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Aging Biology Update

Brought to you by the **UAB NATHAN SHOCK CENTER OF EXCELLENCE IN THE BASIC BIOLOGY OF AGING**

Featured

[An aged rodent tissue bank fills unmet needs for biomedical research on aging](#)

Basic Biology

[Survivorship bias prioritizing cellular persistence over functionality drives mouse muscle stem cell aging](#)

[Individual nerve types differ in their transcriptional age and rate of deterioration in worms](#)

[Reduced insulin signaling can have either beneficial or detrimental effects on fly lifespan, depending on the specific combination of mitochondrial and nuclear DNA](#)

[Alternative splicing patterns common in the ovaries of reproductively aged mice](#)

[An atlas of mouse metabolism for both sexes at five ages](#)

Resource: [A comprehensive database of published aging clocks](#)

Review: [Summarizing the state of evidence on NAD+ supplementation for improving and extending health](#)

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Review: [The role of dynamin-related protein 1 in reproductive aging](#)

Review: [Molecular mechanisms of epigenetic alterations and transposon-mediated genomic instability in aging](#)

Review: [Iron dysregulation, ferroptosis, muscle wasting and functional decline in aging](#)

Clinical

RCT: [EHR notifications that incorporated behavioral strategies improved deprescribing of potentially inappropriate medications in older adults](#)

RCT: [No association between aspirin exposure and overall cancer incidence after almost 9 years of follow-up](#)

[Vaccinations among older adults declined in the US in 2024](#)

[Lyme disease symptoms and progression are sex- and menopause-status specific](#)

[A prescription for optimizing longevity medicine](#)

Review: [The liver in age-related immune dysfunction](#)

Epidemiology/Demography

[Two or more cups of caffeinated coffee per day is associated with lower dementia risk and slower cognitive decline](#)

[The heritability of “intrinsic” human longevity is about 50%](#)

[Plasma proteome profiling of centenarians identifies novel proteins and pathways associated with longevity](#)

[Women appear to have greater AD pathology yet demonstrate better preserved structural brain integrity compared with men aged in their 60's](#)

[Geography and demography of decelerating gains in life expectancy in Western Europe](#)

[What doesn't kill you makes you sick longer: women's greater number of years spent in poor health driven by longer lifespan](#)

[PhenoAge acceleration is associated with the risk of mortality among cancer survivors](#)

[High-deductible US health plans associated with worse overall and cancer-specific survival](#)

Review: Sex differences in hormonal and chromosomal determinants of autoimmunity and cancer immunity across the lifespan

Women's Health and Aging

Early menarche, later menopause, and longer reproductive span were associated with higher ovarian cancer risk in women over 40

More objectively-measured moderate-to-vigorous physical activity and less total sitting time were associated with lower osteoporotic fracture risk

Genetic epistasis in FSH action influences female reproductive lifespan

Higher serum calcium and follicle stimulating hormone levels are associated with decreased bone mineral density in women during menopause

Triglyceride-glucose index associated with cardiovascular disease risk in postmenopausal women

Cardiovascular outcomes associated with hormone replacement therapy in women vary by race and health status

Timing and type of menopause are not associated with onset of diabetes

Review: How reproductive aging and major reproductive dysfunctions influence long-term health trajectories

Energetics/Nutrition

Aging alters energy expenditure and body composition similarly in women and men

Framework for clinical nutrition research on malnutrition in older adults

Review: Fasting to restore mitochondrial and endothelial function in vascular aging?

Review: Nutrition, diet and longevity in centenarians

Evolution/Comparative

Heterogeneity in aging: models and opportunities for evolutionary and biomedical research

Chimpanzees in more naturalistic settings show reduced inflammatory markers compared to laboratory chimps

Review: [DNA mutation rates in evolution, longevity, and disease: An evolutionary and biological trade-off](#)

Novel Organisms

[DNA methylation decay is associated with aging in the short-lived model plant, *Arabidopsis thaliana*](#)

[Longevity of sons, but not daughters, increases with increasing maternal age in an island population of a short-lived lizard](#)

[Parents' telomere length increased during incubation in a long-lived seabird](#)

[Selection for increased fecundity did not decrease longevity in females of a predatory bug \(*Orius albidipennis*\)](#)

Caregiving

[One year of telephone-delivered interventions reduce loneliness in older adults](#)

Review: [Policies for supporting caregivers of older adults in EU countries](#)

Policy/Ethics

[Menopausal hormone labels should rely on evidence, not opinion](#)

Review: [The ethical case for longevity science](#)

Commentary

[When nutrition science is ignored: potential public health cost of the 2025 Dietary Guidelines](#)

[Long-term care is underfunded and underdeveloped in most countries despite expanding needs](#)

[Insights from Brazilian supercentenarians](#)

[Epigenetic clocks are not clinically useful as personal biomarkers](#)

Odds and Ends

[Ghrelin has been lost in snakes and two other reptile lineages, altering fasting metabolism](#)

[Why it is unethical *not* to conduct RCTs in pregnancy](#)

Review: [The molecular basis of seed longevity](#)

Aging Biology Update is brought to you by the UAB Nathan Shock Center and compiled by Kathleen Fischer and Steven Austad.

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