

# **AGING BIOLOGY UPDATE**

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

## **Featured**

[Ant workers infected with tapeworms live longer than uninfected nest-mates](#)

[Whole-genome sequencing of semi-supercentenarians identifies efficient DNA repair alleles](#)

## **Headline vs study**

Headline: [Scientists just moved a step closer to reversing aging in humans](#)

Study: [The central role of DNA damage in the aging process](#)

Headline: [A single protein might be key to slowing the aging process](#)

Study: [Vesicular glutamate transporter modulates sex differences in dopamine neuron vulnerability to age-related neurodegeneration](#)

Headline: [Aging reversed: Study shows how you can become 3 years 'younger' in just 8 weeks!](#)

Study: [Potential reversal of epigenetic age using a diet and lifestyle intervention: A pilot randomized clinical trial](#)

## **Contrary or Null Findings**

[Rapamycin does not improve induced right heart failure in old mice](#)

[mTOR inhibitors fail to reduce respiratory infections in older humans in a Phase 3 clinical trial](#)

## **Energetics/Nutrition**

[Unrelated, but not related, group-housed CB6F1 males show increased aggression in a short-term caloric restriction study](#)

[Mediterranean diet is associated with reduced brain atrophy and improved memory in older adults](#)

[Fasting in \*C. elegans\* has both positive and negative transgenerational effects on mortality and fecundity](#)

[Increased dementia risk associated with overweight and obese young adults independent of BMI in later life](#)

[Intranasal oxytocin improves lean muscle mass and lowers cholesterol in older adults](#)

[with sarcopenic obesity](#)

[Review: Benefits of caloric restriction beyond weight loss](#)

[Review: Cross talk between dietary restriction and circadian rhythms for healthy aging](#)

[Review: Effects of exercise on cellular and tissue aging](#)

[Review: Diets targeting the gut microbiome to promote healthspan](#)

[Review: Sex differences, aging, and brown adipose tissue](#)

## **Basic Biology**

[Adiponectin overexpression improves metabolic health with age in male mice](#)

[Correlations of longevity genetic variations and the proteome](#)

[Nicotinamide riboside improves metabolic function of aged hematopoietic stem cells](#)

[An aged immune system can drive mouse cell senescence and aging in other organs](#)

[Slower cognitive decline is associated with familial longevity](#)

[Common genetic associations between age-related diseases](#)

[A calcineurin inhibitor protects against age-associated microstructural changes in the beagle brain](#)

[Review: Functional conservation in genes and pathways linking aging and immunity](#)

[Review: mTOR in Alzheimer's disease and its earlier stages](#)

[Review: Sex differences in human biological aging](#)

[Review: Aging and infection response in Drosophila](#)

[Review: Urolithin A on health, disease, and aging](#)

[Review: Circular RNAs and aging](#)

[Review: Hallmarks of T cell aging](#)

## **Ecology & Evolution**

[Viral load, not food availability or temperature, predicts yellowjacket wasp colony survival](#)

[Linking maximum lifespan to aging rates with computer simulation in wild birds](#)

[A simulation model of the effects of predation on the evolution of aging rates](#)

[Aging as a consequence of selection to reduce the environmental risk of dying](#)

[Brown-banded bamboo sharks can live up to 14 years](#)

[Long telomeres are associated with increased reproductive output in female but not male wild house sparrows](#)

[Review: Mating and longevity in worms](#)

### **Novel Organisms/ Comparative**

[Ocular health as a marker of age-related neurodegeneration in the degu, a colony-living rodent](#)

[Neuropathology of aging in house cats](#)

[Rhesus monkeys as a translational model of late onset Alzheimer's disease](#)

[The Nile grass rat as a model of diabetic cataracts](#)

[Metabolomic biomarkers of aging in laying hens](#)

[No signs of transcriptional aging in old ant queens compared to young](#)

[Long-lived termite queens display sudden transcriptional changes shortly before death](#)

[Proteomic sex differences in spontaneous osteoarthritis in very young guinea pigs](#)

[Longevity measures for seven species of macrourid fish](#)

[Single nucleus transcriptomic profile finds neural TAPC and microglia most affected by age in the hippocampus of cynomolgus monkeys](#)

[Social aging in Barbary macaques](#)

[Perspective: Identifying aging categories of pet dogs](#)

[Review: The marmoset as a model of neurocognitive aging](#)

### **Epidemiology/Demography**

[Agricultural related poor air quality is linked to thousands of deaths in the United States](#)

[Poor sleep behaviors are associated with shortened healthspan](#)

[Greater temperature changes associated with more hospitalizations for cardiovascular diseases in those 75 and older](#)

[Alzheimer's mortality rates are highest in the United States on the Alabama, Tennessee, Georgia border](#)

[Review: Socioeconomic position and healthy aging](#)

### **COVID-19 and aging**

[Over 30% of hospitalized COVID-19 patients develop delirium](#)

[The impact of COVID-19 on global population aging](#)

[Low socioeconomic status is associated with increased mortality due to COVID-19 in Santiago, Chile](#)

### **Clinical**

[Women are more likely to be prescribed potentially inappropriate medications than](#)

[men](#)

[Metformin use is associated with slower emphysema progression](#)

[Review: Aging and inflammatory bowel disease: A new challenge for clinicians and researchers](#)

[Review: Aging, the immune system, and the human female genital tract](#)

[Review: Age-related macular degeneration](#)

### **Care-giving**

[Caring for the caregivers of dementia patients](#)

[Wellbeing of caregivers declines at similar rates across socioeconomic levels, but starts higher for wealthy caregivers](#)

[Mental health among spousal caregivers of older adults](#)

### **Policy/Ethics**

[Robots may improve health in low-skill workers](#)

[Long-term care market trend and patterns of caregiving in the United States](#)

### **Commentary**

[Uncoupling aging from chronological time](#)

### **Odd and Ends**

[Challenges in dog brain biobanking](#)

[A conversation with Judith Campisi](#)

[How bowhead whales live for 200 years](#)

---

Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Jessica Hoffman, Heather Patterson, Joseph Palmer, and Steven Austad. [Subscribe to this newsletter.](#)



NATHAN SHOCK CENTERS  
OF EXCELLENCE IN THE  
BASIC BIOLOGY OF AGING



---

Copyright © 2021 The University of Alabama at Birmingham, All rights reserved.  
1701 2nd Ave S, Birmingham, AL, 35294 US

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