

**UAB THE UNIVERSITY OF ALABAMA AT BIRMINGHAM**

# AGING BIOLOGY UPDATE

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

## **Featured**

[The latest on extending human life](#)

[Billionaires discover mortality...and don't like it.](#)

[Resolving some controversies over naked mole-rat biology](#)

## **Contrary or Null Findings**

[Epigenetic clock unaffected by rapamycin supplementation in marmosets](#)

[No acceleration of epigenetic clocks in COVID-19 patients](#)

[Lithium affects health but not lifespan in mice](#)

[No sex differences in cognitive decline with age in outbred rats](#)

[Whole-body synthesis of NAD<sup>+</sup> is not impaired, but NAD<sup>+</sup> consumption increases and NAD<sup>+</sup> levels decrease, in aged mice](#)

[Meta-analysis: Vegetarian diet does not decrease risk of incident stroke](#)

## **Energetics/Nutrition**

[Lower fasting blood glucose is associated with decreased mortality in humans and monkey but increased mortality in mice](#)

[Early life weight gain, but not later life weight, is associated with longevity in genetically variable mice fed a high fat diet](#)

[Two years of walnut consumption leads to improved lipoprotein profiles in healthy older adults](#)

[Genetically determined visceral adipose tissue accumulation is negatively associated with longevity](#)

[Caloric restriction in aged male mice improves metabolic health with only minor negative effects on sleep](#)

[Review: Molecular mechanisms of dietary restriction promoting health and longevity](#)

[Review: Autophagy in metabolic diseases and aging](#)

[Review: Nutrition, obesity, and cellular senescence](#)

[Review: Impact of caloric restriction mimetics](#)

[Review: Intermittent fasting and cancer prevention](#)

## **Basic Biology**

[Transient reprogramming of cardiomyocytes leads to their replication and possible heart repair](#)

[Old flies living with young flies live longer](#)

[Reducing daf-2 late in life leads to extreme longevity extension in worms](#)

[Mutation in ribosomal protein improves proteostasis and extends lifespan in yeast, worms, and flies](#)

[Immune dysfunction promotes skeletal aging](#)

[Deficiency of REST transcription factor leads to cell senescence in mouse neurons](#)

[Age-related cognitive decline in rats is sex- and context-dependent](#)

[Special Issue: Cell stress in development, aging, and disease](#)

[Review: Host and microbiota metabolic signals in aging and longevity](#)

[Review: Role of sex, hormones, and oxidative stress in neurodegenerative diseases](#)

[Update on mitochondrial impact on Alzheimer's disease development and progression](#)

[Review: Is there a common signature of cellular senescence?](#)

[Review: NAD<sup>+</sup> precursors in health, disease, and aging](#)

[Review: Autophagy and the hallmarks of aging](#)

[Review: Inflammaging](#)

[Is aging too much of a good thing?](#)

## **Ecology & Evolution**

[Evolution of flower longevity in unpredictable pollination environments](#)

[Hypothesis: Similar mechanisms of aging in worms and Pacific salmon](#)

[Review: The evolution of the hallmarks of aging](#)

[Review: Link between female reproductive aging and survival](#)

[Review: Evolution, chance, and aging](#)

## **Novel Organisms/ Comparative**

[Epigenetic clock of the domestic cat](#)

[Age-related cognitive decline in the degu, a social rodent](#)

[Genome of a long-lived cave salamander](#)

## **Epidemiology/Demography**

[Life expectancy at birth declined in 25 of 27 European countries in 2020](#)

[Excess mortality nearly 50% higher in Guatemala than the official COVID-19 death count](#)

[Olympic athletes in sports with repeated shocks to the head show more neurodegenerative disease in later life](#)

[More rare variants identified in centenarians](#)

[Centenarians harbor more intestinal antibiotic resistance genes than younger people](#)

## **Clinical**

[Recovery time from the common cold as an indicator of physical resilience](#)

[Can the benefits of exercise be mimicked by electrical muscle stimulation?](#)

[Review: Bridging geriatric medicine, clinical pharmacology, and aging biology to understand later life health](#)

[Perspective: The COVID-19 pandemic reignites the need for person-centered gerontological approach](#)

[Review: Sex differences and vascular dementia](#)

## **Care-giving**

[Use of primary care liaisons can increase the use of local area resources by older adults and their caregivers](#)

[Reduced mental health in grandparents, especially grandfathers, who are primary caregivers of grandchildren](#)

## **Policy/Ethics**

[Age discrimination at work and home and how it impacts healthy aging](#)

[Older surgeons: Balancing public safety and practical necessity](#)

## **Commentary**

[Roundtable: Race in medicine: Genetic variation, social categories, and paths to health equity](#)

[Creativity to maintain health into old age](#)

## **Odd and Ends**

[Studying at a university in later life slows cognitive decline](#)

[Older adults remember more positive aspects of the COVID-19 pandemic](#)

by Jessica Hoffman, Heather Patterson, Joseph Palmer, and Steven Austad. [Subscribe to this newsletter.](#)



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