

# **AGING BIOLOGY UPDATE**

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

## **January 2024 ABU**

### **Featured**

[Biobank of exceptionally long-lived French people](#)

[Human antagonistic pleiotropy discovered in the UK biobank](#)

### **Basic Biology**

[Only early adult methionine restriction extends lifespan in flies](#)

[Metformin inhibits T lymphocyte senescence in middle aged humans](#)

[Sex differences in mouse longevity and responses to geroprotective drugs](#)

[CHIT1-positive microglia drive motor neuron ageing in the primate spinal cord](#)

[Mifepristone may increase life span in mated and virgin female flies via different mechanisms](#)

[Remodeling of cardiac extracellular matrix proteome during chronological and pathological aging](#)

[Organ aging signatures in the plasma proteome track health and disease](#)

[Aged intestinal stem cells propagate cell-intrinsic sources of inflammaging in mice](#)

[Cerebromicrovascular function in aged mice improved by heterochronic parabiosis](#)

Perspective: [How “telomereless” erythrocytes drive telomere dynamics of hematopoietic stem cells](#)

Review: [Plasma circulating cell-free nucleic acids in relation to healthy aging and longevity](#)

Review: [GLP-1 RAs and SGLT2i: two antidiabetic agents may facilitate healthy aging through the common AMPK pathway](#)

Review: [Sex and gender affect immune aging](#)

Review: [Genomics and phenomics in personalized population health](#)

Review: [Alterations in autonomic nervous system function during menopause and female aging](#)

Review: [Impact of NAD+ metabolism on ovarian aging](#)

### **Contrary or Null Findings**

[Astaxanthin and meclizine extend lifespan in UM-HET3 male mice only; fisetin, SG1002, dimethyl fumarate, mycophenolic acid, and 4-phenylbutyrate do not significantly affect lifespan in either sex](#)

### **Energetics/Nutrition**

[Epigenetic age accelerated in women experiencing stressful life events](#)

[Isoleucine dietary restriction boosts healthspan and longevity in mice](#)

[Poorer blood lipid profile associated with increased risk of dementia among postmenopausal women](#)

[Protein and carbohydrate ratios that maximize lifespan are shared among related insect species](#)

[Diet composition, adherence to calorie restriction, and cardiometabolic disease risk](#)

[Ghrelin delays premature aging in a mouse model of Hutchinson-Gilford progeria syndrome](#)

[Iron accumulation, fibrosis, and the senescence-associated secretory phenotype](#)

[Does vascular dysfunction play a role in exercise intolerance during aging?](#)

[Dietary inflammatory potential, dietary oxidative balance score and biological aging](#)

[The roles of FGF21 in protein appetite, sweet preference, and energy expenditure](#)

[Heavy resistance training reverses hallmark of human skeletal muscle aging](#)

[Skeletal muscle energetics explain the sex disparity in mobility impairment](#)

[The contribution of being physically active to successful aging](#)

### **Epidemiology/Demography**

[Calculating the survival benefit of daily walking amount](#)

[Mortality risks associated with loneliness differ in Swedish men and women](#)

[The effects of education on mortality: Evidence using college expansions](#)

[Demographics suggest individuals will age with smaller and older family networks](#)

[New estimates of smoking-attributable mortality in the U.S. from 2020 through 2035](#)

[Impact of 8 lifestyle factors on mortality and life expectancy among United States veterans](#)

[Projected costs of informal care greater than formal care for older people in England](#)

[Estimating the economic value of healthy aging using time use data](#)

[Longitudinal machine learning uncouples healthy aging factors from chronic disease risks](#)

### **Clinical**

[Failure to find sex-specific longevity effects of cardiovascular medications in UK biobank](#)

[Lipid-lowering drugs help identify genetic loci associated with longevity](#)

[Reduced tactile sensitivity is associated with mild cognitive impairment](#)

[HomeHealth care failed to affect independence score for older people](#)

[Limited effects of a mindfulness and health self-management interventions on psychological well-being in older adults with subjective cognitive decline](#)

[Aging and end of life preparation among transgender older Americans](#)

Review: [Geroprotector drugs and exercise: friends or foes on healthy longevity?](#)

Review: [Integrating oral healthcare in a geriatric care system in Singapore](#)

Review: [Sex differences in frailty among older adults](#)

Review: [Risk assessment for people living with dementia falls short](#)

### **Evolution/Comparative**

[Evolution of high-molecular-mass hyaluronic acid is associated with subterranean lifestyle](#)

[Ectoparasite presence and brood size interact accelerate telomere shortening in nestling jackdaws](#)

[Decoupling glycaemia and lifespan: songbirds avoid the oxidative stress costs of high blood glucose levels](#)

### **Novel Organisms**

[Characterizing stem cells in the naked mole-rat gut](#)

[Age-related changes in hematological biomarkers in common marmosets](#)

[Seasonal variation in telomerase activity and telomere dynamics in the garden dormouse](#)

[Pharmacologically reducing DNA methylation extends lifespan in the bumblebee \*Bombus terrestris\*](#)

[Bomb radiocarbon age estimation reveals long-life \(>40 years\) in Caribbean deepwater snappers](#)

Review: [Physiology, fecundity, fertility and proximate mechanisms underlying termite](#)

[queen longevity](#)

## **Caregiving**

[Impact of informal caregiving on caregivers' subjective well-being in China](#)

[Eliciting preferences of persons with dementia and informal caregivers to support ageing in place in the Netherlands](#)

[Questions to ask when choosing an assisted living facility](#)

## **Policy/Ethics**

[America has a life expectancy crisis](#)

[Racial and ethnic differences in hospice use among Medicaid-only and dual-eligible decedents](#)

## **Commentary**

[Planning for parental death and transitions in care for older people with intellectual disabilities](#)

[Air pollution, dementia, and lifespan in the socio-economic gradient of aging: perspective on human aging for planning future experimental studies](#)

[Once upon a time, the Amyloid Cascade Hypothesis](#)

## **Odd and Ends**

[Valuing life over the life cycle](#)

[Why are Americans getting shorter and shorter-lived?](#)

[GPT-4 can pass the Korean National Licensing Examination for Korean medical doctors](#)

[Up in smoke: increasing senior use of cannabis products](#)

[How much intervention in late life is too much?](#)

[It's not your imagination. Increasingly, NIH-funded research uses language of salesmanship in publishing articles](#)

[Pet ownership slows cognitive decline in older people living alone](#)

[The economics of aging with infectious and chronic diseases](#)

Special Issue: [Physiological and evolutionary mechanisms of aging](#)

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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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