

# **AGING BIOLOGY UPDATE**

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**UAB NATHAN SHOCK CENTER OF EXCELLENCE  
IN THE BASIC BIOLOGY OF AGING**

## **January 2025 ABU**

### **Featured**

[Growing gap between life expectancy and health expectancy greater for women than men](#)

[Lithocholic acid increases longevity in worms and flies and function in mice](#)

[IL-23R is a senescence-linked circulating and tissue biomarker of aging](#)

### **Basic Biology**

[Canagliflozin slows ovarian aging in mice](#)

[Low amino acid and low isoleucine diets improve multiple aspects of health in older C57BL/6 mice](#)

[Low glycemic index diet improves survival of mice with antibiotic-induced dysbiosis](#)

[A potential mechanism for the impact of lithocholic acid on aging](#)

[Brown adipose tissue enhances mouse exercise performance and healthy longevity](#)

[A designed chimeric peptide enhances immune system targeting senescent cells](#)

[Muscle function emerges as an early determinant of biological age in male but not female mice in a large, outbred cohort](#)

[Pro- and anti-aging effects of certain cell types on their neighbors in the aging brain of male mice](#)

[Can plasma proteomics offer insights into brain aging?](#)

[Reduced NF- \$\kappa\$ B protein p65 seen in many but not all life-extending mouse](#)

[interventions](#)

[Aging limits stemness by reprogramming iron homeostasis in mice](#)

[Mitochondrial respiration changes with age and varies with sex and tissue in mice](#)

[A new measure of accelerated aging, metabolomic age](#)

[Neuronal activity and mitochondrial gene expression are decoupled in aged mice](#)

[Pilot study suggests inflammaging is similar in companion dogs and humans](#)

[Recommendation: biomarkers of aging for use in intervention studies](#)

Review: [Hallmarks of reproductive aging in female mice](#)

Review: [Cellular senescence in acute human infectious disease](#)

Review: [Is stem cell dysfunction a root cause of aging?](#)

Review: [The role of Klotho in cardiac health/function](#)

Review: [Age-related decline in the quantity and quality of transcription in model organisms](#)

## **Clinical**

RCT: [Discontinuation of antihypertensive treatment in older adults with dementia is neither safe nor beneficial](#)

[Age-appropriate TSH reference ranges needed to reduce risk of treating subclinical hypothyroidism](#)

[Osteoporosis diminishes quality of life and increases health care costs in the US](#)

Series: [Aging and rheumatic diseases](#)

Review: [Epigenetic aging and public health applications](#)

Review: [Impact of estrogen decline on homeostasis during menopause](#)

Review: [Evidence-based human longevity-promoting strategies](#)

## **Epidemiology/Demography**

[Older Chinese express greater subjective well-being in an untouched disadvantaged neighborhood compared with a disadvantaged neighborhood with an enhanced built environment](#)

[More recently born cohorts show greater intrinsic capacity in both England and China](#)

[Cardiorespiratory fitness correlates with lower mortality among older Norwegian adults](#)

[Potentially inappropriate medications associated with increased mortality](#)

[Low hemoglobin levels are associated with mortality among older adults](#)

[Electrocardiogram deceleration capacity correlated with mortality in the general population](#)

Review: [Dementia prevalence is greater among Indigenous than non-Indigenous populations](#)

### **Energetics/Nutrition**

RCT: [Low-Fat Vegan Diet costs 25% less than a Mediterranean Diet](#)

RCT: [Intervention improves adherence to Mediterranean diet among older adults](#)

[MCT ketogenic diet promotes bone loss associated with accelerated aging and age-related neurotoxicity in mice](#)

[CREBH regulates mitochondrial unfolded protein response to maintain energy homeostasis in mice](#)

[Older women may be at elevated risk of heat-induced cellular damage during exertional heat stress](#)

[Ultra-processed food intake and biological aging in US adults](#)

Review: [Oxidative stress in the pathogenesis of sarcopenia](#)

### **Evolution/Comparative Biology**

[Hallmarks of aging: A user's guide for comparative biologists](#)

[Age-associated hematopoietic stem cell platelet bias is evolutionarily conserved in mice and humans](#)

Review: [Reproductive endocrinology and aging in male humans and great apes](#)

### **Novel Organisms**

[Extreme longevity may be the rule not the exception in Balaenid whales](#)

[A microbiome-based clock? Microbiomes as a marker for Amboseli baboon age](#)

[Despite its nonaging phenotype, hydra have a mammal-like mutation rate](#)

Preprint: [Rapamycin induced autophagy ameliorates lipotoxicity in Atlantic salmon cells](#)

### **Caregiving**

RCT: [Provision of daily high protein, high energy meals to community dwelling malnourished older adults improves nutrition and grip strength](#)

## **Policy**

[Thinking about the political side of healthy aging](#)

[Establishing the U.S. Aging Research Enterprise: Founding of the National Institute on Aging](#)

[Retirement age then and now: a biologist's perspective](#)

[Mobile geriatricians—a new model for sustainable geriatric health care](#)

[National Academies call for NIH institute dedicated to women's health](#)

[Apart from insulin, Medicare negotiated drug prices are still more expensive than prices in other countries](#)

## **Commentary**

[Aging researchers disagree on almost everything related to aging biology](#)

[Top ten menopause research priorities](#)

[The evolving concept of successful aging](#)

[Let's think about the economic cost of age-ism](#)

[Expanding the study of cancer resistance across species](#)

[Engaging oldest old in research](#)

[Is political interference causing faculty brain drain in the southern United States?](#)

Preprint: [How many RCTs are faked or flawed?](#)

## **Odds and Ends**

[After controlling for everything home ownership increases male longevity by up to 4 months](#)

[Inconsistent blinding affects 80% of randomized clinical trials](#)

[Step in time](#)

[For wild animals, bird flu pandemic has arrived, with disastrous consequences](#)

## **Contrary/Null Results**

[Cellular markers of biological aging are poor predictors of menopause](#)

RCT: [Advance care and end-of-life planning and paperwork may increase burdensome care](#)

[Statin use is not associated with elevated risk of sarcopenia among older Japanese](#)

[Subclinical thyroid dysfunction is too small to explain increased cardiovascular risk observed in previous studies](#)

[No evidence of an association between epigenetic aging and fecundability using seven different DNA methylation based epigenetic clocks](#)

RCT: [No evidence of intervention effects in measures designed to improve patient-clinician communication](#)

[No association of posttraumatic stress disorder with epigenetic aging in women at mid-life](#)

[Greater social connectivity does not provide short-term protection for cognitive function in older Germans \(>80\)](#)

### **Announcements**

[ARPA-H launches new program aimed at extending the healthspan of Americans](#)

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Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Kathleen Fischer and Steven Austad. [Subscribe to this newsletter.](#)



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