The Complete Guide to a Younger, Sharper Brain

12 MIN READ

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BY GREG PRESTO

Cognitive decline starts as early as your 20s. But many of the risk factors are within your control.

Almost every month thereâ??s a new finding that your brain actually starts to slip while youâ??re still in your 20s.Â

â??Weâ??re not talking about a sudden decline or loss in function,â?• says **Lori Cook, PhD**, Director of Clinical Research at the Center for BrainHealth at the University of Texas at Dallas. â??Certain aspects begin to change gradually beginning in young adulthood, particularly cerebral blood flow and mental processing speed.â?•

But Cook says, and her research shows, that these changes arenâ??t the start of an unstoppable downward spiral. Brain health, including memory, processing speed, and cognitive function, can all be improved with practice, even when our neurons are changing.

In **a study conducted by the BrainHealth Project**, Cook and her colleagues worked with more than 4,000 adults from over 60 countries, giving subjects brain training, habit-building tools, and coaching every month of quarter. After three years of these interventions, people in every group improved their score on a test called the â??Brain Health Index,â?• regardless of their age, gender, or education level.

The biggest surprise to Cook: â??Younger adults benefited just as much as older adults.â?• Older adults benefited, too, though, meaning itâ??s never too late to improve your â??brain healthspan.â?•

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The Three Elements Defining Brainspan (Brain Healthspan)

If youâ??re an avid Super Age reader (and we hope you are!), youâ??re probably familiar with the concept of healthspan: usually defined as the years of your life that happen before youâ??ve contracted one of the chronic diseases or disabilities associated with aging. â??Brain healthspanâ?• isnâ??t so rigidly defined. The Center for BrainHealth describes it as a measure of your:

1. **Cognitive function** (â??clarityâ?•)
2. **Social engagement and sense of purpose** (â??connectednessâ?•)
3. **Stress, mood, and resilience** (â??emotional balanceâ?•)

But this isnâ??t the only definition of how our brains are faring. In Northwestern Universityâ??s â??SuperAgingâ?• program, people are defined as having â??superagingâ?• brains when **their cognitive abilities at 80 are two decades better than their actual age**.Â

â??This concept of brain span, itâ??s how long weâ??re maintaining the function and resilience of our brain across this lifespan,â?• says **Sita Kedia, MD**, Chief Medical Officer of PALM Health, where she leads the Brain Health Program. â??So thereâ??s not really a definitive â??endâ?? of brain span. Itâ??s a continual process.â?•

This ambiguity stems from the fact that brain health itself isnâ??t that rigidly defined, and has expanded rapidly over the past few decades, says **Eric Lenze, MD**, a professor at Washington University in St. Louisâ?? Healthy Mind Lab.

â??Brain health used to mean something very specific: Avoiding a stroke,â?• he says. As Alzheimerâ??s and research into it became more prominent, though, the definition started to expand: We began looking at our cognitive health, dementia risk, processing speed, and different kinds of memory, too.

The good news, he says: Many of these conditions and patterns of decline have similar risk factors, and similar lifestyle changes can help maintain and improve them. Studies like the BrainHealth Project prove it, as does Northwesternâ??s program. And in 2024, **the *Lancet*** provided an update on dementia prevention, estimating that 45 percent of dementia cases could be prevented or delayed by addressing modifiable risk factors like smoking, diabetes, high blood pressure, high LDL cholesterol, and excessive alcohol use.

Below, Cook, Kedia, Lenze, and other experts explain why our brains decline in the first place, how our heart and brain health are intertwined far more than just with stroke risk, and which modifiable risk factors you can tackleâ??and howâ??to extend your own brain span.

Why and How Our Brains Age

One of the risk factors for diseases like Alzheimerâ??s and other forms of dementia, and for the onset of cognitive decline itself, is aging. **Forty percent of people over 65** show some signs of memory loss. By the age of 70, around 16 percent of people develop mild cognitive impairment, and 15 to 20 percent of *those* people will develop dementia. To top it all off, our brains shrink as we age, with losses of neural connections resulting in less gray matter.

â??Age-related changes in brain performance are linked to several interconnected processes,â?• Cook says, â??including changes in cerebral metabolic supply, altered blood flow, and structural shifts within our neural networks, especially the frontally-mediated executive function circuits.â?•Â

In **research from Cambridge University**, scientists found that the way our brain circuits are connected go through five stages or eras, with the â??adultâ?• stage happening from, on average, age 32-66. After that, these networks become less efficient.

These changes occur even in healthy adults without disease, Cook notes. But when certain diseases are present, it can exacerbate symptoms and accelerate decline:

- **Cardiovascular diseases** can reduce blood flow to the brain, robbing it of nourishment.
- **Changes in mitochondrial quality** can mean the brain has less energy to run on.
- **Synaptic waste**, certain proteins, and cholesterol and fatty deposits.

Age-related changes in the brain can also result from things piling up, Kedia says, most notably metabolites like amyloid-beta plaques and tau tangles that **should be cleaned out by sleep**, but may stack up for years with poor quality rest, increasing the risk of Alzheimerâ??s.

Some of these neural changes can be slowed through lifestyle change, as described in the *Lancet* report. But even when neural health is compromised, Cook says, brain performance and health can increase. Thatâ??s one of the key findings of the BrainHealth Project study.

â??Weâ??ve seen people make real, measurable gains across these areas even while recovering from concussions, traumatic brain injuries, stroke, depression, or chemotherapy-induced cognitive decline,â?• she says. â??Brain health isnâ??t simply the absence of disease. Itâ??s something we can actively build and optimize throughout life.â?•

That optimization starts not in your head, but in your heart.

Brain Health Is Heart Health

Thatâ??s Lenzeâ??s simple summary of this crucial fact: Cardiovascular diseases directly impact diseases of the brain. Case in point: stroke risk. When you have high blood pressure, or when your arteries narrow from atherosclerosis as a result of high LDL cholesterol, triglycerides, or obesity, a blockage can obstruct the blood that flows to your brain, resulting in an ischemic stroke.

But the heart-brain health connection doesnâ??t stop there. **Heart failure has been linked to cognitive impairment**. Atrial fibrillation, a type of heart arrhythmia that is expected to impact 15.9 million Americans by 2050, has been associated with a 39 percent increase in cognitive impairment in adults. A **study published in *Science*** found that when people have â??adverse featuresâ?• in the left ventricle of their hearts, MRIs are more likely to show poorer white matter in their brains.

Some of these connections may have to do with blood flow: When youâ??ve got atherosclerosis, your arteries are narrower, so less bloodâ??s getting through. Reduced ejection fraction from the left ventricle means that not only is your heart not functioning as well, itâ??s also pumping less blood to your brain. But in a July 2026 scientific position statement, scientists from **the American Heart Association** said that these factors do not completely explain the connection between the heart and brain. Other mechanisms that impact both â?? like chronic inflammation and genetics â?? also likely play a role.

Even though these connections are not yet completely understood, Lenze says, the good news for Super Agers is that when youâ??re doing heart-healthy stuff, youâ??re also doing brain-healthy stuff. And that starts with exercise.Â

The Mind-Muscle Connection

When you exercise more often, it improves cardiovascular fitness, which in turn improves blood flow to the brain. **Research from the National Institutes of Health** has found that people who are more cardiovascularly fit have more myelin, a

fatty layer that wraps around nerve cell fibers and protects neurons.

The benefits appear to flow both ways: a healthy, happy brain may also help your heart health, with fitness tying the two together. How much exercise?

- **150 minutes of weekly activity (or 75 minutes of vigorous activity)**: **One study from 2024** found that people who met that physical activity threshold had less stress-related brain activity, which also helped their hearts.

So we know that exercise helps your heart, and your heart helps your brain. But when it comes to whether the act of exercising *itself* helps with cognition, scientists arenâ??t so sure, says **Ben Rattray, PhD**, professor of Sport & Exercise at the University of Canberra in Australia, and a scientist who studies the interaction between exercise and cognition.

Heâ??s worked on research reviews that show that **there is a connection between exercise and cognitive ability**, and **others that have found that there isnâ??t a connection**.

Rattray believes that itâ??s likely that exercise *does* help â?? when itâ??s challenging, forcing people to exert cognitive control to overcome fatigue, and especially when thereâ??s a social component involved. Interacting with others (extra points if itâ??s in group fitness settings) **has been shown to reduce cognitive decline**.

When it comes to which kind of exercise is â??bestâ?• for your brain health, moderate cardiovascular exercise seems to do the most, Rattray says.

â??Cerebral blood flow is highest during moderate intensityâ?¦ all the good stuff thatâ??s going to the brain to help support its growth and development is optimized during moderate intensity exercise,â?• he says. â??As soon as we start breathing hard and hyperventilating, blood flow to the brain tends to drop.â?•

Thereâ??s **some evidence** that higher-intensity exercise may support the release of

brain-derived neurotrophic factor (BDNF), a protein that supports brain plasticity, but that data is mixed. This higher-intensity BDNF, Rattray says, has been shown in his research to be less physiologically active than BDNF released at moderate paces.

One interesting bonus aspect of the brain-exercise connection, according to Rattray: A workout can actually help you encode memories so you remember what youâ??re learning better.

In one study, people who exercised four hours after learning something new were able to recall it better later than a group that didnâ??t do the exercise. **Other studies** have found that moderate exercise just before learning helps encode short- and long-term memories. And Rattray says that research from his own lab has found that exercising *while* learning can also improve memory.Â

So the timing may not really matter: If you want a better memory, thereâ??s no wrong moment to start moving your body.Â

Your best bet for brain health: Donâ??t overcomplicate things. Kedia suggests that whatever youâ??re doing for movement, do about 10 percent more, and aim to meet or exceed the weekly recommendation of 150 minutes of activity. Youâ??ll improve your cardiovascular health and brain health simultaneously.

Brain Food: The Diets That Impact Your Brainspan

Since heart health is brain health, a heart-healthy diet is also a brain-healthy diet. In **a study published in *JAMA Neurology* in February 2026**, scientists found that the â??Dietary Approaches to Stop Hypertensionâ?• (DASH) diet resulted in a 41 percent lower risk of cognitive decline. **DASH focuses on** reducing salt, saturated

fat, and sugar, and increasing fruits, vegetables, whole grains, and lean protein sources.

But the DASH diet wasnâ??t the only diet the scientists studied, and it wasnâ??t the only one that worked: The *JAMA Neurology* study looked at six different heart-healthy diet plans, and all of them reduced cognitive decline. In another research review, scientists found that **the Mediterranean diet also had significant brain-protecting effects**, reducing cognitive impairment by 18 percent, dementia risk by 11 percent, and Alzheimerâ??s risk by 30 percent.

Your best bet for brain health: Kediaâ??s recommendation is to choose a heart-healthy diet thatâ??s sustainable for you in the long-term. All of them feature more fruits and vegetables, consumption of whole grains, lean protein sources, including low-fat and fat-free dairy, and reduced sodium.

Brain-Supporting Nutrients and Supplements

Gobs of supplements promise brain benefits, but itâ??s important to distinguish between a *claim* and *evidence*, says **Laura Bojarskaite**, PhD, a neuroscientists and sleep researcher in Oslo, Norway.

â??If the marketing promises sharper memory, younger brain function, or dementia prevention, but the company cannot show large, independent randomized trials of that exact product,â?• she says, â??you are buying a claim rather than evidence.â?•

Certain nutrients do have evidence of their effectiveness for brain health:

- **Vitamin B12** plays an important role in staving off cognitive decline.
- **Vitamin D** levels, when low, result in increased risk of neurodegenerative diseases, including Alzheimerâ??s.
- **Iron** levels, when low, are also related to cognitive deficiency.

These probably arenâ??t the â??brain supplementsâ?• that are being marketed to you, though. Among that group, two have promising results:

- **Creatine monohydrate**: In **a research review of 16 trials**, scientists found that this usually-muscle-focused supplement created positive effects on memory, attention, and brain processing speed. But overall cognitive and executive function werenâ??t found to be significantly improved. Women and people with neurodegenerative diseases saw the most benefit.
- **Omega-3 fatty acids: Supplementing with 2000 mg per day** has been found to improve attention, perception speed, memory, and global cognitive abilities, though the improvements have been shown to be â??modest,â?• and there arenâ??t many long-term studies on these effects.

Other supposedly brain-boosting supplements, like lionâ??s mane mushroom and Prevagen, donâ??t have strong evidence for their effects, Bojarskaite says. And one thatâ??s been touted for decades â?? gingko biloba â?? has repeatedly been shown in studies *not* to be effective.

Your best bets for brain health: Creatine is promising, but still not a must for brain health, Bojarskaite says. And thereâ??s more robust evidence for eating fish a few times per week than taking a fish oil capsule.

When it comes to the vitamins that help with brain health, you may not need a supplement: Only **2-3 percent of American adults** are Vitamin B12 deficient. Most American men get enough iron; **22 percent of women** are deficient. And the number of Americans who are low on Vitamin D **has declined over the past few decades**. But a simple, daily multivitamin should help you top up all three.

Crosswords Donâ??t Really Work. Hereâ??s What Does

About a decade ago, ads for â??brain gamesâ?• which would help improve **neuroplasticity** (your brainâ??s ability to reorganize itself and make new neural connections), were inescapable. There was also tons of chatter about doing crosswords and sudoku puzzles to improve how your brain worked.

But **when further research was done**, scientists found these games didnâ??t really work. That doesnâ??t mean, Kedia says, that you canâ??t â??work outâ?• your brain to make it better.

â??The main thing is to do something thatâ??s new for your brain,â?• she says. That could be learning a new language, trying a new hobby, or trying a current hobby in a new way. â??If you like art, but you normally use watercolors, find a different medium and challenge yourself and learn a different type of art. If youâ??re a gardener, learn how to manage your soil in a different way.â?• The new thing you learn should challenge you, and be something youâ??ll be engaged in so you can put real effort into it. Kedia, for example, is learning French. There are also some new brain training platforms with good emerging science like **Neurotracker** and **NeruoAge**.

But the â??new thingâ?• should also be something you enjoy learning, says **Tamar Gefen, PhD**, a clinical neuropsychologist and associate professor at Northwestern Universityâ??s Feinberg School of Medicine, and director of the Northwestern SuperAging program. Donâ??t pick something you feel like you â??haveâ?• to do.

â??Oftentimes, people will force themselves to engage [in specific activities] that have been pushed [for brain health] but it causes them a lot of stress and anxiety because they donâ??t perform well or just donâ??t enjoy it,â?• she says. â??The stress or anxiety that it may be inducing could be more detrimental than the benefit of the actual [activity] itself.â?•

In addition to learning something you *want* to learn, Gefen offers another, less time-consuming practice to help improve brain function over time: Practicing strategies for

remembering information.

The Northwestern SuperAging program tests older adults on their ability to remember information over an extended period. In one of the tests thatâ??s used, called the Rey Auditory Verbal Learning Test, subjects learn 15 words. They then need to recall as many of those words as they can after 30 minutes of other activity. To qualify as a SuperAger, 80-year olds need to remember 9 of the 15 words after the half-hourâ??s passed.

Those who do best have the best cognitive abilities, Gefen says. And theyâ??re also often best at using the same types of mnemonic cues and other strategies to remember them that you might have used to memorize state capitals or other facts as a student. These types of devices and practices arenâ??t a cheat, Gefen says, but a way to make pulling information out of your mind less strenuous.

To stay in practice with using these strategies into your 60s, 70s, and 80s, she suggests practicing them through your 30s, 40s, and 50s.

â??When you meet someone for the first time, instead of trying to memorize the name â??Morgan,â?? youâ??re remembering and associating â??Morganâ?? with an emotionally salient experience,â?• she says. For example, youâ??d remember that you met Morgan on the first day of your childâ??s swimming class, and she said sheâ??s named Morgan Fox, reminding you of the actress Megan Fox. â??And now I remember Morgan. You attach it to something emotionally salient.â?•

Three More â??Effortfulâ?• Activities to Practice

In the BrainHealth Project study, subjects did cognitive training modules that involved real, focused work. Cook says people who arenâ??t being poked and prodded by brain scientists can try these three effective strategies from the study to improve cognition:

- **Single-task focus:** Instead of multitasking, set aside blocks of 30 to 60 minutes for focused, uninterrupted work on high-priority tasks.

- **Tech breaks:** Cook suggests taking daily, technology-free breaks, like walking without a phone or smartwatch, â??to reset mental energy and protect against cognitive overload.â?•
- **Zoom out:** To do this, â??step back from immediate stressors to take an abstract, big-picture view, and reframe challenges into opportunities.â?•

Your best bets for brain health: Learn new stuff that you care about, do Cookâ??s trio of activities, and practice remembering things with the types of devices Gefen suggests.Â

â??If you practice that in your 40s and 50s,â?• Gefen says, â??the likelihood of that helping when youâ??re 80 is higher.â?•

Create a Set Bedtime for Your Brain Health

When you donâ??t get enough high-quality sleep, youâ??re **at higher risk for cardiometabolic risk factors** that may result in reduced blood flow to your brain, and increase your chances of stroke. (Too much sleep is also associated with greater cardiovascular risks.)

Causality isnâ??t considered to be ironclad here. **A 2025 research review** found the evidence for a causal role of sleep in brain health to be â??surprisingly weak,â?• with inconsistent results across studies. But thereâ??s no denying that poor sleep tends to show up alongside the risk factors for declining heart and brain health. While the scientists get to the bottom of the connection, it seems wise to prioritize your shuteye in the meantime.Â

And, sleep does appear to impact Alzheimerâ??s disease risk, specifically: **The glymphatic system** (no, thatâ??s not a typo), which is active during non-REM sleep, enhances the clearance of certain proteins from the brain that can build up and cause disease.Â

Your best bet for brain health: Aim for 7-8 hours of sleep, but more importantly, try to make your bedtime and waking times the same each day. A consistent sleep schedule like this has been shown, in large population studies, to **sharpen your cognition** and **lower your risk for dementia**.

Sleep-tracking wearables can be useful for tracking and maintaining this consistent schedule over time, Bojarskaite says. But donâ??t let your wearable stress you out. This can contribute to â??orthosomnia,â• where youâ??re so preoccupied with your sleep score that sleep becomes more difficult due to anxiety.

â??The meaningful question is not whether [your wearable] produces more data,â• she says, â??but whether that data leads to healthy and sustainable change in behavior.â•

Healthy Relationships Keep Your Brain Healthy

â??People often dismiss social ties and purpose as secondary, â??softâ?? factors,â• Cook says, â??but they are fundamental to brain health.â•

People who have higher levels of social support have **lower levels of proteins** tied to chronic inflammation. Theyâ??re **less likely to suffer from depression and anxiety**, and have **better cardiovascular disease outcomes**.

In middle-aged and older adults, people who live with others have **slower annual decline in global cognition**, and on days when they feel better about their relationships, have better subjective feelings about their cognition. And itâ??s not just subjective: **A review of seven different studies** looking at more than 20,000 people found that those who felt the least lonely did the best on cognitive tests.

Your best bet for brain health: Put yourself out there. **Follow scientistsâ?? tips**

for building new friendships and deepening old ones.

Put Your Brain to Work

Thereâ??s a lot we (still) donâ??t know about preserving and building brain health. But we do know it can be improved, whether your brain is already humming on all cylinders, or if itâ??s lagging behind. In the BrainHealth Project study, those who started in the lowest 25 percent of initial brain health showed the largest improvements over the three years study. The key to that, Cook says, was in making changes and sticking to them.

â??People often overestimate *knowing* and underestimate *doing*,â?• she says. â??Simply reading about brain health or gaining information doesnâ??t automatically change brain health. Lasting gains come from consistently applying strategies and actively building habits into daily life.â?•

Start by reducing risk factors by addressing the â??usual suspects,â?• Lenze says.

â??Stop smoking or donâ??t start. Treat high blood pressure, treat diabetes, treat high cholesterol,â?• he says. â??Great news here: Weâ??ve got good treatments for all those things.â?•

In addition to all the â??best betsâ?• listed in the above sections, Cook suggests adopting four simple, brain-boosting habits that worked well in the BrainHealth study:

1. **Take five tech-free breaks each day:** These brief breaks, Cook says, should be truly tech-free, without a phone or smart watch.
2. **Protect uninterrupted blocks of time each day to focus on a single task:** â??When we focus on one important task at a time, we free up mental resources for deeper thinking, better decisions, and greater productivity.â?•
3. **Create weekly practices for connection:** Set up times to go on shared walks with

others. Practice listing out things youâ??re grateful for. And take time to meet with others and actively listen to them.

4. 4 **Manage stress:** When switching gears between demanding tasks, she says, take time to breathe deeply to reduce stress.

Donâ??t wait to get going on these brain-healthy habits, Kedia stresses.Â

â??Brain aging is happening decades and decades before dementia or any of the neurological processes start,â?• she says. â??The 30s and 40s and 50sâ?¦ thatâ??s when we need to start paying attention to it, because thatâ??s when it starts to impact brain aging.â?•

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