The Arising

OCTOBER 20, 2026

DAILY ISSUES



EDITORIAL ILLUSTRATION / AN ARTISTIC INTERPRETATION

The rhythms of a living world.

SLEEP / MOVEMENT / MEDICAL 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

TUESDAY, OCTOBER 20, 2026 | VOL 1 NO 18 | ARISING HEALTH

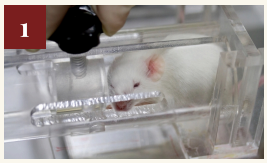
35 stories across 2 desks | ~90 minutes to read | 172 briefs grouped by topic

Checked before print. 1,051 claims in 35 articles and 172 briefs verified against their sources by a separate reviewer · 26 articles and 23 briefs corrected before publication

LONGEVITY & HEALTHSPAN

30 STORIES · 78 MIN →

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Removing Brain Immune Cells Restored Two Hours of Sleep in Alzheimer's Mice

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Starting Statins Soon After Diabetes Diagnosis Linked to Less Dementia

People with type 2 diabetes who started a statin within a year of...

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Flavourings, Colourings and Sweeteners Linked to Higher Depression Risk

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Older Adults on Self-Chosen Vegan Diet Lost Leg Muscle in 12 Weeks

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A cream built around vitamin K2 produced measurable improvements in wrinkles, firmness and...

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Adults who stayed physically active over the years were about 44% less likely...

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UK Biobank Study of 170,000 Women Links HRT to Higher Cardiovascular Risk

Women who had used hormone replacement therapy (HRT) were 13% more likely to...

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Small Trial Finds Ultra-Processing Alone Did Not Change Short-Term Satiety

Ultra-processed food is often blamed for overeating.

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Combining Cardio and Strength Training Beats Cardio Alone in Heart Rehab

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Review Calls Chronic Stress Before Surgery a Possible Modifiable Heart Risk

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Deep Learning Model Melody Reads DNA Code to Predict Methylation Patterns

Epigenetic age tests read chemical tags on DNA called methylation.

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Aging Tradespeople and Immigration Enforcement Strain US Skilled Labor Supply

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The Arising

HEALTH INTELLIGENCE

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

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

Removing Brain Immune Cells Restored Two Hours of Sleep in Alzheimer's Mice

Poor sleep is one of the earliest signs of Alzheimer's disease, often showing up before memory loss. A new mouse study suggests the brain's own immune cells may be a major reason, and that the sleep loss can be reversed without clearing the plaques that define the disease. This is animal work only, and nobody should start, stop or change any medication, treatment or supplement because of it without talking to their clinician.

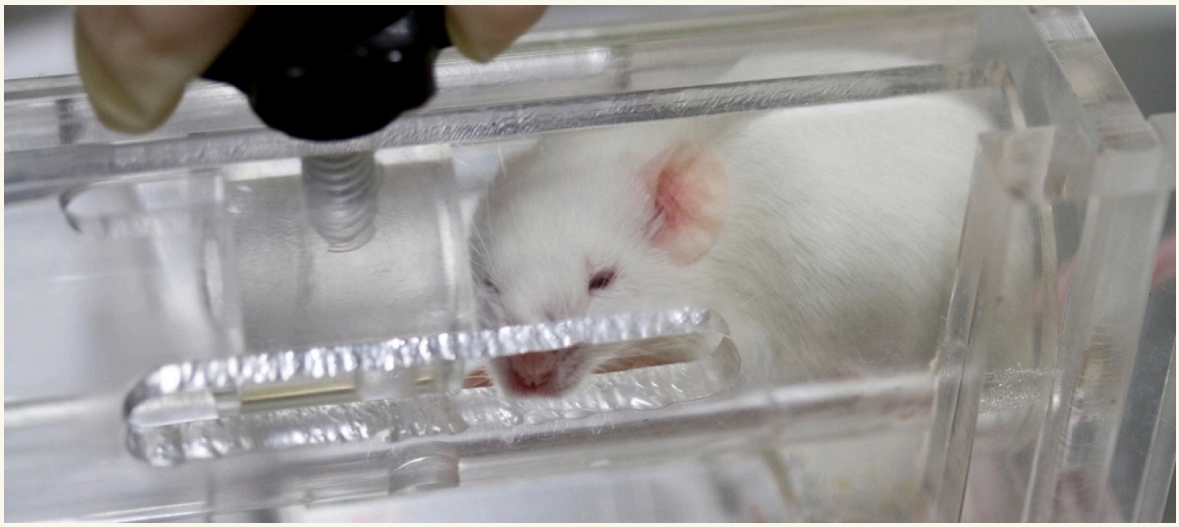


Photo: “Laboratory mouse in testing”, CC0

The evidence comes from mice, not people. Researchers at the University of Kentucky, led by Shannon Macauley, reported the work in Alzheimer's & Dementia, the journal of the Alzheimer's Association, in 2026. They used APP/PS1 mice, which are bred to develop amyloid plaques, and normal littermates. All animals were female, studied at 6 and 18 months of age. Groups were small: the paper lists 4 to 12 mice per genotype and age for the sleep recordings, and 4 to 8 per group for the drug experiment.

Amyloid plaques are clumps of protein that build up in the brain, often decades before thinking problems appear. Sleep problems also appear early in people. The link runs both ways. Poor sleep is tied to more amyloid, and amyloid is tied to poorer sleep. What has been unclear is how plaques disrupt sleep. Much human research comes from people who already have mild cognitive impairment or dementia, where plaques sit alongside tangles of another protein, called tau, and nerve cell loss. That makes it hard to isolate the effect of plaques alone.

The team recorded the mice's brain activity and muscle activity to score sleep stages. They found that aging and plaques affected sleep in different ways. Plaques selectively reduced non-REM sleep, the stage that includes deep sleep. Aging mainly reduced REM sleep, and it also eliminated the usual rebound after sleep deprivation.

One result stood out. The loss of non-REM sleep appeared when plaques first formed, but it did not get worse as the plaque burden grew. According to the authors, this points to the arrival of plaques, not their amount, as the key trigger. They also found no obvious loss of neurons when the sleep loss began in 6-month-old mice. They argue this speaks against a mainly nerve-cell explanation.

Plaque-bearing mice showed signs of overexcited brain activity and poorly coordinated brain networks. Using whole-brain imaging, the team also found that microglia, the brain's resident immune cells, had multiplied. The increase was not limited to areas with plaques. It extended into thalamus regions and white matter tracts linked to sleep and waking.

To test cause, the researchers gave 6-month-old APP/PS1 mice the drug pexidartinib, which blocks a signal microglia need to survive, in their food for 14 days. This cleared about 87% of microglia. Sleep rose by more than two hours a day, and amyloid burden did not change. The authors conclude that microglia are a causal and reversible driver of plaque-linked sleep loss in this model. A separate group of four mice was also followed after the drug was stopped, to see what happened as microglia regrew.

Why does this matter for people? If a similar process occurs in humans, sleep trouble in midlife or later could be an early, measurable signal of brain changes, not just a side effect of worry or age. The authors suggest sleep and EEG measures, which record brain electrical activity, could serve as early markers of the disease. They also suggest they could be used as trial endpoints beyond memory tests.

There are limits. This was one mouse model, in females only, with small groups. Mice are not people, and plaque-driven sleep loss in mice may not match the human picture. Wiping out most microglia is also not a practical treatment, since these cells do important work in the brain. The study shows microglia are involved. It does not show that dampening them would help people sleep or slow dementia. The weakest point of the argument is the leap from mice to people.

The press coverage went somewhat further in tone. ScienceDaily, summarizing a University of Kentucky release, quoted Macauley calling the results "mind-blowing and unexpected" and "paradigm-shifting." She said the microglia act "as if the microglia are partying all night, and keeping the brain awake." Those are her characterizations of the work, not findings reported in the paper.

The study's own conclusion is more measured: microglia are a promising target for restoring sleep before symptoms begin. What to watch next is whether gentler ways of calming microglia, rather than removing them, can bring back sleep in animals, and whether that approach ever gets tested in people.

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

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

MEDCOMM · 2 SOURCES

Gut Bacteria and Chemicals Differ in Mild Cognitive Impairment, Small Study Finds

A stool sample may one day help show who has early memory trouble, but a small new study is a long way from proving it, and whether gut markers can predict faster decline remains unproven.

The work was published in the journal MedComm in 2026. It is an observational study in people, so it can show links but not causes. Researchers analysed fecal samples from 35 older adults: 18 with mild cognitive impairment (MCI) and 17 cognitively healthy controls. According to Medical Xpress, the team came from Cardiff University and Imperial College London.

MCI means thinking skills have slipped more than expected for age, but daily life is not yet affected and the person does not meet the criteria for dementia. The paper notes that people with MCI develop Alzheimer's disease at roughly 10% to 15% a year, against 1% to 2% for cognitively normal older adults. Doctors cannot easily tell who will worsen quickly. Current tools such as long cognitive tests, brain scans and spinal fluid tests are slow, costly or invasive. A simple stool test would be a real change if it worked. If gut differences prove inconsistent from group to group, as the authors say earlier studies have been, no such test is likely.

The design was careful in one respect. Sixteen of the pairs were couples living together, one with MCI and one without, which reduces the effect of shared diet and home environment. The groups were well matched for age, sex, education and body

mass index. They differed, as expected, in scores on the Montreal Cognitive Assessment, a memory and thinking screen (20.3 in the MCI group, 27.4 in controls).

Overall microbial diversity did not differ between the groups. Four of 138 bacterial groups did. After accounting for the couples, Izemoplasmatales was more abundant in people with MCI. Lachnospira, Lachnospiraceae UCG-008 and Ruminococcus were less abundant. The authors dropped UCG-008 from their models because most samples contained none of it. Using the other three, the best of five machine-learning models separated MCI from controls with an AUC of 0.972. The average across models was 0.900. An AUC of 1.0 is perfect and 0.5 is a coin flip. These figures come from the same small group the models learned from, so they are likely to look better than real-world performance.

Two stool chemicals also differed. Proline was higher in people with MCI and fumaric acid was lower. Proline was higher in the partner with MCI in 12 of 16 couples, and fumaric acid was lower in 11 of 16. Models using these two chemicals reached AUCs between 0.81 and 0.92.

The authors tested the bacterial signature in a separate group of 30 people with MCI and 30 controls from another study. Izemoplasmatales was absent there, so only two bacteria could be used. They gave an AUC of 0.825, with a wide 95% confidence interval of 0.605 to 1.0. Lachnospira was lower in MCI, matching the main group. Ruminococcus, however, was reported as higher in MCI in the second group. That is the opposite direction to the main group, where it was lower, even though the paper describes the results as consistent. This is the kind of inconsistency the authors say has held the field back.

The prediction question is the one that matters most for personal health, and it rests on the thinnest data. Seventeen people with MCI completed a 12-month follow-up. They were ranked by how much their cognition declined and grouped as rapid decliners (6 people) or slow decliners (6 people). With groups that small, any link between starting gut profile and later decline is preliminary. We could not confirm from the press coverage which specific bacteria or chemicals, if any, were tied to faster decline, so we do not draw that conclusion here.

The study does not show that gut bacteria cause or prevent memory loss. It does not show that changing the gut would slow decline. It is not a validated test. Everyone was White, and the sample was small. The paper itself notes that longitudinal studies of this kind are rare, and our view is that larger ones are needed.

This adds a different angle to the paper's October 6 report on a gut bacterial molecule called ImP, which was linked to Alzheimer's brain changes in a separate University of Wisconsin-Madison study. That work centred on one molecule measured in blood. This one profiles stool bacteria and chemicals. Both point to the gut as a place to look for early signals, but neither is a test yet.

WHAT TO WATCH NEXT

What to watch next is whether larger, more varied groups followed over time can reproduce these bacteria and chemicals, and whether they predict decline better than the cognitive tests and blood markers already available.

Sources: MedComm (2026), Medical Xpress (Cardiff University / Imperial College London; MedComm)

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

THE LANCET REGIONAL HEALTH. EUROPE · 2 SOURCES

Starting Statins Soon After Diabetes Diagnosis Linked to Less Dementia

People with type 2 diabetes who started a statin within a year of diagnosis had a lower risk of dementia over the next decade than people who did not start one within five years. That is the finding of a large Danish study published in The Lancet Regional Health – Europe in 2026.

The study is observational. It followed 132,585 people in Denmark who developed type 2 diabetes between 2006 and 2019 and were not already taking statins. Researchers used national health registers to track who started a statin and who later developed dementia. This kind of study can show an association. It cannot prove that statins caused the lower risk.

Statins are cholesterol-lowering drugs. They target LDL cholesterol, often called "bad" cholesterol. They are already a standard part of diabetes care, mainly to prevent heart disease and stroke. The authors note that high LDL cholesterol was added in 2024 to the Lancet Commission's list of modifiable dementia risk factors, alongside diabetes. Whether the timing of statin treatment after a diabetes diagnosis matters for dementia had not been studied before, according to the authors.

The team compared three groups. One group started no statin within five years of diagnosis. This was the reference group. A second group started a statin one to five years after diagnosis (late). A third started within a year (early).

Over a median follow-up of 7.1 years, 3,592 people, or 2.7%, developed dementia. The estimated 10-year risk of dementia was 3.9% with no statin, 3.5% with late statin and 3.3% with early statin.

In relative terms, early statin use was associated with a 15% lower risk of dementia at 10 years than no statin (95% confidence interval: 9% to 21%). Late use was associated with a 10% lower risk (3% to 15%). In absolute terms, that is 0.59 percentage points lower for early use and 0.38 points lower for late use. The absolute gains are small, because most people in every group did not develop dementia.

A common trap in this kind of research is called immortal-time bias. People must stay alive and dementia-free long enough to fill a prescription. That can make a drug look better than it is. To limit this, the researchers used a method called clone-censor weighting. It copies each person into every treatment group at diagnosis. A copy is removed once the person's real treatment departs from that group's plan. The aim is to mimic a randomized trial using real-world data. The authors state that no statistical adjustment can fully remove bias from observational data.

The authors also used Alzheimer's disease as an internal check. They note that genetic evidence suggests statin targets affect vascular-related dementias but have a negligible effect on Alzheimer's disease. They describe this as a "negative control" outcome in their analysis.

Context matters. The authors say reduced dementia risk with statins has so far appeared only in observational studies. Completed randomized trials on statins and dementia have largely been negative. But those trials are few, short and limited in statistical power, they say. None was run specifically in people with type 2 diabetes.

For people with type 2 diabetes, the practical message is modest. Statins are already commonly recommended for heart protection in diabetes. The authors see a potential for timely intervention, but this study does not show that taking a statin will prevent dementia. Do not start or stop a statin, or any medication, without talking to your clinician. Discuss your own cholesterol, heart risk and medications with them before any change in treatment.

The authors write that only randomized trials can establish whether early statin therapy after a diabetes diagnosis reduces dementia risk, and that is the evidence to watch for next.

Sources: The Lancet regional health. Europe (2026), The Lancet Regional Health – Europe

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

EUROPEAN JOURNAL OF NUTRITION · 2 SOURCES

Flavourings, Colourings and Sweeteners Linked to Higher Depression Risk

Not every ultra-processed food may carry the same risk for depression. A large study of British adults suggests the signal sits with three types of ingredient: added flavourings, colouring agents and sweeteners. The study is observational, so it shows an association, not a cause, and the full set of numbers behind it is not reproduced here.



Photo: "Rainbow Candy Birthday Party Sprinkles Background 2021" by Poppy Thomas Hill, CC0

The research was published in 2026 in the European Journal of Nutrition. It is an observational study in people, using data from the UK Biobank. That means it tracked what people ate and what happened to them later. It cannot prove that any food or ingredient causes depression.

The team, led by Blumenthal and colleagues, analysed 171,818 adults. All had completed at least one detailed online questionnaire about what they ate the previous day. People with depression or diabetes at the start were excluded. Participants were followed for an average of 10.7 years, and 5,424 of them developed depression. Cases were identified from linked health records, using diagnosis codes for a depressive episode or recurrent depressive disorder.

Most studies treat ultra-processed food as one big group. This one did not. The researchers used 'markers' of ultra-processed food. These are ingredients that signal a food is ultra-processed, such as flavours, colouring agents and sweeteners. They sorted the markers into ten categories and 39 specific markers. Each was measured as a share of a person's total food intake by weight.

Three categories stood out. Higher intake of flavour, colouring agent and sweetener markers was linked to a higher risk of incident depression, and the risk rose with intake in a dose-dependent way. We do not give specific hazard ratios here, because they could not be confirmed from the study text available to us.

Hazard ratios in this study are relative, not absolute. For each marker, the authors set the lowest hazard ratio across the range of intake, called the nadir, to 1, and compared other intake levels against it. A hazard ratio compares the rate of new cases between groups over time. A higher value means a higher rate of new diagnoses in the higher-intake group, but it does not by itself say how many more people will be affected in absolute terms.

The picture was not the same for every marker. The authors conclude that only certain markers are associated with incident depression. We cannot say from the material available which other categories showed no link, or whether any showed non-linear patterns.

The researchers adjusted for age, sex, body mass index, smoking, alcohol, physical activity, income, education, general health and other factors. They also ran sensitivity checks, including excluding people with follow-up shorter than two years, to reduce the chance that early illness changed diets. Even so, other differences between people could still explain some of the link.

There are other limits, and this is where the argument is weakest. Food intake was estimated from questionnaires covering a single previous day, and ingredients were matched to products sold by two UK supermarkets, so they are estimates rather than

exact measures. The data cannot say which ingredient, if any, is responsible. Foods with these additives may also differ from other foods in ways the study did not capture.

FOR YOU

For personal health, the finding is a prompt rather than a rule. It points to where researchers might look first when asking how diet affects mood. The authors say it offers an initial framework for choosing which markers to prioritise in efforts to cut ultra-processed food and in future mechanistic research. Anyone considering major dietary changes, or worried about their mood, should speak with a clinician first.

Next, watch for studies that test these ingredients directly, and for repeat analyses in other countries and diets, which would show whether the pattern holds.

Sources: European journal of nutrition (2026), European Journal of Nutrition

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

THE AMERICAN JOURNAL OF CLINICAL NUTRITION · 2 SOURCES

Older Adults on Self-Chosen Vegan Diet Lost Leg Muscle in 12 Weeks

Healthy people over 65 who switched to a vegan diet of their own design ate less protein and lost skeletal muscle within 12 weeks, according to a randomized trial in The American Journal of Clinical Nutrition. Those who added resistance exercise, such as lifting weights, did better.

This is a randomized controlled trial, the design best suited to testing cause and effect. It enrolled 72 healthy adults aged 65 or older. They were randomly assigned to one of three groups: a self-selected vegan diet, their usual omnivorous diet, or a self-selected vegan diet plus resistance exercise.

At the start and after 12 weeks, the researchers measured thigh muscle volume and fat within the thigh muscle using MRI. They measured lean mass in the arms and legs with a DXA scan, and muscle strength with a Biodex machine. They also measured muscle protein synthesis, the rate at which the body builds new muscle protein, over the first 10 days using a deuterium oxide (heavy water) method.

Protein intake in the vegan-only group fell by 27.7 grams a day in week 1, 22.0 grams in week 6 and 19.3 grams in week 12, compared with the start of the study. The authors conclude that a self-selected vegan diet reduced protein intake, skeletal muscle mass and muscle protein synthesis in these older adults. They also conclude that resistance exercise can mitigate the harm to muscle mass.

Note what the authors say exercise did: it mitigated the effect. The abstract does not claim it erased the loss. We had access only to the abstract, so we are not reporting the size of the muscle changes or the strength results. Details beyond the abstract are unverified.

What does this mean for someone considering a plant-based diet later in life? The trial tested vegan diets that people chose for themselves, and protein intake dropped. The trial did not test a vegan diet built to match the protein of an omnivorous one, so it cannot say whether such a diet would protect muscle, and it did not test any advice on planning protein. Anyone thinking about changing their diet or starting an exercise program should talk with their clinician first, and should not start or stop either on the strength of this one trial.

The findings also come with limits. The participants were healthy, and the trial lasted 12 weeks. It does not tell us what happens over years, or in frailer people. The weakest point is that we have only the abstract, so we cannot judge the size of the effects.

The result adds a caution to our October 17 report on a low-fat vegan diet and liver fat in type 2 diabetes. That was a different study, a small single-arm trial in a different group of adults, and it looked at weight and liver fat rather than muscle. Benefits in one area do not settle what a diet does to muscle in older people.

Next, watch for the full paper, which should show the size of the muscle and strength changes, and for longer trials that test vegan diets planned to match protein intake, with and without resistance training.

Sources: The American journal of clinical nutrition (2026), The American Journal of Clinical Nutrition

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

ACS OMEGA · 2 SOURCES

Topical Vitamin K2 Cream Improved Wrinkles and Firmness in Small Trial

A cream built around vitamin K2 produced measurable improvements in wrinkles, firmness and sagging over eight weeks, according to a randomized trial in 30 women. The result is early, small and limited to cosmetic measures. But it is human evidence for an idea that has mostly lived in the lab: that helping skin cells make energy may slow visible ageing.

The work was published in ACS Omega in 2026. It combines two kinds of evidence. The first is laboratory work on human skin cells grown in dishes. The second is a randomized, double-blind, vehicle-controlled trial in women aged 35 to 60. Thirty women completed it. The authors are Huang and colleagues.

The idea starts with mitochondria, the parts of a cell that produce energy. The authors note that when mitochondria work less well, cells have less energy and more oxidative damage. That favors the breakdown of the skin's supporting structure and a loss of its mechanical strength. Vitamin K2, in the form called menaquinone-7 (MK-7), has been proposed to support the mitochondrial electron transport chain, the step that drives energy production.

In the lab, the researchers exposed skin cells to UVA light or hydrogen peroxide to create oxidative stress, then treated them with MK-7. According to the paper, MK-7 raised ATP, the cell's energy currency, and raised the NAD+/NADH ratio, a marker of mitochondrial activity. It restored mitochondrial membrane potential and preserved mitochondrial DNA copy number under stress. In fibroblasts, UV exposure cut ATP by 56%. The 0.002% MK-7 dose raised ATP by 59.09% relative to the untreated stressed cells.

MK-7 also lowered markers of cellular senescence, the state in which ageing cells release inflammatory and tissue-degrading signals. At 0.002%, IL-8 fell by 75.85%, p21 by 33.58%, TNF-α by 18.69% and MMP-3 by 16.41%. One caveat from the authors: respiratory chain activities were measured in unstressed cells, because severe stress made the readings erratic. MK-7 did not change the activity of one component, complex III.

The human part was a split-face and neck design. Each woman applied a 0.05% MK-7 cream to one randomized side and a placebo cream to the other, twice daily for eight weeks. Instruments measured wrinkle roughness, elasticity and sagging at baseline and at weeks 2, 4 and 8. Using each woman as her own comparison reduces the noise from differences between people.

Wrinkle results were mixed over time. On the face, near the marionette lines, the MK-7 side had lower maximum roughness than placebo at week 4 (−8.60%) and week 8 (−4.95%). Average roughness was lower at weeks 2 and 4, but by week 8 the difference (−3.93%) was no longer statistically significant after correction. On the neck, the week 4 differences were significant, but by week 8 they were not. The authors suggest the Spring Festival holiday, with colder weather and disrupted routines, may have played a part. That is their explanation, not something the trial tested.

Firmness and sagging results held up better. Compared with placebo, the MK-7 side showed lower values on three elasticity measures at week 8: immediate distensibility (−11.38%), residual deformation (−13.52%) and fatigue resistance (−10.70%). Lower values on these measures indicate firmer skin. A measure of the jawline angle, used to quantify sagging, was 11.45% higher on the MK-7 side at week 8.

The study also tested delivery. In a porcine skin experiment, no MK-7 was detected in the receptor fluid, so the compound appeared to stay in the skin rather than pass into the body. Estimated skin concentrations from a single application overlapped only with the lower end of the doses that worked in cells. The authors argue that repeated use likely raises local levels. That is an inference.

FOR YOU

For readers weighing a skin-care purchase, the limits matter. Thirty women is a small group, and all were women aged 35 to 60. Eight weeks says nothing about longer-term effects. The outcomes were cosmetic and instrument-based, not measures of skin health or longevity. The paper does not show that the cell-level changes caused the skin changes. It describes the two as consistent with each other. The cell work was also done in dishes, which cannot capture everything that happens in living skin. Readers should not start or stop any treatment or supplement without consulting their clinician.

The honest reading is that a vitamin K2 cream showed a modest, measurable benefit against placebo in a small trial, with some wrinkle effects fading by week 8. What to watch next is a larger, longer trial that includes men and different ages, tracks whether the wrinkle benefit persists, and tests directly whether skin energy changes explain the results.

Sources: ACS omega (2026), ACS Omega

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

GERIATRICS · 2 SOURCES

Staying Active Over Years Linked to 44% Lower Frailty Risk

Adults who stayed physically active over the years were about 44% less likely to become frail than those who stayed inactive, according to a new review in Geriatrics (Basel). Those who became more active over time also did better.

The paper is a systematic review and meta-analysis. That means the authors searched for all suitable studies and pooled their results. It covers 10 prospective cohort studies, which follow people over time, with 111,714 community-dwelling adults in Europe, Asia and North America. Six of the 10 studies were combined in the statistical analysis. Because the studies are observational, they show an association. They do not prove that activity prevents frailty.

Frailty is a state of reduced reserve and greater vulnerability to stress. The authors link it to disability, loss of independence, hospitalization and death. They describe it as dynamic and potentially reversible, often preceded by a stage called pre-frailty.

The team, led by Sgouropoulou and colleagues, looked at activity over time rather than a single snapshot. They compared people with persistent activity, and people whose activity rose from low to higher levels, against people who stayed inactive. The studies had to track activity through repeated measurements or trajectories, and use a validated definition of frailty.

Persistent activity was linked to a 44% lower risk of frailty (risk ratio 0.56, 95% confidence interval 0.42 to 0.76). The authors rate their certainty in this result as moderate. Increasing activity was linked to a 38% lower risk (risk ratio 0.62, 95% confidence interval 0.57 to 0.68). Certainty there was low.

The authors also asked whether the age at which people started mattered. They compared groups below and above 60 at the start of follow-up. According to the abstract, results were similar in both. For readers in later life, that suggests the pattern held for those who were already past 60. The abstract does not say more than this about age differences.

What does this mean for personal choices? The findings fit a simple message: regular activity that is kept up is linked to less frailty later, and rising activity was also linked to benefit. They do not set a specific amount or type of exercise. The studies grouped people by their reported patterns, and the abstract does not give exact activity targets.

There are limits. People who stay active may differ from inactive people in other ways, such as health, income or diet. The authors rated the inclining-activity evidence as low certainty. Pooling different studies also required assumptions, including treating odds ratios and hazard ratios as equivalent to risk ratios.

The result sits alongside, but is separate from, a piece The Arising ran on October 15 about scans of 100,000 patients and active brown fat. That was a different study on a different topic. Both report links with health, not proof of cause.

The authors call for implementation studies to measure whether public health policies that promote physically active lifestyles in midlife reduce the burden of frailty in aging populations. Those studies are what to watch next.

Sources: Geriatrics (Basel, Switzerland) (2026), Geriatrics (Basel)

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

SCIENTIFIC REPORTS · 2 SOURCES

East Germans Who Faced Covert State Repression Still Report More Stress

More than 30 years after East Germany ended, people who were watched, denounced and harassed by its secret police still report feeling more stressed than their peers, yet their bodies reacted to a standard lab stress test in much the same way.

That is the finding of a cross-sectional study in people, published in Scientific Reports in 2026. It looked at 100 adults aged 50 to 78 who grew up in the former German Democratic Republic (GDR). Forty-nine had experienced what the authors call soft political repression. Fifty-one were matched controls. Because the study compares groups at one point in time, it can show associations, not cause and effect.

Soft repression is a covert kind of state pressure. It aims to intimidate, destabilise or isolate people to stop opposition, while drawing little international attention. In the GDR, the Ministry for State Security, known as the Stasi, used methods known as Zersetzung, or disintegration. These included surveillance, harassment, humiliation at school or work, and damage to a person's reputation through rumours or informants in their close circle. According to the paper, around 10% of former GDR citizens report having been subjected to it.

To join the repression group, participants had to report at least two such experiences. Controls reported none. Groups were matched for age, gender and region, mostly Thuringia and Saxony. People who had been political prisoners were

excluded. So were those taking medicines that affect cortisol, those with a recent diagnosis of an affective disorder or post-traumatic stress disorder (PTSD), and those with excessive alcohol or drug use.

Participants completed questionnaires. Some also took the Trier Social Stress Test, a widely used lab test that induces social stress. Only people who met health criteria and felt able to do it took part: 29 from the repression group and 46 controls. The researchers measured subjective stress, cortisol (a stress hormone), heart rate and heart rate variability, which reflects how flexibly the heart responds to demands.

The repression group reported higher stress. But they did not differ from controls on the physiological measures. The authors had expected a blunted cortisol response, reflecting years of strain, along with a higher heart rate and lower heart rate variability. The data did not show those differences.

The more striking result came from who did not take the test. Repression-exposed participants who declined, or were excluded from, the stress test had higher symptoms of distress, anxiety, depression and trauma. Those who completed it looked similar to controls. The authors say this offers preliminary evidence of both vulnerable and resilient groups within those exposed to repression.

This also raises a methodological problem. If the people most affected opt out of a lab stressor, the people left in the test may understate the true burden. The authors point to questions about how well laboratory stress research reflects real life in vulnerable groups. The test results alone could make the long-term effects look smaller than they are.

FOR YOU

For personal health, the message is about differences between individuals. Chronic stress is linked to poorer mental and physical health, but not everyone exposed develops problems. The paper names social support, resilience and socioeconomic status as factors that may shape outcomes. In this study they were tested as moderators, and the abstract does not report what they found. In earlier work on the same sample, the authors report that repression was linked to higher inflammation and shorter telomeres, the protective caps on chromosomes, the latter only when social support was low.

The study has limits. It is small, cross-sectional and based on volunteers, and the repression group was recruited by outreach to people with such experiences. The subgroup findings are described by the authors as preliminary. Group sizes for the

stress test were small, and participants with current depression or PTSD diagnoses were excluded.

Next, watch for larger studies that follow people over time and find ways to include those who avoid lab stress tests, as well as work on whether social support protects long-term health after severe psychosocial stress.

Sources: Scientific reports (2026), Scientific Reports

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BMC SPORTS SCIENCE, MEDICINE & REHABILITATION · 2 SOURCES

Four Cardio Styles Compared: High-Intensity Intervals Beat Moderate Intervals on Fitness

Does it matter whether a cardio session is hard or moderate, in bursts or steady? A small randomised trial in sedentary young men suggests intensity may matter for fitness, though it is far too early to build a routine on it.

The study appeared in 2026 in BMC Sports Science, Medicine and Rehabilitation. It was a randomised controlled trial, the design best able to separate the effect of a training program from other influences. Researchers assigned 40 sedentary men aged 20 to 28 to one of four 8-week programs. Thirty-eight finished, a dropout rate of 5%. The authors call their findings preliminary.

The four programs combined two choices: intensity (high or moderate) and format (interval or continuous). That gave high-intensity interval training (HIIT), high-intensity continuous training (HICT), moderate-intensity interval training (MIIT) and moderate-intensity continuous training (MICT). Most earlier studies compared only two of these. Comparing all four in one trial can help show whether a benefit comes from the intensity, the interval format, or both.

Everyone trained three times a week for about 45 minutes. The high-intensity groups worked at 77% to 95% of maximal heart rate, which participants rated 14 to 17 on a standard effort scale. The moderate groups worked at 64% to 76% of maximal heart rate, rated 12 to 13. Time was matched across groups. The authors note this does not necessarily mean the groups did equal mechanical work or burned equal energy.

The main fitness measure was VO2peak, the highest rate at which the body can use oxygen during hard exercise. The groups changed differently over the eight weeks (P = 0.040). According to the authors, HIIT improved VO2peak more than MIIT did. The study's conclusions do not report HIIT beating the other two programs on this measure, and the text available to us does not give the size of the difference.

The trial also tracked heart rate, blood pressure and a related heart-workload measure, both at rest and at peak exercise. The authors report that the high-intensity programs showed greater improvements in selected cardiovascular responses. The excerpt available to us does not give the full detail for each measure, so we do not describe individual changes here.

Two results were less clear. Time to exhaustion on a treadmill fitness test (the Bruce test) differed across groups overall (P = 0.016). After adjusting for multiple comparisons, however, no differences between specific groups were found. Body composition, such as body weight and fat measures, showed no differential effects. So the programs differed on some fitness and cardiovascular measures, but not on body composition.

FOR YOU

For readers choosing a routine, these are the takeaways. Among the interval programs, the moderate version did worse on peak fitness than HIIT did. Harder effort may therefore carry an advantage for fitness measured this way. This is interpretation, not a finding. The study did not test whether any program improves long-term health or lifespan, and it did not show that one style is better for losing fat. Sedentary readers, and anyone with a health condition, should check with a clinician before starting vigorous exercise; trial participants were medically screened, including with the PAR-Q+ readiness questionnaire.

The limits are large. There were about ten men per group. The program lasted eight weeks. All participants were sedentary young men, mostly university students, and the authors excluded women on purpose to avoid hormonal variation. Participants received tiered cash incentives to keep attending, which may not reflect real life. Participants and trainers could not be blinded, though the staff who took measurements were. The results may not apply to women, older adults or people with health conditions. Current World Health Organization guidance, which the paper cites, still recommends either 75 minutes of vigorous or 150 minutes of moderate activity a week.

The authors say larger controlled trials are needed to confirm the findings. Watch for studies with more participants, longer follow-up, and women and older adults.

Sources: BMC sports science, medicine & rehabilitation (2026), BMC Sports Science, Medicine and Rehabilitation

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

FRONTIERS IN NEUROSCIENCE · 2 SOURCES

AI Predicted Brain Amyloid From Blood Tests, but Faltered on New Patients

A computer model could read a set of blood and memory test results and predict, with good accuracy, whether a person's brain scan would show amyloid, a protein tied to Alzheimer's disease. But when the same approach met patients from a different group, its accuracy fell sharply.

That is the main finding of a machine-learning study published in Frontiers in Neuroscience in 2026. It is a computational modelling study using existing data from people. It is not a clinical trial, and it did not test the model on patients in a doctor's office. The development data came from 299 participants: 170 from the 1Florida Alzheimer's Disease Research Center and 129 from the ADNI4 cohort, a national research study.

Amyloid PET is a brain scan that shows whether amyloid has built up. The authors note it is expensive, resource intensive and not available to everyone. That is why researchers are looking at blood tests as a cheaper, less invasive way to find out who is likely to have amyloid.

The researchers built a model that combined several kinds of information. These were blood biomarkers, cognitive test scores, APOE genotype (a gene linked to Alzheimer's risk), demographic details and measurements from structural MRI. The goal was to match the verdict of expert readers of the amyloid PET scan, labelled positive or negative.

They compared five types of classifier and several ways of choosing which features to use. The best performer was XGBoost, a tree-based method, paired with a feature-selection step called mutual information. Under five-fold cross-validation, where the data are split so the model is tested on cases it has not seen in training, it reached a mean AUC of 0.891 (plus or minus 0.048) and a recall of 0.84. An AUC of 1.0 would be perfect and 0.5 is no better than a coin toss. Recall of 0.84 means the model caught 84 percent of the amyloid-positive cases.

The authors used a method called SHAP to see what drove the predictions. The strongest predictor was the ratio of plasma p-tau217 to amyloid-beta 42. Next came plasma p-tau217 itself, then p-tau181, the MMSE (a common memory and thinking screening test), and APOE ε4 status. P-tau217 and p-tau181 are forms of the tau protein measured in blood. Structural MRI measures added complementary information. In the authors' words, plasma tau and amyloid-related markers carried the strongest signal, while cognition, APOE and MRI refined the decisions.

The weak point came with outside testing. Evaluated on ADNI4, the model produced a mean AUC of 0.545, barely above chance. When it was trained on the Florida cohort and tested on ADNI4, the AUC was 0.636 and overall accuracy was 63 percent. The authors point to differences between the cohorts and a shift in the data between groups. They also report that p-tau217/Aβ42 and p-tau217 stayed the dominant predictors across cohorts, so the biological pattern held even though the predictions did not.

What does this mean for someone who is offered an AI-assisted Alzheimer's blood test result? First, the strong headline number came from the data the model was built on. Performance on new patients was much lower. A model that scores well in one clinic or research study may not carry over to another. Second, the study supports the idea that blood p-tau217 is a key signal. It does not show that an AI layer makes the result more reliable. Third, the study reports only amyloid PET visual read as the target. It does not show what happens to patients who receive such a result, and it is not a diagnosis tool.

The study does not offer guidance for patients, so what follows is our own suggestion, not the authors' advice. Anyone given such a result should discuss it with their clinician rather than act on it alone, and may wish to ask whether the test has been checked in more than one group of patients and whether the result would be confirmed with other testing.

The study is a reminder that brain health findings need care in reading. Our October 18 piece on ultra-processed food and silent brain damage on MRI covered a different study and a different question. Both show that a promising signal in one dataset is a starting point rather than a verdict.

The authors say future work may compare the model's predicted probabilities with Centiloid, a quantitative measure of amyloid load. The next thing to watch is whether the approach holds up when tested in several independent cohorts.

Sources: Frontiers in neuroscience (2026), Frontiers in Neuroscience

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

AGING CELL · 2 SOURCES

Boosting Gene ZNF865 With CRISPR Reversed Aging Signs in Degenerated Spinal Disc Cells

Age-related back pain may be linked to a gene most people have never heard of, and switching it back on in worn-out disc cells made them look healthier in the lab.

The work was published in Aging Cell in 2026. It is laboratory research: human and mouse disc tissue samples, human disc cells grown in the lab, and an experiment in living animals. It is not a trial in people. We had access only to the study's abstract, so details such as sample sizes are not confirmed here.

The gene is called ZNF865. According to the abstract, it was only recently identified as a protein that regulates many genes involved in protein processing, cell senescence and DNA damage repair. Senescent cells have stopped dividing but stay in the tissue. They release signals, known as the SASP, that can harm their surroundings. The authors note that senescence contributes to age-related diseases, including degenerative disc disease. How senescence is controlled in the discs is still poorly understood.

The team reports that ZNF865 levels fall with age and with disease in both human and mouse disc samples. The authors used CRISPR, a gene-editing tool, to turn the gene's activity up or down. Lowering it in disc cells from people without symptoms pushed those cells into senescence. That suggests the gene is needed for healthy cell function.

Raising it had the opposite effect. In degenerated cells from the disc's soft center, called the nucleus pulposus, restoring ZNF865 reduced senescence, SASP signals and DNA damage. It also increased the cells' production of the extracellular matrix, the material that gives tissue its structure. In addition, it returned chromatin accessibility and gene expression to a healthy state. Chromatin accessibility describes how open the DNA is to being read by the cell.

The living-animal test went one way only. According to the abstract, using CRISPR to turn down ZNF865 caused disc degeneration and painful behaviors. The coverage by Lifespan.io adds that this was done in rats, by injecting ZNF865-silenced disc cells into their spines, and that signs of degeneration appeared in under two months. The same coverage reports that silencing the gene in healthy human cells raised senescence markers roughly fivefold. It also reports that boosting the gene cut differences in chromatin accessibility from healthy cells by 94%. Those figures come from the press article. They are not in the abstract.

Several limits apply. The animal work showed that losing ZNF865 can bring on degeneration and pain. It did not show that adding it back fixes a damaged disc in a living body. Lifespan.io also notes that the human cells came from a limited number of donors and that the gene's molecular mechanism is not yet known. It adds that no drugs, antibodies or other tools beyond CRISPR are known to act on ZNF865 directly. The authors call the gene a potential therapeutic target, which is a cautious description.

For anyone with back pain today, nothing changes. This is not a treatment, and it is not a sign that gene editing for backs is close. The finding does point to a possible driver of disc aging: loss of a gene that helps cells cope with DNA damage and avoid senescence.

The next step to watch is a test of whether raising ZNF865 in a living animal can slow or reverse disc degeneration.

Sources: Aging cell (2026), Lifespan.io

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

CLINICAL MEDICINE INSIGHTS. ENDOCRINOLOGY AND DIABETES · 2 SOURCES

Review of 26 Cohorts Links Time-Restricted Eating to Better Blood Sugar

Eating all your meals inside a window of 6 to 10 hours a day was linked to lower blood sugar, less insulin resistance and lower body weight in most of the studies in a new systematic review. The catch: it is a review of mixed studies, and it cannot say that the eating window caused the changes.

The paper, published in 2026 in Clinical Medicine Insights: Endocrinology and Diabetes, is a systematic review. That means the authors searched the research literature for studies on one question and summarised what they found. They did not run a new trial. The team, led by Ampofo and colleagues, searched PubMed, Scopus and Web of Science. They included 26 unique cohorts, described in 28 reports, from India, China, Indonesia, Iran, Tunisia and Brazil. The abstract does not give a total number of participants.

All the studies involved adults in low- and middle-income countries who had a metabolic condition. These included type 2 diabetes, metabolic syndrome, obesity, polycystic ovary syndrome and fatty liver disease. The studies had to be randomised controlled trials or quasi-experimental designs, which test an intervention without full randomisation. Each had to last at least four weeks. The review was registered in advance with PROSPERO, a public registry of review plans.

Time-restricted eating, or TRE, changes when food is eaten, not what or how much. The authors say it needs no special foods and no spending. They argue that calorie counting and specialised meal plans often fail in lower-income settings because of cost, effort and cultural food habits. The idea behind TRE is circadian biology. Eating late at night may push the body's internal clocks out of step and worsen how it handles sugar. A regular daily window may help reset them.

What did the review find? According to the authors, TRE was associated with reductions in insulin resistance, fasting blood sugar and body weight across most included studies. Insulin resistance means the body's cells respond poorly to insulin, which makes blood sugar harder to control. One longitudinal cohort reported that HbA1c, a measure of average blood sugar over about three months, was 0.78 percentage points lower at 18 months. The authors suggest benefits may build up with sustained adherence. That is a suggestion drawn from a single cohort.

For anyone considering a window of about 8 to 10 hours, the realistic reading is cautious. The direction of the findings was favourable. But the review does not give one pooled figure for how much blood sugar or weight might fall. The studies were too different in design, window length and patient group to combine statistically, so the authors summarised them in words instead.

The evidence is thin in several places. The studies disagreed on whether TRE beats ordinary calorie restriction. The authors say contradictions emerged between centres, so the review does not show that an eating window is better than eating less. Window lengths were also uneven. Fifteen cohorts used an 8-hour window, while the 6-, 9- and 10-hour windows were each represented by only 1 to 7 cohorts. That does not allow a fair comparison of, say, 6 to 8 hours against 8 to 10 hours.

Study quality is another limit. The authors rate the risk of bias from participants knowing their own eating schedule as high in every study, since people cannot be blinded to meal timing. They note that objective measures such as HbA1c and HOMA-IR, a lab-based estimate of insulin resistance, reduce the risk in how outcomes were measured. The review did not run sensitivity analyses or formal tests for publication bias, and it did not search unpublished work. The authors say journals tend to favour positive diet findings.

The authors conclude that TRE may be a feasible, low-cost strategy for managing metabolic health in resource-limited settings. They add that larger and longer trials are needed. Our caution, which is not a finding of the review: no reader, whether

they have diabetes, PCOS, fatty liver disease or obesity, or take any medication, should start TRE or start, stop or adjust any medication without first speaking to their clinician.

Watch next for larger randomised trials in low- and middle-income countries that compare specific window lengths and test TRE directly against calorie restriction, with follow-up of 18 months or more.

Sources: Clinical medicine insights. Endocrinology and diabetes (2026), Clinical Medicine Insights: Endocrinology and Diabetes

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

NATURE COMMUNICATIONS · 2 SOURCES

Years of Fitbit Data Link Steady Daily Rhythms to Slower Biological Aging

People whose daily activity followed a stronger, steadier day-night pattern were less likely to be aging fast biologically, according to a study that tracked Fitbit data over several years.

The work, published in Nature Communications in 2026 by Shim and Onnela, is an observational study in people. It used data from 2,222 participants in the All of Us Research Program, a large US cohort. Together they contributed 8,447 person-years of data. Observational means the researchers looked for links. They did not change anyone's habits, so the study cannot show that a steadier rhythm causes slower aging.

Biological age here was measured with PhenoAge. It is a score built from nine routine blood markers plus chronological age. The markers include albumin, creatinine, C-reactive protein, glucose and white blood cell count. The score reflects the age at which an average person in a reference group would have the same mortality risk. The study labeled participants as fast agers or slow agers based on their biological aging status. The text we reviewed does not spell out the exact cutoff used to divide the two groups.

The team pulled rest-activity rhythm measures from Fitbit step counts. These captured how strong the daily rhythm was (intensity), when activity peaked (timing), and how regular the pattern was from day to day (stability). Earlier studies often relied on a single week of activity tracking. This one followed people for a mean of 6.84 years.

The headline result: higher rhythm intensity was associated with 26% to 46% lower odds of accelerated aging. In plain terms, people with a more pronounced daily pattern of active days and quiet nights were less likely to be in the fast-aging group.

At the start of the study, 1,021 participants (45.9%) were fast agers and 1,201 (54.1%) were slow agers. The two groups had similar chronological ages, about 61 and 60 years. Their biological ages differed by roughly 12 years: 66.4 versus 54.3.

The activity patterns differed too. Fast agers showed lower peak activity and weaker daytime intensity. They were more active between midnight and 6 a.m., while slow agers kept a more consolidated rest period. Fast agers also took fewer steps on average (7,215 a day versus 8,141) and slept slightly less (6.32 hours versus 6.46 hours). From about age 40 onward, fast agers tended to reach their activity peak later in the day.

Fast agers also had a higher average body mass index, more low income and unemployment, and more lifetime smoking. They had a heavier burden of other health conditions and used more medications. These differences are a reminder that rhythm may be tangled up with other parts of life and health. The paper describes associations, and that kind of tangle is one reason to be cautious.

Sex mattered. Associations of timing and regularity were stronger in females. In males, accelerated aging followed what the authors call a biphasic instability pattern, with early-morning surges and late-evening rebounds.

FOR YOU

What does this mean for personal health? The authors suggest that rhythms measured by consumer wearables may serve as digital biomarkers of aging trajectories. That is, a device many people already own might track something linked to how fast the body is aging. The study does not test whether changing sleep and wake times or adding active days slows aging. That remains an open question.

WHAT TO WATCH NEXT

Trials that test whether deliberately steadying daily routines shifts biological age, and whether wearable rhythm scores hold up as a risk measure in other groups.

Sources: Nature communications (2026), Nature Communications

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

FRONTIERS IN AGING NEUROSCIENCE · 2 SOURCES

Review of Nine Meta-Analyses Links Hearing Loss to 43% Higher Dementia Odds

Adults with hearing loss have about 43% higher odds of dementia than adults without it, according to a new review of the evidence. The finding is an association, not proof that hearing loss causes dementia.

The work is an umbrella review, published in 2026 in Frontiers in Aging Neuroscience. An umbrella review gathers earlier meta-analyses and weighs them together. A meta-analysis, in turn, pools the results of many individual studies. Here the researchers, led by Liang J, Yu P, You Q and Yang K, searched four databases up to 9 January 2026 and included nine meta-analyses. The underlying studies were observational, meaning they followed or compared people rather than assigning them a treatment. The portion of the paper available to us did not give the total number of participants.

The numbers are odds ratios. An odds ratio above 1 means the outcome was more common in people with hearing loss. For dementia, the pooled odds ratio was 1.43, with a 95% confidence interval of 1.21 to 1.68. For cognitive impairment, a broader category that covers memory and thinking problems, it was 1.34 (1.17 to 1.53). For Alzheimer's disease, it was 1.66 (1.33 to 2.07). The authors report that the links were slightly stronger in older adults.

The team also rated how far the evidence can be trusted. Using a recognised framework for umbrella reviews, they classed the evidence for cognitive impairment and for dementia as "highly suggestive." That is a strong rating for observational data, but it is not the top category. They also checked the methodological quality of

each included review with a tool called AMSTAR-2. They measured how much the reviews drew on the same original studies, using a method called the corrected covered area, and they assessed certainty with the GRADE approach. The portion of the paper we reviewed does not include the results of those checks, so we cannot report them.

Why might hearing and the brain be linked? The authors describe several ideas. One is sensory deprivation: years of reduced sound input may change the brain regions involved in hearing. Another is cognitive load: straining to follow speech uses mental effort that would otherwise go to other tasks. A third is social: hearing loss can lead to isolation, which may speed neurodegenerative change. These are hypotheses. This review did not test them.

There are limits, and this is where the argument is weakest. Observational data cannot show that hearing loss comes first and drives the decline. Early brain changes could also affect hearing, or a third factor could affect both. The authors note that the earlier meta-analyses differed in how they defined and measured hearing loss and cognitive outcomes. They say the results support more prospective studies, which follow people over time, and interventional studies, which test whether treating hearing changes outcomes.

FOR YOU

For personal health, the practical point is modest. Hearing loss is common. The review's introduction cites the World Health Organization in saying more than 1.5 billion people worldwide have some degree of it. It also affects communication, social life and mood. This review does not show that treating hearing loss lowers dementia risk, and it makes no recommendation about hearing checks or hearing aids. Readers should not start or stop any treatment, such as hearing aids, without talking to their clinician. The authors describe hearing loss as one of the most important potentially modifiable risk factors for dementia. Note for editors: the secondary source page contained only a cookie-wall message, so no external quotations or context were available.

WHAT TO WATCH NEXT

Results from interventional studies that test whether correcting hearing loss slows cognitive decline.

Sources: Frontiers in aging neuroscience (2026), Frontiers in Aging Neuroscience

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA · 2 SOURCES

UK Biobank Study of 170,000 Women Links HRT to Higher Cardiovascular Risk

Women who had used hormone replacement therapy (HRT) were 13% more likely to develop heart and blood vessel disease over about 15 years than women who had not, according to a large study in Acta Obstetricia et Gynecologica Scandinavica. The gap was widest in women whose reproductive history put them in certain subgroups, including those aged 45 or younger. Readers should not start, stop or change HRT without speaking to their clinician.

This is an observational study in people, not a randomised trial. It followed 170,250 women aged 40 to 69 who joined the UK Biobank between 2006 and 2010. Follow-up ran to January 2024, with a median of 14.77 years. Observational work can show an association. It cannot prove that HRT caused the difference.

The researchers counted atherosclerotic cardiovascular disease, meaning disease from fatty build-up in the arteries. Their definition was a heart attack, an ischemic stroke (a stroke caused by a blocked vessel), or a procedure to restore blood flow to the heart. Events came from hospital and death records. In all, 11,357 women (6.67%) had such an event.

After adjusting for age, ethnicity, education, deprivation, body mass index, physical activity, diet, menopausal status and reproductive history, HRT users had a hazard ratio of 1.13 (95% confidence interval 1.08 to 1.18). A hazard ratio compares how fast events occur in two groups. Here it means a 13% higher relative rate. The paper reports the pattern was not a straight line (p for nonlinearity 0.004). Relative figures do not show how large the absolute risk is for any one woman.

Among women who developed disease, 32% had used HRT, compared with 30% of those who did not. Their average reported HRT duration was also longer, 1.94 years versus 1.80 years. The authors report that blood markers such as sex hormones, inflammation and cholesterol explained little of the link, so the reason for it remains unclear.

The authors say risk varied by reproductive timing. Late first period, late menopause and starting HRT around perimenopause (the transition years) marked the highest-risk groups, particularly women aged 45 or younger. They argue that clinicians' decisions about HRT should rest on a woman's reproductive profile, not on age alone.

Several limits matter. HRT use came from one baseline question: "Have you ever used hormone replacement therapy?" That does not capture the type, dose or form of treatment, or the reasons women started it. Those factors could skew the results. The authors also note that earlier observational studies suggested HRT protected the heart, while randomised trials found more heart events and strokes, especially in older postmenopausal women. Their conclusion that HRT "increases" risk is stronger than an observational design can support. This is the weakest point of the study.

This study does not give individual advice. It does not show that HRT is unsafe for everyone, and it does not weigh the symptom relief many women gain. Anyone taking or considering HRT should not start, stop or change it without speaking to their clinician.

On October 12, The Arising reported on a separate study of testosterone therapy after menopause. That is a different treatment and a different study, but it also points to cardiovascular safety as a question for hormone treatments.

WHAT TO WATCH NEXT

Whether trials or analyses that record HRT type, dose, route and timing can confirm which women face the highest risk.

Sources: Acta obstetricia et gynecologica Scandinavica (2026), Acta Obstetricia et Gynecologica Scandinavica

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

APPETITE · 2 SOURCES

Small Trial Finds Ultra-Processing Alone Did Not Change Short-Term Satiety

Ultra-processed food is often blamed for overeating. But in a small controlled trial, a day of meals made mostly of ultra-processed food did not make people eat more at dinner than a day of meals with none.

The study was a randomized crossover trial, published in Appetite in 2026. Crossover means each person took part in every condition, so each served as their own comparison. It included 19 adults (9 women), with an average age of 22 and an average body mass index of 23.5. That is a small group of young people, so the results should be read with care.

Earlier research has found that people eat more of ultra-processed foods when they can eat freely. One idea is that energy density explains this. Energy density is the number of calories in each gram of food. Foods that are low in water and high in fat or sugar tend to be dense. But in many past studies, processing and energy density have been tangled together. This trial tried to separate them.

Each person completed different one-day conditions. On each day they ate a fixed breakfast and lunch. These meals either had no ultra-processed food or got at least 80% of their energy from it. They were also either low in energy density (1.2 kcal per gram or less) or high (2.0 kcal per gram or more). In the evening, they could eat as much as they wanted from the same dinner (1.7 kcal per gram, 20% ultra-processed). Researchers compared the amount eaten with a control day. They also asked people to rate hunger and fullness 15 times a day on visual scales.

The main result was a null one. According to the abstract, neither processing nor energy density had a significant effect on dinner intake. The ultra-processed meals were linked to 24.5 fewer calories at dinner (95% confidence interval: 87 fewer to 38 more). The high-density meals were linked to 41.6 fewer calories (104 fewer to 20.9 more). Both ranges include zero, and neither is clearly different from no effect. The authors also found no interaction, meaning processing did not change how energy density worked.

Appetite ratings did shift with energy density. Compared with low-density meals, high-density meals led to slightly higher hunger (3.61 mm on the rating scale), satisfaction (2.8 mm) and capacity to eat (2.6 mm). They also led to lower fullness (5.3 mm lower). Capacity to eat stayed a little higher after dinner on high-density days (3.31 mm). These are small changes on a scale that is likely 100 mm long, though the abstract does not state the scale length.

The authors concluded that food processing did not affect short-term satiety. They wrote that acute differences in energy density produced small changes in subjective appetite without affecting later energy intake.

For people thinking about appetite, the practical point is modest. The 'ultra-processed' label may not be the only thing that matters. How many calories are packed into each bite may matter too. This trial cannot say that, though. It did not test it directly over time or in people managing their weight.

The limits are real. The trial was small, with 19 young adults. It measured one day of eating and one dinner. Wide confidence intervals mean a real effect could have been missed. Only the abstract was available to us, so details such as funding, the exact foods, and how the meals were matched are not confirmed here. The results say nothing about long-term weight or health.

Larger and longer trials that separate processing from energy density will show whether these findings hold over weeks of normal eating.

Sources: Appetite (2026), Appetite

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

SPORTS MEDICINE - OPEN · 2 SOURCES

Combining Cardio and Strength Training Beats Cardio Alone in Heart Rehab

Heart rehabilitation programs have long centered on aerobic exercise such as walking or cycling, but a large new review suggests that adding strength training may do more for people with coronary heart disease.

The evidence comes from a systematic review and meta-analysis, which pools results from many studies. It was published in 2026 in Sports Medicine - Open by Gois and colleagues. The team gathered 61 randomized controlled trials, the strongest kind of trial design, covering 5,388 randomized participants. All had coronary heart disease, meaning narrowed arteries that supply the heart.

The trials tested combined aerobic and resistance training, which the authors call CART. Resistance training means working muscles against weight or resistance. Of the 61 trials, 30 compared CART with aerobic training alone, 2 compared it with resistance training alone, and 28 compared it with usual care that included no exercise. Participants ranged in age from 45.3 to 78.5 years, and 23.4% were women. Training typically ran about 3 days a week, and programs averaged about 16 weeks.

Against usual care without exercise, the authors report that CART improved fitness, strength and quality of life. Peak oxygen consumption, a standard measure of how well the body uses oxygen during hard effort, rose by 2.20 ml/kg/min. Handgrip strength and peak muscle torque also improved. The review also found fewer deaths in the CART groups.

The comparison with aerobic training alone is the most relevant for people already in rehab. According to the authors, CART appeared superior to aerobic training for peak oxygen consumption, the 6-minute walking distance, muscle strength measured by one-repetition maximum and peak torque, and quality of life. CART was also more effective than resistance training alone for peak oxygen consumption. The authors conclude that CART should be considered a method in the rehabilitation of people with coronary heart disease.

There are limits. The mortality finding is a pooled count of events across trials. It does not show that strength training prevents death in any one person. Most trials were short, so the review says little about long-term effects. Only 41 of the 61 trials reported that the exercise was supervised, so the results may not apply to unsupervised exercise. The reviewers rated most of the trials as acceptable or good in methodological quality, but the abstract does not give the certainty of evidence for each result.

What follows is our suggestion, not a finding of the review. People with heart disease who are in or entering rehab might ask their care team whether the program includes strength training alongside aerobic work, and whether it is supervised. The review does not tell patients how to change their own exercise, so any change after a heart event should be decided with a clinician.

Researchers and rehab programs will next need to show which mix of aerobic and strength work, and how much of each, delivers these gains most safely, especially over longer follow-up.

Sources: Sports medicine - open (2026), Sports Medicine - Open

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

THE JOURNAL OF NUTRITION · 2 SOURCES

20-Gram Protein Dose Failed to Boost Muscle Building in Older Men

A 20-gram serving of protein did not raise muscle building in healthy older men, whether it came from whey or from a soy-and-pea blend, and whether or not extra leucine was added, according to a randomized trial in The Journal of Nutrition.

This is a randomized, double-blind trial in people. It enrolled 45 healthy men with an average age of 69. Each man was assigned to one of three groups and took a single protein dose. This summary is based on the study's abstract, so details beyond it are not covered here.

One group ingested 20 grams of a plant blend, made of 12 grams of soy protein and 8 grams of pea protein. A second group had the same blend with 2 grams of free leucine added. Leucine is an amino acid thought to help trigger muscle building. The third group had 20 grams of whey, a milk protein often used as the benchmark for muscle-building quality.

The researchers infused a labeled form of the amino acid phenylalanine and took blood and muscle samples for up to four hours. This let them measure how fast the body was making new muscle protein.

The blood results followed the expected pattern. Whey raised blood levels of essential amino acids more than either plant version. The incremental area under the curve, a measure of total rise over four hours, was 135 for whey, compared with 99 for the plant blend and 105 for the plant blend with leucine.

The muscle results did not differ. Muscle protein synthesis rates were similar across all three groups (treatment P = 0.828). None were higher than the men's fasting, or postabsorptive, values. In other words, the protein dose did not measurably speed up muscle building in any group.

The authors conclude that 20 grams of protein alone, regardless of its quality, is not enough to increase muscle protein synthesis in older men. They write that more work is needed to define the best combination of protein quality and quantity for older people.

FOR YOU

For personal health, the practical reading is cautious. If these results hold up, a 20-gram portion may fall short for older adults, and choosing a better protein source may not make up for a small amount. The study did not test larger doses, so it cannot say how much is enough. Readers should not start, stop, or change any protein supplement or diet without talking to their clinician.

There are limits. The trial tested one dose, in healthy men only, and measured a short-term rate over about four hours. It did not measure muscle mass or strength over time. The abstract does not report a younger comparison group or women. The weakest point is the leap from a four-hour measurement to what older adults should eat at each meal.

Next to watch: trials that test larger single doses of plant and animal protein in older men and women, and studies that track whether higher per-meal protein intakes actually preserve muscle over months.

Sources: The Journal of nutrition (2026), The Journal of Nutrition

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

THE JOURNAL OF NUTRITION, HEALTH & AGING · 2 SOURCES

Mediterranean Diet Linked to Slightly Younger DNA-Based Aging Readings in Study

People who eat more like the Mediterranean diet tend to look slightly younger on some DNA-based aging tests, and smokers look much older, according to a new study in The Journal of Nutrition, Health & Aging. The diet link is small and appears on only two clocks, and the study cannot show cause and effect.



Photo: "Pastasalad Olives" by Dana Tentis, CC0

This is an observational study in people, not a trial. Researchers analysed 928 participants from the Airwave Health Monitoring Study, a cohort of British police employees. The average age was 41, and 59% were men. The analysis is

cross-sectional, meaning it looks at one point in time. It can show links. It cannot show that diet or smoking caused the differences.

The tests are called epigenetic clocks. They read chemical tags on DNA, taken here from blood, to estimate biological age. Early clocks were built to predict calendar age. Later ones also draw on physical function or mortality risk. The team compared eleven clocks. The question was whether they pick up both a harmful habit and a protective one.

Diet was measured with a 7-day food diary. Each person got a Mediterranean Diet Score from 0 to 10. Points were given for higher intake of fruit, vegetables, legumes, fish, nuts and whole grains, and for lower intake of red and processed meat and dairy. Moderate alcohol and a higher ratio of monounsaturated to saturated fat, a proxy for olive oil, also scored. Smoking was assessed by self-report and by blood cotinine, a marker of recent nicotine exposure.

A higher diet score was linked to lower "age acceleration", meaning a biological age older than expected for calendar age, on two clocks: GrimAge and Bernabeu. The differences were small. For GrimAge it was −0.07 standard deviations (95% CI −0.13 to −0.01). For Bernabeu it was −0.08 (−0.14 to −0.02). A standard deviation is a measure of how widely people vary on a clock. These results held after statistical correction for testing many clocks. The models also adjusted for factors including income, education, alcohol, weight, physical activity and anxiety.

The smoking signal was far larger. Smoking was strongly linked to higher age acceleration, particularly on GrimAge, Bernabeu and DunedinPACE. Among current smokers, the GrimAge difference was 1.79 standard deviations (95% CI 1.54 to 2.04) in those with lower diet adherence. It was 1.35 (1.01 to 1.68) in those with higher adherence. So the smoking signal was smaller in better eaters. The abstract available to us does not give the full interaction statistics, so we cannot say how firm that difference is.

The authors are clear about what this does not mean. In their words, the results do not suggest "that diet neutralises the risks of tobacco". Even the better-eating smokers had a much higher reading than non-smokers.

There are other limits. Diet and clock readings were taken together, so the order of events is unknown. Diaries can be inaccurate. The data could not reconstruct lifetime smoking, such as pack-years, so past heavy smokers may be grouped with lighter ones. The group is also a single workplace cohort. The study does not show that any person's clock reading predicts their own health.

FOR YOU

For readers, the point is practical but modest. Several clocks respond to lifestyle, and smoking dominates the picture. A better diet shows only a faint, clock-specific association. Only two of the eleven clocks showed it after correction. Do not start or stop any diet, treatment or supplement without talking to your clinician.

WHAT TO WATCH NEXT

Studies that follow people over time, to test whether changing diet or quitting smoking actually moves these clocks.

Sources: The journal of nutrition, health & aging (2026), The Journal of Nutrition, Health & Aging

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN CELL METABOLISM · 2 SOURCES

Gut Microbes May Shape How Environmental Toxicants Affect the Brain, Review Says

Two people can be exposed to the same pollutant and end up with different effects on the brain. A new review suggests the bacteria in the gut may be part of the reason.



Photo: “Smoke factory”, CC0

The paper, published in Cell Metabolism in 2026, is a review. It does not report a new experiment or trial. Instead, authors Matsuzaki, Caudle and Sampson summarize existing research on how the gut microbiota, the community of microbes in the digestive tract, relates to environmental toxicants and brain health. Only the abstract was available to us, so this article covers what the abstract states. The abstract does not give the authors' institutional affiliations.

The starting point is simple. People are exposed throughout life to foreign chemicals, which scientists call xenobiotics. They come from food, from medicines and from environmental contaminants. The gut sits between the outside world and the body. According to the authors, that position lets gut microbes both sense these exposures and change their effects before the chemicals enter the bloodstream and reach their targets in the body.

The review describes two broad ways this may happen. First, microbes can directly change chemicals through their own metabolism. Second, they can influence how the body handles chemicals. The abstract names three areas: the body's detoxification pathways, the integrity of the gut barrier, and immune signaling.

The authors also summarize how disease-relevant environmental neurotoxicants, meaning substances that can harm the nervous system, affect both the brain and the makeup of the gut microbial community. They then bring together emerging evidence on how microbe-dependent processes can change the host's response to a toxicant and its ability to detoxify it. In their words, this can ultimately modify exposure outcomes.

The authors conclude that these findings place the gut microbiota as a central mediator between environmental exposures and neurological health. They describe this as a framework for understanding potential risk-modifying relationships. That wording matters. It points to possible influences on risk, not proven causes of disease in individual people.

FOR YOU

For readers focused on healthspan, the idea is that the effect of a given exposure may not depend on the dose alone. The gut microbial community may help set how much harm a chemical does. The abstract does not say which microbes matter, how large the effects are in people, or whether changing the microbiome would protect the brain. It offers no advice on diet, probiotics or other steps, and none should be assumed.

WHAT TO WATCH NEXT

Studies that test these links directly in people, and work that shows whether specific microbes can be shown to change the brain effects of specific toxicants.

Sources: Cell metabolism (2026), Cell Metabolism

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN LIFESPAN.IO

Review Says Simply Raising NAD+ or SIRT1 May Not Slow Ageing

A high NAD+ number, or a pill that raises it, may tell you less about your cells than you would hope. A new review in the journal Biology argues that how well a cell can use the protein SIRT1, which is linked to longevity, matters more than how much of it is present. Do not start or stop any supplement or treatment without talking to your clinician.

The protein is SIRT1. It needs NAD+ to work, and it helps cells manage reactive oxygen species. These are byproducts of normal cell activity. In small amounts they act as signals. With ageing, according to the review, their handling goes wrong and they build up, which contributes to cell dysfunction.

The reviewers introduce a concept they call SIRT1 functional reserve. They define it as the "remaining operational flexibility of SIRT1-dependent regulatory processes under a defined stress demand." In plain terms, it asks how much working capacity a cell has left when it is under strain.

This matters for anyone looking at a total NAD+ reading. According to the reviewers, total NAD+ may not reflect how much reaches SIRT1. NAD+ sits in different parts of the cell, including the mitochondria, and other molecules such as CD38 consume it. A cell with plenty of NAD+ overall is not guaranteed to deliver enough of it to SIRT1 where it is needed.

The amount of SIRT1 is not a reliable guide either. SIRT1 comes in different forms. The review says the v2 and v3 forms, which build up with age, are less functional than the full-length v1 form. A count of total SIRT1 that ignores this can mislead.

Stress can also chemically alter the protein. Some changes weaken it and others strengthen it.

Exercise offers a telling example. The review notes that during high-intensity interval exercise, SIRT1 activity rose even though total SIRT1 levels fell. So the amount of the protein and what it is doing can move in different directions. The source does not say what this means for any individual's training. It does show why activity, not quantity, is the better thing to measure.

Context also counts. The reviewers say the same level of SIRT1 may not produce the same result under different cellular conditions. A cell's history of stress may matter, and so may the tissue and species involved. Caloric restriction and exercise in mice change SIRT1 in tissue-specific ways. Neural stem cells are particularly vulnerable to disruptions in SIRT1. A single blood measurement may therefore miss what is happening in a given tissue.

SIRT1 also works within a wider network. The authors warn that "enhancement of SIRT1 activity may yield progressively smaller benefits if other determinants of adaptation become limiting." The review says this may help explain mixed results from earlier approaches, including NAD+ boosting and the mitochondrial antioxidant MitoQ.

There are limits. This is a review proposing a framework, and the authors acknowledge it needs experimental validation. It does not show that any supplement fails or works in people. The source describes the work still needed as substantial.

The reviewers propose experiments that measure SIRT1's forms and locations, the location of NAD+, reactive oxygen species and markers of cell health and inflammation. The main question, in their words, is whether changes in SIRT1-dependent adaptive capacity can be linked to meaningful functional outcomes in humans. Watch for studies that test that link.

Source: Lifespan.io (reporting on a review in Biology)

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

BIOMOLECULES · 2 SOURCES

Review Calls Chronic Stress Before Surgery a Possible Modifiable Heart Risk

Before planned surgery, doctors check blood pressure, diabetes and heart disease. They do not usually check how stressed a patient has been for months. A new review argues that they may need to.

The paper appeared in Biomolecules in 2026. It is a narrative review, not an experiment. The authors, led by Jancic and colleagues, gathered and summarised existing research. They searched PubMed/MEDLINE, Embase and Cochrane through 31 May 2026. They did not formally assess the quality of each study. The review does not report its own participant numbers.

The setting is large. According to the review, an estimated 313 million surgical procedures are performed worldwide each year. In the United States, death, heart attack or stroke around the time of surgery occurs in about 1 in 33 hospital admissions among patients over 45. That adds up to more than 150,000 cardiovascular events a year.

The authors say current risk models do not include psychosocial stress. They write that no major guideline recommends screening for chronic psychological stress before surgery.

The review lays out a biological case. Long-term stress keeps the body's main stress-hormone system, the HPA axis, switched on. Over time, cells can become less responsive to cortisol, the hormone that normally helps calm inflammation. The

review calls this glucocorticoid resistance. It describes a further chain of effects: inflammation, damage to the lining of blood vessels, a greater tendency for blood to clot, and activation of the sympathetic (fight-or-flight) nervous system.

According to the authors, these pathways overlap with the ways surgery can injure the heart, trigger irregular heart rhythms and cause blood clots in the veins.

The human evidence they cite is observational. Prospective data showed that psychological distress before noncardiac surgery independently predicted cardiovascular complications within 30 days and death within one year. Studies of allostatic load, a measure of wear across body systems, linked high preoperative burden to up to twice the risk of death after surgery. They also linked it to higher rates of heart attack and venous blood clots. Broader research, the authors add, finds that anxiety and depression independently raise cardiovascular risk.

These findings show links, not cause and effect. The authors stress that the measures differ. Questionnaires such as the PHQ-9 and GAD-7 capture recent symptoms at one point in time. They are only proxies for long-term stress. Allostatic load also reflects ageing, other illness and social circumstances. Some of the biological evidence comes from cardiac surgery, the general population, steroid-drug exposure and animal models, not from noncardiac surgery patients.

The most important gap is that no randomized controlled trial has tested whether reducing stress before surgery lowers postoperative cardiovascular events. So the review cannot say that easing stress will protect the heart. It calls chronic stress a potentially modifiable risk factor, and the word "potentially" matters.

For people facing planned surgery, the practical point is modest. The review offers no patient advice and does not show that stress reduction or mental health support will cut heart complications. Readers should not start or stop any treatment without speaking to their clinician.

WHAT TO WATCH NEXT

The authors call for prospective trials of preoperative stress reduction, and those results would show whether this risk can actually be changed.

Sources: Biomolecules (2026), Biomolecules

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

AGEING RESEARCH REVIEWS · 2 SOURCES

Review Maps How CRISPR Delivery Could Target Aging's Hallmarks

Gene editing could one day be aimed at the biology of aging, but getting the editing tools to the right cells safely is the problem that stands in the way, according to a new review.

The paper is a review, not a new experiment. It appears in Ageing Research Reviews (2026), and its authors are Rathore, Gupta, Shah, Chauhan and Gupta. It surveys existing research rather than testing anything in people or animals itself. Only the abstract was available to us, so this article covers what the abstract states and no more.

CRISPR is a gene-editing tool. It uses a guide molecule made of RNA to steer an enzyme called Cas to a chosen spot in DNA. The enzyme cuts the DNA there. The cell's own repair machinery then fixes the cut, and that repair is how a genetic change is made. The abstract says the Cas9 enzyme can cut at an exact site, which allows accurate changes inside living cells with a nucleus.

The review looks at several versions of the technology: Cas9, Cas12, base editing, prime editing and CRISPR-based gene regulation. The abstract says these advances have improved the precision and flexibility of genome editing. It puts the most emphasis on neurodegenerative diseases, including Alzheimer's and Parkinson's.

What would it take to move gene editing toward aging? The authors point to a list of hurdles. These are inefficient delivery to specific tissues, off-target edits (changes in the wrong place in the genome), immune reactions, complex manufacturing and long-term safety concerns. The abstract describes these as limits on clinical use today.

Delivery gets particular attention. The review evaluates viral methods, including adeno-associated viruses and lentivirus vectors. It also covers non-viral methods: lipid nanoparticles, gold nanoparticles, exosomes, electroporation and microinjection. The abstract says each has therapeutic potential and translational limits. It does not rank them or say which is closest to use. Details of each method's strengths and weaknesses were not in the abstract.

On the biology of aging, the authors say current studies show preclinical potential for three hallmarks: genomic instability, telomere attrition and mitochondrial dysfunction. Genomic instability means accumulating DNA damage. Telomeres are the protective caps on chromosomes, and attrition means they wear down. Mitochondria are the cell's energy producers. Preclinical means the evidence comes from lab work, not from human trials.

Other hallmarks are further behind. According to the abstract, work on stem cell exhaustion, epigenetic changes and shifts in the microbiome is at an earlier stage of development.

FOR YOU

What this means for personal health is limited for now. The abstract reports no human trial results and no evidence that editing genes slows aging in people. Gene editing for aging remains a research aim. The review's own framing is that safe, precise and clinically usable treatments are a future goal. Readers should not start or stop any treatment based on this review, and should talk with their clinician about any health decision.

Watch next for progress on tissue-specific delivery and long-term safety data, since the review identifies those as the barriers to clear before any aging-related editing can reach the clinic. The weakest point is that we saw only the abstract, so we cannot judge how strong the underlying preclinical evidence is.

Sources: Ageing research reviews (2026), Ageing Research Reviews

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

NATURE COMMUNICATIONS · 2 SOURCES

Deep Learning Model Melody Reads DNA Code to Predict Methylation Patterns

Epigenetic age tests read chemical tags on DNA called methylation. A new computer model suggests that much of where those tags sit can be predicted from the DNA letters alone.

The work was published in Nature Communications in 2026 by Jin and colleagues. It is a computational modelling study, not a trial in people. The researchers built a deep learning model called Melody and trained it on methylation maps for 39 normal human cell types. The study does not test any consumer age test.

Methylation is a chemical mark added to DNA. It helps control which genes are switched on. According to the paper, methylation patterns also reflect biological age and exposure history, and they are used in cancer diagnostics, disease screening and age estimation. What has been less clear is how far the DNA sequence itself decides where methylation appears at a given spot.

Melody reads a stretch of 10,000 DNA letters and predicts methylation levels at individual sites within it. The authors say earlier models used much shorter windows, such as 41 letters. They argue that shorter windows miss distant signals, like nearby CpG islands, that influence local methylation. In their tests, around 10,000 letters worked best. A 2,000-letter window did worse, and windows of 20,000 to 50,000 letters added redundant sequence.

The results were stronger than those of the competing methods the team tested, which included INTERACT, CpGenie and iDNA-ABT. Across 39 datasets, the multi-tissue version, Melody-MT, reached a mean Spearman correlation of 0.723 on one test set and 0.645 on a held-out chromosome. The strongest competing baselines scored 0.590 and 0.584. Spearman correlation measures how well predicted and measured values rank in the same order, where 1 is a perfect match. Across the two Melody variants, the authors report an average gain of about 17% in that measure.

The model also held up in regions with low methylation, where the authors say most baselines got worse. On individual chromosomes, Melody showed about a 7% relative improvement in Pearson correlation over the best competing model, according to the paper.

The team also tested whether Melody could predict the effect of genetic variants that shift methylation, known as meQTLs. The abstract says it generalizes to this task and identifies sequence motifs linked to methylation variability. The authors note that no standard benchmark existed for this, so they built their own meQTL benchmark datasets. The excerpt available to us does not give the meQTL results in detail.

A companion version, Melody-G, adds data from single-cell RNA sequencing, which measures which genes a cell is using. This lets it estimate methylation in cell types it was not trained on. The abstract describes this as a way to infer methylation states in previously unseen cell types. The excerpt we reviewed does not report how accurate those estimates were.

What does this mean for people curious about age tests? Mainly, it is basic science. It suggests that the DNA sequence carries more information about methylation than shorter-window models captured. That could help researchers interpret why methylation differs between tissues and why some genetic variants change it. The study does not show that Melody improves age estimates or health predictions, and it does not show that any lifestyle change alters methylation. All the models were tested on data from normal human cell types, not on disease or ageing outcomes.

The authors also released a web server for viewing predicted methylation across tissues. The press source page we were given could not be read, so this article relies on the study itself.

WHAT TO WATCH NEXT

Whether independent groups confirm Melody's results on new tissues, and whether it is tested on disease samples or age-related methylation change.

Sources: Nature communications (2026), Nature Communications

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FRONTIERS IN PHYSIOLOGY · 2 SOURCES

Mostly-Easy Polarized Training Beat Threshold Workouts on Endurance Markers, Not VO2max

Spend most of your training time easy, a little at hard effort, and almost none in the middle — that split beat a middle-heavy plan on several endurance markers in a new eight-week trial, even though top-end aerobic capacity (VO2max) did not differ between the two plans.

The evidence is a randomized controlled trial published in Frontiers in Physiology in 2026 by Wang, He and Xie. It enrolled 32 male table tennis players, aged about 22 on average, who trained at a competitive club or university level. The authors call them Tier 2 athletes. That is a small, young, single-sport group, so the findings are early evidence, not a guide for the general public.

Players were randomly assigned to one of two plans. The polarized plan put 80% of training in Zone 1 (easy, below the first ventilatory threshold), 5% in Zone 2 and 15% in Zone 3 (hard, above the second threshold). The threshold plan put 50% in Zone 1, 45% in Zone 2 (around the second threshold) and 5% in Zone 3. Both groups did five supervised, on-court sessions a week, each 90 to 120 minutes. The researchers aimed to keep the internal workload similar between groups.

Ventilatory thresholds are points during rising effort where breathing changes in a way that marks a shift in how the body produces energy. The authors use them as markers of submaximal cardiorespiratory fitness, meaning fitness at efforts below your maximum.

According to the paper, the first threshold rose 9.8% in the polarized group and 6.4% in the threshold group ($p = 0.03$). The second threshold improved only in the polarized group, by 5.0%, while the threshold group changed by −1.0%. Heart rate recovery one minute after exhaustive exercise improved 11.7% in the polarized group ($p = 0.040$). Target accuracy at the end of a fatiguing test improved 7.8% ($p = 0.041$). The authors report that time to exhaustion on a table tennis–specific test also improved in the polarized group. They report no statistically significant improvements in these outcomes for the threshold group.

Maximal oxygen uptake, or VO2max, was the exception. There was no significant difference between groups in how it changed ($p = 0.821$). The authors had predicted comparable VO2max gains, so this matches their hypothesis. Put plainly, the polarized plan did not raise the ceiling more. It shifted the markers of submaximal fitness, and how quickly the heart settled afterward.

The study has limits. Participants and coaches could not be blinded to which plan they followed, though the assessors and the data analyst were blinded. All participants were men. The sample was small, and it was calculated for one main outcome, time to exhaustion. The trial lasted only eight weeks. The authors also frame their conclusion cautiously, saying polarized training "may be more effective" for these players.

For everyday adults, the practical question is how to divide easy and hard effort. This trial suggests that a mostly easy week with a small share of hard intervals can build endurance markers at least as well as a week spent largely at moderate-hard effort, at least in trained young athletes. It does not show the same would happen in older adults, women or people new to exercise. It also does not test long-term health outcomes. People with recent cardiometabolic or respiratory disease were excluded from the trial, so it tells us nothing about them; anyone with such conditions should check with a clinician before adding hard intervals.

The next step is replication in other sports, in women, and in non-athletes and older adults, ideally over longer periods and with health measures such as blood pressure and glucose control.

Sources: Frontiers in physiology (2026), Frontiers in Physiology

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

STAT

Trump Executive Order Creates New NIH Division and Task Force on Women's Health

A new executive order promises a dedicated women's health division at the National Institutes of Health, but it does not yet say whether midlife and menopause research will get any of the attention, or any of the money.

President Trump signed the order Monday, according to STAT. It directs the NIH to set up the new division within 90 days. It also creates a White House task force on women's health. First lady Melania Trump announced the effort and said it would set "a new standard for women's health."

According to the first lady's remarks and an NIH spokesperson who spoke to STAT on background, the division is meant to streamline research into understudied diseases in women, improve diagnosis and treatment, and strengthen the inclusion of women and girls in clinical trials. It would also increase accountability for considering sex as a biological variable in NIH-funded research. That phrase means checking whether a treatment works differently in women and men, rather than assuming the results are the same.

The NIH spokesperson said the division would expand and coordinate research on understudied women's health conditions across all stages of life. That wording could cover the years around menopause. But the sources we reviewed do not name menopause or midlife specifically. Whether those topics become priorities is not yet known.

The order does not replace the NIH's existing Office of Research on Women's Health. Details about how the new division will be organized were not disclosed. No dollar amount was announced. According to the order, the Department of Health and Human Services will pay the administrative costs of the task force.

The task force will be led by White House chief of staff Susie Wiles, who recently completed a round of breast cancer treatment. Members include Health Secretary Robert F. Kennedy Jr., Defense Secretary Pete Hegseth, acting FDA Commissioner Kyle Diamantas and Erica Schwartz, the newly confirmed director of the Centers for Disease Control and Prevention. Its first session was set for Monday.

The announcement follows a rocky stretch. STAT reports that women's health research has been a flashpoint since early in the second Trump administration. Scientists said their work was at risk because it fell within the reach of the administration's actions on "gender ideology." The word "women" in grants triggered special reviews at the NIH. Research funding more broadly was cut or frozen.

The gaps the order targets are well documented. STAT cites a 2025 review in Science Advances saying that historical neglect leaves women at greater risk than men for adverse drug reactions, more likely to die from undiagnosed stroke, and given less effective treatments for chronic pain. A landmark 2000 study found women were seven times more likely than men to have a heart condition misdiagnosed or to be sent home during a heart attack. Research presented in 2024 found women admitted to a hospital were less likely to leave with prescriptions to lower the risk of another cardiac problem.

These are the kinds of problems that matter for healthy aging. Heart disease, stroke and chronic pain all become more common as people get older. Better evidence on how they develop and are treated in women could shape care in the decades after midlife. That is an interpretation, not a promise made in the order.

Some researchers have already been looking elsewhere for support. Basmah Safdar, director of Women's Health Research at Yale, wrote in a Lancet commentary on Aug. 17 that chronic underinvestment in women's health calls for new funding structures. In June, NIH official Nicole Kleinstreuer said a refreshed NIH-wide strategic plan for women's health research was expected this fall, with an emphasis on innovative methods, technologies and data science.

WHAT TO WATCH NEXT

The structure and budget of the new NIH division when it is set up within 90 days, and whether the refreshed NIH strategic plan names menopause and midlife health as research priorities.

Source: STAT

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION · 2 SOURCES

Review of 46 Studies Finds Ultra-Processed Food Heart Research Methodologically Weak

Headlines linking ultra-processed food to heart disease rest on studies with weak methods, according to a new systematic review. The authors say that weakness may mean the real links are stronger than reported, not weaker.

The paper, published in 2026 in Critical Reviews in Food Science and Nutrition, is a systematic review with a meta-analysis. That means the researchers searched the literature for eligible studies, appraised how each was done, and pooled the results. It covers 46 studies of ultra-processed food and cardiovascular disease or high blood pressure. It does not test people directly. It judges the quality of existing research. Only the abstract was available to us, so details beyond it are not covered here.

The authors say no earlier study had systematically checked the methods behind these associations. They extracted data on how diet was measured, how ultra-processed food was defined, which other factors were accounted for, and how the statistics were built.

Ultra-processed food is usually defined with the NOVA system, which sorts foods by how much industrial processing they have had. The review found substantial differences in how the 46 studies applied NOVA. In practice, studies may not have been counting the same foods as ultra-processed.

The bigger concern was how studies handled confounders. These are other factors, such as smoking, exercise or overall diet, that can distort a link between food and disease. Only two studies used a directed acyclic graph, a diagram of assumed cause and effect that helps researchers choose what to adjust for. According to the review, 42 studies used models with suboptimal adjustment.

Thirty-eight studies were overfitted because they adjusted for potential mediators. A mediator sits on the path between a food and a disease. Blood pressure or body weight could be examples, though the abstract does not name specific ones. Adjusting for them can hide part of the effect the studies are trying to measure.

Even so, the pooled results pointed in one direction. Higher ultra-processed food intake was associated with a 9% higher risk of cardiovascular disease and a 16% higher risk of hypertension. The associations were stronger for coronary heart disease and cerebrovascular disease, the latter covering conditions such as stroke.

The authors conclude that higher intake is consistently associated with greater risk, and that methodological limitations may attenuate, or weaken, the observed associations. These are associations. The review does not show that ultra-processed food causes heart disease, and the abstract does not give how large any distortion might be.

FOR YOU

For readers weighing headlines, the message is mixed. The direction of the finding looks consistent across studies. The exact size of any risk is less certain, because the underlying research was not designed or analysed in the best way.

This review differs from the October 7 meta-analysis of about 8.8 million adults that linked each extra 100 grams of ultra-processed food a day to higher heart disease risk. That piece looked at how much risk rises with intake. This one asks how far the evidence can be trusted.

The authors call for a harmonized classification of ultra-processed food and for causal frameworks in future studies. What to watch next is whether new research adopts those standards and whether the risk estimates shift when it does.

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

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN ANTIOXIDANTS · 2 SOURCES

Review Finds No Consistent Epigenetic Age Reversal From Antioxidant Supplements

A new systematic review has found no uniform evidence that antioxidant-rich foods and supplements slow or reverse biological aging as measured by DNA methylation clocks. The authors say future research should move beyond claims of "epigenetic age reversal."



Photo: "Free assorted berries image", CC0

The paper, published in 2026 in the journal Antioxidants (Basel), is a systematic review. That means the authors searched the research literature in a structured way and summarized what they found in a qualitative synthesis. They did not run a new trial, and they did not statistically combine the results. By

their account, they searched three databases and imported 179 records. After removing 58 duplicates, they screened 121. Fourteen human intervention studies met their criteria.

The studies tested antioxidant-rich dietary patterns, plant and food extracts, marine omega-3 fatty acids, multi-component nutraceuticals and related lifestyle interventions. All of them reported at least one DNA methylation clock as an outcome.

First, a quick explainer. DNA methylation clocks read chemical tags on DNA. They use the pattern of those tags to estimate biological age, which can differ from the age on your birth certificate. The review notes that clocks are not interchangeable. Some were built to predict chronological age. Others track disease and mortality risk. One, DunedinPACE, estimates the pace of physiological decline. An intervention can move one clock and leave another unchanged.

That is what the review found. The authors write that the evidence "does not support a uniform epigenetic anti-aging effect." Methylation-age responses were clock-specific and exposure-dependent. They were often most apparent in metabolically or biologically responsive subgroups.

The introduction to the review shows how mixed the trial results are. In the DIRECT PLUS randomized trial, a polyphenol-rich Green-Mediterranean diet with green tea, walnuts and Mankai was linked to attenuated DNA methylation-assessed biological aging over 18 months. In the DO-HEALTH trial, omega-3 supplementation produced small protective effects across selected clocks over three years. The COSMOS randomized trial, by contrast, found no significant effect of cocoa extract on five epigenetic aging clocks, despite its polyphenol-rich makeup.

The authors say composition, dose, duration, study population, baseline biological age and clock choice may all decide whether an effect shows up. They also judged the quality of the evidence. Longer randomized or trial-embedded studies gave the most credible signals. Small uncontrolled studies mainly generated hypotheses.

The biological case for antioxidants is plausible, but it is not proof. The review points to lab work showing that compounds such as sulforaphane and epigallocatechin gallate (found in green tea) can influence enzymes that add methylation tags. It stresses that these studies, largely in cell models, do not show that antioxidants slow methylation-based aging in people. It describes oxidative stress as a plausible but not yet clinically proven link to epigenetic aging.

What does this mean for personal choices? The review does not say these foods or supplements are harmful or useless for health. It tested a narrower question, which is whether they change methylation clocks in a consistent way. The answer was no. A product that promises to reverse your biological age rests on a claim the current human evidence does not support as a general rule. Where signals did appear, they came from whole dietary patterns or specific interventions, in specific groups, on specific clocks. Do not start or stop any supplement or treatment without talking to your clinician.

The authors call for trials that verify actual exposure to the antioxidant. They want results that are reproducible, mechanistically linked and clinically meaningful. A change in a clock reading is not the same as living longer or staying healthier.

One limit applies. The text available here covers the abstract, the introduction and the start of the methods, so this article does not report the review's study-by-study results or its complete exclusion criteria. What to watch next: longer randomized trials that report several clocks alongside measures of inflammation, mitochondrial function and clinical outcomes.

Sources: Antioxidants (Basel, Switzerland) (2026), Antioxidants (Basel)

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LONGEVITY & HEALTHSPAN · STANDARD READ · 2 MIN

METABOLISM: CLINICAL AND EXPERIMENTAL · 2 SOURCES

Time-Restricted Eating Raises Ketones, Modestly Calms Inflammation, Review Finds

Fasting is often called anti-inflammatory, but a new review in Metabolism: Clinical and Experimental finds the human evidence is more modest than the claim, and hard to separate from the effects of weight loss.

This is a narrative mini-review, not a new experiment. A team including N. A. Macheret and S. T. Chung gathered the existing human research on time-restricted eating, the practice of eating only within a set window each day. They looked at how it relates to the immune system and to ketones, fuel molecules the body makes when it goes without food for a while. The abstract available to us does not say how many studies or participants were included.

The headline findings are measured. According to the review, time-restricted eating modestly reduced pro-inflammatory markers, which are blood signs of inflammation. It also increased circulating ketone levels.

The authors add a clear warning. The size of these effects varied, and the results were often confounded by the metabolic changes that come with weight loss. In plain terms, when people lose weight on a meal-timing plan, it is hard to know whether the timing or the weight loss produced the change.

Two gaps stand out. Studies that isolate time-restricted eating from simple calorie reduction remain limited. And according to the review, no study has directly examined whether ketone production from time-restricted eating is linked to

changes in immune activity.

That matters for the popular story. The idea that ketones drive the anti-inflammatory effect is a hypothesis. The authors say ketone bodies "may" play a key role and describe time-restricted eating as a possible low-risk, non-drug approach to managing healthy weight and chronic inflammatory conditions. That is their interpretation, not a result the review demonstrates.

The question has real stakes. If ketones do mediate the benefit, when a person eats could matter on its own. If not, the gains may come mostly from eating less and losing weight, and the timing may be one way to get there rather than a special effect.

For now, the practical reading is cautious. Time-restricted eating appears to nudge inflammation markers down a little, but the review does not show that meal timing alone is responsible, or that it can replace medical care for inflammatory disease. Readers should not start or stop any dietary regimen or treatment, including time-restricted eating in people with diabetes or on medication, without first consulting their clinician.

WHAT TO WATCH NEXT

The authors call for controlled trials in which calorie intake is held equal across groups, which would show how much ketones and immune changes contribute to any benefit of meal timing.

Sources: Metabolism: clinical and experimental (2026), Metabolism: Clinical and Experimental

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LONGEVITY & HEALTHSPAN · STANDARD READ · 3 MIN

MOLECULAR MEDICINE · 2 SOURCES

Gut-Made Short-Chain Fatty Acids Linked to Brain Protection in Low Blood Flow

Could the same gut bacteria that digest fiber also help protect the aging brain when its blood supply runs low? A new review in Molecular Medicine argues that this is plausible, but it is not yet proven in people.

The paper is a review, not a new experiment. Six authors (Si, Wang, Li, Hao, Wang and Zhang) pulled together existing research on chronic cerebral hypoperfusion, or CCH. It does not report its own participants or animals. Some of the work it describes comes from rodent models, such as rats whose carotid arteries are blocked (the BCCAO model), and the authors say further clinical validation is required.

CCH means a long-term drop in blood flow to the brain. The review describes it as a sustained reduction of 20% to 40% in cerebral blood flow. It is a major contributor to vascular cognitive impairment, a decline in thinking and memory linked to poor blood supply. According to the review, it also raises the risk of vascular dementia and Alzheimer's disease.

The scale matters. The authors cite estimates that vascular dementia makes up about 15% to 20% of diagnosed dementia in North America and Europe, and nearly 30% in Asia and several developing countries. They also cite about 7.7 million new dementia cases each year.

The review describes several kinds of damage in CCH. Immune cells in the brain become overactive and release inflammatory signals. The blood-brain barrier, which keeps toxins and germs out of brain tissue, becomes leakier. Mitochondria, the parts of cells that make energy, work less well. Connections between nerve cells, which support learning and memory, are also impaired.

The gut enters the story through a two-way link between gut and brain. The authors say CCH is associated with gut microbiota dysbiosis, meaning an unhealthy shift in the mix of gut bacteria. It is also associated with a weaker intestinal barrier and lower production of short-chain fatty acids, or SCFAs. These are compounds made by gut microbes. The review says this may be linked to cognitive decline. Note the wording: the gut changes are described as associated with CCH, and possibly contributing to harm, not as a proven cause.

The authors say SCFAs may be neuroprotective. The effects they highlight include calming brain inflammation, supporting the blood-brain barrier, keeping mitochondria healthy, limiting nerve cell death and supporting the flexibility of nerve connections. These are proposed mechanisms drawn from the research the review summarizes.

The review also looks at ways to change the gut environment: fecal microbiota transplantation, probiotics and prebiotics, and direct SCFA supplementation. The authors call targeting SCFAs a promising approach for CCH-related cognitive impairment. They do not show that any of these works in patients.

FOR YOU

What does this mean for personal health? The review gives no diet advice, and it does not test fiber. It says nothing on how much fiber might matter. What it offers is a biological rationale connecting gut health, blood flow and cognition. It is a reason for research, not a reason to change treatment. Readers should not start or stop any treatment, probiotic, prebiotic or supplement without talking to their clinician.

The practical question is whether raising SCFA levels, through diet or other means, slows cognitive decline in people with reduced brain blood flow. A yes would open a low-cost route to protecting the aging brain. A no would show the gut link is a marker of illness, not a lever to pull. Watch for clinical trials in people with vascular cognitive impairment that measure SCFA levels and cognitive outcomes.

Sources: Molecular medicine (Cambridge, Mass.) (2026), Molecular Medicine

The Arising

HEALTH INTELLIGENCE

TUESDAY, OCTOBER 20, 2026 · MARKETS & STRATEGY DESK

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MARKETS & STRATEGY · STANDARD READ · 2 MIN

LABOR SUPPLY AND MARKET IMPACT · STATISTICS CANADA

Canada's Labour Participation Falls to Lowest Since 1997 as Population Ages

A smaller share of Canadians is now working or looking for work than at any time in almost three decades, and Statistics Canada says aging is the main reason.

According to the agency's Labour Force Survey for September 2026, released October 9, the participation rate fell 0.2 percentage points to 64.8%. That is the lowest since December 1997, when it was also 64.8%, excluding 2020 during the COVID-19 pandemic. Participation is the share of people aged 15 and older who are employed or looking for work. It was down 0.4 points from a year earlier, which Statistics Canada describes as "largely the result of population aging."

The monthly numbers were soft. Employment fell by 68,000 (−0.3%), after a drop of 42,000 in August. Before those two declines, employment had risen by 181,000 from April to July. The employment rate slipped to 60.6%, though it was unchanged from a

year earlier. The unemployment rate rose 0.1 points to 6.5%, the same level as in January. It peaked this year at 6.9% in April.

The losses were uneven. Youth aged 15 to 24 lost 48,000 jobs, and women aged 25 to 54 lost 28,000. Educational services, health care and social assistance, and manufacturing all shed workers. Quebec (−49,000), British Columbia (−20,000) and Manitoba (−4,400) saw declines, while Alberta added 23,000.

The public and private sectors moved differently. Public sector employment fell by 70,000 in September, the fourth straight monthly decline. It is down 119,000 (−2.6%) from a year ago, mostly in educational services. Private sector employment was little changed on the month but is up 163,000 (+1.2%) year over year.

For businesses, the hiring signals are mixed. The layoff rate was 0.7%, close to last year's 0.6% and the 2017–2019 average of 0.6%. So firms are not cutting workers at an unusual pace. But the job-finding rate was 30.6%, down from 32.8% a year earlier and well below the 2017–2019 average of 36.5%. That means unemployed people are taking longer to land work. Average hourly wages rose 2.3% year over year to $37.64, up from 2.0% growth in August.

What this means is analysis, not a finding of the survey. A falling participation rate driven by demographics suggests the pool of available workers is growing more slowly than the population. That can limit how fast the economy grows, and it can keep the headline unemployment rate lower than weak hiring alone would suggest. Statistics Canada says aging is projected to keep pushing down labour supply in the coming years. It adds that older Canadians are participating at higher rates than earlier generations, but that participation still drops off at older ages.

The agency's release is the evidence for the aging link. The weakest part of the argument is our own inference: the release does not say which sectors, if any, are struggling to find workers, so we cannot say how the demographic squeeze differs across industries. What the survey does show is falling headcounts in education, health care and manufacturing in September.

Next to watch: the October Labour Force Survey, to see whether employment and participation fall for a third month, and whether wage growth keeps edging up.

Source: Statistics Canada

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MARKETS & STRATEGY · STANDARD READ · 2 MIN MARKET IMPACT · HOSPICE NEWS

Medicare's Freeze on New Hospice and Home Health Agencies Nears Nov. 13 Deadline

A six-month national freeze on new Medicare hospice and home health enrollment is set to expire Nov. 13, and the federal agency that imposed it has not said what happens next.

According to Hospice News, the Centers for Medicare & Medicaid Services (CMS) put temporary moratoria in place that bar applications for new Medicare enrollment. They also apply to certain changes in majority ownership at hospices and home health agencies. The agency said it would give at least 60 days' notice before the moratoria expire. Counting back 60 days from Nov. 13 lands in mid-September. As of Hospice News's Oct. 14 report, CMS had not said whether it would extend them.

The effects are already visible in how companies grow. Rachel Hold-Weiss, a healthcare partner at the law firm Benesch, told Hospice News that the moratoria have kept many operators from expanding through de novos, meaning brand-new agencies. They have also disrupted acquisitions and affiliations. Some new providers have been unable to open.

"We have a lot of hospice clients whose business plans involved expansion, so either a new practice location, or certain acquisitions, and so, to a large extent, that's put on hold," Hold-Weiss said. She added that some smaller owners who hoped to sell, including some who wanted to retire or move, are now stuck. In her words, there has been "a definite shift" in deal activity.

Hold-Weiss also said Medicare Administrative Contractors, which process enrollment paperwork, are disregarding the dates on which applications were submitted. According to her, they have denied applications even when they were filed before the moratoria began.

Lanchi Bombalier, a partner at the law firm Arnall Golden Gregory, described the same uncertainty from the deal side. Many providers were committed to transactions but had not reached their filing deadline, she said, which delayed the process. "It certainly does chill the industry a little bit," she told Hospice News. She said providers are also unsure which paths to growth remain open.

The two outcomes point in different directions, according to the experts quoted. If CMS extends the moratoria, hospice growth could slow further. If it lets them lapse, Hold-Weiss indicated, providers with delayed plans could all move at once and create a bottleneck.

Even a lapse may not return the market to where it was. Bombalier told Hospice News that the market should normalize and certainty should return over time. But she said providers in some regions could face further hurdles. Multiple stakeholders have urged CMS to adopt more targeted moratoria focused on markets where fraud has been prevalent. State governments may also set their own moratoria or other restrictions.

Bombalier expects growth to resume at a lower rate because of those state considerations. "It'll take a little bit of time for folks to get their footing to figure out what's the next step," she said.

For operators and investors, the practical point is that planning now depends on a decision that has not been made. The pace of deals and new openings in this sector will turn on it.

WHAT TO WATCH NEXT

Whether CMS announces an extension, an expiration, or a narrower market-by-market approach before Nov. 13, and whether individual states move to set their own limits.

Source: Hospice News

IN THIS EDITION · MARKETS & STRATEGY

1. Canada's Labour Participation Falls to Lowest Since 1997 as Population Ages
2. Medicare's Freeze on New Hospice and Home Health Agencies Nears Nov. 13 Deadline
3. **Malaysian Pension Fund KWAP Weighs Investments in Elder Care and Ageing Technology**
4. Mark Wahlberg's Municipal Gym Pitches Longevity Testing at Gym Prices
5. Aging Tradespeople and Immigration Enforcement Strain US Skilled Labor Supply

MARKETS & STRATEGY · STANDARD READ · 2 MIN BERNAMA

Malaysian Pension Fund KWAP Weighs Investments in Elder Care and Ageing Technology

One of Malaysia's main public pension funds says it is looking at the ageing population as an investment field, but it has put a condition on any deal: the numbers must work.

Datuk Jay Khairil Jeremy Abdullah, chief executive of Kumpulan Wang Persaraan (Diperbadankan), known as KWAP, made the case on 19 October 2026 in Kuala Lumpur. He was giving the keynote at the National Conference on Ageing 2026. His talk was titled "Investing in Longevity: From Risks to Opportunities in an Ageing Society."

According to Bernama, he said Malaysia needs to prepare for an ageing society by investing in healthcare, elderly care and technologies that let older people live independently. He said a growing older population would create new economic needs and opportunities. These, he said, call for long-term investment strategies that balance social benefits with sustainable financial returns.

The commercial test was the central message. "A worthwhile social purpose does not remove the need for investment discipline," he said. "Every opportunity must stand on its commercial merits and meet our risk-return requirements."

For founders and operators, that sets the bar. Based on his remarks, a care or age-tech business seeking money from a fund like KWAP would need to show returns, not only social value. The source does not say what return levels KWAP requires, so the practical effect on which business models get funded is not yet known.

Jay Khairil said institutional investors such as KWAP could help develop the services, infrastructure and technologies an ageing population needs, while generating long-term value. According to Bernama, KWAP continues to explore opportunities through Dana Pemacu. This initiative supports the Government-Linked Enterprises Activation and Reform Programme (GEAR-uP) under the Ekonomi MADANI framework. The silver economy and healthcare, including products and services for older people, are among its identified target sectors.

No fund size or dollar commitment was disclosed. The remarks describe direction and criteria, not a announced investment.

He also raised a design issue that may matter to age-tech companies. Preparing for an ageing society, he said, means better access to services for retirees, including through digital platforms and community-based help. KWAP is working to improve its MyPesara platforms and to assist retirees in their communities. "Technology has made many services more convenient. But we must ensure that it does not create a new divide," he said. "Some retirees are confident navigating an app; others are more comfortable speaking to someone directly. Both deserve services that work for them."

The comment suggests that products built only for confident digital users may be a harder fit for this kind of investor. That is an interpretation, not something he stated.

KWAP has built some research groundwork. Its collaboration with the Malaysian Research Institute on Ageing (MyAgeing) at Universiti Putra Malaysia began in 2017 and led to the Retirement Strategic Agenda in 2024. The three-day conference is jointly organised by MyAgeing, UPM, Kendana Malaysia, KWAP and the United Nations Population Fund (UNFPA). It focuses on inequalities and on health, social support and technological solutions for older people.

WHAT TO WATCH NEXT

Whether KWAP or Dana Pemacu names specific elder-care or age-tech deals, and what size and return terms come with them.

Source: Bernama

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MARKETS & STRATEGY · STANDARD READ · 3 MIN MARKET IMPACT · TECHCRUNCH

Mark Wahlberg's Municipal Gym Pitches Longevity Testing at Gym Prices

Longevity testing has become a premium product costing tens of thousands of dollars a year. Actor Mark Wahlberg is betting that a gym can sell much of the same thing for far less.



Photo: "Weights Dumbbells" by Skitter Photo, CC0

According to TechCrunch, which spoke with Wahlberg at its Disrupt conference in San Francisco on Thursday, the first Municipal Gym opens in December. It is a 32,000-square-foot club outside Las Vegas. Services include

blood work, epigenetic testing, compression therapy, cold plunges, recovery equipment and a café that serves protein muffins.

Wahlberg is pitching the club as an affordable alternative to longevity clubs. He gave one example of pricing: $99 buys three rounds of blood work and an hour with a doctor, who flags what a member may be predisposed to. He said supplements and hormone therapy are also available. "We have a better price point than our competitors, and we're going to get far more results," he said. The results claim is his own. The article offers no data to support it. Readers should not start or stop any supplement, hormone therapy or other treatment without consulting their own clinician.

The price gap is the core of the strategy. According to reports cited by TechCrunch, a full Fountain Life subscription costs $21,500 a year. Fountain Life, co-founded by Tony Robbins, raised $18 million last year to expand its centers for wealthy clients. The Estate, co-founded by Robbins and hospitality executive Sam Nazarian, is still planning $35,000 memberships. Equinox is building a waitlist for a $36,000 longevity add-on that would sit on top of a standard gym membership.

For the market, the question is whether these services are a luxury or a mass-market product. Municipal is testing the second view. If members pay for diagnostics at gym-level prices, premium providers may have to justify their fees with something beyond testing. If they do not, the premium tier may hold. The article does not say how Municipal's $99 offer fits into its wider membership pricing, or how it will make money on it. Those details matter for judging the model.

Wahlberg describes the plan as a "health and wellness ecosystem" with "everything there, soup to nuts." Asked whether the gyms would act as storefronts for his other products, including a supplements brand he owns, he answered "kind of." Municipal began as a sportswear line during COVID. Wahlberg said a gym lets people "actually feel and touch the clothes" before buying.

He called the growth strategy "aggressive" but gave no target for the number of gyms. He said landlords and developers who toured the Las Vegas site offered "AAA locations at very favorable terms, with great TI," meaning tenant-improvement allowances that help pay for build-out. TechCrunch's article gives no funding, valuation or location count for Municipal.

Wahlberg's record in fitness adds context. He bought into F45 Training in 2019 at a $450 million valuation, according to TechCrunch. The company went public in 2021 and was delisted from the NYSE in 2023 after its stock collapsed. He said the main

lesson was to work with people who share his approach. He also said he has always thought big-box gyms were the better model. He wants members to stay for hours, and he said he cannot understand the "join up but don't show up" model that many gyms rely on.

The article does not discuss regulation. Offering blood work, doctor visits, supplements and hormone therapy in a gym raises questions about medical oversight, but the source does not address them. What to watch next: the December Las Vegas opening, the full membership pricing, and whether Municipal announces a second location.

Source: TechCrunch

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MARKETS & STRATEGY · STANDARD READ · 2 MIN

COMPETITIVE LANDSCAPE AND OPERATIONAL RISK · STATELINE

Aging Tradespeople and Immigration Enforcement Strain US Skilled Labor Supply

Worker shortages are now the top reason construction projects get delayed, according to a September survey by the Association of General Contractors of America, and the pressure is coming from several directions at once.

Stateline reported on October 8 that aging journeymen, tougher immigration enforcement and a building boom for data centers are together straining the supply of skilled trade workers. Automakers and contractors are looking for plumbers, electricians, carpenters, machinists and technicians. These are specialties that are increasingly hard to staff.

The contractors' survey points to a training problem as well as a headcount problem. Applicants are available, but half of the contractors surveyed said too many candidates are unqualified and need more training. The association named data center demand and immigration enforcement as contributing causes of the shortage.

The immigration piece matters because of who does the work. "Over 50% of craft workers are born outside the United States," said Ken Simonson, the association's chief economist. "We don't know that they're illegal but frankly DHS is not being that discriminating in whom they pick up or who feels threatened by them," he said.

Simonson argued for more worker visas for construction and other trades. He said the industry has been "stymied for 20 years or longer" in trying to get construction treated like agriculture, where employers can bring in workers if they show too few Americans are interested in the job.

A separate survey points the same way. John Burns Real Estate and Consulting, an independent housing research firm, reported that many roofers it surveyed earlier this year saw immigration enforcement as hurting their business. Elizabeth LaJeunesse, the firm's vice president for building products research, said the strength of the responses was surprising. "They're describing disappearing workers," she said, adding that most of these firms are fairly conservative. Duane Musser of the National Roofing Contractors Association said the responses are typical of what he hears from members.

Employers also face a pull problem. Pay is rising in the skilled trades, but Stateline reported it is hard to say how soon higher wages would draw more people. Tradespeople posting on social media cite long commutes, low-paid apprenticeships and a sense of being valued less than office workers. One 31-year-old Michigan tradesperson in plumbing and HVAC said top pay is attractive but many in the field make less than $70,000.

Industry is trying to change the image of the work. Ford Motor Company and the Ad Council announced a campaign to bring more young people into the trades. According to Stateline, Ford and "the alliance" did not mention immigration enforcement as an issue, though the contractors' association and the roofer survey both did.

For companies, the operational risk is schedule and cost rather than demand. Builders and manufacturers that compete for the same limited pool of skilled workers face delays, and Stateline described no quick fix. Training, wages and visa policy are each being pushed as a remedy, and none has yet been shown to close the gap. The weakest part of this account is its reliance on industry surveys and anonymous social media posts, which show perception rather than measured labor-market effects.

WHAT TO WATCH NEXT

Whether wage gains and campaigns like Ford's draw more entrants, and whether Congress takes up trade-specific visas of the kind the contractors' association has long sought.

Source: Stateline (via CT Mirror)

The Arising

HEALTH INTELLIGENCE

TUESDAY, OCTOBER 20, 2026 · BRIEFS

IN THIS EDITION · BRIEFS · 172 SHORT STORIES IN 18 TOPICS

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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.

CLINICAL TRIALS 9

Trial tests telemedicine assessments for older cancer patients in underserved communities

A trial registered on ClinicalTrials.gov and now recruiting, sponsored by City of Hope Medical Center, will test whether telemedicine can carry out geriatric assessments in older adults with cancer. The aim is to spot vulnerabilities and guide referrals. No results exist yet. The registry entry says the work may show whether this approach improves care compared with standard care.

CLINICALTRIALS.GOV (NCT06022965) · 2026-10-19

Trial will test whether daily avocado affects sleep and skin after menopause

A randomised trial registered on ClinicalTrials.gov, sponsored by San Diego State University, has not yet begun recruiting and has no results. It plans to enrol 74 postmenopausal women aged 50-65 with poor sleep. They will eat one avocado daily or take a safflower oil control for 8 weeks. Sleep, skin and vascular function will be measured.

CLINICALTRIALS.GOV (NCT07880444) · 2026-10-19

Early trial registered to test pacritinib in myelodysplastic syndromes

A ClinicalTrials.gov entry describes a phase 1/2 trial, sponsored by the National Cancer Institute, of the drug pacritinib in people aged 12 and older with myelodysplastic syndromes or related neoplasms. It is recruiting and has no results yet. Participants would take capsules twice daily in 28-day cycles, with different doses assigned, for up to 8 years.

CLINICALTRIALS.GOV (NCT06303193) · 2026-10-19

Trial will measure energy use after one minute of exercise

A registered trial at the Medical University of Bialystok is recruiting 14 healthy adults aged 18 to 30. It will measure how one minute of squats, burpees or planking affects energy use, including after exercise. This is a trial registry entry only. No results exist yet, so nothing has been found.

CLINICALTRIALS.GOV (NCT07529132) · 2026-10-19

Trial registered to test hand massage for anxiety after caesarean birth

A trial registered on ClinicalTrials.gov, sponsored by Dokuz Eylul University, plans to compare reflexology hand massage with stroking hand massage after caesarean section. It will measure anxiety, satisfaction and hemodynamic parameters. The trial is recruiting and has no results yet, so nothing is known about whether it works.

CLINICALTRIALS.GOV (NCT07880587) · 2026-10-19

Planned trial will test two anesthesia drugs for smoother waking after throat surgery

A trial registered on ClinicalTrials.gov plans to enrol 134 adults having surgery for vocal cord polyps at a Jilin University hospital. It will compare intranasal dexmedetomidine with or without esketamine for agitation on waking. The trial has not yet begun recruiting, so there are no results.

CLINICALTRIALS.GOV (NCT07880938) · 2026-10-19

Registered French study will examine how trauma passes through families

A trial registry entry on ClinicalTrials.gov describes CARE 13-11, a study run by the French research institute Inserm. It is recruiting. It will compare families directly exposed to a traumatic event, with children born before it, against unexposed families. The entry lists no results yet. It only describes the plan.

CLINICALTRIALS.GOV (NCT07203443) · 2026-10-19

NIH plans a blood sample bank for pulmonary hypertension research

A registry entry on ClinicalTrials.gov describes a planned NIH Clinical Center study that has not yet started recruiting. Researchers want to collect blood samples and health information from adults who have or may have pulmonary hypertension. The aim is to find better ways to diagnose and treat it. There are no results yet.

CLINICALTRIALS.GOV (NCT07647549) · 2026-10-19

Planned trial will test trigonelline's effect on NAD+ levels in healthy adults

This trial is registered on ClinicalTrials.gov but has not started recruiting, so there are no results. The Phase 1 study, sponsored by dsm-firmenich, plans to randomise 60 healthy adults aged 40 to 70. They will receive trigonelline, NMN or placebo for 4 weeks. The main measure is change in blood NAD+.

CLINICALTRIALS.GOV (NCT07880925) · 2026-10-19

Case report: woman's fitness improved after vibration and exercise rehabilitation following heart procedure

A case report in JACC Case Reports describes one 62-year-old woman in cardiac rehabilitation after a heart procedure. After eight weeks of aerobic, vibration and isometric exercise, her peak oxygen uptake rose from 14.3 to 22.2 mL/kg/min. No major cardiovascular events occurred. This is a single case, so it cannot show the program caused the changes.

JACC. CASE REPORTS · 2026-10-16

Three minutes of daily exercise 'snacks' linked to fitness gains in women

A randomised controlled trial in the Journal of Physical Activity & Health tested short exercise bouts in 27 women with overweight or obesity. The exercise group did three 1-minute bouts a day, three days a week, for six weeks. The authors conclude this brief routine may improve fitness and body composition. The trial was small.

JOURNAL OF PHYSICAL ACTIVITY & HEALTH · 2026-10-15

Cardiology group issues guidance on prescribing exercise for heart health

The American College of Cardiology published a scientific statement in the Journal of the American College of Cardiology to guide clinicians on exercise prescription. It reviews evidence that physical activity and fitness shape cardiovascular outcomes. It says the largest absolute benefits come when inactive people start moving. It also covers rehabilitation models, exercise testing and wearable devices.

JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY · 2026-10-15

Low fitness is linked to large healthcare and productivity costs in France

An economic modelling study in The Journal of Sports Medicine and Physical Fitness estimated the cost of low cardiorespiratory fitness in France. It found low fitness in 26.9% of men and 63.1% of women. Related direct costs made up 5.6% of national health spending in 2024. Indirect costs were estimated at €4.775 billion. These are model-based estimates, not proof of cause.

THE JOURNAL OF SPORTS MEDICINE AND PHYSICAL FITNESS · 2026-10-15

Review explains why fat-fuelled, high-intensity endurance is rare in animals

A review in The Journal of Experimental Biology looks at animals such as migratory birds, bats and some insects that sustain intense effort mostly on fat. The authors argue that selection for endurance alone is not enough. Physical limits and the cost of losing fuel flexibility also matter. The review is about animals, not human health.

THE JOURNAL OF EXPERIMENTAL BIOLOGY · 2026-10-15

Randomised trial tests cycling with low-oxygen recovery after COVID-19

A randomised controlled trial in Sports Health enrolled 61 adults recovering from COVID-19. They did eight weeks of cycling training under normal or low oxygen, or no exercise. Ventilatory threshold rose in all groups. Training groups gained more in some measures. Only one group comparison on ventilation was clearly reported as different.

SPORTS HEALTH · 2026-10-14

Pain relief after spinal cord stimulation held steady with added exercise programme

A prospective single-arm study in the Journal of Rehabilitation Medicine followed 35 adults with neuropathic pain and spinal cord stimulators. They added a physiotherapist-led exercise programme, then activity on prescription. Pain and quality of life improved and stayed improved at 21 months. Physical activity did not change. With no comparison group, the exercise add-on's effect is unclear.

JOURNAL OF REHABILITATION MEDICINE · 2026-10-14

Time-restricted keto diet plus exercise raised fitness but worsened sleep in trial

In a randomised trial in Applied Physiology, Nutrition, and Metabolism, 68 overweight or obese young adults were assigned to a control group or to a four-week time-restricted ketogenic diet, either alone, with sprint intervals or with moderate continuous exercise. Fifty-nine finished. All keto groups lost 5 to 6 percent of body weight. Fitness rose in both exercise groups, most with sprint intervals. All keto groups had worse sleep-quality scores.

APPLIED PHYSIOLOGY, NUTRITION, AND METABOLISM = PHYSIOLOGIE APPLIQUEE, NUTRITION ET METABOLISME · 2026-10-13

Movement screen and fitness together predicted firefighter recruits' course times

In a study in the Journal of Occupational and Environmental Medicine, 50 firefighter recruits completed a movement screen, aerobic fitness testing and a fire-specific course in full protective gear. Movement scores alone were not independently associated with course time or air use. Together with aerobic fitness, they predicted course completion time. In one model, higher movement scores predicted lower air use. These are statistical associations.

JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE · 2026-10-13

Review proposes blood lactate to guide exercise in mild cognitive impairment and Alzheimer's

A narrative review in Clinical Interventions in Aging proposes a conceptual framework using blood lactate, alongside other measures, to tailor exercise for people with mild cognitive impairment or Alzheimer's. It has not been tested. The authors say the brain-related mechanisms remain hypotheses and call for multicenter trials to check whether it helps.

CLINICAL INTERVENTIONS IN AGING · 2026-10-12

Aerobic capacity linked to Yo-Yo test distance in pro soccer players

An observational study in the Brazilian Journal of Medical and Biological Research tested 26 professional soccer players. Distance on the Yo-Yo test was linked to maximal aerobic speed and maximal oxygen uptake, but not to submaximal thresholds. Midfielders showed higher acidosis tolerance than defenders. The study shows associations, not causes.

BRAZILIAN JOURNAL OF MEDICAL AND BIOLOGICAL RESEARCH = REVISTA BRASILEIRA DE PESQUISAS MEDICAS E BIOLOGICAS · 2026-10-12

Review of trials finds Zumba linked to better fitness in inactive women

This is a systematic review and meta-analysis of seven randomised controlled trials, published in Obesity Reviews. It found Zumba improved cardiorespiratory fitness and reduced body fat percentage among women with low physical activity levels. The authors call for further high-quality research on dosage, other Zumba formats and long-term sustainability.

OBESITY REVIEWS : AN OFFICIAL JOURNAL OF THE INTERNATIONAL ASSOCIATION FOR THE STUDY OF OBESITY · 2026-10-12

Equation without exercise testing estimates peak oxygen use in heart failure

Researchers analysed 5,176 heart failure patients who had cardiopulmonary exercise testing, according to a study in Progress in Cardiovascular Diseases. An equation using clinical details and lung function estimated peak oxygen consumption reasonably accurately. Estimated and measured values at or below 14 mL/kg per minute both showed significant prognostic value for death from any cause. The analysis is observational.

PROGRESS IN CARDIOVASCULAR DISEASES · 2026-10-12

FASTING, AUTOPHAGY & METABOLIC HEALTH

11

Plant compound helped overcome chemotherapy resistance in colorectal cancer cells, early study finds

A laboratory study in Advanced Science examined tubocapsenolide A, a plant-derived compound. The authors report it blocks a protein called PLK1 and makes oxaliplatin-resistant colorectal cancer cells more vulnerable to the drug. The text describes it as a possible lead compound. It is early research, and the source text does not report any human treatment results.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Low CBX2 levels tied to fatty liver disease; raising it helped in mice

A study in Advanced Science found that levels of a gene regulator called CBX2 were reduced in liver cells from people with fatty liver disease (MASLD) and in mouse models. In mice, boosting CBX2 in liver cells reduced fat buildup and inflammation. The authors suggest it could be a future treatment target. No human trial was reported.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Removing protein HECTD1 from T cells eased colitis and tumours in mice

A study in Advanced Science reports that a protein called HECTD1 promotes glucose use and development of Th17 immune cells. In mice, deleting HECTD1 specifically from T cells reduced the severity of colitis and colitis-associated cancer. The authors report that HECTD1 expression correlates with inflammatory bowel disease and colitis-associated cancer, and suggest it as a potential treatment target. No treatment was tested in people.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Brain-cell lipid pathways tied to epilepsy changes in mice, with a drug tested

A study in Advanced Science examined temporal lobe epilepsy using human and mouse data. Changes in an astrocyte-linked lipid pathway accompanied altered brain structure in the hippocampus. In mice, the drug bexarotene was associated with fewer seizures and less misplaced neuron build-up. The authors say these lipid pathways warrant further investigation as possible treatment targets.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Mouse study finds small protein that boosts cell energy production

Researchers report in Advanced Science a 29-amino-acid micropeptide in mice. It binds a part of the cell's energy-producing machinery and modulates ATP production. Given to mice, it raised ATP levels and restored heart function in a heart failure model. This is animal research, and no human data are reported.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Trials review links exercise and diet to better metabolic syndrome measures

A review pooling 78 randomised trials with 8,452 adults with metabolic syndrome and overweight or obesity compared exercise, diet and combined programmes. According to Advances in Nutrition, all exercise-only programmes were linked to lower blood pressure. Some combined programmes were linked to lower waist size, triglycerides or fasting glucose. Results compared with inactive or minimal-intervention controls.

ADVANCES IN NUTRITION (BETHESDA, MD.) · 2026-10-17

Review: ferroptosis, an iron-driven cell death, may offer new cancer treatment targets

A review in the Journal of the Egyptian National Cancer Institute covers ferroptosis, a form of cell death driven by iron and damage to cell membranes. It discusses how this process relates to tumour growth, spread and treatment resistance. The authors describe it as a promising therapeutic vulnerability, but note challenges including tumour variety, limited biomarkers and safety concerns.

JOURNAL OF THE EGYPTIAN NATIONAL CANCER INSTITUTE · 2026-10-17

Earlier evening insulin dose did not reduce fasting hypoglycaemia in type 1 diabetes

A randomised trial in the Journal of Diabetes Science and Technology compared early evening and bedtime insulin glargine in 185 people with type 1 diabetes fasting during Ramadan. Fasting interruptions were similar, at 75.9% and 76.3%. Time in range was also similar. Low-glucose area under the curve was higher in the early evening group.

JOURNAL OF DIABETES SCIENCE AND TECHNOLOGY · 2026-10-17

Gene SGK1 linked to immune cell aging in chronic fatigue syndrome

A computational and laboratory study in PLOS One analysed existing gene-activity datasets from people with ME/CFS. It flagged SGK1 as a candidate gene tied to senescence in immune cells. In a cell model of senescence, SGK1 rose, and knocking it down reduced some senescence markers. This is early work, not proof of cause in patients.

PLOS ONE · 2026-10-16

Yeast study finds a metabolic signal that extends lifespan via Ybt1

This was a study in yeast, not humans. According to Proceedings of the National Academy of Sciences, a compound called SAH triggered a brief burst of reactive oxygen species that extended the yeast's lifespan. The effect worked through a transporter called Ybt1. Overproducing Ybt1 also extended lifespan.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA · 2026-10-16

Review: immune protein IL-24 may protect the liver in lab studies

A review in Molecular Biology Reports summarises research on IL-24, a signalling protein, in liver disease. Evidence comes mainly from animal and cell experiments. These suggest it may limit liver injury and scarring and affect fatty liver disease. The authors note that evidence is limited and that more research is needed.

MOLECULAR BIOLOGY REPORTS · 2026-10-16

Crowded classrooms linked to changes in students' heart rate variability in small experiment

A controlled experiment in the Journal of Physiological Anthropology had 30 healthy university students attend lectures at three crowding levels. Heart rate variability measures linked to the body's calming nervous system declined as density rose. For example, pNN50 fell 52%. Students also reported higher workload. The authors call the stress link corroborating, though not definitive.

JOURNAL OF PHYSIOLOGICAL ANTHROPOLOGY · 2026-10-17

Physical activity may soften poor sleep's link to faster biological aging

A cross-sectional study in GeroScience of 890 adults aged 20 to 102 compared questionnaire-reported activity, sitting time and sleep with several biological aging clocks. Higher activity was linked to lower age acceleration on only one measure, the intrinsic capacity clock, in women. In older adults, higher activity weakened the association between worsening sleep and faster aging on four clocks. The design cannot show cause.

GEROSCIENCE · 2026-10-17

Review proposes body-clock disruption and muscle loss may feed each other

A review in Chronobiology International proposes that disrupted body clocks and muscle wasting reinforce each other. Both occur together in critical illness, shift work and aging. The authors say genetic and sleep-deprivation studies support one direction. Evidence for the reverse is only correlative. Treatments timed to body rhythms showed promise in preclinical work, not yet in clinical trials.

CHRONOBIOLOGY INTERNATIONAL · 2026-10-17

Diet and gut bacteria linked to Parkinson-type disease progression in sleep disorder

A study in Movement Disorders followed 287 people with isolated REM sleep behavior disorder and 208 controls. Patients reported lower healthful plant-based diet scores. Over a median 4.2 years, 45 developed an α-synucleinopathy. Higher coffee intake was linked to lower risk of progression. These are associations, not proof of cause.

MOVEMENT DISORDERS : OFFICIAL JOURNAL OF THE MOVEMENT DISORDER SOCIETY · 2026-10-16

Depression and anxiety are more common in older surgical patients with cognitive impairment

A multicentre cohort study of 369 surgical patients aged 65 or older, published in Minerva Anestesiologica, looked at mood and thinking problems. Before surgery, 28% had depression or anxiety and 13% had cognitive impairment. Cognitive impairment was more common among those with depression or anxiety (29% versus 6%). The authors suggest screening for both conditions.

MINERVA ANESTESIOLOGICA · 2026-10-16

Lower-carbohydrate diet scores linked to fewer vascular events and deaths in type 1 diabetes

A prospective cohort study in the Journal of Diabetes Investigation followed 352 adults with type 1 diabetes in Japan. Higher low-carbohydrate diet scores were linked to a lower risk of heart disease, stroke, peripheral artery disease or death. The link was strongest for plant-based scores. Only 35 people had an event, and the study cannot show cause.

JOURNAL OF DIABETES INVESTIGATION · 2026-10-16

Evening chronotype linked to slightly higher dementia risk in large cohort

A prospective cohort study in the Journal of Alzheimer's Disease followed 443,906 people for an average of 12.5 years. Evening types had a small higher risk of dementia than morning types (HR 1.07). No link appeared for Alzheimer's or vascular dementia. The authors say it is a possible risk marker, not a proven cause, and needs replication.

JOURNAL OF ALZHEIMER'S DISEASE : JAD · 2026-10-16

Kidney injury in pregnancy linked to worse outcomes for mothers and newborns

A retrospective cohort study in the Journal of Nephrology reviewed 29,586 deliveries at Mayo Clinic hospitals. Pregnancy-related acute kidney injury occurred in 341 patients, or 1.15%. It was associated with higher rates of chronic hypertension, caesarean delivery and intensive care admission. The authors call it a marker of severe illness. The design shows links, not causes.

JOURNAL OF NEPHROLOGY · 2026-10-16

Slower two-part hand task linked to later disabling dementia in older Japanese adults

A prospective study in Annals of Geriatric Medicine and Research followed 274 Japanese adults aged 65 or older for an average of 4.2 years. Of these, 16 developed disabling dementia. Longer completion time on one hand-based dual-task test was associated with dementia. Four other measures were not. The authors say it needs further evaluation.

ANNALS OF GERIATRIC MEDICINE AND RESEARCH · 2026-10-16

New liver regeneration scores tested in aging rats under constant light

In a rat study in Biogerontology, researchers built two composite scores of liver regenerative capacity. In rats kept in constant light, one score fell from 2.00 at 6 months to 0.386 at 24 months, with the second at 0.32. Rats also given melatonin scored 2.285 and 2.08 at 24 months. The authors say the scores are experimental and need external validation.

BIOGERONTOLOGY · 2026-10-16

Minority veterans with sleep disorders had lower death rates than White veterans

According to a study in Sleep Medicine, researchers looked at about 1.5 million US veterans treated for sleep apnea, insomnia or both. After adjustment, several minority groups, including Asian veterans, had lower all-cause mortality than non-Hispanic White veterans. This is an observational study. It shows a link, not a cause.

SLEEP MEDICINE · 2026-10-15

Hospital infections were common and linked to longer stays in a Nepal ICU

In a prospective observational study in the Journal of Nepal Health Research Council, 42 of 121 respiratory ICU patients developed hospital-acquired infections. Ventilator-associated pneumonia was most common. Many bacteria resisted common antibiotics. Patients with infections stayed longer in intensive care and had higher mortality. Ventilation, urinary catheters and earlier hospitalisation were the strongest predictors.

JOURNAL OF NEPAL HEALTH RESEARCH COUNCIL · 2026-10-15

Oral nanogel eased colitis and shifted immune cells in aged mice

A study in Advanced Science tested an oral nanogel carrying astilbin, a plant flavonoid, in aged mice with induced colitis. The treatment reduced disease severity and eased signs of aging in colon immune cells. It also boosted regulatory T cells. This is mouse research, and it does not show effects in people.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Review explores how gut bacteria might shape pain after orthopedic surgery

A review in Neuroimmunomodulation discusses how gut bacteria, the immune system and nerves might contribute to long-lasting pain after orthopedic surgery. The authors stress that much of the evidence is indirect, associative or from preclinical models. Direct proof of cause in surgical patients is still limited.

NEUROIMMUNOMODULATION · 2026-10-17

Review examines how stomach tumours build blood supply and why it matters

A review in Cancer and Metastasis Reviews looks at blood vessels in gastric cancer. Tumours can form vessel-like networks without normal vessel cells, called vasculogenic mimicry. The review says its presence is associated with aggressive tumours, spread, treatment resistance and poor prognosis. It also discusses nanomedicine as a way to deliver drugs more precisely. It is a review, not a new trial.

CANCER METASTASIS REVIEWS · 2026-10-17

Review finds gum disease linked to heart failure, but cause remains unproven

A narrative review in Current Cardiology Reports examined evidence on periodontal disease and heart failure. Gum disease appears common in people with heart failure and is associated with higher heart and inflammation markers. Some studies found no link. The authors say mostly observational, small studies limit conclusions about cause, and longitudinal studies and randomised trials are needed.

CURRENT CARDIOLOGY REPORTS · 2026-10-17

Review of a mouse model for studying who develops PTSD

A review in the Journal of Neuroscience Methods describes a mouse model that separates susceptible from resilient animals after a single stressful restraint. Susceptible mice showed lasting PTSD-like behaviour. The authors summarise findings on microRNA, gut-brain links and sex differences. This is preclinical work in mice, not human research.

JOURNAL OF NEUROSCIENCE METHODS · 2026-10-16

Gut bacterium plus immunotherapy shows early signs of response in colorectal cancer

A study in Cell Host & Microbe combined mouse experiments with a phase 1 trial. In mouse models of microsatellite-stable colorectal cancer, oral Akkermansia muciniphila suppressed tumour formation and enhanced response to anti-PD-1 therapy. In patients with metastatic microsatellite-stable disease after at least one prior therapy, the probiotic plus a PD-1 antibody was safe, with a 19% objective response rate in this early-phase study.

CELL HOST & MICROBE · 2026-10-16

Gut bacteria from people with schizophrenia linked to behaviour changes in mice

A study in Gut Microbes transferred gut microbiota from patients with schizophrenia into mice. The mice showed memory, social and sensory-gating changes, lower colonic PRODH expression and higher plasma proline. A five-species bacterial mix produced similar effects. This is mouse research and shows association, not proof of cause in people.

GUT MICROBES · 2026-10-16

Review examines gut-targeted approaches for Alzheimer's and Parkinson's disease

A review in Expert Opinion on Therapeutic Targets summarises recent work on treatments aimed at the gut-brain connection in Alzheimer's and Parkinson's. These include diet, probiotics and fecal transplantation. The authors say results in preclinical and early clinical trials look promising. They add that varied methods and a lack of standard protocols limit clinical use.

EXPERT OPINION ON THERAPEUTIC TARGETS · 2026-10-16

Probiotic added to epilepsy care in children linked to small changes, no control group

A single-arm before-and-after study in Epilepsy Research gave Lactobacillus reuteri for 12 weeks to children with drug-resistant epilepsy. Of 75 enrolled, 71 finished. Quality-of-life scores rose from 33.75 to 34.23. Seizure frequency also changed significantly. The authors call the changes modest, with unclear clinical meaning. There was no comparison group.

EPILEPSY RESEARCH · 2026-10-15

Review: gut-made butyrate may influence brain aging, but human evidence is thin

A review in Neuroscience and Biobehavioral Reviews examines butyrate, a compound made by gut bacteria from dietary fibre. Experimental studies suggest it affects several processes involved in brain aging. Evidence in humans is limited and mostly associative or indirect. The review also covers methods being developed to deliver butyrate to the brain.

NEUROSCIENCE AND BIOBEHAVIORAL REVIEWS · 2026-10-15

Review links gut microbes to brain disorders and drug response

A review in Molecular Neurobiology covers how gut microbes and the central nervous system influence each other. It says microbiome-based approaches, such as probiotics, showed benefits in animal models and some clinical studies. The authors say obstacles remain, including standard methods and unclear mechanisms, before these approaches can reach clinics.

MOLECULAR NEUROBIOLOGY · 2026-10-15

Review links environmental pollutants to faster brain ageing and Alzheimer's pathology

A review in the International Journal of Environmental Health Research examines pollutants such as air pollution, heavy metals and pesticides. It describes epidemiological and experimental evidence tying them to brain ageing and Alzheimer's-type changes. Animal models show such effects clearly, but clinical translation is limited. The authors call for long-term human studies.

INTERNATIONAL JOURNAL OF ENVIRONMENTAL HEALTH RESEARCH · 2026-10-15

Trial protocol compares two transfusion strategies for older adults after hip fracture

A protocol in Bone & Joint Open describes a UK multicentre randomised trial in patients aged 60 or older with anaemia after hip fracture. It compares liberal and restrictive transfusion strategies. Recruitment fell short, so the primary outcome of death or major cardiac events was broadened to include heart injury after surgery, and the target was cut from 1,984 to 842. The paper reports no results.

BONE & JOINT OPEN · 2026-10-19

Lab-grown brain models reveal inflammation pathways in HIV-related brain damage

A study in Advanced Science used human brain organoids infected with HIV, with findings checked in infected, treated macaques. Immune cells called microglia were infected first and triggered inflammatory signalling. Antiretroviral treatment reduced this inflammation in the models. The authors propose targets for future therapies. This is laboratory and animal work.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Small pilot finds tablet-based balance and thinking training feasible for older adults

A small feasibility study in Experimental Gerontology tested eight weeks of tablet-based training in 20 older adults with subjective cognitive decline. Eighteen finished. Recruitment met its target, and participants generally viewed the programmes well, though balance training seemed too easy. Gait changes were described only descriptively, so the study cannot show whether the training works.

EXPERIMENTAL GERONTOLOGY · 2026-10-17

Longer depressive symptoms before cancer linked to faster memory decline afterward

According to a study in the Journal of Geriatric Oncology, longer depressive symptoms before a cancer diagnosis were linked to faster memory decline afterward. The observational analysis used US Health and Retirement Study data from 425 adults aged 50 or older. This shows an association only. It cannot show that depression caused the decline.

JOURNAL OF GERIATRIC ONCOLOGY · 2026-10-17

Brain shrinkage on MRI linked to worse outcomes on Alzheimer's antibody drugs

A retrospective study in The Journal of Prevention of Alzheimer's Disease followed 161 patients at a Tokyo dementia center treated with lecanemab or donanemab. Greater shrinkage in a memory-related brain area at baseline was associated with greater functional decline. Microbleeds were associated with a type of imaging abnormality. All such events were asymptomatic. These are associations.

THE JOURNAL OF PREVENTION OF ALZHEIMER'S DISEASE · 2026-10-17

Multiple declines in older adults' physical and mental functions linked to higher dementia risk

A nine-year cohort study of 2,308 older adults in Taiwan, reported in The Journal of Frailty & Aging, tracked six areas of function, including cognition, vision and hearing. About 15.5% developed dementia. Impairment in two or more areas was linked to higher dementia risk. One impaired area showed no clear link. This is an association, not proof of cause.

THE JOURNAL OF FRAILTY & AGING · 2026-10-17

Spinal fluid TNFR-1 is higher in people with ALS than in controls

An exploratory cross-sectional study in Neurological Sciences compared 45 people with sporadic ALS and 30 controls. Cerebrospinal fluid levels of the inflammatory marker TNFR-1 were higher in the ALS group. CRP did not differ. The authors say the findings do not prove diagnostic accuracy or causality and call for longitudinal studies.

NEUROLOGICAL SCIENCES : OFFICIAL JOURNAL OF THE ITALIAN NEUROLOGICAL SOCIETY AND OF THE ITALIAN SOCIETY OF CLINICAL NEUROPHYSIOLOGY · 2026-10-17

Brain structure differences relate to sadness recognition in mild cognitive impairment

A cross-sectional study in Brain Structure & Function compared 30 adults with mild cognitive impairment with 30 healthy controls. Those with impairment had lower volume in some brain regions and thinner cortex in two areas. The link between a parietal region and recognising sadness differed between groups. The authors call their interpretation speculative.

BRAIN STRUCTURE & FUNCTION · 2026-10-17

Opinion piece argues gum disease deserves higher priority in health policy

An opinion article in Primary Dental Journal argues that periodontal disease, a chronic inflammatory gum condition, is under-prioritised in public health policy. It cites associations with diabetes, cardiovascular disease and adverse pregnancy outcomes. It also raises costs to the NHS. This is a viewpoint, not new research data.

PRIMARY DENTAL JOURNAL · 2026-10-17

Genetic study in 1,040 Chinese adults flags regions linked to cognitive impairment

According to a genome-wide association study in Human Genetics, researchers sequenced 1,040 matched cases and controls from a Chinese cohort. They found 19 genetic variants in 15 regions reaching suggestive significance. Eleven regions were newly linked to Alzheimer's disease or cognitive impairment. Five showed nominal evidence of replication in other datasets. These are associations, not proven causes.

HUMAN GENETICS · 2026-10-17

Review: multicomponent non-drug care shows most consistent delirium signal in older adults

A scoping review in JoVE identified 23 studies of ways to prevent cognitive problems after surgery in people aged 60 and over. Multicomponent non-drug approaches showed the most consistent signal for reducing postoperative delirium. Results for single drug or technical strategies were inconsistent. Long-term cognitive outcomes were rarely assessed.

JOURNAL OF VISUALIZED EXPERIMENTS : JOVE · 2026-10-16

Blood markers and genes may flag who gains from lifestyle programme

A analysis of a Japanese trial, reported in Alzheimer's & Dementia (New York), grouped people with mild cognitive impairment by blood biomarkers. In one subgroup with raised GFAP, the control group declined more over 18 months than the intervention group. The genetic findings were only suggestive.

ALZHEIMER'S & DEMENTIA (NEW YORK, N. Y.) · 2026-10-16

Trials of stopping blood pressure drugs in care homes differ too much to combine

A systematic review in Drugs & Aging examined randomised trials of planned blood pressure medicine withdrawal in long-term care. It found three trials with 1,548 residents. The studies differed so much that results could not be pooled. Reported effects on death varied between trials, with some uncertainty in both.

DRUGS & AGING · 2026-10-16

Review finds vaginal estrogen eases menopause-related symptoms, with open questions in some groups

A review in Current Opinion in Obstetrics & Gynecology summarises evidence on vaginal estrogen for genitourinary symptoms of menopause. It reports that randomised trials show symptom improvement and that large cohort studies show no increased cardiovascular, clotting or cancer risk. Use in breast cancer survivors remains controversial. Estrogen did not improve surgical success after prolapse repair.

CURRENT OPINION IN OBSTETRICS & GYNECOLOGY · 2026-10-20

Mitochondria-targeting compound shows early signs in aged ovarian cells and eggs

A laboratory study in Mitochondrion tested a compound called M1 in aged ovarian-type cells and aged eggs. It changed mitochondrial shape and energy readouts in cells, and increased a maturation marker in eggs. The authors say the data do not show true rejuvenation or better fertility outcomes. More research is needed.

MITOCHONDRION · 2026-10-17

Cancer patients' money worries linked to age and deprivation, not to survival

According to a study in Supportive Care in Cancer, covering 1906 patients at one cancer centre, younger age, insurance type, tobacco use and living in more deprived areas were associated with greater financial toxicity. Higher financial toxicity was also linked to more distress and poorer reported health. It was not associated with overall survival. The authors call for further analysis by disease group.

SUPPORTIVE CARE IN CANCER : OFFICIAL JOURNAL OF THE MULTINATIONAL ASSOCIATION OF SUPPORTIVE CARE IN CANCER · 2026-10-17

Aggressive prostate cancer rose in urban Appalachia, with risks varying by race

A retrospective analysis of 951,965 prostate cancer cases in the SEER database, reported in Cancer Causes & Control, found overall incidence declined in most regions. Aggressive cases rose over time, especially in urban Appalachia. Geographic patterns differed between White and Black men. The data are observational and show associations, not causes.

CANCER CAUSES & CONTROL : CCC · 2026-10-17

Modeling picks doses of menopause hot-flash drug candidate for next trial

A modeling study in the Journal of Pharmacokinetics and Pharmacodynamics used data from postmenopausal women to simulate how the experimental drug GS1-144 lowers luteinizing hormone. Three dosing regimens were recommended for Phase II testing in menopausal hot flashes. These are simulations, and the text reports no evidence yet that the drug relieves symptoms.

JOURNAL OF PHARMACOKINETICS AND PHARMACODYNAMICS · 2026-10-16

Author proposes liver estrogen receptor shapes sex differences in fatty liver disease

A paper in Trends in Endocrinology and Metabolism puts forward an idea, not new data. The author proposes that estrogen receptor alpha in the liver influences how amino acids from muscle are used or disposed of. This could help explain why fatty liver disease differs by sex. The paper calls for sex-stratified trials and new biomarkers.

TRENDS IN ENDOCRINOLOGY AND METABOLISM: TEM · 2026-10-16

Testosterone did not improve exercise capacity in older women with early heart failure

In a randomised, double-blind, placebo-controlled crossover trial in Climacteric, 38 women aged 55 or older with stage B heart failure used transdermal testosterone for 4 months. Testosterone had no significant effect on peak exercise capacity, heart structure or function, or quality of life. It was well tolerated, with no treatment-related adverse events.

CLIMACTERIC : THE JOURNAL OF THE INTERNATIONAL MENOPAUSE SOCIETY · 2026-10-16

Review surveys polymer vaginal inserts for delivering drugs in women's health

A review in AAPS PharmSciTech gives an overview of how polymer-based vaginal inserts are designed and made. It covers materials, manufacturing methods and drug-release systems. It also lists possible uses, including infections, menopause-related conditions and contraception. The article is a technical overview of drug delivery, not a test of any particular treatment.

AAPS PHARMSCITECH · 2026-10-15

BRCA carriers report poorer sexual function after ovary removal, despite estradiol

A study in Archives of Sexual Behavior combined online questionnaires and interviews with women carrying BRCA1/2 variants who had their ovaries and tubes removed. Those not taking estradiol had lower sexual function scores than age-matched women with intact ovaries, and more sexual distress. Interviews described pain, low desire and dryness. The authors say estradiol therapy does not appear to address all aspects. The findings are associations.

ARCHIVES OF SEXUAL BEHAVIOR · 2026-10-15

Higher body fat after hormone therapy linked to worse prostate cancer outcomes

A post hoc analysis of three trials, in Prostate Cancer and Prostatic Diseases, examined 104 men with high-risk localised prostate cancer given 3 to 6 months of hormone therapy before surgery. At surgery, lower visceral and subcutaneous fat was associated with better pathologic response, and higher fat levels were associated with PSA progression. Changes in blood lipid metabolites were also linked to outcomes. These are associations.

PROSTATE CANCER AND PROSTATIC DISEASES · 2026-10-15

Meta-analysis: fewer prostate cancers detected in transgender women on hormone therapy

A systematic review and meta-analysis in European Urology Oncology pooled nine studies covering 54,342 transgender women on hormone therapy. Detected prostate cancer incidence was lower than in cisgender men, at 22.9 versus 98.1 per 100,000 person-years. The authors rate the evidence as very low certainty. Data on cancer severity came from fewer than 40 patients.

EUROPEAN UROLOGY ONCOLOGY · 2026-10-15

Review finds heart risks in women with Sjögren disease are poorly understood

A narrative review in Current Problems in Cardiology examined heart and blood vessel involvement in women with Sjögren disease, an autoimmune condition. Observational evidence links the disease to immune activation and vascular injury. The role of hormones remains largely hypothetical, and much of the evidence comes from small cohorts.

CURRENT PROBLEMS IN CARDIOLOGY · 2026-10-15

Progesterone receptor gene variants not clearly linked to postmenopausal uterine polyps

A case-control study in Clinics compared 236 postmenopausal women with endometrial polyps and 73 controls. According to the study, two progesterone receptor gene variants were not significantly associated with polyps. Current hormone therapy use was linked to fewer polyps. The authors say this is not proof of cause, and the small sample could miss modest genetic effects.

CLINICS (SAO PAULO, BRAZIL) · 2026-10-15

NITRIC OXIDE & VASCULAR HEALTH

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Metabolism-disrupting nanoparticle curbed tumour growth in preclinical cancer model

A study in Small describes a nanoplatform, VTLM, that combines vanadium species with a nitric oxide donor to block tumour energy metabolism and boost immune responses. In a 4T1 subcutaneous tumour model, it achieved an 80.7% tumour weight-based inhibition rate along with immune activation inside tumours. The authors say it may merit further preclinical evaluation. This is preclinical research, not human evidence.

SMALL (WEINHEIM AN DER BERGSTRASSE, GERMANY) · 2026-10-18

Protein TRX2 linked to bone loss in aging, in mouse study

A study in Advanced Science found that levels of the protein TRX2 fall in aging bone blood vessel cells. In mice, lacking TRX2 in these cells sped up bone loss. Restoring it, or blocking a molecule called TRAIL, eased osteoporosis in a mouse model. The authors suggest it as a possible treatment target.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Blood vessel stiffness readings differ between clinic and 24-hour checks in white coat effect

A cross-sectional study in High Blood Pressure & Cardiovascular Prevention examined 189 patients across blood pressure types. In people with white coat effect, measures of arterial stiffness differed between clinic and 24-hour readings. The authors say the two methods give complementary information. Follow-up studies are needed to learn whether these differences predict health outcomes.

HIGH BLOOD PRESSURE & CARDIOVASCULAR PREVENTION : THE OFFICIAL JOURNAL OF THE ITALIAN SOCIETY OF HYPERTENSION · 2026-10-17

Alpha-ketoglutarate eased fibrosis in mouse and cell models of scleroderma

According to a study in Pharmacological Research, oral alpha-ketoglutarate reduced skin and lung scarring and improved survival in mice with induced fibrosis. In human cell cultures, it protected cells lining blood vessels. The authors link this to changes in fibrosis signaling. The work used mice and cells, so human benefit is not shown.

PHARMACOLOGICAL RESEARCH · 2026-10-17

Tiny pilot trial tests anthocyanin supplement in asthma, with unclear results

A crossover feasibility study in Respiratory Medicine gave five adults with asthma a 300 mg anthocyanin supplement or an identical placebo for eight weeks. Symptom control improved after the supplement, but similarly during placebo. None of the five used a reliever inhaler during supplementation, and one did during placebo. The authors call the findings exploratory and say larger studies are needed.

RESPIRATORY MEDICINE · 2026-10-17

Apigenin eased ochratoxin A kidney damage in rats

A study in Drug and Chemical Toxicology tested apigenin, a plant compound, in rats fed a kidney-damaging food toxin. Rats given apigenin had better kidney markers and less tubular injury. Giving it before exposure worked better than after. This was an animal study, and the recovery arm lacked a proper control group.

DRUG AND CHEMICAL TOXICOLOGY · 2026-10-17

Plant compound quassin protected against stroke-type brain injury in rats and cells

A study in Metabolic Brain Disease tested quassin, a compound from the plant Quassia amara, in rats with induced brain ischaemic injury and in cultured brain cells. Quassin improved neurological deficits and reduced inflammation markers and oxidative stress. The findings suggest involvement of the NF-κB pathway. This was animal and cell work, not human research.

METABOLIC BRAIN DISEASE · 2026-10-17

Metabolic syndrome found in 15% of women in early pregnancy

Researchers studied 264 women aged 19 to 44, recruited before 16 weeks' gestation at Lyell McEwin Hospital, according to a study in Endocrine. About 15.1% had metabolic syndrome. Compared with other women, those with it showed differences in blood pressure and pulse measures. After adjusting for BMI, central blood pressure measures and pulse rate stayed linked to the condition. The study shows associations, not causes.

ENDOCRINE · 2026-10-17

Ginkgo extract and NAC both eased methotrexate liver damage in rats

This was an animal study, not a human one. According to a paper in Naunyn-Schmiedeberg's Archives of Pharmacology, rats given the chemotherapy drug methotrexate showed raised liver injury markers. Ginkgo biloba extract and N-acetylcysteine both reduced these changes. N-acetylcysteine generally worked better under the conditions tested. Results in rats may not carry over to people.

NAUNYN-SCHMIEDEBERG'S ARCHIVES OF PHARMACOLOGY · 2026-10-17

Gut bacterial metabolite α-lipomycin identified as driver of bacterium-linked hypertension

According to a study in Hypertension Research, researchers used CRISPR gene editing to stop the gut bacterium S. aureofaciens Tü117 from making a metabolite called α-lipomycin, previously linked to high-salt-induced hypertension. The edited strain did not raise circulating α-lipomycin or cause a sustained rise in blood pressure. The authors conclude the metabolite is the key driver. The text does not describe the study subjects or any human data.

HYPERTENSION RESEARCH : OFFICIAL JOURNAL OF THE JAPANESE SOCIETY OF HYPERTENSION · 2026-10-16

Arterial pulsation measure linked to lower kidney function in community adults

In an observational study of 1,424 community adults in Hypertension Research, a higher carotid energy pulsatility index was associated with lower kidney function (eGFR). Kidney function was lowest when both this index and arterial stiffness were high. The authors suggest the index adds information beyond standard measures. The design cannot show cause.

HYPERTENSION RESEARCH : OFFICIAL JOURNAL OF THE JAPANESE SOCIETY OF HYPERTENSION · 2026-10-16

More vigorous activity linked to lower death risk in fatty liver disease

An observational analysis of US national survey data, published in the Journal of Gastroenterology and Hepatology, followed 2,785 adults with fatty liver disease (MASLD) for a median of 14.7 years. More accelerometer-measured moderate-to-vigorous activity was associated with lower all-cause and cardiovascular mortality. Sedentary time was not linked to mortality. The design shows association, not cause.

JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY · 2026-10-18

People with lupus and heart disease describe shifting barriers to exercise

A small qualitative study in Lupus interviewed five people who have both lupus and cardiovascular disease. They described weighing short-term risks against long-term benefits, struggling to pace their energy, and relying on support from clinicians and family. They also said general advice was hard to follow. The authors conclude that exercise decisions are individual and change over time.

LUPUS · 2026-10-18

Review: diabetes drugs' effects on muscle remain unclear because trials rarely measure it

A narrative review in Drugs examines how diabetes and muscle loss influence each other. It says trials of glucose-lowering drugs rarely assess muscle outcomes. Some weight-reducing drugs are linked to lower lean-mass estimates. The authors caution this may reflect overall weight loss or body water, and does not by itself show meaningful muscle loss.

DRUGS · 2026-10-17

Review links tryptophan metabolism to heart failure progression and severity

A review in the European Journal of Pharmacology summarises research on tryptophan metabolism in heart failure. It reports that overactive kynurenine pathway activity contributes to disease progression. Some metabolites show promise as markers of severity and outlook. The review also notes emerging treatment ideas, which are not shown here to work.

EUROPEAN JOURNAL OF PHARMACOLOGY · 2026-10-17

Systematic review links ozone exposure to worse respiratory health in US studies

A systematic review in Current Environmental Health Reports covered US epidemiologic and experimental studies published from 1980 to 2026. It reported adverse respiratory effects, including consistent decrements in lung function even at concentrations below current regulatory standards. Children, older adults and people with pre-existing respiratory conditions were disproportionately affected. The review also examined ozone-associated school absenteeism.

CURRENT ENVIRONMENTAL HEALTH REPORTS · 2026-10-17

Genetic testing after sudden unexplained young deaths found inherited variants in six cases

A Dutch study in the Journal of Community Genetics reviewed 100 sudden unexplained deaths in young adults. Genetic testing was done in 46 of 50 cases where autopsy suggested an inherited heart disorder. It found disease-causing variants in six cases. Relatives received counselling and follow-up advice. The authors say structured investigation may improve cause-of-death determination.

JOURNAL OF COMMUNITY GENETICS · 2026-10-17

Liver blood score linked to worse survival in pulmonary arterial hypertension

According to a single-centre study in Pulmonary Circulation, 380 people with pulmonary arterial hypertension were assessed using the ALBI score, a blood-based marker of liver function. Higher scores were linked to worse heart function and higher mortality risk. Adding the score to an existing risk tool improved its ability to separate risk levels.

PULMONARY CIRCULATION · 2026-10-16

Strength peaks between ages 25 and 44, large cross-sectional dataset shows

A cross-sectional analysis in Research Quarterly for Exercise and Sport covered 76,514 apparently healthy adults aged 20 to 93. Men's and women's strength peaked between 25 and 44. The oldest groups were weaker than the youngest by 21% to 45% in most measures. The authors say the data cannot show how individuals' strength changes over time.

RESEARCH QUARTERLY FOR EXERCISE AND SPORT · 2026-10-16

Network meta-analysis ranks traditional Chinese exercises for people with substance use disorder

A network meta-analysis in the Journal of Addictive Diseases pooled 17 randomised trials with 1,133 participants, comparing seven traditional Chinese exercises including Tai Chi forms, Baduanjin and shuttlecock. Combined Tai Chi and Qigong ranked highest for BMI, diastolic blood pressure and resting heart rate. Tai Chi rehabilitation exercise ranked top for systolic pressure, and Tai Chi Thirteen Postures Daoyin for body fat. The authors call the evidence preliminary.

JOURNAL OF ADDICTIVE DISEASES · 2026-10-16

Review: frailty is common in older people with HIV and tied to poor outcomes

A narrative review in Revista de Investigacion Clinica covered 63 studies of people with HIV aged 50 and older. At least thirteen frailty tools were used. Frailty was associated with multimorbidity, depressive symptoms, cognitive decline, falls and all-cause mortality. Differences between studies make comparison hard. The authors call for better-suited measures.

REVISTA DE INVESTIGACION CLINICA; ORGANO DEL HOSPITAL DE ENFERMEDADES DE LA NUTRICION · 2026-10-15

Review asks whether exercise changes gene regulation in muscles of COPD patients

This is a narrative review in the European Journal of Internal Medicine. It looks at whether inactivity harms muscle in chronic obstructive pulmonary disease (COPD), and whether exercise changes epigenetic marks that regulate genes. The authors say direct evidence from human COPD muscle is limited. They treat the idea as a hypothesis.

EUROPEAN JOURNAL OF INTERNAL MEDICINE · 2026-10-15

Frailty affects about one in three people with rheumatoid arthritis

A review in Current Rheumatology Reports says frailty affects roughly one-third of people with rheumatoid arthritis. Frailty is linked to worse function, more hospitalisation, fractures and higher mortality. The authors note that frailty-specific interventions have not yet been studied in this group.

CURRENT RHEUMATOLOGY REPORTS · 2026-10-15

Many long-term Fontan survivors develop heart failure after more than 20 years

A study in Pediatric Cardiology followed 60 people who survived over 20 years after the classic Fontan heart operation. About half developed failing Fontan, and survival was lower in that group. Double-inlet left ventricle and ascites were linked to higher risk. Higher natriuretic peptide and lower exercise capacity also marked the failing group.

PEDIATRIC CARDIOLOGY · 2026-10-15

Restoring AKAP1 protein protected retinal cells and vision in glaucoma models

According to a study in Advanced Science, levels of the protein AKAP1 were lower in glaucomatous retinas. In two experimental glaucoma models, gene therapy that restored AKAP1 preserved retinal ganglion cell survival and visual function. The authors note that some of the related molecular changes are associations that do not prove causality. This is early laboratory work, not a human trial.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-18

Two antithymocyte globulin types showed comparable results in severe aplastic anemia

A prospective study in MedComm followed 93 people in mainland China with severe aplastic anemia who received porcine (55) or rabbit (38) antithymocyte globulin. The rabbit form cleared faster, and the two affected immune cells differently. At six months, complete response was about 19% in both groups, and overall response was 69.8% versus 56.8%. Two-year response, survival, infection and serum sickness were similar.

MEDCOMM · 2026-10-17

Neurofilament levels fall in children with SMA during nusinersen treatment

A two-centre observational study in the Journal of Neuromuscular Diseases measured pNFH in 56 children with spinal muscular atrophy treated with nusinersen and 30 controls. Levels were higher in patients at baseline and fell after treatment, mostly in six months. The authors say pNFH may work as a biomarker, but need larger studies.

JOURNAL OF NEUROMUSCULAR DISEASES · 2026-10-17

Stem-cell-derived immune cells boost anti-tumour responses in mice

According to a study in Molecular Therapy, researchers made immune-activating cells from mouse stem cells that secrete the signalling protein IL-12. In mice, these cells strengthened anti-tumour immune responses, especially alongside checkpoint inhibitors. The team also made human versions of the cells. No human treatment results are reported.

MOLECULAR THERAPY : THE JOURNAL OF THE AMERICAN SOCIETY OF GENE THERAPY · 2026-10-16

Two hemophilia A gene therapy patients developed high-level inhibitors against the new factor

According to a report in Blood, two patients in a phase 1/2 trial received a gene therapy called ASC618. Both made high-titer inhibitors against the factor VIII it produced. The authors think the hybrid human-porcine construct carried unfamiliar epitopes. The trial has been halted. Both patients now use emicizumab prophylaxis.

BLOOD · 2026-10-16

Registry census finds only seven individualized or platform gene-editing studies

A cross-sectional census in Cureus examined gene-editing studies registered on ClinicalTrials.gov. Of 148 eligible records, four were single-participant designs and three were multi-variant umbrella or platform designs, making seven. Another 140 were conventional cohort studies. This counts registered studies, not results or patient outcomes.

CUREUS · 2026-10-15

Review summarises oculopharyngeal muscular dystrophy biology and an early gene therapy trial

A review in Molecular Neurobiology covers oculopharyngeal muscular dystrophy, a rare, late-onset inherited muscle disease. It is linked to a repeat expansion in the PABPN1 gene. Current care treats symptoms only. The review notes a gene therapy, BB-301, is in an early-phase clinical trial. The review reports no trial results.

MOLECULAR NEUROBIOLOGY · 2026-10-13

Hospital lab describes tiered fee system for cell therapy trial services

A paper in Transfusion describes how one institution built a three-tiered fee structure for its cellular therapy laboratory. Fees reflect how complex each industry-sponsored trial's products are to handle. The authors report it tracked staff time more accurately and let the lab recoup costs. This is about laboratory finances, not health outcomes.

TRANSFUSION · 2026-10-11

Rare viral antigen reactivity found in one brain lymphoma case

A laboratory study in EJHaem tested tumour-derived immune receptors from primary central nervous system lymphoma against 158 viruses. One case reacted to Coxsackievirus A24. A second group of 22 patients showed one reactive case, and 1 of 188 healthy people showed weak reactivity. The authors call the findings hypothesis-generating and say larger studies are needed.

EJHAEM · 2026-10-08

AI BIOLOGY & DIAGNOSTICS 2

Critics question a heart failure death-risk model for older adults

A commentary in Aging Clinical and Experimental Research examines a model meant to predict 30-day death in older adults with acute heart failure. The authors say it includes intubation, a treatment decision, which may bias it. They also note it omits frailty, function and cognition. They propose external validation and more flexible handling of BNP, a blood marker.

AGING CLINICAL AND EXPERIMENTAL RESEARCH · 2026-10-15

Review maps how network biology links molecules, organs and disease

A review in MedComm covers network biology, which studies how interactions among molecules, cells and organs produce function and disease. It describes uses such as finding biomarkers and drug targets. The authors list remaining problems, including uncertain causal direction, limited integration across scales and too little clinical validation. This is a review, not a new experiment.

MEDCOMM · 2026-10-13

EPIGENETIC REPROGRAMMING & AGE REVERSAL 11

Gene-regulation changes in esophageal cancer may point to a possible drug target

A computational study in Epigenetics analysed DNA methylation patterns across cancers, with a focus on esophageal squamous cell cancer. It linked a gene called ATP6V0D2 to disease progression and poor prognosis. In cell tests, caffeic acid reduced cancer cell migration and viability. This is early laboratory and computer-based work, not human treatment.

EPIGENETICS · 2026-10-17

In mouse models, an enzyme called NNMT fuels hormone imbalance in ovarian syndrome

A study in Nature Metabolism, using mouse models, links the enzyme NNMT in ovarian granulosa cells to polyendocrine metabolic ovarian syndrome. Higher NNMT set off an epigenetic loop that increased androgen production. A drug inhibiting NNMT eased metabolic and hormonal features in the models. The authors call NNMT a possible target. Human testing is not reported.

NATURE METABOLISM · 2026-10-16

Higher IL-16 levels found in people with bipolar disorder who are biologically older

A study in Brain, Behavior, and Immunity analysed blood from 139 people with bipolar disorder. Those in a group with older epigenetic age, a DNA-based measure of biological ageing, had higher blood levels of IL-16, an inflammation marker. This is an association only. The authors say the results need replication before they can support the idea of inflammation-linked ageing.

BRAIN, BEHAVIOR, AND IMMUNITY · 2026-10-15

Review: stem-cell models of brain disease struggle to capture aging

A review in The Journal of Clinical Investigation examines models of neurodegeneration made from patients' stem cells. These preserve a patient's genetics. But reprogramming erases the epigenetic signs of donor age, which matters for late-onset disease. The authors discuss ways to approximate aging and propose matching model types to research questions.

THE JOURNAL OF CLINICAL INVESTIGATION · 2026-10-15

Review maps how epigenetic controls shape antibody-producing B cells and disease

A review in Signal Transduction and Targeted Therapy summarises how epigenetic mechanisms regulate B cells, which make antibodies. It covers links to B-cell cancers, metabolic and cardiovascular diseases, autoimmune disorders and infections. It also discusses why autoimmune disease is more common in females and the potential of epigenetic targets and biomarkers.

SIGNAL TRANSDUCTION AND TARGETED THERAPY · 2026-10-15

DNA methylation clocks can estimate age in largemouth bass without killing the fish

A study in Evolutionary Applications examined DNA methylation in largemouth bass, Florida bass and their hybrids aged 1 to 14 years. Overall methylation fell with age and varied by sex and location. Clocks built from 124 samples and tested on 32 new fish estimated age better than other non-lethal methods. This is fish research, not human.

EVOLUTIONARY APPLICATIONS · 2026-10-14

Review links metabolism and gene regulation to lasting joint inflammation in arthritis

A review in Immunological Investigations discusses how changes in metabolism and gene regulation may keep joint-lining cells in a harmful state in rheumatoid arthritis. It also considers gut microbial metabolites and proposes that Traditional Chinese Medicine might act on this network. The authors note evidence gaps, and the review presents no new trial data.

IMMUNOLOGICAL INVESTIGATIONS · 2026-10-14

Gene SRSF1 shifts aged cells toward youthful activity and aided old mice

A study in Nature Aging screened genes in human skin cells and found SRSF1 pushed aged cells toward a younger pattern of gene activity. In aged mice, switching on SRSF1 was linked to 44% less frailty progression and a 14% longer median lifespan. Groups were small, at 9 to 10 mice each. No human trials were reported.

NATURE AGING · 2026-10-14

Review examines ACLY enzyme as a drug target in several diseases

A review in the Journal of Enzyme Inhibition and Medicinal Chemistry covers ATP-citrate lyase, an enzyme linking energy metabolism and gene regulation. Abnormal activity is closely associated with metabolic, inflammatory, cancer and neurodegenerative diseases. The authors say existing inhibitors have limited selectivity and clinical efficacy, and may have off-target effects.

JOURNAL OF ENZYME INHIBITION AND MEDICINAL CHEMISTRY · 2026-10-14

Review explains how 'trained immunity' can both protect and harm

This is a review in the Journal of Molecular Medicine. It describes trained immunity, where the innate immune system keeps a memory-like state after an initial exposure. According to the authors, this can help clear acute infections. It may also drive chronic conditions such as atherosclerosis and some tumours through sustained inflammation.

JOURNAL OF MOLECULAR MEDICINE (BERLIN, GERMANY) · 2026-10-14

Infant RSV antibody programme linked to fewer hospitalisations into a second season

A commentary in The Lancet Infectious Diseases discusses the NIRSE-GAL study of infants given nirsevimab. Hospitalisations for RSV lung infections were lower in the first season, and the reduction persisted into the second. The second-season finding has not been replicated, and the authors say it needs caution. They propose possible mechanisms, which remain untested.

THE LANCET. INFECTIOUS DISEASES · 2026-10-13

MITOCHONDRIA & CELLULAR ENERGY 9

Review examines how misplaced DNA may drive inflammation in spinal disc degeneration

A review in Inflammation Research examines whether DNA out of place inside cells fuels inflammation and cell death in degenerating spinal discs. Cell and animal experiments support a role. The authors note that findings vary across aging models and that cause remains unresolved. Clinical use would need validation beyond preclinical work.

INFLAMMATION RESEARCH : OFFICIAL JOURNAL OF THE EUROPEAN HISTAMINE RESEARCH SOCIETY ... [ET AL.] · 2026-10-17

Review says HIV cure research should consider virus hiding in the brain

A review in Current HIV/AIDS Reports says HIV DNA and ongoing viral activity persist in the central nervous system, even in people whose virus is suppressed by therapy. This may contribute to brain inflammation and cognitive problems. The authors argue cure studies should better assess how well treatments reach the brain, and their possible neurological side effects.

CURRENT HIV/AIDS REPORTS · 2026-10-17

Review finds support for NAD+ in plastic surgery is largely anecdotal

A narrative review in Aesthetic Surgery Journal examined NAD+ use in aesthetic plastic surgery. NAD+ is marketed for better healing and recovery. The authors say support for these claims is mostly anecdotal. It comes largely from preclinical, non-surgical data and patient testimonials, not clinical studies.

AESTHETIC SURGERY JOURNAL · 2026-10-17

Mouse study finds a protein that may limit harmful heart enlargement

A study in Experimental & Molecular Medicine, done in mice and heart cells, examined a protein called OTUD5. Its levels rose in enlarged hearts. Mice lacking it in heart muscle cells developed worse enlargement. Boosting it eased enlargement caused by angiotensin II. The authors suggest it as a possible treatment target, but no human testing is reported.

EXPERIMENTAL & MOLECULAR MEDICINE · 2026-10-16

Review: drugs aimed at mitochondria are being explored for age-related diseases

A review in the Journal of Controlled Release examines delivery systems that carry drugs into mitochondria, the cell's energy units, for age-related diseases. The authors say these systems show potential in disease models. They note clinical use is held back by unstable targeting, unclear long-term safety, complex manufacturing and a lack of standard evaluation.

JOURNAL OF CONTROLLED RELEASE : OFFICIAL JOURNAL OF THE CONTROLLED RELEASE SOCIETY · 2026-10-16

Review asks if lifelong thyroid hormone pills fully replace natural thyroid function

A narrative review in Hormone and Metabolic Research looks at people living for decades without a thyroid after surgery or radioactive iodine. It says levothyroxine alone may not fully copy natural hormone patterns in everyone. This could affect energy use, bone, body composition and the heart. The text calls the evidence emerging, not settled.

HORMONE AND METABOLIC RESEARCH = HORMON- UND STOFFWECHSELFORSCHUNG = HORMONES ET METABOLISME · 2026-10-16

Review examines how omega-3 DHA may influence brain inflammation in aging

This is a narrative review, not a new trial. Writing in Histology and Histopathology, the authors pull together mechanistic studies, clinical trials and meta-analyses. They describe how DHA, an omega-3 fat in the brain, may affect inflammation pathways. They say clinical results vary, partly because studies often ignore baseline omega-3 status, genetics and formulation.

HISTOLOGY AND HISTOPATHOLOGY · 2026-10-16

Review: caffeine and exercise may help brain ageing in obesity, evidence thin

A narrative review in Molecular Neurobiology examined human and preclinical research on caffeine and exercise in obesity-related brain ageing. Mechanistic findings give a plausible basis for complementary effects. But the authors say direct evidence of a combined benefit for human brain ageing or neurodegeneration remains limited.

MOLECULAR NEUROBIOLOGY · 2026-10-16

Fruit fly stress resistance passes down more strongly through mothers

A study in Biogerontology used long-lived and normal-lifespan fruit flies. Long-lived flies resisted the oxidative stress chemical paraquat better. Maternal effects on survival, movement and glutathione antioxidant levels appeared across generations. This is research in flies, so the findings do not directly apply to humans.

BIOGERONTOLOGY · 2026-10-16

ULTRA-PROCESSED FOOD & ULTRA-PROCESSED DIET 10

Review weighs evidence on contested parts of new US dietary guidelines

A review in Lipids examines the 2025-2030 Dietary Guidelines for Americans. Advice on calorie control, vegetables, fruits, whole grains and limiting added sugars, sodium and alcohol is described as based on strong evidence. Promoting butter, beef tallow, full-fat dairy and red meat is called controversial because it conflicts with the long-standing limit on saturated fat. Higher protein targets also drew concern.

LIPIDS · 2026-10-16

Ultra-processed food intake not linked to colorectal cancer in large US cohort

According to a cohort study in PLoS Medicine, following 461,682 US adults aged 50-71, overall ultra-processed food intake was not associated with colorectal cancer. Fibre, whole grain, dairy and calcium from such foods were inversely associated, while meat from them was positively associated. As an observational study, it cannot show cause and effect.

PLOS MEDICINE · 2026-10-15

Diet high in sugar, salt and fat linked to higher BMI in girls

Data on 6,048 children aged 54 months in the Growing Up in New Zealand cohort, reported in the British Journal of Nutrition, showed that girls with higher adherence to a diet pattern high in refined foods, sugar, salt and unhealthy fats were more likely to have a high BMI-for-age. No link was seen in boys, or with waist-to-height ratio in either sex. It shows association, not cause.

THE BRITISH JOURNAL OF NUTRITION · 2026-10-15

Teen lifestyle habits linked to different quality-of-life profiles in Chinese survey

A study in Frontiers in Public Health grouped 7,244 Chinese adolescents into five quality-of-life profiles. It then looked at links with sleep, physical activity, screen time and food types. The links differed by profile and were not simple. This is an observational analysis, so it cannot show that any habit causes a profile.

FRONTIERS IN PUBLIC HEALTH · 2026-10-14

Patients with rheumatic diseases get about a fifth of food from ultra-processed sources

A cross-sectional study of 152 patients with rheumatic diseases in Greece, published in Rheumatology International, estimated that ultra-processed food made up a median of 18.7% of daily intake. Older age and more education were linked to lower intake. The team also tested a Greek version of a short questionnaire, which showed acceptable internal consistency.

RHEUMATOLOGY INTERNATIONAL · 2026-10-14

Ultra-processed foods supply a quarter to half of Swedish energy intake

A cross-sectional analysis of three Swedish national dietary surveys, published in Nutrition Journal, estimated that ultra-processed foods supplied 45 to 52 percent of energy under the primary classification, or 23 to 29 percent under stricter rules. Higher intake was linked to poorer diet quality on most measures and, among adults, to higher BMI. These surveys show associations, not cause.

NUTRITION JOURNAL · 2026-10-13

Scoping review links food environments to type 2 diabetes in African Americans

A scoping review in the Journal of Racial and Ethnic Health Disparities examined diet and type 2 diabetes in African American populations, drawing on 14 empirical studies plus reviews and conceptual papers. Unfavourable food store density was linked to 34% higher diabetes incidence. Individual diet changes showed smaller associations. These are links, not proven causes.

JOURNAL OF RACIAL AND ETHNIC HEALTH DISPARITIES · 2026-10-12

Text-message program did not beat usual care for Amazonian children's diet

A randomised trial in The Journal of Nutrition tested 19 weeks of multimedia messages sent to caregivers of Brazilian Amazon schoolchildren. The trial included 266 caregivers. It found no significant effects beyond usual care on BMI, diet or cholesterol. Both groups ate fewer ultra-processed foods and had better cholesterol over time.

THE JOURNAL OF NUTRITION · 2026-10-10

Higher ultra-processed food intake linked to more depressive symptoms in older adults

A cross-sectional study in Psychiatry Research surveyed 1,949 middle- to older-aged adults. Higher intake of ultra-processed foods and drinks was associated with more depressive symptoms, even after full adjustment. No link with anxiety was seen. Ultra-processed meat, fish and poultry appeared to drive the findings. The design cannot show cause and effect.

PSYCHIATRY RESEARCH · 2026-10-09

Gut microbes linked to type 2 diabetes in African-origin adults

This observational, cross-sectional study, published in Gut Microbes Reports, analysed stool samples from 1505 middle-aged adults of African origin in Ghana, South Africa, Jamaica, the Seychelles and the US. Several microbes were associated with type 2 diabetes after adjusting for site. Links between these microbes and short-chain fatty acids varied in significance by site. The authors say associations may differ by context; the design cannot show causation.

GUT MICROBES REPORTS · 2026-10-07

Malnutrition, obesity and low muscle mass are common in inflammatory bowel disease

A systematic review and meta-analysis in Advances in Nutrition pooled 201 observational studies from 32 countries. Underweight affected 11.5% of people with inflammatory bowel disease, and malnutrition 27.6%. Overweight affected 23.1% and obesity 13.5%. The malnutrition estimate came mostly from hospital settings and one region, so it may not reflect everyone with the condition.

ADVANCES IN NUTRITION (BETHESDA, MD.) · 2026-10-17

Low muscle mass and grip strength linked to metabolic syndrome in Korean adults

A cross-sectional study in Endocrine analysed 3033 Korean adults aged 40 and over. Lower relative muscle mass and grip strength were each associated with higher odds of metabolic syndrome. Odds were highest when both were low. Because it is a snapshot in time, it shows association only and needs confirmation in follow-up studies.

ENDOCRINE · 2026-10-17

Short bursts of higher-intensity activity linked to less frailty in liver disease

A prospective study in JHEP Reports tracked 43 people with advanced chronic liver disease and 17 healthy controls using wrist accelerometers. Patients were more inactive and sustained little moderate activity. Short bursts of higher-intensity activity were associated with less frailty. The study is small and shows association only.

JHEP REPORTS : INNOVATION IN HEPATOLOGY · 2026-10-16

Review: osteoporosis care in people over 80 relies on limited trial evidence

A narrative review in Gerontology covers diagnosis and treatment of osteoporosis in adults aged 80 and older. It notes this group is underrepresented in randomised trials. Bone density alone does not fully capture fracture risk at this age. Available evidence does not suggest age itself weakens drug effects, though direct trial evidence is limited.

GERONTOLOGY · 2026-10-16

Mice lacking coilin protein show sperm problems and new cell structures

A study in mice, published in RNA, removed nearly all of the protein coilin, which organises structures called Cajal bodies. Mutant mice had reduced chemical modification of one RNA type but little change in gene activity. They also had smaller testes and fewer high-quality sperm. Novel coilin-containing structures appeared in developing sperm cells.

RNA (NEW YORK, N.Y.) · 2026-10-16

Cholesterol changes and inflammation linked to disability in severe progressive MS

A study in Annals of Clinical and Translational Neurology compared 53 people with severe progressive multiple sclerosis to 53 matched people with less severe disability. The severe group had lower HDL cholesterol and related proteins. The authors report that disrupted cholesterol metabolism and chronic inflammation were strongly linked to greater disability. The design shows association only.

ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY · 2026-10-15

Low grip strength in midlife linked to later difficulty with daily activities

A longitudinal cohort study in The Journal of Nutrition, Health & Aging used Chinese data on adults aged 50 to 64. Those with possible sarcopenia, defined by low handgrip strength, had higher hazards of later impairment in daily living activities (HR 1.42). This shows an association, not that weak grip causes the impairment.

THE JOURNAL OF NUTRITION, HEALTH & AGING · 2026-10-15

Mouse study finds ALS muscle shows signs of premature aging

Researchers mapped gene activity in muscle from ALS model mice and normal mice across their lifespans, according to a study in PNAS. Early in disease, ALS muscle showed molecular features of aged muscle. A distinct group of ALS-specific muscle nuclei may help explain faster damage. This work was done in mice.

PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA · 2026-10-15

Higher CCL2 in sarcopenia may reflect a response to muscle loss, not a cause

A study in Endocrinology and Metabolism used a cohort of 323 older adults, UK Biobank data and gene expression data. Blood CCL2 levels were higher in people with sarcopenia, weak muscles or poor physical performance. Other findings diverged. The authors suggest CCL2 may be a compensatory response rather than a direct driver. They say further validation is needed.

ENDOCRINOLOGY AND METABOLISM (SEOUL, KOREA) · 2026-10-15

Gene analysis links iron-related cell death to muscle degeneration in muscular dystrophy

This study in Aging analysed existing gene-activity datasets from Duchenne muscular dystrophy, then checked results in mice. It flagged three genes: HIF1A, CDKN1A and CD44. It also suggested changes in immune cell mix. The authors propose relevance to age-related muscle loss, but the work did not study aging directly.

AGING · 2026-10-14

STRESS RESILIENCE & NERVOUS SYSTEM 2

In mice, a vitamin D binding protein in the hippocampus drove stress-related depression

A study in Science Advances, done in mice, found higher levels of vitamin D binding protein in one hippocampal region of stress-susceptible animals. Raising it caused depression-like behaviour, while lowering it increased resilience to stress. The authors point to a cell-signalling pathway and suggest it could be a therapeutic target. The work has not been tested in people.

SCIENCE ADVANCES · 2026-10-14

AI help improved older workers' task scores but raised measured mental strain

In an experimental study of 30 older workers, reported in the journal Work, AI assistance improved task performance. It also coincided with signs of greater physiological and brain-activity strain. Self-reported workload scores went down. The authors conclude AI shifts mental workload toward checking and monitoring rather than removing it.

WORK (READING, MASS.) · 2026-10-10

LONGEVITY RESEARCH 10

Platelet particles from kidney disease patients linked to ageing of immune T cells

According to a study in Experimental & Molecular Medicine, platelets from people with chronic kidney disease pushed CD8+ T cells toward premature senescence in laboratory experiments. The authors trace this to platelet-derived particles carrying a small RNA, miR-550a-5p. Blocking it prevented the effect in cells from patients. The findings are from cell work, not a clinical trial.

EXPERIMENTAL & MOLECULAR MEDICINE · 2026-10-16

Rapamycin made triple-negative breast cancer cells more prone to ferroptosis in lab

A study in the International Journal of Biological Macromolecules examined triple-negative breast cancer. A protein called FKBPL was overabundant in these tumours and correlated with worse patient prognosis. Reducing FKBPL slowed cancer cell growth in the lab and tumour growth in animals. In cancer cells, rapamycin bound FKBPL, triggered its breakdown and made the cells more prone to ferroptosis, a form of cell death. This is early laboratory work.

INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES · 2026-10-16

Review explores how FOXO proteins may shape chromatin changes in aging

A review in Ageing Research Reviews examines how FOXO proteins may act as chromatin regulators during aging. It covers ways they might shape age-related chromatin states and cellular senescence. It also discusses challenges in targeting FOXO with therapies. It offers a conceptual framework, not new trial results.

AGEING RESEARCH REVIEWS · 2026-10-16

Review proposes ageing of blood vessel walls as a driver of atherosclerosis

A review in Mechanisms of Ageing and Development discusses the idea that biological ageing of the vessel wall helps drive atherosclerosis alongside cholesterol. It describes three linked processes: cellular senescence, age-related inflammation and epigenetic changes. Some of the supporting evidence comes from mouse models. The review also evaluates possible senescence-targeting therapies.

MECHANISMS OF AGEING AND DEVELOPMENT · 2026-10-16

Probiotic bacterium delayed age-related nerve damage in roundworms

A study in GeroScience screened Bacillus subtilis strains and found one, B4U 50, that forms biofilms well. Roundworms fed it showed fewer age-related defects in their cholinergic nerve cells than worms fed a control strain. A Ginkgo biloba preparation also helped, and more so combined. This was work in worms, not people.

GEROSCIENCE · 2026-10-16

Raising miR-486 limited heart injury after blood-flow restoration in rats and cells

A study in Molecular Biology Reports tested miR-486, a small RNA molecule, in rats and heart cells. In rats with injury from interrupted then restored blood flow, raising miR-486 improved heart function and reduced infarct size. Cell experiments pointed to effects on cell death and autophagy pathways. This is animal and cell work, not human data.

MOLECULAR BIOLOGY REPORTS · 2026-10-16

Review summarises targeted and immune therapies for kidney cancer

A review in Molecular Medicine Reports covers the biology of renal cell carcinoma and phase III trials of targeted drugs, immune checkpoint inhibitors and combinations. It says these treatments have improved outcomes. It also notes that reliable biomarkers and the best treatment order remain unresolved, and that resistance to therapy emerges.

MOLECULAR MEDICINE REPORTS · 2026-10-16

Review: vesicles from senescent cancer cells can help or harm

A review in the Journal of Extracellular Biology looks at vesicles released by cells made senescent by cancer therapy. In some models they support immune clearance. In others they promote tumour growth, drug resistance and immune suppression. Mitochondrial stress may explain the split, but the authors say this is not established. Key evidence gaps remain.

JOURNAL OF EXTRACELLULAR BIOLOGY · 2026-10-15

Mouse study links Nupr1 protein to aortic dissection and blood vessel cell death

This was research in patient aorta samples, mice and cells. According to a paper in Advanced Science, the protein Nupr1 was higher in aortas from people with aortic dissection. Mice lacking it in vessel muscle cells had milder disease. The authors suggest a possible treatment target, but no human treatment was tested.

ADVANCED SCIENCE (WEINHEIM, BADEN-WURTTEMBERG, GERMANY) · 2026-10-15

Plant compound protected ageing fruit fly gut cells through a stress pathway

A study in GeroScience used fruit flies to test chlorogenic acid. Treatment was linked to less oxidative stress, less abnormal gut stem cell growth and better gut barrier integrity. The protective effects required a gene called CncC. This is animal research, not a human trial.

GEROSCIENCE · 2026-10-15

Higher daily step counts linked to less tau and slower decline

According to new research reported by ScienceDaily, more physical activity was linked to less buildup of tau protein. It was also linked to nearly half the cognitive and functional decline, including in people with early signs of Alzheimer's. The strongest links appeared at 5,000 to 7,500 steps. The text does not say the study design, so a link is not proof of cause.

SCIENCEDAILY HEALTHY AGING · 2026-10-19

Gut microbiome makeup may predict inflammation and disease risk better than age

According to a post on Fight Aging!, researchers report that gut microbiome composition predicts inflammation burden and disease risk better than chronological age does. The text says microbes that provoke inflammation grow with age. The summary is brief and lacks study details, so the strength of the evidence is unclear.

FIGHT AGING! · 2026-10-19