

AGING BIOLOGY UPDATE

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

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Featured

[Exceptional longevity of mammalian ovarian and oocyte macromolecules](#)

[Dietary restriction in genetically diverse female mice has complex effects on lifespan and healthspan](#)

Basic Biology

[A hematology-based clock derived from the Study of Longitudinal Aging in Mice to estimate biological age](#)

[Microplastic exposure linked to accelerated aging and impaired adipogenesis in fat cells](#)

[Naked mole-rats appear to silence the “retrobiome”](#)

[Mitochondrial fatty acid oxidation drives senescence in human cells and mouse liver](#)

[Uncoupling of mTORC1 from E2F activity maintains DNA damage and senescence in a human cell line](#)

[Mifepristone and rapamycin have non-additive benefits for life span in mated female flies](#)

[Disruption of tRNA biogenesis enhances proteostasis, worm and fly lifespan and healthspan](#)

[Probabilistic inference of epigenetic age acceleration from cellular dynamics](#)

[Synthesis of glutathione determines age-related dopamine neuron loss in natural populations of flies](#)

[Sex differences in growth hormone-dependent JAK-STAT5 and Lyn kinase signaling on mouse longevity](#)

Review: [Mitochondria-derived vesicles in aging and associated conditions](#)

Review: [Developmental gerontology, epigenetic clocks, and programmatic aging](#)

Review: [Transgenic and knockout mouse models used to study aging and age-related diseases](#)

Preprint: [Changes in lipid-mito interactions and droplet morphology in aging mouse brown fat](#)

Clinical

[Balance on one foot may be a reliable measure of human neuromuscular aging](#)

[Older men, but not women, suffer long-term negative health effects from lower respiratory tract infections](#)

[Some antidiabetic drugs show significant associations with sarcopenia](#)

Review: [Prevalence of alcohol use among U.S. older adults with pain](#)

Review: [Effectiveness of integrated care for older people](#)

Review: [The role of dysregulated nutrient sensing in anorexia of aging](#)

Review: [Generating and translating evidence for safe and effective medication management in nursing homes](#)

Epidemiology/Demography

[Burden of disease attributable to high body mass index](#)

[Correlation between retrotransposon expression and biological aging in human blood](#)

[Sex differences in the association between serum Klotho and metabolic components](#)

[Gene co-expression networks reveal sex-differences in human musculoskeletal aging](#)

[Girls born at least 4 weeks pre-term or weighing less than six pounds have earlier menopause in adulthood](#)

[High-income English-speaking countries experienced a mortality disadvantage for cohorts born since the early 1970s relative to other high-income countries](#)

[Insights into resilience from the genetics of >90+ year-old COVID-19 survivors](#)

[Racial and ethnic disparities in age-specific all-cause mortality during the COVID-19 pandemic](#)

[Are diseases accelerated aging of organismal systems? A plasma protein-based approach using the UK Biobank](#)

[Comorbidities and aging in people living with HIV](#)

[Unrecognized cognitive impairment is ubiquitous among older adults in federally qualified health centers](#)

[Survival and longevity among male Australian elite athletes 1921 to 2023](#)

[Depleted loss-of-function germline mutations in Ashkenazi centenarians](#)

[Inbreeding, maternal mortality, and fertility in the Habsburg Dynasty 1450-1800](#)

[Multiple pathways to long life in Finnish adults](#)

Preprint: [Functional rare coding variants of IGF-1 gene found in humans with exceptional longevity](#)

Preprint: [Insights on DNAm aging biomarkers from 51 human longevity intervention studies](#)

Energetics/Nutrition

[Proteomic signatures of healthy dietary patterns are associated with lower risks of major chronic diseases and mortality](#)

[Reproduction has immediate effects on female mortality but no discernible lasting physiological impacts in inbred mice](#)

[Socially deprived Spanish men, but not women, eat worse diets](#)

[Metabolic signatures of lifespan and healthspan under dietary restriction in flies and humans](#)

[Doubly labeled water estimates of total energy expenditure affected by age](#)

[Grip strength is inversely correlated with all-cause mortality in the oldest old](#)

[Calorie restriction promotes beta cell homeostasis and longevity in male, *but not female*, mice](#)

Preprint: [Growth Hormone directly increases lifespan and alters metabolic fuel use in mouse metabolism](#)

Contrary or Null Findings

[Dietary inflammatory index is not associated with bone mineral density in functionally able community-dwelling older adults](#)

[Hearing aid use not associated with slower cognitive decline in subjects with severe hearing loss](#)

RCT: [Program to improve older adults post-discharge care did not significantly improve caregivers' health-related quality of life](#)

[Associations between fruit and vegetable intake and successful aging are inconsistent](#)

[Aging is not associated with domain-specific or domain-general decline in focused attention](#)

Evolution/Comparative

[Does sociality shape reproductive or actuarial senescence rates? Data from wild animals](#)

[Do pathogens influence evolutionary dynamics of social aging in natural populations? Data from Cayo Santiago macaques](#)

[Age structure and social behavior in wild animal societies](#)

Review: [Life history in *C. elegans* molecular genetics to evolutionary ecology](#)

Review: [Impact of social environment on aging in “non-social” insects](#)

Preprint: [Longevity and DNA virus-driven adaptation in Nearctic *Myotis* bats](#)

Novel Organisms

[Maximum size, growth rate, and lifespan of forest trees are related, but it's complicated](#)

[Sex differences in metabolic response to acute calorie restriction in gray mouse lemurs](#)

[Does demography drive decreasing sociality in old house sparrows?](#)

[Population age structure shapes selection on social behavior in a long-lived bark beetle](#)

[Quantitative genetics of aging and social environments in common terns](#)

[Early life adversity has sex-dependent effects on survival in free-ranging rhesus macaques](#)

[Telomere- and oxidative stress dynamics in parrot species with different lifespans](#)

Review: [Bats as models for longevity and aging studies](#)

Review: [Wild capuchin monkeys as models for social and ecological determinants of aging](#)

Preprint: [Differences in DNA methylation of transposons in a diverse cohort of aging dogs](#)

Preprint: [Mosaic somatic mutations and genetic integrity in the oldest \(>10,000 years\) clonal aspen](#)

Caregiving

[Caregivers roles, burdens, and participation in decisions of older adults with cancer](#)

[An app to support reminiscence therapy interventions for people with dementia](#)

[Care needs in later life are complex and change over time, assessing care networks may forestall unmet needs](#)

Policy/Ethics

Protocol: [No one left to cope alone: a post diagnostic intervention to support people newly diagnosed with dementia](#)

RCT: [Internet-based supportive interventions for family caregivers of people with dementia](#)

Theory

[Aging: biological constraint, evolutionary spandrels, and antagonistic pleiotropy](#)

[Agelessness is possible under the disposable soma theory, but complexity makes it](#)

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[Is aging due to autodigestion?](#)

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Commentary

[What is the cost of avoidable mortality?](#)

[Why do obesity drugs seem to treat so many other ailments?](#)

[Time for more emphasis on the social and environmental history component of medical history taking](#)

[Potential clinical ageism in polypharmacy and therapeutic inertia in patients of extreme longevity](#)

[50 Years of innovation in geroscience and gerotherapeutics at the National Institute on Aging](#)

[Protecting the healthcare system by protecting the caregivers](#)

[Transforming advanced care planning into a more effective, patient-centered tool](#)

[How to recruit the oldest old in research](#)

[How to facilitate equitable research access for people living in care homes](#)

Odd and Ends

[May the most accurate estimate of jellybeans in the jar win](#)

Review: [The role and reach of a geriatrician](#)

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



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