

# Natural Nootropics

## Because We Could All Use a Boost!



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When it comes to energy levels, mood, memory, and concentration, we all seem to have good days and bad days. But when the bad days seem to constantly outnumber the good ones, it might just be a sign that your body is calling out for help.

Nootropics are a class of treatments intended to support or enhance cognitive functions including memory, focus, concentration, and learning. In the naturopathic world, these substances are often used adjunctively in the treatment of depression, Parkinson's disease, Alzheimer's disease, and ADHD. Students find them of particular benefit during stressful exam periods, when exhaustion

and burnout start creeping in. Overworked employees and individuals with high stress benefit from the brain boost when working late nights or travelling for long periods of time. And of course, our aging population often sees the greatest benefit both as a form of treatment and prevention of chronic disease.

Many of these nootropic agents also work on a physical level, supporting blood flow and oxygen to the muscles, and encouraging efficient energy production within each cell. The best part about these brain-enhancing compounds is that you probably take at least one every day without even knowing! They are much more common than you think, and you may already have some of them in your medicine cabinet.

### Caffeine

We know it to be a powerful stimulant that reaches the brain within 40 minutes of consumption and helps to reduce fatigue. However, caffeine also has its benefits in



the realm of physical fitness, supporting endurance athletes and enhancing athletic performance. Some evidence suggests that caffeine may reduce the risk of Parkinson's disease, and may be beneficial in lessening depression and stress in certain individuals.<sup>[1]</sup> But don't run to Starbucks just yet! Caffeine is found in many more beverages and foods than just coffee, and some alternatives can include yerba mate, certain soft drinks, black tea, and dark chocolate. Remember

that caffeine is still a drug and should be used within a reasonable limit to avoid irritability, anxiety, insomnia, and dehydration.

## Omega-3 Fatty Acids

This might be one you take already, and if you don't, you probably have it somewhere in your kitchen. Omega-3 fatty acids are found in many types of seafood, including salmon, herring, and mackerel, but are also present in smaller amounts in walnuts, soybeans, and flaxseeds. To be more specific, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are the important omega-3s to look out for, as they have been shown to host a wide array of health benefits. EPA may delay cognitive decline in the elderly and decrease whole-body inflammation.<sup>[2]</sup> DHA is important in brain and spinal-cord development, making it an essential part of a pediatric supplement regime and a crucial part of preventing neurologic disease later in life.<sup>[3]</sup> Both important ingredients have evidence to support increased communication between cells and improvements in cellular function. Whether you choose to take it in liquid or capsules, this is definitely one nootropic not to miss!

## Ginkgo biloba

It is an ancient herb in Chinese medicine, and today has become one of the most commonly used natural remedies for memory and brain health. *Ginkgo* works by dilating blood vessels, which increases blood flow not only to the brain, but also to all the organs and muscles of the body.<sup>[1]</sup> This makes *Ginkgo* helpful in improving short-term memory and cognition, while balancing mood and emotional function.<sup>[4]</sup>



For the best effects, use *Ginkgo* in combination with other nootropics, and give it at least 4–6 weeks to take effect.

## Acetyl-L-Carnitine

This well-known antioxidant can help increase the energy in the body by supporting the mitochondria, the powerhouses of each cell. Acetyl-L-carnitine is made naturally by the body, but is often supplemented in higher doses for those looking to improve memory and attention. It has been used in the management of early-onset Alzheimer's and dementia because of its documented neurological improvements in the clinical setting.<sup>[5]</sup> Research has also demonstrated a protective effect on nerves at the cellular level, and an ability to decrease cell damage from nerve or muscle-cell toxicity. This is especially important in the management of Parkinson's, as some evidence suggests neurotoxicity plays a role in the progression of the disease.<sup>[6]</sup>

## alpha-Lipoic Acid (ALA)

Similar to acetyl-L-carnitine, ALA has strong antioxidant actions and improves the efficiency of energy production within the mitochondria. In fact, ALA works very well with other nootropic agents, and is often given together with acetyl-L-carnitine to improve cognitive function and overall energy.<sup>[1]</sup> When combined with omega-3 fatty acids, ALA helped to slow cognitive and functional decline in individuals with Alzheimer's disease,<sup>[7]</sup> but as with everything, the dose and quality of the supplements play a large role in its effectiveness. You can get ALA from foods such as spinach, broccoli, yams, potatoes, and tomatoes; however, the amounts are too low to see significant benefits, so speak with your trusted health-care professional to make sure you are getting the most out of your ALA.

## Vitamin B<sub>12</sub>

This may be the most important vitamin for the nervous system, yet it is unfortunately the most difficult to absorb in the average Canadian digestive tract. Vitamin B<sub>12</sub> can be found in meats and seafood, but is otherwise made by healthy bacteria in the body. It serves as a key ingredient in the production of neurotransmitters (the chemical messengers of the brain), in the formation of myelin sheath (the lining which protects every nerve in the body), and in the development of red blood cells



(which carry oxygen to every tissue in the body).[1] Essentially, vitamin B<sub>12</sub> supports rapid nerve signaling in the brain and helps to increase the amount of oxygen to the tissues. It also plays a large role in mood balance and cholesterol metabolism, two health concerns which often overlook this incredible vitamin. Even with a balanced diet of B<sub>12</sub>-rich foods, inadequate amounts of stomach acid or excessive digestive inflammation can affect its absorption. Additionally, anyone being treated for acid reflux with a proton pump inhibitor (PPI) or for diabetes with metformin are at an increased risk of vitamin B<sub>12</sub> deficiency. Signs of deficiency include fatigue, shortness of breath, numbness and tingling, brain fog, mental confusion, and dementia, especially in the elderly.[8]

### **Bacopa monnieri**

This Ayurvedic herb is another ancient medicine that has been used for centuries to enhance learning and cognitive function. There are two important compounds responsible for its effectiveness, brahmine and herpestine, and both have demonstrated particular effectiveness in elderly populations suffering from amnesia and Alzheimer's disease.[1] In parts of India, *Bacopa* is taken as part of a regular routine in tea or oil form and continues to provide benefits to the geriatric population. Caution should be used when taking this herb long-term, as blood lipid levels can rise, increasing the risk of cardiovascular disease. A study of healthy human subjects taking *Bacopa* showed improvements in visual information processing, learning, and memory compared to those who did not take anything. Outside of its nootropic effects, *Bacopa* may help reduce inflammation, support the heart muscle, and decrease anxiety.

### **Ginger**

Also known in its herbal form as *Zingiber officinalis*, ginger is a spice which a wide array of benefits. Many people use the dried powder or fresh root in cooking, but this is often not enough to see its true effects. Much of the research that exists for ginger and memory focuses on the geriatric population greater than 80 years old; however, a study done on middle-aged women also shows significant improvement in working memory when taken consistently for two months.[9] Ginger has a very powerful antioxidant action, which makes it a great herb for most health conditions, including cardiovascular disease and those at risk of a stroke. All nootropic effects aside, ginger is an accessible and versatile form of medicine for immune support, female health concerns, and digestive upset.



Grab a glass of ginger tea, throw in some lemon and honey, and you've got yourself a brain-enhancing brew!

Whether you're considering brain enhancers for yourself or someone else, please always consult with your health-care professional before starting your own regime. Not every nootropic works for everyone, and they often work best in specific combinations that are determined based on your individual needs. For those suffering from neurological diseases, the doses of these nootropics and combinations with other important vitamin cofactors will be a key part of a successful treatment plan. Naturopathic doctors are highly trained in determining the appropriate use of herbs and nutrients, while taking into account interactions with other medications. A solid treatment plan includes an assessment of mental-emotional, digestive, and immune health for optimal effectiveness, and these are all things that should be considered before beginning any new supplement protocol.

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