Featured
Repeated signatures of positive selection on longevity genes across 88 rockfish species

Headline vs Study
Headline: You are what you eat: Healthy diet tops drugs when it comes to anti-aging benefits
Study: Nutritional reprogramming of mouse liver proteome is dampened by metformin, resveratrol, and rapamycin

Headline: Some people just don't age, at least not like most
Study: Greater neural differentiation in the ventral visual cortex is associated with youthful memory in superaging

Contrary or Null Findings
Short cycles of very low caloric intake does not prevent obesity in male mice on a high fat diet

Energetics/Nutrition
Caloric restriction but not a ketogenic diet can slow tumor progression in mice

Genotype and sex specific effects of dietary restriction in inbred mice: Lack of reproducibility from earlier studies

Resistance exercise improves learning and memory in aged male rats

Review: Dietary interventions I: What is the evidence for slowing aging?
Review: Dietary interventions II: Intermittent fasting in middle-age and older adults: What is the evidence?
Review: Exercise effectiveness in octogenarians

Basic Biology
Novel aging omic biomarkers discovered with Mendelian randomization of parental lifespan

Necroptosis contributes to age-related inflammation and fibrosis in livers of male mice
Citrate supplementation increases lifespan in fruit flies

The senolytic dasatinib may have antidiabetic properties

Metformin enhances health and lengthens life in some worms but not others

Growth hormone disruption in adult mice leads to improved male health and increased female longevity

Klotho overexpression preserves kidney function in mice of unreported sex

New tool for the study of neurodegenerative diseases

Review: Small procedural differences account for substantial differences in worm lifespan across laboratories

Review: Role of environmentally produced extracellular vesicles on aging and age-related disease

Review: New directions in aging research

Review: Cytoplasmic DNA, aging, and disease

Review: Macroautophagy and aging of the nervous system

Review: Blood-based biomarkers of Alzheimer’s disease

Ecology & Evolution

Evolution of natural lifespan variation in yeast

Mitonuclear interactions alter sex-specific longevity in a copepod

Human females produce stronger self-protective reactions than males

Wild salamanders may live twice as long as previous estimates from size alone

Review: Lifespan extension in long-lived vertebrates rooted in ecological adaptation

Novel Organisms/ Comparative

Female marmosets show age-related cognitive decline earlier than males

Longevity is associated with brain size in zoo parrots

Genome sequence integrity better preserved in fibroblasts from long-lived versus short-lived rodent species

Wild Montevideo tree frog males live at least 5 years, reach maturity in 2 years

Review: Dog models of aging

Review: Cardiac aging in nonhuman primates

COVID-19 and Aging

Age-specific impact of COVID-19
Aged mice and humans have elevated ACE2 levels: insights into severe COVID-19

Review: COVID-19 and the aging immune system

**Epidemiology/Demography**

*Can people born in the 21st century really expect to live 100 years?*

*Women who breastfeed exhibit cognitive benefits after age 50*

*Aspirin use is associated with increased risk of heart failure in at risk patients*

*Premature cognitive aging in young veterans who suffered mild traumatic brain injury*

*Women with a history of irregular menstrual cycles show increased risk of heart disease and diabetes in later age*

**Clinical**

*Short exposure to red light improves color contrast eye sight in middle and older age adults*

*A trial to determine if senolytics are effective for COVID-19 in skilled nursing facilities*

**Care-giving**

*Informal indigenous caregivers of dementia patients may provide new models of caregiving*

**Policy/Ethics**

*Ethical consideration of allowing patients with dementia to be included in research studies*

*Review: Transport and mobility needs for an aging society from a policy perspective*

**Perspective: How urban nature can enhance health**

**Commentary**

*The active grandparent hypothesis: Physical activity and the evolution of extended human healthspans and lifespans*

*As we live longer, how should life change?*

*We need to better prepare for an aging America*

**Odd and Ends**

*Forever young: CBS “Sunday Morning” Special*

*Royal Society presidents live longer than other high-ranking members of British society*

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Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Jessica Hoffman, Heather Patterson, and Steven Austad. [Subscribe to this newsletter.](#)