

# Flexing New Hope: Muscles May Help Protect the Parkinson's Brain

*Flexing New Hope: Muscles May Help Protect the Parkinson's Brain*

CHINA, August 7, 2026 /EINPresswire.com/ -- With Parkinson's disease (PD) burden expected to increase alongside the aging global population and with no effective treatment or cure, exercise is increasingly viewed as an effective intervention. Regular physical activity strengthens muscles and improves walking, balance, mood, and independence, and may also influence the disease itself. By stimulating muscles to release exerkines, exercise appears to generate protective signals that reduce inflammation, improve cellular energy production, support dopamine-producing neurons, and enhance brain plasticity.

Parkinson's disease (PD), a progressive neurodegenerative disorder with motor and non-motor symptoms, represents a growing global public health challenge given the rising proportion of older adults worldwide. Recent studies have identified sarcopenia—the natural, age-related, progressive loss of muscle mass, strength, and function—as a contributor to frailty and disability. In patients with PD specifically, sarcopenia may also be associated with worse prognosis, increased falls, greater cognitive impairment, and reduced quality of life.

Consequently, research has increasingly focused on how improving muscle strength through regular exercise can improve health and functioning in older adults, with demonstrated benefits across conditions such as cancer, dementia, and PD. Understanding how exercise-induced molecular changes contribute to neuronal health could open new therapeutic avenues to improve prognosis and quality of life in PD.

Against this backdrop, a group of researchers led by Dr. Miguel Germán Borda compiled evidence from 129 studies in a comprehensive narrative review shedding light on the muscle-brain crosstalk and how exercise could benefit PD patients. Their findings were made available online on February 25, 2026 and were published in the [journal Neuroprotection](#) on June 01, 2026.

“Muscle is a biologically active tissue that has the potential to influence neural function. Building on this, we collected experimental, observational, and interventional data that evaluated the interplay between muscle status and exercise in PD,” says Dr. Salomón Páez-García, the first author.

The review found benefits from several exercise types. Aerobic exercises that raise the heart rate, like walking and jogging; resistance exercise or strength training, like weight lifting and squats; balance training exercises that improve stability, like standing on one leg or Tai Chi; and multimodal exercise combining several of these exercise types were found to be helpful. Regular exercise, with more strength and balance training, improved walking, balance, mood, muscle strength, thinking ability, and the overall quality of life of PD patients. Falls and disabilities decreased.

“Muscles do much more than move our body. They can act like an endocrine organ, producing hormone-like chemical messengers called 'exerkines,' which are released during exercise—just like the pancreas produces insulin or the thyroid gland produces thyroid hormones,” explains Dr. Borda.

When muscles contract during exercise, exerkines are released. Just like other hormones, they travel through the bloodstream and influence organs such as the brain, liver, heart, and immune system. A few important exerkines are brain-derived neurotrophic factor (BDNF), insulin-like growth factor-1 (IGF-1), irisin, cathepsin B, myostatin, and growth/differentiation factor 15 (GDF15).

“So, the next question became, how do exerkines protect the brain?” says Dr. Páez-García. “We found that the exerkines act as a medium for the crosstalk between the muscle and the brain. Though the brain controls muscles, exercising muscles send beneficial signals back to the brain through exerkines,” he further explains. The exerkines showed anti-inflammatory and antioxidant effects on neurons and improved their mitochondrial function. This helped the dopamine-producing nerves of the substantia nigra survive longer, resist damage, and recover from stress, making them less vulnerable to disease processes. In addition, they also improved the brain's ability to change, adapt, and form new connections.

Current guidelines also strongly support exercise as a key part of Parkinson's care. They recommend starting exercise early and sticking to it for as long as possible. These exercises should be a mix of aerobic, strength, and balance training, tailored to the capacity of the patient from time to time.

In summary, exercise is not just good for the muscles; it also protects the brain in people with PD. Healthy muscles and regular physical activity can slow some aspects of PD by releasing beneficial “exerkines” that communicate with the brain. More studies are needed to determine exactly how much exercise, which types, and which exerkines provide the greatest long-term neuroprotective benefits.

\*\*\*

## Reference

Title of original paper: Exercise, exerkines, and muscle–brain crosstalk in Parkinson's disease

Journal: Neuroprotection

DOI: [10.1002/nep3.70032](https://doi.org/10.1002/nep3.70032)

Ningning Wang

Neuroprotection

+86 10 5132 2541

neeliewong@163.com

Visit us on social media:

[X](#)

---

This press release can be viewed online at: <https://www.einpresswire.com/article/932545364>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2026 Newsmatics Inc. All Right Reserved.