

AGING BIOLOGY UPDATE

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IN THE BASIC BIOLOGY OF AGING**

Featured

[17- \$\alpha\$ -estradiol extends life in older male mice, NR and three other drugs do not in either sex](#)

[Special issue: Aging and sociality: Why, when and how does sociality change aging patterns?](#)

Headline vs Study

Headline: [Mouse study finds potential treatment for myelin repair for MS, aging](#)

Study: [Functional genomic analyses highlight a shift in Gpr17-regulated cellular processes in oligodendrocyte progenitor cells and underlying myelin dysregulation in the aged mouse cerebrum](#)

Contrary or Null Findings

[Testosterone supplementation does not improve vascular function in middle age and older men](#)

[Neither self-identified race nor population ancestry associate with dementia prevalence in Cuba](#)

[Middle-age dogs outperform both old and young dogs in spatial reversal learning.](#)

[Microbiomes change little with age or sex in free-ranging rhesus macaques](#)

Energetics/Nutrition

[Weight loss is associated with increased mortality risk in older Japanese adults](#)

[Late life alternate day fasting improves health in male, but not female, mice](#)

[Ketogenic diet preserves skeletal muscle with aging in male mice](#)

[Aged cynomolgus monkeys fed a high-fat/high-sugar diet recapitulate human metabolic and cardiovascular disorders](#)

[Selenium supplementation prevents high-fat diet-induced weight gain in mice](#)

[Caloric restriction improves the intestinal microbiota in aged male mice](#)

[An improved *E. coli* food source for worm metabolism and longevity studies](#)

[Review: Intermittent fasting: from calories to time restriction](#)

[Review: Nutritional concerns for cancer and frailty in companion cats and dogs](#)

[Review: Rotifers as models for investigating dietary and metabolic regulators of aging](#)

[Review: Metabolic syndrome and the aging retina](#)

[Review: Astrocytes as targets of exercise and caloric restriction mimetics](#)

[Review: Dietary fasting regimes and the gut microbiome](#)

Basic Biology

[Upregulation of IL-6 leads to frailty in mice](#)

[Hyperphosphorylated tau accumulates in hippocampal synaptic mitochondria in naturally aged mice of unknown sex](#)

[Reduced hepatic IGF-I protects against atherosclerosis in female but not male mice in an atherosclerosis model](#)

[Transcriptomic and proteomic profiling of the aging kidney in genetically diverse mice](#)

[Cardiac response to adrenergic stress differs by sex and age in mice](#)

[Decreases in intraflagellar transport impairs sensory perception and metabolism with aging in worms](#)

[Inhibiting the integrated stress response extends life in worms](#)

[Overexpression of a proteasome activator improves cognition in aged female but not male mice](#)

[Polypharmacy induces functional impairment in old mice](#)

[Muscle mitochondrial genome number and damage predict physical performance in older humans](#)

[Hypothesis: Changing insulin signaling to increase lifespan without affecting reproduction or growth](#)

[Review: Molecular functions of genetic variants linked to human aging](#)

[Review: Proteostasis and brain healthspan](#)

[Review: Lipid raft roles in neurodegeneration and aging](#)

[Review: Functional genomics of inflammaging and immunosenescence](#)

[Review: DNA damage and mutations in aging](#)

[Review: Proteomics in aging research](#)

[Review: *C. elegans* as models for drug discovery](#)

[Review: Aging of the gut microbiome](#)

[Review: Intersection of immunometabolism and immunosenescence during aging](#)

Ecology & Evolution

[Hatching first in a clutch increases adult fitness in common terns](#)

[Autophagy-related transcripts increase with age, and autophagy genes are under positive selection in long-lived bats](#)

Novel Organisms/ Comparative

[DNA methylation and exceptional longevity of bats](#)

[Transcriptomic profiling of long-lived termite queens](#)

[Trends in the use of marine ingredients in anti-aging cosmetics](#)

[Sexual activity increases longevity in a mole-rat genus: stress modulation implicated](#)

[Fertility and longevity in ant workers explained](#)

[Review: Diverse effects of reactive oxygen species on lifespan across experiments and species](#)

Epidemiology/Demography

[Low mitochondrial DNA copy number is associated with increased risk of type 2 diabetes in women](#)

[Compression of morbidity in older ages in Germany from 2002 to 2018](#)

[Review: Accelerated aging due to air pollution and traffic noise exposure](#)

COVID-19 and aging

[Attributes and predictors of long COVID](#)

[Biological aging predicts COVID-19 mortality](#)

[Review: What can we learn about aging and COVID-19 by studying mortality?](#)

Clinical

[Anemia associated with cognitive impairment and increased mortality risk in the oldest-old humans](#)

[Neuroimaging reveals sex differences in brain aging](#)

[Obstructive sleep apnea associated with signs of accelerated aging](#)

[Review: Senolytics as drugs for alleviating Type 2 diabetes](#)

Care-giving

[Older female caregivers have increased caregiving burden and decreased physical health compared to older male caregivers](#)

[When transitioning to informal caregiving, caregivers expect to die earlier](#)

Policy/Ethics

[The aging surgeon: Evidence and experience](#)

[Prioritizing COVID-19 vaccination by age](#)

[Barriers to implementing age-friendly initiatives in New Zealand](#)

Commentary

[What will the horrible year of 2020 bring to the future of aging research?](#)

[Can some drugs delay aging? Scientists focus on those that target frailty and age-related disease](#)

Odd and Ends

[A philosopher's perspective: Chronological age versus biological age](#)

[New healthy worm database for insights into compounds that improve health, not necessarily longevity](#)

[Sad passing of a bright light in aging research](#)

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



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