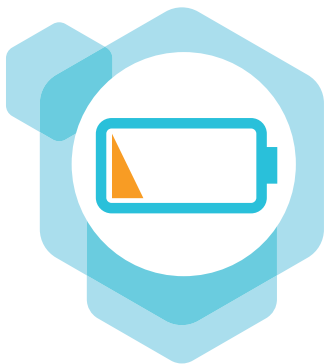




Age-Associated Cellular Decline

Understanding Mitochondrial Dysfunction

With aging, declines in energy, strength & stamina, and resilience are often reported.



Fatigue is reported in > 30% of US adults over the age of 51 years¹



Muscle strength has been reported to decline by 3% per year in older adults²

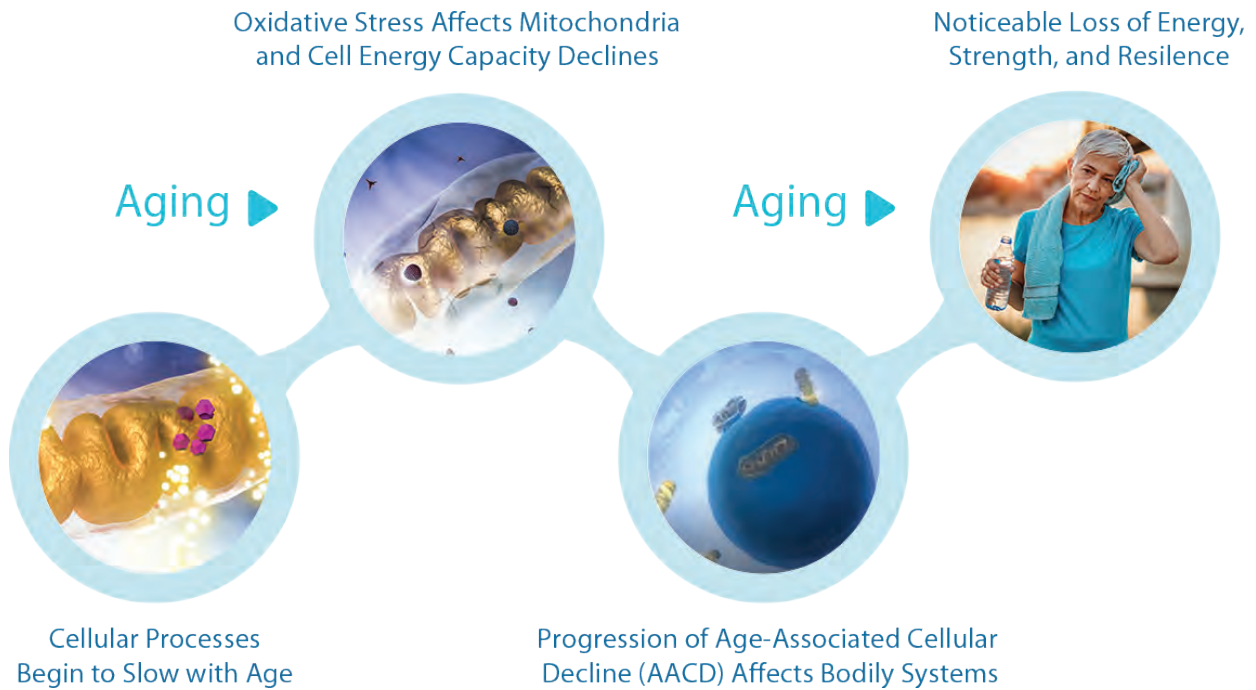


Aging is associated with **increased oxidative stress** and **reduced immune response**³

Why Age-Associated Cellular Decline (AACD) Matters

Aging research has evolved significantly in recent years. Researchers now know there is a time-dependent deterioration in the way our cells function with age that starts in our 40s and accelerates in our 60s. This process can be defined as Age-Associated Cellular Decline (AACD). One of the key drivers behind the changes described by AACD is mitochondrial dysfunction.⁴

Age-related declines often originate in the mitochondria



Decline in mitochondrial health has been associated with three physiological changes:

- Decline in daily energy levels** - Mitochondria are key organelles in our cells regulating energy production and cellular metabolism. Impaired mitochondrial function reduces efficiency of ATP generation and has been observed in individuals with frailty.⁵⁻⁷
- Decline in muscle function** - Mitochondrial dysfunction is associated with the onset of decline in muscle function in older people and represents a key factor in the development of frailty and sarcopenia.^{7,8}
- Decline in cellular protection** - Mitochondrial dysfunction can occur from and contribute to increased oxidative stress. An imbalance of oxidative stress and intracellular antioxidants can lead to free radical damage within cells.⁸



Learn more about Age-Associated Cellular Decline (AACD)
MyAACD.org



What Role is Age-Associated Cellular Decline (AACD) Playing As You Age?

Explore **MyAACD.org** to learn about the latest research on aging, and how natural processes often change within cells.


This new educational website consolidates important advances in science showing that cellular health plays a key role in why and how we age.

MyAACD.org website is designed for healthcare professionals to access:

- expert interviews & recorded lectures
- practical videos on the mechanisms of cellular aging
- original articles
- easy-to-digest summaries of key publications by experts in aging

MyAACD.org also provides an easy reference for patients to understand the evolving science behind AACD.

Subscribe today to stay up to date on new developments

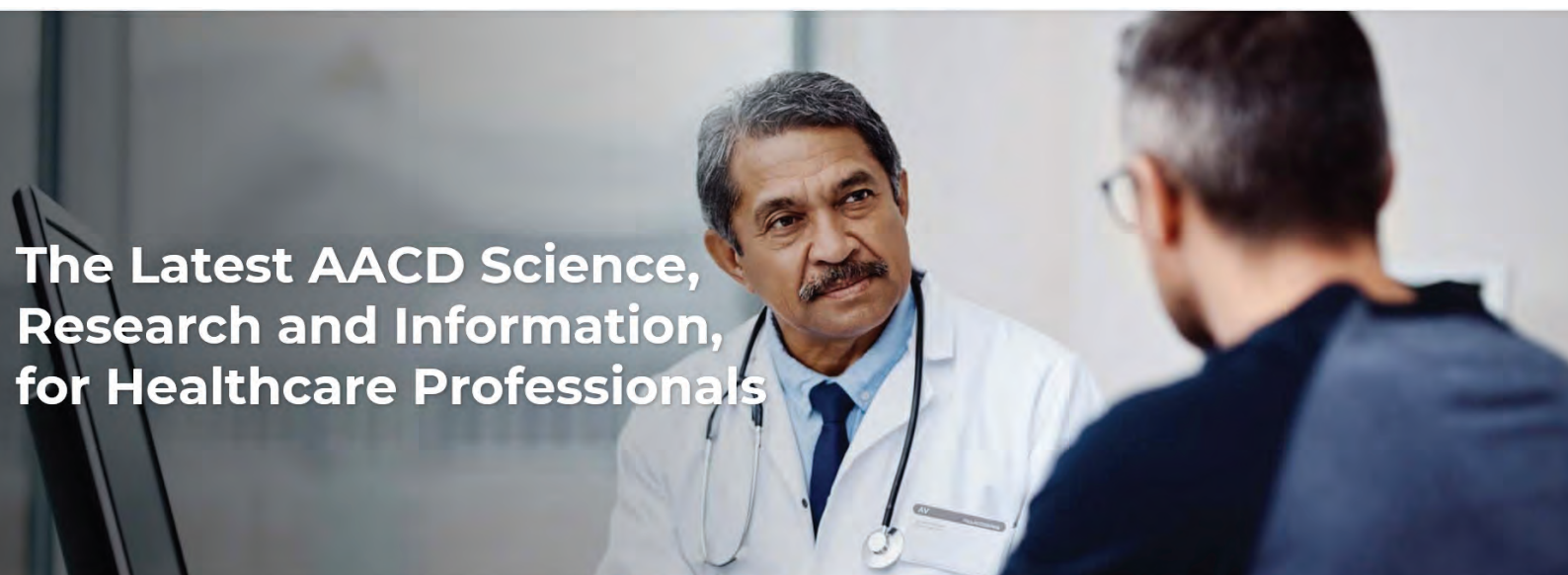


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