Cannabis Dosing and Administration Guide
TABLE OF CONTENTS

1. Introduction
2. The Parts of Cannabis
3. Terpenes
4. Forms and Delivery
5. The Psychoactivity Scale
6. Ingredients
7-20. Administration of Extracts
9. Initial Dosing
10. Anxiety/ Panic Disorders
11. Neuropathic Pain
12. Disc and Orthopedic Pain
13. Neurodegenerative Pain
14. Schizophrenia
15. Multiple Sclerosis
16-17. Fibromyalgia
18. Crohn’s/ Ulcerative Colitis
19-20. Cancer
Introduction

The Cannabis plant contains dozens of different cannabinoids, a huge variety of terpenoids or terpenes, as well as a variety of organic amide molecules and flavonoids. The precise amounts and ratios of all of these compounds present in a flower, concentrate or extract formula determine the efficacy and potency the Cannabis medicine. Precise dosing, accompanied by comprehensive studies, is the only way Cannabis science can move forward.

The most well-known cannabinoids are Tetrahydrocannabinol (THC) and Cannabidiol (CBD). THC is the most psychoactive, as well as the most common by weight in most strains of cannabis. It is responsible for the “high” associated with cannabis, as well as a variety of medicinal benefits including reduction of nausea and pain.

CBD is non-psychoactive and provides many of the healing benefits of THC without any of the “high.” It has the additional benefits of being useful for the treatment of anxiety, neurodegenerative disorders, epilepsy and muscle spasms, as well as autism and a host of other disorders. CBD even counteracts many of the psychoactive effects of THC when taken together. Additional cannabinoids such as THCV, CBC and CBG are being studied internationally for a variety of uses.
By keeping the ratios of cannabinoids and terpenes found in the original plant material, or blending specific healing strains, the entourage effect can be encouraged to the greatest.

**TERPENES**

Terpenes are volatile organic compounds that are found in nearly all plants we know. The terpenes and related flavonoids are the molecules that give Cannabis its taste, scent, and character. In addition, many terpene molecules are active on the Central Nervous System independently, and contribute to the clinical benefits of Cannabis through a mechanism known as the “entourage effect.” For example, we generally get a good feeling from smelling a freshly cut lemon this is due to a terpene called limonene found in lemons and other citrus fruits as well as some varieties of Cannabis.

For the purposes of this guide, we will be presenting information on “whole plant extractions” and the dosing of whole plant extracted CBD and THC via the sublingual/buccal method. The dosing of whole plant cannabis is VERY different from the dosing of synthetic cannabinoids.

**II. Forms and Delivery**

The primary delivery methods of cannabis medicine are:

- Inhaled
- Ingested
- Topical
- Rectal
- Sublingual/Buccal (Oral)
A physician always explains to a patient the indications and effectiveness of a medicine and the side effects that may be associated with such medicine. With cannabis medicine, it is critical for the patient to understand the degree to which they may experience psychoactivity, or “stoniness.” A ten point scale has evolved where a score or “PA” (Psychoactive) of 1 will have nearly zero psychoactivity, while a score of 10, means significant psychoactive effect.

Caregivers should instruct patients to use the psychoactive number as a guide to how “altered” they will feel. As always, there are a number of individual differences, but the scale typically holds true, if the THC comfort level is established. It is important to remember, this is not a scale of “effectiveness” for any given illness or patient, but simply a measure of expected psychoactivity.

Cannabis oil emulsified with a proprietary blend of coconut oil, tangerine oil, and Stevia.

- Store at room temperature, out of direct sunlight.
- Shake lightly before use.
Dosing is based on personal acclimation and comfort level, in addition to medical factors. Please take these into consideration before starting cannabis therapy.

V. Administration of Extracts

Be CERTAIN to only do one or two “swipes” around your mouth. If too much saliva is generated the medicine will be diluted and swallowed—with some benefit lost. IF a second or third spray is indicated, wait one minute in between sprays. (Multiple light coats are better than one heavy coat).

- Maximum benefit is between 45 and 120 minutes.
- Do not eat or drink for 15 minutes after administration.
- Duration of action is 4-8 hours.

It is always encouraged to start with a single spray of extract. The first dose should always be taken when in a comfortable environment when driving will not be required. The patient should swallow FIRST, before administering the extract. This is to dry the mucosa and help the extract maximally absorb. The extract should be sprayed under the tongue and using your tongue, GENTLY spread the extract on the soft pink tissue in your mouth.
This section should only be considered a rough, initial guide. Every patient is different. Needs change based on the severity of the condition, other drugs, diet, lifestyle, lifetime use of cannabis, sensitivity to THC, and more. Please take these things into consideration when using cannabis medicine and start slow.

If more than 12 sprays per day are required, consult with your caregiver about a high-dose concentrate. With CBD-rich extracts, increasing the dose is very safe and generally devoid of any side effects. With THC-rich extracts, use caution, as psychoactivity will increase. Wait 60 minutes before increasing dose. Many patients find it desirable to titrate their dose using 2 bottles of a CBD-rich strain and THC-rich strain to find the proper balance in effect. Make 1 spray change every 1-2 days as needed.

High-CBD and low-THC is generally suggested for these patients (8:1 ratio or above, as high as 25:1). There are exceptions however, as many patients who have some THC tolerance do well managing pain and anxiety with a 1:1 ratio. Generally though, CBD during the day and a little more THC at night (but at most a 1:1 ratio), is tolerated well for most anxious patients. The night-time THC also assists with sleep issues.

Generally 1-3 mg (1-2 sprays) of a CBD-rich extract every 4-6 hours is sufficient, with a total of 4-8 mg every 24 hours. This can be increased by 1-2 sprays per dosing as needed. THC is generally poorly tolerated in patients with anxiety but there are MANY exceptions. Sometimes, in order to control anxiety or panic disorders, more THC is required than expected. In general, if a patient is started on a high ratio CBD extract and is not doing well as the dose is slowly increased, it is often required to add more milligrams of THC to the daily regimen.
Individual differences and the patient’s tolerance for THC usually dictate the initial treatment plan. For many, more THC than CBD works best, but in general, patients do well with a 1:1 ratio. This can be achieved either through a single extract, or 2 ratios, in the middle of each spectrum (such as a high-CBD 8:1 or 4:1, as well as a high-THC 1:4 or 1:8), in order to create their own balance. Then, with their caregiver’s assistance, they can find a balance which works for them, or switch to a pre-mixed extract blend.

With the single balanced extract, most patients begin treatment at just 1 spray (1-2 mg CBD/THC) 3 times a day. This should be continued for 7 days and then progress evaluated. If there is improvement, they should hold off on adding THC. If after one week, there is little improvement, it would be reasonable to add 2 mg of CBD morning and noon, and 2 mg THC at bedtime, then watch for a few days and re-evaluate. The caregiver should be contacted if limited improvement is noted.

In the second option, it is always prudent to contact your caregiver when there is any question of side effects or lack of efficacy.

If nerve irritation is the primary issue; follow recommendations under “Neuropathic” pain.

If the pain is primarily skeletal (back, hip, knees) treatment must be individualized. Nearly all of these patients do better with balanced or high-THC therapy. Patient sensitivity to THC must be established. If it cannot be established, it is always prudent to begin with more CBD for a week and then begin adding THC as required. Start with a single spray AM, PM and bedtime and slowly add one spray every day to the total daily number of sprays. For example, if the patient was taking 1 spray three times daily and is not adequately medicated, I would add ONE spray to the bedtime dose, wait a day or two and add a second dose to the evening, etc.

Many patients also report using a high-THC extract for immediate release from pain as needed.
With these disorders, in nearly every situation the dosing must be individualized. As with pain disorders, it seems best to start with a CBD-rich extract with minimal THC. Slowly increase the dose of CBD until reaching 30 mg of total cannabinoids per 24 hours in divided doses sublingually throughout the day. THC is important to these patients and it is best to slowly and comfortably increase the amount of THC in the patient’s extract until they have reached around 30-40 mg of combined cannabinoids in a day (around 1:1 total ratio, often tilted towards THC). The patient should be in contact with their caregiver while making these adjustments.

This MUST BE DONE UNDER THE DIRECT CARE OF BOTH THE PATIENT’S PSYCHIATRIST AND MEDICAL CANNABIS EXPERT!

This warning is not because using CBD is dangerous even with schizophrenia. Treating schizophrenia is a sensitive area, although the data is convincing saying that CBD can be helpful in treating Schizophrenia. Starting with a nearly all CBD-Rich extract plant is very important to do (typically the 24:1 ACDC). Slow and steady with direct physician supervision is critical.
If a patient is THC tolerant, 1:1 CBD:THC. I would begin with one spray three times daily and increase one spray per 24 hours every several days. Be sure to consult with your caregiver and physician.

GW Pharma in Britain, already makes a Cannabis extract that is distributed and approved for the treatment of MS (not in the United States). This product is a blended extract of exactly 1:1 ratio. One should consult sativex.com for the official dosage and administration information. Doses as low as 10-15 mg of cannabinoids daily and up to 60-80 mg daily may be required.

Fibromyalgia is a frustrating disease to treat, with many facets, including elements of anxiety and depression on top of neuropathic pain. In most cases, it appears that Fibromyalgia can be treated much like chronic orthopedic pain (see above). Although we have much to learn, it seems that fibro patients should be given a little more CBD in comparison to their chronic pain counterparts (1.5:1 or 2:1 ratio, CBD dominant).
It is best to start with as balanced a ratio as possible (considering past cannabis use), dividing the total daily dose into 4 times of administration. A schedule such as approximately: waking, Noon, 6 PM, Bedtime, works for most people. For patients with some THC tolerance or previous cannabis use, starting with a 1:1 is reasonable. If not, starting with a 2:1 or 4:1 would be reasonable. It is important to make certain the patient sleeps well, so focusing the cannabinoid dosing on this will provide the greatest benefit to the patient (often taking a double dose of the 1:1 ratio before sleep). Consistent dosing through the day and day-to-day is also important.

IBD often has an important emotional/stress component as well as a GI/pain facet, so it’s important that patients do their best to manage their emotions in a healthy way. Staying ahead of the pain through consistent dosing is also important.

Many patients find success using balanced extracts during the day, with added THC in the evening and before bed. Starting small and consistent is important, so working from 1 spray and increasing daily as needed is still the best course of action. Some IBD patients do need higher-dose therapies and should discuss concentrate therapies with their caregiver if appropriate.

Many patients with GI issues find vaporization therapy helpful in dealing with morning nausea or discomfort throughout the day.
Many patients find benefit from using extracts to ease themselves into cannabinoid therapy in their time of need.

Severely ill individuals need more cannabinoids than an extract can provide however, and often find comfort from using the concentrated oils (also known as “Rick Simpson oil”). The prospective studies in humans have not yet been done, but lab research shows THC causes apoptosis in cancer cells.

CBD has shown to antagonize the metastatic processes of cancer. It is also an incredibly potent anti-oxidant and neuro-protectant and can help the body protect itself from the harmful effects of chemotherapy or radiation.

Many severely or terminally ill patients find benefit from extremely high doses of cannabinoids, higher than is typically recommended. This can include daily CBD doses of up to 500 mg, and daily THC doses exceeding 1,000 mg. Please use high dose therapy with caution.