

# AGING BIOLOGY UPDATE

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

## **March 2024 ABU**

### **Featured**

[Partial reprogramming extends life and restores function in aged mice](#)

Preprint: [Fecal epigenetic age different and highly variable in wild mice compared to lab mice](#)

### **Headline vs Study**

Headline: [What is the fasting-mimicking diet? Eating plan claims to reverse aging signs by 2.5 years](#)

Study: [Fasting-mimicking diet causes hepatic and blood markers changes indicating reduced biological age and disease risk](#)

### **Basic Biology**

[Intermittent rapamycin feeding recapitulates some effects of continuous treatment including lifespan extension in mice](#)

[The impact of age and number of mutations on the size of clonal hematopoiesis](#)

[Pro-ferroptotic signaling promotes arterial aging via cell senescence](#)

[Morphological and gene expression changes in cycling and aging mouse female reproductive tract at single-cell resolution](#)

[Organelle proteomic profiling in \*C. elegans\* reveals lysosomal heterogeneity in association with longevity](#)

[Efficacy of SARS-CoV-2 vaccine in older mice and hamsters](#)

[Reduced rRNA synthesis moderates energy expenditure and lengthens worm life](#)

[Using nuclear morphology and machine learning to identify senescent cells](#)

[Dysfunctional lipid metabolism in aging muscle perturbs glucose metabolism in mice](#)

[Inhibition of S6K lowers age-related inflammation and increases lifespan via](#)

[endolysosomal system in flies and suggestively in mice](#)

[Sex differences in gene expression and chromatin accessibility amplified with aging in mouse hippocampus](#)

[Exposure to female scent hastens reproductive aging and increases mortality in male mice](#)

[Y chromosome has no impact on sex-specific longevity in flies](#)

[Cellular senescence plays a role in atrial remodeling, and cardiac pathology.](#)

Review: [Mechanisms of sex differences in Alzheimer's disease](#)

Review: [Sex differences, sex hormones and neuromuscular aging](#)

Review: [Validation of biomarkers of aging](#)

Preprint: [Natural variation in age-related dopamine neuron degeneration is linked to longevity in \*Drosophila\*](#)

Preprint: [Age-related decline in blood-brain barrier more pronounced in men than women](#)

### **Contrary or Null Findings**

[Sarcopenic obesity does not impair physical performance in sufficiently active older adults](#)

[Cognition is selectively impaired in men, but not women, with spinal pain](#)

[No significant difference in mortality due to cardiovascular disease among the 3 antihypertensive treatment groups](#)

[In-hospital exercise intervention fails to reduce hospital-associated disability.](#)

[Years living with disability not correlated with access and quality of healthcare in industrialized countries](#)

### **Energetics/Nutrition**

[Cellular senescence caused by rewiring of lipid metabolism](#)

[Plasma metabolites of a healthy lifestyle](#)

[Complex relation between meat consumption and mortality in frail middle-aged and older adults](#)

[Intermittent food restriction feeding alters sex-specific metabolome-microbiome in middle-aged rhesus macaques](#)

[Elevated fasting and lower post-prandial ghrelin in low appetite older adults](#)

[Short-term isoleucine deprivation extends life in flies](#)

[Energy dissipation and scaling of development and aging in multicellular organisms](#)

### **Epidemiology/Demography**

[Educational Mobility slows Pace of Aging Among Participants in the Framingham Heart](#)

## Study

Women achieve greater mortality risk reduction than men from equivalent doses of physical activity

Sex differences in depression-free life expectancy among older widowed Americans

Aging and heat-related mortality in Spain 1980 to 2018

Longevity of companion dog breeds: those at risk from early death

Age at natural or surgical menopause linearly related to life expectancy

Prisoner of war status in American Civil war veterans associated with reduced 45+ year life expectancy in sons and grandsons but not daughters and granddaughters.

Frailty is associated with mortality risk in men only in a community living 50+ population

Apolipoprotein B implicated in shorter healthspan and possibly Alzheimer's disease

Frailty correlates with poorer health in Taiwanese men than in women

Overadjustment bias in systematic reviews and meta-analyses

## **Clinical**

Symptoms of depression and emergency department visits among people aged 70 years and over

Sex differences in loneliness among older English people

Delirium underdiagnosed among older hospitalized patients regardless of evidence in medical records

Epigenetic age associated with outcome in critically ill older patients

Comprehensive geriatric assessment in emergency room associated with improved outcomes

Sociodemographic and health correlates of cannabis use among middle-aged and older adults

Plasma proteomic markers of late-life depression differ between men and women

Review: Therapeutic effect of dietary ingredients on cellular senescence in animals including humans

Review: Factors associated with happiness among community-dwelling older adults

Review: Senolytics: from pharmacological inhibitors to immunotherapies

Review: Targeting aging with rapamycin and its derivatives in humans

## **Evolution/Comparative**

Mitochondrial haplotype and mito-nuclear matching drive somatic mutation and selection throughout aging

Review: [Challenges in the comparative analysis of animal lifespan](#)

### **Novel Organisms**

[Experimental evidence for exceptional cancer resistance in Rickett's big-footed bat](#)

[The evolution of lifespan and aging in response to dietary macronutrients in decorated crickets](#)

[Skeletal muscle aging: lessons from teleost fishes](#)

[Methylation-based markers for the estimation of age in cheetahs](#)

[High quality genome of the blue whale, largest animal species ever](#)

### **Caregiving**

[Health conditions in spousal caregivers of people with dementia and their stress, caregiving experiences, and social networks](#)

[Comparison of burdens on family caregivers of older persons in Japan versus Thailand](#)

[Cognitive abilities and engagement in advance care planning among older adults](#)

[Recent innovations in long-term care coverage and financing](#)

### **Policy/Ethics**

[Poverty and accelerated biological aging in U.S. adults](#)

### **Commentary**

[Aging research comes of age: NIA at 50, Nathan Shock Centers at 30](#)

[Hallmarks of aging as a conceptual framework for health and longevity research](#)

[Analyzing the interconnections among climate change, energy demand, long-term care and the health of older adults](#)

### **Odd and Ends**

[Linking the longevity of trees to their ecological function](#)

[By the numbers: Aging in place statistics \(2024\)](#)

[At age 114, her secret seems to be good longevity genes](#)

Review: [The healing body: Creative responses to illness, aging and affliction](#)

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Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Kathleen Fischer, Jessica Hoffman, Heather Patterson, and Steven Austad.

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