



Organic Medical Cannabis
A Primer for Physicians

Organic is just... better.





Introduction

At Organigram, we believe that medical cannabis is a treatment option that changes the lives of many Canadians for the better. With the variety of choices available to patients in terms of THC levels, strains and even ingestion, it is a flexible and effective method of treatment for so many people.

That said, we know that it is critical that you, as a physician, are well informed about all of these options, and feel comfortable that you are making the best possible decision for your patients. We hope this booklet will provide you with the initial information you need to consider medical cannabis for your patients.

Remember, our Client Care Team is also available to answer questions, or connect you with other medical professionals who can share their own thoughts and experiences.

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Cannabis 101

If you are new to medical cannabis, it is difficult to know where to start. This section will touch on the most important information about the endocannabinoid system, the plant, how it affects patients, how it can be ingested and more.

The Endocannabinoid System

Research and discovery related to the endocannabinoid system is still advancing and evolving since it was first discovered by Dr. Raphael Mechoulam, but to much of the science community, it still remains relatively unknown. It was cannabis research that led to the discovery of the endocannabinoid system.

It is believed that the cannabinoid receptors found throughout the human body outnumber any other receptor system. And the endocannabinoid system plays a role in so many physiological processes (e.g. inflammation, nausea, memory and many more) that it begins to be clear how cannabis can help such a broad spectrum of patients to treat such diverse disorders and health challenges.

"By using a plant that has been around for thousands of years, we discovered a new physiological system of immense importance."

Dr. Raphael Mechoulam

Cannabinoids and Terpenes

The endocannabinoid system receptors are activated by cannabinoids. You have likely heard reference to the fact that there are many different cannabis strains (addressed in the next section). There are over 85 different cannabinoids. The natural forms of these chemical compounds are drawn from these different strains. Phytocannabinoids are found within the resin glands on the surface of female cannabis flowers, and every different phytocannabinoid has a different effect on the endocannabinoid system. This is essentially why different strains of cannabis can be effective for treating different ailments and conditions.

Terpenes are not unique to cannabis, but rather are fragrance molecules present in all plants. In the case of cannabis, terpenes – like phytocannabinoids – vary from strain to strain. Terpenes have medicinal qualities of their own. This is an important contributor to the influence of individual strains – a unique combination of cannabinoids and terpenes results in different strains that can be effective in treating different health conditions.

The most familiar cannabinoids that are referenced in relation to cannabis strains are THC and CBD, but cannabis plants (or specifically flowers) produce a variety of other cannabinoids and terpenes. In every individual strain, these compounds work together to provide unique pharmacological effects, and this is known as the Entourage Effect. The Entourage Effect is fundamentally why different cannabis strains can treat a variety of conditions.

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THC & CBD

In the previous section, we referenced THC and CBD. These are more common cannabis terms – but what do they mean, and how do they relate to treatment?

THC (or Delta 9 Tetrahydrocannabinol) is a cannabinoid that is highly effective as a treatment for a variety of ailments including but not limited to pain, nausea and ADHD. However, THC is also known for being psychoactive and is what causes the “high” feeling associated with cannabis use.

CBD (or Cannabidiol) is non-psychoactive and doesn’t cause the euphoric effect associated with THC. It is still extremely effective in treating a number of conditions such as epilepsy and other seizure disorders and diabetes. Because it is non-psychoactive, it has been used successfully to treat children, as well as any patient who is not comfortable with the potential effects of THC. In fact, CBD is almost the opposite of THC as it can be calming – which means it is effective in treating sleep disorders and anxiety as well.

Cannabis Strains

As mentioned earlier, there are many cannabis strains. Hundreds in fact, and many of them have been around for a very long time. While some of the unusual “street names” might raise an eyebrow, the fact that these strains have existed for years means that there is a lot of patient feedback on how they work.

Even so, because of the unique attributes of each strain brought about by the Entourage Effect, and the fact that results can vary between patients, the most effective way to determine which strain and product is best for each individual patient is by trial. Research and an understanding of the effects of THC and CBD is a good starting point to help patients make good choices.

Indica, Sativa and Hybrids

While THC and CBD are compounds found in cannabis plants, Indica and Sativa are actually different types of cannabis plants. Indica and Sativa plants not only look different (Sativas are tall and thin while Indicas are short and wide) but they have some fundamentally different effects on patients, and they can be combined to create Hybrid strains which have different effects again.

The main difference between the two types of plants is that Indica strains tend to have a deeply relaxing effect, often making the patient feel sleepy, while Sativa strains are more energizing and can make a patient alert. For this reason, many patients take Sativas during the day for conditions more related to pain management, while those who take Indicas tend to use them in the evening and take them to help with conditions like insomnia and anxiety. Depending on the nature of a patient's health condition, choosing Indica or Sativa can be a good way to narrow down options before trying specific strains.

The main difference between the two types of plants is that Indica strains tend to have a deeply relaxing effect, while Sativa strains are more energizing.



Dosage of Medical Cannabis

Every patient's condition and reaction to cannabis is unique. There are so many strains providing a variety of options when it comes to THC and CBD levels. The patient is, in the end, largely responsible for determining the best frequency and dose. That said, patients generally take 1 – 3 grams per day depending on the condition that they are treating.

Titration

Titration – the process for gradually increasing a dose to achieve desired results – is particularly important for medical cannabis patients. As mentioned in the previous section, because of the Entourage Effect, patients need to determine which strains work best for them personally.

As part of the trial process, they should consider titration. Beginning with a small dose that has a lower level of THC and gauging the effectiveness is a good starting point. If positive results are not achieved with the first dose, the dose can be increased gradually. Patients can also choose strains that have progressively higher THC levels until they find one that is most effective.

Titration is easier when patients are consuming cannabis via inhalation, because the effects are almost immediate (5 – 15 minutes) and therefore easier to measure. For patients who are ingesting their medical cannabis, titration may require a bit more time, as the effects can take several hours to kick in and last up to 12 hours.

Either way, patients should not ingest additional cannabis until they have been able to gauge the effects of the first dose. Taking too much can cause some discomfort and should be avoided.

Inhalation versus Ingestion

Cannabis offers a few different options when it comes to ingestion. Inhalation is a common option, but the introduction of oils has made ingestion easier and more accessible, especially for new patients.

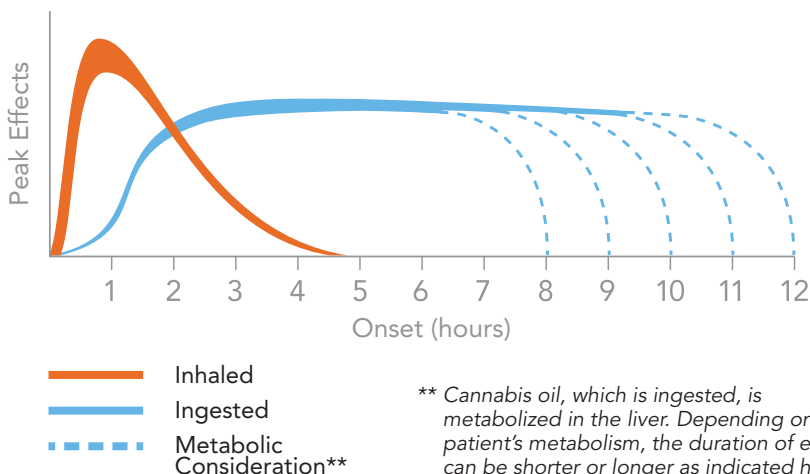
Inhalation has two options – smoking and vaping. Smoking is a more traditional option and has been around for hundreds of years, but recently using a vaporizer has gained popularity. While long-term users are familiar with these methods, some skill is required to prepare medical cannabis for smoking, and vapes require some education for first-time users.*

Ingesting cannabis oil is an alternative to smoking. Cannabis oils are now available and are easy to use, offering patients different options. Oils can be simply taken with water, or they can be added to favourite recipes.

There are some differences patients should be aware of depending on which option they choose. When inhaling cannabis, the results are almost immediate – 5 to 15 minutes – while oils can take 60 to 90 minutes to take effect. Also, the effects when inhaling cannabis may only last 2 to 3 hours, while the effects of taking cannabis oil can last up to 12 hours.

**We offer vaporizers at a reduced rate to our clients.*

The timeline below demonstrates how peak effects and duration vary between cannabis when inhaled versus ingested. It is important to know that dried cannabis and oil can be used separately or together to achieve desired results.



Medical Conditions

In this section, we've gathered some of the more common conditions that patients have successfully treated with medical cannabis. The list is not exhaustive by any means, but will give you an overview of some of the conditions that many of our clients are managing and overcoming, so that they can get back to living their lives.

In most cases, THC and CBD work together to provide relief for a variety of conditions. However, as patients examine the levels of THC and CBD in the strains that they choose, it is interesting and relevant to note that each of these compounds have been associated with positive effects for specific conditions.

THC Focus

THC has long been credited with having a positive effect in the management of many medical conditions. More recently, research has demonstrated that the benefits of this compound seem to be expanding to help with even more conditions.

Brain Cancer – THC has shown promise in reducing levels of vascular endothelial growth factor (VEGF) in brain cancer cells, thus reducing their ability to grow new blood vessels which would allow them to spread.

Alzheimer's – It has been demonstrated that THC can reduce the amyloid plaques in the brain that cause Alzheimer's disease.

Sleep Disorders – Many of our clients have indicated that Indica strains, particularly when ingested, have shown significant improvement in their sleeping patterns.

Irritable Bowel Syndrome (IBS) – THC is also an anti-spasmodic and has been successfully used to treat IBS as well as other gastrointestinal disorders.

Chronic Pain – Because it is a strong muscle relaxant, THC can effectively help patients manage any pain including cancer pain, fibromyalgia, headaches and migraines, and back pain.

Of course, there are many other medical conditions that can be impacted by the use of THC including muscular dystrophy, glaucoma, post-operative pain and many more.

Please refer to page 10 for references.

CBD Focus

Initially, THC was believed to be the most important and effective cannabinoid for treating medical conditions. However, CBD has emerged as an extremely effective compound in its own right, and takes the lead in treating a variety of conditions. It also has anti-convulsant, anti-inflammatory and anti-psychotic properties. This last one makes it particularly effective in balancing the effects of THC so that patients can realize the benefits of both.

Diabetes – CBD has been effective for many patients who are managing diabetes because it has been shown to stabilize blood sugars, and has anti-inflammatory properties.

PTSD – Patients managing Post Traumatic Stress Disorder (PTSD) have had success using CBD in part due to its anti-psychotic properties and anxiolytic effect.

Anxiety – Often patients find CBD has a calming effect, due to its strong anxiolytic properties.

Epilepsy – There has been particular focus on CBD as a treatment option for epilepsy, as there have been several cases where extremely severe cases have been effectively managed by using it. Due to the fact that it is not psychoactive like THC, it has been used successfully with younger patients.

Rheumatoid Arthritis – CBD has been effective in treating rheumatoid arthritis in patients even though the condition is often considered hard to manage.

There is a long list and a broad range of other conditions that CBD can be used to manage including alcoholism, cancer, antibiotic-resistant infections, nausea, depression, insomnia, anorexia, neurological disorders and more.

Please refer to page 10 for references.

A Final Note on Medical Conditions

As you can see, the list of medical conditions that can be effectively treated using cannabis is remarkable. While THC and CBD have many benefits on their own, they are extremely effective when they work together to maximize possible benefits to the patient.

The impact of cannabinoids on the endocannabinoid system is what allows this broad range of medical conditions to be impacted. If a condition is not listed here, it doesn't necessarily mean that medical cannabis cannot be an effective option in its treatment.

In this Primer for Physicians, we've briefly summarized the research done about the benefits of medical cannabis, and we want to make it easy for you to complete your own research. Health Canada has done a great job of summarizing many articles and medical reports, providing an objective point of view for physicians considering prescribing medical cannabis. The information can be viewed online or you can contact our Client Care Team and they will send you a PDF version of this information:

hc-sc.gc.ca/dhp-mps/marihuana/med/infoprof-eng.php

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Diabetes: O'Hare, J. D., Zielinski, E., Cheng, B., Scherer, T. and others. (2011). Central endocannabinoid signaling regulates hepatic glucose production and systemic lipolysis. *Diabetes.* 60: 1055-1062. Li, C., Jones, P. M., and Persaud, S. J. (2011). Role of the endocannabinoid system in food intake, energy homeostasis and regulation of the endocrine pancreas. *Pharmacol.Ther.* 129: 307-320.

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How to Register Patients

Whether you are approached by a patient who is interested in exploring medical cannabis as a treatment option, or whether it is your decision to recommend it to a patient, there are a few steps to follow to ensure that the process is completed smoothly and you can write a script that provides your patient with what they need to begin treatment.

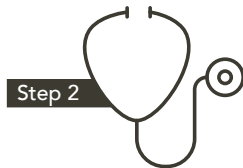
We've streamlined our registration process for both patients and physicians to keep it as simple as possible. Here are the three steps:



Register

The patient fills out the registration form available online:

organigram.ca/client-registration-form



Medical form

When prescribing medical cannabis, physicians must fill out our medical form, accessible online:

organigram.ca/physicians



Place an order

Our Client Care Team will take care of the rest!

If you or your patient needs help at any point in the process, just call our Client Care Team at **1-855-961-9420**.

Health Canada recommends prescribing between 1 – 3 grams per day for no more than a 12-month period at a time. Our Client Care Team will honour all physician recommendations such as THC/CBD limitations, strain type (Indica, Sativa, Hybrid, CBD-Rich) and method of consumption.

Organigram Products

We've included a brief overview of a few of the products that we offer, and some of the benefits related to specific medical conditions. Naturally, we offer a broader variety and our Client Care Team is available if you have specific questions about products, or anything else related to medical cannabis.

Dry Product

Tidal Bore Sativa

(R2)

Many clients have said that this strain has helped with pain management, while leaving them feeling energetic and creative. Some clients have used this for PTSD and found it helpful.

Ranges:

THC 18.1 - 21.6 / CBD 0.05 - 0.07

Prominent Terpenes

MyrceneCaryophyllineα-Pineneβ-PineneLimonene

Rising Tides Sativa

(Pineapple Express)

Many clients have indicated that this strain is uplifting, and makes them feel focused and creative. Some clients suffering from depression or stress have found this helpful. However, clients with anxiety should be cautious.

Ranges:

THC 15.9 - 20.6 / CBD 0.05 - 0.07

Prominent Terpenes

MyrceneCaryophyllineα-Pineneβ-PineneLimonene

You will notice we've included THC and CBD ranges for each of our dried products. Once tested, every batch of cannabis demonstrates a slightly different cannabinoid content level. This is the result of many factors that influence the plant during the growth process. Our website shows the exact THC and CBD content for each batch of product. You can also view our full product line at organigram.ca/products

River Rock Indica

(BC God Bud)

While clients have indicated that this strain has helped with insomnia and stress, it has also been found to be helpful with pain. Most clients would agree it allows them to relax.

Ranges:

THC 15.9 - 22.8 / CBD 0.05 - 0.07

Highlands Indica

(CBD Critical Mass)

Most clients find this strain to be effective for pain relief. Some clients have used this strain for PTSD as well as pain management. Most clients indicate that this strain allows them to be alert, and use it during daytime due to its lower THC level. Some have also found it helpful with pain and inflammation due to the higher CBD levels.

Ranges:

THC 5.6 - 8.39 / CBD 8.22 - 12

Lighthouse Indica

(Mongolian)

Clients have indicated that this strain has a calming effect. Feedback from clients is that it is very effective for pain, but makes you sleepy and therefore is best for evening use.

Ranges:

THC 15 - 20.8 / CBD 0.05 - 0.07

Prominent Terpenes

Myrcene

Caryophylline

α -Pinene

β -Pinene

Limonene

Prominent Terpenes

Myrcene

Caryophylline

α -Pinene

β -Pinene

Limonene

Prominent Terpenes

Myrcene

Caryophylline

α -Pinene

β -Pinene

Limonene

A glass dropper is shown at the top, dispensing a single drop of golden-yellow oil. Below the dropper, a glass jar is partially filled with the same oil. The background is a soft, out-of-focus gradient of warm colors.

Oils

Rossignol OrganiOil Sativa

Target Concentration:

THC 9.57 mg/ml / CBD <0.5 mg/ml

Our clients tend to favour Rossignol for daytime use, as it does not typically tend to slow them down and allows them to manage pain while staying active.

Banook OrganiOil Indica

Target Concentration:

THC 10.6 mg/ml / CBD 0.5 mg/ml

Banook has the highest THC level of all our oils. Often clients tend to lean towards Banook to manage anxiety or insomnia. Many prefer to take Banook at night as it can have a relaxing effect.

Utopia OrganiOil CBD-Rich

Target Concentration:

THC 7.4 mg/ml / CBD 11.7 mg/ml

Clients who are managing pain often opt for Utopia considering its higher levels of CBD. They have shown positive results treating conditions like arthritis and chronic pain.

Bras d'Or OrganiOil Hybrid

Target Concentration:

THC 10.4 mg/ml / CBD <0.5 mg/ml

Our hybrid oil has been specially formulated to provide a balance of uplifting and physically relaxing effects.



The Organic Difference

We couldn't end this overview without mentioning the difference that separates Organigram from most of the licensed producers in Canada.

We are certified organic.

Growing organic is complicated, but for us it's worth it. It means organic growing methodology, regulated and secure production and pharmaceutical grade facilities, but it also means a better product for your patients.

No harmful pesticides.

Our Client Care Team

This guide wouldn't be complete without mentioning the people behind Organigram. We're a little different than most other licensed producers.

We're from the Maritimes, and that's important to us. People here are friendly, easy going and always willing to lend a hand. We also insist that things be done right. Our Client Care Team demonstrates these values every day, providing world-class client service with a hint of Maritime hospitality.

Our Client Care Team is available to answer any questions you might have. They can be reached from Monday to Thursday, 8:30AM – 8:00PM AST and Friday from 8:30AM – 6:30PM AST.

1-855-961-9420
info@organigram.ca





Make good choices.

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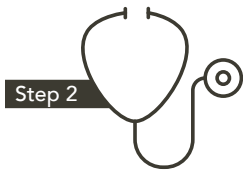
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