

How We Age: The Science of Longevity

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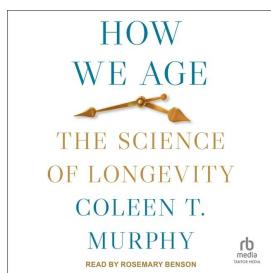
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Book Title: How We Age: The Science of Longevity

Author: Coleen T. Murphy, PhD

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How and why we age are questions at the center of both scientific inquiry and daily clinical practice. Family physicians encounter the realities of aging every day—counseling patients on preventive care, managing multiple chronic conditions, and guiding families through complex life transitions. Yet behind these practical challenges lies a rapidly evolving body of research on the biology of aging. *How We Age: The Science of Longevity* offers a front-row seat to that science. Written by Coleen T. Murphy, PhD, a leading molecular biologist at Princeton University, the book explores what decades of work with model organisms and humans have revealed about the mechanisms of longevity and what those discoveries might mean for future care.

The book is structured around thematic domains—genetics, cellular damage and repair, metabolism and inflammation, the microbiome, and emerging pharmacologic and lifestyle interventions. Murphy skillfully traces the history of the field, connecting classic worm and fly experiments to ongoing studies in primates and humans. Each chapter closes with forward-looking reflections that acknowledge both promise and uncertainty. The organization makes a potentially dense subject readable, and Murphy's analogies help translate molecular detail into concepts accessible for clinicians and educators alike.

One of the work's great strengths is its balance of scientific depth and attainability. Murphy explains insulin signaling, senescence, and caloric restriction with clarity, resisting oversimplification while also avoiding jargon. Her account of interventions such as rapamycin and metformin is even-handed: She outlines the evidence, identifies gaps, and avoids overstating clinical readiness. In an era when some popular accounts of aging science promise near-miraculous breakthroughs, Murphy's restraint is refreshing.

Still, the book is more bench-focused than bedside-oriented. Readers may finish with a sharper sense of how aging works biologically but fewer clear takeaways for immediate patient care. Practical questions—how to counsel patients who inquire about longevity drugs, or how to integrate emerging science into everyday preventive visits—are not fully addressed. Likewise, the psychosocial, cultural, and systemic dimensions of aging, so familiar to family medicine, receive limited attention. Topics such as disability inclusion, caregiver burden, or inequities in access to healthful aging are not central here. For those needs, comprehensive texts such as *Hazzard's Geriatric Medicine and Gerontology* remain essential.¹

Placed in the broader literature, Murphy's book occupies a unique niche. It does not aim to be a geriatric reference manual, nor does it indulge in imaginative projection. Instead, it provides a coherent narrative of how discoveries in biology have shaped our understanding of longevity. For educators, this is valuable terrain: Medical students and residents often learn the *what* of aging—polypharmacy, falls, dementia—without grasping the underlying *why*. *How We Age* fills that gap by connecting basic science to the clinical challenges that family physicians see daily.

Its usefulness will vary by role and setting. Academic faculty may find it particularly helpful in designing seminars that bridge laboratory discoveries with patient care. Community-based preceptors could use its insights to frame discussions with trainees about critically appraising new science and responding to patient questions about supplements or “anti-aging” products. Practicing clinicians may appreciate the horizon

scan it offers—reminders of what is promising, what is premature, and why the strongest current recommendations still center on exercise, nutrition, and prevention.

Ultimately, *How We Age* is less a manual than a map. It charts the trajectory of longevity science, offering clinicians a sense of where the field has been, where it stands, and where it might go next. For family physicians, it broadens perspective, equips us to meet patient curiosity with informed answers, and situates our work within a larger story of discovery. While it will not replace practical clinical texts, it enriches them by adding the scientific *why* behind the recommendations we teach and follow.

Murphy's book reminds us that aging is not decline, but adaptation and possibility. For those teaching and practicing family medicine, *How We Age* provides a trustworthy and engaging synthesis—an invitation to look beyond today's clinic and imagine the evolving future of human longevity.

REFERENCE

1. Halter JB, Ouslander JG, Studenski S, eds. *Hazzard's Geriatric Medicine and Gerontology*. 8th ed. McGraw-Hill; 2022.