

CANNABIS OR CANNABINOIDS

CLINICAL QUESTION

Is the use of cannabis or cannabinoids effective for the treatment of chronic non-malignant pain ≥ 3 months' duration?

THE EVIDENCE

Treatment	Condition	Comparator	Results
SYSTEMATIC REVIEW [†] Cannabinoid: delta-9-tetrahydrocannabinol (THC); codeine (oral)	Abdominal pain due to Mediterranean fever Spinal cord injury	Placebo (oral administration)	No difference in pain between THC (5x 10 mg/day) and placebo after 6 weeks in one patient with Mediterranean fever; decline in morphine use. Equivalent pain reduction for THC (18x 5 mg/day) and codeine (18x 50 mg/day) after 5 months in one patient with spinal cord injury. Both drugs were better than placebo. No major adverse effects reported.
Single centre crossover study (48 patients) THC; THC combined with cannabidiol (CBD) (oromucosal spray)	Brachial plexus root avulsion for ≥ 18 months (patients medicated with other drugs such as analgesics)	Placebo (oromucosal spray)	Evidence that both THC (25 mg) and THC (25 mg)/CBD (25 mg) achieved an equivalent reduction in pain, compared to placebo, after 2 weeks. THC alone resulted in lower scores on three pain measures while THC/CBD changed only one pain measure.
Single centre crossover study (21 patients) CT-3 (synthetic cannabinoid) (oral)	Chronic neuropathic pain with hyperalgesia or allodynia for ≥ 6 months	Placebo (oral)	Evidence that CT-3 (4 mg to 7 mg/day for first 4 days and 8 mg to 10 mg/day for last 3 days) was more effective than placebo in reducing pain after 1 week of treatment. No adverse effects were reported.
Single centre crossover study (24 patients) THC; CBD; CBD/THC (1:1) (sublingual spray)	Multiple sclerosis, spinal cord injury, brachial plexus damage, limb amputation due to neurofibromatosis	Placebo (sublingual spray)	Evidence that all drugs were equivalent, compared to placebo, after a treatment period of 2 weeks. THC and CBD were more effective than CBD/THC, compared to placebo. THC, CBD, and THC/CBD can improve neurogenic symptoms that are unresponsive to standard treatment.
Multicentre randomized controlled trial (630 patients) CBD; THC (oral)	Multiple sclerosis	Placebo (oral)	Evidence that pain improved, compared to placebo, for CBD (1.25 mg) and THC (2.5 mg) dose titrated over 5 weeks, followed by an 8 week plateau phase of stable medication dose. There were no improvements in spasticity. Both major and minor adverse effects were reported.

[†]Based on two crossover studies, published in 1990 and 1997, of one patient each

ADDITIONAL NOTES

In Canada, indications for the use of licensed oral cannabinoids (Marinol® (THC or dronabinol) and Cesamet® (synthetic form of THC)) do not include non-malignant chronic pain. Under the Medical Marijuana Access Regulations implemented by Health Canada, cannabis (dried marijuana) is listed as a treatment option for non-malignant chronic pain, but currently there is no legally approved source. The College of Physicians and Surgeons of Alberta does not endorse treatment with dried marijuana as there is no evidence available to support its use.

IMPLICATIONS FOR PRACTICE

What we don't know:

- Is cannabis (smoked, ingested, or imbibed) effective in relieving chronic non-malignant pain?
- What is the optimum treatment regimen (route of administration, dosage, type, and source of active compound [synthetic or natural])?
- How do cannabis-based medicinal extracts interact with other medications?
- Does the effectiveness of cannabinoids decline with increasing pain severity or length of treatment?

Research Evidence: What we know

In patients with chronic non-malignant pain, the evidence indicates that cannabis-based medicinal extracts:

- are more effective than placebo in the short term (2 to 13 weeks);
- provide significant pain relief.

Cannabis-based medicinal extracts do not improve spasticity symptoms in patients multiple sclerosis.

The most commonly observed **minor side effects** were dry mouth, tiredness, reduced concentration, dizziness, nausea/vomiting, sweating, and increased pain. **Serious side effects** included multiples sclerosis relapse, urinary tract infection, pneumonia, and seizures.

Recommendation from Clinical Ambassadors

Refractory neuropathic pain may warrant treatment with oral cannabinoids.

The medical prescription of smoked marijuana is medico-legally precarious as there is no evidence available to support its use.

There are several randomized controlled trials currently underway in Canada and the USA comparing smoked marijuana to placebo. These studies should provide further insight into the value of smoked marijuana in the management of chronic pain.

The Clinical Ambassadors: Dr Pamela Barton, Dr Saifee Rashid, Dr Paul Taenzer

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Reference: This Evidence Brief is based on results from research studies that **were not assessed** for their methodological quality. Harstall C. *Use of cannabis or cannabinoids for non-malignant chronic pain*. Edmonton, Alberta: Alberta Heritage Foundation for Medical Research, Health Technology Assessment; 2004 Feb. Report: TechNote 42. Available upon request: info@ihe.ca

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