

Muscle: The Organ that Powers Vitality

In this series, discover how skeletal muscle, the body's largest organ, impacts health and longevity. From regulating hormones and blood sugar to boosting brain health, muscles are far more than just a source of strength.

By [Sheramy Tsai](#) (Epoch Health / The Epoch Times) July 24, 2024 Updated: July 24, 2024

Part 2

Muscle: The Anti-Aging Secret Few Discuss

Muscle may be the hidden key to a longer, healthier, and more fulfilling life.

From a young age, we are encouraged to save for retirement, investing in our financial future to ensure a comfortable and fulfilling later life. What if we could also invest in our future health with the same diligence? Enter skeletal muscle, the often-overlooked organ of longevity.

Dr. Gabrielle Lyon, a board-certified family physician and leading voice in muscle-centric medicine, calls skeletal muscle the true organ of longevity. Mounting scientific evidence supports her claim. A 2014 study published in the American Journal of Medicine found that older adults with more muscle mass were less likely to die prematurely, independent of fat mass and other risk factors.

Muscle mass surpasses body mass index as a predictor of lifespan and plays a pivotal role in maintaining overall health and independence as we age, according to a 2014 study in The American Journal of Medicine. “It is increasingly being recognized that total body mass is an inadequate marker of prognosis in older adults,” it concluded.

Dr. Lyon wrote in her book “Forever Strong”: “The higher your healthy muscle mass, the greater your protection against all-cause mortality and morbidity.”

What Is Sarcopenia?

Sarcopenia, the progressive loss of skeletal muscle mass and strength, begins as early as age 30 and becomes more pronounced with age. Symptoms include reduced muscle strength, difficulty with physical tasks, and decreased muscle

size. [According to](#) the Alliance for Aging Research, it affects about 10 percent of adults over 60 and nearly half of those over 80.

“We lose between 5 and 15 percent of muscle mass each decade,” Dr. Sandeep Palakodeti, chief medical officer of Rebel Health Alliance, said in an interview with The Epoch Times.

Sarcopenia translates from Greek as “poverty of flesh,” and its consequences extend beyond muscle loss. [A 2012 study](#) in *Frontiers in Physiology* indicates that the decline in muscle strength occurs two to five times faster than muscle mass loss, leading to greater physical impairment.

Age-related hormonal changes, inactivity, poor nutrition, and chronic diseases such as metabolic disorders and cardiovascular disease can contribute to sarcopenia.

Sarcopenia imposes a significant economic burden on the U.S. health care system, with the total estimated cost of hospitalizations reaching \$40.4 billion, according to [a 2019 study](#) published in the *Journal of Frailty and Aging*. The research revealed that people over 40 with sarcopenia were almost twice as likely to be hospitalized as those without the condition.

The Hidden Cost of Muscle Loss

Sarcopenia has profound implications for overall health and longevity, leading to increased risks of falls, frailty, hospitalization, and even death. The reduction in muscle strength compromises balance and mobility, making falls more likely and recovery more difficult.

[A 2019 study](#) in the *Journals of Gerontology Series A: Biological Sciences and Medical Sciences* found that people with low muscle strength are 50 percent more likely to die earlier than their stronger peers, even after adjusting for factors such as age, sex, and existing health conditions.

“Maintaining muscle strength throughout life—and especially in later life—is extremely important for longevity and aging independently,” lead researcher and epidemiologist Kate Duchowny said in a statement.

The study authors suggest that muscle weakness contributes to higher mortality and disability rates because of its association with insulin resistance, diabetes, and metabolic syndrome. Additionally, weak individuals struggle with basic self-

care and are more likely to experience disability, creating a negative feedback loop of reduced physical activity and worsening health, they explain.

Low muscle mass significantly increases vulnerability to prolonged bed rest from illness or injury, leading to faster muscle degradation and slower recovery. This condition can initiate a vicious cycle of atrophy, in which decreased muscle strength leads to reduced physical activity, further exacerbating muscle loss.

Andy Galpin, professor of kinesiology at California State University–Fullerton, highlighted this issue on [a podcast](#): “Atrophy is a loss of muscle, but now because we’re weaker, we want to do less things, which makes it worse and worse, and we just spiral down. So not ever getting into that cycle is critically important.”

Moreover, [a 2018 review](#) published in the Annals of Medicine underscores the clinical significance of low muscle mass across various health care settings. The review notes that low muscle mass is linked to “higher surgical and post-operative complications, longer length of hospital stay, lower physical function, and poorer quality of life.”

Muscle: Boosting Survival in Cancer Patients

Muscle loss in cancer patients often results from cachexia, a severe wasting syndrome associated with the disease itself, or from the side effects of chemotherapy. [According to the National Cancer Institute](#), cachexia occurs in up to 80 percent of people with advanced cancer, and it’s thought to directly cause up to 30 percent of cancer deaths.

Cachexia leads to the progressive loss of fat, skeletal muscle mass, and strength, severely affecting the patient’s quality of life and ability to tolerate treatments. Chemotherapy can exacerbate this condition by inducing fatigue and further muscle degradation, creating a cycle of decreased physical activity and worsening muscle atrophy.

Maintaining muscle mass can significantly improve outcomes for cancer patients. [A 2021 review](#) published in the International Journal of Behavioral Nutrition and Physical Activity found that muscle-strengthening activities are linked to better survival rates.

Specifically, those who engaged in muscle-strengthening exercises at least twice a week had a 19 percent lower risk of dying from cancer than those who did less

or none. Additionally, the study noted a 26 percent lower incidence of kidney cancer among individuals who engaged in higher levels of these activities.

Muscles Improve Health Span

Muscles regulate hormones, reduce inflammation, and manage blood sugar levels, as the previous article in this series explained. Exercise-induced muscle contractions also promote autophagy, the body's way of clearing out damaged cells, which helps slow aging. [A 2011 study](#) published in *Autophagy* confirms that autophagy is vital for maintaining muscle health and function.

As we age, however, the focus shifts from merely extending life to enhancing the quality of those years. Dr. Palakodeti emphasizes the crucial distinction between lifespan and health span, the latter being the period of life spent in good health, free from chronic diseases and disabilities. Prioritizing muscle health can significantly affect our health span, allowing us to enjoy a higher quality of life as we age.

“When I’m 80 years old, I want to live an independent life. I want to get out of a chair without help. I want to have hobbies I can do on my own. Maintaining muscle strength is key for this,” Dr. Palakodeti said.

Muscle strength is pivotal in ensuring a high quality of life as we age. Strong muscles support mobility, balance, and coordination, reducing the risk of falls and fractures.

“Investing in muscle health is investing in your independence and quality of life in your later years,” Dr. Palakodeti said.

Beyond physical health, strong muscles contribute to mental well-being. [A 2022 study](#) in the *Journal of Cachexia, Sarcopenia and Muscle* found that lower muscle strength is associated with a higher risk of developing depression and anxiety. Specifically, a 5-kilogram decrease in handgrip strength was linked to a 7 percent increase in depression risk and an 8 percent increase in anxiety risk.

Increasing Longevity Through Muscle

Maintaining muscle health is one of the factors within our control that can significantly protect against the declines associated with aging. Regular strength training and proper nutrition are essential strategies for building and preserving

muscle, thereby enhancing overall quality of life and reducing the risk of chronic diseases, according to Dr. Palakodeti.

Proper nutrition and resistance-based strength training are crucial in preventing and slowing the progression of sarcopenia. According to [a 2023 study](#) published in *Medicine* (Baltimore), resistance exercise alone or combined with nutrition significantly improves muscle mass, strength, and physical function in middle-aged and elderly people.

By prioritizing muscle strength and mass today, we can enjoy longer, healthier, and more independent lives tomorrow.

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