

CANNABIS AND CANCER

POCKET GUIDE

FAST FACTS

- As of January 2022, more than 35 U.S. states and four U.S. territories allow medical use of cannabis products. Non-medical (recreational) use is legal in 18 states.² Learn more at the [National Conference of State Legislatures website](#).
- Pharmaceutical companies had cannabis products available for doctors to prescribe in the U.S. until 1942.¹

SUMMARY

Cannabis is a plant (botanical) substance that can help relieve symptoms of cancer and is used during its treatment, including for:

- Nausea
- Anxiety
- Insomnia
- Nerve problems (neuropathy) and other pain

The cannabis plant contains more than 400 chemical substances, including over 100 called cannabinoids. The effects of most of these are not yet studied. The substances most readily available in integrative health products are THC (delta-9-tetrahydrocannabinol) and CBD (cannabidiol).³

THC is responsible for the “high” found in some cannabis products, while CBD does not produce this effect.⁴ Other cannabinoids you may hear about include CBN, CBG, and delta-8-THC.

So far, research has not found that cannabis helps destroy or reduce cancer cells in the human body, though some test tube research has been promising.

Definitions

Understanding cannabis can be overwhelming for cancer patients to navigate, especially considering the different terms. Here’s a breakdown of some of the top and most common terms with their definitions.

A **dispensary** is a shop where cannabis is sold for medical or recreational use.

A **budtender** is an employee of a dispensary and should be able to answer your questions about cannabis and refer you to products that may address your specific needs.

There are three **strains** or types of cannabis. A strain is categorized as an indica, sativa, or hybrid. Within those

categories, there are many different strains with names like OG Kush, Acapulco Gold, and Pineapple Express, which have different effects.

Indicas generally have a relaxing effect on the user while **sativa** is known to have an energizing effect. A **hybrid** is a combination of the two.

Tetrahydrocannabinol (THC) is an active ingredient found in cannabis that produces the “high” sensation that many users describe.

Cannabidiol (CBD) is the second most prevalent active ingredient found in cannabis and does not cause a high.

What is cannabis?

Cannabis is a species of plant that includes both hemp and marijuana. The plant likely originated in Asia, then spread to Europe between 1 and 2 million years ago.⁵ It may also have been used as a cancer treatment for thousands of years. A woman who lived almost 3,000 years ago in Siberia was found buried with cannabis. An MRI of her body showed she had metastatic breast cancer that had spread to her bones.¹

Cannabis and cancer

“Cannabis use has always been fairly prevalent in cancer,” says Greg Garber, LCSW. Garber is the director of Patient Support Services at the Sidney Kimmel Cancer Center at Jefferson Health in Philadelphia, Pennsylvania. The center developed a clinical cannabis program after Pennsylvania legalized medical cannabis in 2016.

“With broader legalization, the stigma has begun to disappear,” Garber says. “The increased dialogue allows us to educate people with cancer, reassure them, and talk through the evidence—or lack of it—for cannabis products.”

For many patients, the use of cannabis to combat some of the side effects of cancer treatment, such as nausea or insomnia, is a welcome therapy. April Stearns, founder and editor of Wildfire Magazine, a publication dedicated to sharing the stories of young breast cancer patients, has found cannabis useful through treatment and beyond. Stearns, now a 10-year survivor, says that the great thing about cannabis now is that there is a wide range of products available—from edibles to tinctures to salves—allowing for different methods of consumption beyond smoking. There are also different concentrations available so that patients can explore and find what works best for them.

“It doesn’t have to be 100% one thing,” says Stearns. “So, you can get the effect you want and minimize any reaction you don’t, such as wanting pain relief without feeling high. Or if you had problems with paranoia in the past, you would want to emphasize indica over sativa. I mention this because I tend toward paranoia when high, so I had sworn off cannabis because I didn’t realize I could get the benefits without the paranoia.”

Your provider may not be able to answer all your strain-specific questions, but a qualified budtender at a dispensary should be able to lead you in the right direction. Not all dispensaries are equal, so take your time finding one that makes you feel comfortable and has knowledgeable staff that can help you find the products that will work for you.

For more information about cannabis use as a cancer therapeutic, review the [National Cancer Institute’s 2020 symposium](#).

Is cannabis safe?

Donald Abrams, MD, an integrative oncologist at the UCSF Osher Center for Integrative Health and professor emeritus of medicine at the University of California San Francisco, has observed cannabis and researched use by people with cancer, AIDS, and other conditions for more than 30 years. He notes that cannabis has a relatively good safety profile. No deaths from overdose have been reported, and the chance of physical addiction is low.

However, Garber and Abrams agree that you may want to skip cannabis or use extra caution if you:

- Have a condition that raises your risk of falling.
- Have a heart condition.
- Had a bad reaction to cannabis in the past, such as paranoia.¹
- Are preparing for a bone marrow (stem cell) transplant (smoking plant products that could lead to lung infection).
- Receive immunotherapy, which cannabis may make less effective.⁷

How will cannabis affect you?

“Start low, go slow” is the mantra for first time cannabis users. Start with a low percentage THC content, and try it in small amounts.

“The effect on everyone’s body is different,” says Garber. “At the Sidney Kimmel Cancer Center, we start by asking ‘What, if any, has your experience with cannabis been, and what symptoms are causing you distress?’ whether that is pain, nausea, anxiety, insomnia, loss of appetite, or neuropathy.”

Cannabis certification programs, like the one at Sidney Kimmel Cancer Center, can help you learn about the current available evidence, routes of administration (vaporization, ingestion, topical, suppository, etc.), and various products available.

To date, the center has helped more than 1,000 people, including

To learn more about cannabis for the treatment of side effects of cancer treatment, visit [Beyond Conventional Cancer Therapies](#).

those with low digital and health literacy. Garber notes that most patients are in their early 60s and new to cannabis use. The program offers education on various forms of cannabis and their CBD/THC content, dosing, potential risks and benefits, cannabis and the law, travel, work, and keeping children and pets safe. The program works with patients over time to help refine a plan to address their symptoms and try to reduce some of the trial and error and cost that is inherent in the process.

Increasing legalization leads to cannabis research

The Controlled Substances Act of 1970 placed cannabis on the United States Drug Enforcement Administration’s list of [Schedule 1 drugs](#), with no accepted medical use and a high potential for abuse. Drugs on this list are considered unsafe even with medical

supervision.

However, state-by-state legalization has allowed more studies under state laws. Pennsylvania has a provision for academic-industry research partnerships in its medical cannabis law.

How research benefits patients

“With state medical cannabis programs,” says Garber, “we can create more standardization, consistency, and quality in the cannabis used for medical care. Standardization enables patients to better access what is helpful or not and enables us to conduct more controlled studies knowing that the products being studied are consistent.”

Cannabis for specific symptoms⁴

Cannabis is shown to be helpful for specific symptoms of cancer and treatment. Talk with your oncologist or other health-care provider before trying cannabis for any of the symptoms listed below.

Nausea, vomiting, and lack of appetite

The pharmaceutical drugs dronabinol and nabilone were formulated during the 1970s and have been FDA-approved since 1986. They are a synthetic form of delta-9-tetrahydrocannabinol.

Inhaled cannabis does not cause constipation, as some prescription anti-nausea drugs do. Some people prefer cannabis to the anti-nausea drugs that are usually prescribed. It can also make you feel more like eating through the well-known effect of “the munchies.” Some people report that using cannabis before going to chemotherapy makes them feel less of the nausea that just thinking about chemo can cause (anticipatory nausea).

Pain from neuropathy (nerve problems)

Cannabis has been shown to help people with HIV who have nerve damage (neuropathy).⁸ Studies in rodents have suggested that cannabis compounds may not only treat but could also prevent nerve damage related to chemotherapy (chemotherapy-induced peripheral neuropathy). You may want to talk with your health-care provider about cannabis if you have chemotherapy-induced peripheral neuropathy.

Sleep problems

A prescription medicine called nabiximols is a whole plant extract of cannabis that contains THC and CBD in a 1-to-1 ratio. Nabiximols was found to improve sleep in people with cancer, including those who have chronic pain that is not helped by other medications.

Anxiety

Cannabis products make some people anxious and paranoid, while others feel calmer. If a health-care provider approves trying it, cannabis products could help with anxiety. People who are new to using cannabis, however, should be aware that paranoia is a potential side effect of this botanical.

Jenny Leyh, a five-year breast cancer survivor, says that cannabis was helpful during cancer treatment but has also helped ease symptoms of anxiety and depression before cancer and now after.

“I’ve tried a number of different antidepressants to help combat depression and anxiety,” says Leyh. “Cannabis not only helps me to feel like myself and pulls me out of a rut, but it also doesn’t come with the side effects that some antidepressants can create. Through trial and error, I have found particular strains that work best to treat my depression and help me get back to my life.”

Does cannabis cure cancer?

In laboratory studies involving cell cultures in test tubes and in non-human animals, cannabis has been shown to kill cancer cells. These studies give many people hope that using cannabis products will cure their cancer. However, the National Academies of Sciences, Engineering, and Medicine’s latest report (2017) concluded that there is not yet enough evidence that cannabis will kill cancer cells in the human body.⁶

Unfortunately, the internet includes many reports of people who used products such as high-THC cannabis oil (aka “Rick Simpson oil”) to attempt to cure their cancers.⁷ When these reports cite evidence that the product “kills cancer cells,” it generally refers to studies in cell culture or non-human animals. As yet, no cannabis product has been shown to eliminate cancer in humans. “One of the most painful things that I see is a patient using high-dose cannabis oil in hopes of curing their cancer and coming to me with metastatic disease because they have waited to start standard cancer therapy,” says Dr. Abrams.

To be used properly, cannabis should be used as part of a whole-person approach to cancer. While cannabis can help ease some of the side effects of cancer treatment, it should never be used as a cure for cancer.



In fact, high-dose cannabis oil preparations can make cancer treatments more toxic to the body,¹ and the U.S. Food and Drug Administration released a warning about these products several years ago. People taking extremely high doses of THC may also be too disoriented to spend quality time with loved ones at what may be the end of life.

However, new studies may lead to better outcomes, at least when cannabis products are used along with standard chemotherapy. In 21 people with recurrent brain tumors, 12 received nabiximols along with their chemotherapy, and nine received a placebo. After six months, two-thirds of the people in each group—nabiximols plus chemotherapy versus chemotherapy alone—had recurrent tumors. However, more than 80 percent of those in the nabiximols group were still alive after 12 months. Their survival rate was better than that of the patients who received standard chemotherapy

alone.⁸ “Although very small, without really enough power to make a definitive statement, this is the first study to show a survival benefit,” says Dr. Abrams.

Questions to ask your provider

You may want to start by listing symptoms you would like to improve. Then, you may want to ask these questions:

- Who on my health-care team can help me learn more about using cannabis?
- How and where can I register to use medical cannabis? Is there someone on my health-care team who can help me register?
- Will using cannabis affect other health conditions besides my cancer symptoms? How?
- Is a different medication or approach safer or more effective?

Other questions to consider

- What is the difference between an indica and sativa? CBD and THC? Terpenes and other compounds?
- How can I properly dose cannabis to ease my symptoms?
- Do I know the legal status of cannabis in my state?

Resources

- National Library of Medicine Medline Plus. [Cannabidiol \(CBD\)](#).
- [National Cancer Institute Office of Cancer Complementary and Alternative Medicine](#)
- US Food and Drug Administration [warning letter](#) to companies marketing high-dose cannabis
- [National Cancer Institute Cannabis, Cannabinoids, and Cancer Research Symposium](#) (For health care providers)

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