



The science of longer, healthier lives

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ABOUT THE LECTURE

Ninety five percent of Americans over the age of sixty have at least one chronic disease. In his Front Row lecture, Scripps Research executive vice president Eric Topol discussed the science behind healthy aging as outlined in his new book *Super Agers: An evidence-based approach to longevity*. While lifespan refers to the length of time we live, healthspan is the time we remain free of major ailments and disease.

TOP TAKEAWAY POINTS

- The longevity discourse is dominated by health and wellness experts promoting supplements and age reversal techniques that lack sufficient data to support their claims. In his book *Super Agers*, Topol provides a counter narrative, highlighting the latest scientific evidence associated with detecting and preventing the three major age-related diseases: cancer, cardiovascular and neurodegenerative diseases.
- Topol highlighted how real breakthroughs in artificial intelligence and disease screening technologies are revolutionizing our ability to detect disease risk much earlier than previously possible, enabling the implementation of individualized interventions that can prevent or significantly delay the onset of disease.
- The importance of diet, sleep and exercise for healthy aging is widely known, but there are many other lifestyle factors that impact our health. Topol referred to these as 'Lifestyle+' and they include the dangers of exposure to environmental toxins (such as air pollution, microplastics and forever chemicals), the detrimental impact of social isolation and the significant role our mental health plays in our overall well-being.
- Advances in our understanding of the biology of the aging process have made it possible to determine how our bodies age on an individual level. For example, abnormal proteins can signify the beginning of a neurodegenerative disease, a cluster of proteins in our plasma can tell us how different organs are aging, and our gut microbiome provides insights into our immune response and inflammation throughout the body.
- Topol emphasized the transformative power of AI in accelerating diagnostic capabilities, tailoring treatments and supporting medical decision-making. At the Scripps Research Translational Institute, his team is developing machine learning models to better estimate a patient's risk of developing diseases such as cancer, type 2 diabetes and heart disease.
- Thanks to biomedical and technological breakthroughs in recent years, there is much to be optimistic about when it comes to the prospect of living longer, healthier lives.

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