Parkinson's Disease

En Español (Spanish Version)

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Related Terms
• Paralysis Agitans

Principal Proposed Natural Treatments
• CDP-Choline (Also Called Citicholine) ; Coenzyme Q₁₀

Other Proposed Natural Treatments
• 5-Hydroxytryptophan (5-HTP); Acupuncture; Alexander Technique; Creatine; D-Phenylalanine; Glutathione; L-Methionine; Magnet Therapy; NADH; Phosphatidylserine; Policosanol; S-adenosylmethionine (SAMe); Vitamin C; Vitamin E

Herbs and Supplements to Use Only With Caution
• 5-Hydroxytryptophan (5-HTP); Amino Acids (Such as BCAAs, Methionine, and Phenylalanine) ; Iron; Kava; SAMe; Vitamin B₆

Parkinson's disease is a chronic disorder typically affecting people over age 55. The condition is caused by the death of nerve cells in certain parts of the brain, leading to characteristic problems with movement. These include a "pill rolling" tremor in the hands (so called because it appears that the individual is rolling a small object between thumb and forefinger), difficulty initiating walking, a shuffling gait, decreased facial expressiveness, and trouble talking. Thinking ability may become impaired in later stages of the disease, and depression is common.

Although the underlying cause of Parkinson's disease is unknown, many researchers believe that free radicals may play a role in destroying at least some of the nerve cells.

The nerve cells that are affected in Parkinson's disease work by supplying the neurotransmitter dopamine to another part of the brain. Most treatments for Parkinson's disease work by artificially increasing the brain's dopamine levels. Simply taking dopamine pills won't work, however, because the substance cannot travel from the bloodstream into the brain. Instead, most people with Parkinson's disease take levodopa (L-dopa), which can pass into the brain and be converted there into dopamine. Many people take levodopa with carbidopa, a drug that increases the amount of levodopa available to make dopamine.

At first, levodopa produces dramatic improvement in symptoms; however, over time, levodopa becomes less effective and more likely to produce side effects. Other drugs may be useful as well, including bromocriptine, trihexyphenidyl, entacapone, tolcapone, selegiline, and pergolide. There are also surgical treatments that can decrease symptoms, such as pallidotomy and deep brain stimulation.

Principal Proposed Natural Treatments

CDP-Choline

Short for cytidinediphosphocholine, CDP-choline (sometimes called citicholine) is a substance that occurs naturally in the human body. It is closely related to choline, a nutrient commonly put in the B vitamin family. For reasons that are not completely clear, CDP-choline seems to increase the amount of dopamine in the brain. On
this basis, it has been tried for Parkinson’s disease.

In a 4-week, single-blind study of 74 people with Parkinson’s disease, researchers tested whether oral CDP-choline might help levodopa be more effective.\textsuperscript{2} Researchers divided participants into two groups: one group received their usual levodopa dose, the other received half their usual dose without knowing which dosage they were getting. All the participants took 400 mg of oral CDP-choline 3 times daily.

Even though 50\% of the participants were taking only half their usual dose of levodopa, both groups scored equally well on standardized tests designed to evaluate the severity of Parkinson’s disease symptoms.

Support for the use of CDP-choline also comes from studies in which the supplement was administered by injection.\textsuperscript{6-9}

In general, CDP-choline appears to be safe.\textsuperscript{11} The study of oral CDP-choline for Parkinson's disease reported only a few brief, nonspecific side effects such as nausea, dizziness, and fatigue.\textsuperscript{12} In a study of 2,817 elderly people who took oral CDP-choline for up to 60 days for problems other than Parkinson's disease, side effects were few and mild and reported in only about 5\% of participants.\textsuperscript{13} Two-thirds of these side effects were gastrointestinal (nausea, stomach pain, and diarrhea), and none required stopping CDP-choline. The dose in this study was 550 mg to 650 mg per day, about half the dose used for Parkinson’s disease.

**Coenzyme Q \textsubscript{10}**

The supplement coenzyme Q\textsubscript{10} (CoQ\textsubscript{10}) been widely advertised as effective for treating Parkinson's disease. However, there is only minimal evidence that it works, and some evidence that it does not.

A study published in 2002 raised hopes that CoQ\textsubscript{10} might help slow the progression of Parkinson’s disease. In this 16-month, double-blind, placebo-controlled trial, 80 people with Parkinson’s disease were given either CoQ\textsubscript{10} (at a dose of 300 mg, 600 mg, or 1,200 mg daily) or placebo.\textsuperscript{44} Participants in this trial had early stages of the disease and did not yet need medication. The results appeared to suggest that the supplement, especially at the highest dose, might have slowed disease progression. However, for a variety of statistical reasons, the results were, in fact, quite inconclusive.

A subsequent double-blind, placebo-controlled study of 28 people with Parkinson’s disease, which was well-controlled by medications, indicated that 360 mg of CoQ\textsubscript{10} daily could produce a mild improvement in some symptoms.\textsuperscript{45} Based on these results, a more substantial study was undertaken, enrolling 131 people with Parkinson’s disease (again, well-controlled by medications).\textsuperscript{55} Unfortunately, it didn’t work. While benefits were seen in both the placebo and the CoQ\textsubscript{10} group, the supplement failed to prove more effective than placebo.

For more information, including dosage and safety issues, see the full CoQ\textsubscript{10} article.

**Other Proposed Natural Treatments**

Several other natural products have been studied for preventing or treating Parkinson’s disease, with mixed results.

**S-adenosylmethionine**

Whether a symptom of the disease or a response to disability, depression affects many people with Parkinson’s disease, and long-term use of levodopa may contribute to this problem. Research suggests that levodopa can deplete the brain of a substance called S-adenosylmethionine (SAMe for short).\textsuperscript{14,15} As SAMe has been found in a number of small studies to have antidepressant effects,\textsuperscript{16} it is possible that depleting it might trigger depression.
Researchers conducted a trial to determine if taking SAMe supplements could decrease depression in 21 individuals with Parkinson's disease who were taking levodopa.\textsuperscript{12} In this double-blind study, each participant received either a combination of oral and injected SAMe or placebo daily for 30 days, followed by the alternate treatment for another 30 days. Although other symptoms of Parkinson's didn't change, 72\% of people taking SAMe felt that their depression was improved after 2 weeks, while only 30\% noted improvement with placebo. It is not yet known if oral SAMe alone would have similar effects.

Although SAMe might appear to be an excellent accompaniment to levodopa, there is another side to the issue. During treatment with levodopa, SAMe participates in breaking it down and gets used up in the process. It is possible that taking extra SAMe could lead to decreased effectiveness of levodopa.\textsuperscript{18} In the short-term study described above, SAMe did not interfere with levodopa's effects, but longer-term use might do so.

The bottom line: If you have Parkinson's disease, it's safest to use SAMe—if at all—only under the supervision of a physician.

For more information, including dosage and safety issues, see the full SAMe article.

**Phosphatidylserine**

Phosphatidylserine (PS for short) is a major component of cell membranes. Several studies have found PS supplementation effective for improving mental function in individuals with Alzheimer's disease. One trial examined its use in 62 people, all of whom had both Parkinson's disease and Alzheimer's-type dementia. The results appeared to indicate some benefit, but due to the incompleteness of the report on this trial, it is difficult to draw conclusions.\textsuperscript{23}

For more information, including dosage and safety issues, see the full Phosphatidylserine article.

**Vitamin E**

Because of indications that free radicals play a role in causing Parkinson's disease, treatment with high doses of vitamin E has been tried to see if it can slow down the progression of Parkinson's disease. However, a large study yielded disappointing results. In this trial, 800 individuals newly diagnosed with Parkinson's disease took 2,000 IU of tocopherol (synthetic vitamin E) or placebo daily for an average of 14 months.\textsuperscript{24-26} Vitamin E had no effects in delaying symptoms of the disease—nor did it reduce side effects of levodopa.

For more information, including dosage and safety issues, see the full Vitamin E article.

**Vitamin C**

One problem with levodopa treatment for Parkinson's disease is the so-called "on-off effect," in which a person taking levodopa will move more freely for some hours, followed by sudden "freezing up." Vitamin C has been tried as a remedy for "on-off effects" in a small double-blind study,\textsuperscript{27} but the results were so minimal that the researchers didn't feel justified in recommending it.

For more information, including dosage and safety issues, see the full Vitamin C article.

**Other Treatments**

The herb *Mucuna pruriens* contains L-dopa. One very small study reportedly found evidence that use of the herb as an L-dopa source offers advantages over purified L-dopa given as a medication itself.\textsuperscript{42}

Other proposed natural treatments for Parkinson's disease have minimal or conflicting evidence supporting them, including NADH,\textsuperscript{24-30} glutathione,\textsuperscript{31} policosanol,\textsuperscript{32} and the amino acids D-phenylalanine,\textsuperscript{33} and L-methionine.\textsuperscript{34,35} Caution is advised with the latter three, as they might affect the function of levodopa.\textsuperscript{36,37} (See Herbs and Supplements to Use Only with Caution, below.) A two-year study failed to find more than minimal benefits at most with creatine.\textsuperscript{53}
Weak evidence hints that the supplement 5-HTP might be helpful for depression in people with Parkinson’s disease. However, 5-HTP should not be combined with the drug carbidopa. (See Herbs and Supplements to Use Only with Caution, below.)

A double-blind, placebo-controlled trial of 99 people found that rTMS (a special form of magnet therapy) delivered over 8 weekly treatments can improve Parkinson’s symptoms. A 2-month, double-blind, placebo-controlled trial of 18 people found that rTMS improved Parkinson’s symptoms. Similar benefits were seen in 3 other small controlled studies as well. And still more encouraging, when combining the results of 10 randomized trials in Parkinson’s patients, researchers noted a significant benefit for rTMS (using higher frequencies).

A postural training method called Alexander technique has shown some promise.

A small placebo-controlled study found that use of bright lights, best known as a treatment for seasonal affective disorder, may also help relieve various symptoms of Parkinson’s disease, possibly by reducing levels of melatonin in the brain.

In two studies, acupuncture failed to provide much benefit for Parkinson’s disease. And, in two comprehensive reviews of multiple clinical trials, independent sets of researchers concluded that there was currently no well-established evidence for acupuncture’s effectiveness in Parkinson’s.

### Herbs and Supplements to Use Only With Caution

If you have Parkinson's disease, it is best to avoid taking the herb kava. Preliminary reports suggest that kava may counter the effects of dopamine and possibly reduce the effectiveness of medications for Parkinson's.

Other substances may also interact with Parkinson's drugs. Iron supplements can interfere with absorption of levodopa and carbidopa and should not be taken within 2 hours of either medication. Amino acid supplements, such as branched-chain amino acids (BCAAs), can temporarily decrease levodopa's effectiveness, as may methionine and phenylalanine, two amino acids studied for treatment of Parkinson’s disease.

Vitamin B in doses higher than 5 mg per day might also impair the effectiveness of levodopa and should be avoided. However, if you take levodopa-carbidopa combinations, this restriction may not necessarily apply. Talk with your physician about an appropriate dose of vitamin B.

Certain herbal formulas used in Traditional Chinese Herbal Medicine to treat upset stomach might reduce the effectiveness of levodopa.

The supplement 5-HTP has a potentially dangerous interaction with carbidopa. Using the two substances together may increase your chance of developing symptoms resembling those of the disease scleroderma.

As noted above, SAMe could conceivably impair the effectiveness of levodopa.

One report suggests that by amplifying the action of levodopa, policosanol might increase side effects called dyskinesias.

Very weak evidence hints that prolonged (many years) intake of high levels of iron and manganese might increase risk of developing Parkinson’s disease.

### References [+]


42. *Drug Evaluations Annual.* Chicago, IL: American Medical Association, Division of Drugs and Toxicology; 1992:12.


Last reviewed August 2011 by EBSCO CAM Review Board
Last Updated: 8/1/2011