

# AGING BIOLOGY UPDATE

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

## Featured

[Obituary for Professor James W. Vaupel](#)

## Headline vs Study

Headline: [Mystery of why humans die around 80 may finally be solved](#)

Study: [Somatic mutation rates scale with lifespan across mammals](#)

Headline: [New anti-aging research enables human cells to “time jump” 30 years](#)

Study: [Multi-omic rejuvenation of human cells by maturation phase transient reprogramming](#)

## Contrary or Null Findings

[No effect of 2-3 years of omega-3 supplementation on cognitive function in older adults](#)

## Energetics/Nutrition

[Intermittent fasting drives epigenetic and transcriptomic brain changes in male mice](#)

[FGF21 needed for protein restriction to extend life and improve metabolic health in male mice](#)

[Dietary restriction decreases mitochondrial DNA damage in aged male rats](#)

[S-adenosyl-L-homocysteine supplementation as a methionine restriction mimetic in yeast and worms](#)

[Obese adults live as long as normal/overweight adults but with shorter active life expectancy](#)

[Mitochondrial function and health is preserved in muscles of octogenarian athletes compared to age-matched controls](#)

Review: [The aging athlete](#)

## Basic Biology

[Targeted clearance of p21- but not p16- positive senescent cells prevents radiation induced osteoporosis in mice of undescribed sex](#)

[Comprehensive platform that measures aging and resilience in outbred female mice](#)

[Rapamycin and caloric restriction have additive benefits on aging skeletal muscle in male mice](#)

[Novel genes and genetic risk score for Alzheimer’s and related dementias](#)

[Genetic variants and brain charts of changes in brain structure across the lifespan in humans](#)

[Exogenous KL1, a domain of the klotho protein, improves cognition in young and aged male mice](#)

[Ribosomal DNA copy number is associated with replicative lifespan in yeast](#)

[Neurons from Alzheimer’s brains have more somatic DNA alterations than age-matched controls](#)

Distinct TMEM106B aggregates found in the brains of [neurologically normal older](#)

[adults and frontotemporal lobar degeneration sufferers](#)

[Improved learning and memory in 16-month-old male TLR4 knockout mice](#)

[Low-dose melatonin supplementation improves multi-omic markers of mitochondrial health in old male mice](#)

[New method for profiling niche-independent impact of circulating factors on aging cells](#)

[Review: Mitochondrial-to-nuclear communication in aging: An epigenetic perspective](#)

[Review: Mechanisms and implications of sex differences in cardiac aging](#)

[Review: Targeting cellular senescence as a novel treatment for osteoarthritis](#)

[Review: Detecting markers of cell senescence in peripheral blood](#)

[Review: The role of nicotinamide mononucleotide \(NMN\) in aging, health, and disease](#)

### **Ecology & Evolution**

[Long-lived zoo-housed mother mangabeys produce long-lived offspring](#)

[Late-life fitness gains and reproductive death of ant queens](#)

### **Novel Organisms/Comparative**

[Naked mole-rats display epigenetic aging but queens age more slowly than workers](#)

[Maximum longevity of 23 years in Hawaiian humpnose big-eye bream fish](#)

[New study of aging in house cats](#)

[bioRxiv: Social determinants of health and disease in companion dogs](#)

[Review: Tardigrades as models of health and longevity](#)

### **Epidemiology/Demography**

[Excessive daytime napping is associated with increased risk of Alzheimer's disease](#)

[Erectile dysfunction is associated with increased mortality risk in older men](#)

[Oral health problems associate with increased disability risk](#)

[Infertility increases the risk of later life heart failure in American women](#)

[Reproduction has mortality costs in older rural Chinese women](#)

[Assessing confidence in extreme age mortality patterns](#)

[A twin study finding: Early life environment affects later life DNA methylation pattern](#)

[Accelerated epigenetic and telomeric aging in COVID-19 patients](#)

### **Clinical**

[Epilepsy diagnosed after age 65 requires fewer antiepileptic drugs and is associated with cardiovascular disease risk factors](#)

### **Caregiving**

[A virtual program to engage African American caregivers](#)

[How aging impacts the health and well-being of dogs and their caregivers](#)

### **Policy/Ethics**

[Policies and practices to address cancer's long-term adverse consequences](#)

### **Commentary**

[Exploring the health effects of ageism](#)

[Ageism before and during the COVID-19 pandemic](#)

### **Odd and Ends**

[Negotiating age and sexuality in British sitcoms](#)

[Curmudgeons never die, they just go on and on](#)

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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.](#)



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