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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

[A histone code functionally linked to replicative senescence](#)

## Basic Biology

[Uncoupling insulin sensitivity from longevity in mice](#)

[The role of methylation variability in multi-organ systems aging](#)

[Mutant insulin/IGF receptor lengthens life without apparent side effects in flies, shows promise in early studies with mice](#)

[New insights into the aging of human hematopoietic stem cells from human-mouse xenotransplantation experiments](#)

[Reduced firing of cerebellar Purkinje cells contributes to aging-related motor coordination dysfunction in mice](#)

[The functional impact of senolytic-resistant cells and how to deal with them](#)

[Patterns of protein turnover in long-lived heart and skeletal muscle cells of male mice](#)

[Modeling the heterogeneity of organ-specific aging in humans identifies distinct aging trajectories](#)

**Review:** [State of current knowledge about exosomes' impact on aging](#)

**Review:** [Genomics and the heterogeneity of organ and body aging](#)

**Review:** [The gut and circulating virome: emerging players in aging and longevity](#)

**Review:** [Neurodevelopmental origins of neurodegeneration: a lifespan perspective on brain vulnerability](#)

## Clinical

**RCT:** [Oral sodium hyaluronate reverses signs of skin aging](#)

[Blood test reveals new estimates of Alzheimer's prevalence in the community](#)

**RCT:** [In people with knee osteoarthritis, 12 weeks of online Tai Chi intervention reduced walking pain more than educational material alone](#)

[Frailty is associated with a lower baseline cognitive status but not cognitive decline in people with Alzheimer's disease](#)

**RCT:** [Lay health worker-led symptom intervention improves cancer care for older adults](#)

[Trazodone offers a safer alternative for management of delirium in older, hospitalized adults](#)

[Adult vaccinations associated with reduced risk of dementia](#)

**Review:** [Unexplained anemia of aging](#)

## Epidemiology/Demography

[Life expectancy in high income countries continues to increase but its rate has slowed recently: the US notably lags other countries in proportion of life spent in good health](#)

[Sex- and age-specific cerebrovascular aging in older adults](#)

[IGFBP2 and GDF-15 appear to be sex-specific biomarkers for intrinsic capacity decline](#)

[Accelerated brain aging in adult survivors of childhood cancer](#)

[Lifespan variation as a proxy for cross-country comparisons of inequalities in mortality/life-expectancy](#)

[Addressing potentially modifiable risk factors could substantially reduce dementia cases](#)

[Socioeconomic deprivation shapes disease and treatment trajectories early on in older adults](#)

[RSV infection is risk factor for cardiovascular events among older adults](#)

## Women's Health and Aging

[Independent association of APOE \$\epsilon\$ 4 status and systemic inflammation with steeper cognitive decline among participants in the Women's Health Initiative](#)

[Nearly all established risk factors for breast cancer are only associated with hormone-sensitive cancers](#)

**Review:** [Follicular fluid provides a valuable, minimally invasive source for assessing the oocyte environment and understanding ovarian aging](#)

**Review:** [Influencing ovarian aging in reproductive medicine: promise, evidence, and unresolved questions](#)

## Energetics/Nutrition

[Graded calorie restriction causes graded slowing of epigenetic aging in mice](#)

[Human calorie restriction modifies small RNA profiles](#)

[Caloric restriction, not aging, influences protein oxidation in rat heart and brain mitochondria](#)

**Special edition:** [Crosstalk between metabolism and inflammation in aging and longevity](#)

**Review:** [Appetite decline as a target for nutrition management in older adults](#)

## Evolution/Comparative

Reproductive history affects both epigenetic and demographic aging in Finnish twins

An atavistic theory of aging

**Review:** Aging: a play in two acts

**Review:** Are non-communicable diseases “the predictable outcomes of evolutionary trade-offs, constraints, and mismatches”?

**Preprint:** Parallel selection for longevity in mammals and birds?

## Novel Organisms

N6-Methyladenine epigenetic clocks predict chronological age and reflect pharmacological interventions to extend lifespan in buff-tailed bumblebees

Progeroid-like syndrome in naked mole rats (*Heterocephalus glaber*) associated with autophagy dysfunction

Leukocyte telomere length shortens during lactation and is associated with reduced probability of survival among female greater horseshoe bats

Ewe age effects on embryo viability and morphokinetics

## Contrary or Null Findings

**Review:** Menopausal hormone therapy shows no association with risk of dementia or mild cognitive impairment in post-menopausal women

## Caregiving

Unpaid caregiving episodes: when, how many, how close together and how long affect long-term health of caregivers, especially women

Lost and found: A crowdsourcing internet of things system can reduce anxiety for caregivers of people with dementia

## Policy/Ethics

[Taking a long view of the healthcare affordability crisis](#)

[Insurance premiums increased at three times the rate of workers' earnings between 1999 and 2024](#)

## Commentary

[Does perimenopausal hormone replacement therapy have a role as anti-aging therapy?](#)

[Rural California's high rates of gun suicide among older adults is a mirror for rural America](#)

## Odds and Ends

[Age- and sex-specific variation in the venom of a South American pit viper \*Bothrops mattogrossensis\*](#)

[Human ovarian reserve: what do we know and how reliable are the data?](#)

**Review:** [How rehabilitation revitalizes aging\\_pets](#)

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*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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