Beyond Lifespan: Can We Change How We Age?

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The average human life expectancy has increased in the past century, particularly due to a decline in mortality. For years, aging has been perceived as an inevitable consequence of time. Today, researchers around the world see a much more complicated picture. Perhaps the most important shift in aging research is the move away from asking, “How can we live longer?”. The more meaningful question may be: “How can we remain healthy for longer?” Research in aging matters to common people because it provides evidence-based habits to extend healthy years, reduce family medical costs, and foster independent living free from chronic disease. It also guides local governments and the World Health Organization to implement better public health services.

Aging is the largest risk factor for many chronic diseases, including cardiovascular disease, neurodegenerative disorders, cancer and metabolic disease. If researchers can identify biological processes that contribute to several of these conditions simultaneously, targeting aging biology could potentially have benefits that extend beyond treating one disease at a time. This does not mean that aging will become something we can simply “cure” nor does it mean that a single intervention will transform human longevity. Instead, the future may lie in combining insights from genetics, molecular biology, medicine, nutrition, exercise, data science and other fields to understand how our biological systems maintain and lose resilience.

At the World Governments Summit 2026, leading Harvard geneticist Professor David Sinclair argued that aging may soon become treatable and even reversible, a shift that could revolutionize medicine within the next 10–20 years. His study challenges the traditional view that aging is simply accumulated DNA damage. Instead, it proposes that aging is a loss of biological information, specifically epigenetic information that defines cellular identity. By showing that this information can be disrupted and then restored, these researchers introduce the possibility that aging is not fixed, but programmable (Yang et al. Cell. 2023;186(2):305–326.e27). On 28th January 2026, Life Biosciences, Inc., ("Life Bio") a biotechnology company pioneering cellular rejuvenation therapies to reverse and prevent multiple diseases of aging, announced that the U.S. Food and Drug Administration (FDA) has cleared its Investigational New Drug (IND) application for ER-100. The company plans to try to treat optic neuropathies with the radical rejuvenation concept of Dr. Sinclair whose work opens the door to a fundamentally new way of thinking about aging.

Becca R. Levy, PhD, a professor at the Yale School of Public Health, led a study examining whether older adults can improve cognitively and physically rather than inevitably decline using a psychosocial approach. A decade of data was collected from over 11,000 participants in the Health and Retirement Study and the researchers found 45% improved in cognition, physical function, or both in older individuals. Importantly, positive beliefs about aging were associated with greater improvements, even after accounting for health and demographic factors. Published in *Geriatrics*, the study provides a different perspective on aging and encourages policy makers to increase their support for preventive care, rehabilitation, and other health-promoting programs (Levy and Slade *Geriatrics* (Basel). 2026;11(2):28).

A multicentre, phase 2 randomized controlled trial was conducted in the United States over a period of 2 years. The study concluded that a 25% calorie restriction causes significant reduction in multiple age-related risk factors such as LDL-Cholesterol, C-reactive protein (CRP), metabolic syndrome score, and insulin sensitivity index in young, non obese adults (Kraus WE, et al. Lancet Diabetes Endocrinol. 2019;7(9):673–683). Another interesting area of research involves using senolytics which are a class of experimental drugs and compounds designed to selectively eliminate senescent cells that stop dividing as we age but do not undergo cell death, leading to chronic inflammation and tissue damage (Farr et al. Aging Cell. 2025;24(5):e14489).

The science of aging is moving from describing decline to investigating its mechanisms. We are understanding how cells change with age, developing better ways to measure biological aging and exploring whether some of these changes can be modified. There are still enormous uncertainties. Which biological changes actually drive aging? Which processes are consequences rather than causes? Which interventions will work in humans? And how can we ensure that advances in longevity research are safe, ethical and accessible? These questions will shape the next generation of aging research.

The future of longevity science may therefore not be about searching for a single fountain of youth. It may be about something more practical and more important: understanding the biology that allows our bodies to remain resilient and finding ways to preserve that resilience for as long as possible.

Because the measure of progress may not simply be how many years we add to life.

It may be how many of those years we can add to a healthy life.