



Medical Marijuana and Parkinson's Disease



THE MICHAEL J. FOX FOUNDATION
FOR PARKINSON'S RESEARCH



One of the most common questions people and families with Parkinson’s ask is, “What about medical marijuana?” Many are curious if and how it might work for different symptoms, and what the research shows.

As an increasing number of states authorize medical (and even recreational) marijuana, a significant number of people with Parkinson’s disease (PD) report using these products. Some describe benefit on sleep, mood or other symptoms. Others report side effects. And many say they are unsure how to discuss this therapy with their physician.

Here, we offer general information about medical marijuana and Parkinson’s, tips for talking with your doctor, and more.

What is medical marijuana?

Marijuana comes from the Cannabis plant, which contains hundreds of different components, including cannabinoids. Cannabinoids bind to receptors throughout the brain and body to influence movement, mood, inflammation and other activities. Many of these receptors are in areas of the brain impacted by Parkinson's disease, which are known as the basal ganglia.

The main cannabinoid is tetrahydrocannabinol (THC). This can cause the feeling of being “high”—described as happiness, amusement or contentment — that is commonly associated with marijuana. THC may help nausea, pain or muscle spasms, but it also can have negative effects on mood, behavior and thinking. (Lower doses of THC may be less likely to cause these side effects.) The second most common cannabinoid, cannabidiol (CBD), seems to have less potential for side effects related to thinking, memory or mood.

What is cannabis?

Cannabis refers to products from the Cannabis plant, including marijuana.

Cannabis comes in several forms and can be taken different ways: smoking or vaping dried leaves, swallowing pills or eating or drinking foods (edibles) that contain cannabinoids, putting liquid or drops under the tongue, or applying creams or ointments to painful areas. Two U.S. Food and Drug Administration (FDA)-approved prescription cannabis medications also are available for specific conditions, such as epilepsy or cancer- or AIDS-related symptoms.

The amount of THC, CBD, other cannabinoids and other (sometimes unknown) substances varies across products. Sometimes, the levels of these contents may not be known. And even if the product does have a label, studies have shown the label may not accurately represent what's actually in the product. This is because there are no federal governing standards of purity or label accuracy. Most states have their own regulations, but these vary.

Still, it's important to read labels, ask questions, and have a general idea of the amount of THC or CBD in a product. For those who choose to try cannabis, use caution — start with a low dose and increase slowly, if at all. Using medical marijuana is often a process of trial and error to figure out what might work because solid studies to guide dosing and formulation are lacking.

Is cannabis safe? Effective?

There are many anecdotal reports of benefit. But controlled trials — on motor and non-motor symptoms as well as dyskinesia (involuntary, uncontrolled movement) — have not yet proven the safety or benefit of cannabis in Parkinson's.

Clinical trials have generally had mixed or conflicting results (some positive, some negative). On questionnaires, people often report benefit on pain, sleep, mood, or motor symptoms such as tremor or stiffness. But many also report side effects. This leaves patients, doctors and researchers with insufficient evidence to guide use.

In low doses, cannabinoids appear to be relatively well tolerated. But, like all treatments, they have potential side effects: new or worsened nausea; dizziness; weakness; hallucinations (seeing things that aren't there); mood, behavior or memory/thinking (cognitive) changes; or imbalance. Regular smoking or vaping also could cause lung damage. The potential risks on cognition, mood and motivation — to exercise, socialize, or participate in other activities, for example — are especially important for people with PD.

Cannabis also could interact with other medications you take. While interactions are largely unknown, adding cannabis to a complex regimen of Parkinson's and other prescription medications could present a risk. It's important to tell your Parkinson's doctor about any non-prescription medications you use, including medical marijuana, so that they can alert you to possible interactions.



Why is cannabis research difficult?

Several factors limit the ability to perform research and interpret results:

+ **Regulations may deter investigators and participants.**

The federal government classifies marijuana as Schedule I, which includes drugs that have no current acceptable medical use and a high potential for abuse. The Michael J. Fox Foundation has long advocated for a reclassification of marijuana, which could make it easier to conduct research. In some cases, funding restrictions also may impede research.

+ **Studies often have limitations.**

Size, design, and lack of standardized formulations or dosing make it difficult to compare studies and draw conclusions. Many studies include small numbers of participants, so it's unlikely the group represents the

broad Parkinson's population or that results apply to the majority. Few studies include a placebo group, which makes it difficult to determine how much benefit may truly be from cannabis and how much might be placebo effect. And studies that include questionnaires rely on individual report, which may involve bias or inaccuracies.

Different studies also use different formulations with different amounts of THC and CBD. This makes it challenging to understand what might be doing what, why one trial fails and another shows positive results, and what type of cannabis may work best for an individual or for a specific symptom.

How can I talk to my doctor about cannabis?

If you are considering or taking cannabis, let your doctor know. They may be able to help you weigh the pros and cons,

and they'll have a complete picture of all your treatments, prescription or otherwise, in case there is a change in symptoms or possible drug interaction. They also can direct you to ongoing research studies, if of interest.

If you are thinking about cannabis, you may want to ask your doctor:

+ What symptoms it may help

Be clear about what symptoms you hope to treat — anxiety, sleep, pain or others. In general, cannabis seems more useful for non-motor than motor symptoms, but experiences vary.

+ Potential benefits and side effects

Consider your medications and symptoms. Might cannabis lower blood pressure and counteract the medication you take to raise blood pressure? Or could it worsen your symptoms, such as thinking changes or imbalance?

+ Their recommendation

Some physicians are willing to incorporate cannabis into your treatment regimen; others are less comfortable. Be aware that, unfortunately, many doctors may not know details about the many available products or be able to recommend a specific product or dosing. If you wish to try medical marijuana, ask if they can help with the process or if they can refer you to someone who can.

Try to be open, honest and willing to hear what your doctor says. Tell them you are looking at all treatment options and want to learn if and how cannabis might help. And if you are considering or taking specific products, share which. You may want to bring printed information or a picture of the label.

How can I access cannabis?

As of March 2022, 37 states and the District of Columbia allow the use of medical cannabis. The authorized medical conditions, formulations, and patient and physician requirements are different in each state. Note that even if Parkinson's is a condition for authorized use, there may be additional requirements, such as also having another diagnosed condition. These may include severe pain, nausea or malnutrition, for example.

Under federal law, doctors cannot prescribe cannabis. But qualified doctors who have completed additional training and registration can issue "certifications" that permit patients to get a license for medical cannabis. Many doctors choose not to pursue qualification and therefore are not able to issue certifications. You can ask your doctor for a referral to a qualified physician or, if available, search an online database of providers in your state.

With a license, you can visit a dispensary, which sells cannabis products. Licenses typically don't specify dosing or product information, so you work with the dispensary for recommendations on what may work for you. This often is a trial-and-error process. As the same product may vary significantly from location to location, it's best to stick with one dispensary.

In states that have legalized recreational cannabis, you don't need a license for purchase. However, having a license may decrease costs and provide access to dispensaries that may be more familiar with your condition.

What else should I know?

Many doctors and researchers believe the marketing and hype of cannabis products is ahead of the science and evidence. Maintain a dose of healthy skepticism when considering medical marijuana. Many have watched videos of people with PD using marijuana and seeing all their symptoms disappear within seconds. There also are many internet stories about marijuana as an "all-natural" cure for Parkinson's (as well as cancer and other conditions). In general, when social media provides a level of endorsement significantly out of proportion to what you hear from your doctor, it is probably too good to be true.

What research is ongoing?

Researchers continue to work on defining safety for cannabis in Parkinson's. And several studies are looking at possible benefits on specific symptoms. For the most up-to-date clinical trial information, visit Fox Trial Finder at [foxtrialfinder.org](https://www.foxtrialfinder.org).

In 2020, MJFF hosted an online study, through Fox Insight, to learn more about the experience of medical marijuana and





Parkinson's. Nearly 1,900 people with PD participated. More than 70 percent of people reported using medical marijuana and many reported small benefits on sleep, anxiety or pain. But some also had side effects. About 13 percent of people were unsure what, exactly, they were taking. And 30 percent said they did not discuss use with their doctor. Researchers published the full study results in *Movement Disorders Clinical Practice* in January 2022. For more, visit michaeljfox.org/cannabis-results.

Research such as this, directly informed by people living with disease, also supports policy efforts. The Michael J. Fox Foundation has long advocated for the elimination of federal barriers to medical research so that cannabis is treated just as any other drug or compound being researched for a possible medical use. And MJFF Senior Vice President of Public Policy, Ted Thompson, JD, serves on the board of the Council For Federal Cannabis Regulation (CFCR), a non-profit

organization focused on development and implementation of federal regulations that are informed by and grounded in science, best business practices, sound public policy to support expansion of cannabis and social justice principles. MJFF also continues to advocate for expansion of cannabis research and education for providers and patients living with disease.

Also in 2020, The Michael J. Fox Foundation convened a workshop on medical marijuana with field leaders and other Parkinson's organizations. Participants examined opportunities and challenges, agreeing that much work remains to understand how patients and doctors are using and talking about these products; to build education and communication around cannabis and Parkinson's; and to evaluate safety, potential benefits, side effects and drug interactions, as well as the optimal dosing and formulations.

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Information in this guide was accurate at the time of publication in March 2022. For the latest on medical marijuana and Parkinson's, visit michaeljfox.org.

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**You might not
have Parkinson's.
But together, we
can help end it.**

Join the study
that could change
everything.

Through MJFF's Parkinson's Progression Markers Initiative (PPMI) study, researchers are learning about the Parkinson's experience to develop better tests and treatments. Whether you have Parkinson's or care about someone who does, you can help.

Participate today at michaeljfox.org/ppmi.



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