

# MEDICAL MARIJUANA



the medical, psychological and legal issues related to using medical marijuana

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Smoking marijuana has become a popular way to treat weight loss associated with HIV. Claims about its effectiveness are based largely on individual experience rather than data from studies. A synthetic form of the most active ingredient in marijuana, called dronabinol (Marinol), is approved by the US Food and Drug Administration (FDA). It is available by prescription for treating HIV-related weight loss (*anorexia*), as well as treating nausea for people undergoing chemotherapy.

This publication describes the different forms of marijuana that are currently available. Although many report that marijuana improves their appetite and weight, it's important to consider possible health risks before using it. Also, the only studies that have been conducted to assess the impact of medical marijuana in people with HIV have been very small and very brief. Much of the following information comes from research on people who do not have HIV disease.

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## buyers clubs and the law

Marijuana is an illegal substance, yet *buyers clubs* have been established in some areas to provide the drug for people using marijuana for medical purposes. These clubs provide a safe place to buy marijuana. Even though they are illegal under federal law, some cities like San Francisco have local laws permitting them to operate. Some even have programs that provide medical marijuana free or at reduced cost to people with limited incomes.

Legislation was approved on a public vote in California that allows physicians to prescribe marijuana for some medical conditions. HIV-associated wasting is one of four conditions in the legislation. While some healthcare providers have voiced concern over the safety of marijuana smoking, many providers have also been impressed with positive results in weight gain, mood and quality of life in their HIV-positive patients who use medical marijuana.

## safety concerns

There are many possibly harmful effects from smoking marijuana, just as there would be from inhaling almost any other form of smoke. Most of the studies citing these effects were conducted many years ago, and conflicting reports can often be found among all of them. Many people question whether political motives may have influenced early studies of marijuana. For people living with HIV, the largest safety concerns when using marijuana are the affects on:

- › immune function,
- › lung complications (particularly with smoked marijuana),
- › hormones, and
- › mental state.

## immune function

Marijuana and/or its psychoactive ingredient THC have been reported to suppress many immune functions. These include the function of cells important in controlling infections commonly seen among people living with HIV. Marijuana may also increase your risk for certain infections, including herpes and a variety of other bacterial, viral and fungal infections. Some of these infections may result in increased HIV levels. None of this, however, has been clearly documented in HIV-positive people.

Some research suggests that marijuana has no significant effect—good or bad—on the immune system of people living with HIV. Studies from the Multicenter AIDS Cohort Study evaluating the outcomes in 1,662 HIV-positive users of psychoactive drugs (marijuana, cocaine, LSD, etc.) found that none of the drugs were linked to a higher rate of HIV disease progression or loss of CD4+ cell counts. Of the men who took part in the study, 89% reported using marijuana in the preceding two years. A recent study, presented in 2000, examined the short-term impact of marijuana, dronabinol or placebo on HIV levels, CD4+ cell counts and HIV levels. After 21 days, the use of marijuana did not appear to have harmful affects. Much longer-term studies are needed before concluding that marijuana use is either safe or unsafe for people living with HIV, however.

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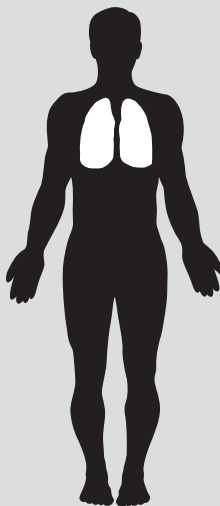
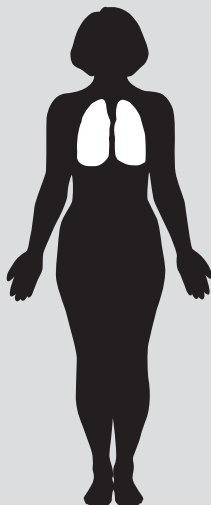
## lung complications

Research comparing the effects of tobacco and marijuana smoking on the lungs shows that marijuana smoke can be harmful. Smoking marijuana increases the risks of lung complications, may worsen asthma and may increase the risk of lung cancer over and above smoking tobacco.

Another possible harmful effect of smoking marijuana is that it may cause lung infections. In particular, a fungus sometimes found in marijuana, called *aspergillus*, is thought to be the cause of possible infections. This infection has sometimes been seen in people with advanced HIV disease.

Some recommend putting marijuana in the microwave for ten seconds to kill any fungus that might be growing on it. The exact time needed to kill the fungus will vary depending on the oven settings, the quantity and moisture content of the marijuana, and the wattage of the microwave. There are no standards for this, but in general, smaller microwave ovens put out less power and would therefore require longer “cooking” times to kill a fungus.

Recent studies suggest that smoking marijuana may also decrease the ability of cells in the lung to destroy *Candida* and bacteria. *Candida* is the fungus responsible for candidiasis, a common condition in people living with HIV. People living with HIV who smoke marijuana may be at higher risk for lung complications. This particular effect might be minimized or eliminated by baking and eating marijuana (as in “pot brownies and cakes”)—rather than smoking it.



## impact on hormones

Many men with HIV experience low testosterone levels during the course of HIV infection. Women may also experience lowered testosterone levels and changes in other hormones, both of which may be contributing factors in many menstrual irregularities seen in women living with HIV. Studies in animals and humans show that marijuana may further lower the levels of hormones, including testosterone. This information is important to people with HIV as lowered testosterone levels are associated with AIDS-related wasting. Marijuana could cause or worsen this condition, possibly leading to the necessity of testosterone replacement therapy.

## mental status

The question of the neurological (change in mental status) effects of marijuana has been addressed by several studies in recent years. Marijuana use has been shown to have short-term impact on a person’s ability to think, learn, judge and perform tasks. Moreover, marijuana use has short-term effects on memory. It’s less clear if marijuana has any long-term effects on mental status or mood. It is also less clear whether the effects noted are perceived as “good” or “bad” by those who experience them. Some people feel smoking marijuana offers relief from depression, while others say it increases their anxiety levels.



For more treatment information, call Project Inform’s toll-free National HIV/AIDS Treatment Information Hotline at 1-800-822-7422.

## marijuana's impact on appetite

Extensive research on how smoked marijuana affects appetite has been conducted, although much of it was published 20–50 years ago. Anecdotal accounts of increased food intake have always been



reported by marijuana smokers—the so-called “munchies.” The quality of the food (candy bars and chips vs. vegetables, fruits and protein) and quality of the weight gain (fat vs. muscle) needs to be considered.

Overall, studies suggest that people using marijuana eat more but the food they eat is generally snack food, like cookies and junk food. They also exercise less and sleep more, all of which contributes to weight gain.

It's not at all clear that this kind of weight gain, that consists more of body fat than of lean muscle, will benefit the overall health and longevity of a person with HIV-related wasting. However, if medical marijuana is combined with a comprehensive nutritional and weight maintenance program, as well as exercise, it may prove useful. Because of these concerns, it is important that evaluating the medical effects of marijuana not be limited to measuring weight gain, as this may lead to false conclusions about its value.

When considering all the safety factors associated with marijuana use, it's important to weigh these factors against the harm being done by wasting. What may sound harmful to a healthy person may seem irrelevant to another when compared to the alternatives they face.

## oral THC vs. marijuana

The oral drug, dronabinol (Marinol), was approved in 1992 for use in treating anorexia in people with HIV-related wasting. The active ingredient in dronabinol is THC, which is one of the main psychoactive agents in marijuana and the chemical that makes someone feel “stoned”. For treating HIV-related weight loss, THC probably helps as an appetite stimulant, in the same way people who are stoned get the munchies.

People who use dronabinol have mixed experiences. Some report a minimal drug effect while others experience far too much euphoria or feeling stoned. This is because of the variability in how the oral drug gets into the bloodstream, or perhaps to an individual's point of view and how they feel about such sensations. Smoking marijuana, or using edible forms of it, may be a more efficient way to get THC throughout the body. People who have tried both forms say that they are better able to control how stoned they get by smoking or eating marijuana and thus prefer it over the pill formulation.

## other possible uses for medical marijuana

For people living with HIV, marijuana may have other uses besides stimulating the appetite. Some research and reports of people's personal experiences support the notion that marijuana/THC can help treat nausea and vomiting. The exact reason why it works is unknown. Dronabinol is approved to ease nausea in people undergoing chemotherapy. Marijuana, therefore, may be a realistic alternative for people who don't benefit from standard anti-nausea medication. This could be an important benefit because so many people report difficulties with nausea when using anti-HIV therapies.

Marijuana has been shown to be an effective treatment for general pain associated with illness or serious injury. As with nausea, how marijuana relieves mild pain is not known. New studies suggest that marijuana may have anti-inflammatory effects.

## the future of medical marijuana

A recent report from the Institute of Medicine (IOM) of the U.S. National Academy of Sciences stated that certain chemicals found in marijuana may help manage certain conditions in some people, but that marijuana smoke, like tobacco smoke, is harmful. Though there is an oral medication (dronabinol) that is supposed to mimic the desired effects of smoking marijuana, many people prefer to smoke or eat marijuana in its natural form.

In an attempt to copy the effects of inhaling marijuana while eliminating the risks involved with smoking, some researchers are looking at the use of a vaporizer (or inhaler) for smokeless inhalation. Though not included in this IOM report, other sources indicate that a vaporizer is now readily available. This device heats marijuana to a certain temperature to release active chemicals without setting the dried plant on fire. Since this has only been around for a short time, it is not known how effective it is in delivering the drug. However, early results seem promising.

Overall, medical marijuana research will likely shift from study of the crude plant material to research and eventually drug development of chemicals derived from marijuana. This has already occurred with isolating THC and the development of dronabinol.

What currently holds back more studies of marijuana (or chemicals associated with marijuana) and its effects on the body is a complex matter. Aside from the obvious political concerns, research scientists are not given much incentive to work on marijuana and its derived chemicals. Namely,

funding is scarce from government and private sources, and there is concern that the fruits of research will not be made public because of the controversial nature of the drug. Additionally, many researchers feel their reputations may be affected by working with marijuana because of its status as a street drug and controlled substance.

Nevertheless, more research related to marijuana could benefit many people, especially those living with HIV. There are indications that substances present in marijuana can stimulate appetite, relieve pain and stop nausea. So, research that leads to uncovering the chemicals responsible for these effects and uncovering the best way to deliver them to the body could prove helpful. And though research may not eliminate all the safety concerns associated with medical marijuana, it may make this therapy a more realistic alternative for many people.



## the buying and access of medical marijuana

- › Dronabinol is available by prescription through hospitals and pharmacies.
- › Medical marijuana buying, selling and use is illegal in most of the United States.
- › There are a limited number of buyers clubs, providing a safe environment for people to buy medical marijuana. Some have programs that offer medical marijuana free or at reduced cost for people in need. The best buyers clubs operate with the community oversight and accountability of a well-run nonprofit agency.
- › Not all buyers clubs are ethical or conduct business in the best interest of people living with HIV. Buyer beware, and be aware of your options in your local area.



## the bottom line on medical marijuana

- › Medical marijuana may be useful in promoting appetite for people with HIV-related anorexia.
- › Marijuana may also be useful in managing nausea and may help relieve pain.
- › A synthetic form of an active ingredient in marijuana, dronabinol (Marinol) is approved by the FDA for treating HIV-related weight loss and for managing nausea associated with the use of chemotherapy.



### pros

- › Dronabinol is FDA-approved and legally available by prescription through hospitals and pharmacies.
- › People who have tried both dronabinol and medical marijuana contend that they are better able to control drug effects with medical marijuana.
- › Some limited studies suggest that marijuana doesn't have negative long-term impact on HIV disease and measures of immune health, like CD4+ cell counts.

### CONS

- › Dronabinol has absorption problems and individuals' claim difficulty in controlling the drug effect (feeling too "stoned").
- › Medical marijuana is not legally available to many people. Third-party payers, like insurance and Federal programs, do not cover its cost.
- › Marijuana and its active ingredient THC has been shown in some studies to suppress immune function.
- › Smoked marijuana increases the risk of lung infections and complications.
- › Marijuana may be contaminated with insecticides, pesticides, fungus and/or bacteria. Ingesting these could have mild-to-severe health consequences. (Some claim that microwaving marijuana for ten seconds on high may decrease risks associated with fungus contamination.)
- › Marijuana/THC has short-term impact on mental status. Long-term effects are less clear.
- › Some studies suggest that marijuana/THC may decrease testosterone levels.
- › It is unknown if marijuana interacts with anti-HIV drug therapies, increases HIV replication or negatively impacts HIV disease progression.