

AGING BIOLOGY UPDATE

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IN THE BASIC BIOLOGY OF AGING**

Featured

[Is GrimAge the best predictive epigenetic clock?](#)

[Brain lesions are common in old naked mole rats](#)

[Premature conclusions about naked mole-rat biology](#)

Headline vs Study

Headline: [Human aging process biologically reversed in world first](#)

Study: [Hyperbaric oxygen therapy increases telomere length and decreases immunosenescence in isolated blood cells: A prospective trial](#)

Headline: [Another win for senolytics: Fighting aging at the cellular level just got easier](#)

Study: [Senescent cells promote tissue NAD+ decline during aging via the activation of CD38+ macrophages](#)

Contrary or Null Findings

[Episodic rapamycin treatment begun late extends life in mice, but minocycline, Beta-guanidinopropionic acid, MitoQ, and 17-DMAG treatment do not](#)

[Metformin shortens worm lifespan when given late in life](#)

[Telomere length is not predictive of mortality or frailty](#)

[Dietary restriction of serine/glycine impairs muscle regeneration in aged mice](#)

[No association of coffee or caffeine intake and risk of heart failure](#)

[Aged hematopoietic stem cells poorly regenerate in the young bone marrow niche](#)

[No impact of Omega-3 supplementation on cardiovascular events](#)

Energetics/Nutrition

[Different dietary bacteria alter lifespan and healthspan in worms](#)

[The effects of diet on longevity are genotype dependent in fruit flies](#)

[Sestrin may modulate response to dietary restriction in fruit flies](#)

[Review: Nutrients and pathways that regulate healthspan and lifespan](#)

[Review: Branched chain amino acids, aging, and age-related health](#)

[Review: Interventions to enhance mobility in older adults](#)

[Review: Calorie restriction mimetics for the treatment of cardiovascular diseases](#)

Basic Biology

[Microglia from aged mice upregulate mTOR](#)

[An epigenetic clock for male rats](#)

[Alpha-ketoglutarate improves bone health in female aging rodents](#)

[The plasma proteome as a predictor of health and lifespan](#)

[GATA6 regulates aging of human mesenchymal stem/stromal cells](#)

[Frail older adults have a significantly different plasma proteome than non-frail older adults](#)

[Loss of gene-to-gene transcriptional coordination in aging cells](#)

[PPAR-gamma agonists extend longevity in male mice](#)

[A simplified design for the worm lifespan machine](#)

[Healthy aging interventions in mice reduce repetitive element transcripts](#)

[Predicting longevity genes in yeast and worms using different machine learning approaches](#)

[Improved late-life cognition in TREM2 knockout mice](#)

[Fine-tuning autophagy maximizes lifespan in fruit flies](#)

[SynergyAge: New interactions database for longevity-associated genes](#)

[Aging Atlas: New database of omics for aging biology](#)

[Novel epigenetic clock of human brain cortex](#)

[A computational model of human aging trajectories](#)

[Review: Geroprotectors to prevent multimorbidity](#)

[Review: Mastering organismal aging through the endoplasmic reticulum proteostasis network](#)

[Review: Immunity to acute virus infections with advanced age](#)

[Review: The cellular mechanobiology of aging](#)

[Review: Mechanisms of aging in hematopoietic stem cells and their niches](#)

[Review: Friend or foe: Lipid droplets and aging](#)

[Review: The use of DNA methylation clocks in aging research](#)

[Review: Advances in transcriptome analysis of human brain aging](#)

[Review: Aging of hematopoietic stem cells under various stress conditions](#)

Ecology & Evolution

[Honeybee worker mortality depends on season and resource availability](#)

[Tet2 mutant female mice have reduced fertility throughout the lifespan](#)

[Review: On the evolution of cellular senescence](#)

Novel Organisms/ Comparative

[The horse as a natural model of reproductive aging](#)

[Age-related changes in chimpanzee cognition](#)

[More chimpanzees: Age-related changes in the gut microbiota](#)

[Differences in mitochondrial respiration in bivalves with large lifespan variation](#)

[The Dunkin Hartley Guinea pig as a model for osteoarthritis and musculoskeletal aging](#)

[Spiny mice have improved skin aging compared to standard laboratory mice](#)

[Upregulation of longevity genes in response to light stress in reef coral](#)

[Reproductive senescence in the short-lived killifish](#)

[Morphological and physiological framework underlying plant longevity in Arabidopsis](#)

[Review: Degus as a model of multimorbidity in aging research](#)

COVID-19 and Aging

[Age-specific mortality and immunity patterns of SARS-CoV-2](#)

[Review: Does eNOS derived nitric oxide protect the young from severe COVID-19 complications?](#)

[Review: Aging in COVID-19: Vulnerability, immunity, and intervention](#)

[Biological, contextual, and policy related factors contributed to COVID-19 vulnerability](#)

[Acute vitamin D administration improves COVID-19 outcomes in nursing home residents](#)

[Greater duration of SARS-CoV-2 shedding with increasing age](#)

[Quantitating COVID-19 mortality risk with increasing age](#)

Epidemiology/Demography

[Significant increases in the burden of neurological disease in the US in the last 30 years](#)

[Long-term low-level air pollution increases lung cancer risk](#)

[Are estimates of 'potential gains in life expectancy' potentially unreliable?](#)

Clinical

[The short physical performance battery predicts one-year fall risk in older adults](#)

[Olfactory dysfunction is associated with development of depression in older adults](#)

[Reduced seasonal variation in mortality increased Swedish longevity in 20th century](#)

[Review: Anti-senescence interventions for skin rejuvenation](#)

[Review: Human hematopoiesis aging and myeloid malignancies](#)

Care-giving

[Spousal and child caregivers of older adults are more socially isolated than non-caregivers](#)

[Caring for older adults with vision impairment and dementia](#)

Commentary

[A blueprint for characterizing senescence](#)

[Why is cancer so common a disease in people yet so rare at the cellular level?](#)

[Old dogs, new research and the secrets of aging](#)

Odd and Ends

[Epigenetic aging of space travel: Using the simulated Mars-500 mission](#)

[Heat is killing more people than ever: Scientists are looking for ways to lower the risk](#)

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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