

UAB THE UNIVERSITY OF ALABAMA AT BIRMINGHAM

AGING BIOLOGY UPDATE

BROUGHT TO YOU BY THE
UAB NATHAN SHOCK CENTER OF EXCELLENCE
IN THE BASIC BIOLOGY OF AGING

Coming in August, ABU will have 2 issues each month.

Featured

[Taurine's role in aging biology called into question](#)

[Rejuvenation of senescent human cells and lengthening of mouse life by low-frequency ultrasound](#)

Basic Biology

[Better together-trametinib and rapamycin extend mouse health- and lifespan](#)

[Functional characterization of rare variants in MAPK/ERK signaling genes from long-lived families](#)

[Honey, I shrunk the rat: GHRH-KO rats offer new insights into GH signaling and aging](#)

[Preoperative rapamycin supplementation protected against surgery-induced frailty and postoperative cognitive dysfunction in male mice](#)

[Overexpression of calcium/calmodulin-dependent protein kinase IV enhances sleep in aged male mice but not young males nor females of either age](#)

[Autophagy changes with age and high fat diet less pronounced in female relative to male mice](#)

[Senescence of cultured human fibroblasts driven by ligand-specific regulation of enhancer elements](#)

[Insights into the early-onset decline of neuronal stem cell activity and hippocampal neurogenesis in mice](#)

Methodology: [A standardized protocol for mouse longevity studies in preclinical drug development](#)

Methodology: [Harnessing the potential of microfluidics to study aging on a chip](#)

Review: [Germ cells and the aging niche](#)

Review: [Necrosis as a fundamental driver of loss of resilience and biological decline](#)

Review: [The exposome and skin aging](#)

Review: [Healthspan—I know it when I see it!](#)

Preprint: [Longevity effects of IGF-1 signaling suppression lost in mitochondrial mutator mice](#)

Clinical

[Tumor mutational burden predicts remission following immunotherapy](#)

[Lower income, Medicaid coverage, cognitive impairment, and multiple chronic conditions impact trajectories of decline in gait speed and grip strength](#)

[MyMenoplan.org website shown by RCT to help women learn and make decisions about the menopause transition](#)

[Categorizing digital health indicators for use in community-dwelling adults](#)

[Apathy is more common than depression or fatigue in dementia-free older \(70-90\) adults](#)

RCT: [Electronic decision support for deprescribing in older adults living in long-term care](#)

[Can herpes zoster vaccination prevent or delay dementia?](#)

Review: [Nucleic acid vaccines: targeting impaired vaccine-induced responses due to aging](#)

Review: [Aging microvasculature](#)

Review: [Effectiveness and safety of chronic diuretic use in older adults](#)

Epidemiology/Demography

[Pace of Aging analysis of healthspan and lifespan in older adults in the US and UK](#)

[More recent birth cohorts have lower age-specific rates of dementia than older cohorts](#)

[A simple polygenic risk score captures risk for Alzheimer's disease across diverse populations](#)

[A proteomic signature of healthspan?](#)

[Living with dogs and cats is associated with slower cognitive decline in older adults](#)

[Lost in translation. Life expectancy gap between American Indian/Alaska Natives and other US residents is underestimated](#)

[Internal migrants have a longevity advantage over persistent residents](#)

[Cogito ergo senilis? Predictors of mortality in a longitudinal epidemiological sample](#)

[Accelerated epigenetic aging associated with US veterans' morbidity and mortality](#)

[22 to 44 percent of dementia risk by age 80 years attributable to vascular factors](#)

[Too soon and too much: premature and cumulative lifetime loss and later mortality risk](#)

Preprint: [Centenarians show modest protection against Alzheimer's disease](#)

Energetics/Nutrition

[Mitochondrial haplotype and sex modulate responses to endurance exercise in a genetically diverse rat model](#)

[Fat-specific FGF21 overexpression increases longevity of male mice fed a high fat diet](#)

[Bad to the bone: short-term high-fat diet has sex-specific deleterious impacts on aged mice](#)

[Go fast to slow aging? Severe short-term energy reduction associated with reduced inflammation and senescence markers in pre-diabetic adults](#)

[Aging and dietary restriction alter protein ubiquitylation in the male mouse brain](#)

[Sustained midlife weight loss linked with decreased risk of chronic disease and all-cause mortality](#)

[Physical activity may mitigate sleep-related cognitive deficits in older adults](#)

[Take it to the limit? Energetics, effective age and the life limit of cells](#)

[Higher food biodiversity associated with lower mortality in Spanish older adults](#)

Review: [Sex differences in temperature regulation during heat stress over the life course](#)

Review: [Long-term \(>48 hrs.\) fasting elicits a pro-inflammatory response](#)

Review: [Energy restriction and exercise for healthspan extension](#)

Evolution/Comparative

[Unexpectedly limited cellular anticancer mechanisms in long-lived bats](#)

[An avian epigenetic clock for aging and development based on the Great Tit](#)

Review: [Is osteoarthritis antagonistically pleiotropic?](#)

Novel Organisms

[Father-daughter dance: early life paternal bonds extend lifespan of female Amboseli baboons](#)

[Jiminy Cricket! The house cricket: a new model for aging studies](#)

[Age-related changes in the proteome and mitochondrial metabolism of female rabbit adipose-derived stromal/stem cells](#)

[Male advantage and large environmental effects on survival in wild hazel dormice](#)

[No reproductives from old Kings? Transgenerational epigenetic effects affect caste ratios as termite kings age](#)

[Mate switching and offspring lifespan unassociated in a socially monogamous bird](#)

[Environment, not age, influences the gut microbiota of giant, long-lived tortoises](#)

Preprint: [Using the body electric: electric stimulation rejuvenates tunicates](#)

Resources

[Updates version of DrugAge yields insights into sex-specificity of life extension in mice](#)

Meeting Report

[Biomarkers of Aging–NIA Joint Symposium 2024: New insights into aging biomarkers](#)

Contrary or Null Findings

[Insight from a comparative analysis: telomere length is not associated with body mass, lifespan, or baseline metabolism](#)

[Timing isn't everything, at least not for hypertension medications](#)

[Attitudes toward aging similar in dementia caregivers and non-caregivers](#)

RCT: [Can't win for losing: bone loss accompanies weight loss despite weight vest use and resistance exercise](#)

[Protein supplementation after exercise or before sleep fails to improve resistance training response in older men](#)

[Comorbidity indices largely uncorrelated with gait speed and high-sensitivity C-reactive protein in community dwelling octogenarians](#)

Caregiving

[MIA: Long-term care and health policy in the United States](#)

[Risky business: spousal caregiving increases frailty risk, particularly among women](#)

[Caring for the caregivers—the future of caregiving?](#)

[Despite political differences, Americans support policies to enhance the adult care economy](#)

Policy/Ethics

[No place like home: challenges of older adults experiencing homelessness](#)

[Challenges in implementing international reference pricing for prescription drugs](#)

Commentary

[Give Alzheimer's disease priority over longevity research](#)

[Five principles for advancing gerontology](#)

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[Prolonging "youth" or prolonging perimenopause?](#)

[Ovarian aging: a missing diagnosis in reproductive medicine?](#)

[Building a foundation for a science of health](#)

Review: [Menopause: natural process or medical condition?](#)

Odd and Ends

[Insights on designing more age friendly cities in light of the \(mis\)alignment of historic urban infrastructure and the changing landscape of older adults aging at home](#)

[Attenborough at 99](#)

[Ancient trees, sacred ground](#)

[The shame game: The Medical Evidence Project](#)

[Pumping iron. Maternal iron deficiency causes male-to-female sex reversal in mouse embryos](#)

[Risky behavior: regenerated octopus arm behaves differently over time](#)

[Tipping point analysis to assess the impact of missing data](#)

[Vaccines aren't kids' stuff anymore](#)

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



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