

# Guide to Using Medical Cannabis

Cannabis is a flowering plant that has fibrous stalks used for paper, clothing, rope, and building materials leaves, flowers, and roots used for medicinal purposes, and seeds used for food and fuel oil. Cannabis leaves and flowers are consumed in several forms: dried flower buds or various types of concentrated, loose, or pressed resin extracted from the flowers or leaves through a variety of methods. Once mature, the plant's leaves and flowers are covered with trichomes, tiny glands of resinous oil containing cannabinoids and terpenes that provide physical and psychoactive effects.

## 100+ different types of cannabinoids and terpenes.

Concentrations or percent of each type of cannabinoid ranges widely from plant to plant and strain to strain.

The first identified and best-known cannabinoid is THC (delta-9-tetrahydrocannabinol). THC has the most significant psychoactive effect of the cannabinoids. The ratio of THC to other cannabinoids varies from strain to strain. While THC has been the focus of breeding and research due to its various psychoactive and therapeutic effects, non-psychoactive cannabinoids have physiologic effects that can be therapeutic.

- Cannabidiol (CBD) relieves convulsions, inflammation, anxiety and nausea—many of the same therapeutic qualities as THC but without psychoactive effects. It is the main cannabinoid in low-THC cannabis strains, and modern breeders have been developing strains with greater CBD content for medical use.
- Cannabinol (CBN) is mildly psychoactive, decreases intraocular pressure, and seizure occurrence.
- Cannabichromene (CBC) promotes the analgesic effects (pain relief) of THC and has sedative (calming) effects.
- Cannabigerol (CBG) has sedative effects and antimicrobial properties, as well as lowers intraocular pressure.
- Tetrahydrocannabivarin (THCV) is showing promise for type 2 diabetes and related metabolic disorders.

In addition to cannabinoids, other cannabis plant molecules are biologically active. A few other molecules known to have health effects are flavonoids and terpenes or terpenoids (the flavor and smell of the strain). Cannabinoids, terpenoids, and other compounds are secreted by the glandular trichomes found most densely on the floral leaves and flowers of female plants.

## Effects

Different people have different experiences. One individual may feel stress release, while another feels over-stimulated and stressed, while another feels energized and on-task. There are many factors that impact the effect:

- Amount used (dosage)
- Strain of cannabis used and method of consumption
- Environment/setting
- Experience and history of cannabis use
- Biochemistry
- Mindset or mood
- Nutrition or diet
- Types of Cannabis

Though cannabis is biologically classified as the single species *Cannabis Sativa*, there are at least three distinct plant varieties: *Cannabis Sativa*, *Cannabis Indica*, and *Cannabis Ruderalis*, though the last is rare. There are also hybrids, which are crosses between sativa and indica varieties. Cannabis used for fiber is typically referred to as hemp and has only small amounts of the psychoactive cannabinoid THC, usually less than 1%.

Genetic “breeders” of the cannabis seed have developed thousands of different strains of cannabis from these three varieties. There are marked differences between sativa, indica, and hybrid. Today, we mostly find hybrids. It can be difficult to find pure indica or sativa.

All types of medical cannabis produce effects that are more similar than not, including pain and nausea control, appetite stimulation, reduced muscle spasm, improved sleep, and others. But individual strains will have differing cannabinoid and terpene content, producing noticeably different effects. Many people report finding some strains more beneficial than others. For instance, strains with more CBD tend to produce better pain and spasticity relief. As noted above, effects will also vary for an individual based on the setting in which it is used and the person's physiological state when using it.

In general, sativas and indicas are frequently distinguished as follows:

## **Sativas**

The primary effects are on thoughts and feelings. Sativas tend to produce stimulating feelings, and many prefer it for daytime use. Some noted therapeutic effects from use of Sativas:

- Stimulating/energizing
- Increased sense of well-being, focus, creativity
- Reduces depression, elevates mood
- Relieves headaches/migraines/nausea
- Increases appetite

Some noted Side-Effects from use of Sativas

- Increased anxiety feelings
- Increased paranoia feelings

## **Indicas**

The primary effects are on the body. Indicas tend to produce sedated feelings, and many prefer it for nighttime use.

Some noted Therapeutic Effects from use of Indicas:

- Provides relaxation/reduces stress
- Relaxes muscles/spasms
- Reduces pain/inflammation/headaches/migraines
- Helps sleep
- Reduces anxiety
- Reduces nausea, stimulates appetite
- Reduces intra-ocular pressure
- Reduces seizure frequency/anti-convulsant
- Some noted side-effects from use of Indicas:
- Feelings of tiredness

- “Fuzzy” thinking

## Hybrids

Strains bred from crossing two or more varieties, with typically one dominant. For example, a sativa-dominant cross may be helpful in stimulating appetite and relaxing muscle spasms. Crosses are reported to work well to combat nausea and increase appetite.

## Cannabis Extracts and Concentrates

The dried flower or bud from the manicured, mature female plant is the most widely consumed form of cannabis in the U.S. Elsewhere in the world, extracts or concentrates of the cannabis plant are more commonly used. Concentrates are made from cannabinoid-rich glandular trichomes, which are found in varying amounts on cannabis flowers, leaves and stalks. The flowers of a mature female plant contain the most trichomes.

Many methods are used to separate the trichomes from the plant:

- Sift the cannabis flower and/or leaves through a fine screen either via a mechanical/motorized tumbler or by hand. Called “dry sift.” What passes through the screen is primarily the oil-rich glandular heads.
- Roll the cannabis flowers between the fingers to rupture the trichomes and collect the resin that sticks to the fingers. Called “finger hash.”
- Submerge cannabis leaves in ice water and agitate mixture to solidify trichomes. Filter mixture through series of increasingly fine screens or bags. Dry the trichomes and press into blocks. Called “bubble hash.” This method has increased yield.

There are other ways to separate the trichomes from other plant material, such as butane extractions, but consult your local medical cannabis laws concerning restrictions on certain types of preparations and use caution as some methods can create serious combustion dangers.

## Kief

Kief is a powder made from trichomes removed from the leaves and flowers of cannabis plants. Can be compressed to produce cakes of hashish, or consumed (typically smoked) in powder form in a pipe or with cannabis bud or other herbs.

## Hashish

Hashish (also known as hash or hashisha) is a collection of compressed or concentrated resin glands (trichomes). Hash contains the same active cannabinoids as the flower and leaves but typically in higher concentrations (in other words, hash is more potent by volume than the plant material from which it was made).

- Hashish usually is a paste-like substance with varying hardness. Good quality is typically described as soft and pliable. It becomes progressively harder and less potent as it oxidizes and oil evaporates.
- THC content of hashish ranges from 15-70%.
- Often smoked with a small pipe. Can be used in food, in a hookah, vaporizer, mixed with joints of cannabis bud or aromatic herbs.
- Color varies from black to brown to golden or blonde. Color typically reflects methods of harvesting, manufacturing, and storage.

**MYTH:** The effects from smoking hash are different.

**FACT:** The effects of hash vary in the same way strains of cannabis do. This stems from differences in potency of hash and the regional variations between cannabis strains used for making it.

## **Hash oil**

Hash oil is a mix of essential oils and resins extracted from mature cannabis foliage through the use of various solvents such as ethanol or hexane. The solvent is then evaporated, which leaves the oil. Hash oil tends to have a high proportion of cannabinoids—a range from 30 to 90% THC content can be found.

Can be smoked with a specialty pipe (specifically for hash oil or hash), with a vaporizer, with cannabis bud in a pipe, joint, or added to food.

## **Cannabis Edibles**

Cannabis can be ingested or eaten when added to cake, cookies, dressings, and other foods. It can also be brewed into a tea or other beverage. To be effective, cannabis and its extracts or concentrates must be heated in order to convert the cannabinoid tetrahydrocannabinolic acid into active THC.

Digestive processes alter the metabolism of cannabinoids and produce a different metabolite of THC in the liver. That metabolite may produce markedly different effects or negligible ones, depending on the individual. Onset of effects are delayed and last longer due to slower absorption of the cannabinoids.

Cannabinoids are fat-soluble, hydrophobic oils, meaning they dissolve in oils, butters, fats and alcohol, but not water. Processes using oil, butter, fat or alcohol can extract the cannabinoids from plant material.

Various forms of converted cannabis can be used for edible medicating. Each can be made from cannabis flowers, leaves or concentrates such as hash. The potency of the edible will depend on the material used in making it and the amount used. Edibles made with hash will be stronger than those made from leaf trim.

## **Cannabis Oil**

Cannabis Oil (cannaoil): is cooking oil infused with cannabinoids. Various means to extract include heating the oil and cannabis mixture at low temperature in a frying pan or pot, double boiler, or slow cooker then straining out the plant material. Can be used in any recipe that includes oil and that doesn't go over 280 degrees Fahrenheit (evaporating point). Think cookies, cakes, candies, and other food items.

## **Cannabis Butter**

Cannabis butter (cannabutter) is butter infused with cannabinoids. Heat raw cannabis with butter to extract cannabinoids into the fat. Various means to extract include heating the butter and cannabis mixture at low temperature in a frying pan or pot, double boiler, or slow cooker then straining out the plant material. Can be used in any recipe that includes oil and that doesn't go over 280 degrees Fahrenheit.

## **Tincture**

Tinctures use ethanol alcohol (e.g. pure grain alcohol, not rubbing alcohol) to extract the cannabinoids. You use droplet amounts, and it is absorbed through the mucous membranes in the mouth.

## **Spray**

Sublingual sprays is another way of using a tincture. Use ethanol alcohol to extract the cannabinoids. You use a pump to spray cannabis-alcohol solution under your tongue.

## **Cannabis Liquor**

Liquor may be infused with cannabinoids. Best to cook stems and leaves into brandy or rum. Can be added to coffee and other beverages.

## **Cannabis Topicals (applied to the skin)**

Cannabinoids combined with a penetrating topical cream can enter the skin and body tissues and allow for direct application to affected areas (e.g. allergic skin reactions, post-herpes neuralgia, muscle strain, inflammation, swelling, etc.).

- Cannabinoids in cannabis interact with CB1 and CB2 receptors that are found all over the body, including the skin.
- Both THC and Cannabidiol (CBD) have been found to provide pain relief and reduce inflammation.
- Topical cannabis use does not produce a psychoactive effect, which is different from eating or inhaling the medicine.

Different types of cannabis topicals include:

- Salve: cannabinoids heated into coconut oil combined with bees wax and cooled. Rub directly on skin.
- Cream: cannabinoids heated into shea butter combined with other ingredients and cooled. Rub directly on skin.

Topicals may produce anti-inflammatory and analgesic or pain relief effects.. Research has to date been limited to studies on allergic and post-herpes skin reactions and pain relief. Anecdotal reports on topical treatment efficacy include:

- Certain types of dermatitis (including atopic) and psoriasis
- Balm for lips, fever blisters, herpes
- Superficial wounds, cuts, acne pimples, furuncles, corns, certain nail fungus
- Rheumatism and arthritic pains (up to the 2nd degree of arthritis)
- Torticollis, back pains, muscular pains and cramps, sprains and other contusions
- Phlebitis, venous ulcerations
- Hemorrhoids
- Menstruation pains
- Cold and sore throat, bronchitis
- Asthmatic problems with breathing
- Chronic inflammation of larynx (application in the form of a Priessnitz compress)
- Migraine, head pains, tension headaches
- Pharmaceutical Cannabis or Cannabinoids

Pharmaceutical cannabis or cannabinoid drugs are those that have been standardized in composition, formulation and dose. That means you always know exactly what and how much you are getting with each pill or spray. These are drugs which have been developed to meet regulatory requirements for prescribing by physicians.

## **Dronabinol (Marinol®)**

Dronabinol (Marinol®) is a prescribed capsule classified as a Schedule III drug used to treat nausea and vomiting caused by chemotherapy and loss of appetite and weight loss in people who have acquired immunodeficiency syndrome (AIDS). It is a synthetic version of THC suspended in sesame oil and does not contain CBD (cannabidiol) or other cannabinoids.

### **Sativex®**

Sativex® is a prescribed oromucosal (mouth) spray to alleviate various symptoms of MS and cancer, including neuropathic pain, spasticity, overactive bladder and other symptoms, depending on the country. Derived from two strains of cannabis, the principal active cannabinoid components are THC and CBD suspended in ethanol. Each spray of Sativex® delivers a fixed dose of 2.7mg THC and 2.5mg CBD.