



Exercise is brain medicine

You already know exercise is good for your body. But here's what might surprise you: exercise is one of the most powerful tools you have to build, protect, and maintain your brain. Not just for feeling better today - for protecting your cognitive function decades from now. **This isn't motivational fluff. It's neuroscience. And the mechanisms are remarkable.**

How exercise builds and protects your brain

When you exercise, your body releases a cascade of chemicals and hormones that directly impact brain health. Here are three key pathways:

1. The adrenaline-norepinephrine pathway

Exercise triggers adrenaline release from your adrenal glands. Adrenaline stimulates the vagus nerve, which then prompts your brain to release norepinephrine. Think of norepinephrine as sprinkling alertness across your brain - particularly in the hippocampus (memory),

hypothalamus (hormone regulation), and prefrontal cortex (decision-making and focus). **Your brain becomes more engaged and ready to learn.**

2. The bone-brain connection

When you load your skeleton - jumping, lifting, carrying heavy things - your bones release a hormone called osteocalcin. This travels to your brain and crosses the blood-brain barrier to encourage the growth of new neurons and connections in the hippocampus.

Osteocalcin also stimulates BDNF (brain-derived neurotrophic factor), which is critical for resisting age-related cognitive decline. **You have to move to produce it.**

3. The lactate fuel system

Intense exercise produces lactate, which is the preferred fuel for neurons during activity. Lactate also strengthens the blood-brain barrier - the protective structure that keeps your brain healthy. Why does this matter? One hallmark of Alzheimer's and other age-related cognitive diseases is a breakdown of the blood-brain barrier.

Exercise keeps it strong - literally building the infrastructure your brain needs to stay healthy as you age.

The stakes: what happens when you stop moving

Here's the hard truth: just 10 days without exercise and the beneficial neurochemical levels in your brain begin to decline. Oxygen delivery decreases, affecting your entire body and brain function.

And the cascade effect of injury is even more serious. As we age, falls become more common - usually from stepping down off a curb or step. A fall leads to something tearing or breaking. An injury means limited or no movement. No movement means loss of flexibility, strength, muscle, and brain health. It can spiral quickly.

Injury prevention isn't just about avoiding pain today - it's about protecting your brain for the next 20, 30, 40 years.

Exercise as your stress vaccine
If you're not exercising regularly, you may be struggling more than you need to with stress, anxiety, and low mood.

Research consistently shows that exercise is one of the most effective ways to manage these challenges - it's been called a "stress vaccine" because it protects against the negative impacts of life stress.

This doesn't underplay depression or clinical anxiety, which require professional support. But for many people, regular movement is a missing piece in their mental health toolkit. When you're not moving, you're losing access to a powerful coping mechanism.

Start here: simple steps to protect your brain

You don't have to love exercise. You just have to do it.

If you're not currently exercising, or you're starting again after a break, read on for where to begin:

Week 1-2: Build the habit

- Walk for 20-30 minutes, 3-4 times per week
- Focus on consistency, not intensity
- Find a time that works and protect it in your calendar

Week 3-4: Add variety

- Introduce one session where you walk faster or include some hills
- Add 5-10 minutes of body weight exercises (squats, push-ups against a wall, standing on one leg for balance)
- Try a few small jumps or skips - your bones will thank you

Week 5-6: Increase intensity

- Include one session where you're breathing hard enough that talking is difficult (this is where lactate production kicks in)
- Add resistance - carry something, use resistance bands, or try light weights
- Keep at least one easier, longer session each week

Beyond 6 weeks: Build the full picture

Once you've established a consistent base, you can work towards a brain-healthy exercise pattern that includes:

- Long, steady activity (45-60 mins of walking, cycling, swimming)
- Short bursts of high intensity (sprints, hill climbs, bike intervals)
- Resistance training with focus on controlled, slow lowering of weights
- Jumping or landing movements (skipping, box steps, jump rope)

And here's the secret ingredient: do it even when you don't feel like it. Your anterior mid-singulate cortex - the part of your brain responsible for grit and willpower - actually maintains its volume when you embrace challenges. Flexing your tenacity protects your brain.

Get moving

Exercise is a direct and indirect, multi-function tool to enhance brain performance and longevity.

Your future brain is counting on the choices you make today.

Need help getting started safely? Check out a previous article on [Snacktivity](#) for easy ways to add more movement into your day or contact pt@healthoutfit.co.uk for personalised guidance.

Flexing your tenacity protects your brain, do it even when you don't feel like