

Simply Playing Ping Pong May Cut Symptoms of Parkinson's

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✓ Fact Checked

STORY AT-A-GLANCE

- › Seniors with Parkinson's who played ping pong for six months experienced improved balance and the ability to get up from bed
- › Vestibular stimulation may be the mechanism that triggered symptom improvement; caloric vestibular stimulation has also been shown to reduce symptoms
- › Research evidence shows damaged proteins contributing to Parkinson's travel from the gut to the brain and from the brain to peripheral organs and muscles
- › Certain foods may help prevent the disease, while *M. pruriens*, a climbing legume, may help improve treatment
- › You may help reduce your potential risk by reducing gut permeability and improving cellular autophagy using a cyclical ketogenic plan and promoting natural autophagy

Parkinson's disease (PD) is a neurodegenerative disorder that is predicted to affect 930,000 people by the end of 2020 and 1.2 million by 2030.¹ The disease triggers tremors, slowing movements, balance problems and rigidity. There is no known cause or cure and the first line of treatment usually involves drugs that don't slow the associated neurodegeneration.²

About 60,000 are diagnosed in the U.S. each year and to date there are more than 10 million with the disease worldwide.³ The Parkinson's Foundation Prevalence Project also finds men are more likely to be diagnosed than women and the number who develop PD rises with age, regardless of gender.

Researchers have found that being around any number of toxins may increase the risk by 80% in some cases.⁴ Pesticides are an example; exposure can result in mitochondrial dysfunction that may be responsible for some of the damage. As noted in Environmental Health Perspectives:⁵

"In experimental models, the pesticides paraquat, which causes oxidative stress, and rotenone, which inhibits mitochondrial complex I, both induce loss of nigral dopaminergic neurons and behavioral changes associated with human PD."

People with a genetic mutation in the synuclein gene, associated with an increased risk of Parkinson's, may be more susceptible to the damaging effects of pesticides. Misfolded alpha-synuclein proteins may cause nerve cell damage leading to dead brain matter called Lewy bodies.⁶

These are associated with the symptoms of Parkinson's disease, including problems with movement and speech. As you can imagine, PD affects the quality of life.

Unfortunately, depression is common in patients with PD; this influences functional disability, cognitive deficits and other comorbid psychiatric disorders.⁷ Reducing the symptoms of PD not only may enhance the quality of life and levels of independence, but it may also alleviate symptoms of depression.

Playing Ping Pong Improves Symptoms of Parkinson's

Many of us think of actor Michael J. Fox when we think about [Parkinson's disease](#). His foundation funds research aimed at improving the lives of people with the disease.⁸

The challenges of living with PD can sometimes feel overwhelming, but researchers from Fukuoka, Japan, have discovered that seniors can manage their symptoms more effectively when they play ping pong. The game is otherwise known as table tennis and can be challenging for anyone, but even more so for those who live with a movement disorder.

However, those who took part in a study over six months experienced improvements in their symptoms.⁹ The researchers engaged 12 patients with an average age of 73 whose Parkinson's disease had been diagnosed within the past seven years.

The results of the study¹⁰ are to be presented at the 2020 American Academy of Neurology 72nd annual meeting in Toronto.¹¹ The participants were tested at the start of the study, after three months and again at the end for the number and severity of symptoms.

Activities in the program, developed by experienced players, improved the participants' speech, handwriting, **walking** and ability to get out of bed. In the beginning it took participants an average of more than two tries to get out of bed; by the end of the study the average participant could get out of bed on the first try. In a press release one researcher was quoted as saying:¹²

"Pingpong, which is also called table tennis, is a form of aerobic exercise that has been shown in the general population to improve hand-eye coordination, sharpen reflexes, and stimulate the brain. We wanted to examine if people with Parkinson's disease would see similar benefits that may in turn reduce some of their symptoms.

While this study is small, the results are encouraging because they show pingpong, a relatively inexpensive form of therapy, may improve some symptoms of Parkinson's disease. A much larger study is now being planned to confirm these findings."

Balance issues are common in those with PD. One treatment option has been the use of vestibular rehabilitation therapy; ping pong is one suggested balance training sport.¹³ Head movements and visual stimulation are important to the rehabilitation process.

The authors of one 2016 case study¹⁴ found that using a caloric vestibular stimulation (CVS)¹⁵ in an individual with Parkinson's disease helped with motor and non-motor symptoms.

In another study involving 33 people who received CVS at home twice a day for eight weeks, scientists found greater reductions in motor and non-motor symptoms than those in the placebo group.¹⁶ The improvements lasted for five weeks after the last treatment. Ear stimulation appears to be an effective and safe form of treatment, which may also have been triggered in those playing ping pong.

Proteins Travel From Your Gut to Your Brain and Back Again

Unfortunately, diagnosis usually happens after symptoms occur and brain cells have died. Researchers have been studying ways to detect the condition earlier, which may positively impact treatment and prevention. The known link between the gut microbiome and Parkinson's disease may be an important factor.

An animal study¹⁷ from Johns Hopkins Medicine was built on observations made in 2003 showing an accumulation of alpha synuclein proteins were appearing in parts of the brain that control the gut.

Interested in whether these proteins could travel along the vagal nerve, the researchers used an animal model over 10 months and demonstrated when the vagal nerve connection had been cut there was no cell death in the brain. It appeared that severing the vagal nerve could stop the advance of misfolded proteins and thus the development of Parkinson's disease.

Levodopa is a drug often used to help reduce symptoms in those with Parkinson's disease as it acts as a precursor to dopamine. However, researchers have found it's not effective for everyone and may depend on the composition of your [gut microbiome](#). Some microorganisms may metabolize the medication and therefore render it ineffective.

Researchers have identified a specific enzyme produced in the microbiome that works to metabolize levodopa. By blocking one or both enzymes, the drug's effectiveness could be improved.¹⁸

In addition to the impact the microbiome has on drug effectiveness, it may also regulate movement disorders through changes to alpha-synuclein protein folding.¹⁹ The connection makes sense, as gastrointestinal symptoms, such as constipation, may begin decades before the onset of symptoms in Parkinson's disease.

The communication between your gut and brain is bidirectional, and it appears the misfolded proteins triggering neuron cell death in the brain may travel in both directions. While it may contribute to symptoms in several ways, the aberrant alpha-synuclein cells are toxic to cellular homeostasis, triggering neuronal death and affecting synaptic function.

Using an animal model, one group of researchers found there was an increasing expression of alpha-synuclein inhibiting the release of neurotransmitters, which essentially produced Parkinson-type symptoms.²⁰ Researchers were then able to identify the specific protein transmitted from the brain to the gut,²¹ demonstrating the bidirectional communication.

Certain Foods May Help Prevent or Boost Treatment

As described in this short video, compounds found in certain nightshade vegetables in the Solanaceae family, specifically **bell peppers**, may help inhibit the development of Parkinson's disease. Researchers theorize it may be the nicotine that helps reduce your risk. Of course, the risks associated with smoking are not enough to justify taking up the habit to lower your potential risk of Parkinson's.

In one study²² researchers enrolled 490 newly diagnosed people with Parkinson's disease against another 644 people without the disease. At the end of the study they found eating vegetables in the Solanaceae family was inversely related to the risk of developing Parkinson's disease.

The study's authors found no other food had a higher positive relationship, which suggested eating these vegetables two to four times per week may provide a protective effect. A second plant that may help battle the effects of Parkinson's disease is the climbing **legume**, *M. pruriens*.

In tropical areas of the world they are a well-known protein source but also used as medicine. The plant contains levodopa, the precursor to dopamine found in medications used to treat Parkinson's disease. Without sufficient amounts of dopamine, you may feel lethargic, unfocused and potentially depressed.

Karen Kurtak, department head of longevity nutrition at Grossman Wellness Institute in Denver, says, "M. pruriens has an almost magical ability to improve motivation, well-being, energy and sex drive, along with decreasing the tendency to overeat."²³

Evidence from clinical trials²⁴ has demonstrated that the legume produces equivalent or better results than L-dopa medications, and without the side effects. However, Western medicine practitioners continue to use and promote the synthetic form to boost dopamine levels in your brain and reduce the effects of Parkinson's disease.

Beyond Parkinson's treatment, Ayurvedic medicine practitioners use it as an aphrodisiac, and to reduce nervous disorders and infertility.²⁵ If you have the disease and would like to investigate this, consult with your doctor or an Ayurvedic medicine practitioner before taking M. pruriens, especially if you are currently taking prescription medication, to ensure this remedy is right for you.

Reduce Gut Permeability and Improve Autophagy

It may also be possible to prevent neurodegenerative diseases or reduce symptoms by naturally addressing your gut permeability and autophagy dysfunction. Improve the health of your gut microbiome through small lifestyle changes such as eliminating sugar, using a [cyclical ketogenic diet](#) and eating fiber-rich foods.

For a more complete list, see my article, "[Gut Microbiome May Be a Game-Changer for Cancer Prevention and Treatment](#)."

The combination of these strategies and improving autophagy through cycles of feast and famine may help reduce your risk and improve genetic repair and longevity. Fasting also has a beneficial impact on your brain and boosts brain derived neurotrophic factor

(BDNF).²⁶ This protein may help protect brain cells from changes that are associated with Parkinson's and Alzheimer's disease.

If you are under the care of a physician or on medication, you need to work with your doctor to ensure safety since some medications need to be taken with food. Diabetics on medication also need to use caution and work with a health care professional to adjust medication dosage.

Activating adenosine monophosphate-activated protein kinase (AMPK) through proper diet and nutritional supplements also supports natural autophagy. You can learn more about this process in my previous article, "[Autophagy Finally Considered for Disease Treatment.](#)"