

Medical marijuana: hype or hope?



Though still controversial—and not wholly understood—cannabis has gained some support for use in MS—but only for certain symptoms and only in certain forms.

by Mary E. King, PhD

Thinking about trying medical marijuana?

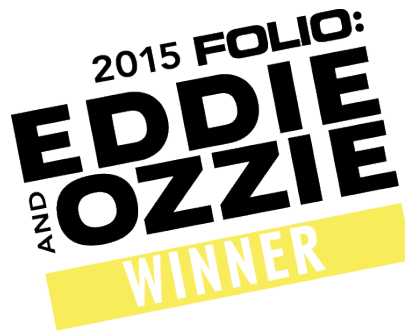
[5 important questions](#) to ask before trying medical marijuana.

People living with multiple sclerosis often are anxious to try the latest treatment to see if it will help ease their symptoms, and in this regard, medical marijuana is no different. But even though it's gaining mainstream acceptance, its use remains very controversial—and very complicated.

A brief history

Marijuana, also called cannabis, has been used for medicinal purposes for centuries, beginning in 2900 B.C. in China. Western medicine first adopted the use of marijuana in the 19th century to relieve pain, inflammation, spasms and convulsions, until concerns about its safety arose in the 1940s and '50s. In 1970, it was listed as a Schedule 1 controlled substance, along with other drugs such as heroin and LSD, and remains restricted as such today.

Award winner

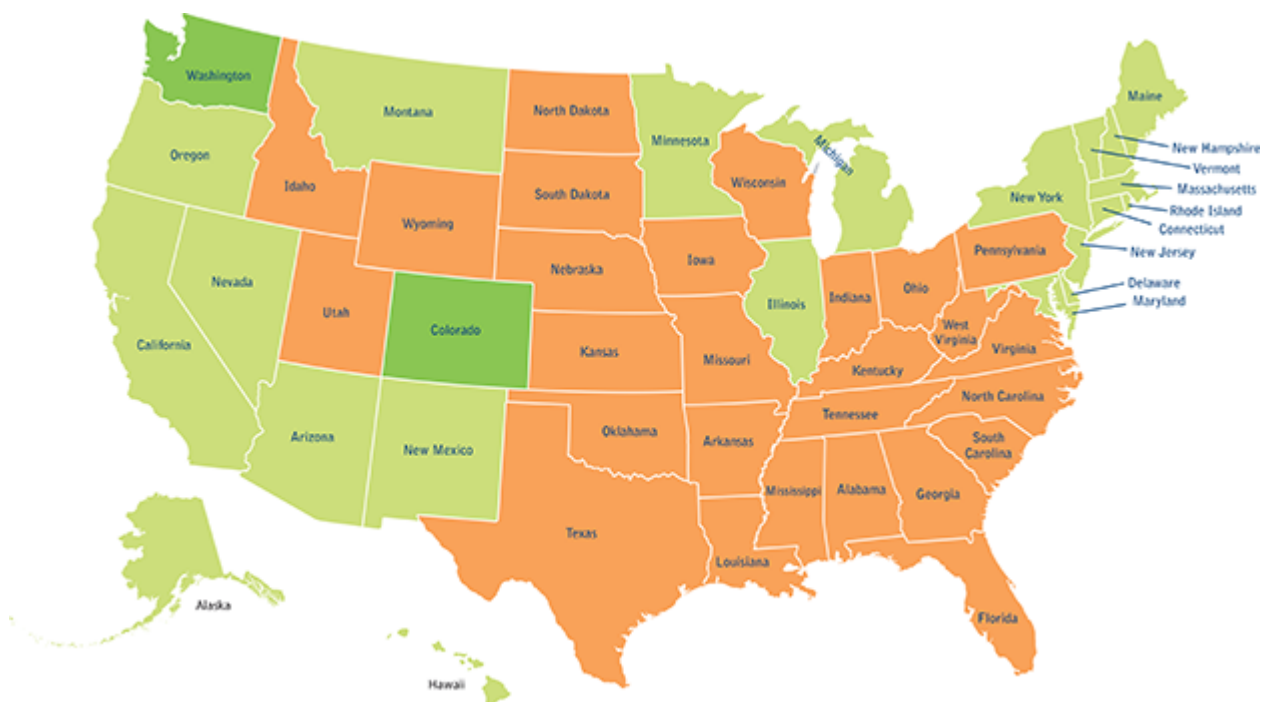


In 1978, New Mexico became the first state to approve marijuana for compassionate medicinal use in a research setting. As of press time, 23 states and the District of Columbia now allow some medical use. That number is increasing, however, as more states consider medical marijuana legislation.

A complicated discussion

Just defining “medical marijuana” is quite complicated. The term distinguishes its intended use from recreational marijuana, but it does not imply any clinical acceptance or a difference in its composition. Like recreational marijuana, medical marijuana is often available in a variety of strains for smoking or other “whole plant” uses such as vaporization, as well as a in a wide array of plant extracts, and foods (“edibles”) and drinks that contain marijuana extracts. The amounts that an individual can possess at any given time are usually regulated.

Marijuana legalization status



■ Medical marijuana use legalized

Alaska, Arizona, California, Connecticut, District of Columbia, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont

■ **Medical and recreational marijuana use legalized**

Colorado, Washington (state)

■ **States with no laws legalizing marijuana.**

Alabama, Arkansas, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Nebraska, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, Wyoming

Despite any intended medical use, marijuana possession is still illegal under federal regulations, although the current administration is leaving most decisions about prosecution to the states, where medical marijuana legislation can vary widely. (For more information, see the sidebar at right.)

Even though marijuana is increasingly available in the U.S. for medical purposes, its benefits and risks are a long way from being fully understood. Medications approved by the U.S. Food and Drug Administration are carefully evaluated for safety and effectiveness in treating specific symptoms and diseases before they are allowed on the market. However, medical marijuana has never been officially evaluated by the FDA—a fact that plays into the concerns some opponents of medical marijuana raise regarding its use.

Unanswered questions

Michael Williamson is squarely in the advocates' camp. Now 29, Williamson was diagnosed with MS as a teenager and treated with conventional MS therapies. He recognized the potential for marijuana to help with his spasticity and nerve pain when he used it sparingly in college. He registered for a medical marijuana card once he moved to Colorado, where medical marijuana has been legal since 2000, and where registered users can purchase a variety of products from state-licensed dispensaries.

"I tried a lot of alternative therapies, but marijuana gives me a better quality of life, with more normalcy and less lethargy," he says, noting that the medical marijuana he purchases is formulated not to produce the high or listlessness often associated with recreational strains.

However, physicians have differing views on whether medical marijuana is helpful for people with MS. "There is some evidence for the use of medical marijuana and related products for pain and spasticity in MS," says Dr. Allen Bowling, a member of the Colorado Neurological

Institute and clinical professor of neurology at the University of Colorado. He has been involved in research related to complementary and alternative medicine (CAM) and MS for the past 35 years, and adds that studies of smoked marijuana are too limited to allow any firm conclusions to be drawn. Some of his patients with MS started telling him in the early 2000s that marijuana helps improve various MS symptoms, especially pain, spasticity and sleep. Others, he says, have tried it but not found it helpful. He emphasizes that “because marijuana is legal [in many states] for MS, there is a common misunderstanding that its safety and efficacy are known.” Instead, he adds, “We have many unanswered questions.”



Dr. Eric Voth

Photo courtesy
of Dr. Eric
Voth.

Dr. Eric A. Voth, an internist and pain and addiction specialist at Stormont Vail HealthCare in Topeka, Kansas, and chairman of the Institute on Global Drug Policy, is a strong opponent of legalizing marijuana for medical use. He says that in order for something to be called a medicine, doctors and patients should have some idea of “how it works, what the proper dosing should be, and its adverse effects.” A medicine should meet all FDA requirements for safety and efficacy. And with the exception of synthetic pharmaceutical products, marijuana does not meet these standards, he says. “It has become a medicine by popular vote instead,” he asserts.

Experts have differing views on whether medical marijuana is helpful for people with MS. Dr. Voth weighs in.

- Marijuana does not yet meet all FDA requirements for safety and efficacy. “It has become a medicine by popular vote instead.”
- Cannabinoids may prove useful for treating neuropathic pain when used in conjunction with traditional medications, but not instead of them.
- Active ingredients vary from sample to sample. Also, contaminants such as bacteria and fungi may be present in smoked marijuana.

—Dr. Eric Voth

The research

Some scientific data support the use of medical marijuana in MS, but only for certain symptoms and only in certain forms—which do not include smoked marijuana.

While the marijuana plant contains more than 400 chemicals, fewer than 100 have any physiologic effect. Two of the most-studied marijuana chemicals belong to a group called cannabinoids. These are:

- **THC (delta-9-tetrahydrocannabinol)**, the chemical that is most responsible for marijuana’s psychoactive effects. If a person is using a medical marijuana product and “gets high,” this effect is mostly due to THC. However, THC may have additional medically important effects.
- **CBD (cannabidiol)**, chemically related to THC, but without the psychoactive effects. CBD seems to have important pharmacologic effects, however. So a person using a product that is mostly CBD with much less THC—such as the one Williamson uses—is much less likely to feel any “high,” but may still get medical benefit.

A panel was selected by the American Academy of Neurology (AAN) to carefully study all of the reports about CAM and MS published since 1970, and provide recommendations. The panel published a report in late March with its findings, including a section on medical marijuana.

The AAN report looked at studies that used natural marijuana, as well as three pharmaceutical preparations: Marinol, Sativex and an “oral cannabis extract.” AAN experts found mixed evidence for all three products: They found strong evidence that OCE reduced study participants’ reports of spasticity and the pain caused by spasticity, and moderate evidence that Marinol does the same. Neither OCE nor Marinol reduced tremor symptoms, and there was not enough evidence to decide whether either of these help with bladder control.

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With Sativex, the reviewers found moderate evidence that it reduced study subjects’ self-reported symptoms of spasticity, pain caused by spasticity, and frequent urination. (Despite this, the AAN panel found that the published research does not show a change in spasticity when assessed with objective or standardized measures by clinicians.) They also found that Sativex does not help treat loss of bladder control.

The reviewers did not find enough evidence to determine whether smoked marijuana or newer forms, such as marijuana vapors or infused foods, are safe or effective for treating any MS symptoms.

The AAN panel of experts recommends that a person with MS who is interested in medical marijuana should discuss its potential benefits and side effects with his or her doctor and weigh them carefully, in light of his or her particular medical profile.

Important concerns

The AAN panel pointed out that most of the studies conducted to date have been short-term. Much more research is needed to know whether marijuana or its components are safe for long-term use. Some of marijuana's known side effects include:

- Difficulty with attention and concentration
- Dizziness
- Dry mouth
- Hallucinations
- Increased spasticity (despite some users' self-reported symptoms of reduced spasticity)
- Falling and loss of balance
- Nausea, vomiting and constipation
- Psychosis, depression and other psychological problems
- Seizures
- Memory problems

The potential for psychological problems is a particular worry, because people with MS are already at higher than average risk for cognitive changes related to information processing speed, memory and attention, among other functions, as well as for depression or suicide. (Because of this, if someone is taking medical marijuana and experiencing symptoms of cognitive changes or depression, he or she should contact his or her healthcare provider immediately.)

Another concern is the considerable variation that exists in today's medical marijuana marketplace. The doses and ratios of THC and CBD in the pharmaceutical forms of medical marijuana (Marinol and Sativex) are fixed, as with any FDA-approved medication. But in tests by independent laboratories of other forms of marijuana, the amounts of THC, CBD and other active ingredients vary from sample to sample. This is why Williamson relies on a medical marijuana dispensary that voluntarily sends its products out for independent testing and shares the results with its patients.

Contaminants such as bacteria and fungi may also be present in smoked marijuana, Dr. Voth says. Williamson points out, too, that some growers of marijuana, like other farmers, may use pesticides as well as plant growth regulators or other agents that increase yield. The dispensary he uses has its products tested for purity as well as potency.

In practice

Long before the AAN study was published, Williamson says he educated himself extensively about the active components of medical marijuana and the various products that are available in Colorado. There, products are typically labeled with the ratio of cannabinoids, so

he can seek out high-CBD and low- or no-THC products. He also prefers edible products or patches that are worn on the skin because he doesn't want to be exposed to some of the bad effects of smoking, such as inhaling tars.



**Dr. Allen
Bowling.**

Photo courtesy
of Dr. Allen
Bowling.

Dr. Bowling, who was on the AAN panel, adds that the clinical trials they reviewed show promising results, but that translating the data into recommendations for clinical practice for physicians who treat people with MS is extremely challenging. This is especially true for products typically on sale in dispensaries, such as edibles, which were not tested in these trials.

It's not yet clear whether products are more effective when they have just a single active ingredient, such as the FDA-approved medication Marinol, or when they contain combinations of active components. Therefore, Dr. Bowling notes, much more research is needed to determine how the different components of marijuana may work together to produce desired results.

Given the paucity of strong clinical evidence, as well as his own experience with patients, Dr. Bowling rarely recommends medical marijuana to his patients. He believes that the side effects and risks may outweigh any small benefit and has found that generally those patients who have higher levels of disability and unpredictable muscle spasms or pain find that it helps. In these cases, he says, medical marijuana may be helpful on an "as-needed" basis—for example, when spasms or pain worsen unexpectedly, such as in the evening or during sleep.

Experts have differing views on whether medical marijuana is helpful for people with MS. Dr. Bowling weighs in.

- "There is some evidence for the use of medical marijuana and related products for pain and spasticity in MS."

- While more research is needed, clinical trials show promising results.
- Though its side effects and risks outweigh the benefits for most people, medical marijuana can be used by some people with high levels of disability or unpredictable pain or spasms on an as-needed basis.

—Dr. Allen Bowling

While there is some promising data, Dr. Voth says, there isn't enough to recommend the general legalization of medical marijuana in the U.S. However, Sativex may prove to be one of the best tools for studying the benefits versus risks of marijuana in long-term studies, he states, because it enables researchers to study the effects of carefully specified doses and ratios of cannabinoids. "Cannabinoids may provide real potential if they are used in conjunction with traditional medications to treat neuropathic pain," but not instead of currently recognized medical treatments, Dr. Voth says.

The Society's position

In March, the National MS Society posted an updated position on medical marijuana for MS on its website.

In short, the Society "supports the rights of persons with MS to work with their MS healthcare providers to access medical marijuana in accordance with legal regulations in those states where such use has been approved. In addition, the Society supports advancing research to better understand the benefits and potential risks of marijuana and its derivatives as a treatment for MS."

The position statement explains that although research suggests that some of the active chemicals found in marijuana have the potential for management of certain MS symptoms such as pain and spasticity, much more research is needed. The Society also points out that the benefits of smoked marijuana remain unclear based on research studies that have been published to date. Side effects are of a real concern, too, so each individual, "in consultation with their healthcare provider, should make an informed risk-benefit decision regarding the use of marijuana and its derivatives."

Medical marijuana resources

- Medical marijuana laws, fees and possession limits by state. Visit [procon.org](https://www.procon.org) and search "medical marijuana." Click on the first result.
- National MS Society's [information about marijuana use and MS](#).
- [AAN Summary of Evidence-Based Guideline](#) for Patients and Their Families: Complementary and Alternative Medicine for Multiple Sclerosis.

- National MS Society's information about [Complementary & Alternative Medicines](#).

The path forward

The Society is actively advocating for additional research funding to study the safety and effectiveness of medical marijuana and related medicines.

Ted Thompson, the Society's vice president for Federal Government Relations, explains that scientists who wish to study the effects of medical marijuana face restrictions that have too often formed barriers and bottlenecks for research. For example, researchers must get approval from both the FDA and the Drug Enforcement Administration, as well as additional approval from the National Institute on Drug Abuse (NIDA), "an agency that focuses on drug abuse and addiction, not the potential benefits," Thompson notes. NIDA also controls access to the only approved source of marijuana for research studies, a federally sanctioned marijuana farm associated with the University of Mississippi. Completing all of these steps—before research even begins—can take years.

The Society is currently supporting a clinical trial of different forms of cannabis products. This study is designed to test the effectiveness in relieving spasticity in people with MS. Unfortunately, completion of this trial has been delayed due to challenges with recruiting patients able to adhere to the significant government requirements for trials using cannabis products. The Society is committed to funding additional research with cannabis products.

Thompson stresses that the Society is working to address the various government regulations that may be hindering research. The Society emphasizes the need for unimpeded, high-quality clinical trials to provide the conclusive results that people with MS and their physicians need. "Government policy does a disservice when it won't allow researchers to provide these data about [the use of medical marijuana for] epilepsy, lupus, cancer and other conditions, as well as MS," he states. "We and other patient groups advocate for the best and most promising research to be funded."

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