



Medical cannabis and its use in medicine.

Cannabis is a flowering plant that comes in two main strains, cannabis sativa and cannabis indica. Once the plant is mature, it is covered in resinous glands called trichomes. These trichomes contain compounds known as **cannabinoids** and fragrant oils called terpenes or terpenoids. *The first identified, best known, and most psychoactive cannabinoid is THC. CBD or cannabidiol is another well-known medicinal cannabinoid that does not have the psychoactive effects of THC.* In all, there are more than 85 different kinds of cannabinoids that are currently known.

Hemp, on the other hand, is a type of cannabis sativa that is bred predominantly for its fibrous stalk and seeds. Each flowering plant, be it a sativa or indica strain has a unique combination of cannabinoids and terpenes. The vast amount of these combinations is only half the story, however.

Our body naturally makes compounds similar to the cannabinoids known as **endocannabinoids**. These chemicals have corresponding receptors called **CB1 and CB2 receptors** that are found throughout the body and the brain. This network of receptors and compounds is collectively known as the endocannabinoid system. To make it simple, *this system is thought to generally mediate the health and stability of a variety of functions of the body and brain.* When the cannabinoids from the cannabis plant are taken into the body, the endocannabinoid system is activated in a variety of ways that modern science is just starting to understand.

The way the different strains, cannabinoids, and terpenes interact with our endocannabinoid system is fairly complex. Modern medicine has a tendency to think about drugs and therapeutics in a reductionist way. For example, we know penicillin comes from a fungus and we can extract the drug from the fungus, however consuming the whole fungus would not offer any additional benefits and would likely be dangerous. Cannabis is not the same, and follows a concept known as “whole plant medicine“. The **“entourage effect”** is the interactive synergy between the different cannabis compounds and the physiologic effect they have on the body.

Simply creating a synthetic THC such as the drug Dronabinol that is used for cancer-related nausea fails to take this into account. Different combinations of terpenes and cannabinoids can have a wide-ranging physiologic effect. *Some compounds are inhibiting, while some are*

activating to the endocannabinoid system. In a simple example, a strain with a high concentration of THC with a moderate concentration of CBD will not be as psychoactive if it only had the THC alone, because it also contains CBD, which mitigates the psychoactive effects of THC. This is also an important point when considering cannabis for pain management. Typically different ratios of THC/CBD and other cannabinoids will have different effects for a variety of conditions.

Ultimately, it is advised that if you are seeking out cannabis for its medicinal properties you should consult with a clinician well educated in cannabinoid medicine. In Germany you can get THC and CBD as prescription and delivered by a compounding pharmacy. It can also be very helpful to keep a journal to document the different effects that the various combinations of cannabinoid compounds have on you to the doctor to find the right combination for you and your ailment.

Besides having an appreciation for the cannabis varieties and the possible medicinal effects, it is also important to have an understanding of the different ways to consume cannabis. Your doctor will help which delivery mechanism is the best for you, it greatly depends on how quickly or how long you are seeking relief. Inhalation mechanisms will deliver a faster onset but will be shorter lasting. Vaporizing is becoming the preferred method of inhalation and is thought to possibly be healthier than smoking. Smoking or combusting cannabis uses high heat and is not recommended by us, because heat, in combination with burnt particles, can have adverse health effects on you and your lung function. Vaporizing, however, uses sub-combustible temperatures and is therefore preferred in the hope that only the cannabinoids and supporting compounds are inhaled. Capsules, and tinctures provide longer lasting relief, but these methods may also take several hours to take effect. To achieve immediate and long-term effect there is a method known as “stacking” in which you take two methods at the same time. Vaporizing and an edible together could provide immediate and longer duration relief.

In regard to dosing cannabis a couple of simple rules are advised. The first is to start low and go slow. This is especially true for those new to cannabis. If the initial dosage is too high it can result in undesired side effects. Edibles and tinctures are often more reliable to measure dosing and therefore preferred in our prescriptions. Inhalation is hard to measure given the precise amount of each inhale, time in lungs, etc. Keeping a journal is very helpful for you and your doctor finding your optimal cannabinoid combination but dosage as well. For more information about safe cannabis use ...



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