

How to Keep Your Brain's Cleaning System Running Well

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Working out really is good for your mind and body. Doing it regularly supports the brain's cleaning system and may slow brain aging.

Right now, your brain is hard at work processing information, helping you breathe, regulating your body temperature, and maintaining dozens of other functions. Although you're not actively thinking about them, these behind-the-scenes tasks take energy and create waste.

If that waste builds up, it can **harm brain cells** and may lead to Parkinson's disease, Alzheimer's disease, and dementia. Luckily, the glymphatic system removes that waste and protects your brain.

“Think of it as part of the brain's plumbing system: spinal fluid moves through spaces around blood vessels and helps move waste products out of the brain,” **James Broatch, PhD**, head of the *Exercise and Brain Health* research program at the Institute for Health and Sport (IHES) at Victoria University in Melbourne, Australia, told Super Age in an email.

The glymphatic system works best when you sleep — another reason to get at least seven hours of shut-eye every night — and Broatch's **new research** suggests that exercise supports glymphatic activity.

Scientists are still learning exactly how exercise contributes to glymphatic activation, but this study sheds some light on the mechanisms.

According to the findings published in the journal *Trends in Neuroscience*, regular exercise helps reduce neuroinflammation and **improves sleep**, respiratory function, and blood volume. This creates a favorable environment for brain waste clearance,

said Broatch, who was the first author of the paper.

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What the Glymphatic System Does for Brain Health

The Cleveland Clinic explains that the glymphatic system performs two main jobs at once. On one hand, it clears out waste products — things like lactic acid (a byproduct your body generates when burning energy), proteins such as amyloid- β and tau (problematic when they accumulate), and potassium (a mineral your cells need, but only in the right balance). On the other hand, the same system distributes useful substances throughout the brain, delivering them where they're needed. This includes amino acids (the building blocks of proteins), glucose (the brain's primary fuel source), lipids (fats that store energy), and neurotransmitters (the chemical messengers that let brain cells communicate).

In that sense, the glymphatic system supports normal brain function — things like memory, focus, and mood — not just disease prevention.

However, Clinic experts note that as you get older, the glymphatic system can function less well over time. Some researchers hypothesize that this is because older adults have more difficulty staying in the deep stages of sleep — the “most active” time for waste collection and resource redistribution.

The Movement-Mind Connection

So what can you actually do to keep this cleaning system running well? The answer

starts somewhere familiar: your workout.

You've heard of the **gut-brain connection**. You've probably heard of the broader mind-body connection too. But nested inside that second one is something more specific worth naming: the movement-mind connection, the direct link between physical activity and how well your brain functions, both today and decades from now.

If you exercise regularly, you already know the immediate payoff. A hard workout can shift your mood, sharpen your focus, and change your outlook for the rest of the day. What's newer is the evidence that this feeling isn't just a mood boost. It may be a sign that exercise is doing something structural, priming the systems your brain depends on to clear out waste and stay resilient over time.

That's what this research adds. Movement doesn't just affect how you feel in the moment. It appears to set the stage for the physiological "cleaning" process, tied to the glymphatic system, that supports long-term brain health.

"The brain is not isolated from the rest of the body. Exercise influences many of the physiological systems that are relevant to brain health, including cardiovascular function, sleep, and inflammation, and these may converge to support the brain's waste clearance mechanisms," said Broatch.

In other words, exercise doesn't clean the brain directly. It improves the conditions, better blood flow, deeper sleep, lower inflammation, that make effective clearance possible.

The Best Exercises For Brain Health

The science is still evolving, but the foundations are set: exercise is a **key pillar of longevity**.

"I wouldn't tell someone to exercise specifically because we know it boosts the glymphatic system, as we don't yet have sufficient human evidence to make that

claim. But there is already very strong evidence that regular physical activity is beneficial for brain health,” Broatch said.

Not sure where to start? Here’s what the experts recommend:

- ■ **Grab some friends and head to your local tennis court.** Research shows that tennis can add almost 10 years to your life. This sport offers the perfect longevity combination of physical fitness, mental agility, and socializing.
- ■ **Find something you can do forever.** You don’t have to force yourself to play tennis if it’s not your thing. What’s most important is to find something you’ll stick to in the long run. Studies show that regular physical exercise makes the brain more resilient to aging and cognitive impairment.

In addition to working out, make sure you get enough sleep every night. The study suggests that glymphatic flow actually *reduces* during exercise because of changes in noradrenaline linked with being awake and active, Broatch said. Only later, when your body is at rest, do the belated benefits occur.

“That doesn’t mean exercise is bad for clearance. Rather, the benefits of regular exercise may occur through longer-term adaptations, for example through improved vascular function and sleep,” Broatch said. He adds that movement “can support glymphatic activity when the brain enters physiological states associated with greater clearance, particularly during deep non-rapid eye movement sleep (NREM) sleep.”

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