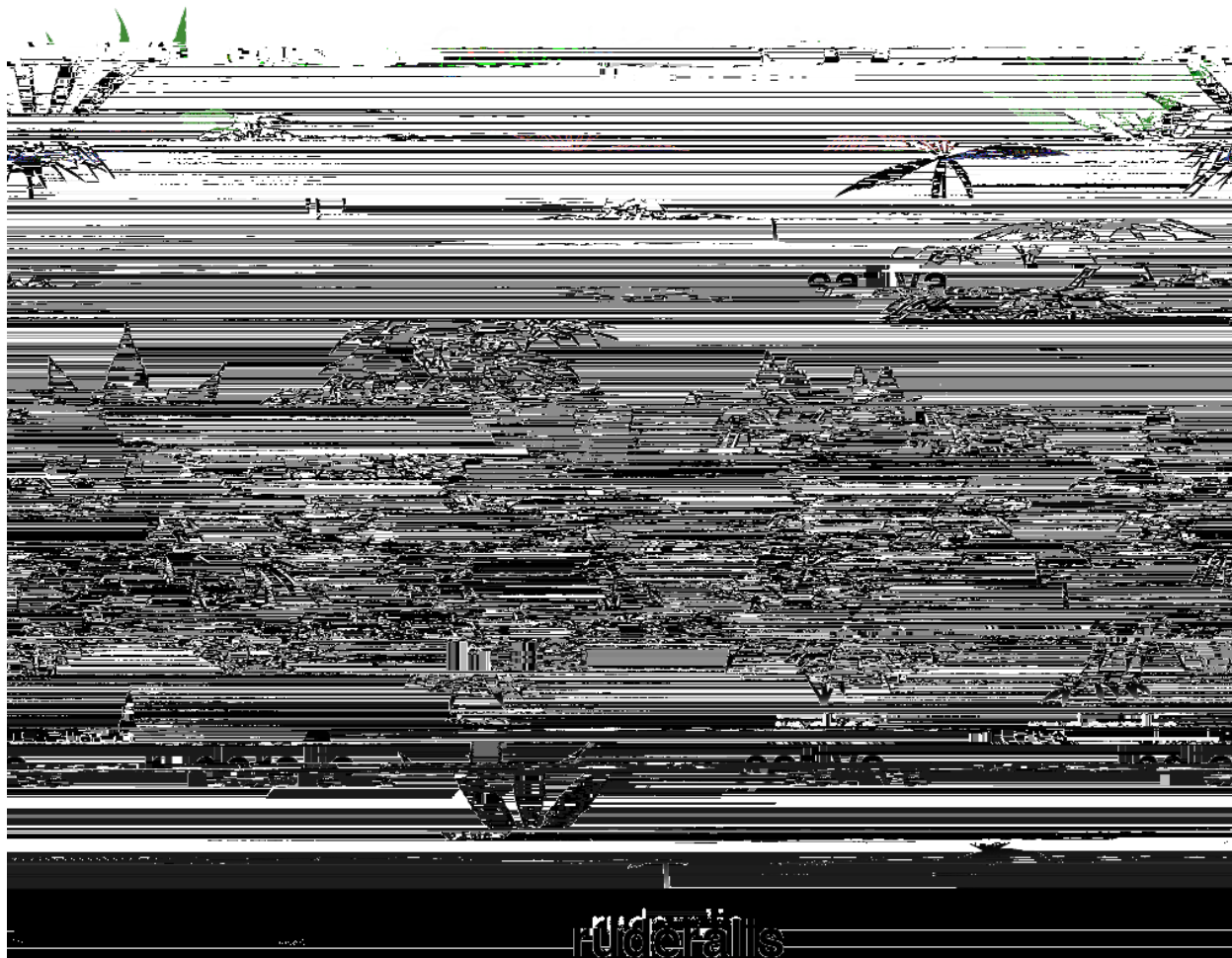

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What are THC and CBD?

THC and CBD are two of the main chemicals in cannabis that have psychoactive or medicinal effects on the body. They are both part of a group of more than 100 different types of chemicals called **cannabinoids**, which are found in cannabis plants. Some cannabinoids are also made naturally in the body. They can also be made artificially in a lab.

Because they are found in plants, THC and CBD are sometimes called **phytocannabinoids**. (“Phyto” refers to anything related to plants.)

THC and CBD affect your body in different ways:

- **THC (delta-9-tetrahydrocannabinol)** is a psychoactive chemical. This means it can affect how your brain works. It’s the main ingredient in marijuana and other cannabis products that produce a feeling of being “high” or a sense of euphoria or

intense happiness.

- **CBD (cannabidiol)** can change how you feel pain and how your body responds to inflammation from an injury or a health problem. It can also create a feeling of relaxation. It does not have psychoactive effects. This means it doesn't cause the type of "high" feeling that THC is known for.

The endocannabinoid system

Our bodies naturally make certain types of cannabinoids as needed. "Endo" means "within," so cannabinoids made by the body are called **endocannabinoids**. They are found in various organs and tissues. The reason THC and CBD have the effects they do is because the body has **receptors** (proteins that can change the way a cell acts) that are activated by cannabinoids, whether they are made by the body or come from a plant.

When the body detects pain, hunger, injury, or stress, the **endocannabinoid system (ECS)** becomes active to help transmit signals between nerve cells. Cannabinoids react by attaching or binding to cannabinoid receptors, such as CB1 and CB2.

- **CB1 receptors** are found in your brain, [nervous system](#)¹, and in some organs that help control how you feel pain.

What are marijuana and hemp?

Marijuana and hemp are both products made from cannabis plants. They differ in which parts of the plant they use and how much THC they contain.

Marijuana is the name given to the dried leaves, flowers, and seeds of varieties of cannabis plants. It goes by many names, including pot, grass, cannabis, dagga, weed, delta, hemp, hash, flower, buds, marihuana, ganja, and many others. Marijuana contains both THC and CBD.

Hemp is made up of the stalks, stems, and seeds from cannabis plants. Like marijuana, hemp contains both THC and CBD. While both can have varying amounts of CBD, hemp has less THC than marijuana does.

According to the US Food and Drug Administration (FDA), “marijuana” is any cannabis product with more than 0.3% THC and “hemp” is any product with 0.3% or less of THC. Marijuana is considered illegal by federal law, even though some states have legalized it. Hemp is not considered illegal by federal law due to its lower concentration of THC. Read more in [Is Cannabis Legal in the US?](#)²

Hyperlinks

1. www.cancer.org/cancer/understanding-cancer/anatomy-gallery/nervous-system.html

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What Cannabis Products Are Available?

These effects can vary based on:

- What form is used
- How much THC and CBD are in the product
- The way your body responds to cannabis

- [Inhaled cannabis \(marijuana\)](#)
- [Ingested cannabis \(edibles\)](#)
- [Sublingual cannabis](#)
- [Topical cannabis](#)

Inhaled cannabis (marijuana)

Inhaled cannabis, or [marijuana](#), is smoked using a hand-rolled joint or blunt, or by using a pipe, bong, dab rig, or other device. Cannabis concentrate can also be "vaped" in an e-cigarette device.

When cannabis is inhaled, cannabinoid chemicals enter the lungs, are absorbed by the bloodstream and go to the brain quickly. This means the mind-altering, psychoactive effects of THC are felt almost right away. The effects of inhaled cannabis fade faster than cannabis taken by mouth.

It's important to know that smoke produced from inhaling cannabis has many of the same cancer-causing chemicals found in tobacco smoke. For this reason, **most doctors who recommend cannabis for medical reasons prefer that it be taken by mouth through a form other than inhaling.**

- **Onset of action:** 0-10 minutes
- **Peak effects:** 3-10 minutes
- **Duration of effects:** 2-6 hours
- **Possible benefits** depend on the type of cannabis that is inhaled but might include:
Fast relief from or decreased nausea, pain, and anxiety
Enhanced sleep
- **Possible side effects:** Cough
Mouth irritation and dryness
Sore throat
Dizziness
Over-ingestion of high THC (possible overdose)
- **Possible long-term effects:** Not fully known but are being studied
Cannabis use disorder (CUD) (addiction)
Possible serious, long-lasting heart and lung problems

Ingested cannabis (edibles)

Ingested cannabis is taken by mouth through eating, chewing, or drinking cannabis products. These are called **edibles**. Examples of edibles are pills, tablets, capsules, gummies, candy and chocolate bars, cooking oils, drinks (seltzer, soda), and baked goods (biscuits, brownies, cookies, etc.).

THC in edible cannabis is absorbed poorly, so it can take up to a few hours to feel the effects. If you eat more fatty foods or drinks around the same time you use edible cannabis, the onset can be longer and the duration can be shorter. Once absorbed, THC is processed by the liver and goes through the usual digestion process.

- **Onset of action:** 1-3 hours
- **Peak effects:** 1-2 hours
- **Duration of effects:** 6-12 hours
- **Possible benefits** depend on the type of cannabis used but might include: Relief from or decreased pain and anxiety Relief from or decreased nausea Enhanced sleep
- **Possible side effects:** Unpleasant taste Increased nausea Over-ingestion of high THC (possible overdose)
- **Possible long-term effects:** Not fully known but are being studied Cannabis use disorder (CUD) (addiction)

It's important to know that the amount of THC in foods and drinks that have cannabis added is often unknown. This can lead to a person getting too much THC, feeling effects for longer, and might cause symptoms of overdose.

Sublingual cannabis

Sublingual cannabis is placed under your tongue and absorbed by the membranes and cells in your mouth and cheek. It then goes into the bloodstream. Sublingual products can come in liquid or tincture form or as a tablet that dissolves under your tongue. The sublingual forms of cannabis are absorbed fairly fast, so their effects are usually felt more quickly than ingested cannabis.

- **Onset of action:** 15 minutes-1 hour
- **Peak effects:** 45 minutes
- **Duration of effects:** 4-6 hours
- **Possible benefits** depend on the type of cannabis used but might include: Relief

from or decreased pain and anxiety
Relief from or decreased nausea
Enhanced sleep

- **Possible side effects:** Unpleasant taste
Dry mouth
- **Possible long-term effects:** Not fully known but are being studied
Cannabis use disorder (CUD) (addiction)

Topical cannabis

Topical cannabis is applied directly to the skin. These products include cannabis oils, gels, salves, creams, and patches. They are absorbed through the skin, and their effects are felt in the area where they are applied. The effects of topical cannabis are steadier over time than the other forms.

- **Onset of action:** 5 minutes-2 hours
- **Peak effects:** Varies
- **Duration of effects:** Varies
- **Possible benefits** include relief from or decreased pain in the area where it's applied.
- **Possible side effects or harms** include a rash or other skin irritation.

Learn more:

- [Possible Benefits of Cannabis for People with Cancer¹](#)
- [Risks of Using Cannabis for People with Cancer²](#)

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Is Cannabis Legal in the US?

Cannabis is 72r60 378.93 l.0 1 72 302

- Britannica/ProCon provides a [State-by-State Marijuana Laws Map](#)⁴

You can also check your state legislation pages or call your local health department to find out where to find your state's information. The state pages can provide details about when laws were passed and any limits to cannabis use within the state.

What does the federal law say about cannabis?

While cannabis laws in the US vary widely by state, **cannabis is considered an illegal drug under federal law.** The only exception to this is **hemp**, which is not considered illegal because of its lower amount of THC.

Cannabis has long been classified as a Schedule 1 drug by the US Food and Drug Administration (FDA). Schedule 1 is a classification for drugs considered to have a high risk for abuse and no accepted medical use.

However, this may change soon. **The FDA is expected to change cannabis to a Schedule 3 drug.** This means it would be considered to have some use and less risk.

According to federal law, people who use cannabis cannot:

- Buy and possess a gun or other firearm
- Get federal housing
- Get certain types of visas
- Be employed by the federal government
- Serve in the military

These limitations are because cannabis is currently a Schedule 1 drug. If cannabis is reclassified as a Schedule 3 drug, these limitations will no longer apply.

Traveling

Crossing state lines with cannabis may or may not be allowed under state laws. For example, if cannabis is illegal in a state that is being traveled to, it can be against the law to bring cannabis to that state.

Carrying cannabis while traveling to and from other countries is illegal under federal law except for hemp products.

Workplace policies

Workplace policies on cannabis use and drug testing vary greatly. For example, employers who hire or use federal workers and contractors are required to include drug testing programs in their policies. For non-federal employees and contractors, details in a workplace cannabis policy depend on where you are employed, what type of job you have, and what your job duties are. In addition, employers must abide by state laws on cannabis use, which can be hard to do if employees work from home or offices in other states.

If you are employed and use cannabis or are thinking of using it, check your workplace policy. Here are some things to keep in mind:

- Even if cannabis is legal in a state, employers that have a drug and alcohol policy can require drug tests on employees that include testing for cannabis.
- There are no current federal laws that say employers should accept or reject an employee's use of cannabis, even for medical purposes.

Hyperlinks

1. www.ncsl.org/health/state-medical-cannabis-laws
2. medicalmarijuana.procon.org/legal-medical-marijuana-states-and-dc/
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Possible Benefits of Cannabis for People with Cancer

People who have certain symptoms of cancer or side effects of cancer treatment might benefit from using cannabis. Relieving or reducing symptoms and side effects can lead to overall better quality of life for people with cancer and their caregivers. Managing symptoms and side effects well can also reduce the number of emergency room visits and hospital readmissions for things like dehydration due to nausea and vomiting, or uncontrolled severe pain.

Keep in mind that cannabis products can also have harmful effects. If you are interested in trying cannabis for yourself or a loved one who has cancer, it's important to learn as much as you can about it. Talking with your doctor or cancer care team about the types, forms, and dosages of cannabis products can help you make informed decisions. For more information, visit [cancer.org/cannabis](#).

Does cannabis treat or cure cancer?

No, cannabis does not treat or cure cancer. Studies have not shown cannabis can stop or slow the growth of cancer cells. Experts at the American Society for Clinical Oncology (ASCO) have developed a guideline for cancer doctors (oncologists) who treat adults with cancer. The guideline states that cannabis should not be used as a treatment for cancer unless it's being studied in a [clinical trial](#)³.

What symptoms and side effects can cannabis treat?

The US Food and Drug Administration (FDA) and other experts have looked at the benefits and harms of cannabis and continue to study them. The FDA lists the following accepted medical uses of cannabis for problems that are commonly reported by people with cancer.

- [Pain](#)⁴
- [Nausea and vomiting](#)⁵
- [Anorexia](#)⁶ (loss of appetite)
- Stress and [anxiety](#)⁷
- [Sleep problems](#)⁸

The strongest benefits have been shown when cannabis is used to help relieve pain, nausea and vomiting, and loss of appetite.

Cannabis products come in many [different forms](#) and can be made from [different varieties of cannabis plants](#), with differing levels of THC and CBD. It's important to talk to your cancer care team about which options are best for the symptoms and side effects you have. Keep in mind that there are many other kinds of medicines and therapies that can help manage these effects as well.

Cannabis for pain relief

Cannabis has been used with other medicines to help manage cancer pain. Interest in using cannabis for cancer pain is increasing. There are a few reasons for this:

- Some people have trouble tolerating other types of pain medicines, or there is concern about pain medicines being safe for them because of other health problems. For example, some pain medicines can be harmful for people who have kidney problems.

- Sometimes a person is on many different medicines and treatments that may interact with each other.
- Some people may choose not to take opioids and other pain medicines because they are concerned about addiction.

Studies show mixed results in how effective cannabis is for pain in general. It has been found to be most effective for cancer pain and for nerve (neuropathic) pain. How cannabis is taken and the type of cannabinoids it contains (THC, CBD, or both) can greatly affect how it's used to manage pain and what effects it can have on pain.

To help relieve pain for people who haven't used cannabis in the past, experts recommend low-dose, non-inhaled cannabis products. Ingested, sublingual, and topical forms of cannabis are preferred. People who have experience using cannabis may be able to start at higher doses or take more frequent doses.

Cannabis to control nausea and vomiting

Nausea and vomiting are among the most common side effects reported by people getting cancer treatment. Anti-nausea medicines, called **antiemetics**, can be very effective. These include drugs like ondansetron. But sometimes antiemetics aren't enough, or a person can't take them for certain reasons. In these cases, cannabis may be considered.

A product that includes both THC and CBD might be more effective than others for nausea. But keep in mind that doses can vary widely. A certain type and dose of cannabis that helps reduce nausea for one person may be too much or not enough for someone else.

Types of cannabis that might help reduce nausea are generally available in licensed dispensaries in states that consider cannabis legal for medical purposes. Whether you can buy the products without an order or prescription from a doctor depends on the state laws where you live and are being treated for cancer.

There are 2 prescription cannabis medicines approved by the US Food and Drug Administration (FDA) for use in treating nausea and vomiting from chemotherapy: dronabinol and nabilone. **Both require a doctor's prescription** and are available at most pharmacies, even in states where medical cannabis is illegal.

- **Dronabinol (Marinol)** is a medicine containing delta-9-tetrahydrocannabinol (THC) and is approved to treat nausea and vomiting caused by cancer chemotherapy.

- **Nabilone (Cesamet)** is a synthetic cannabinoid that acts much like THC. It can be taken by mouth to treat nausea and vomiting caused by cancer chemotherapy when other drugs have not worked.

Cannabis as an appetite stimulant

People with cancer can experience a loss of appetite (anorexia) due to the cancer or its treatment. If anorexia isn't managed well, a person may not get enough nourishment. This can lead to a serious condition called **cachexia** that involves both weight loss and muscle wasting.

Studies show people with cancer who have anorexia often report improved appetite when they use cannabis. For example, people with advanced cancer who have been part of small studies using THC have reported improved taste and appetite. However, there is very little research on whether CBD might increase appetite or help a person gain weight.

Along with helping nausea and vomiting, dronabinol is approved to help manage weight loss and poor appetite in people who have HIV/AIDS. Some experts recommend its use to help with cancer-related weight loss and anorexia as well.

Cannabis to reduce anxiety

Many people have anxiety in response to stressful situations. People with cancer are no different, and they may have higher anxiety at different times during their cancer experience. Studies have shown that the main reason people give for using cannabis is to reduce anxiety.

Certain cannabis products, especially those containing *Cannabis indica*, generally work well to reduce anxiety. Indica products usually include CBD, which has been shown to be helpful in managing anxiety. However, products with high amounts of THC can actually increase anxiety.

Cannabis to help insomnia

Sleep is very important for overall health. People with cancer often report insomnia and other problems when trying to fall asleep, stay asleep, or go back to sleep. Cancer-related fatigue and pain, or side effects from treatment, can add to nighttime sleep problems.

Various medicines can be used to help with sleep problems. Some people use or turn to cannabis as an alternative or combined with other sleep medicines. This is understandable, since some types of cannabis tend to calm the mind and make a person feel more relaxed.

Typically, products made from the indica cannabis plant can have a calming, relaxing effect. Products that have CBD added can also have a relaxing effect. Studies show that CBD used in higher doses for short periods of time might be helpful in reducing the time needed to fall asleep and increasing the amount of sleep time. However, some experts don't recommend using cannabis on a long-term basis because it may have a negative effect on the quality of your sleep. Other studies suggest that stopping cannabis after prolonged use can make sleep problems worse.

Using cannabis should always be discussed with a doctor to be sure it's a safe option and to know what you might expect.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
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Risks of Using Cannabis for People with Cancer

Cannabis use is increasing in people with serious illnesses, including people with cancer. While cannabis can [help manage symptoms and side effects](#)¹ related to cancer and cancer treatment, it can also have harmful effects. Like most drugs, medicines, and treatments, cannabis can cause side effects and complications. There are also concerns about cost and safety, as well as legal issues.

If you or a loved one are interested in trying cannabis to help manage symptoms of cancer or side effects of treatment, it's important to learn as much as you can about it. Talking with your doctor or cancer care team about the types, forms, doses, risks, and benefits can help you make an informed decision, address any safety issues, and know what to expect.

- [Immediate effects of cannabis use](#)
- [Interactions with medicines and treatments](#)
- [Long-term health risks of cannabis](#)
- [Tolerance, dependency, and addiction](#)
- [Financial cost](#)
- [Product safety](#)

Immediate effects of cannabis use

Mental and emotional effects

Cannabis use can affect your emotions and mental abilities. This is different from [cognitive impairment due to treatment](#)², or what some people refer to as “chemo brain” or “brain fog.” However, using cannabis during treatment might make treatment-related cognitive impairment worse for a short time, or cause different mental or emotional effects.

When mental and emotional effects of cannabis take effect and how long they last depends on the type, form, and dose of cannabis used. Some of the possible mental and emotional effects of using cannabis are:

- Feeling of being “high”
- Confusion
- Drowsiness or feeling sleepy
- Mood changes
- Feeling paranoid
- Memory problems
- Problems focusing or concentrating

heavy equipment and hazardous materials. Do not operate heavy equipment or work with hazardous materials while using cannabis.

Who is at highest risk?

- Cannabis-naïve people, or people who have never used or rarely use cannabis, can be at risk for greater side effects than people who have used cannabis for longer periods of time.
- People who have a history of a substance use disorder have a higher risk of misusing cannabis.
- Cannabis use may worsen psychotic disorders, such as schizophrenia.
- People taking medicines known to have interactions with cannabis should be closely monitored.

Interactions with medicines and treatments

Like any drug or treatment, cannabis can interact with other medicines. Cannabis can cause changes in how the other drug works in the body, and it may make side effects worse.

It's very important to be sure your cancer care team knows all of the drugs, medicines, supplements, and treatments you are taking so they can be alerted to possible interactions, help you manage side effects, and address any safety concerns.

Cancer treatments

There is very limited research on how cannabis may interact with cancer treatments. Treatments that are systemic (that travel through the body, like chemo and other drugs) are more likely to interact with cannabis than treatments that are local (directed at a specific part of the body, like surgery or radiation).

Surgery: Cannabis users may be at higher risk for problems with anesthesia and other complications during and after surgery. If you use cannabis and are having surgery, be sure your surgeon and anesthesia specialist know about the type, form, and dose of cannabis you use and how often you use it.

Radiation therapy: Very little is known about how cannabis products may interact with

- Buprenorphine (Sublocade, Brixadi, Subutex, Butrans) – an opioid pain medicine
- Tacrolimus (Astagraf, Envarsus, Prograf) – a transplant anti-rejection medicine

Alcohol

Studies have shown that when cannabis is used with alcohol, there's an increased risk of being impaired, both mentally and physically.

- **Dependency** is when your body has developed a tolerance for a drug or medicine and needs that drug or medicine to function well. If you stop using the drug or medicine, withdrawal symptoms can happen.
- **Addiction** is when you have a strong urge or craving for using a drug, the urge is very hard to control, and there are harmful behaviors and effects in your life because of using the drug.

Over time, some people who use cannabis might become dependent on it. For example, a person using cannabis might not seem to get as much relief after taking it for a while. Sometimes this is because the symptom or side effect has increased, or they have developed a tolerance to cannabis. When this happens, a different form or dose might help to get the relief that's needed.

Studies show that some chronic users can develop an unhealthy dependence on cannabis. This is called **cannabis use disorder (CUD)**. According to the Centers for Disease Control and Prevention (CDC), CUD affects about 3 in 10 people who use cannabis products.

Financial cost

Cannabis products purchased through licensed dispensaries and other retailers are not covered by insurance. This is because federal law still considers cannabis an illegal drug, with the exception of [hemp](#). Here are some ways the cost of cannabis can impact people with cancer.

- The cost and taxes related to buying cannabis for medical reasons vary in each state where it is legalized. Costs also vary based on prices set by the dispensary selling it and by the type, dose, and form of cannabis being sold.
- There is a risk for high out-of-pocket costs for those using cannabis to relieve symptoms related to cancer and its treatment. This adds to the overall financial burden of having cancer.
- Because they tend to use cannabis products more, men and younger people with cancer are more likely to have high out-of-pocket cannabis costs.
- Little is known about the value of various types of cannabis products based on how much they cost.

Insurance may or may not cover the 2 prescription cannabinoid medicines that require a doctor's prescription, dronabinol and nabilone. They are available at most pharmacies, even in states where medical cannabis is illegal. If your doctor recommends one of

these, be sure to check with your insurance company to see if it's covered and how much out-of-pocket cost you may have.

Product safety

Where and how cannabis is purchased is important. Keep in mind that cannabis products that people get or buy from sellers on the street or vendors on the internet may not be regulated types and forms, may be poor quality, and may contain unknown or dangerous substances. It's also important to store cannabis safely and to keep it away from children and pets.

Ingredient safety

Some cannabis/cannabinoid products contain amounts of cannabinoids that differ substantially from what's stated on their labels. It's important to buy cannabis products from licensed dispensaries and sellers whose products are regulated by the FDA.

Buying products that claim to contain cannabis from people selling them on the street, the internet, or elsewhere is dangerous. These illegal substances are not regulated, could be lower quality, may contain varying amounts of cannabis, and may contain harmful ingredients. There have been reports of cannabis products being tainted or contaminated with bacteria, pesticides, and other harmful or unknown substances.

Storage of cannabis

Store cannabis products in a clean, dry, cool area or as directed on the label. The area should be away from where food and drink are stored. Cannabis products should also be stored and kept out of reach of children, pets, and others at risk for accidental cannabis dosing. Using a locked cabinet is a good idea.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/side-effects/changes-in-mood-or-thinking/chemo-brain.html
2. www.cancer.org/cancer/managing-cancer/treatment-types/immunotherapy.html
3. www.cancer.org/cancer/managing-cancer/treatment-types/chemotherapy.html
4. www.cancer.org/cancer/managing-cancer/treatment-types/targeted-therapy.html

5. www.cancer.org/cancer/managing-cancer/treatment-types/hormone-therapy.html
6. www.cancer.org/cancer/managing-cancer/side-effects/fatigue-weakness-sleep.html
7. www.cancer.org/cancer/risk-prevention/diet-physical-activity/acs-guidelines-nutrition-physical-activity-cancer-prevention.html
8. www.cancer.org/cancer/survivorship/be-healthy-after-treatment/nutrition-and-physical-activity-during-and-after-cancer-treatment.html
9. www.cancer.org/cancer/risk-prevention/tobacco/carcinogens-found-in-tobacco-products.html

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