

# **AGING BIOLOGY UPDATE**

BROUGHT TO YOU BY THE  
**UAB NATHAN SHOCK CENTER OF EXCELLENCE  
IN THE BASIC BIOLOGY OF AGING**

## **Featured**

[Expanding health expectancy will likely be followed by compression of morbidity.](#)

[Analysis of variability and epigenetic age prediction across microarray and methylation sequencing technologies](#)

## **Basic Biology**

[Cultured human endothelial cell senescence regulated by FOXO3 and miR-217](#)

[Developing safer strategies for mouse cellular reprogramming](#)

[“Our colon organoid model is valuable for studying colorectal cancer and developing new diagnostic, preventive, and therapeutic approaches”](#)

[Altered translation elongation contributes to key hallmarks of aging in the killifish brain](#)

[Accelerated turnover of gut epithelium slows aging in flies](#)

[Identifying details of asynchronous aging of human memory T cells by subset and site](#)

[Exploring the interplay between inflammation, epigenetics, and RNA stability in aging biology](#)

[Intermittent rapamycin does not compromise exercise-induced muscular adaptations in young adult female mice](#)

[Does lithium deficiency contribute to the onset of Alzheimer’s disease?](#)

Review: [Complex interplay between estrogen and aging via lipid metabolism and inflammation](#)

Review: [Sex is a major determinant of pro-longevity drug efficacy in mice](#)

Review: [Strategies for studying sex differences in brain aging](#)

Review: [Mechanisms of proteostasis to preserve longevity of hematopoietic stem cells](#)

Review: [Only one Hallmark, really? Inter-organ communication, metabolism and aging](#)

## **Clinical**

[The need for speed: improving muscle power for longevity](#)

[The absence of osteoporosis does not imply the absence of bone fragility](#)

[Effectiveness of fall prevention strategies in reducing hip fractures is lower in older women](#)

[Geroscience: a translational review](#)

## **Epidemiology/Demography**

[Multi-omics risk scores generally outperformed single-omics risk scores in predicting all-cause mortality](#)

[Plasma proteomics links brain and immune system aging with healthspan and longevity](#)

[Marking time: age-dependent methylation changes at clustered CpG sites](#)

[Comprehensive analysis of human proteome profiles across 50 years](#)

[Increasing impact of education on biological aging among older U.S. adults](#)

[Sex-specific associations between all-cause mortality and frailty](#)

[Decomposition of age-specific death rates yields insights into changes in life expectancy](#)

[Multiple cause of death approach better captures the impact of dementia on mortality recorded in death certificates](#)

[Observational studies commonly report unjustified confounders in medicine and epidemiology journals](#)

Review: [Analysis of multi-omics datasets reveals interactions across multiple biological layers of information over time, which should enhance precision health and medicine](#)

Review: [Impact of cannabis use on aging and longevity](#)

Review: [Predictive modeling identifies clinically important heterogeneous treatment effects in 37% of RCTs](#)

Review: [Osteoporosis](#)

Review: [Vascular contribution to cognitive decline in aging and dementia](#)

## **Aging in Women**

[Genes expressed in aged oocytes highlight their potential contributions to oocyte quality and development](#)

[Increase in fracture risk associated with discontinuation of hormone therapy in postmenopausal women](#)

[Menopausal status associated with accelerated organ aging](#)

[Evidence-based nonhormonal treatments of menopause vasomotor symptoms](#)

[Twin study: age at menopause influences dementia risk](#)

### **Energetics/Nutrition**

[Sex-specific effects of aging and insulin resistance on muscle function in rats](#)

[Adherence to the DASH and Italian Mediterranean Index diets associated with healthier body composition among older women, but not men](#)

Review: [Nutrition and aging: State of knowledge and research needs from a Research Centers Collaborative Network workshop](#)

Review: [A critical assessment of fasting to promote metabolic health and longevity](#)

### **Evolution/Comparative**

[Artificial selection for high- and low- sociability, which has positive effects on health, well-being and longevity in humans, reveals involvement of multiple genes in a \*Drosophila\* study](#)

[Peto's paradox and a more robust comparative oncology](#)

[Comparative analysis of the aggregation propensity of  \$\alpha\$ -synuclein sequences from long and short-lived animals](#)

[Proteome size is positively correlated with lifespan in mammals but negatively correlated with lifespan in birds](#)

Review: [Comparative cataract-lens opacification across species](#)

### **Novel Organisms**

[Neither sex nor breed nor sterilization status impacts longevity of pet guinea pigs](#)

[Reduced proliferative capacity in canine lung mesenchymal stromal cells is associated with age-related increases in quiescence but not senescence](#)

[Early-life gonadectomy diminishes late-life robustness in the longest-lived Rottweiler dogs](#)

[Transcriptome of the long-lived olm provides insights into genetics of longevity](#)

[Beyond rodents?](#)

[Metabolic shifts, particularly in mitochondrial function, may contribute to cavefish's extended longevity](#)

[Climate-driven patterns of global tree longevity](#)

### **Resources**

[mtKO: A dedicated guide RNA library for mitochondria research](#)

[I am the very model of a modern model organism: a molecular cell atlas of mouse lemur](#)

### **Caregiving**

[Banking data can reveal behavioral markers associated with the loss of financial capacity](#)

## Policy/Ethics

[A rose by any other name escapes Medicare's Drug Price Negotiation Program](#)

[Collusion, corruption and large-scale scientific fraud coming to a journal near you](#)

## Commentary

[Reclaiming healthspan as geroscience's primary goal](#)

Review: [Cellular senescence and senolytics](#)

## Odd and Ends

[Does the regulatory environment for gerotherapeutics need changing?](#)

[Is the future now? Will Germany raise retirement age beyond 67?](#)

[Great Britain's retired Olympians retired athletes have a lower risk of multimorbidity](#)

[So long Tom, you never dropped a bomb](#)

[What do AI and Iago have in common?](#)

---

Aging Biology Update is brought to you by the **UAB Nathan Shock Center** and compiled ***without AI***, by Kathleen Fischer and Steven Austad. [Subscribe to this newsletter](#).



NATHAN SHOCK CENTERS  
OF EXCELLENCE IN THE  
BASIC BIOLOGY OF AGING



---

Copyright © 2025 The University of Alabama at Birmingham, All rights reserved.  
1701 2nd Ave S, Birmingham, AL, 35294 US

[Privacy Policy](#) | [Terms of Use](#) | [uab.edu](#)