Everyday more people register as medical cannabis patients. And there are thousands more self-medicating without a cannabis prescription. Fortunately, legalization increases call for cannabis research. And that means more people are looking for reliable cannabis education. Well, look no further.

The last ten years have seen a huge growth in cannabis research. Today, scientists and medical cannabis researchers understand more about cannabis than ever. And, thanks to social media, patients can see first-hand how people include cannabis in a wellness plan.

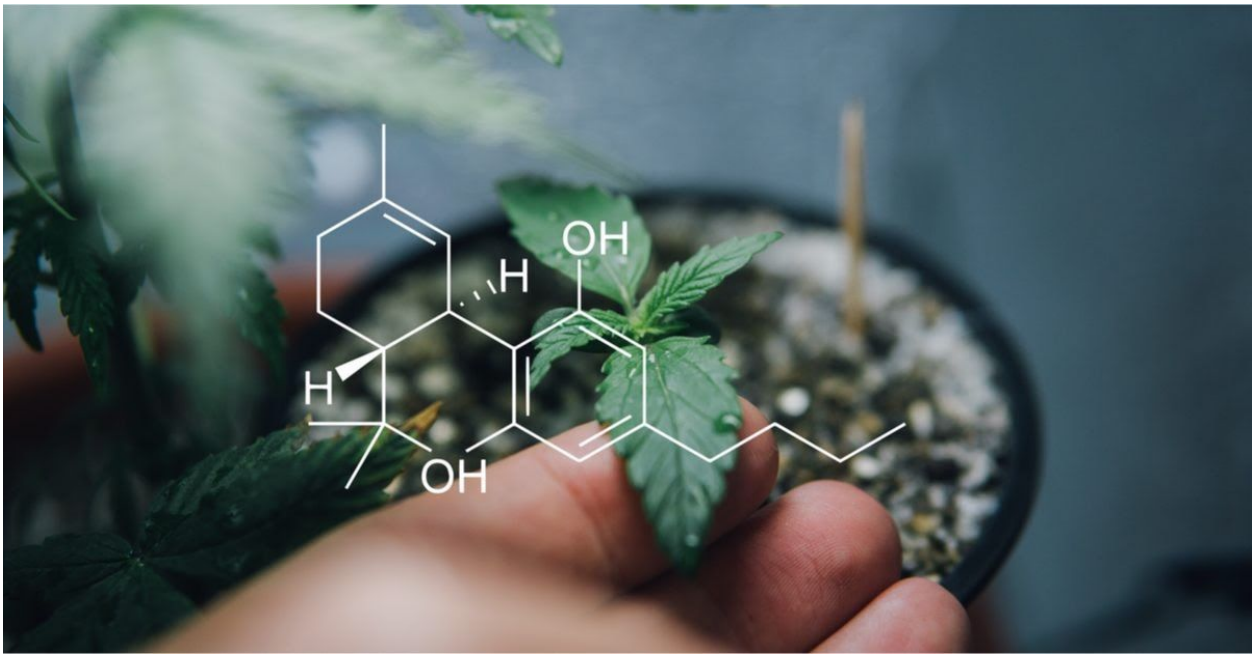
Basically, new medical cannabis patients have a lot of information at their fingertips. But, good cannabis education helps consumers decide for themselves if cannabis is the right choice.

What is Cannabis?

Cannabis is many things. It's a plant, a medicine, an ancient remedy, an illegal narcotic, and ecological hope for the future. That's a lot in one plant. That's why cannabis education is so important.

It's a plant that grows almost anywhere. The scientific name is *Cannabis sativa*. And the term "cannabis" actually refers to both low THC "hemp" and high THC "marijuana." Of course, when we say "cannabis" we really mean marijuana.

That's how we will move forward in this guide. Basically, cannabis refers to marijuana.A key part of cannabis education is the different medicinal parts of the plant, including: cannabinoids, terpenes, and flavonoids. More on that later.



Hemp is Used for Medicine and More

The hearty fibers of hemp seem capable of anything. Indeed, hemp is used to make clothes, recyclable plastics, car batteries, and is an ecologically-friendly home building material. Similarly, there are hemp-based biofuels, food, cosmetics, and medicine.

It is legal to grow hemp in many parts of the world, including within the United States (Farm Bill 2018). Chiefly, hemp is a great hope for a less polluting future.

Medicinally, hemp has the same cannabinoids as cannabis. The major difference is the amount of THC. Hemp plants are legally only allowed to have 0.3% THC. Otherwise, it has the full complement of other cannabinoids, including CBD, CBN, and CBC. Cannabinoids are a key medicinal component to hemp and cannabis. Each has a unique interaction with the endocannabinoid system, with resulting physical and psychological changes.

The CBD products that you buy are usually made from hemp. Cannabis eduction on hemp shows that this non-intoxicating plant has cannabinoids and terpenes. It’s important, however, that medical cannabis patients be sure to buy hemp products made from flower and not from seed. There are very few cannabinoids in hemp seed products.

The Importance of Cannabinoids

THC is best known as an euphoria-producing cannabinoid. It is both psychoactive and intoxicating, but is also under investigation for some key medicinal properties. These include: anti-cancer capabilities, anti-inflammatory properties, killing pain, effective as an anti-nauseant, and stopping muscle wasting. Certainly, chemovars can have THC percentages as high as twenty-eight to thirty percent. But, like hemp CBD, this is not the only cannabinoid that interacts with the human endocannabinoid system. We need to have a broader focus in cannabis medicine.

Cannabidiol (CBD) is a psychoactive, but non-intoxicating. Interestingly, a big piece of cannabis education are anecdotal reports. These come before, and often inspire scientific studies. Overall, patients say CBD helps with anxiety and depression, as well as inflammatory pain. Also, CBD works against tremors and seizures. Pharmaceutical CBD is already prescribed for the treatment of epilepsy. Broad spectrum CBD oil demonstrates excellent results for the same.

Importantly, CBD can lessen the intoxicating effects of THC. This can be useful for medical cannabis patients on high doses of THC.

Cannabis Education on Terpenes and Flavonoids

The most obvious part of cannabis are the terpenes. These are the fragrant compounds that create the dank aroma we love so well. While there are over one hundred terpenes in cannabis, this organic compound is not unique to this plant. Terpenes exist in many plants as these ward off predators.

Interestingly, terpenes are also under investigation for possible medicinal properties. Animal studies and clinical trials support this evidence. Terpenes may show the following capabilities: anti-inflammatory, pain killing, anti-diabetic, neuroprotection, and antidepressant.

Flavonoids are a little known minor compound in cannabis. These plant chemicals are responsible for plant pigments. The startling blue and purple hues of cannabis are a result of flavonoids. Research is very early on these compounds. But, these have shown antioxidant properties as well as anti-inflammatory ability, in animal studies.

How Cannabis Works

Cannabinoids affect the human endocannabinoid system. This is a system of receptors found in every tissue of the body. It regulates hunger, sleep, mood, and pain.

There is evidence of cannabis consumption dating back to some of the earliest civilizations. Remnants of burnt cannabis are found in burial sites in both China and the Middle East. Ancient healers used cannabis because it worked. Today, we are busy using science to explain why.

Cannabinoid Receptors in the Body

Cannabinoids interact with the body through CB receptors, scattered throughout the body. The two main ones are CB1 and CB2 receptors. The brain and nervous system are rich in CB1 receptors, while CB2 receptors are mostly found in the gut, spleen, and on immune cells.

Then there is GPR55, found in the central nervous system. This receptor appears to play a role in controlling neuroinflammation. PPARg is a cannabinoid receptor found on the cell membrane that can influence changes in gene expression.

When cannabinoids contact one of these receptors, the receptor activates. Not all cannabinoids have the same affinity for each receptor. For example, CBD does not directly activate CB receptors but THC does.

Activation can mean dopamine release, pain relief, stimulation of hunger, or soothing of nausea, among other things. This is a big area of research and cannabis education.

Different Ways to Take Cannabis

The chosen cannabis consumption method will affect how cannabinoids interact with your body. There are methods and tips you can use to increase the bioavailability of cannabinoids. For example, taking cannabis tincture under the tongue (sublingually) is the fastest way to get relief. Conversely, If you are using edibles, or swallowing CBD oil, these will last longer. But, did you know that if follow with a healthy fat, more CBD will be absorbed?. Some examples include: avocado, peanut butter, nuts, and cheese. This will increase the availability of CBD and improve the response you get from medical cannabis.

There are so many options on legal markets now. Some examples include beverages (coffee, mocktail mixes, juice, energy drinks), edibles, oil, tincture, sublingual strips, smoking flower, and vaping flower.

More Articles on Taking Cannabis:

Increasing CBD Bioavailability

How the Endocannabinoid System Works

Four Types of Cannabinoid Receptors

Different Ways to Take Cannabis Medicine

Different Types of CBD Oil

Is Cannabis Dangerous?

When medical cannabis patients first look at cannabis education, one of the big concerns is its safety profile. Like all medicine, cannabis can cause side effects. But these are usually mild or mostly rare. Still, it's important to understand exactly what the side effects are — and how to avoid them.

Side Effects of Medical Cannabis

CBD causes virtually no adverse reactions. Some medical cannabis patients complain that it makes them sleepy. One important caution, however, is that CBD can interfere with certain anti-seizure medications and antipsychotics. This is in much the same way that you can't take grapefruit at the same time as antipsychotic pharmaceuticals. This is because these use the same metabolic pathways and the grapefruit reduces effectiveness of the medicine.

Patients ready to try medical cannabis should always consult a cannabis doctor. It's important to make sure cannabis education includes all possible side effects and contraindications.

Too Much THC

THC can have a powerful intoxicating effect on the brain. In fact, taking too much THC can cause anxiety, and may even lead to a panic attack. The effect, fortunately, is short-lived and CBD can counteract.

While people may take too much THC and experience unpleasantness, the negative effects are exaggerated. Today, the biggest adverse effect is dealing with unwanted attention from the justice system.

How Should New Medical Cannabis Patients Get Safely Started?

The best advice for patients starting out with cannabis-based medicine is “start low and go slow.” This is also true if you are experimenting recreationally. Start with a small dose and That steadily build up, over a period of days or weeks, until the desired results are achieved.

It’s like working out. Trainers don’t start newbies on 500-pound weights. Instead, they start with five or ten pounds and add more over time.

Can Cannabis Change the Way You Think?

While anxiety is the biggest risk for cannabis with high THC potency, it’s not what scares most.

Years of bad information has made people believe cannabis has very negative effects on the brain. These include decline in cognitive performance and weakened memory. This is essentially the “dumb stoner” stereotype of Hollywood films.

None of that is true.

Cognitive Effects Resolve After 72 Hours

Researchers have given much time to this exact worry. A literature review, [1] published in the *Journal of the American Medical Association Psychiatry* (2018), addresses this. It found that any cognitive effects from cannabis are resolved after seventy-two hours.

Researchers combed through sixty-nine cross-sectional studies, pulling all the conclusions and data together into one. In other words, published data on cannabis shows two things. First, if it creates cognitive effects, these are very small. Second, those effects are short term — even in chronic consumers.

A good analogy is alcohol. Drinking four beers can make people slow to remember or slower to react than normal. But, the effect quickly wears off as the body rids itself of the alcohol.

What does Cannabis do to the Brian?

Cannabis education has never been more important than right now. As the population of medical cannabis patients swells, we have to recognize the propaganda around cannabis is dead wrong.

On the contrary, certain cannabinoids may help protect the brain. There are studies underway to find out if it can help with the symptoms of Alzheimer's disease. In fact, the anti-inflammatory properties of cannabis may even have neuroprotective benefits. Science is in favor of continuing to study the use of cannabis to ward off mental deterioration.

Is Cannabis Addictive or a Gateway Drug?

Cannabis addiction is a debated topic. Many people, however, believe cannabis is no more addictive than Ibuprofen. Still, medical and psychiatric references include a disease called "cannabis use disorder."

Stats show that nine percent of cannabis consumers will develop a problem.

A study [3] published in the journal *Nature Neuroscience* (2020, looked at the causes of cannabis use disorder and found no clear conclusions. Even more, recent research indicates

that cannabis can help treat cannabis abuse disorder. That is to say that CBD-rich cannabis may help people overcome an addiction to THC.

Cannabis is Used to Fight Addiction

Importantly, cannabis is a great helper for many people suffering from different types of addiction. Studies show that cannabis may help people overcome addiction to alcohol, benzos, meth, and opioids. In fact, addiction specialists support the effort to use cannabis both for harm reduction and to get off opioids and benzos. A study [2] in the *American Journal of Psychiatry* (2019) found CBD was effective in combating opioid-based addiction.

So, is cannabis addictive? The jury is out. But, the greatest risk for addiction are teens with poor mental health overusing cannabis.

Cannabis and the Rapid Growth of Canadian Home Healthcare

Cannabis is fully legal in a handful of countries, such as Canada, Uruguay, and North Korea. Some states in America have also made cannabis legal. And CBD is legal in 47 of the 50 American states, but there is no federal policy on cannabis.

An important concern for cannabis patients is travel. You simply are not allowed to travel with your cannabis medicine anywhere in the world. Even driving across state lines, from a legal to an illegal state, can land you in big trouble. Flying? Forget about. Not allowed.

Some regions will allow you to call ahead and will get a stash of medicine ready for your arrival. Call ahead to a dispensary, fax your medical cannabis prescription, and it will be ready.

What does Healthcare Think?

Officially, medical science is confused over cannabis. Some healthcare professionals will write a prescription for qualifying conditions, others are waiting for clinical trials to finish.

Fortunately, professional organizations, like Doctors for Cannabis Regulation and the American Cannabis Nurses Association, are enjoying high enrollments. This is a promising change.

Physicians are forced to consider cannabis consumption for patients, and many are finding it produces positive results.

References

[1] Scott JC, Slomiak ST, Jones JD, Rosen AFG, Moore TM, Gur RC. (2018) Association of Cannabis with Cognitive Functioning in Adolescents and Young Adults: A Systematic Review and Meta-analysis. *JAMA Psychiatry.* 75(6):585–595. doi:10.1001/jamapsychiatry.2018.0335

[2] Hurd YL, Spriggs S, Alishayev J, et al. (2019) Cannabidiol for the Reduction of Cue-Induced Craving and Anxiety in Drug-Abstinent Individuals with Heroin Use Disorder: A Double-Blind Randomized Placebo-Controlled Trial [published correction appears in Am J Psychiatry. 2020 Jul 1;177(7):641]. *Am J Psychiatry*. 176(11):911-922. doi:10.1176/appi.ajp.2019.18101191

[3] Ferland, J.N., Hurd, Y.L. (2020) Deconstructing the neurobiology of cannabis use disorder. *Nature Neuroscience* 23, 600–610. https://doi.org/10.1038/s41593-020-0611-0

[4] FitzCharles, Mary-Ann et al. (2020) Medical Cannabis Use by Rheumatology Patients Following Recreational Legalization: A Prospective Observational Study of 1000 Patients in Canada. *American College of Rheumatology.* 2(5) 286-293. https://onlinelibrary.wiley.com/doi/full/10.1002/acr2.11138