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What Are Some of the Best Brain-Boosting Foods?

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STORY AT-A-GLANCE

- The more you eat a diet based on whole, healthy foods, the more your brainpower will soar, even to the point of staving off age-related cognitive decline and other brain disorders
- Anchovies, sardines, mackerel, herring and wild-caught Alaskan salmon are examples of healthy fish rich in omega-3 fats that offer neuroprotective benefits
- Cruciferous vegetables and leafy greens contain brain-protective nutrients such as folate, vitamins E and K, lutein and beta-carotene
- Pastured organic eggs, particularly the yolks, are a good source of choline, which is needed for your body to make the brain chemical acetylcholine that is involved in storing memories

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Your brain is like a sponge, soaking up not only the information around you on a daily basis but also the vitamins, minerals, antioxidants and other phytochemicals in the food you eat. The more you eat a diet based on whole, healthy foods, the more your brainpower will soar, even to the point of staving off age-related cognitive decline and other brain disorders. While eating real foods is key, there are some superstars that stand above the rest.

By planning your meals to include the brain-boosting foods that follow, you'll be providing the fuel your brain needs to not only stay healthy in the future but also

function optimally today, bringing with it increased productivity, focus and a creative edge.

Six Top Brain-Boosting Foods to Include in Your Diet

Healthy fish — Small cold-water fish that are rich in animal-based omega-3 fats but have a low risk of contamination are among your best choices for healthy fish. This includes **anchovies**, **sardines**, mackerel, herring and **wild-caught Alaskan salmon**. The omega-3 they contain is vital to your brain, helping to fight inflammation and offer numerous protections to your brain cells.

For instance, a study in the journal Neurology found "older women with the highest levels of omega-3 fats … had better preservation of their brain as they aged than those with the lowest levels, which might mean they would maintain better brain function for an extra year or two."[1] In separate research, when boys were given an omega-3 supplement, there were significant increases in the activation of the dorsolateral prefrontal cortex part of the brain.[2]

This is an area of your brain associated with working memory. They also noticed changes in other parts of the brain, including the occipital cortex (the visual processing center) and the cerebellar cortex (which plays a role in motor control). In addition, older adults with memory complaints who consumed the omega-3 fat docosahexaenoic acid (DHA), alone or in combination with another omega-3 fat eicosapentaenoic acid (EPA), had improved memory.[3]

Consuming healthy fish once a week or more is even linked to a 60% lower risk of Alzheimer's disease compared with rarely or never consuming it.[4] If you don't like fish, you can also get animal-based omega-3 fats in therapeutic doses by taking a supplement like krill oil. But if you're looking for a dietary source, the healthy fish named above are among the best sources.

Cruciferous veggies and leafy greens — Eating just one serving of green leafy vegetables a day may help to slow cognitive decline associated with aging, helping

you to be 11 years younger, cognitively speaking, than your non-leafy green-eating peers.[5] They're a rich source of brain-protective nutrients like folate, vitamins E and K, lutein and beta-carotene.[6]

Cruciferous vegetables, like **broccoli** and **cauliflower**, are equally impressive, in part because they're good sources of choline, a B vitamin known for its role in brain development.

Choline intake during pregnancy "super-charged" the brain activity of animals in utero, indicating that it may boost cognitive function, improve learning and memory and even diminish age-related memory decline and the brain's vulnerability to toxins during childhood, as well as confer protection later in life.[7] Pastured organic eggs and grass fed meat are other good food sources of choline.

Broccoli offers additional benefits as well, including the anti-inflammatory flavonoid kaempferol and three glucosinolate phytonutrients that work together to support your body's detoxification processes.[8] In another study, women who ate the most cruciferous vegetables or leafy greens had slower cognitive decline than those eating the least, to the point that their brain function equaled that of someone one to two years younger.[9]

Eggs — Pastured, organic eggs, particularly the yolks, provide valuable vitamins (A, D, E and K), omega-3 fats and antioxidants. They're also one of the best sources of choline available. Choline helps keep your cell membranes functioning properly, plays a role in nerve communications and reduces chronic inflammation. Choline is also needed for your body to make the brain chemical acetylcholine, which is involved in storing memories.

In pregnant women, choline plays an equally, if not more, important role, helping to prevent certain birth defects, such as spina bifida, and playing a role in brain development. In addition, people with higher choline intakes were shown to have better cognitive performance, doing better on tests of verbal and visual memory, than those with low intake.[10]

According to a study published in the journal Nutrients, only 8% of U.S. adults are getting enough choline (including only 8.5% of pregnant women).[11]

Among egg consumers, however, more than 57% met the adequate intake (AI) levels for choline, compared to just 2.4% of people who consumed no eggs. In fact, the researchers concluded that it's "extremely difficult" to get enough choline unless you eat eggs or take a dietary supplement.

Some of the symptoms associated with low choline levels include memory problems and persistent brain fog. Your body can only synthesize small amounts of this nutrient, so you need to get it from your diet regularly. One egg yolk contains nearly 215 mg of choline.

Coffee — Increased coffee (and tea) consumption was linked to a lower risk of glioma brain tumor, such that people in the top category of coffee consumption were 91% less likely to have glioma compared with those in the bottom category.[12]

It may help your brain function as well, with research showing that drinking one to two cups of coffee daily may lower your risk of Alzheimer's disease and other forms of dementia, cognitive decline and cognitive impairment compared to drinking less than one cup.[13]

Drinking coffee may even enhance long-term memory consolidation[14] and, if you drink the caffeinated variety, improve attention and alertness while decreasing your risk of depression.[15] Caffeine can be a double-edged sword, with excess consumption causing adverse effects, and everyone's tolerance to caffeine is unique.

However, most people naturally adjust their coffee consumption to avoid the jittery feeling that comes from too much caffeine. Ideally, coffee should be organic and shade-grown; drink it black or with added coconut oil or medium-chain triglyceride (MCT) oil.

Wine (one glass) — Limited wine intake — one glass a day or no more than seven drinks a week — has been found to protective against dementia in later life.[16] Part of

the benefit likely comes from the catechin epigallocatechin-3-gallate (EGCG), found in red wine and tea, which has been found to stop beta-amyloid proteins associated with Alzheimer's disease from killing brain cells.[17]

Resveratrol is another compound in red wine linked to brain benefits, including protecting the neuromuscular junctions (NMJs) between neurons.[18] Resveratrol may also help to restore the blood-brain barrier in patients with Alzheimer's disease, which could help keep out unwanted immune molecules that can worsen brain inflammation and kill neurons.[19]

Even Champagne contains beneficial compounds, including relatively high amounts of phenolic acids, that appear to have a neuroprotective effect against oxidative neuronal injury.[20] It's important to note that only a small amount of alcohol may be beneficial, and excess amounts are toxic to your brain.

Blueberries — Blueberries are rich in phytochemicals linked to improvements in learning, thinking and memory, along with reductions in neurodegenerative oxidative stress. They're also relatively low in fructose compared to other fruits, making them one of the healthier fruits available. Wild blueberries, which have high anthocyanin and antioxidant content, are known to guard against Alzheimer's and other neurological diseases.

Wild blueberries have even been shown to reduce some of the effects of a poor diet (such as high blood pressure systemic inflammation). In an animal study, wild blueberries reduced the proinflammatory effects of a poor diet as well as prevented high blood pressure, which would be beneficial for your brain health.[21]

Further, women who consumed at least a half-cup of blueberries a week for 15 years had slower cognitive decline than women who did not, with researchers noting, "berry intake appears to delay cognitive aging by up to 2.5 years."[22]

The Beach Is Good for Your Brain Health Too

It's not only what you eat that matters to your brain — your environment matters, too. Interestingly, one of the most restorative environments for your brain, according to research published in the Journal of Environmental Psychology, is the beach.[23]

The best atmosphere for psychological restoration when visiting the beach or, as the study called them, "coastal parks," is a combination of mild temperatures and low tides. There are a number of factors that make the beach an ideal locale for your brain, including:

- **Sun exposure —** This is important for optimizing vitamin D, as low vitamin D levels are linked to a risk of cognitive decline in the elderly.[24] Beyond this, sunlight affects your mood and mental health through a number of mechanisms, including affecting your vitamin D, serotonin, endorphins, nitric oxide levels and mitochondrial energy.

- **Walking barefoot on the sand —** When you put your bare feet on the ground, a process known as earthing or grounding, you absorb large amounts of negative electrons through the soles of your feet. These free electrons act as antioxidants in your body and help to reduce chronic inflammation, the root of many chronic diseases.

  Further, grounding thins your blood, making it less viscous, and your zeta potential quickly rises, which means your red blood cells have more charge on their surface, forcing them apart from each other. This action causes your blood to thin and flow easier.

  If your zeta potential is high, which grounding can facilitate, you not only decrease your heart disease risk, but also your risk of multi-infarct dementias, where you start losing brain tissue due to microclotting in your brain.

- **Swimming in the ocean —** Ocean water is a unique source of important minerals like magnesium, potassium and iodine,[25] whereas swimming provides physical activity. Physical exercise, in turn, decreases risk of age-related brain shrinkage, and increases cognitive abilities by promoting neurogenesis — your brain's ability to adapt and grow new brain cells.

Did Your Brain Stop Making New Cells When You Were a Teen?

It's believed that the adult brain's hippocampus continues to generate new neurons into adulthood in response to things like exercise, dietary compounds and mental stimulation. However, one study suggests progenitor cells, or stem cells, as well as young neurons, which are important for forming new connections, are absent past the age of 13 years.[26] Further, such cells rapidly declined much earlier than this, decreasing by 22 weeks in utero and further lessening in number by age 1.

The study was conducted on tissue samples, which are often poor quality and could have affected the outcome of the study. However, René Hen, a professor in Columbia University's departments of psychiatry, neuroscience and pharmacology at the Kavli Institute for Brain Science, told CNN the study is "provocative" because "it claims that in the average human brain there are very few neurons left — in other words, it's probably not functional …

It is important because there are few studies that have documented how many of these young neurons are present in the hippocampus in humans."[27] It remains to be seen whether the study will be further confirmed, but it's also interesting to note that no one knows how many young neurons are necessary for function; it could be that a very small number could have "quite potent effects," according to Hen.

In addition, it has previously been shown that certain lifestyle strategies can promote neurogenesis and regrowth of brain cells, including the following. All of these strategies target a specific gene pathway called BDNF or brain-derived neurotrophic factor, which promotes brain cell growth and connectivity as demonstrated on MRI scans.

- **Exercise —** Physical activity produces biochemical changes that strengthen and renew not only your body but also your brain — particularly areas associated with memory and learning.
- **Reducing overall calorie consumption**, including intermittent fasting.
- **Reducing net carbohydrate consumption**, including sugars and grains.

- **Increasing healthy fat consumption —** Beneficial health-promoting fats that your body — and your brain in particular — needs for optimal function include clarified butter called **ghee**, organic grass fed raw butter, olives, organic virgin olive oil and coconut oil, nuts like pecans and macadamia, free-range eggs, wild Alaskan salmon and avocado, for example.
- **Increasing your omega-3 fat intake and reducing consumption of damaged omega-6 fats** (think processed vegetable oils) in order to balance your omega-3 to omega-6 ratio. Krill oil works well for this because (like wild Alaskan salmon) it also contains astaxanthin, which appears to be particularly beneficial for brain health.

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