



Arthritis Talks: Medical Cannabis 101

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Presenters



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Webinar tips

- ▼ Use the **Q&A** section to ask the presenters your questions. Some of the questions will be chosen for the live question period at the end of the webinar.
- ▼ Click on the **Chat** box to connect with other participants and the Arthritis Society's chat moderator.
- ▼ If you have further issues, email arthritistalks@arthritis.ca

The screenshot shows the Arthritis Society webinar interface. At the top center is the Arthritis Society logo. Below it are two large buttons: 'Q&A' and 'Chat'. At the bottom left is an 'Audio Setting' button with an upward arrow. At the bottom right is a red 'Leave' button. A callout box at the top right points to a red icon in the Q&A window, with the text 'Click on the red icon to exit out of the Q&A or Chat'. A callout box at the bottom left points to the 'Audio Setting' button, with the text 'Click here to access your audio settings'. A callout box at the bottom right points to the 'Chat' button, with the text 'Click here to chat or to submit a question'. The Q&A window is open, showing a 'Welcome to Q&A' message and a text input field labeled 'Type your question here...'.

Overview

[1]

**Medical Cannabis
& Arthritis**



[2]

Frequently Asked Questions



[3]

Q&A



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What is medical cannabis and how do we know it is safe?



Medical cannabis is..

- ▼ How we use it
- ▼ How we access it
- ▼ How we obtain knowledge
- ▼ Risk vs. benefit



Provincial regulations – Adult use

In Manitoba, a legal adult-use cannabis consumer:

- ▼ Must be 19+ years of age
- ▼ Can carry 30g (1 ounce) or its equivalent in non-dried form at a time
- ▼ Can purchase cannabis from a licensed retailer and/or accept delivery from the retailer with proof of ID
- ▼ Cannot grow cannabis plants for recreational use
- ▼ Cannot consume in public
- ▼ Cannot consume at work, if drug policy states such

Federal regulations – Cannabis Act

Across Canada, a medical cannabis patient:

- ▼ Must obtain a medical document from a licensed healthcare provider
- ▼ Can carry 30-day supply at a time (up to 150g) eg. 5 gram/day x 30 = 150g
- ▼ Can order from Health Canada-approved Medical Sale License Holders (100+) or buy from adult-use retail stores
- ▼ Can grow own plants (if healthcare provider approves)
- ▼ Can consume in public places where cigarettes can be smoked
- ▼ Can write cannabis expense off on taxes
- ▼ Can consume cannabis at work dependent on policies in place

What are the steps for accessing medical cannabis?

1. A **medical document** (prescription) is written by MD or NP and is sent to a **Health Canada-regulated License Holder** (your pharmacy for medical cannabis) by secure fax or physical mail.



2. You must fill out a **registration document** for each **License Holder** you order from online or by hand.



3. After your registration document is **approved** by the License Holder, **you can then place an order online or over the phone.**

Driving and safety-sensitive occupations

- ▼ Evidence suggests the predominant impact of cannabis on impairment is mostly due to THC.
- ▼ Risk of impairment is an important consideration in patients who work in safety-sensitive occupations “in which incapacity due to impairment could result in direct and significant risk of injury to the employee, others or the environment,” and in patients who take part in safety-sensitive activities like driving.
- ▼ It is generally recommended patients using THC **should not drive or engage in safety-sensitive activities for at least 4 hours after inhalation, 6 hours after oral ingestion, or 8 hours, if euphoria is experienced.**
- ▼ There is an increasing evidence suggesting that **daily medical cannabis users tend to be more tolerant to the impairing effects of THC.**
- ▼ It has previously been demonstrated that at a **dose of 0.5 mg/kg THC, daily users did not display acute impairment** on most neurocognitive impairment tasks, **except for a decrease in impulse control at high THC concentrations (>10 ng/ml).**
- ▼ A review of the **duration of impairment found that within 4 hours after THC inhalation, and 6-8 hours if ingested orally,** medical cannabis users were no longer impaired.
- ▼ RCT showed that **following CBD inhalation of 13.75 mg, there was no neurocognitive impairment,** including for measures of driving performance
- ▼ Another study investigating **even higher doses of CBD (100 mg oral and vaporized) also observed no cognitive or psychomotor impairments**
- ▼ Initiating cannabis when the patient is not performing safety-sensitive activities until the absence of impairment has been established, as is done with many other pharmacotherapies.

Assessing risk

| | Alcohol | Opioids | Cannabis | Tobacco |
|---------------------------|---|--|---|--|
| % Population using | 76.9% (2015) | 13.1% (2015) | 18% (2019) | 15.1% (2017) |
| % Addiction rate | 20% heavy drinkers (leading to chronic illness/alcohol use disorder) | 5-19% | 9% (2019) | 50+% (>15 y/o) |
| # of Deaths | 14,827 (2014) | 3,286 (Jan – Sept 2018) | 75 due to motor vehicle accidents (2014) | 47,526 (2014) |
| Facts | 77,000 hospitalizations due to alcohol; 75,000 hospitalizations due to heart attacks (2015-2016) | 17 daily hospitalizations in Canada due to opioid poisoning (2017) | *ELDERS are the fastest rising population of cannabis users | 75-80% of people trying to quit relapse; Average of 8-11 attempts before quitting |

*All rates are for the Canadian population

Q

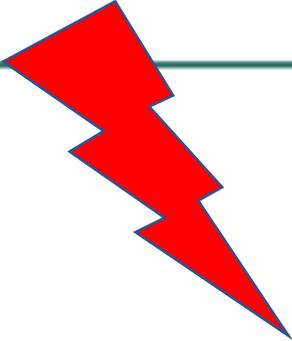
**Has there been specific research into medical cannabis and arthritis?
What do the findings suggest?**



Thumb basal joint osteoarthritis & cannabis

ARTICLE IN PRESS

SCIENTIFIC ARTICLE



Assessment of Medical Cannabis in Patients With Osteoarthritis of the Thumb Basal Joint

Lauren Fader, MD,[‡] Zachary Scharf, BS,[†] Brent R. DeGeorge Jr, MD, PhD*

Thumb basal joint osteoarthritis & cannabis (cont'd)

TABLE 4. Patient Perceptions of Interest and Barriers to Medical Cannabis

| Patient Perceptions | Patients (%) |
|--|--------------|
| Interested in topical cannabis formulation for thumb pain | 82 (80%) |
| Interested in oral cannabis formulation for thumb pain | 71 (69%) |
| Perceived barriers to trialing medical cannabis for thumb pain | |
| Cost | 46 (45%) |
| Lack of data | 41 (40%) |
| Availability | 20 (19%) |
| Fear of addiction | 9 (9%) |
| Social stigma | 3 (3%) |

- ▼ 103 participants
- ▼ 1/3 previous use
- ▼ 71% previous corticosteroid inj
- ▼ 10% joint replacement
- ▼ 50% report prior use
- ▼ Comorbidities
 - ▼ COPD
 - ▼ MI
 - ▼ Diabetes

Chronic non-cancer pain & cannabis

- ▼ 2020, a thorough **systematic review and meta-analysis**
- ▼ **(N = 36 RCTs; n = 4,006 patients)** was conducted investigating the effects of cannabinoids on chronic non-cancer pain (CNCP)
- ▼ Various cannabinoid products and methods of administration:
 - smoked cannabis,
 - oromucosal cannabis sprays, and
 - oral cannabinoids compared to placebo for analgesia
- ▼ ***Moderate evidence*** to support cannabinoids for the use of CNCP at 2-8 weeks
- ▼ ***Minimal evidence*** to support at 1 year (**tolerance?; dosing challenges; metabolic pathway challenges**)

Rheumatoid arthritis & cannabis

- ▼ A double-blind, randomized, parallel group trial compared nabiximols to placebo in **58 patients with pain due to rheumatoid arthritis**.
- ▼ There were **statistically significant improvements** in pain on movement and at rest and quality of sleep.

Fitzcharles MA, Ste-Marie PA, Häuser W, Clauw DJ, Jamal S, Karsh J, et al. Efficacy, tolerability, and safety of cannabinoid treatments in the rheumatic diseases: a systematic review of randomized controlled trials. *Arthritis Care Res.* 2016;68(5):681–8.

How do you recommend people use medical cannabis?



“Is medical cannabis right for my patient?”

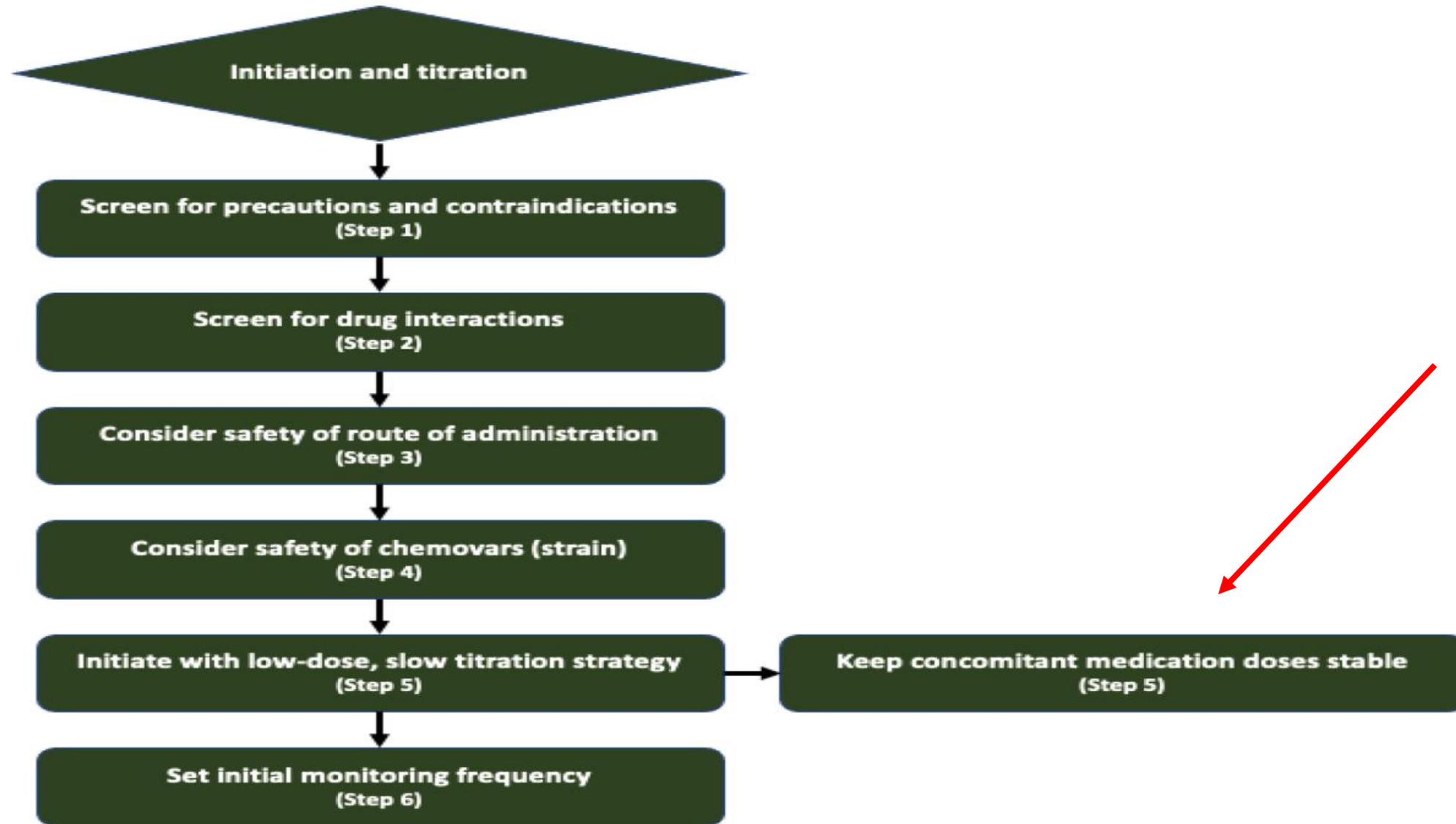
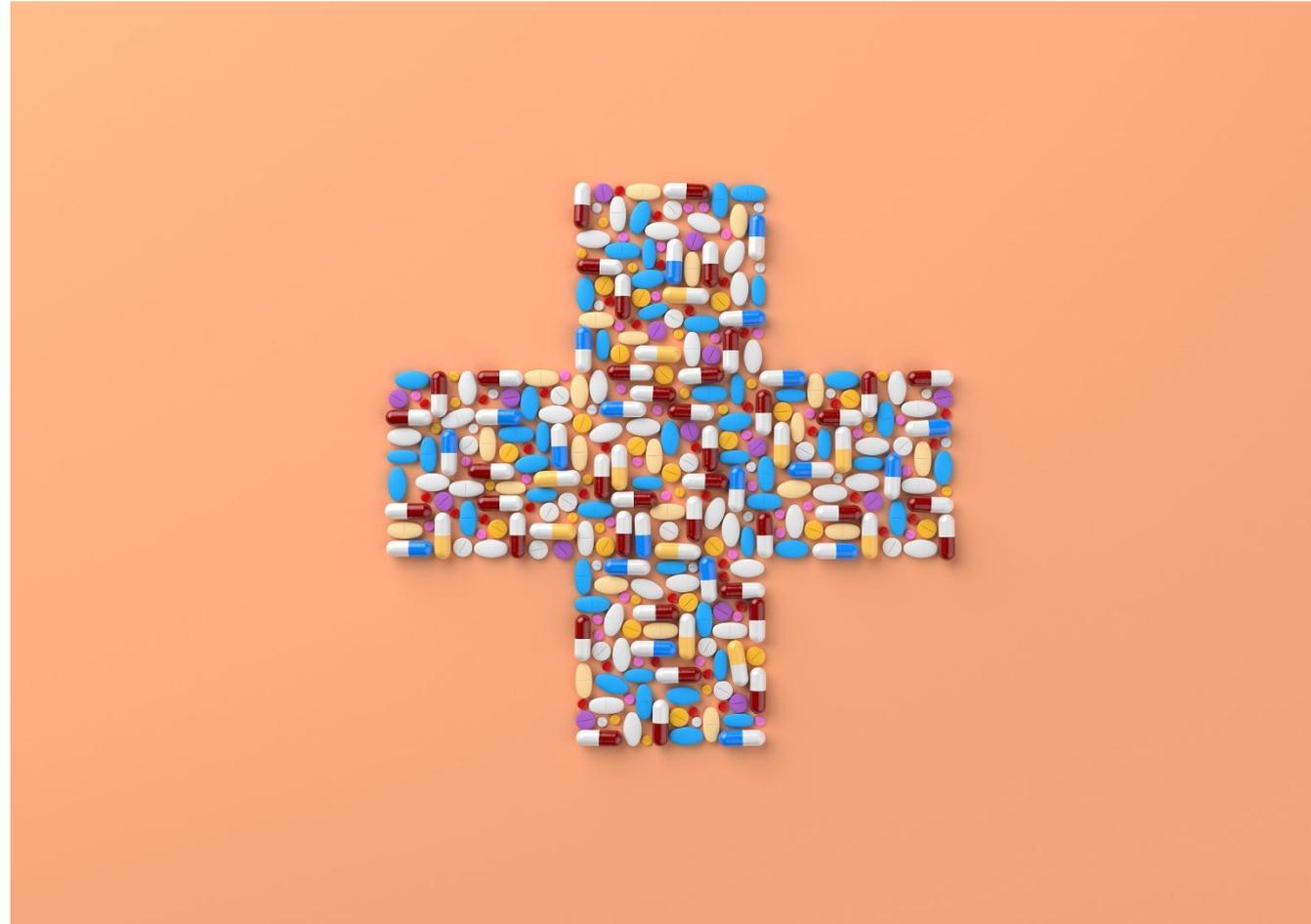


Fig. 1. Key considerations when initiating and titrating medical cannabis.

CYP450 pathways and interactions



Precautions and contraindications

C.A. MacCallum et al.

European Journal of Internal Medicine 89 (2021) 10–18

Table 1
Precautions and Contraindications.

| Considerations ^A | Precautions ^B | Relative Contraindications ^C | Contraindications ^{D*} |
|---|--|---|---|
| Immunocompromised | Concurrent mood or anxiety disorder | Under 25 years of age | Unstable cardiovascular disease |
| Chronic Kidney Disease | Have risk factors for cardiovascular disease | Current or past cannabis use disorder | Respiratory disease (if smoking cannabis) |
| Older adults | Tobacco use | Current or past substance use disorder | Personal or strong family history of psychosis/bipolar |
| Patients with concurrent medical conditions | E-cigarette use | | Pregnant, planning on becoming pregnant, or breastfeeding |
| Polypharmacy | Severe liver dysfunction /disease | | |
| Potential drug interactions | Medications associated with sedation or cognitive impairment | | |
| | Driving or safety sensitive occupations | | |

* If it is deemed there may be a benefit, clinicians should consider referral to a specialty, and experienced clinician recommending cannabis, to ensure the appropriateness of this therapy.© Caroline MacCallum, MD, 2021; used with permission. Information gathered from [34,49,75].

Potential drug-drug interactions

Table 2
Potential Cannabinoid Drug Interactions*

| Enzyme | Interaction and effect | Drugs |
|-----------------|--|--|
| CYP 3A4 | <p>Inducers: may decrease THC and/or CBD</p> <p>Inhibitors: may increase THC and/or CBD</p> <p>Substrates: CBD is potential inhibitor of CYP3A4 and could increase 3A4 substrates. Caution with medications with smaller therapeutic index (e.g. tacrolimus). Unlikely to have effect on THC</p> | <p>Carbamazepine, phenobarbital, phenytoin, rifampin, St. John's wort</p> <p>Azole antifungals, clarithromycin, diltiazem, erythromycin, grapefruit, HIV protease inhibitors, macrolides, mifepristone, verapamil</p> <p>Alprazolam, atorvastatin, carbamazepine, clobazam, cyclosporine, diltiazem, HIV protease inhibitors, buprenorphine, tacrolimus, cyclosporine, phenytoin, sildenafil, simvastatin, sirolimus, verapamil, zopiclone</p> |
| CYP 2C9 | <p>Inducers: may decrease THC concentration. Unlikely to have effect on CBD</p> <p>Inhibitors: may increase THC concentration. Unlikely to have effect on CBD</p> <p>Substrates: THC and/or CBD may increase drug levels, should monitor for toxicity</p> | <p>Amiodarone, fluconazole, fluoxetine, metronidazole, valproic acid, sulfamethoxazole</p> <p>Carbamazepine, rifampin</p> <p>Warfarin, rosuvastatin, phenytoin</p> |
| CYP 2C19 | <p>Inducers: may decrease CBD and THC</p> <p>Inhibitors: may increase CBD and THC</p> <p>Substrates: CBD may increase the level of medications metabolized by 2C19 such as norclobazam (active metabolite in clobazam). CBD may also prevent clopidogrel from being activated. Unlikely to have effect on THC</p> | <p>Carbamazepine, rifampin, St. John's wort</p> <p>cimetidine, omeprazole, esomeprazole, ticlopidine, fluconazole, fluoxetine, isoniazid</p> <p>aripiprazole, citalopram, clopidogrel, diazepam, escitalopram, moclobemide, norclobazam, omeprazole, pantoprazole, sertraline</p> |
| CYP 1A1 and 1A2 | <p>Substrates: Smoking cannabis can stimulate these isoenzymes and increase the metabolism of these medications.</p> | <p>Amitriptyline, caffeine, clozapine, duloxetine, estrogens, fluvoxamine, imipramine, melatonin, mirtazapine, olanzapine, theophylline</p> |
| p-glycoprotein | <p>Substrates: CBD may inhibit p-glycoprotein drug transport. Should monitor for toxicity. No effect from use of THC</p> | <p>Dabigatran, digoxin, loperamide</p> |

* Formal drug interaction studies with cannabinoids have not been conducted. Other drug interactions are possible as more individuals use cannabinoids with other medications. © Caroline MacCallum, MD, 2021; used with permission. Information gathered from [3,4,14,16,26,34,44,53,74].

Route

| FORM | METHOD | BENEFITS | ONSET OF ACTION | PEAK EFFECTS | DURATION OF ACTION |
|---|--|---|-----------------|-----------------|--------------------|
| DRIED CANNABIS (Flower) | VAPORIZATION | <ul style="list-style-type: none"> - Safer alternative for those who wish to avoid smoking - Fast acting, can help with symptoms such as break through pain quicker than any other method - Less cannabis needed for desired effects making it cost effective | 0 – 10 mins | 15 – 30 mins | 3 – 4 hrs |
| EDIBLE CANNABIS (Cannabis in a food or beverage) | INGESTED ORALLY | <ul style="list-style-type: none"> - Alternative method for people who are not comfortable with smoking or vaporizing dried cannabis - Can be discreet with no odor - Long duration of action allowing for prolonged medicinal effects - Hides the taste of cannabis and provides multiple edible forms for ingestion of cannabis | 30 - 120 mins | 2 – 4 hrs | 4 – 12 hrs |
| CANNABIS EXTRACT (Cannabis Oil) | INGESTED ORALLY | <ul style="list-style-type: none"> - Alternative method for people who are not comfortable with smoking or vaporizing dried cannabis - Long duration of action allowing for prolonged medicinal effects - Can be discreet with no odor - Dosing can be precise | 30 – 90 mins | 2 – 4 hrs | 4 – 12 hrs |
| CANNABIS EXTRACT (Cannabis Oil in Capsules/Softgel) | INGESTED ORALLY | <ul style="list-style-type: none"> - Alternative method for people who are not comfortable with smoking or vaporizing dried cannabis - Long duration of action allowing for prolonged medicinal effects - Can be discreet with no odor - Dosing easy to understand (but less precise) | 30 – 90 mins | 2 – 4 hrs | 4 – 12 hrs |
| CANNABIS EXTRACT (Cannabis Oil in an Oral Spray) | ORALLY OR SUBLINGUALLY (Under the Tongue) | <ul style="list-style-type: none"> - Alternative method for people who are not comfortable with smoking or vaporizing dried cannabis - Faster onset than ingesting oils/capsules (with shorter duration) - Discreet with no odor - Dosing easy to understand (but less precise) | 5 - 30 mins | 45 mins – 2 hrs | 3 – 4 hrs |
| CANNABIS EXTRACT (Concentrates) | INHALATION | <ul style="list-style-type: none"> - Fast acting - Safer alternative for those who wish to avoid smoking - High concentration of cannabinoids so less is used - Discreet | 0 – 10 mins | 15 – 30 mins | 3 – 4 hrs |
| CANNABIS TOPICALS (Cannabis infused lotions / creams / balms) | APPLIED EXTERNALLY | <ul style="list-style-type: none"> - Provides localized symptom relief - Discreet and easy to use | 30 – 90 mins | 2 – 4 hrs | 4 – 12 hrs |
| CANNABIS EXTRACT (Suppositories) | RECTAL OR VAGINAL INSERTION | <ul style="list-style-type: none"> - Localized symptom relief - Pain management | 15-60 mins | 2-8 hrs | 8 - 12 hrs |

How is the appropriate dosage of cannabis determined and how do you know I've received the appropriate dosage?



How do I know my dose is correct?

**Start Low
and
Go Slow**

- ▼ **Screening with healthcare provider every visit includes:**
 - ▼ sleep
 - ▼ anxiety
 - ▼ depression
 - ▼ pain
- ▼ **Improvement in my symptoms!**

What are the most common side effects of medical cannabis?



Side effects

- ▼ **Most often, THC-dose dependent and dissipate over time through tolerance.**
- ▼ **Many can be prevented, or at least mitigated, with low-dose initiation and slow titration.**
- ▼ **Common adverse events include:**
 - ▼ drowsiness/fatigue
 - ▼ dizziness
 - ▼ dry mouth
 - ▼ nausea
 - ▼ effects on cognitive function
 - ▼ deficits in motor
 - ▼ diarrhea

Will medical cannabis affect my sleep or my mood?



SYMPTOM CLUSTERS: Analgesia, sleep, anxiety and depression

- ▼ Some studies (**n >2000 patients**) showed that in addition to *analgesia*, an improvement in factors negatively associated with CNCP such as;
 - **Sleep:** a marked improvement, **40-50% attained good or very good sleep quality**, and no tolerance
 - **Anxiety**
 - **Depression**

***This added benefit on the symptom clusters associated with chronic non-cancer pain is somewhat novel to cannabis-based medicines compared to the alternative pharmaceuticals currently used.

Any final thoughts or recommendations?



Scientists find genetic mutation that makes woman feel no pain

Discovery in 71-year-old Jo Cameron may aid development of new pain relief treatments



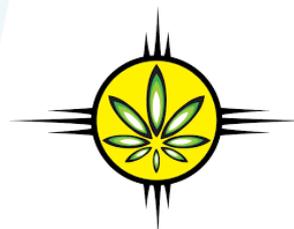
▲ Jo Cameron has experienced broken limbs, surgery and childbirth with little or no need for pain relief.
Photograph: Mark Pinder/The Guardian

Data to precision!



Collaboration is key

Relationships established with multiple local, national and international entities to underpin and fuel innovation in research, process and product development:



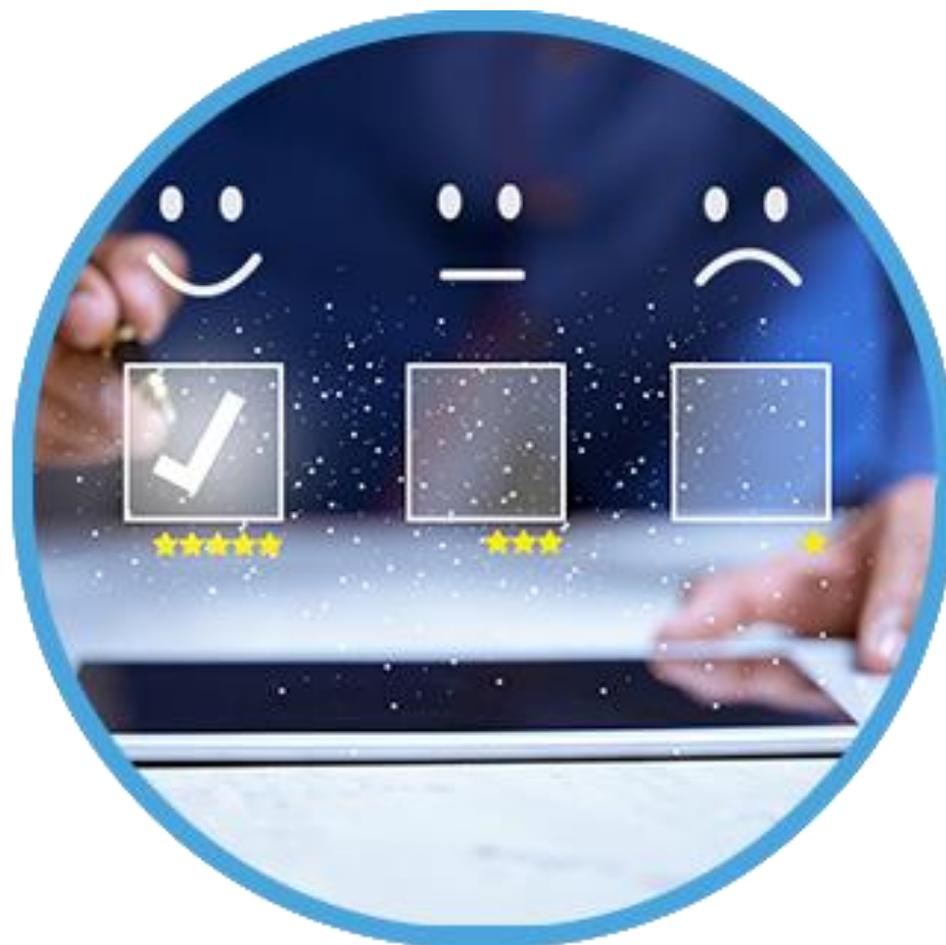
Real world EVIDENCE!

Support for ongoing research is key to supporting patients living with arthritis.

Questions



Tell us what you think...





Representatives from Canna Farms and Harvest Medical will be available to answer your questions at their virtual information booth immediately after this webinar.

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