

Marijuana as medicine: Consider the pros and cons

Whether marijuana will relieve your side effects or symptoms is questionable. But the risks of smoking pot are clear. Examine the facts about marijuana before making your decision.

People have used marijuana as a medical treatment for thousands of years. Such uses extend even to modern America. Marijuana was listed by the U.S. Pharmacopeia, the organization that sets quality standards for approved drugs in the United States, until the 1940s, when political pressure against marijuana's recreational use triggered its removal.

Despite the U.S. Supreme Court's ruling that state laws allowing medicinal use of marijuana must bow to federal law banning it, proponents still tout this controversial plant's ability to treat pain, nausea and other uncomfortable side effects of medical treatment as well as some disease symptoms.

Marijuana 101: The plant and its components

Marijuana refers to the dried flowers, leaves, stems and seeds of the *Cannabis sativa* plant. These parts contain the compounds that produce the mind-altering effect that recreational users seek when smoking or ingesting the plant — but they also provide components with potential medical benefits.

Marijuana contains at least 60 chemicals called cannabinoids. Researchers are evaluating how effective some of these cannabinoids might be in controlling symptoms of certain medical conditions. For example:

- **THC.** An abbreviation for delta-9-tetrahydrocannabinol, THC is the main component responsible for marijuana's mind-altering effect. It also may help treat signs and symptoms such as nausea and vomiting that are associated with a number of medical conditions.
- **Cannabinol and cannabidiol.** These compounds have some of the properties of THC, but cause less psychoactive effects — the high.
- **Dronabinol (Marinol).** Dronabinol (dro-NAB-in-ol) is a man-made version of THC available by prescription. It's used to prevent nausea and vomiting after cancer chemotherapy when other medicines for these side effects don't work, and to increase appetite in people with AIDS.

How it works

When smoked or ingested, THC and other cannabinoids in marijuana attach to two types of receptors on cells in your body — like keys in a lock — affecting the cells, once attached.

CB1 is one such receptor. CB1 receptors are found mainly in your brain, especially in areas that control body movement, memory and vomiting. This helps explain why marijuana use affects balance and coordination and impairs short-term memory and learning, and why it can be useful in treating nausea, pain and loss of appetite.

The other type of receptor, CB2, is found in small numbers elsewhere in your body, mainly in tissue of the immune system, such as your spleen and lymph nodes. The function of these receptors is not well understood. They may serve as brakes on immune system function, which may help explain why marijuana suppresses your immune system.

After you smoke marijuana, its ingredients reach their peak levels in your body within minutes, and effects can last up to an hour and a half. When eaten — the plant is sometimes mixed with food — the ingredients can take several hours to reach their peak levels in your body, and their effects may last for hours.

The prescription drug dronabinol, which is taken as an oral capsule, takes effect in about 30 minutes and can continue to stimulate appetite for more than a day.

Possible medical uses

Scientists studying marijuana's potential medical uses have found that it may help treat a variety of conditions.

Nausea

One of THC's medical uses best supported by research is the treatment of nausea. It can improve mild to moderate nausea caused by cancer chemotherapy and help reduce nausea and weight loss in people with AIDS.

Younger people may find marijuana more useful as a treatment for nausea than do older people — who may not tolerate its mind-altering side effects as well. The prescription form, dronabinol, also may produce psychological side effects that make it inappropriate for some older people. Doctors generally prescribe several kinds of newer anti-nausea drugs with fewer side effects before resorting to dronabinol.

Glaucoma

This disease — the third-leading cause of blindness in the United States — is marked by increased pressure in the eyeball, which can lead to vision loss.

In the early 1970s, scientists discovered that smoking marijuana reduced pressure in the eyes. Exactly how the cannabinoids in marijuana produce this effect isn't known. Scientists have discovered CB1 receptors in the eyes, which may provide clues for future research on how marijuana affects glaucoma.

Your doctor can prescribe other medications to treat glaucoma, but these can lose their effectiveness over time. Researchers are working to develop medications containing cannabinoids that can be put directly on the eyes — to avoid the mind-altering side effects and other health consequences of smoking the plant.

Pain

People widely used marijuana for pain relief in the 1800s, and several studies have found that cannabinoids have analgesic effects. In fact, THC may work as well in treating cancer pain as codeine, a mild pain reliever. Cannabinoids also appear to enhance the effects of opiate pain medications to provide pain relief at lower dosages.

Researchers currently are developing new medications based on cannabis to treat pain.

Multiple sclerosis

Research results on the effectiveness of cannabinoids in the treatment of the tremors, muscle spasms and pain of multiple sclerosis (MS) — a disease of the nervous system that can cause muscle pain — are mixed. A 2003 study found that cannabinoids significantly reduced pain in people with multiple sclerosis.

Some scientists feel that more research may show cannabinoids useful in treating MS. Marijuana may protect nerves from the kind of damage that occurs during the disease. They also suggest that animal study results, knowledge of CB1 receptors in the brain and users' reports of decreased symptoms after using marijuana support this possibility. However, others advise caution in using marijuana to treat MS, given the modest therapeutic

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Not without risks

Though some doctors and patients suggest marijuana has a legitimate use, the United States government disagrees. Federal law recognizes marijuana as a Schedule I drug, which classifies it as one of "the most dangerous drugs that have no recognized medical use." If law-enforcement officers find you with the drug in your possession, the penalty can range from a small fine to a prison sentence.

Along with the legal implications, smoking marijuana poses several health risks, including:

- Impairment of thinking, problem-solving skills and memory
- Reduced balance and coordination
- Increased risk of heart attack
- Heightened risk of chronic cough and respiratory infections

- Potential for hallucinations and withdrawal symptoms

Also, marijuana smoke contains 50 percent to 70 percent more carcinogenic hydrocarbons than does tobacco smoke and has the potential to cause cancer of the lungs and respiratory tract. Marijuana smoke is commonly inhaled deeper and held longer than is tobacco smoke, increasing the lungs' exposure to carcinogens.

These risks should be taken into account when considering the use of marijuana for medical purposes. If you are experiencing uncomfortable symptoms or side effects of medical treatment, especially pain and nausea, talk to

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