

CANNABIS AND CANCER

FAST FACTS

- Pharmaceutical companies had cannabis products available for doctors to prescribe in the United States until 1942 following the passage of the Marihuana Tax Act.¹ Legal penalties for possession increased in 1951 and 1956, and prohibition under federal law occurred with the Controlled Substances Act of 1970.
- Medical use of cannabis products is legal in 38 states, three U.S. territories, and the District of Columbia as of early 2024. Nine states allow the use of THC-free cannabis products, and 24 states allow recreational use.² Learn more at the [National Conference of State Legislatures website](#).
- In May 2024, the [U.S. Drug Enforcement Administration moved to reclassify cannabis](#) as a less dangerous controlled substance and recognize its medical use. The proposal is still under review.
- Evidence is emerging that cannabis has benefits for use in patients with cancer, but the specific benefits and risks still need to be established.

SUMMARY

Cannabis is a plant (botanical) substance that may help relieve symptoms of cancer and its treatment, such as:

- Nausea
- Anxiety
- Insomnia
- Nerve problems (neuropathy) and other possibly 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.

Definitions

Navigating cannabis can be overwhelming for cancer patients, and that includes its terminology. Here’s a breakdown of the most common terms and 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. Their qualifications vary from state to state.
- 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.
- **THC** is an active ingredient found in cannabis that produces the “high” sensation that many users describe.
- **CBD** is the second most prevalent active ingredient found in cannabis and does not cause a high.

Cannabis and cancer

Evidence and education

“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.”

Today, Thomas Jefferson University offers a master’s degree in medical cannabis science & business through its Institute of Emerging Health Professions. This fully online program is geared toward clinicians, researchers, scientists, and entrepreneurs who want to support patients through evidence-based cannabis therapies. Both Jefferson and the Society of Cannabis Clinicians allow health care providers to audit their courses free of charge.

Other resources for providers interested in learning more about cannabis for their patients include a two-hour, low-cost, self-paced class available through [CannDynamics](#). Provider information is also available from state health departments in states that allow cannabis.

Help at the dispensary

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, 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 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 Medicine 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 avoid cannabis 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); or
- receive immunotherapy for a cancer diagnosis, which cannabis may make less effective.⁷

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 by people with cancer 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 belongs to the category of botanical drugs or botanical supplements. It is also called an herbal drug. Before 1942, it was on the US Pharmacopoeia, the list of drugs doctors could prescribe for their patients.¹

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

To date, the center has helped more than 1,000 people, including 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 U.S. Drug Enforcement Administration’s (DEA) list of [Schedule I drugs](#), with no accepted medical use and a high potential for abuse. As of May 2024, the DEA is moving forward with a proposal from the Justice Department to [reclassify cannabis as a Schedule III drug](#). The change would recognize the medical usefulness of the drug, opening new research opportunities, but would not legalize recreational use nationwide.

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.

“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.”

Provider and patient guidelines available

Several sets of peer-reviewed guidelines are available for health care providers and patients interested in learning more about using cannabis in cancer treatment.

- In 2024, the American Society of Clinical Oncology (ASCO) released its practice guideline, [Cannabis and Cannabinoids in Adults with Cancer](#), which includes information on talking with patients about cannabis.
- In 2023, the Multinational Association of Supportive Care in Cancer published a practice guideline: [Cannabis for cancer-related pain and risk of harms and adverse events](#).
- The American Cancer Society provides comprehensive information on its [Marijuana and Cancer](#) page in patient-friendly language.

Cannabis for specific symptoms

Cannabis is shown to be helpful for specific symptoms of cancer and treatment. A 2021 review of articles published between 2016 and 2019 mapped the evidence for cannabis’s efficacy at treating 11 conditions, including cancer-related symptoms.¹ The authors noted that while increasing legalization had led to many more studies, the type of high-quality controlled studies Garber mentions above were still pending. However, 10 randomized controlled trials were underway at the time of publication.⁸

Providers and patients interested in cannabis for cancer treatment should watch for new society guidelines and the results of randomized controlled trials.

Talk with your oncologist, palliative care physician, 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 Food and Drug Administration (FDA) approved since 1986. They are a synthetic form of THC.

Some people prefer cannabis to the anti-nausea drugs that are usually prescribed during cancer treatment. Inhaled cannabis does not cause constipation, as some prescription anti-nausea drugs do. Cannabis can also improve your appetite through the well-known effect of “the munchies.” Some people report that using cannabis before going to chemotherapy even relieves their 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. Nabiximols is not FDA approved or available in the United States but is available in Canada, the United Kingdom, France, and Poland.

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 5-year breast cancer survivor, says that cannabis was helpful during cancer treatment but also helped ease symptoms of anxiety and depression before and after cancer.

“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 kills cancer cells in the human body.⁶ The 2024 ASCO/SIO guidelines on cannabis and cancer reiterated that cannabis should not be used in place of traditional medical treatment.

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. So far, 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 is just one aspect of a whole person approach to cancer. While cannabis can help ease some of the side effects to cancer treatment, it should NEVER be used as a cure for cancer.

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

- American Cancer Society. [Marijuana and cancer](#). Helpful patient-facing resource. March 13, 2024.
- Multinational Association of Supportive Care in Cancer. [MASCC Guideline: Cannabis for cancer-related pain and risk of harms and adverse events](#). March 2023.
- US Food and Drug Administration [warning letter](#) to companies marketing high-dose cannabis
- [National Cancer Institute Cannabis, Cannabinoids, and Cancer Research Symposium](#). This 2020 symposium includes numerous talks by cannabis and oncology experts, free to stream.
- [Society of Cannabis Clinicians](#). Free courses and other information, including finding a provider.
- [The Medical Cannabis Primer](#), by Ruth Fisher, PhD, and Arthur Fisher.
- Thomas Jefferson University [MS in Medical Cannabis Science & Business](#) (online)
- ASCO Guideline on Cannabis and Cancer. [Cannabis and Cannabinoids in Adults with Cancer: ASCO Guideline](#). March 13, 2024.

