

AGING BIOLOGY UPDATE

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IN THE BASIC BIOLOGY OF AGING**

Featured

[Slow as you go: transcriptional elongation influences longevity in multiple species](#)

Contrary or Null Findings

[Behavior of female mice is less variable than males and negligibly affected by estrous](#)

[Weight-loss, not weight-gain, associated with mortality in healthy older adults](#)

[Brain size does not correlate with longevity, litter size or breed function in dogs](#)

[Chronic high fat diet fails to accelerate muscle wasting in older male mice](#)

Energetics/Nutrition

[Ketone body supplementation has complex effects on the longevity of mice of undisclosed sex](#)

[Mediterranean diet associated with lower dementia risk, independent of genetic predisposition](#)

[Pro-inflammatory diet linked to accelerated biological aging](#)

Review: [Reaction norms in dietary restriction and aging research](#)

Review: [Epigenetics, autophagy and transgenerational effects](#)

Basic Biology

[Transcriptional memory of early dFOXO activation curtails later-life mortality in *Drosophila*](#)

[Age-associated differences in neurovascular coupling found in women, but not men](#)

[FOXO-mediated repression of Dicer1 regulates metabolism and longevity in *Drosophila*](#)

[Interaction of social rank, lifespan and epigenetics in 3 strains of male mice](#)

[Females protected, and disease delayed. in familial AD patients and mouse models](#)

[Human mRNA decoding is slower and exhibits greater fidelity than bacterial decoding](#)

[Structure of the human Sirt6-nucleosome complex](#)

[Tissue-specific accumulation and removal of somatic mtDNA mutations in aging mice](#)

[Sex-biased gene expression in nutrient-sensing pathways in *Drosophila melanogaster*](#)

[Reverse electron transfer in aging and age-related disease in *Drosophila* and mice](#)

[Degraded protein synthesis and turnover machinery underlies attenuated cellular stress response in senescent stem cells](#)

[Multi-omic dissection of epigenetic aging and human longevity](#)

[PCYT2-regulated lipid biosynthesis is critical to muscle health and aging](#)

[Senescent cell burden reduced by microRNA-449a via PI3K-mTOR signaling](#)

[Rapamycin restores peripheral blood flow in aged mice and in mouse models of atherosclerosis and AD](#)

[Restoring bone marrow niche Netrin-1 rejuvenates aged mouse hematopoietic stem cells](#)

[Effect of Nrf2 loss on senescence and cognition of mutant tau-transgenic P301S mice](#)

[Yeast gene knockout panels finds mitonuclear genes and metabolites suggest pathways that modulate replicative and chronological lifespan](#)

[Physical performance and cardiac structure of aging mice improve with late and early-life treatment with acarbose or rapamycin](#)

[IL2 partially restores transcriptional signature of aged glial cells and spatial learning in mice](#)

[TFEB-dependent lysosome biogenesis is required for senescence in HEK293T and several primary human fibroblast lines](#)

[Extended lifespan and sex-specific fertility loss in cold-acclimated *Drosophila* sibling species](#)

Review: [Are sirtuins conserved longevity genes?](#)

Review: [Dietary restriction and lifespan in *Drosophila*: adaptive reallocation or somatic sacrifice?](#)

Review: [Physical exercise, PGC-1 \$\alpha\$ signaling, and aging](#)

Review: [Mechanisms of human ovarian aging](#)

Review: [Sex differences in neuromuscular disorders](#)

Review: [Epitranscriptomics and aging](#)

Review: [Repetitive elements in aging and neurodegeneration](#)

Ecology and Evolution

[Litter size is strong determinant of adult physiology in rodents](#)

[Experimental evolution under dietary restriction reduced somatic growth but gradually increasing reproduction, reduced somatic growth in rotifers](#)

[Can senescent cell dynamics explain Peto's paradox and late-life deceleration of cancer?](#)

[Early-life diet specificity, reproductive success and survival in white-tailed eagles \(*Haliaeetus albicilla*\)](#)

[Fasting and refeeding zebra fish alters investment in somatic repair and reproduction](#)

Review: [Biological constraints on unlimited survival](#)

Emerging Aging Models

[How size and genetic diversity shape life span across breeds of purebred dogs](#)

[Interrogating the life span–body size relationship in dogs](#)

[A p21-GFP zebrafish model of senescence for rapid testing of senolytics in vivo](#)

Novel Organisms/Comparative

[Senescent secretome of blind mole rat inhibits malignant behavior of human breast cancer cells](#)

[Size, not age, mediates aging process in two species of broadleaf trees](#)

[Modelling somatic mutation accumulation and expansion in a long-lived tree](#)

[Multi-tissue DNA methylation aging clocks for sea lions, walruses, and seals](#)

[Telomeres, longevity, and oxidative stress in parrot species](#)

[High CBR1 levels extend life and reduce brain protein carbonyl levels in cotton bollworms](#)

Epidemiology/Demography

[Healthy lifespan inequality from a global perspective](#)

[Mendelian randomization analysis of relationship between human microbiome and longevity](#)

[Diabetics taking metformin should be cautious about using daily aspirin](#)

[Mosaic chromosomal alterations and human longevity](#)

[Drugs and violence affect life expectancy in the Great Lakes region](#)

[Longitudinal brain imaging and physiological phenotypes from the UK Biobank to establish normative models of human biological age.](#)

[A new method for summarizing multiple cause-of-death data](#)

[Genetic Networks of Human Longevity, Aging, and Alzheimer's Disease](#)

[Hunger games: food insecurity and cognitive decline older adults](#)

[Cause-of-death diversity in a global perspective: 1990-2019](#)

Clinical

[Childhood cancer survivors: healthy behaviors and late mortality](#)

[Inappropriate medication associated with increased disability risk in healthy older adults](#)

[The association of long-term conditions on the progression of frailty is sex-specific](#)

[Heterogeneous aging across organ systems, chronic disease and mortality](#)

[Where to start: normative values for physical function tests in the elderly](#)

Review: [Skeletal muscle health: A key determinant of healthy aging](#)

Caregiving

[Informal caregiving alters perceptions of aging but only in individuals aged ≥80](#)

[Non-drug interventions for dementia improved life, reduced costs](#)

Commentary

Idea: [Does infectious disease cause the maladies of aging?](#)

[Cancer, aging and limitations of young mice as preclinical cancer models](#)

[Senolytics improve muscle adaptation in old mice](#)

[More geroscience bang for your dietary buck](#)

[Are we there yet? What demography suggests about limits to human lifespan](#)

[Live free and die](#)

Odd and Ends

[Sex Differences in the Speed–Duration Relationship of Elite Runners across the Lifespan](#)

[Aging leads to loss of arm coordination while walking](#)

[Black widow effect in black soldier flies](#)

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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