

Nutritional Supplements to Improve Memory & General Brain Function

Most people have brain damage and don't know it. Anyone over age 40 needs to be concerned about this issue. ~ Russell L. Blaylock, MD, Neurosurgeon

An estimated 10 million baby boomers will develop Alzheimer's in their lifetime. . . . The disease commonly begins after age 60, and risk rises with age. . . . Alzheimer's is the 6th leading cause of death in Americans overall, and the 5th among those over 64. www.medicineworld.org; Life Extension Magazine (March/April 2013)

Have you been experiencing memory loss, especially the kind caused by aging? Do you ever misplace items you use every day, forget names or recent or past events, or have difficulty learning new material? Memory loss may start suddenly or come on slowly, and may be permanent or temporary. If yours is mild-to-moderate, you may be able to slow or even reverse it with nutritional supplements and lifestyle changes.

How the Brain Remembers

Which area of the brain is involved in the memory process depends on the type of memory and type of information it contains. For example: (1) the pre-frontal cortex temporarily stores and processes short-term memories (information that will be needed in the next several seconds or minutes); and (2) the hippocampus orchestrates the processes related to long-term memories (the hippocampus, surrounding cortical structures, and neural pathways connecting these structures to the cortex are all involved in the memory of facts and events).

Memory Loss: Definitions & Causes

While the entire subject of memory loss goes far beyond the scope of this article, this discussion aims to begin to remove some of the mystery and fear around it. Everyone occasionally experiences forgetfulness. Mild memory loss tends to increase with age and is generally no cause for concern. However, there is a difference between mild memory loss due to normal aging, and progressive or extreme memory loss.

A person can lose either short- or long-term memory, and one type of loss does not necessarily accompany the other. Short-term memory loss is quite common and often results from brain artery blockage. The numerous causes include prescription drugs (e.g. statin drugs to lower cholesterol), excess stress (especially over time), substance abuse, pain, and traumatic brain injury (TBI).

Dementia, a group of symptoms caused by gradual death of brain cells, is a “loss of mental ability severe enough to interfere with normal activities of daily living, lasting more than six months, not present since birth, and not associated with a loss or alteration of consciousness.” The loss of cognitive abilities that occurs with dementia leads to impairments in memory, reasoning, planning, and behavior/social skills. While most people with dementia are elderly, it is not an inevitable part of aging; rather, it is caused by specific brain diseases.

Alzheimer's disease (AD), the most common cause of dementia, arises from the degeneration and death of both brain cells and the connections between them in the cerebral cortex. The brain becomes clogged with neurofibrillary tangles (twisted masses of protein fibers inside nerve cells) and senile plaques (composed of parts of neurons surrounding a group of sticky proteins called amyloid beta deposits).

A slow, chronic starvation of the brain as we age may be a key trigger of a biochemical process that causes some forms of AD. One study, published in *Neuron* by Northwestern University's Feinberg School of Medicine, found that the brain's failure to get enough glucose launches a process that ultimately produces amyloid beta. The study's author indicated that improving blood flow and increasing delivery of glucose to the brain, especially with vasodilators (e.g., ginkgo biloba, L-arginine), might prevent or treat AD, and people may be able to prevent dementia if they “start early enough.”

The Natural Approach

Below are just a few of the supplements that have been shown in human clinical or lab studies to support brain and memory function:

Acetyl-L-Carnitine (ALC)

The amino acid acetyl-L-carnitine supports mental acuity by preserving the powerhouses of brain cells (mitochondria), improving blood flow, protecting against toxins, and assisting with the transport of fatty acids (e.g., DHA) between cells. One 1998 clinical trial conducted at Stanford University School of Medicine found that this nutrient slows the progression of AD in subjects in their early 60s. Another study published in the *American Journal of Clinical Nutrition* (2008) established that ALC can reduce fatigue and boost mental function in people over age 70. Combining ALC with Coenzyme Q10 (ubiquinol) enhances ALC's activity.

Curcumin/Turmeric

As noted in the *Annals of Indian Academy of Neurology*, curcumin (from turmeric), an ancient Indian herb, has been used to treat dementia and TBI. It also has a potential role in the prevention and treatment of AD since it combats inflammation, decreases amyloid beta plaques, delays degradation of neurons, chelates metals, and is a powerful antioxidant.

Human clinical studies have shown that a patented curcumin formulation (BCM-95) greatly enhances the bioavailability of this herb, which is generally difficult to absorb. This form not only delivers up to 7 times better absorption than ordinary 95% standardized curcumin, but also remains in the bloodstream for 8-12 hours, almost twice as long as conventional supplements.

DHA (Fish Oil)

According to multiple studies, including one published in the *American Journal of Clinical Nutrition* (2008), those with lower intake levels of omega-3 fatty acids are at greater risk for AD. DHA, one component of fish oil: (1) protects brain tissue from age-inducing inflammatory damage from oxidative and other stresses; (2) stimulates physical changes that underlie learning and memory; and (3) promotes healing after brain tissue injury from seizure, stroke, or TBI. Large-scale epidemiological studies reveal that consuming an average of 3g/day of fatty fish reduces by 19-23% the risk of mild cognitive impairment, which can progress to AD. This translates to daily doses of high-quality fish oil containing 1,400 mg EPA and 1,000 mg DHA.

Magnesium L-Threonate

Magnesium is critical to brain function. In particular, magnesium L-threonate restores degraded neuronal connections, thereby improving learning and memory. Lab studies demonstrate that higher levels of magnesium favor amyloid beta breakdown. Magnesium levels are markedly lower in AD patients, and the degree of deficiency of this critical mineral correlates with the severity of the disease.

Phosphatidyl Choline (PC)

The body uses phosphatidylcholine to make the neurotransmitter acetylcholine, critical for memory. Since PC increases acetylcholine, there is keen interest in using it for improving memory and AD.

Pregnenolone

Derived from cholesterol, pregnenolone is the parent hormone from which all other vital steroid hormones are made, including DHEA, estrogen, progesterone, and testosterone. Aging results in a dramatic decline in production of both pregnenolone and the hormones for which pregnenolone is a precursor. Science has linked decreasing levels of these essential hormones with many disorders that commonly accompany aging, including cognitive decline.

Supplemental pregnenolone thus supports youthful cognition by contributing to optimal hormone levels, supporting activity of acetylcholine (damage to the acetylcholine-producing system in the brain has been shown to be associated with AD memory deficits), and promoting nerve cell growth in the brain's hippocampus. However, because pregnenolone can affect hormone levels, those with hormonally related cancers (e.g., prostate and breast cancers) should avoid it.

Lifestyle Choices

To lower your dementia risk **right now**, try: (1) eating healthier; (2) avoiding being overweight/obese; (3) staying physically active; (4) breaking addictions to sugar, smoking and prescription/illicit drugs; (5) managing your prescription side effects and drug-drug interactions; (6) sleeping 6-9 hours/night; (7) challenging your mind (see www.lumosity.com, WordsWithFriends); (8) managing your stress with cortisol-lowering nutritional supplements (e.g., Relora[®]), yoga, and deep breathing/meditation; (9) maintaining healthy cholesterol and blood pressure levels; and (10) taking anti-inflammatory and antioxidant supplements.

Conclusion

While conventional medications cannot prevent progressive brain deterioration, numerous nutritional supplements have been shown to bolster brain function and slow or prevent dementia. Regardless of which nutrients you choose, ideally in combinations, they will more likely be effective if you start using them early, long before memory loss symptoms appear.

PUBLISHED IN NATURAL NUTMEG MAGAZINE APRIL 2013; WRITTEN BY MICHAEL & ERIKA DWORKIN, MANCHESTER PARKADE HEALTH SHOPPE, WWW.CTHEALTHSHOP.COM