 103 untreated eyes with geographic atrophy, a form of age-related macular degeneration, followed for 18 months. A measure called lesion front displacement fitted a straight-line growth pattern better and varied less than several conventional measures. The authors suggest it may complement existing methods.

INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE · 2026-07-01

Review examines safety issues in gene-based therapies for Alzheimer's disease

A review in Alzheimer's & Dementia looks at medical safety in gene-based Alzheimer's therapies, including viral gene therapy and antisense oligonucleotides. Delivering such treatments to the brain has raised safety concerns. The authors say safety data are hard to analyse and offer guidelines to make them more accessible and easier to interpret.

ALZHEIMER'S & DEMENTIA : THE JOURNAL OF THE ALZHEIMER'S ASSOCIATION · 2026-07-01

Review: boosting MuSK signaling may help nerve-muscle disorders in preclinical models

A review in Muscle & Nerve looks at muscle-specific kinase, a protein that helps keep the nerve-muscle connection working. Several approaches that activate this pathway, including gene therapy and antibodies, improved nerve-muscle function in preclinical models of myasthenia gravis, motor neuron diseases and muscular dystrophies. The authors discuss future clinical development.

MUSCLE & NERVE · 2026-07-01

Alpha-1 patients with more gene therapy knowledge were more supportive of it

A survey of 1,112 people with alpha-1 antitrypsin deficiency, published in Chronic Obstructive Pulmonary Diseases, assessed gene therapy knowledge and attitudes. Average knowledge scores were middling. Those with higher knowledge were more supportive and more willing to join a trial or receive an approved therapy. Participants wanted more education. The survey cannot show cause.

CHRONIC OBSTRUCTIVE PULMONARY DISEASES (MIAMI, FLA.) · 2026-07-01

Longevity gene variant linked to immune-calming platelets in lab and mouse work

A study in Aging Cell examined a gene variant found more often in centenarians. Variant carriers had platelets with more of a surface protein, CD47. Their platelets dampened inflammatory responses in immune cells in lab tests. A version of the protein also raised CD47 on mouse platelets. This is early mechanistic research.

AGING CELL · 2026-07-01

New eye-imaging measure tracks geographic atrophy growth more consistently than older methods

A retrospective analysis in Investigative Ophthalmology & Visual Science used data from 103 untreated eyes with geographic atrophy, an advanced form of age-related macular degeneration, followed for 18 months. A measure called lesion front displacement fit a straight-line model better and varied less than several conventional measures. The authors suggest it could complement existing methods.

INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE · 2026-07-01

Review traces gene editing's progress toward treating genetic diseases

A review in Trends in Molecular Medicine covers precision gene editing tools, including CRISPR nucleases, base editors and prime editors. It discusses clinical applications, from therapies done outside the body to those in vital organs. It also covers personalised treatments for rare diseases, trial progress, delivery challenges and the role of AI.

TRENDS IN MOLECULAR MEDICINE · 2026-06-30

Review covers epigenetic and gene therapies being developed for Rett syndrome

A review in Frontiers in Behavioral Neuroscience surveys approaches for Rett syndrome, a genetic neurodevelopmental disorder, including gene replacement, epigenetic editing and X-chromosome reactivation. It also discusses ongoing clinical trials. The authors name hurdles such as delivery efficiency, immune reactions and a lack of objective biomarkers. It is a review, not new trial results.

FRONTIERS IN BEHAVIORAL NEUROSCIENCE · 2026-06-30

Telomere-damage blocker improves blood stem cell function in aged mice

According to a study in Nature Aging, telomeric antisense oligonucleotides dampened a damage-response pathway in mice with short telomeres. Blood cell function and stem cell fitness improved, and senescence and inflammation fell. Similar results appeared in aged normal mice. Treating human blood stem cells from aged donors in the lab also improved their function.

NATURE AGING · 2026-06-30

Review surveys precision gene editing tools and their clinical progress

A review in Trends in Molecular Medicine traces how gene therapy has moved from adding genes to precisely correcting mutations. It covers CRISPR nucleases, base editors and prime editors, plus clinical trial progress, delivery challenges and the role of AI. It also discusses personalised therapies for rare diseases. The review is not a new trial result.

TRENDS IN MOLECULAR MEDICINE · 2026-06-30

Review surveys gene and epigenetic therapies in development for Rett syndrome

A review in Frontiers in Behavioral Neuroscience covers emerging treatments for Rett syndrome, a genetic neurodevelopmental disorder. It discusses gene replacement, epigenetic editing and X-chromosome reactivation. The authors also analyse data from ongoing clinical trials. They note hurdles remain, including delivery, immune responses and the need for reliable biomarkers.

FRONTIERS IN BEHAVIORAL NEUROSCIENCE · 2026-06-30

Blocking telomere damage signalling improved blood stem cell function in aged mice

A study in Nature Aging used mice lacking telomerase and aged normal mice. Treatment with telomeric antisense oligonucleotides reduced senescence and inflammation and improved blood stem cell function. In the lab, it also improved human blood stem cells from older donors. These are animal and cell findings. Human benefit has not been shown.

NATURE AGING · 2026-06-30

Review surveys biologic therapies for heart disease, from stem cells to gene editing

A review in Signal Transduction and Targeted Therapy looks at biologic treatments for cardiovascular disease. These include recombinant proteins, gene therapies and cell therapies. It covers heart regeneration, genetic heart muscle disease, blood vessel function and lipid control. It is a review of existing work, not a new trial.

SIGNAL TRANSDUCTION AND TARGETED THERAPY · 2026-06-29

Review surveys therapies for mucopolysaccharidoses, rare inherited metabolic diseases

A review in Current Issues in Molecular Biology covers mucopolysaccharidoses, severe inherited diseases in which sugar-chain compounds build up. It says no fully effective cure exists. The article discusses enzyme replacement, stem cell transplantation, gene therapy and other approaches, along with their limitations.

CURRENT ISSUES IN MOLECULAR BIOLOGY · 2026-06-29

Review surveys biologic therapies being developed for cardiovascular disease

A review in Signal Transduction and Targeted Therapy covers biologic treatments for heart and blood vessel disease. These include gene therapies, cell therapies and recombinant proteins. The areas covered are heart regeneration, genetic heart muscle disease, vascular function and blood fat control. The authors describe the potential as promising. The review does not report a new trial.

SIGNAL TRANSDUCTION AND TARGETED THERAPY · 2026-06-29

Review surveys current and emerging treatments for mucopolysaccharidoses, inherited metabolic diseases

A review in Current Issues in Molecular Biology covers therapies for mucopolysaccharidoses, a group of severe inherited metabolic diseases. It discusses enzyme replacement, stem cell transplantation, gene therapy and inhibiting GAG synthesis. The authors note there is no fully effective cure and point to problems and limitations of current approaches.

CURRENT ISSUES IN MOLECULAR BIOLOGY · 2026-06-29

Researchers build tool to edit mitochondrial DNA methylation in cells and mice

A study in Cell Communication and Signaling describes a mitochondrial epigenetic editor tested in human cells and mice. It added methylation at chosen sites and lowered expression of targeted genes. In mice, it changed plasma levels of two brain-injury markers. This is early laboratory work, not a treatment.

CELL COMMUNICATION AND SIGNALING : CCS · 2026-06-27

Mouse and cell study builds a tool to edit methylation on mitochondrial DNA

Researchers reported in Cell Communication and Signaling a tool that adds methylation marks to specific sites on mitochondrial DNA. In human cells, it sharply reduced activity of one gene. In mice, it changed methylation at an aging-linked site, lowered a gene's expression in one brain region and altered two blood markers. This is early laboratory work.

CELL COMMUNICATION AND SIGNALING : CCS · 2026-06-27

Review: gene therapy shows encouraging results in sickle cell disease and β-thalassaemia

A narrative review in Biomedicines covers gene therapy for sickle cell disease and β-thalassaemia. It describes two approaches: adding working genes and editing genes. Clinical studies it cites report many patients with β-thalassaemia no longer needing transfusions, and fewer pain crises in sickle cell disease. Data in children remain limited.

BIOMEDICINES · 2026-06-26

Experimental RNA drug reduced eye damage in mouse and monkey models

A study in Molecular Therapy tested OLX10212, an siRNA that silences the inflammation protein MyD88. Injected into the eye, it produced sustained MyD88 knockdown in mice and rabbits. In animal models of macular degeneration and dry eye, it preserved retina structure and reduced lesion volume or eye surface injury. These are animal results. A phase 1 trial in neovascular AMD patients is ongoing.

MOLECULAR THERAPY : THE JOURNAL OF THE AMERICAN SOCIETY OF GENE THERAPY · 2026-06-26

Second dose of deafness gene therapy improved hearing in four young children

A single-arm trial in Nature Medicine gave a second gene therapy dose to the other ear of four children with OTOF-related deafness. Antibodies from the first dose were present. No dose-limiting toxicity occurred. Hearing thresholds improved in all four, by varying amounts. The authors say longer follow-up and larger groups are needed.

NATURE MEDICINE · 2026-06-26

Review: gene therapies show encouraging results in sickle cell disease and thalassaemia

A narrative literature review in Biomedicines covers gene addition and gene editing for inherited blood disorders. It reports that clinical studies show encouraging results. Many β-thalassaemia patients no longer needed transfusions. Painful sickle cell crises fell markedly or stopped. Data in children are promising but still limited, and long-term safety questions remain.

BIOMEDICINES · 2026-06-26

Gene-silencing eye drug curbs retinal damage in mice and monkeys

A study in Molecular Therapy tested OLX10212, a small RNA drug that silences the inflammation adaptor MyD88. Injected into the eye, it lowered MyD88 in mice and rabbits, preserved retinal structure and function in atrophy models, and shrank abnormal blood vessel lesions in mice and monkeys. A phase 1 trial in people with neovascular macular degeneration is ongoing; no human results are reported.

MOLECULAR THERAPY : THE JOURNAL OF THE AMERICAN SOCIETY OF GENE THERAPY · 2026-06-26

Second dose of gene therapy for inherited deafness shows early promise in four children

A single-arm trial in Nature Medicine gave a second AAV gene therapy dose, in the other ear, to four young children with OTOF-related deafness and pre-existing neutralising antibodies. No dose-limiting toxicity occurred within six weeks. Hearing thresholds in the second ear improved in all four by 26 weeks. One grade 3 neutrophil drop occurred; no serious adverse events. Mouse work preceded the trial. Larger, longer studies are needed.

NATURE MEDICINE · 2026-06-26

Review examines virus-based gene therapy delivery for uveal melanoma, an eye cancer

A review in BioDrugs surveys gene-based treatments for uveal melanoma, the most common primary eye cancer in adults. It says delivery, tumour targeting and durability have limited past efforts. The authors discuss adeno-associated virus vectors as a possible platform. It is a review of existing work, not new trial results.

BIODRUGS : CLINICAL IMMUNOTHERAPEUTICS, BIOPHARMACEUTICALS AND GENE THERAPY · 2026-06-25

Review examines gene therapy delivery challenges for uveal melanoma, an eye cancer

A review in BioDrugs surveyed gene-based treatments for uveal melanoma, the most common eye cancer in adults. Past approaches brought modest clinical gains but faced problems with delivery and tumour targeting. The authors discuss adeno-associated virus vectors as a possible delivery platform, and note that engineering improvements and translational hurdles remain.

BIODRUGS : CLINICAL IMMUNOTHERAPEUTICS, BIOPHARMACEUTICALS AND GENE THERAPY · 2026-06-25

Review surveys engineered viruses for delivering gene therapy to the brain

A review in the International Journal of Molecular Sciences covers adeno-associated virus vectors used to deliver gene therapy to the central nervous system. It notes that neutralising antibodies and limited cargo capacity restrict their effectiveness. It lists approved products for a few rare genetic disorders and expects AI-designed vectors to emerge. These are expectations, not results.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-23

Small trial of infigratinib shows partial tumour response in FGFR2-amplified stomach cancer

A single-arm phase 2 trial in the British Journal of Cancer gave infigratinib to 21 patients with advanced stomach or gastroesophageal junction cancer carrying FGFR2 amplification. Treatment had already failed twice or more. About 24% responded. Median overall survival was 6.7 months. The authors say larger studies are needed.

BRITISH JOURNAL OF CANCER · 2026-06-23

Review covers efforts to improve viral gene delivery to the brain

This review in the International Journal of Molecular Sciences covers engineering of AAV vectors, used to deliver gene therapy to the central nervous system. It says neutralising antibodies and limited cargo capacity restrict their effectiveness. The authors note approved products for a few rare disorders and expect AI-designed vectors to emerge.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-23

Small phase 2 trial tests infigratinib in advanced FGFR2-amplified stomach cancer

A phase 2 trial in the British Journal of Cancer gave infigratinib to 21 patients with FGFR2-amplified stomach or gastroesophageal junction cancer who had failed two or more prior lines of treatment. Confirmed tumour responses occurred in 23.8% of patients. Median overall survival was 6.7 months. Grade 3-4 side effects occurred, with no treatment-related deaths. The authors call for larger studies.

BRITISH JOURNAL OF CANCER · 2026-06-23

Review links short telomeres and telomerase problems to non-malignant lung diseases

A review in Acta Pharmaceutica Sinica B examines telomeres, the protective chromosome ends, and lung disease. It reports that telomere length and telomerase dysfunction are closely related to conditions including interstitial lung disease, COPD and asthma. The authors also outline possible mechanisms, current treatments and knowledge gaps. These are associations drawn from existing literature.

ACTA PHARMACEUTICA SINICA. B · 2026-06-21

Review links short telomeres and telomerase faults to several lung diseases

A review in Acta Pharmaceutica Sinica B examines how telomeres, the protective chromosome ends, and the enzyme telomerase relate to non-malignant lung diseases. These include interstitial lung disease, COPD and asthma. The authors say short-telomere defects are linked to disease progression and susceptibility. They also outline knowledge gaps and possible future treatments.

ACTA PHARMACEUTICA SINICA. B · 2026-06-21

Review: AMH hormone may shield ovarian follicles from chemotherapy in lab models

A narrative review in the Journal of Assisted Reproduction and Genetics covers anti-Müllerian hormone. Lab, tissue and gene therapy studies suggest it can protect the pool of ovarian follicles during chemotherapy. The authors separate established findings from emerging ideas. They note challenges before early-phase human trials can begin.

JOURNAL OF ASSISTED REPRODUCTION AND GENETICS · 2026-06-20

Review explores anti-Müllerian hormone as a way to protect ovaries during chemotherapy

A narrative review in the Journal of Assisted Reproduction and Genetics says lab, ex vivo and gene therapy studies suggest anti-Müllerian hormone can protect the ovarian follicle pool during chemotherapy. No medical measures to prevent this damage currently exist. The authors say human trials are still a challenge, and they separate established findings from hypotheses.

JOURNAL OF ASSISTED REPRODUCTION AND GENETICS · 2026-06-20

Older dogs have fewer, more varied blood vesicles with less microRNA

A study in Veterinary Research Communications compared blood from 24 healthy dogs, young and senior. Senior dogs had lower yields of extracellular vesicles, which carry molecular messages between cells. Their vesicles varied more in size and held less microRNA, especially miR-19b and miR-29c. The authors say these vesicles may help study age-related disorders in dogs.

VETERINARY RESEARCH COMMUNICATIONS · 2026-06-19

NIH gene therapy program shares lessons from early FDA meetings

A report in Human Gene Therapy describes an NIH program developing AAV gene therapies for four rare inherited diseases. It shares its experience of early meetings with the FDA about a candidate for propionic acidemia. Topics included animal studies, toxicology plans and manufacturing. This is a description of regulatory experience, not trial results.

HUMAN GENE THERAPY · 2026-06-19

AI BIOLOGY & DIAGNOSTICS

49

Review examines clearing or calming senescent cells to treat skin aging

A review in GeroScience looks at cellular senescence in skin. Senescent cells can release inflammatory signals that may damage skin structure and function. The authors describe two approaches: senolytics, which remove these cells, and senomorphics, which dampen their signals. They argue clearing existing senescent cells may be safer than blocking their formation.

GEROSCIENCE · 2026-07-08

Researchers propose AI digital twin concept for cognitive aging

A paper in JMIR AI presents a conceptual framework for an AI-driven digital twin to support early detection and monitoring of age-related cognitive decline. It describes layers for data, modeling and application. The authors offer it as a foundation for personalized care. The text reports no testing in people, so its real-world value is unknown.

JMIR AI · 2026-07-08

Review discusses senescent-cell therapies for skin aging and skin disease

A review in GeroScience covers how senescent cells may drive skin aging and skin disease. It describes two approaches: senolytics, which clear senescent cells, and senomorphics, which dampen their inflammatory signals. The authors note that blocking senescence formation could be harmful because it also protects wound healing and guards against cancer. It is a review, not a trial.

GEROSCIENCE · 2026-07-08

Researchers propose an AI 'digital twin' design for cognitive aging

A paper in JMIR AI describes a conceptual framework, not a tested tool. It uses artificial intelligence to combine behavioural, physiological and clinical data. The aim is early detection and monitoring of age-related cognitive decline, and adaptive intervention. The authors say it offers a foundation for precision cognitive care. No results from real patients are reported.

JMIR AI · 2026-07-08

Heart-rate maturation model shows deviation in rats on high-salt diet

A study in Frontiers in Physiology built an 'ANS Age Index' from heart rate variability to track how the autonomic nervous system matures. It followed 18 rats for 11 weeks. A model trained only on control rats was then applied to rats fed 4% or 8% salt diets. The 4% salt group showed a sustained positive deviation from the control trajectory. This is animal research.

FRONTIERS IN PHYSIOLOGY · 2026-07-07

Perspective outlines how AI could support personalised nutrition research and its limits

A Perspective in Nature Communications reviews how artificial intelligence and machine learning are used in precision nutrition. The authors say these models can handle complex data. They also face limits in data quality, interpretability, validation and causal inference. The piece sets out best practices for research and practice. It does not report new trial results.

NATURE COMMUNICATIONS · 2026-07-06

AI model sorts Alzheimer's stages on brain MRI scans with high accuracy

Researchers describe PredatorNet, a deep learning tool that classifies Alzheimer's disease stages from MRI scans. According to a study in Frontiers in Aging Neuroscience, it reached 96.64% accuracy across 1,280 scans in testing. The authors say it highlights brain regions behind its decisions. This is a computer-modelling study, not a test in patient care.

FRONTIERS IN AGING NEUROSCIENCE · 2026-07-06

Review explores 'microbiome age' as a possible marker of aging

A review in iMeta discusses microbiome age, a computed measure of how aged a person's microbial communities look. The authors say a gap between microbiome age and actual age correlates with declines in immune, metabolic and other functions. They propose it as an indicator of aging. The evidence described is correlational.

IMETA · 2026-07-06

AI model classifies Alzheimer's stages on MRI scans with high reported accuracy

A study in Frontiers in Aging Neuroscience describes PredatorNet, a deep learning model for staging Alzheimer's disease from MRI. On a test set of 1,280 scans, it reported 96.64% accuracy. The authors say its decisions can be visualised and linked to relevant brain regions. This is a computational study, not a test in clinical care.

FRONTIERS IN AGING NEUROSCIENCE · 2026-07-06

Review: a 'microbiome age' may track how the body is aging

A review in iMeta examines "microbiome age," a computed measure of microbial community aging. The authors report that a gap between microbiome age and actual age correlates with declines in immune, metabolic and barrier function. They propose it could predict healthspan and disease risk. The evidence described is correlational, and this is a review rather than new data.

IMETA · 2026-07-06

Review outlines tests for detecting early, symptom-free heart failure

A review in Current Cardiology Reports covers diagnostic tests for Stage B heart failure, a phase with heart changes but no symptoms. It describes echocardiography as the cornerstone, along with blood biomarkers and other imaging. The authors say AI may improve detection, and early identification may allow progression to be slowed.

CURRENT CARDIOLOGY REPORTS · 2026-07-04

Review discusses tailoring surgical recovery programmes to individual patients

A narrative review in the Journal of Personalized Medicine looks at adding precision medicine to Enhanced Recovery After Surgery programmes. Recovery still varies widely between patients. The authors propose a conceptual model that adapts care to individual risk. They note that most precision tools are not yet validated for routine use and that more testing is needed.

JOURNAL OF PERSONALIZED MEDICINE · 2026-07-04

Review surveys tests for spotting early, symptom-free heart failure

A review in Current Cardiology Reports covers tests for Stage B heart failure, a stage before symptoms appear. It names echocardiography as the cornerstone, with blood markers and other imaging playing roles. It also discusses artificial intelligence as an emerging tool. The authors say earlier detection may create a window for prevention.

CURRENT CARDIOLOGY REPORTS · 2026-07-04

Review proposes tailoring surgical recovery programmes to individual patients

A narrative review in the Journal of Personalized Medicine looks at adding precision medicine to Enhanced Recovery After Surgery programmes. Recovery still varies between patients, even in well-run programmes. The authors say most precision tools are not yet validated for routine use. They propose a "precision ERAS" model and call for further testing.

JOURNAL OF PERSONALIZED MEDICINE · 2026-07-04

Review describes multi-omics profiling for precision care in chronic kidney disease

A review in the Journal of Clinical Medicine describes how multi-omics profiling, covering genomics, transcriptomics, proteomics and metabolomics, may help clinicians stratify people with chronic kidney disease and plan treatment and follow-up. It notes the disease affects up to 14% of people worldwide, with patient numbers rising from 351 million in 1990 to almost 674 million in 2021. It reports no new trial results.

JOURNAL OF CLINICAL MEDICINE · 2026-07-03

Smartphone-based cognitive testing for Alzheimer's is being piloted in a small study

This is a study protocol in JMIR Research Protocols, not a results paper. Researchers built a smartphone tool combining cognitive games, sensor data such as steps and sleep, and surveys. A six-month pilot in people with mild cognitive impairment or mild Alzheimer's will test feasibility and compare it with standard clinical assessments.

JMIR RESEARCH PROTOCOLS · 2026-07-03

Review: multi-omics and machine learning may support personalised chronic kidney disease care

A review in the Journal of Clinical Medicine describes chronic kidney disease, which affects up to 14% of people worldwide. It argues that profiling genes, proteins and metabolites could yield molecular signatures. These could help clinicians group patients and plan treatment and follow-up. The piece frames this as a shift toward precision medicine.

JOURNAL OF CLINICAL MEDICINE · 2026-07-03

Smartphone tests for tracking Alzheimer's-related thinking changes enter pilot study

This is a study protocol in JMIR Research Protocols, not a results paper. Researchers built a smartphone toolkit combining cognitive tests, game-based tasks and passive data such as steps and sleep. A six-month pilot in people with mild cognitive impairment or mild Alzheimer disease will test feasibility and compare the data with standard clinical assessments.

JMIR RESEARCH PROTOCOLS · 2026-07-03

Review surveys handwriting analysis with AI for spotting Parkinson's and Alzheimer's

A review in Sensors surveys computer methods that analyse handwriting to detect Parkinson's and Alzheimer's disease. Several studies it covers report accuracy often above 95% for Parkinson's on benchmark datasets. Alzheimer's work increasingly combines movement and spatial handwriting features. The review is a guide for researchers, not a test of clinical use.

SENSORS (BASEL, SWITZERLAND) · 2026-07-02

Paper outlines a framework for using AI to predict disease before symptoms

A conceptual article in BMJ Health & Care Informatics proposes a framework for using artificial intelligence on large biomedical datasets to predict health changes before symptoms appear. It is not a trial and presents no new patient results. The authors note remaining challenges, including real-world clinical validation and implementation, and set out future priorities.

BMJ HEALTH & CARE INFORMATICS · 2026-07-02

Machine learning models tested for predicting depressive symptoms in older English adults

A study in JMIR Formative Research used data from the English Longitudinal Study of Ageing. Researchers tested eight machine learning models to predict clinically significant depressive symptoms two years later in adults aged 50 and over. They also compared ways of encoding categorical variables. The text provided does not include the results.

JMIR FORMATIVE RESEARCH · 2026-07-02

Review surveys imaging tools for muscle and bone damage in cancer survivors

A review in the Journal of Orthopaedic Surgery and Research examines imaging methods used to track bone and muscle problems after cancer treatment. These include bone density loss, sarcopenia and osteonecrosis. The methods covered are DXA, CT, MRI, PET/CT and ultrasound. The authors say the tools could aid early detection. The review reports no new patient data.

JOURNAL OF ORTHOPAEDIC SURGERY AND RESEARCH · 2026-07-02

Review surveys handwriting analysis as a way to detect Parkinson's and Alzheimer's

A review in Sensors examines computer methods that analyse handwriting to detect Parkinson's and Alzheimer's diseases. Several studies report accuracy frequently above 95% for Parkinson's on benchmark datasets. Alzheimer's research increasingly combines movement and spatial handwriting features. The review is a guide for researchers, not a test of a screening tool in patients.

SENSORS (BASEL, SWITZERLAND) · 2026-07-02

Paper proposes framework for using AI to predict disease before symptoms appear

This is a conceptual paper in BMJ Health & Care Informatics, not a test of a tool. The authors argue that AI applied to large biomedical datasets could predict health changes before symptoms start. They set out a framework for preventive, precision medicine. They also flag remaining challenges, including clinical validation and real-world use.

BMJ HEALTH & CARE INFORMATICS · 2026-07-02

Machine learning models tested for predicting depressive symptoms in older adults

A study in JMIR Formative Research used data from the English Longitudinal Study of Ageing. It tested eight machine learning models to predict clinically significant depressive symptoms two years later in adults aged 50 and over. Over 120 features were analysed. The text provided is cut off before the results, so performance is not reported here.

JMIR FORMATIVE RESEARCH · 2026-07-02

Review examines imaging tools for muscle and bone problems in cancer survivors

A review in the Journal of Orthopaedic Surgery and Research looks at imaging methods used to assess muscle and bone health after cancer treatment. These include DXA, CT, MRI, PET/CT and ultrasound. Problems covered include bone density loss and sarcopenia. The authors say imaging could help early detection and guide care. It is a review, not a new trial.

JOURNAL OF ORTHOPAEDIC SURGERY AND RESEARCH · 2026-07-02

Review finds AI often matches doctors at spotting mild cognitive impairment, but evidence is small

A scoping review in Medicine analysed 71 studies on AI for diagnosing mild cognitive impairment. Accuracy ranged from 62% to 100%. Only 8 studies compared AI directly with physicians. In those, AI generally matched or beat them. The authors say the comparisons were few and varied in method.

MEDICINE · 2026-07-01

New AI model predicts disease from blood proteins using very few patient samples

A paper in Bioinformatics presents ProMeta, a machine-learning method using blood protein profiles. In tests with only 2 cases and 2 controls, it reached an average AUROC of about 0.69. The authors report that is a 24.6% relative gain over the best baseline methods. It is a computational benchmark, not a clinical test.

BIOINFORMATICS (OXFORD, ENGLAND) · 2026-07-01

Review: machine learning may help use blood-brain barrier markers in stroke care

A review in Physiological Reports discusses how damage to the blood-brain barrier shapes ischemic stroke. It also covers how machine learning can combine imaging, molecular and clinical data to predict outcomes. The authors say barriers remain, including inconsistent data, few long-term datasets and models that are hard to interpret.

PHYSIOLOGICAL REPORTS · 2026-07-01

AI model combining genetic and clinical data improves prostate cancer detection in Korean men

Researchers reported in Investigative and Clinical Urology on an AI model for diagnosing prostate cancer before biopsy. It combined routine clinical data with a genetic risk score. In 249 test patients, accuracy (AUC) rose from 0.859 to 0.892 with the genetic score added. This was a model-development study, not a trial of patient outcomes.

INVESTIGATIVE AND CLINICAL UROLOGY · 2026-07-01

Immune receptor patterns used to build an aging clock, with older readings after COVID-19

A study in Aging Cell analysed blood DNA from 195 healthy Chinese adults and 94 people after COVID-19. Immune receptor diversity declined with age. Changes were stronger after COVID-19, and the researchers' clock estimated older biological age in that group. The design shows an association and does not prove COVID-19 causes faster aging.

AGING CELL · 2026-07-01

Review: AI models using oral bacteria can spot mouth cancer, but need validation

A review in Clinical and Translational Medicine looked at AI applied to oral microbiome data in oral squamous cell carcinoma. Models separated patients from healthy controls very well in retrospective, single-centre cohorts. The authors caution that these results may be inflated by small cohorts, batch effects, selection bias and a lack of independent external validation.

CLINICAL AND TRANSLATIONAL MEDICINE · 2026-07-01

Study uses heart rate variability to assess heart risk in older adults

A study in the Journal of Clinical Medicine involved 100 people aged 65 and older: 54 at risk of developing cardiovascular disease and 46 without risk. Researchers measured heart rate variability with a computer photoplethysmograph and built logistic regression and random forest machine learning models. The text provided does not include the results.

JOURNAL OF CLINICAL MEDICINE · 2026-07-01

Older biological age linked to higher odds of cognitive impairment in US survey

A study in the Yonsei Medical Journal analysed 2,202 people from a US national health survey. Each extra year of one biological age measure, PhenoAge, was linked to a 5% to 8% higher risk of cognitive impairment, depending on the test. This is an association, not proof of cause. The authors call it suggestive.

YONSEI MEDICAL JOURNAL · 2026-07-01

Review: AI often matched or beat physicians at spotting mild cognitive impairment

A scoping review in Medicine analysed 71 studies of AI for diagnosing mild cognitive impairment. Accuracy ranged from 62% to 100%. Only 8 studies compared AI directly with physicians. In those, AI generally matched or exceeded doctors, but the comparisons were few and varied in method, so the evidence remains small.

MEDICINE · 2026-07-01

New AI model predicts disease from blood proteins using very few samples

Researchers report in Bioinformatics a machine-learning tool called ProMeta. It uses blood protein profiles to diagnose and predict disease when patient samples are scarce. In tests with only four samples, it scored about 0.69 on a standard accuracy measure. That was 24.6% better than the best comparison methods. These are computational benchmarks, not clinical use.

BIOINFORMATICS (OXFORD, ENGLAND) · 2026-07-01

Review: machine learning may help track blood-brain barrier damage after stroke

A review in Physiological Reports examines how the blood-brain barrier breaks down during ischemic stroke. It discusses how machine learning could combine imaging, molecular and clinical data to predict outcomes. The authors say limited long-term datasets, varied data and hard-to-interpret models still block use in clinics.

PHYSIOLOGICAL REPORTS · 2026-07-01

AI model adding genetic risk scores improves prostate cancer detection in Korean men

A study in Investigative and Clinical Urology built AI models to predict prostate cancer before biopsy. One combined routine clinical and lab data with a Korean-specific genetic score. In an independent test group of 249 patients, it scored higher than the model without genetic data (AUC 0.892 versus 0.859).

INVESTIGATIVE AND CLINICAL UROLOGY · 2026-07-01

Immune-cell aging clock suggests COVID-19 may speed immune aging

A study in Aging Cell analysed blood DNA from 195 healthy Chinese adults and 94 people after COVID-19. Immune receptor diversity fell with age, and these changes were stronger after COVID-19. The team built an immune aging clock that read older in post-COVID cases. The study shows a link and cannot prove cause.

AGING CELL · 2026-07-01

Review: AI tools using oral bacteria data may help identify mouth cancer

A review in Clinical and Translational Medicine looked at AI models applied to oral microbiome data in oral squamous cell carcinoma. Some models separated patients from healthy controls very accurately. But these were retrospective, single-centre studies without independent external validation, so the authors urge caution when interpreting the results.

CLINICAL AND TRANSLATIONAL MEDICINE · 2026-07-01

Small study tests pulse-based heart rhythm data to flag cardiovascular risk in seniors

A study in the Journal of Clinical Medicine examined 100 people aged 65 and older, 54 at risk of cardiovascular disease and 46 not. Researchers analysed heart rate variability from photoplethysmographic pulse signals and built machine-learning models to evaluate its link to risk. The available text ends before any results, so how well the approach performed is unclear.

JOURNAL OF CLINICAL MEDICINE · 2026-07-01

Higher biological age linked to greater risk of cognitive impairment

An observational study in the Yonsei Medical Journal used US national survey data on 2202 participants. After adjustment, each one-year increase in PhenoAge, a blood-based biological age measure, was associated with 5% to 8% higher risk of cognitive impairment, depending on the test. A random forest model performed best at predicting impairment on one test. The authors say PhenoAge has suggestive value for identifying risk.

YONSEI MEDICAL JOURNAL · 2026-07-01

Review surveys how soft wearable electronics are being combined with AI

A review in Nano-Micro Letters summarises progress in soft, skin-worn electronics paired with artificial intelligence. It covers materials, manufacturing and learning-based methods that handle noisy signals. The authors also discuss remaining challenges. The text does not describe human health, aging or longevity findings.

NANO-MICRO LETTERS · 2026-06-30

Review: facial analysis with AI is an early, unproven tool for Alzheimer's

A narrative review in Alzheimer's Research & Therapy looked at using facial analysis and artificial intelligence in Alzheimer's disease. Current evidence is limited by small, mostly single-center studies and little external validation. The authors say it is better seen as a candidate tool for risk sorting and monitoring, not a stand-alone diagnostic test.

ALZHEIMER'S RESEARCH & THERAPY · 2026-06-29

Review surveys AI and multi-omics tools in endometrial cancer research

A narrative review in Functional & Integrative Genomics covers how artificial intelligence is used with multi-omics data in endometrial cancer. Applications include molecular subtyping, predicting survival and recurrence, and finding drug targets. The authors note challenges such as differing cohorts, batch effects and underrepresentation of some ethnic groups. It is a review, not a new trial.

FUNCTIONAL & INTEGRATIVE GENOMICS · 2026-06-29

Review weighs ways to adapt amyloid brain scans when imaging is difficult

A narrative review in Diagnostics looked at 16 studies on amyloid PET scans under difficult conditions, such as head motion. Moderate cuts in scan time generally kept measurements usable. Visual reading was more vulnerable with bigger cuts. AI image enhancement helped, but evidence was model-specific. Motion correction had little supporting evidence.

DIAGNOSTICS (BASEL, SWITZERLAND) · 2026-06-29

Machine-learning system tested for sorting Alzheimer's disease stages from clinical data

A study in Diagnostics describes FLAME, a computer system that classifies five stages of cognitive decline, from normal to Alzheimer's disease, using structured clinical data. The authors tested many machine-learning models and a privacy-preserving federated setup. The best single deep-learning model reached an accuracy of 0.7810. The summary text provided is incomplete.

DIAGNOSTICS (BASEL, SWITZERLAND) · 2026-06-29

Review: facial analysis for Alzheimer's is promising but still limited

A narrative review in Alzheimer's Research & Therapy examines using facial expression analysis and artificial intelligence in Alzheimer's disease. The authors say evidence is limited by small, mostly single-center studies and little external validation. They see it as a possible auxiliary tool for risk sorting and monitoring, not a stand-alone diagnostic test.

ALZHEIMER'S RESEARCH & THERAPY · 2026-06-29

Review examines AI and multi-omics tools for endometrial cancer care

A narrative review in Functional & Integrative Genomics looks at how artificial intelligence and multi-omics data are used in endometrial cancer. Applications include molecular subtyping, predicting survival and recurrence, and finding drug targets. The authors note challenges such as differences between cohorts, batch effects and under-representation of some ethnic groups.

FUNCTIONAL & INTEGRATIVE GENOMICS · 2026-06-29

STRESS RESILIENCE & NERVOUS SYSTEM 47

Review links amygdala structure and function to social and political behaviour

A review in Brain Sciences focuses almost entirely on the amygdala, a brain region involved in emotion. It discusses how brain structure relates to behaviour in groups, including political parties. It also covers how this relationship evolved from non-human primates to humans and may change with aging or disease.

BRAIN SCIENCES · 2026-06-30

Review surveys how brain circuits coordinate with other organs in health and disease

A review in Frontiers in Cell and Developmental Biology examines how the central nervous system helps regulate body functions. It notes that brain dysfunction is strongly associated with neurological, metabolic and cardiovascular diseases. The authors discuss circuit-level mechanisms and possible therapeutic targets. It is a broad review and reports no new experimental findings.

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY · 2026-06-29

Planned trial will test ear nerve stimulation for insomnia after stroke

A trial protocol in Frontiers in Psychiatry describes a planned single-blind randomised trial, so there are no results yet. It will enroll 48 people with insomnia after stroke, assigned equally to ear-based vagus nerve stimulation or a sham version, five days a week for four weeks alongside standard care. The main outcomes are MRI brain measures. Evidence for this approach in post-stroke insomnia is limited to a few case reports.

FRONTIERS IN PSYCHIATRY · 2026-06-29

Review links brain circuits to body-wide regulation and disease

A review in Frontiers in Cell and Developmental Biology looks at how the brain and spinal cord coordinate the body's systems. The authors say problems in the central nervous system are strongly associated with neurological, metabolic and heart conditions. They discuss possible treatment targets. It is a review, not new experimental data.

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY · 2026-06-29

Trial planned to test ear nerve stimulation for insomnia after stroke

A trial protocol in Frontiers in Psychiatry describes a planned randomised study of ear-based vagus nerve stimulation in 48 people with insomnia after stroke. Half will get real stimulation and half a sham version, for four weeks. The main outcomes are brain MRI measures. This is a protocol only, so there are no results yet.

FRONTIERS IN PSYCHIATRY · 2026-06-29

Self-compassion linked to resilience in medical students, partly through savoring

A cross-sectional study in BMC Medical Education surveyed 310 students at Kashan University of Medical Sciences. Higher self-compassion was associated with higher resilience. Savoring, the ability to enjoy positive experiences, partly accounted for that link. Because the design is correlational, it cannot show that one trait causes the other.

BMC MEDICAL EDUCATION · 2026-06-25

Savoring partly explains the link between self-compassion and resilience in students

A cross-sectional study in BMC Medical Education surveyed 310 students at a medical sciences university in Iran. Self-compassion, savoring and resilience were all positively linked. Savoring partly accounted for the link between self-compassion and resilience. Because the design is correlational, it cannot show that one trait causes another.

BMC MEDICAL EDUCATION · 2026-06-25

Brain stimulation for chronic insomnia shows limited, inconsistent evidence so far

A narrative review in Nature and Science of Sleep examined non-invasive brain stimulation methods for chronic insomnia. Studies suggest possible gains in subjective sleep quality. But the evidence is limited by small samples, varied sham designs, short follow-up and inconsistent findings. The authors propose a more individualised approach for future research.

NATURE AND SCIENCE OF SLEEP · 2026-06-24

Review examines how ear-based vagus nerve stimulation works and where research falls short

A review in Frontiers in Neuroscience looks at transcutaneous auricular vagus nerve stimulation, a technique that stimulates a nerve through the ear. It examines how the method may act and how stimulation settings could be optimised. The authors also discuss the gap between research settings and standardised clinical use.

FRONTIERS IN NEUROSCIENCE · 2026-06-24

Review finds mixed evidence for radon bath therapy in rheumatic diseases

A narrative review in Clinical Rheumatology examines radon balneotherapy, a low-dose radiation treatment. Some studies report benefits in pain, function and quality of life in arthritis conditions. The authors say varied protocols, study quality and added heat or carbon dioxide limit conclusions. Evidence on heart safety is sparse, and its isolated effectiveness remains unclear.

CLINICAL RHEUMATOLOGY · 2026-06-24

Review: bone health is shaped by signals from other organs

A review in Research summarises how organs communicate with bone through hormonal, immune, metabolic and nerve networks. It covers osteoporosis, osteoarthritis, rheumatoid arthritis and disc degeneration, which are linked to non-bone organs. The authors also discuss biomarkers, imaging and open questions for diagnosing and managing bone disease.

RESEARCH (WASHINGTON, D.C.) · 2026-06-24

Review finds brain stimulation for chronic insomnia shows promise but weak evidence

A narrative review in Nature and Science of Sleep examined four non-invasive brain stimulation methods for chronic insomnia. Studies suggest possible gains in self-reported sleep quality and some measured sleep traits. The evidence is limited by small samples, varied sham designs, short follow-up and inconsistent results. The authors propose a more individualised approach for future work.

NATURE AND SCIENCE OF SLEEP · 2026-06-24

Hypothesis paper proposes dementia as a disorder of biological memory

A hypothesis article in Frontiers in Dementia proposes a new way to view Alzheimer's disease and related dementias. It suggests they arise from disruptions across five linked levels, from genetics to body-brain signaling. The model draws on studies from 2010 to 2025. It is a theoretical framework, not tested evidence.

FRONTIERS IN DEMENTIA · 2026-06-24

Review finds radon bath therapy evidence for rheumatic disease is limited

A narrative review in Clinical Rheumatology examined radon baths, a low-dose radiation treatment. Some studies report less pain and better function in arthritis. But study quality varies, and heat and other treatments confound results. Cardiovascular safety evidence is sparse. The authors say its effectiveness and long-term safety remain insufficiently established.

CLINICAL RHEUMATOLOGY · 2026-06-24

Review links bone diseases to signals from other organs

A review in the journal Research summarises evidence that bone is regulated by hormonal, immune, metabolic and nerve networks. Conditions such as osteoporosis and osteoarthritis are reported to be closely associated with other organs. The authors discuss gut-bone and brain-related pathways, biomarkers and imaging, and note research gaps and unanswered questions.

RESEARCH (WASHINGTON, D.C.) · 2026-06-24

Hot flushes linked to higher hair cortisol in small study of midlife Latinas

A cross-sectional pilot study in Comprehensive Psychoneuroendocrinology included 45 midlife Latinas. After adjusting for age and education, hot flushes and night sweats were associated with higher hair cortisol. The link became only suggestive after adjusting for perceived stress. The authors call the findings exploratory and say larger studies are needed.

COMPREHENSIVE PSYCHONEUROENDOCRINOLOGY · 2026-06-23

Depression linked to age-dependent differences in brain-predicted age on MRI

A study in Psychological Medicine used MRI scans from 190 people, 80 of them with major depression, in a brain age model. Depression was associated with age-dependent differences in brain age. A stronger morning cortisol response was linked to younger-appearing brains. Females also had younger-appearing brains than males. These are associations only.

PSYCHOLOGICAL MEDICINE · 2026-06-23

Hot flashes linked to higher hair cortisol in small study of midlife Latinas

A pilot study in Comprehensive Psychoneuroendocrinology analysed 45 midlife Latinas at one point in time. After adjusting for age and education, recent vasomotor symptoms, such as hot flashes, were associated with higher hair cortisol. The link weakened after adjusting for perceived stress. The authors call the findings exploratory and say larger studies are needed.

COMPREHENSIVE PSYCHONEUROENDOCRINOLOGY · 2026-06-23

Depression linked to age-dependent differences in MRI-estimated brain age

A study in Psychological Medicine used brain scans from 190 people, 80 of them with major depression, and a brain age prediction model. Depression was associated with age-dependent differences in estimated brain age. A higher cortisol awakening response was linked to younger-looking brains. Females showed younger-looking brains than males. The design shows associations, not cause.

PSYCHOLOGICAL MEDICINE · 2026-06-23

Review links overactive brain stress circuit to early Alzheimer's mood and sleep symptoms

A review in Molecular Psychiatry discusses the locus coeruleus-norepinephrine system, a brain arousal and stress circuit. Clinical and animal studies implicate its overactivity in early Alzheimer's symptoms such as anxiety and sleep problems. The authors suggest imaging could detect problems early and guide future treatments. These are proposals, not proven therapies.

MOLECULAR PSYCHIATRY · 2026-06-22

Review links overactive brain arousal circuit to early Alzheimer's mood and behaviour symptoms

A review in Molecular Psychiatry covers clinical and animal research on the locus coeruleus-norepinephrine system, a brain circuit involved in arousal and stress. The authors say its overactivity may drive early Alzheimer's symptoms such as anxiety, agitation and sleep problems. They suggest it could be a treatment target, but this remains a proposal.

MOLECULAR PSYCHIATRY · 2026-06-22

Review links brain stem stress-system changes to cognitive aging and neurodegeneration

A review in Neural Regeneration Research looks at the locus coeruleus, a small brain region that makes norepinephrine. It reports changes there in aging, Alzheimer's and Parkinson's, including tau buildup and altered connectivity. The evidence comes from human and animal work. The review describes links, and proposed mechanisms include inflammation and oxidative stress.

NEURAL REGENERATION RESEARCH · 2026-06-20

Review reports yoga linked to several physical and mental health benefits

A review in the World Journal of Methodology summarises literature on yoga. It reports benefits for fitness, cognition and mood, and for blood sugar, cholesterol and blood pressure in metabolic syndrome. It also describes possible mechanisms, such as lower stress and inflammation. The text gives no study sizes or quality ratings, so the strength of the evidence is unclear.

WORLD JOURNAL OF METHODOLOGY · 2026-06-20

Review proposes nerve-immune disruption as a driver of male sexual dysfunction

A review in the Journal of Neuroinflammation proposes that disrupted nerve-immune signalling may link several causes of male sexual dysfunction, from diabetic nerve damage to chronic pelvic pain. It discusses nerve-stimulation approaches as possible treatments. The authors note that direct clinical evidence in this condition remains limited.

JOURNAL OF NEUROINFLAMMATION · 2026-06-20

Review links a brain-stem noradrenaline system to cognitive aging and neurodegeneration

A review in Neural Regeneration Research covers the locus coeruleus-norepinephrine system. It reports growing evidence of changes in aging and in Alzheimer's and Parkinson's diseases, in humans and animal models. These include tau buildup and altered connectivity. The review describes possible mechanisms, but it does not show that these changes cause disease.

NEURAL REGENERATION RESEARCH · 2026-06-20

Review reports a range of physical and mental benefits linked to yoga

A review in the World Journal of Methodology summarises literature on yoga. It reports benefits for fitness, mood, attention and memory, and for metabolic syndrome measures such as blood sugar, cholesterol and blood pressure. It also describes possible mechanisms, including lower stress and inflammation. As a review, it summarises other studies rather than testing yoga directly.

WORLD JOURNAL OF METHODOLOGY · 2026-06-20

Review proposes nerve-immune link as shared factor in male sexual dysfunction

A review in the Journal of Neuroinflammation proposes that disrupted nerve-immune signalling may be a common pathway in male sexual dysfunction. It discusses nerve stimulation approaches as possible treatments. The authors note that direct clinical evidence in this condition remains limited. The framework is a proposal that needs further research.

JOURNAL OF NEUROINFLAMMATION · 2026-06-20

Researchers propose a model of how stress affects teachers and classrooms

A paper in Frontiers in Psychology proposes the ATLAS model of teacher stress. It combines biological and interactional processes, and acute and chronic stress. The authors say it could explain how teacher stress affects classrooms and student development. It is a conceptual model, not a test of data.

FRONTIERS IN PSYCHOLOGY · 2026-06-19

Review examines how cholinergic signalling may regulate brain inflammation

A review in Frontiers in Immunology discusses how acetylcholine signalling interacts with microglia, the brain's immune cells, and with their metabolism. It covers evidence in Alzheimer's, Parkinson's, stroke and multiple sclerosis. It also outlines drug and vagus nerve stimulation approaches as emerging strategies. It reports no new experiments.

FRONTIERS IN IMMUNOLOGY · 2026-06-19

Researchers propose a new model of how stress affects teachers and students

A paper in Frontiers in Psychology proposes the ATLAS model of teacher stress in classrooms. It combines biological and interactional processes with acute and chronic stress. The authors say teachers face above-average burnout rates. The model is a conceptual framework. The paper does not report a test of it.

FRONTIERS IN PSYCHOLOGY · 2026-06-19

Review examines how acetylcholine signalling may regulate brain inflammation through microglia

A review in Frontiers in Immunology discusses how cholinergic signalling interacts with microglia, the brain's resident immune cells. It covers links to metabolism and evidence in Alzheimer's, Parkinson's, stroke and multiple sclerosis. It also describes drug and vagus nerve stimulation approaches as emerging strategies. It summarises existing research rather than presenting new data.

FRONTIERS IN IMMUNOLOGY · 2026-06-19

Review examines engineered food polysaccharides targeting gut bacteria linked to brain health

A review in Current Research in Food Science examines engineered food-derived polysaccharides designed to steer gut bacteria that produce short-chain fatty acids. The authors describe imbalance in these microbes as a driver of nerve injury. They say natural polysaccharides are limited by poor targeting, varied responses between people and low bioavailability, which modification aims to address. They also discuss conflicting findings and major clinical translation bottlenecks.

CURRENT RESEARCH IN FOOD SCIENCE · 2026-06-18

Review examines engineered food polysaccharides as precision prebiotics for brain health

A review in Current Research in Food Science discusses engineered food-derived polysaccharides as precision prebiotics. The aim is to target gut microbes that produce short-chain fatty acids and protect the brain via the gut-brain axis. The authors say natural polysaccharides face poor target specificity, high variation between people and low bioavailability. They note conflicting findings on short-chain fatty acids and major clinical translation bottlenecks.

CURRENT RESEARCH IN FOOD SCIENCE · 2026-06-18

Review: Ayurvedic herbs discussed as possible aids to brain cell growth and cognition

A review in Neurochemistry International discusses Ayurvedic herbs such as Brahmi and Ashwagandha. The authors describe proposed effects on new neuron growth, inflammation and brain-derived neurotrophic factor, mostly in stress and animal models. They suggest these herbs could inform future therapies for cognitive decline. It is a review, not a human trial.

NEUROCHEMISTRY INTERNATIONAL · 2026-06-17

Loneliness and hair cortisol show a curved link in older adults

A study in Comprehensive Psychoneuroendocrinology looked at 126 older adults in China at elevated cardiovascular risk. Hair cortisol appeared higher at low-to-moderate loneliness and lower at higher loneliness. The authors call the findings preliminary. The result was sensitive to removing a few influential cases. Longitudinal studies are needed to clarify timing and causes.

COMPREHENSIVE PSYCHONEUROENDOCRINOLOGY · 2026-06-17

Review explores Ayurvedic herbs and brain cell growth in aging

A review in Neurochemistry International discusses Ayurvedic herbs, including Brahmi, Gotu Kola and Ashwagandha, studied for effects on neurogenesis, neuroplasticity and cognition. In chronic stress models, their effects are proposed to work through antioxidant, anti-inflammatory, neurotransmitter and gut microbiota mechanisms. The authors suggest the herbs could help develop new therapies for age-related cognitive decline, but the summary reports no results from human trials.

NEUROCHEMISTRY INTERNATIONAL · 2026-06-17

Loneliness and stress hormone in hair show a curved, uncertain link

A study in Comprehensive Psychoneuroendocrinology looked at 126 adults aged 60 and over at raised heart risk. Hair cortisol appeared higher at low-to-moderate loneliness and lower at high loneliness. The result was sensitive to removing a few influential cases. The authors call the findings preliminary and call for longer-term studies.

COMPREHENSIVE PSYCHONEUROENDOCRINOLOGY · 2026-06-17

Among lonely young adults, stress-system patterns linked to fewer mental health symptoms

A study in Biological Psychology followed 188 undergraduates. Among those with high loneliness, certain heart and nervous system patterns at rest and under challenge were linked to fewer depressive symptoms, sleep problems and anxiety. This was a single observational study of students, so it shows associations rather than causes.

BIOLOGICAL PSYCHOLOGY · 2026-06-16

Stress-system activity may shape how lonely young adults cope with mental health

A study in Biological Psychology of 188 undergraduates examined heart-related measures of the autonomic nervous system. Among lonely students, certain patterns at rest and under challenge were linked to fewer depressive symptoms, sleep problems and anxiety. The design shows associations only, not causes, and involved young university students.

BIOLOGICAL PSYCHOLOGY · 2026-06-16

Small non-randomised study tests stress programme on cellular aging markers in nurses

A pilot study in BMC Nursing assigned 60 nurses aged 45 to 60 to a 12-week stress programme or a control group. It was not randomised. The programme group had lower perceived stress and higher SOD. A significant difference in telomere length was also seen after the programme. The study is small and preliminary.

BMC NURSING · 2026-06-13

Stressful life events linked to combined physical and cognitive decline in older adults

An observational study in Gerontology followed 701 older adults in Finland for about 8 years. Greater lifetime stressful events were linked to cognitive decline only when physical decline occurred too. Sudden stressful events, especially bereavement, were linked to decline. Long-lasting stressors were not. The design shows association, not cause.

GERONTOLOGY · 2026-06-13

Stress programme linked to telomere difference in small nurse pilot

A small non-randomised pilot study in BMC Nursing allocated 60 nurses aged 45 to 60 to a 12-week stress-reduction programme or a control group. Perceived stress fell significantly in the programme group. After the programme, telomere length, a cellular aging marker, differed significantly between the groups. The available text does not state the direction of that difference. Without randomisation, the study cannot show the programme caused the changes.

BMC NURSING · 2026-06-13

Brain scan features predicted different stress responses in 281 healthy adults

A pre-registered study in Translational Psychiatry exposed 281 healthy adults to a stress task and tracked cortisol and mood. Including brain measures revealed distinct response patterns. Limbic regions, such as the amygdala and hippocampus, predicted cortisol responses. A frontal region was linked to emotional responses. This shows prediction, not cause.

TRANSLATIONAL PSYCHIATRY · 2026-06-12

Paper proposes a new model linking jaw disorders to the body's regulatory state

A paper in the Journal of Clinical Medicine proposes the Functional Occlusion Regulated Model for jaw disorders and teeth grinding. It suggests the nervous system's regulatory state shapes jaw function and how bite problems are felt. The model rests on a narrative literature synthesis and one preliminary clinical observation. Its predictions remain untested.

JOURNAL OF CLINICAL MEDICINE · 2026-06-12

Brain scan features linked to different cortisol stress responses in healthy adults

A pre-registered study in Translational Psychiatry exposed 281 healthy adults to a stress task in a brain scanner. Adding brain measures revealed different cortisol response groups. Amygdala and hippocampus measures were linked to cortisol patterns. Medial orbitofrontal cortex measures were linked to negative mood responses. These are predictive links, not proof of cause.

TRANSLATIONAL PSYCHIATRY · 2026-06-12

Review proposes heart rate variability may link exercise to symptoms in cancer survivors

A structured mini-review in Frontiers in Psychology proposes a hypothesis about breast cancer survivors. Heart rate variability might help explain how exercise relates to fatigue, poor sleep, anxiety and pain through inflammation. The authors say direct evidence is limited and the measure cannot show cause. They call for future trials to test the idea.

FRONTIERS IN PSYCHOLOGY · 2026-06-10

Review links childhood stress to lifelong health through biological pathways

A narrative review in the journal Children summarises evidence on early life stress and adverse childhood experiences. It discusses stress hormone regulation, maternal and paternal stress, and epigenetic changes that alter gene activity without changing DNA sequence. The authors conclude the evidence supports early stress as having lasting health effects across life.

CHILDREN (BASEL, SWITZERLAND) · 2026-06-10

LONGEVITY RESEARCH 53

Senolytic drugs improved burn healing in aged mice

A study in mice, published in Shock, looked at why burns heal slowly in older animals. Burn wounds in aged mice showed more signs of cellular senescence. Treating them with dasatinib and quercetin cut senescent skin cells 4.4-fold and improved wound healing. The authors say this may suggest a strategy for older burn patients.

SHOCK (AUGUSTA, GA.) · 2026-06-22

Review: aging cells both suppress tumours and can help cancers return

A review in Cells examines cellular senescence, a state where damaged cells stop dividing. It says this can block tumours from forming. It also says senescent cells can promote tumour growth through inflammatory signals, and may help cancers recur. The authors say cancer treatment is moving toward combination strategies. This is a review, not new trial data.

CELLS · 2026-06-22

Senolytic drugs improved burn wound healing in aged mice

A study in the journal Shock used aged and adult mice with scald burns. Burns increased senescence markers in aged mice, alongside delayed healing. Treatment with dasatinib and quercetin cut senescent skin cells 4.4-fold and improved wound healing. The authors suggest this may be a strategy for older burn patients. The findings come from mice, not people.

SHOCK (AUGUSTA, GA.) · 2026-06-22

Review: senescent cells can both block and promote tumors

A review in Cells examines cellular senescence, a stable halt in cell division. It says senescence suppresses tumors by stopping damaged cells from multiplying. It can also promote tumor progression through inflammatory signals known as SASP. The review also covers how some cells escape arrest and may contribute to recurrence. It discusses combination strategies for cancer therapy.

CELLS · 2026-06-22

Piperlongumine clears senescent knee cells and slows osteoarthritis in rats

A study in Biochemical and Biophysical Research Communications found senescent cells built up in the meniscus and cartilage of rats with induced osteoarthritis. In lab tests, piperlongumine selectively killed senescent rat meniscus and cartilage cells without harming normal cells. It also reduced senescent cell numbers in cells from osteoarthritis patients. In rats, it reduced joint degeneration and synovitis. No human trial was reported.

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS · 2026-06-19

Piperlongumine cleared aged cells and slowed knee arthritis in rats

A study in Biochemical and Biophysical Research Communications found senescent cells in the meniscus and cartilage of rats with osteoarthritis. The compound piperlongumine selectively cleared such cells in rat and human cells grown in the lab. In arthritic rats it eased joint degeneration. This is early work in animals and cells, not a human trial.

BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS · 2026-06-19

Review: nearly all hallmarks of aging appear to play a role in chronic lung disease

An updated review in the European Respiratory Journal covers ten years of research on the aging lung. It says aging is the most significant risk factor for chronic lung diseases such as COPD and lung cancer. Smoke exposure appears to speed age-related changes. Early clinical studies are targeting hallmarks such as cellular senescence.

THE EUROPEAN RESPIRATORY JOURNAL · 2026-06-18

Clearing senescent cells slowed some steps of muscle repair in young mice

A mouse study in the American Journal of Physiology: Cell Physiology gave young mice a senolytic drug combination, dasatinib plus quercetin, around a muscle injury. Immune cell, satellite cell and scarring changes were delayed or altered. Grip strength and fibre size did not differ between groups. The authors suggest senescent cells help coordinate repair.

AMERICAN JOURNAL OF PHYSIOLOGY. CELL PHYSIOLOGY · 2026-06-18

Nanoparticle targets senescent tumour cells and aids radiotherapy in mice

A study in Nature Communications reports that radiotherapy raises the immune-blocking protein PD-L1 on senescent tumour cells via BRD4 signalling. Researchers built a nanoparticle that degrades BRD4. Combined with radiotherapy, it suppressed tumour growth and metastasis in mouse models of pancreatic and breast tumours. This is preclinical work, not tested in people.

NATURE COMMUNICATIONS · 2026-06-18

Updated review links ageing biology to chronic lung diseases

An updated review in the European Respiratory Journal revisits the hallmarks of the ageing lung ten years on. It says ageing is the most significant risk factor for chronic lung diseases such as COPD and lung cancer. Early clinical studies are now targeting ageing processes like cellular senescence, according to the authors.

THE EUROPEAN RESPIRATORY JOURNAL · 2026-06-18

Clearing senescent cells briefly delayed muscle repair in young mice

A study in mice, published in the American Journal of Physiology: Cell Physiology, tested removing senescent cells during muscle repair. Young mice given dasatinib plus quercetin showed changes in immune cells, satellite cells and scarring over time. Grip strength and fibre size did not differ. The authors suggest senescent cells help coordinate normal repair.

AMERICAN JOURNAL OF PHYSIOLOGY. CELL PHYSIOLOGY · 2026-06-18

Nanoparticle clears aged tumour cells and boosts radiotherapy in mouse cancer models

A study in Nature Communications reports that radiotherapy raises the immune-blocking protein PD-L1 on aged (senescent) tumour cells. Researchers built a nanoparticle that breaks down a protein called BRD4. Combined with radiotherapy, it slowed tumour growth and spread in mouse models of pancreatic and breast cancer. This was animal work, not a human trial.

NATURE COMMUNICATIONS · 2026-06-18

Review: physical cues might reverse aged 'senescent' cells in tissues

A review in Frontiers in Cell and Developmental Biology looks at how tissues clear damaged cells. Senescent cells resist removal and can harm tissue through chronic inflammation. The authors say immune clearance and senolytic drugs have limited efficacy and selectivity. They describe emerging approaches, such as low-frequency ultrasound, that aim to reverse the senescent state with physical cues.

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY · 2026-06-17

Lab method tests how resistant ageing cells are to self-destruction

This methods paper in Methods in Cell Biology describes a laboratory technique called BH3 profiling, paired with flow cytometry. It is used to study senescent cells, which stop dividing and resist cell death. The assay can identify the survival proteins these cells depend on. The authors say this could help refine senolytic drug strategies. It reports no human results.

METHODS IN CELL BIOLOGY · 2026-06-17

Senolytic drug pair alters immune and metabolic readouts in aged mice

A study in Nature Aging tested the senolytic combination dasatinib and quercetin in aged mice. The treatment improved immune cell function, eased tissue inflammation and improved metabolic profiles. Starting early and treating for longer appeared to work better than short, late treatment. This was a mouse study, so the results may not apply to people.

NATURE AGING · 2026-06-17

Review finds lupus patients show signs of accelerated immune aging

A review in Frontiers in Immunology gathered evidence that people with systemic lupus erythematosus show signs of accelerated immune aging. These include premature expansion of senescent-like immune cells, shortened telomeres and faster epigenetic aging. Lupus is also linked to early cardiovascular disease and frailty. The authors present this as a plausible framework, not proof of cause.

FRONTIERS IN IMMUNOLOGY · 2026-06-17

Review explores physical forces as a way to reverse cell senescence

A review in Frontiers in Cell and Developmental Biology discusses how damaged cells are cleared from tissues. Senescent cells resist removal and can harm tissue function. The authors say immune clearance and senolytic drugs have limits. They describe early mechanical approaches, such as low-frequency ultrasound, as a possible complementary route.

FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY · 2026-06-17

Lab method aims to map how senescent cells resist dying

A methods paper in Methods in Cell Biology describes a lab technique called BH3 profiling, read out by flow cytometry. It measures how close senescent cells are to cell death and which survival proteins they depend on. The authors say this could help refine senolytic drugs. It is a laboratory protocol, not a human study.

METHODS IN CELL BIOLOGY · 2026-06-17

Dasatinib plus quercetin altered immune and metabolic readouts in aged mice

A study in Nature Aging profiled aged mice treated with the senolytic combination dasatinib and quercetin. Treatment was linked to improved immune function, reduced tissue inflammation and better metabolic profiles. Starting early and treating for longer appeared to work better than short, late treatment. This is mouse research, so effects in people are unknown.

NATURE AGING · 2026-06-17

Review finds signs of accelerated immune aging in lupus

A review in Frontiers in Immunology gathers evidence that people with systemic lupus erythematosus show signs of accelerated immune aging. These include premature expansion of senescent-like immune cells, telomere shortening and epigenetic age acceleration. Lupus is also linked to early cardiovascular disease and frailty. The authors propose ways to measure immune aging.

FRONTIERS IN IMMUNOLOGY · 2026-06-17

Review: cancer treatment can leave lymphoma cells in a damaged but surviving state

A narrative review in Current Cancer Drug Targets covers therapy-induced senescence in non-Hodgkin lymphomas. After sublethal damage from treatment, some tumour cells stop dividing but stay alive. They may release signals that reshape their surroundings, and some may escape this state. The authors highlight drugs targeting these cells as possible ways to improve disease control.

CURRENT CANCER DRUG TARGETS · 2026-06-16

Paper proposes life satisfaction as a workplace target for healthier ageing

A conceptual paper in GeroScience argues that satisfaction with life may be both a marker of healthy ageing and something that can be changed. The authors say workplaces could be a good setting for this. They describe a workplace cohort and a health programme. The paper presents an argument, not trial results.

GEROSCIENCE · 2026-06-16

Review: lingering senescent-cell signals may worsen heart scarring after heart attack

A review in Frontiers in Immunology describes how aged, non-dividing heart cells release inflammatory signals called SASP after a heart attack. The authors say these signals help early repair but, if they persist, drive scarring and poorer heart function. They call targeting senescent cells a promising strategy. The review does not report new trial results.

FRONTIERS IN IMMUNOLOGY · 2026-06-16

Review examines how cancer treatment can leave lymphoma cells in a dormant state

A narrative review in Current Cancer Drug Targets summarises research on therapy-induced senescence in non-Hodgkin lymphomas. After treatment, damaged tumour cells can stop dividing yet survive. Some may later escape this state and take on stem-like features. The authors discuss drugs aimed at such cells, which they say may help disease control.

CURRENT CANCER DRUG TARGETS · 2026-06-16

Paper proposes life satisfaction as a workplace target for healthy aging

A conceptual paper in GeroScience argues that satisfaction with life may be both a marker and a changeable factor in healthspan. It draws on geroscience, psychology and occupational health research. The authors propose workplaces as a setting for programs, citing the Semmelweis Study cohort. It is an argument, not a test of the programs.

GEROSCIENCE · 2026-06-16

Review links lingering senescent-cell signals to heart damage after heart attack

A review in Frontiers in Immunology discusses the senescence-associated secretory phenotype, inflammatory signals released by aging cells, after a heart attack. The authors say its effects change over time, helping repair early but promoting fibrosis and poorer heart function later. They call targeting senescent cells a promising strategy. This is a review, not a clinical trial.

FRONTIERS IN IMMUNOLOGY · 2026-06-16

Review examines mTORC1 overactivity as a driver of brain aging

A review in Biogerontology gathers evidence that chronic overactivity of a cell-growth pathway called mTORC1 may contribute to brain aging and neurodegeneration. It describes rapamycin and related drugs as showing neuroprotective potential. The review also weighs the clinical prospects of such treatments, rather than reporting a new trial.

BIOGERONTOLOGY · 2026-06-15

Review explains how cells enter senescence and the pathways involved

A review in Cell & Bioscience outlines how cellular senescence begins and is regulated. It covers triggers such as oxidative stress, telomere shortening and oncogene activation. It also discusses the p53/p21 and p16/pRB pathways that halt cell division, and the secretory phenotype senescent cells develop. It is a mechanism overview, not new data.

CELL & BIOSCIENCE · 2026-06-13

Review describes how cells enter senescence and the pathways involved

A review in Cell & Bioscience covers cellular senescence, a stress response in which cells stop dividing. It discusses triggers including oxidative stress, telomere shortening and oncogene activation. It also covers the p53/p21 and p16/pRB signalling pathways and the senescence-associated secretory phenotype. It is a review of existing mechanisms, not new experimental results.

CELL & BIOSCIENCE · 2026-06-13

Review links senescent cells to both repair and scarring in Crohn's disease

A review in Frontiers in Immunology examines cellular senescence in Crohn's disease. It says short-term senescence may aid repair. Long-term buildup of senescent cells may drive inflammation and scarring of the gut. The review also discusses possible treatments aimed at senescent cells. These ideas are discussed, not proven here.

FRONTIERS IN IMMUNOLOGY · 2026-06-12

Review examines CAR T cells as a way to clear aging cells

A review in Research looks at using CAR T cells, a cancer immunotherapy, to remove senescent cells. These are aging cells linked to inflammation and tissue damage. The review cites evidence from preclinical models, including reduced fibrosis and better metabolic function. It also lists challenges with specificity, safety and manufacturing before any use in people.

RESEARCH (WASHINGTON, D.C.) · 2026-06-12

Review: senescent cells may both help and harm in Crohn's disease scarring

A review in Frontiers in Immunology discusses cellular senescence in Crohn's disease. The authors say short-term senescence may aid repair. Long-term buildup of senescent cells may drive inflammation and fibrosis, which causes scarring and strictures in the gut. They also discuss treatments aimed at senescent cells, which remain an emerging idea.

FRONTIERS IN IMMUNOLOGY · 2026-06-12

Review explores CAR T cells as a way to clear senescent cells

A review in Research discusses adapting CAR T cell therapy, used in cancer, to remove senescent cells linked to age-related disease. It cites preclinical models showing reversed fibrosis and improved metabolic function. The authors also describe challenges in specificity, safety and manufacturing. The evidence described is not from human trials.

RESEARCH (WASHINGTON, D.C.) · 2026-06-12

Grape seed extract formulation extended lifespan in aging mice

A study in the journal Biology tested NSPCC1, a new grape seed extract formulation, in two mouse aging models. The formulation was absorbed better than the original compound. Treated mice lived longer and showed less age-related blood stem cell bias and less tissue fibrosis. This is animal research, not a human trial.

BIOLOGY · 2026-06-12

Review links senescent lung cells to pulmonary fibrosis and discusses ways to target them

A review in Frontiers in Aging examines how senescent fibroblasts, which are aged cells that stop dividing, may drive idiopathic pulmonary fibrosis. These cells are described as promoting scarring and impairing lung repair. Drugs that remove them or dampen their signals have been developed. The authors note major hurdles, including a lack of reliable biomarkers.

FRONTIERS IN AGING · 2026-06-11

Review: senescent lung fibroblasts may drive pulmonary fibrosis as people age

A review in Frontiers in Aging examines how senescent fibroblasts, ageing cells that stop dividing and release inflammatory signals, may promote idiopathic pulmonary fibrosis. The authors describe drugs that clear or calm these cells. They note major hurdles remain, including cell variety, missing biomarkers and the need for targeted delivery.

FRONTIERS IN AGING · 2026-06-11

Review surveys emerging osteoarthritis treatments beyond painkillers and steroids

A review in Bone Research covers new approaches to osteoarthritis, which affects over 500 million people. It says common drugs such as NSAIDs and corticosteroids often fail to halt disease progression. The paper draws on clinical and pre-clinical studies. It discusses regenerative, anti-inflammatory and senolytic approaches, and notes gaps in understanding.

BONE RESEARCH · 2026-06-11

Review links aged, inflammatory cells to heart failure with preserved ejection fraction

A review in the International Journal of Molecular Sciences examines senescent cells and their inflammatory secretions in heart failure with preserved ejection fraction. It draws on preclinical and clinical studies linking them to heart scarring and vessel problems. Drugs that remove or quiet these cells are evaluated, but delivery and monitoring challenges remain.

INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES · 2026-06-10

Review examines how AI is being used in ageing research

A review in Ageing Research Reviews traces how artificial intelligence is applied across ageing science. Uses include finding drug targets, designing treatments and supporting personalised elderly care. The authors warn about poor data quality, false correlations, bias, privacy risks and unequal access. They say careful validation is needed to separate real causes from artefacts.

AGEING RESEARCH REVIEWS · 2026-06-10

Review links immune aging and inflammation to late breast cancer recurrence

A narrative review in Annals of Medicine and Surgery covers research from 2015 to 2025 on immune aging, chronic inflammation and dormant tumor cells in breast cancer. The authors say there is evidence of links, but causality has not been established. They also point to gaps in methods and in turning findings into care.

ANNALS OF MEDICINE AND SURGERY (2012) · 2026-06-09

Combined senolytic and stem cell therapy outperformed either alone in mice

A study in the Journal of Translational Medicine tested two treatments in mice with chemically induced liver injury or drug-induced accelerated aging. One was SenoVax, a dendritic cell-based immunotherapy that targets senescent cells; the other was stem cell-derived mesenchymal cells. The combination outperformed either alone, improving liver failure measures and regenerative signaling. This is animal research, not a human trial.

JOURNAL OF TRANSLATIONAL MEDICINE · 2026-06-08

Review proposes measuring cell senescence to judge older donor livers

A review in Transplant International discusses how aging donors are changing liver transplantation. It argues that measuring cellular senescence could better show organ quality than chronological age. It also raises the idea of treating marginal livers during machine perfusion. These are proposals, not tested results.

TRANSPLANT INTERNATIONAL : OFFICIAL JOURNAL OF THE EUROPEAN SOCIETY FOR ORGAN TRANSPLANTATION · 2026-06-08

Review describes how lingering senescent cells and the immune system affect each other

A review in the Journal of Translational Medicine covers how senescent cells and the immune system interact. In youth and healing, immune cells clear senescent cells. With age and chronic disease, clearance weakens and these cells accumulate. The review links this to chronic inflammation, fibrosis and impaired tissue repair, and notes immune cells can become senescent too.

JOURNAL OF TRANSLATIONAL MEDICINE · 2026-06-06

Survey compares expected lifespan and healthspan in rural and urban Java

A cross-sectional survey in GeroScience asked 1,199 people in Java, Indonesia (602 rural, 597 urban) how long they expect to live and stay healthy. Among those aged 40 to 64, 68.7% of rural and 63.9% of urban people expected to live to 80 to 99. Age, beliefs about longevity, balanced diet and weight monitoring were associated with higher expectations. These are associations, not causes.

GEROSCIENCE · 2026-06-06

Review links cell senescence to progression of idiopathic pulmonary fibrosis

A narrative review in Diseases examines cellular senescence in idiopathic pulmonary fibrosis, a progressive lung disease for which aging is the strongest risk factor. The authors argue that senescent cells help drive disease. They discuss therapies that target these cells. They describe the evidence for such treatments as preclinical and early clinical.

DISEASES (BASEL, SWITZERLAND) · 2026-06-04

Experts propose a cardiometabolic framework for care aimed at healthspan

According to Aging and Disease, a Delphi expert consensus built from a literature review proposes a clinical framework for preserving healthspan from a cardiometabolic viewpoint. It defines healthy aging with or without well-controlled cardiometabolic disease. Recommendations are graded by evidence level. The authors say emerging tools still need further validation.

AGING AND DISEASE · 2026-06-04

Senolytic drug combination improved cognition in aging-model mice, with a cholesterol link

According to a study in Mechanisms of Ageing and Development, mice made to age faster with D-galactose did better on cognitive tests after receiving dasatinib and quercetin. Senescence markers also fell. The team linked the effect to lower cholesterol production in brain cells called astrocytes. Cell experiments supported this link. The work was in mice and cells, not people.

MECHANISMS OF AGEING AND DEVELOPMENT · 2026-06-03

Dasatinib plus quercetin gave mixed results in aged human stem cells and mice

A lab study in Biochimie tested two senolytic drugs, dasatinib and quercetin, on senescent human mesenchymal stem cells. Effects on differentiation, gene and protein expression were inconsistent. Extracellular vesicle release rose markedly. A mouse experiment showed promising new bone formation. This is early cell and animal research, not human trial evidence.

BIOCHIMIE · 2026-06-02

Review links aging-related cell changes to blood vessel growth in colitis-linked cancer

A review in Aging Cell discusses how senescent cells, which build up during long-term bowel inflammation, may drive new blood vessel growth and the move from inflammatory bowel disease to colorectal cancer. The authors describe the mechanisms and possible treatment targets. It is a synthesis of existing evidence, and it proposes a framework rather than proving one.

AGING CELL · 2026-06-01

Cutting methionine extends yeast lifespan through a cellular recycling pathway

A study in Aging Cell in budding yeast found methionine restriction extends lifespan. The effect ran through reduced methylation of a protein called PP2A, which switched on autophagy, the cell's recycling process. Blocking autophagy genes removed the benefit. The authors suggest possible future human targets, but this work was in yeast only.

AGING CELL · 2026-06-01

Blocking a DNA-repair pathway boosts chemotherapy effect on liposarcoma cells in lab models

A study in Cancer Research used gene-editing screens in dedifferentiated liposarcoma cells. Disabling DNA repair genes made low-dose doxorubicin more likely to push cells into senescence, a state of halted growth. A follow-up drug then triggered those cells to die. This was lab and animal-model work, not a human trial.

CANCER RESEARCH · 2026-06-01

Review links severe illness to faster brain aging through inflammation

A narrative review in Brain and Behavior covers clinical studies of sepsis, trauma and burns. The authors say acute illness can lead to accelerated neurocognitive aging, including memory loss. They attribute this to inflammation, blood vessel damage and senescent cells. They outline possible drug targets, but this is a framework, not a treatment test.

BRAIN AND BEHAVIOR · 2026-06-01

Lab probe images and destroys senescent tumour cells in cell studies

Researchers report in Analytical Chemistry a probe called DMTP-1 that is activated by MAO-A, an enzyme raised in senescent tumour cells, and produces reactive oxygen species under light. In cell studies it enabled image-guided elimination of these cells, and it showed potent photodynamic activity in 3D tumour spheroids. In a zebrafish senescence model it was used for imaging only. No human data were reported.

ANALYTICAL CHEMISTRY · 2026-06-01