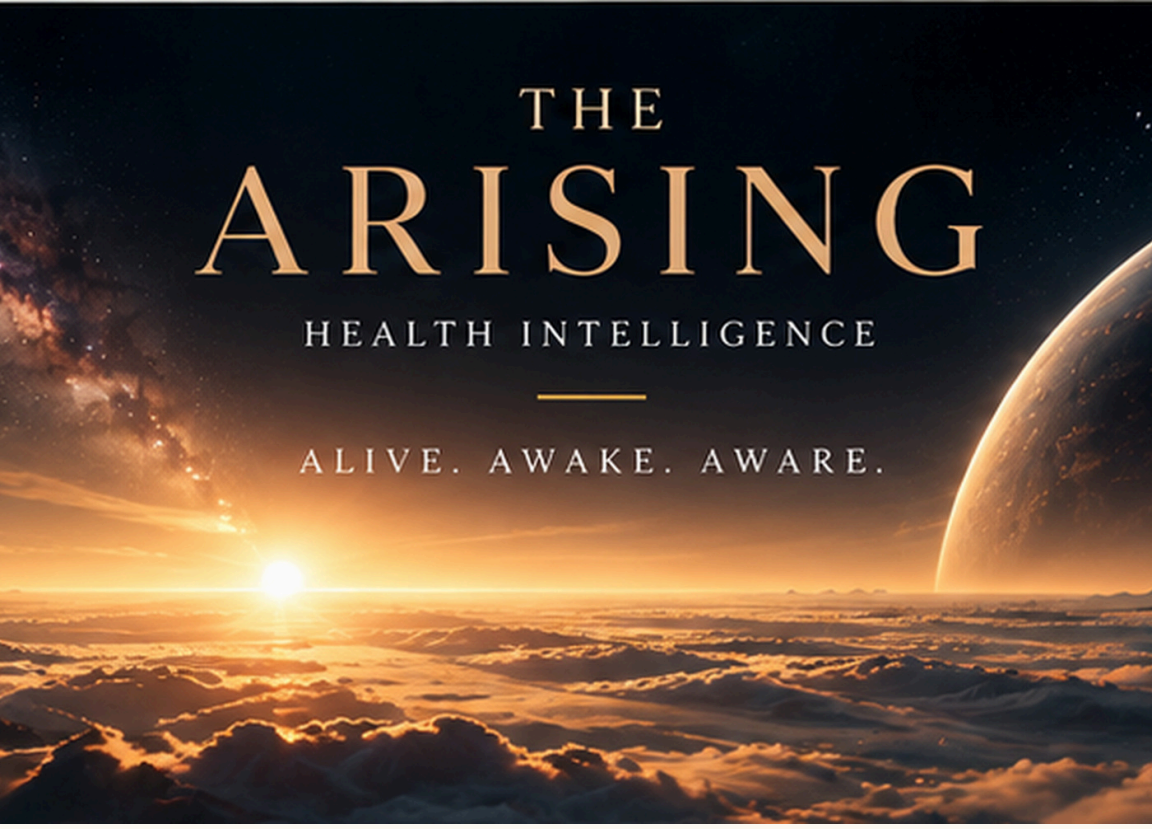


27 / BIOLOGY AND REPAIR

Engineering an Organ Supply

Cross-species transplantation, early human experience, and the meaning of durable success.

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Availability is a biological problem, too

The search for a wider organ supply leads to questions about compatibility, immune recognition, infection, and how a graft behaves over time. Genetic engineering is one part of that problem. The recipient's treatment and the entire transplant process are also part of the intervention.

Xenotransplantation deserves close attention because the need is concrete. It deserves exact language because a short period of function and durable clinical success are very different achievements.

An early human case

A 2022 report described transplantation of a genetically modified pig heart into a 57-year-old man who was not eligible for conventional options. The graft initially functioned, but developed sudden thickening and failure later in the course. Life support was withdrawn on day 60. The report described uncertainty about the mechanisms responsible. [1]

This was an exceptional case, not a controlled trial. It demonstrated that important barriers could be crossed while also making the unresolved problems visible. It cannot provide a reliable estimate of benefit or risk for a broader population.

The whole course matters

A report should include the recipient's starting condition, graft performance, immunosuppression, infections, adverse events, and duration of follow-up. A first successful operation is a milestone; the subsequent course tells us what that milestone means.

Comparisons are difficult when early recipients have few alternatives and very serious illness. That difficulty should inform interpretation rather than disappear behind a celebratory or dismissive headline.

What deserves the next headline

Longer, transparent follow-up across recipients would be more informative than repeating the first announcement. Consistency, quality of life, complications, and a workable care pathway all belong in the definition of success.

This booklet uses a foundational human case to explain the questions. It is not an inventory of every subsequent transplant or a statement about current access. The wider possibility remains a supply of organs that can reliably serve the people receiving them. The evidence has to follow those people for long enough to learn whether that possibility is being realized.

SOURCES & READING SCOPE

Keep the claim beside its evidence

1. Bartley P Griffith, Corbin E Goerlich, Avneesh K Singh, et al. Genetically Modified Porcine-to-Human Cardiac Xenotransplantation. The New England journal of medicine. 2022 Jul 07;387(1):35-44. doi:10.1056/NEJMoa2201422. PMID:35731912. Open source →

Selected primary publication records and abstracts checked 25–26 October 2026. This is a focused reading companion, not a systematic review, a treatment protocol, or a complete appraisal of methods, supplements and later evidence.

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