

Are There Natural Remedies For Cognitive Aging?

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More than 30 countries now have a life expectancy of 80 or more, a dramatic increase over the last half century. This is good news, but it also brings challenges. The aging brain goes through predictable changes, and as a result, old age is usually accompanied by some cognitive decline, even dementia.

Happily, some of the risk factors for mental aging are open to intervention. Diet, exercise and mental activity all play a role in healthy aging, but there are also natural pharmaceuticals that may be of use in staving off decline. Psychological scientists Con Stough and Matthew Pase of Swinburne University of Technology, in Australia, have been studying various pharmacological interventions, and recently put together a status report on their effectiveness in preserving abilities like memory and reasoning. Here's what's known so far:

- **Ginkgo biloba.** Scientists have extensively investigated this natural supplement, taken from the *Ginkgo biloba* tree. One extract, known as EGb 761, is of special interest, because it acts in several ways that may be relevant to mental aging. It has both antioxidant and anti-inflammatory properties, and also improves blood flow, glucose metabolism and synapse function.
- But clinical results have been mixed. One review found no consistent evidence of benefit for those with dementia or cognitive impairment, while another review did find a moderately large benefit for those with diagnosed dementia, especially for those with Alzheimer's disease.
- **Bacopa monniera.** This is an Indian herb that has been used in Ayurvedic medicine for centuries as a cognitive tonic. In the lab, it has been shown to act in several ways that might improve mental function—reducing inflammation and oxidative stress. It also affects the brain's acetylcholine, a neurotransmitter involved in learning and memory. Stough and Pase gave subjects a daily dose of one Bacopa extract, and found a significant improvement in cognitive processing speed—with smaller effects on learning and memory. A recent review of clinical trials indicates that Bacopa may enhance memory recall.
- **Vitamins.** Stough and Pase's laboratory has analyzed the effects of multivitamins on cognitive performance, and found improvements in one kind of verbal memory—but no other forms of cognitive enhancement. Another large study found moderate improvements in recall over six years, while yet another found no effect on cognitive decline over 12 years.
- The B vitamins are also of clinical interest, because they are known to lower levels of homocysteine, an amino acid linked to dementia. And indeed one study showed that B vitamins slowed the rate of brain atrophy by 27 percent and slowed cognitive decline in adults with mild impairment. But a large study found no such effects in adults without cognitive impairment.
- **Polyphenols.** These are compounds found in many foods, including onions, apples, berries, cocoa, tea and coffee. Many are considered healthy because they appear to scavenge for harmful free radicals, and to improve vascular health and reduce inflammation. One study of polyphenols extracted from pine bark found improvement in working memory and a decrease in oxidative stress. Another study, of a similar pine bark extract, showed improvements in spatial working memory and picture recognition. Some studies have also found that dark chocolate improves

cognition and alters brain function, though the results have been mixed.

- **Fish oil.** Oily fish like mackerel and salmon are high in certain Omega-3 fatty acids, which play an important role in regulating cell function and inflammation. With respect to the brain, a few studies have shown that Omega-3 can slow the rate of cognitive decline, but other studies have not found these positive effects. Most of the benefits that have been found—on attention and processing speed, for example—have been small.

These are the most popular natural cognitive enhancers, and the most thoroughly studied. Bacopa and pine bark are among the most promising so far, though others have also shown specific benefits. A more detailed status report will appear in a forthcoming issue of the journal *Current Directions in Psychological Science*.

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