

# Medical Cannabis Condition Guide — For Patients

Oct 25, 2026 · @Craig Antell

## How to use this guide

Medical cannabis helps some people with some conditions, and the strength of the science varies a lot from one condition to the next. This guide tells you honestly what the research shows for each condition, so you and your practitioner can decide together whether cannabis is worth trying.

Medical cannabis is a treatment option, not a cure. It usually works best alongside your regular care, not in place of it. Never stop or change a prescribed medicine without talking to the clinician who prescribed it.

## What the evidence ratings mean

| Rating          | What it means for you                                                                                                                                                       |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Strong          | Several good-quality studies agree, and in most cases there is an FDA-approved cannabinoid medicine for this use.                                                           |
| Moderate        | Good studies show a real but usually modest benefit for many patients. Results vary from person to person.                                                                  |
| Limited         | Some studies and patient reports are encouraging, but the research is small, mixed, or short-term. Worth discussing; not guaranteed.                                        |
| Not established | Research has not shown a benefit, or results so far have been negative. Cannabis may still ease related symptoms (such as sleep or appetite), but not the condition itself. |

These ratings were checked against the medical literature as of October 2026. Research in this field moves quickly, and we will update this guide as new studies are published.

*This guide is for education only. It is not medical advice and does not replace a visit with a qualified health care practitioner.*

## Conditions at a glance

Cannabis rarely works the same way for every symptom of a condition. A product can help one symptom and do nothing for another, and the type of product and how you take it matter. This table breaks each condition down by symptom.

**People differ, too, and genes are part of the reason.** In one study, people with two copies of a common variant of the liver enzyme CYP2C9 had about three times more THC in their blood after the same oral dose, with a trend toward more sedation ([Sachse-Seeboth 2009](#)). A variant of the AKT1 gene has been linked to a higher risk of psychosis among cannabis users, especially with daily use ([Di Forti 2012](#)).

**Personalized testing with EndoDNA.** That is why NYSOM works with EndoDNA, a genetic testing company, to give patients who want it a more personalized starting point. From a cheek swab, or from results you already have from a service like 23andMe or Ancestry, EndoDNA's accredited lab looks at hundreds of thousands of genetic markers tied to the endocannabinoid system and to how your body processes medicines. Your report covers about 60 traits, including:

- how quickly you are likely to break down THC and CBD
- medications you take that may interact with THC or CBD
- whether you may be more prone to side effects such as anxiety, a racing heart, or, rarely, psychosis-like reactions
- traits related to sleep, mood, pain, and inflammation

We combine your EndoDNA results with your history, your medications, and how you actually respond, and a pharmacist reviews every recommendation. Genetic testing for cannabis is still being validated: the gene links come from published studies, but no trial has yet shown that choosing products by genetic results improves outcomes. Testing requires your written consent. *NYSOM has a business partnership with EndoDNA.*

| Condition | Symptom or goal  | What was studied    | Evidence | Bottom line                            |
|-----------|------------------|---------------------|----------|----------------------------------------|
| ALS       | Muscle stiffness | THC/CBD mouth spray | Limited  | One small trial showed less stiffness. |

| Condition                 | Symptom or goal               | What was studied              | Evidence        | Bottom line                                                |
|---------------------------|-------------------------------|-------------------------------|-----------------|------------------------------------------------------------|
| ALS                       | Slowing the disease           | —                             | Not established | No human evidence.                                         |
| Alzheimer's               | Agitation                     | Prescription THC capsules     | Limited         | Two trials, one published in 2026, showed calmer behavior. |
| Alzheimer's               | Memory and progression        | —                             | Not established | No evidence it protects memory.                            |
| Anxiety                   | Social or performance anxiety | Oral CBD                      | Limited         | Small trials show some benefit.                            |
| Anxiety                   | Daily anxiety                 | THC                           | Not established | THC can make anxiety worse.                                |
| Appetite                  | Weight loss with HIV/AIDS     | Prescription THC (dronabinol) | Moderate        | FDA-approved for this use.                                 |
| Appetite                  | Weight loss with cancer       | THC, cannabis                 | Not established | No reliable weight gain shown.                             |
| Arthritis: osteoarthritis | Joint pain                    | Oral CBD                      | Not established | Three trials found no benefit over placebo.                |
| Arthritis: osteoarthritis | Joint pain in a small joint   | Topical CBD cream             | Limited         | One small thumb trial was positive. More trials under way. |
| Arthritis: rheumatoid     | Joint pain                    | THC/CBD                       | Limited         | Very small, short trials.                                  |
| Arthritis: rheumatoid     | Joint damage                  | —                             | Not established | Keep your rheumatology medicines.                          |
| Autism                    | Disruptive behavior           | CBD-rich extract (20:1)       | Limited         | Mixed trial results.                                       |

| Condition           | Symptom or goal            | What was studied                   | Evidence        | Bottom line                                           |
|---------------------|----------------------------|------------------------------------|-----------------|-------------------------------------------------------|
| Autism              | Core autism traits         | —                                  | Not established | No evidence.                                          |
| Cancer              | Treating the tumor         | —                                  | Not established | Experts advise against.                               |
| Cancer              | Chemotherapy nausea        | Prescription THC; THC/CBD capsules | Strong          | Helps when standard anti-nausea drugs are not enough. |
| Cancer              | Cancer pain                | THC/CBD spray, THC                 | Not established | Not better than placebo in trials.                    |
| Chronic pain        | Nerve-related pain         | THC or THC/CBD products            | Moderate        | Small to modest relief for some.                      |
| Chronic pain        | Chronic low back pain      | Standardized THC extract (oral)    | Moderate        | Large 2025 trial showed modest but meaningful relief. |
| Chronic pain        | Any pain                   | CBD alone, swallowed               | Not established | Trials mostly negative.                               |
| Crohn's and colitis | Pain, appetite, well-being | Inhaled cannabis, oils             | Limited         | Some patients feel better.                            |
| Crohn's and colitis | Healing the gut            | —                                  | Not established | No effect on inflammation shown.                      |
| Depression          | Low mood                   | —                                  | Not established | No trials; heavy use linked to worse mood.            |
| Endometriosis       | Pelvic pain                | Inhaled THC, oral CBD              | Not established | Trials could not enroll enough patients.              |

| Condition          | Symptom or goal               | What was studied              | Evidence        | Bottom line                                      |
|--------------------|-------------------------------|-------------------------------|-----------------|--------------------------------------------------|
| Epilepsy           | Lennox-Gastaut, Dravet, TSC   | Prescription CBD (Epidiolex)  | Strong          | Many patients have seizures cut by half or more. |
| Epilepsy           | Other seizure types           | Dispensary CBD or THC         | Not established | Not studied the same way.                        |
| Fibromyalgia       | Pain and sleep                | Nabilone, THC products        | Limited         | Mixed results.                                   |
| Glaucoma           | Eye pressure                  | THC                           | Not established | Effect lasts only 3 to 4 hours.                  |
| HIV/AIDS           | Nerve pain                    | Inhaled cannabis              | Moderate        | About half got meaningful relief.                |
| Huntington's       | Involuntary movements         | Nabilone; THC/CBD mouth spray | Limited         | Mixed: one trial helped, one did not.            |
| IBS                | Gut symptoms                  | —                             | Not established | No good trials.                                  |
| Migraine           | Stopping an attack            | Inhaled THC + CBD             | Limited         | One good trial was positive.                     |
| Migraine           | Stopping an attack            | CBD alone                     | Not established | Did not help in that trial.                      |
| Multiple sclerosis | Muscle stiffness (spasticity) | THC/CBD mouth spray           | Strong          | Approved in Canada and Europe.                   |
| Multiple sclerosis | Nerve pain                    | Oral THC products             | Moderate        | Modest relief.                                   |
| Multiple sclerosis | Bladder, sleep                | THC/CBD mouth spray           | Limited         | Early signals only.                              |
| Muscular dystrophy | Stiffness (myotonia), pain    | Oral THC/CBD oil              | Limited         | Six-patient case series only.                    |

| Condition          | Symptom or goal                    | What was studied                        | Evidence        | Bottom line                                             |
|--------------------|------------------------------------|-----------------------------------------|-----------------|---------------------------------------------------------|
| Muscular dystrophy | Slowing muscle loss                | —                                       | Not established | Animal studies only.                                    |
| Neuropathy         | Burning, tingling pain             | THC-containing products                 | Moderate        | Modest relief for some.                                 |
| Neuropathy         | Foot and leg nerve pain            | Topical CBD oil                         | Limited         | One small positive trial.                               |
| Opioids            | Pain control compared with opioids | Standardized THC extract (back pain)    | Limited         | One trial: similar pain relief, much less constipation. |
| Opioids            | Lowering opioid dose               | Various cannabis products               | Limited         | Patients report it; trials have not confirmed it.       |
| Opioids            | Craving in opioid use disorder     | Oral CBD                                | Limited         | One small trial reduced craving and anxiety.            |
| Palliative care    | Appetite and weight in cancer      | THC, cannabis extract                   | Not established | Megestrol worked better in one trial.                   |
| Parkinson's        | Tremor, movement, mood             | CBD, THC                                | Not established | Ten trials found no benefit.                            |
| PTSD               | Overall symptoms                   | Smoked cannabis, CBD                    | Not established | Trials negative.                                        |
| PTSD               | Nightmares                         | Prescription THC (dronabinol, nabilone) | Moderate        | A large 2026 trial found fewer, milder nightmares.      |
| Sleep              | Insomnia on its own                | THC, CBD                                | Limited         | Mixed results.                                          |
| Sleep              | Sleep broken by pain               | THC-containing pain products            | Moderate        | Sleep improved in pain trials.                          |

| Condition          | Symptom or goal       | What was studied              | Evidence        | Bottom line                                      |
|--------------------|-----------------------|-------------------------------|-----------------|--------------------------------------------------|
| Spinal cord injury | Muscle stiffness      | Prescription THC, nabilone    | Limited         | Small trials showed less stiffness.              |
| Substance use      | Cannabis use disorder | THC/CBD spray with counseling | Limited         | Fewer days of use.                               |
| Substance use      | Opioid use disorder   | Cannabis, CBD                 | Not established | Not a substitute for buprenorphine or methadone. |
| Tourette syndrome  | Tics                  | Oral THC/CBD oil              | Limited         | One small trial showed fewer tics.               |

## Choosing a product

Each condition below ends with **What to ask for**. That line separates what was actually used in studies from what is commonly tried but not yet proven. Bring it to your practitioner or the dispensary pharmacist.

### Read the THC:CBD ratio first

The ratio of THC to CBD matters more than anything else on the label. Most of the benefit and most of the side effects in trials track with the amount of THC.

| Product type | Typical ratio                    | Best supported for                                                              | Feels like                                         |
|--------------|----------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------|
| THC-dominant | THC much higher than CBD         | Nausea, appetite, nerve pain, back pain, PTSD nightmares                        | Most likely to cause a high, dizziness, or anxiety |
| Balanced     | About 1:1                        | MS stiffness, nerve pain, migraine attacks, Tourette, rheumatoid arthritis pain | The high depends mainly on the THC dose            |
| CBD-dominant | 10:1 to 20:1 CBD to THC, or more | Anxiety, prescription CBD for specific epilepsies                               | Little or no high                                  |

| Product type | Typical ratio     | Best supported for                           | Feels like |
|--------------|-------------------|----------------------------------------------|------------|
| CBD only     | No meaningful THC | Topical use on a painful joint or nerve area | No high    |

Swallowed CBD on its own has not relieved pain in controlled trials. If pain is the goal, products with some THC have the better evidence.

Minor cannabinoids and terpenes

Terpenes are the aroma compounds in cannabis. Products are often marketed by terpene or by "indica" and "sativa." Large lab studies have shown the indica and sativa labels do not reliably predict what is in the product. Here is what human research shows so far.

| Compound | Common claim | What human studies show                                                                                                                                                                                        | Evidence |
|----------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| CBN      | Sleep        | In a 2024 placebo-controlled trial, 20 mg of CBN nightly for a week reduced nighttime awakenings and overall sleep disturbance. It did not help people fall asleep faster. Adding CBD did not improve results. | Limited  |
| CBG      | Calm, focus  | In a 2024 trial of 34 healthy adults, 20 mg of CBG reduced anxiety and stress and slightly improved memory, without impairment.                                                                                | Limited  |

| Compound                | Common claim            | What human studies show                                                                                                                            | Evidence                           |
|-------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| THCV                    | Blood sugar, appetite   | In a 2016 trial of 62 people with type 2 diabetes, THCV lowered fasting blood sugar. Appetite and weight effects are unproven.                     | Limited                            |
| Limonene (citrus)       | Mood, calm              | In a 2024 Johns Hopkins study of 20 adults, inhaling limonene with THC reduced THC-caused anxiety and paranoia without blunting other THC effects. | Limited                            |
| Linalool (lavender)     | Calm, sleep             | Lavender oil capsules rich in linalool reduced anxiety in 5 trials. Cannabis contains far less linalool, and it has not been tested in cannabis.   | Not established in cannabis        |
| Eucalyptol (eucalyptus) | Breathing, inflammation | Capsules of eucalyptol, 200 mg three times a day, reduced COPD flare-ups and improved asthma control in trials. Cannabis contains only traces.     | Not established in cannabis        |
| Menthol (mint)          | Topical pain relief     | FDA recognizes menthol at 1.25% to 16% as an over-the-counter topical pain reliever. Many cannabis creams and balms add it.                        | Proven as a topical (non-cannabis) |

| Compound                    | Common claim                   | What human studies show                                                                                        | Evidence                           |
|-----------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------|------------------------------------|
| Camphor                     | Topical pain relief            | FDA recognizes camphor at 3% to 11% as an over-the-counter topical pain reliever. Often combined with menthol. | Proven as a topical (non-cannabis) |
| Myrcene (earthy)            | Sedation, "couch lock"         | No human trials.                                                                                               | Not established                    |
| Beta-caryophyllene (pepper) | Inflammation, pain             | Acts on CB2 receptors in the lab. No human pain trials.                                                        | Not established                    |
| CBDV, CBC, THCA             | Seizures, inflammation, nausea | Lab and animal data only. CBDV failed in a large seizure trial.                                                | Not established                    |

If a cannabis cream or balm contains menthol or camphor, part of the relief you feel may come from those ingredients. Check the label.

The Physician Reference has a full condition-by-compound table with sources.

**Full list:** all 125 cannabinoids and about 55 terpenes, with what is proven and what is not, are in the [Cannabinoids & Terpenes](#) tab.

A 2024 review concluded that terpenes boosting the effects of cannabinoids, the "entourage effect," remains unproven in people. Terpene profiles are a reasonable tiebreaker between two products with the same THC:CBD ratio. They should not be the main reason to choose a product.

## Choosing a form

- **Fast relief for symptoms that come and go** (migraine attack, breakthrough pain, nausea): inhaled flower, vaporized, or an under-the-tongue spray.
- **Steady all-day or overnight control** (chronic pain, spasticity, sleep): capsules or oils taken on a schedule.
- **One or two painful joints or a small area of nerve pain:** a topical, which puts very little into the bloodstream.

## Condition details

Each entry lists the evidence for each symptom, what kind of product was studied, and how cannabis compares with standard treatment.

### ALS (Lou Gehrig's disease)

- **Muscle stiffness and cramping:** Limited. A THC/CBD mouth spray reduced stiffness in a 6-week trial of 59 people with ALS and related conditions.
- **Slowing the disease:** Not established. The "slows progression" claims come from mouse studies.

**Compared with standard treatment:** Cannabis can be added to muscle relaxants such as baclofen. It does not replace ALS disease treatments.

**Good to know:** Some patients also use it for appetite and sleep. If swallowing or breathing is weak, avoid smoking and talk with your ALS team about the safest form.

**What to ask for:** A balanced 1:1 THC:CBD product taken under the tongue or by mouth spray, the type used in the ALS trial.

### Alzheimer's disease and dementia

- **Agitation and aggression:** Limited. Two placebo-controlled trials of prescription THC capsules showed calmer behavior over 3 to 6 weeks. The larger, published in 2026, gave 75 patients 5 mg of dronabinol twice daily for 3 weeks: agitation fell on one of two main measures, with a trend on the other ([Rosenberg 2026](#)).
- **Memory and disease progression:** Not established. No human study shows cannabis protects memory.

**Compared with standard treatment:** Antipsychotics used for agitation carry a warning for increased risk of death in dementia. The dronabinol trial was well tolerated, without delirium or seizures, but lasted only 3 weeks; a larger 140-patient trial of oral dronabinol began in 2026.

**Good to know:** Older adults are sensitive to THC. Start very low with a caregiver watching for dizziness, confusion, and falls.

**What to ask for:** Low-dose THC by mouth (capsule or tincture), the type used in the agitation trials, ideally prescription dronabinol or nabilone. Avoid high-THC and inhaled products. Have a caregiver manage doses.

## Anxiety

- **Social or performance anxiety:** Limited. A single dose of oral CBD before a stressful task reduced anxiety in small trials.
- **Day-to-day anxiety disorders:** Not established. A 2026 Lancet Psychiatry review of 54 trials found no significant benefit for anxiety disorders; an earlier 2024 analysis of 8 small CBD studies had suggested benefit.
- **THC for anxiety:** Not established. THC can trigger anxiety or panic, especially at higher doses.

**Compared with standard treatment:** Therapy and SSRIs have far stronger evidence. CBD may be an option for people who cannot tolerate them.

**Good to know:** Choose CBD-dominant products. If you notice racing thoughts or panic, the THC content is likely too high.

**What to ask for:** A CBD-dominant oral product (CBD-only or 20:1). *Not yet proven but reasonable:* if a product contains THC, choose one higher in limonene, which reduced THC-caused anxiety in one small study.

## Appetite and weight loss

- **HIV/AIDS-related weight loss:** Moderate. Dronabinol (prescription THC) is FDA-approved for this use.
- **Cancer-related weight loss:** Not established. Trials have not shown reliable gains in weight or muscle.

**Good to know:** THC can increase appetite for a few hours after a dose. A dietitian should be part of care for any unplanned weight loss.

**What to ask for:** A THC-dominant oral product taken before lunch and dinner, the way dronabinol is prescribed for appetite. CBD-only products do not stimulate appetite.

## Arthritis: osteoarthritis

Osteoarthritis is wear-related joint damage, most often in the knees, hips, hands, and spine. Inflammation inside the joint is part of what drives the pain.

- **Swallowed CBD (oils, capsules, gummies):** Not established. Three placebo-controlled trials found no benefit. The largest gave 86 people with knee arthritis 600 mg of CBD a day for 8 weeks; pain improved equally with CBD and placebo. A 2025 trial of a CBD-rich oil and a trial in hand arthritis were also negative.

- **CBD cream or lotion on the joint:** Limited. In a small trial of 18 people with thumb-base arthritis, CBD cream cut pain scores from 5 to 2 out of 10, while the plain cream did not change pain. An ongoing trial comparing CBD lotion with diclofenac gel (Voltaren) has shown similar early results.
- **THC-containing products:** Limited. Little research specific to osteoarthritis. THC products help some types of chronic pain modestly (see Chronic pain).

**Compared with standard treatment:** Many people with arthritis cannot safely take NSAIDs like ibuprofen or naproxen long term because of stomach bleeding, kidney, and heart risks. CBD does not carry those risks, and topical products put very little into the bloodstream. That safety advantage is real and is a reasonable reason to try a topical. The caution is that swallowed CBD has not beaten placebo for arthritis pain, and very high doses raised liver enzymes in some trial patients.

**Good to know:** Topical CBD is a low-risk first step for one or two painful joints. Give it 2 weeks of regular use. Exercise, weight management, and physical therapy remain the most effective treatments.

**What to ask for:** For one or two painful joints, a CBD or 1:1 topical cream or gel applied 2 to 3 times a day; this is the form with positive trial results. If pain is widespread or a topical is not enough, follow the Chronic pain guidance: a balanced or THC-containing oral product in the evening. Swallowed CBD-only products are not recommended for arthritis pain based on current trials.

## Arthritis: rheumatoid arthritis

- **Joint pain and morning stiffness:** Limited. One small, short trial of a THC/CBD spray improved pain and sleep.
- **Controlling the disease:** Not established. Lab studies show anti-inflammatory effects, but no human study shows cannabis prevents joint damage.

**Compared with standard treatment:** Disease-modifying drugs (DMARDs and biologics) prevent permanent joint destruction. Cannabis can only be an add-on for symptoms.

**Good to know:** Never stop your rheumatology medicines because you feel better on cannabis. Ask your pharmacist to check for interactions with your other medicines.

**What to ask for:** A balanced 1:1 THC:CBD product by mouth spray or under the tongue, the type used in the only rheumatoid arthritis trial. It improved pain, sleep, and disease-activity scores modestly over 5 weeks.

## Autism

- **Disruptive behavior and irritability:** Limited. In a 2021 trial of 150 children and young adults, a 20:1 CBD:THC whole-plant extract improved disruptive behavior on the clinician's rating but not on the parent questionnaire ([Aran 2021](#)). A 2025 trial of purified CBD in boys with severe behavior problems found no benefit over placebo on its main measures ([Trauner 2025](#)).
- **Social responsiveness and anxiety:** Limited. A 2025 analysis of the randomized trials found moderate gains in social responsiveness and small reductions in disruptive behavior and anxiety, from few, small studies ([European Psychiatry 2025](#)).
- **Core autism traits:** Not established.

**Compared with standard treatment:** Behavioral therapies and two FDA-approved medicines for irritability (risperidone and aripiprazole) have stronger evidence.

**Good to know:** Most patients studied were children. Sleepiness and lower appetite were more common on cannabinoids. CBD raises blood levels of some seizure medicines, which many autistic patients take. Involve the child's pediatrician or specialist.

**What to ask for:** A CBD-dominant oral product with very little THC (20:1 CBD:THC was studied), started low and adjusted by a specialist. Avoid inhaled products.

## Cancer

- **Treating the cancer itself:** Not established. The American Society of Clinical Oncology (ASCO) advises against cannabis as cancer treatment outside a clinical trial.
- **Chemotherapy nausea and vomiting:** Strong. Dronabinol and nabilone are FDA-approved. In a 2020 trial, adding THC/CBD capsules to standard anti-nausea drugs raised the share of patients with no vomiting and no rescue medicine from 14% to 25%.
- **Cancer pain:** Not established. A 2023 Cochrane review found THC and THC/CBD spray were no better than placebo for cancer pain not controlled by opioids.
- **Appetite and weight:** Not established.

**Good to know:** Never use cannabis in place of cancer treatment. Tell your oncology team what you use; some cancer drugs interact with CBD.

**What to ask for:** For chemotherapy nausea, a THC-containing oral product, either THC alone or 1:1 THC:CBD capsules started the day before chemotherapy, as in the trials. Inhaled products work faster for breakthrough nausea.

## Chronic pain

- **Nerve-related pain (burning, shooting, tingling):** Moderate. THC-containing products give small to modest relief. A 2026 Cochrane review found they rarely cut pain in half.
- **Chronic low back pain:** Moderate. In a 2025 trial of 820 adults, a standardized oral THC extract (VER-01) reduced pain more than placebo. 54% got at least 30% relief versus 40% on placebo, and sleep and function improved. The drug is approved in Germany and Austria; US dispensary products are not the same.
- **Pain from swallowed CBD alone:** Not established. Reviews find low-THC products may not improve pain.
- **Localized pain with topical CBD:** Limited. Small positive trials in thumb arthritis and foot nerve pain.

**Compared with standard treatment:** In a 2024 review of 90 trials, cannabis medicines and opioids gave similarly small improvements in pain, function, and sleep. Fewer people stopped cannabis because of side effects.

**Good to know:** Expect less pain and better function, not zero pain. Dizziness, sleepiness, and nausea are common early on and often fade within days. Track pain, sleep, and activity to see if it is working.

**What to ask for:** A THC-containing product, either balanced 1:1 or THC-dominant, taken by mouth in the evening. The back-pain trial used a THC-dominant full-spectrum oil. Add an inhaled product only for breakthrough pain. CBD-only oils are unlikely to help pain.

## Crohn's disease and ulcerative colitis

- **Pain, appetite, and general well-being:** Limited. In one small Crohn's trial, 10 of 11 patients on THC-rich cannabis improved, versus 4 of 10 on placebo.
- **Remission and healing:** Not established. Inflammation markers did not improve, and a CBD trial in ulcerative colitis found no difference in remission.

**Compared with standard treatment:** Biologics and other IBD drugs heal the gut lining. Cannabis may ease symptoms while active inflammation continues unnoticed.

**Good to know:** Keep scheduled scopes and labs even if you feel better. Some studies link heavy use to more surgery in Crohn's.

**What to ask for:** For symptom relief, a THC-containing product, the type that helped in the Crohn's trial. CBD-rich extract did not help in the ulcerative colitis trial.

## Depression

- **Depression as the main condition:** Not established. No randomized trial has tested cannabis for depression; a 2026 Lancet Psychiatry review of 54 trials of cannabinoids for mental health found none ([coverage](#)).
- **Mood with heavy use:** In observational studies, depression was more common among people using more cannabis, and cutting back often improved mood ([2024 review](#)).

**Compared with standard treatment:** Psychotherapy and antidepressants have strong evidence.

**Good to know:** The state clinical guideline advises stopping medical cannabis and getting a psychiatric assessment if mental health symptoms start or worsen. If you have thoughts of harming yourself, call or text 988.

**What to ask for:** No product is recommended for depression. If you use cannabis for another condition and also have depression, keep THC low, prefer CBD-dominant products, and tell your practitioner if your mood changes.

## Endometriosis

- **Pelvic pain:** Not established. Many patients report relief in surveys, but no randomized trial has been completed: an Australian trial and a Penn State trial both stopped because they could not enroll enough patients, and a UK trial of CBD (ENDOCAN-1) began in 2025 ([2025 scoping review](#); [Penn State trial](#); [ENDOCAN-1](#)).
- **Treating the endometriosis itself:** Not established.

**Compared with standard treatment:** Hormonal therapy, anti-inflammatory pain relievers, and surgery remain the evidence-based options.

**Good to know:** Many people with endometriosis are trying to conceive; avoid cannabis while trying to become pregnant, during pregnancy, and while breastfeeding.

**What to ask for:** No product has been tested in a completed trial. If you and your practitioner decide to try it for pain, follow the Chronic pain approach: a low dose of an oral THC-containing or balanced 1:1 product, adjusted slowly.

## Epilepsy and seizures

- **Lennox-Gastaut syndrome, Dravet syndrome, tuberous sclerosis complex:** Strong. Prescription CBD (Epidiolex) is FDA-approved. In Lennox-Gastaut, drop seizures fell by a median of 44% versus 22% on placebo, and 44% of patients had their seizures cut by

half or more. In Dravet, seizures fell 39% versus 13%.

- **Other epilepsies and dispensary products:** Not established. Dispensary CBD differs in dose and purity from Epidiolex.

**Good to know:** CBD raises levels of clobazam and can affect the liver with valproate. Blood tests are needed. Never change seizure medicines without your neurologist.

**What to ask for:** Prescription Epidiolex through your neurologist. Dispensary products should be discussed with your neurologist first. Avoid THC-dominant products unless your neurologist advises otherwise.

## Fibromyalgia

- **Pain:** Limited. A Cochrane review of two small nabilone trials found no convincing benefit. Newer studies and patient surveys are more positive but lower quality.
- **Sleep:** Limited. One small trial found nabilone improved sleep more than amitriptyline.

**Compared with standard treatment:** Exercise, sleep habits, and medicines such as duloxetine have stronger evidence.

**Good to know:** People with fibromyalgia are often sensitive to side effects. Start with the conservative approach.

**What to ask for:** A low-dose THC-containing product at bedtime, the approach studied with nabilone. Start with the conservative approach.

## Glaucoma

- **Eye pressure:** Not established. THC lowers eye pressure for only 3 to 4 hours, so it would need 6 to 8 doses a day. It may also reduce blood flow to the optic nerve.

**Compared with standard treatment:** Eye drops, laser, and surgery control pressure around the clock. The American Academy of Ophthalmology does not recommend cannabis for glaucoma.

**Good to know:** Using cannabis instead of glaucoma treatment can cause permanent vision loss.

**What to ask for:** No product is recommended for glaucoma.

## HIV/AIDS

- **Nerve pain in the feet and legs:** Moderate. In a controlled trial, smoked cannabis cut daily pain by 34% versus 17% on placebo. About half got at least 30% relief, versus a quarter on placebo.
- **Appetite and weight loss:** Moderate. Dronabinol is FDA-approved.
- **Treating HIV itself:** Not established.

**Good to know:** Stay on your HIV medicines. Ask your pharmacist about interactions.

**What to ask for:** For nerve pain, vaporized THC-containing flower, the form used in the trials, which had about 3.5% THC. For appetite, prescription dronabinol or a THC-dominant oral product before meals.

## Huntington's disease

- **Involuntary movements (chorea):** Limited and mixed. A 2009 crossover trial of prescription nabilone in 44 patients suggested improvement in movement and behavior, while a 2016 trial of a THC/CBD mouth spray in 24 patients found it safe but no better than placebo ([summary of trials](#)).
- **Dystonia and irritability:** Limited. In a 2018 series of 7 patients with early-onset disease, cannabinoids eased dystonia and irritability ([Saft 2018](#)).
- **Slowing the disease:** Not established; only animal studies.

**Compared with standard treatment:** FDA-approved medicines for chorea (tetraabenazine, deutetabenazine, valbenazine) have stronger evidence.

**Good to know:** THC can worsen balance and thinking, and falls are already a risk. One report found nabilone increased chorea in a patient. Start very low with a caregiver involved.

**What to ask for:** Low-dose oral THC, ideally prescription nabilone or dronabinol, prescribed with the neurologist.

## Irritable bowel syndrome (IBS)

- **Pain, cramping, bowel changes:** Not established. The gut has many cannabinoid receptors, but there are no good-quality trials.

**Good to know:** Heavy, long-term use can cause cannabinoid hyperemesis syndrome, a repeated vomiting illness that can be mistaken for a gut flare.

**What to ask for:** No product has trial support for IBS.

## Migraine

- **Stopping an attack:** Limited. In a 2025 trial covering 247 migraine attacks, inhaled cannabis with THC and CBD (about 6% THC, 11% CBD) relieved pain and the most bothersome symptom (such as light sensitivity or nausea) at 2 hours better than placebo. Benefits held at 24 to 48 hours.
- **CBD alone for an attack:** Not established. CBD-only flower did no better than placebo.
- **Preventing migraines:** Not established. No controlled trials yet.

**Compared with standard treatment:** Triptans and the newer CGRP drugs have much larger bodies of evidence. Cannabis has not been compared with them head-to-head.

**Good to know:** Frequent use of any acute headache treatment can cause rebound headaches. Keep a headache diary.

**What to ask for:** A balanced THC + CBD product inhaled at the start of an attack. The trial used vaporized flower with about 6% THC and 11% CBD. CBD-only did not work.

## Multiple sclerosis

- **Muscle stiffness (spasticity):** Strong. A THC/CBD mouth spray (nabiximols, Sativex) is approved for this in Canada and much of Europe, though not by the FDA. In patients whose spasticity had not responded to standard drugs, the odds of a meaningful response were more than twice as high on the spray as on placebo.
- **Central nerve pain:** Moderate. Oral THC products give modest relief.
- **Bladder control and sleep:** Limited. A 2026 analysis found early signs of benefit.
- **Tremor:** Not established.
- **Slowing MS:** Not established.

**Compared with standard treatment:** Used as an add-on to baclofen or tizanidine, not instead of MS disease-modifying therapy.

**Good to know:** Many programs try it for about 4 weeks and continue only if stiffness clearly improves.

**What to ask for:** A balanced 1:1 THC:CBD product by mouth spray or under the tongue, closest to nabiximols. Taking several small doses through the day matches how the trials were run.

## Muscular dystrophy

- **Muscle stiffness in myotonic dystrophy (myotonia):** Limited. In a 2020 German case series, 6 patients with treatment-resistant myotonia given a THC/CBD oil all reported less stiffness, and hand-opening time improved in 5 ([Montagnese 2020](#)). No controlled trial has been done.
- **Muscle pain:** Limited. Patients with myotonic dystrophy commonly report using cannabis for pain, but evidence is anecdotal ([Myotonic Dystrophy Foundation](#)). See Chronic pain.
- **Slowing muscle loss (Duchenne and others):** Not established. CBD and related compounds reduced inflammation and muscle damage in mice; there are no human studies ([Iannotti 2019](#)).

**Compared with standard treatment:** Corticosteroids (deflazacort, prednisone), vamorolone, and newer gene-targeted therapies for Duchenne; mexiletine for myotonia; physical therapy and heart and lung care for all types.

**Good to know:** Many forms of muscular dystrophy affect the heart and breathing. THC can speed the heart rate, so anyone with heart rhythm problems should talk with their cardiologist first, and inhaled products should be avoided when breathing muscles are weak. CBD can raise blood levels of some medicines, including deflazacort. Constipation was common in the case series.

**What to ask for:** No product has been tested in a controlled trial. For stiffness or pain, a low dose of an oral balanced THC/CBD oil, the type used in the case series, started under the neuromuscular specialist's guidance.

## Neuropathy (nerve pain)

- **Swallowed or inhaled THC-containing products:** Moderate. Benefit is modest. A 2026 review of chronic pain trials, mostly in nerve pain, found the synthetic THC drug nabilone reduced pain while dronabinol did not.
- **CBD oil applied to the feet and legs:** Limited. In a 4-week trial of 29 people, topical CBD reduced sharp, intense, cold, and itchy sensations without side effects.
- **Swallowed CBD alone:** Not established.

**Compared with standard treatment:** Gabapentin, pregabalin, duloxetine, and lidocaine patches remain first-line. Cannabis is usually added when these are not enough or not tolerated.

**Good to know:** Cannabis with gabapentin or pregabalin can add to drowsiness and dizziness.

**What to ask for:** A THC-containing oral product, balanced or THC-dominant, in the evening. For burning or tingling feet, add a CBD topical oil.

## Opioids: replacing, reducing, or quitting

There are now controlled trials in this area, but they answer different questions.

- **Instead of opioids for chronic back pain:** Limited. In a 2025 trial, 384 adults with chronic low back pain were randomly assigned to a standardized THC extract (VER-01) or to opioids for 6 months. Pain fell slightly more with the cannabis extract (2.5 versus 2.2 points out of 10). Patients on the extract were four times less likely to develop constipation. Patients and doctors knew which treatment they were getting, and it is one specific product.
- **Lowering the dose for people already on opioids:** Limited, but the New York evidence is growing. In a 2026 study of 204 Bronx adults on opioids for chronic pain, each month with a 30-day supply of medical cannabis was linked to 3.5 fewer morphine milligram equivalents (MME) per day, with dispensing tracked in the state Prescription Monitoring Program ([Slawek 2026, JAMA Internal Medicine](#)). An earlier study of 8,165 New Yorkers on long-term opioids found daily doses fell 47–51% among those using cannabis for more than 30 days, versus 4–14% among others ([Nguyen 2023, JAMA Network Open](#)). Both were observational, so they show an association, not proof. Pooled observational studies elsewhere report that 85% of patients cut their dose and 39% stopped; controlled trials have not confirmed this, partly because most told patients to keep their opioid dose unchanged.
- **Cancer pain on top of opioids:** Not established. Trials found no reduction in opioid needs.
- **Craving in opioid use disorder:** Limited. In a 2019 trial of 42 people in recovery from heroin use, oral CBD reduced cue-triggered craving and anxiety. CBD is not a substitute for buprenorphine or methadone.

**Compared with standard treatment:** A 2024 review of 90 trials found cannabis medicines and opioids gave similar small improvements in chronic non-cancer pain, with fewer stops for side effects on cannabis.

**Good to know:** Never lower an opioid dose on your own; stopping suddenly can cause withdrawal and raises overdose risk if you restart. Neither New York study used a set taper plan; opioid changes were left to each patient's own prescriber. The best-designed

approach under study, a Massachusetts General Hospital trial, lowers the dose by about 10% of the starting dose once a month, only when the patient agrees, with weekly support sessions, withdrawal checks, and naloxone on hand ([trial protocol](#)). Ask your prescriber about a gradual plan like this. Cannabis and opioids together can increase drowsiness.

**What to ask for:** For pain, see Chronic pain. A THC-dominant oral extract is the product that was compared with opioids. CBD for craving has been studied only at research doses and only alongside addiction treatment.

## Palliative and hospice care

- **Nausea from chemotherapy:** Strong for prescription THC (see Cancer). Evidence is insufficient for nausea from advanced cancer itself, according to the Multinational Association of Supportive Care in Cancer ([MASCC 2022](#)).
- **Appetite and weight loss:** Moderate in HIV; not established in cancer. A review of palliative trials found weight and appetite gains in HIV but no convincing benefit in cancer, where megestrol worked better in a trial of 469 patients ([Mücke 2018](#)).
- **Pain, mood, sleep, and overall comfort:** Not established. Cancer pain trials found no benefit over placebo (see Cancer).

**Compared with standard treatment:** Standard palliative medicines remain first-line for each symptom.

**Good to know:** In hospice care, comfort and patient goals guide the decision. Watch for confusion, dizziness, and falls, and check interactions with the many medicines patients often take. Tinctures, topicals, and suppositories work for people who cannot swallow.

**What to ask for:** Choose by symptom: prescription THC or a THC-containing oral product for chemotherapy nausea; a low evening THC dose if sleep is the goal; an under-the-tongue tincture when swallowing is hard. Coordinate with the hospice or palliative team.

## Parkinson's disease

- **Tremor, stiffness, movement:** Not established. A 2026 analysis of 10 trials with 719 patients found no benefit.
- **Pain, sleep, mood, memory:** Not established in the same analysis.
- **Anxiety in stressful situations:** Limited. One 24-patient study found a single CBD dose reduced anxiety and tremor during a public-speaking task.

**Good to know:** THC can worsen balance and low blood pressure on standing, both common in Parkinson's.

**What to ask for:** No product is recommended for Parkinson's symptoms. If cannabis is used for another reason, a CBD-dominant product is less likely to affect balance.

## PTSD

- **Overall PTSD symptoms:** Not established. Six of seven controlled trials found no benefit over placebo. In the only trial of smoked cannabis, 80 veterans used high-THC, high-CBD, balanced, or placebo flower for 3 weeks: every group improved, including placebo, and no cannabis group did better ([Bonn-Miller 2021](#)). A 2026 Lancet Psychiatry review of 54 trials also found no benefit for PTSD.
- **What veterans report outside trials:** In a 2022 one-year observational study of 150 veterans by the same research group, those using medical cannabis reported larger drops in PTSD symptoms than those who did not ([summary](#)). Because veterans chose whether to use cannabis, this shows association, not proof. A 280-veteran trial of cannabis added to prolonged exposure therapy began in 2026 ([NCT06222268](#)).
- **Trauma nightmares:** Moderate. In a 2026 trial of 171 adults, bedtime dronabinol (prescription THC, 2.5 to 15 mg) reduced nightmare frequency and intensity more than placebo over 10 weeks. More than a third had no nightmares by the end. An earlier small trial of nabilone found the same direction of benefit.
- **Overall PTSD severity and depression in that trial:** No change.

**Compared with standard treatment:** Trauma-focused therapy remains first-line for PTSD. For nightmares, THC is a new option alongside prazosin and imagery rehearsal therapy.

**Good to know:** In the nightmare trial, 8% of patients on dronabinol had a serious adverse event, versus none on placebo. People with PTSD are at higher risk of problem cannabis use. Tell your mental health provider what you use.

**For veterans:** Veterans will not lose VA benefits for using medical cannabis in a state where it is legal, and can discuss it with VA clinicians. As of October 2026, VA clinicians still cannot recommend cannabis or complete state certification forms, and the VA/DoD PTSD guideline recommends against cannabis as a PTSD treatment. In May 2026 the House voted to let VA doctors recommend medical cannabis; that change has not taken effect. Veterans in New York can be certified by any registered non-VA practitioner.

**What to ask for:** For nightmares, low-dose THC taken by mouth at bedtime, ideally prescription dronabinol, which is what the trial used. Smoked high-THC flower did not help overall PTSD symptoms.

## Sleep

- **Insomnia on its own:** Limited. A 2026 Cochrane review found little or no clear benefit, with very uncertain evidence. Another 2026 review of 10 trials found modest improvements.
- **Sleep broken by chronic pain:** Moderate. Sleep quality improved modestly in pain trials, including the 2025 back-pain trial.
- **Sleep in MS and PTSD nightmares:** see those entries.

**Compared with standard treatment:** Cognitive behavioral therapy for insomnia (CBT-I) has the strongest evidence and no drug side effects.

**Good to know:** Nightly THC can lead to tolerance, and stopping can cause rebound insomnia and vivid dreams for a week or two.

**What to ask for:** For waking up during the night, a CBN product at bedtime; one small trial used 20 mg. If pain is what keeps you up, a low-dose THC-containing oral product in the evening. *Not yet proven:* myrcene- or linalool-rich products marketed for sleep.

## Spinal cord injury

- **Muscle stiffness (spasticity):** Limited. Small trials of oral THC (dronabinol) and nabilone reduced spasticity; in a 12-person crossover trial, nabilone lowered muscle tone scores ([SCIRE evidence review](#); [nabilone pilot](#)). A state evidence review found results for the THC/CBD mouth spray mixed ([Utah 2023](#)).
- **Nerve pain:** Limited. See Neuropathy.

**Compared with standard treatment:** Baclofen, tizanidine, botulinum toxin injections, and intrathecal baclofen for spasticity; gabapentin or pregabalin for nerve pain.

**Good to know:** THC can lower blood pressure, which matters for people prone to dizziness on standing. Take care with transfers and falls when starting.

**What to ask for:** A THC-containing oral product, or a balanced 1:1 product, the types used in the spasticity trials, started at night.

## Substance use disorders

- **Cannabis use disorder:** Limited. In a 2019 trial of 128 people, a THC/CBD mouth spray plus counseling cut illicit cannabis use to 35 days versus 53 on placebo over 12 weeks ([Lintzeris 2019 summary](#)). A 2026 review found THC/CBD combinations reduced withdrawal and use.

- **Opioid use disorder:** Not established. The 2026 review found no benefit, and the state clinical guideline finds the evidence insufficient. One small trial found CBD reduced craving (see Opioids).
- **Alcohol, cocaine, and tobacco:** Not established.

**Compared with standard treatment:** Buprenorphine and methadone are the standard of care for opioid use disorder and reduce overdose deaths. Counseling is first-line for cannabis use disorder.

**Good to know:** Cannabis is not a substitute for buprenorphine or methadone; never stop them on your own. A history of substance use disorder is a reason for extra caution with medical cannabis.

**What to ask for:** Cannabis should be used for a substance use disorder only as part of a supervised plan with an addiction specialist.

## Tourette syndrome

- **Tics:** Limited. In a 2023 trial of 22 adults with severe Tourette syndrome, an oral THC/CBD oil (up to 20 mg of each daily) reduced tics.
- **Related anxiety and obsessive-compulsive symptoms:** Limited. Improved in the same trial.

**Good to know:** Some participants noticed slower thinking and memory lapses.

**What to ask for:** A balanced 1:1 THC:CBD oral oil, the product used in the trial.

## Using cannabis safely

Medical cannabis is generally well tolerated, but it is not risk-free. Knowing the risks helps you use it safely.

### Common side effects

- Drowsiness, dizziness, or feeling unsteady
- Dry mouth and red eyes
- Faster heartbeat
- Trouble with short-term memory or concentration
- Anxiety or paranoia, mostly with higher THC doses
- Nausea, especially with edibles taken in large amounts

Most side effects ease as your body adjusts or when the dose is lowered.

### If you feel too high

- Stay in a safe, quiet place and sit or lie down.
- Drink water, and wait. The feeling passes as the THC wears off, usually within a few hours.
- Do not take more cannabis, and do not drive.
- Next time, use a lower THC dose or a product with less THC.

### When to get emergency care

Call 911 or go to an emergency room for chest pain, trouble breathing, fainting, seeing or hearing things that are not there, severe panic or paranoia that does not ease, or vomiting that will not stop.

### Pregnancy and breastfeeding

Avoid cannabis in every form, not just smoking or vaping, while pregnant or breastfeeding. THC passes to the baby through the placenta and breast milk. Talk with your practitioner about other options.

### Talk to your practitioner first if you

- Are trying to become pregnant (if you are pregnant or breastfeeding, avoid cannabis in every form)
- Are under 25, because the brain is still developing
- Have had psychosis, schizophrenia, or bipolar disorder, or have a close relative who has
- Have heart disease, irregular heartbeat, or have had a stroke
- Are over 65 or prone to falls
- Have had a problem with alcohol or drug use

### Drug interactions

THC and CBD are processed by the same liver enzymes as many common medicines. They can raise or lower the levels of other drugs in your blood. Ask your practitioner or pharmacist before using cannabis if you take:

- Blood thinners such as warfarin

- Seizure medicines such as clobazam or valproate
- Transplant medicines such as tacrolimus
- Sleep aids, anxiety medicines, opioids, or other sedating drugs

Avoid mixing cannabis with alcohol. The combination increases impairment.

## Heart health

Large studies have linked frequent cannabis use with higher rates of heart attack and stroke, even in people who never smoked tobacco. The risk rises with daily use. If you have heart disease or risk factors, discuss this with your doctor.

## Dependence

Cannabis can be habit-forming. Studies estimate that about 1 in 4 people who use medical cannabis develop some degree of cannabis use disorder. Warning signs include needing more to get the same effect, trouble cutting back, and cravings.

**Stopping after heavy use.** People who use cannabis daily and stop suddenly can have irritability, trouble sleeping, low mood, and an upset stomach for a week or two. Tapering down gradually makes this easier.

## Cannabinoid hyperemesis syndrome

Some long-term, frequent users develop repeated bouts of severe nausea and vomiting. People with this condition often find relief in hot showers. It usually goes away only after stopping cannabis.

## Driving and safety at home

- Do not drive or operate machinery while impaired. Impairment from edibles can last 6 hours or more.
- Keep all cannabis in its original child-resistant packaging, locked and out of reach. Edibles can look like ordinary candy.
- If a child or pet swallows cannabis, call Poison Control at 1-800-222-1222. Call 911 for trouble breathing, seizures, or unresponsiveness.

## Smoking

Smoking any plant material irritates the lungs, and heavy use can cause cough and bronchitis-like symptoms. If you inhale cannabis, vaporized flower or a regulated vape at a lower temperature is gentler. Very hot "dabbing" of concentrates breaks terpenes down into irritating chemicals.

## Vaping and lung injury

A 2019 outbreak of serious lung injuries was linked mostly to unregulated THC vape cartridges, with vitamin E acetate strongly implicated. Buy vape products only from a licensed dispensary. Stop and seek care if you develop cough, shortness of breath, or chest pain after vaping.

## Storage and reporting problems

- Store all cannabis locked, out of sight, and out of reach of children and pets.
- Report a side effect or product problem to the dispensary pharmacist and to the Office of Cannabis Management through its [Report an Incident page](#). New York requires adverse events to be reported.
- Check the OCM website for product recalls.

## New York program basics

### How the program developed

- **2014:** the Compassionate Care Act created New York's medical program. Sales began in 2016 through a small number of Registered Organizations (ROs), companies licensed to grow, make, and dispense medical cannabis.
- **2017 onward:** chronic pain and PTSD were added, along with more product forms such as topicals, chewables, and lozenges.
- **2021:** the Marihuana Regulation and Taxation Act (MRTA) legalized adult use and created the Office of Cannabis Management (OCM), which now runs the medical program. Practitioners can now certify for any condition they believe cannabis may help.
- **November 2025:** a new law extended certifications to up to two years, allowed patients from other states' medical programs to buy at New York medical dispensaries, let certified patients 18 and older grow at home, and repealed the excise tax on medical

cannabis ([NY Senate S3294A](#)).

As of July 1, 2026, the program had 72,161 registered patients and 4,779 certifying practitioners ([OCM](#)).

## Medical, adult-use, unregulated, and hemp products

| Type                    | Tested and labeled?          | Who you deal with                    | Notes                                                                     |
|-------------------------|------------------------------|--------------------------------------|---------------------------------------------------------------------------|
| <b>Medical</b>          | Yes, by a state-approved lab | A pharmacist at a medical dispensary | Requires a certification; no adult-use excise tax                         |
| <b>Adult-use</b>        | Yes                          | Retail staff; no pharmacist required | Age 21 and older; no clinician involved                                   |
| <b>Unregulated</b>      | No                           | Unknown                              | Potency and contaminants unknown; linked to the 2019 vaping lung injuries |
| <b>Hemp-derived CBD</b> | Varies                       | General retail                       | Studies often find labels inaccurate; some products contain THC           |

## How to get certified

1. **See a certifying practitioner.** Any New York practitioner who can prescribe controlled substances, is qualified to treat your condition, and has completed a state-approved course can certify you. Visits can be in person or by telehealth. OCM publishes a searchable list of practitioners.
2. **Bring ID.** You need a government-issued photo ID, an email address, and your current address.
3. **Receive your certification.** It is paper or digital and is valid for up to two years. Your practitioner can either leave product and dose to the pharmacist or write specific instructions, which the pharmacist must follow.
4. **Visit a licensed medical dispensary.** Bring your certification and photo ID. Every medical dispensary has a pharmacist on site; ask to speak with them about product and dose. There is no state registration fee.

## Caregivers

Certified patients can designate up to five registered caregivers to buy and help give medical cannabis on their behalf.

## Cost and coverage

Health insurance does not cover medical cannabis, and purchases are cash or debit. Prices vary by product and dose, so ask the dispensary before you buy. **Workers' compensation is the exception:** in New York, medical cannabis can be covered for a work-related injury. Ask your practitioner or the dispensary about the process.

## Visiting New York

Patients enrolled in another state's medical program can buy at New York medical dispensaries with their home-state documentation and photo ID. New York patients traveling elsewhere should check that state's rules; many do not accept out-of-state cards. Never carry cannabis across state lines.

## Home cultivation

Certified patients 18 and older, and their caregivers, may grow cannabis at home under OCM rules. Check OCM's Home Grow guidance for plant limits and where to buy seeds.

## Lab testing and labels

Every medical product is tested by a New York State-approved lab for cannabinoid content and contaminants. Labels show THC and CBD content and required warnings, and many list other cannabinoids such as CBG and CBN. Every manufacturer must offer balanced (1:1) and CBD-dominant (for example, 1:20 THC:CBD) products. THC-dominant products are sold at every dispensary and are the most commonly used.

## Legal protections

New York law protects certified patients, caregivers, and practitioners who follow program rules. Federally, state-licensed medical cannabis moved to Schedule III in April 2026, but federal rules still apply on federal property and in federal workplaces. See OCM's Patient Rights and Protections guide.

## Product forms and how fast they work

| Form                                                                   | Starts working                           | Lasts                             | Good for                                                 | Watch out for                                                                                  |
|------------------------------------------------------------------------|------------------------------------------|-----------------------------------|----------------------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>Vaporized flower or oil</b>                                         | Within minutes; peaks at about 9 minutes | Up to about 2 hours               | Fast relief; easy to adjust the dose                     | Throat and lung irritation; the state guideline advises against vaping, smoking, and dabbing   |
| <b>Smoked flower and pre-rolls</b>                                     | Within minutes                           | Similar to vaping                 | Fast relief                                              | Smoke carries the most lung risk of any form; harder to measure the dose                       |
| <b>Concentrates</b><br>(wax, shatter, hash)                            | Almost immediately                       | 2 to 3 hours                      | Experienced patients only                                | Often above 60% THC; strong intoxication and risk of psychosis; very hot use creates irritants |
| <b>Under the tongue</b><br>(tinctures, sprays, lozenges)               | As early as 10 minutes                   | Up to about 10 hours              | Small, adjustable doses; no inhaling; trouble swallowing | Becomes a slower oral dose if swallowed                                                        |
| <b>Swallowed</b><br>(capsules, tablets, chewables, edibles, beverages) | Peaks 1 to 5 hours after a dose          | Many hours, sometimes up to a day | Steady overnight or all-day relief                       | Easiest form to take too much of (see dose stacking); hardest to adjust                        |

| Form                                                               | Starts working                         | Lasts                                    | Good for                                            | Watch out for                                                                                             |
|--------------------------------------------------------------------|----------------------------------------|------------------------------------------|-----------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Topical and transdermal</b><br>(creams, lotions, gels, patches) | About 2 hours for transdermal products | Up to 48 hours, depending on the product | One painful area; people who cannot use other forms | Absorption varies widely; products designed to reach the bloodstream can cause a high if they contain THC |
| <b>Suppository</b>                                                 | 1 to 2 hours                           | Up to about 8 hours                      | When swallowing is not possible                     | Very little research                                                                                      |

Times come from the [New York State Department of Health clinical guideline](#) (October 2025) and vary from person to person and by product.

### Start low, go slow

- New patients usually start with 2.5 mg of THC or less, often in the evening at home, as the state clinical guideline suggests.
- Increase in small steps (about 1 to 2.5 mg) every few days, only if needed.
- **Avoid dose stacking:** with edibles and capsules, wait at least 2 hours before taking more. Taking another dose before the first has worked is the most common cause of feeling too high.
- Products with CBD and little THC are less likely to cause a high; many patients start there.
- Check in with your practitioner or pharmacist 1 to 2 weeks after starting.
- Keep a simple log of product, dose, time, and how you felt. Bring it to follow-up visits.
- If you already use cannabis, the state guideline suggests starting medical cannabis at about half the THC you use now; ask the pharmacist which products match.

### Questions to ask your practitioner

- What symptom are we trying to improve, and how will we know it is working?
- Should I start with CBD, THC, or a mix?
- Which form makes sense for my symptoms and schedule?

- Do any of my current medicines interact with cannabis?
- When should we check in, and when should I stop if it is not helping?

## Glossary

| Term                                        | Meaning                                                                                                                                         |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bioavailability</b>                      | The share of a dose that reaches the bloodstream                                                                                                |
| <b>Cannabinoid</b>                          | A compound that acts on the body's cannabinoid receptors; THC and CBD are the best known                                                        |
| <b>Cannabis use disorder</b>                | Problem use: needing more, trouble cutting back, or use that interferes with daily life                                                         |
| <b>Cannabinoid hyperemesis syndrome</b>     | Repeated severe vomiting in some long-term heavy users; ends after stopping                                                                     |
| <b>CB1 and CB2 receptors</b>                | The body's two main cannabinoid receptors. CB1 is concentrated in the brain and nerves and drives the high; CB2 is found mainly on immune cells |
| <b>Certification</b>                        | A practitioner's documented recommendation that a patient may use medical cannabis                                                              |
| <b>Certificate of analysis (COA)</b>        | The lab report showing what a product contains                                                                                                  |
| <b>Designated caregiver</b>                 | A registered person who may buy and give medical cannabis for a patient                                                                         |
| <b>Dose stacking</b>                        | Taking another dose before the first has taken full effect                                                                                      |
| <b>Endocannabinoid system</b>               | The body's own network of cannabinoid receptors and natural cannabinoid-like molecules                                                          |
| <b>Morphine milligram equivalents (MME)</b> | A standard way to compare doses of different opioids                                                                                            |
| <b>OCM</b>                                  | The New York State Office of Cannabis Management                                                                                                |
| <b>Reciprocity</b>                          | One state honoring another state's medical cannabis enrollment                                                                                  |

| Term                                | Meaning                                                                     |
|-------------------------------------|-----------------------------------------------------------------------------|
| <b>Registered Organization (RO)</b> | A company licensed in New York to grow, make, and dispense medical cannabis |
| <b>Terpene</b>                      | An aroma compound in cannabis, such as limonene or myrcene                  |
| <b>THC:CBD ratio</b>                | The proportion of THC to CBD in a product                                   |
| <b>Titration</b>                    | Adjusting the dose gradually to find the lowest dose that works             |

# Medical Cannabis Condition Guide — Physician Reference

## Purpose and evidence grading

This reference summarizes the clinical evidence for cannabis and cannabinoids by indication, current to October 2026. It is written for certifying practitioners and referring physicians. Grades reflect the best available systematic reviews, guidelines, and RCTs, not observational or patient-survey data alone.

| Grade                  | Definition                                                                                                               |
|------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <b>Strong</b>          | Multiple RCTs with consistent benefit, and usually a regulatory-approved cannabinoid product for the indication.         |
| <b>Moderate</b>        | RCT evidence of benefit, but effect sizes are small to moderate, or trials are short, heterogeneous, or at risk of bias. |
| <b>Limited</b>         | One or few small RCTs, or mixed results. Biologically plausible, not confirmed.                                          |
| <b>Not established</b> | RCTs negative, absent, or limited to surrogate outcomes; or a specialty society recommends against use.                  |

Two caveats apply throughout. First, most RCTs used pharmaceutical cannabinoids (dronabinol, nabilone, nabiximols, purified CBD) or standardized research flower. Results do not transfer automatically to dispensary products of differing composition. Second, a negative grade for a disease does not rule out benefit for a related symptom, such as sleep, appetite, or spasticity.

## Approved cannabinoid medicines

| Product          | Active ingredient                                                       | Approved indication                                                                                    | US status                                                                                                 |
|------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Epidiolex        | Purified CBD (oral solution)                                            | Seizures in Lennox-Gastaut syndrome, Dravet syndrome, tuberous sclerosis complex; age 1 year and older | FDA-approved (2018)                                                                                       |
| Marinol, Syndros | Dronabinol (synthetic THC)                                              | Anorexia with weight loss in AIDS; CINV refractory to conventional antiemetics                         | FDA-approved (1985)                                                                                       |
| Cesamet          | Nabilone (synthetic THC analogue)                                       | CINV refractory to conventional antiemetics                                                            | FDA-approved (1985)                                                                                       |
| Sativex          | Nabiximols (THC:CBD ~1:1 oromucosal spray)                              | Moderate to severe MS spasticity not responding to other antispasticity drugs                          | Approved in Canada and much of Europe; <b>not</b> FDA-approved                                            |
| Exilby (VER-01)  | Standardized full-spectrum cannabis extract, oral (2.5 mg THC per unit) | Chronic low back pain with a neuropathic component                                                     | Approved in Germany and Austria (2026); FDA Breakthrough Therapy designation (May 2026), not FDA-approved |

Sources: [CJASN approved-products table](#); [Epidiolex coverage policy citing label](#).

## Regulatory status

- **Federal.** Effective April 22, 2026, a DOJ/DEA final order placed FDA-approved marijuana-containing products and state-licensed medical marijuana into Schedule III. Adult-use marijuana remains Schedule I pending a separate rescheduling hearing that began June 29, 2026. ([Morgan Lewis, Sept 2026](#); [Foley](#))

- **New York.** Practitioners may certify patients for any condition they judge clinically appropriate. Any practitioner licensed to prescribe controlled substances may certify after completing at least a 2-hour OCM-approved course. Practitioners do not prescribe cannabis; they certify. Telehealth evaluations are permitted. ([OCM practitioner bundle](#); [OCM patients page](#))

## Pharmacology

### The endocannabinoid system

- **Receptors.** CB1 is dense in the basal ganglia, hippocampus, cerebellum, and cortex, and sparse in brainstem respiratory centers. That distribution explains both the psychoactive effects and the absence of opioid-type respiratory depression. CB2 is expressed mainly on immune cells and microglia.
- **Ligands.** Anandamide (AEA) and 2-arachidonoylglycerol (2-AG) are synthesized on demand and act largely as retrograde messengers that dampen presynaptic neurotransmitter release.
- **Degradation.** FAAH (mainly AEA) and MAGL (mainly 2-AG).
- **"Clinical endocannabinoid deficiency"** remains a hypothesis. It has not been validated as a diagnosis or a treatment target in controlled studies.

### Major phytocannabinoids

| Compound        | Primary mechanism                                                                                               | Clinical relevance                                                                                                                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| $\Delta^9$ -THC | Partial agonist at CB1 and CB2                                                                                  | Analgesia, antiemesis, appetite, spasticity. Dose-dependent psychoactivity, tachycardia, impairment.                                           |
| CBD             | Low CB1/CB2 affinity; acts at 5-HT1A, TRPV1, GPR55, and other targets; inhibits FAAH and several CYP450 enzymes | Antiseizure at 10 to 20 mg/kg/day (Epidiolex trials). Doses in most dispensary products are far lower. Clinically important drug interactions. |

| Compound                        | Primary mechanism                                     | Clinical relevance                                                                                                                  |
|---------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| CBG, CBN, CBC, THCV, CBDV, THCA | Various, mostly characterized in vitro and in animals | Human clinical evidence is minimal. Claims such as "CBN is a strong sedative" or "THCA slows cancer" rest on preclinical data only. |

## Terpenes and the "entourage effect"

The entourage effect is the idea that terpenes and minor cannabinoids modify THC and CBD effects. It is plausible but largely untested in human trials. Product labels also mislead: a [2022 PLOS One analysis of about 90,000 samples](#) and a [2021 Nature Plants study](#) found that "indica" and "sativa" labels do not reliably predict chemical composition.

**Practical implication:** select products by labeled THC and CBD content in milligrams, not by strain name or indica/sativa category.

## Pharmacokinetics by route

| Route                          | Onset         | Peak effect            | Duration         | Notes                                                                                                               |
|--------------------------------|---------------|------------------------|------------------|---------------------------------------------------------------------------------------------------------------------|
| Inhaled (vaporized flower)     | Minutes       | ~15 to 30 min          | 2 to 4 h         | Variable bioavailability; easiest to titrate; suited to breakthrough symptoms.                                      |
| Oral (capsule, oil, edible)    | 30 min to 2 h | 1 to 3 h, may be later | 6 to 8 h or more | Low, variable bioavailability; first-pass metabolism to 11-OH-THC; most ED visits for intoxication involve edibles. |
| Oromucosal (spray, sublingual) | 15 to 45 min  | Variable               | 4 to 6 h         | Partly swallowed; nabiximols is the studied example.                                                                |
| Topical                        | Local         | Local                  | Variable         | Minimal systemic absorption; little controlled evidence.                                                            |

Approximate values. Sources: [Bhaskar et al. 2021](#) and the pharmacokinetic literature it cites (Huestis 2007; Grotenhermen 2003; Schlienz 2020).

## Evidence by indication

Evidence is graded by indication, outcome, and product type, because results differ sharply on all three. The strongest support is for refractory CINV, MS spasticity, CBD in three epilepsy syndromes, and, as of 2025–2026, a standardized THC extract in chronic low back pain and dronabinol for PTSD nightmares. Oral CBD alone has consistently failed in pain trials.

| Indication / outcome        | Product studied                        | Grade    | Key evidence                                                                                                                                         | Clinical note                                                   |
|-----------------------------|----------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|
| CINV, refractory            | Dronabinol, nabilone; oral THC:CBD 1:1 | Strong   | FDA-approved. <a href="#">ASCO 2024</a> : may help when added to guideline antiemetics. <a href="#">Grimison 2020</a> : complete response 14% → 25%. | Add-on. Not compared with olanzapine.                           |
| MS spasticity               | Nabiximols (oromucosal)                | Strong   | <a href="#">Kleiner 2023 meta-analysis</a> : responder OR 2.41 (95% CI 1.39–4.18) in refractory spasticity.                                          | Patient-reported > Ashworth. 4-week trial, continue responders. |
| MS central neuropathic pain | Oral cannabinoids                      | Moderate | <a href="#">Utah CRRB 2023</a> .                                                                                                                     |                                                                 |
| MS bladder, sleep, gait     | Nabiximols                             | Limited  | <a href="#">Kleiner 2026 exploratory meta-analysis</a> : signals of benefit; low to very low certainty.                                              |                                                                 |

| Indication / outcome                | Product studied                                | Grade                   | Key evidence                                                                                                                                                                                                                                                 | Clinical note                                                                                           |
|-------------------------------------|------------------------------------------------|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|
| Epilepsy: LGS, Dravet, TSC          | Purified CBD (Epidiolex) 10–20 mg/kg/day       | Strong                  | <a href="#">GWPCARE4</a> : LGS drop seizures –43.9% vs –21.8%. Dravet convulsive seizures –39% vs –13% ( <a href="#">summary</a> ).                                                                                                                          | LFTs; clobazam and valproate interactions. Not established for other epilepsies or dispensary products. |
| Chronic non-cancer pain, by product | THC-only; comparable THC:CBD; low THC:CBD; CBD | Moderate (small effect) | <a href="#">Chou et al., Ann Intern Med 2026</a> (RCTs to July 2025): THC-only –0.78, comparable-ratio oromucosal –0.54 points (0–10). Nabilone –1.59; dronabinol –0.23 (no effect). Low THC:CBD may not improve outcomes. CBD alone may not increase harms. | Product matters: THC-containing products drive both benefit and AEs.                                    |

| Indication / outcome     | Product studied                                                   | Grade    | Key evidence                                                                                                                                                                                                                                         | Clinical note                                                                                                                                                                              |
|--------------------------|-------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chronic low back pain    | VER-01, standardized full-spectrum oral extract (2.5 mg THC/unit) | Moderate | <a href="#">Karst et al., Nat Med 2025</a> : n = 820, 12 weeks. NRS MD -0.6 (95% CI -0.9 to -0.3); ≥30% relief 54.1% vs 39.5% (NNT 6.8); neuropathic subgroup MD -1.5. AE discontinuation 17.3% vs 3.5%. No dependence or withdrawal on abrupt stop. | Approved Germany and Austria 2026; FDA Breakthrough designation May 2026; US phase 3 under way ( <a href="#">report</a> ). Sponsor-funded. Results do not transfer to dispensary products. |
| Chronic neuropathic pain | Mixed THC, THC:CBD, CBD                                           | Moderate | <a href="#">Cochrane 2018</a> : ≥50% relief 21% vs 17%. <a href="#">Cochrane 2026</a> (21 RCTs, n = 2,187): no clear ≥50% effect for any ratio.                                                                                                      | Minority of strong responders.                                                                                                                                                             |
| HIV sensory neuropathy   | Smoked cannabis 3.56% THC                                         | Moderate | <a href="#">Abrams 2007</a> : pain -34% vs -17%; ≥30% relief 52% vs 24%.                                                                                                                                                                             | Small, 5-day inpatient.                                                                                                                                                                    |

| Indication / outcome          | Product studied               | Grade           | Key evidence                                                                                                                                                                                                                                                                                               | Clinical note                                                                                                                                                            |
|-------------------------------|-------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Localized pain: topical CBD   | CBD cream/oil                 | Limited         | <a href="#">Heineman 2022, J Hand Surg</a> : thumb CMC OA, n = 18 crossover, VAS 5 → 2 vs 5 → 5. <a href="#">Xu 2020</a> : lower-extremity neuropathy, n = 29, improved. <a href="#">AAHS 2026 abstract</a> : CBD vs diclofenac gel crossover, n = 17, preliminary: comparable or greater QuickDASH gains. | Minimal systemic exposure. Small, short, single-center.                                                                                                                  |
| Osteoarthritis pain: oral CBD | CBD 600 mg/day; CBD-rich oils | Not established | <a href="#">Pramhas 2023, Lancet Reg Health Eur</a> : knee OA, n = 86, 8 weeks; WOMAC pain -2.5 vs -2.4 (p = 0.80). <a href="#">CANOA 2025</a> : negative. Hand OA/PsA trial (Vela 2022): negative.                                                                                                        | Liver enzyme rise at 600 mg/day ( <a href="#">review</a> ). A positive 2024 topical "hemp seed oil" trial used a product with negligible cannabinoids; not CBD evidence. |
| Rheumatoid arthritis          | Nabiximols; others            | Limited         | <a href="#">Fitzcharles 2016</a> : 4 short RCTs, n = 203 across RA, FM, OA.                                                                                                                                                                                                                                | No evidence of disease modification.                                                                                                                                     |

| Indication / outcome                         | Product studied              | Grade           | Key evidence                                                                                                                                                     | Clinical note               |
|----------------------------------------------|------------------------------|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Cancer pain, opioid-refractory               | Nabiximols, THC              | Not established | <a href="#">Cochrane 2023 (Häuser)</a> : SMD -0.19 (-0.40 to 0.02); no effect on opioid maintenance or breakthrough doses.                                       |                             |
| Cancer-directed therapy                      | Any                          | Not established | <a href="#">ASCO 2024</a> : recommend against outside trials.                                                                                                    |                             |
| Anorexia/weight loss in AIDS                 | Dronabinol                   | Moderate        | FDA-approved indication.                                                                                                                                         |                             |
| Cancer cachexia                              | THC, cannabis                | Not established | ASCO 2024: uncertain.                                                                                                                                            |                             |
| Cannabis vs opioids, CLBP                    | VER-01 vs commercial opioids | Limited         | Meissner et al., Pain Ther 2025 ( <a href="#">summary</a> ): open-label RCT, n = 384, 27 weeks. Primary: constipation, 4× less with VER-01. Pain -2.50 vs -2.16. | Open-label; single product. |
| Cannabis vs opioids, chronic non-cancer pain | Various                      | Limited         | <a href="#">BMJ Open 2024 network meta-analysis</a> , 90 RCTs, >22,000 patients: similar small benefits; fewer AE discontinuations with cannabis.                | Mostly ≤6-month trials.     |

| Indication / outcome                     | Product studied              | Grade   | Key evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Clinical note                                                 |
|------------------------------------------|------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| Opioid dose reduction                    | Various                      | Limited | <a href="#">Nielsen 2022</a> : RCTs show no sparing; observational 85% reduce, 39% stop. <a href="#">Noori 2021</a> : RCTs held opioid doses fixed. New York PMP cohorts: <a href="#">Nguyen 2023</a> (n = 8,165 on long-term opioids): >30 days of cannabis associated with 47–51% daily MME reduction vs 4–14%; <a href="#">Slawek 2026</a> (n = 204, prospective, Bronx, 18 months): each 30-day cannabis supply associated with –3.53 MME/day (95% CI –6.68 to –0.04). Both observational; no taper protocol. | Taper trial with structured support registered, not reported. |
| Opioid use disorder: cue-induced craving | Oral CBD 400–800 mg × 3 days | Limited | <a href="#">Hurd 2019, Am J Psychiatry</a> : n = 42; reduced in-session craving and anxiety; at-home craving unchanged.                                                                                                                                                                                                                                                                                                                                                                                           | Adjunct concept only; not a MOUD substitute.                  |

| Indication / outcome  | Product studied                 | Grade            | Key evidence                                                                                                                                                                                                                                       | Clinical note                                       |
|-----------------------|---------------------------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| PTSD nightmares       | Dronabinol 2.5–15 mg at bedtime | Moderate         | <a href="#">Roepke et al., Nat Med 2026</a> : n = 171, 10 weeks; CAPS-IV B2 difference –1.50 (95% CI –2.28 to –0.71), d = 0.65. SAEs 8.0% vs 0%. No effect on overall PTSD or depression. <a href="#">Jetly 2015</a> : nabilone, n = 10, positive. | Industry grant (Bionorica). Long-term data lacking. |
| PTSD global symptoms  | Smoked cannabis; CBD            | Not established  | VA/DoD 2023 strong against ( <a href="#">commentary</a> ); <a href="#">VA NCPTSD 2024</a> .                                                                                                                                                        | Screen for CUD.                                     |
| Insomnia (primary)    | THC, CBD, combinations          | Limited          | <a href="#">Cochrane 2026</a> : 9 RCTs, n = 537, little to no effect, very low certainty. <a href="#">Sleep Med 2026</a> : 10 RCTs, benefit.                                                                                                       | CBT-I first.                                        |
| Sleep in chronic pain | THC-containing analgesics       | Moderate (small) | VER-01: sleep NRS MD –0.7 (–1.0 to –0.3). <a href="#">2025 meta-analysis</a> : small gain at or above MID.                                                                                                                                         |                                                     |
| ALS/MND spasticity    | Nabiximols                      | Limited          | <a href="#">CANALS 2019</a> : n = 59, 6 weeks, positive.                                                                                                                                                                                           |                                                     |

| Indication / outcome          | Product studied                    | Grade                     | Key evidence                                                                                                             | Clinical note    |
|-------------------------------|------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------|
| Alzheimer's agitation         | Nabilone; dronabinol               | Limited                   | <a href="#">Nabilone RCT 2019</a> , n = 39.<br><a href="#">Dronabinol RCT</a> , n = 75, ~30% reduction (presented 2024). | Falls, sedation. |
| Migraine, acute               | Vaporized 6% THC/11% CBD           | Limited                   | <a href="#">Schuster 2025</a> : 247 attacks; superior at 2 h; CBD alone not.                                             | Single center.   |
| Tourette tics                 | Oral THC:CBD 1:1                   | Limited                   | <a href="#">Mosley 2023</a> , <a href="#">NEJM Evid</a> : n = 22.                                                        |                  |
| Anxiety disorders             | CBD                                | Limited                   | <a href="#">Wang 2024</a> : g -0.92 (-1.80 to -0.04), 8 small studies.                                                   | THC anxiogenic.  |
| Crohn's: symptoms / remission | Inhaled THC-rich cannabis; CBD oil | Limited / Not established | <a href="#">Cochrane</a> : 3 RCTs, n = 93; symptom response without remission or marker change.                          |                  |
| Ulcerative colitis            | CBD-rich extract                   | Not established           | <a href="#">Cochrane</a> : remission 24% vs 26%.                                                                         |                  |
| Fibromyalgia                  | Nabilone                           | Limited                   | <a href="#">Cochrane 2016</a> : 2 RCTs, n = 72.                                                                          |                  |
| IBS                           | —                                  | Not established           | No adequately powered RCTs identified.                                                                                   | Consider CHS.    |

| Indication / outcome | Product studied | Grade           | Key evidence                                                                                        | Clinical note |
|----------------------|-----------------|-----------------|-----------------------------------------------------------------------------------------------------|---------------|
| Parkinson's disease  | CBD, THC        | Not established | <a href="#">AAN 2026 meta-analysis</a> : 10 RCTs, n = 719, no benefit; placebo favored for anxiety. |               |
| Glaucoma             | THC             | Not established | <a href="#">AAO</a> : not recommended.                                                              |               |

### Additional conditions (added October 2026)

| Condition                   | Intervention                                   | Key data                                                                                                                                                                                                                                                                         | Grade           |
|-----------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Autism: disruptive behavior | 20:1 CBD:THC whole-plant extract; purified CBD | <a href="#">Aran 2021</a> (n = 150, crossover): CGI-I improved, HSQ-ASD not. <a href="#">Trauner 2025</a> : purified CBD up to 20 mg/kg/day, no benefit on primary outcomes. <a href="#">Meta-analysis 2025</a> : social responsiveness SMD -0.75, disruptive behavior SMD -0.36 | Limited         |
| Depression                  | Any cannabinoid                                | No RCTs (2026 Lancet Psychiatry review, 54 RCTs, 2,477 participants, 1980–May 2025). Observational data link heavier use with more depression                                                                                                                                    | Not established |

| Condition                      | Intervention           | Key data                                                                                                                                                                                                                                                        | Grade                  |
|--------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Endometriosis pain             | Inhaled THC; oral CBD  | No completed RCT: Australian 3-arm feasibility trial and Penn State CBD pilot ( <a href="#">NCT04527003</a> ) terminated for poor recruitment; <a href="#">ENDOCAN-1</a> (UK, CBD) started 2025. <a href="#">Scoping review 2025</a> : observational only       | Not established        |
| Huntington's: chorea, behavior | Nabilone; nabiximols   | Nabilone 1–2 mg crossover (Curtis 2009, n = 44): improved UHDRS motor and chorea. Nabiximols up to 12 sprays/day (López-Sendón Moreno 2016, n = 24): safe, no symptomatic benefit. Dystonia case series ( <a href="#">Saft 2018</a> , n = 7): UHDRS motor –10.3 | Limited                |
| Palliative care                | THC, cannabis extracts | <a href="#">Mücke 2018</a> : HIV weight SMD 0.57 and appetite SMD 0.57; no convincing benefit for cancer anorexia-cachexia; megestrol superior (n = 469). <a href="#">MASCC 2022</a> : insufficient evidence for nausea of advanced cancer or cachexia          | Limited (CINV: Strong) |

| Condition                      | Intervention                     | Key data                                                                                                                                                                                                                                    | Grade           |
|--------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Spinal cord injury: spasticity | Dronabinol; nabilone; nabiximols | Dronabinol (Hagenbach 2007) and nabilone crossover (Pooyania 2010, n = 12, Ashworth improved) positive but small; nabiximols mixed ( <a href="#">SCIRE</a> ; <a href="#">Utah review</a> )                                                  | Limited         |
| Cannabis use disorder          | Nabiximols plus counseling       | Lintzeris 2019, JAMA Intern Med (n = 128, 12 weeks, mean ~18 sprays/day): 35 vs 53 days of illicit use; withdrawal and craving not different ( <a href="#">summary</a> ). 2026 Lancet Psychiatry review: THC/CBD reduced withdrawal and use | Limited         |
| Opioid use disorder            | Cannabis; CBD                    | 2026 Lancet Psychiatry review: no benefit. NYSDOH AI guideline: insufficient evidence; any role would augment, not replace, buprenorphine or methadone                                                                                      | Not established |

| Condition                             | Intervention                   | Key data                                                                                                                                                                                                                                                                                                                       | Grade                                  |
|---------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Muscular dystrophy: myotonia, myalgia | Oral THC/CBD oil               | Compassionate-use series (Montagnese 2020, n = 6; DM1, DM2, CLCN1 myotonia): Myotonia Behaviour Scale improved $\geq 2$ points in all, hand-opening time in 5 of 6; new constipation in 4. Duchenne: mdx mouse data only (Iannotti 2019). Cardiac conduction disease in DM1 and cardiomyopathy in DMD warrant caution with THC | Limited                                |
| PTSD: veterans, observational         | Self-selected medical cannabis | Bonn-Miller 2021 smoked-cannabis RCT (n = 80, 3 weeks): all arms improved, none beat placebo. Bonn-Miller 2022 prospective observational (n = 150, 1 year): larger PCL-5 reductions in cannabis users. VA/DoD 2023 guideline recommends against; VA clinicians cannot certify (October 2026)                                   | Not established (nightmares: Moderate) |

**Mental health update.** The 2026 Lancet Psychiatry review (54 RCTs) found no significant benefit for anxiety disorders, PTSD, psychotic disorders, depression, or opioid use disorder, and low-certainty support for cannabis use disorder, insomnia, Tourette syndrome, and autism. The Anxiety entry was downgraded to Not established for anxiety disorders accordingly.

## Opioid tapering alongside medical cannabis

No published trial has tested a specific taper protocol paired with medical cannabis. In both New York cohorts, opioid changes were made by patients' own prescribers, with cannabis dispensed monthly through pharmacist-directed dispensaries.

The best-specified model is the Massachusetts General Hospital pragmatic RCT (NCT04827992; results not yet published). Adults 18–75 on stable opioid doses of 25 MME/day or more for over 90 days are randomized to cannabis plus Prescription Opioid Taper Support (POTS) or waitlist plus POTS:

- **POTS:** a manualized behavioral program (Sullivan and Turner) delivered weekly by a trained clinician, covering pain self-management and the pros and cons of tapering.
- **Taper rate:** at monthly visits in weeks 4 to 20, a voluntary reduction of about 10% of the baseline dose, with the patient free to decline or choose a smaller step.
- **Prescriber control:** every dose change is approved by the patient's opioid prescriber.
- **Safety:** naloxone recommended for all participants; withdrawal tracked with the Clinical and Short Opiate Withdrawal Scales; opioid misuse, CUD, and suicidality screened at each visit.
- **Outcomes:** daily PEG scores and PMP-verified median daily MME, the same co-primary measures used in the NYSOM registry protocol.

**Practical approach until trial results are available:** agree on a written plan with the opioid prescriber; reduce by about 10% of the starting dose per month or slower; hold or reverse a step if pain, function, or withdrawal worsens; co-prescribe naloxone; and recheck interactions and sedation at each step.

## Product selection by indication

The recommendations follow the product, ratio, route, and dose range used in the positive trials. Minor cannabinoid and terpene choices are labeled as expert opinion unless a human trial supports them. Dispensary products are not equivalent to the trial products; match the ratio and route, then titrate (see Clinical practice).

| Indication           | Ratio / product (trial basis) | Route              | Dose range in trials                                                                                                         | Minor cannabinoids, terpenes |
|----------------------|-------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| CINV                 | THC; or<br>THC:CBD 1:1        | Oral               | THC 2.5 mg/CBD 2.5 mg capsules, 1–4 three times daily, day –1 to day 5 (Grimison)                                            | —                            |
| AIDS anorexia        | THC                           | Oral, before meals | Dronabinol per label                                                                                                         | —                            |
| MS spasticity        | THC:CBD ~1:1                  | Oromucosal         | Nabiximols self-titrated sprays (2.7 mg THC/2.5 mg CBD per spray)                                                            | —                            |
| ALS spasticity       | THC:CBD ~1:1                  | Oromucosal         | Nabiximols (CANALS)                                                                                                          | —                            |
| Rheumatoid arthritis | THC:CBD ~1:1                  | Oromucosal         | Nabiximols, 5 weeks (Blake): pain on movement –0.95, at rest –1.04, sleep +1.17, DAS28 –0.76 ( <a href="#">2026 review</a> ) | —                            |

| Indication                       | Ratio / product (trial basis)               | Route                          | Dose range in trials                                                                 | Minor cannabinoids, terpenes          |
|----------------------------------|---------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------|---------------------------------------|
| Chronic neuropathic / mixed pain | THC-containing (comparable or high THC:CBD) | Oral; inhaled for breakthrough | Bhaskar protocols; typical effective THC ~10 mg/day                                  | Low THC:CBD not supported (Chou 2026) |
| Chronic low back pain            | THC-dominant full-spectrum extract          | Oral                           | VER-01 2.5 mg THC/unit, titrated to max 13 units/day                                 | Product contains trace CBG and CBD    |
| HIV neuropathy                   | THC flower                                  | Smoked/vaporized               | 3.56% THC, three times daily (Abrams)                                                | —                                     |
| Osteoarthritis, localized        | CBD                                         | Topical                        | 6.2 mg/mL cream twice daily (Heineman); 8 mg/mL lotion three times daily (AAHS 2026) | Oral CBD not supported                |
| Peripheral neuropathy, feet      | CBD                                         | Topical                        | 250 mg CBD per 3 fl oz oil (Xu)                                                      | —                                     |
| Migraine, acute                  | THC + CBD (6% / 11%)                        | Vaporized flower at onset      | Single treatment (Schuster)                                                          | CBD alone ineffective                 |

| Indication            | Ratio / product (trial basis) | Route         | Dose range in trials                                                                                          | Minor cannabinoids, terpenes                                                             |
|-----------------------|-------------------------------|---------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Tourette              | THC:CBD 1:1                   | Oral oil      | Titrated to 20 mg THC/20 mg CBD daily over 6 weeks (Mosley)                                                   | —                                                                                        |
| PTSD nightmares       | THC                           | Oral, bedtime | Dronabinol 2.5–15 mg (Roepke); nabilone 0.5–3 mg (Jetly)                                                      | —                                                                                        |
| Alzheimer's agitation | THC                           | Oral          | Nabilone 1–2 mg (Herrmann); dronabinol 5 mg (Hopkins trial, per report)                                       | —                                                                                        |
| Anxiety               | CBD-dominant                  | Oral          | CBD 25–600 mg/day in social anxiety studies (Skelley 2020 review, cited by Bhaskar); chronic dosing undefined | Limonene reduced THC-induced anxiety, vaporized, n = 20 ( <a href="#">Spindle 2024</a> ) |

| Indication                  | Ratio / product (trial basis) | Route         | Dose range in trials                                                                          | Minor cannabinoids, terpenes                                                                                                                                      |
|-----------------------------|-------------------------------|---------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sleep maintenance           | CBN                           | Oral, bedtime | CBN 20 mg × 7 nights reduced awakenings; CBD add-on did not help ( <a href="#">2024 RCT</a> ) | Myrcene, linalool: no human data. A larger industry-sponsored, remote, self-reported CBN trial (FloraWorks/Radicle, 2023) reported benefit; treat as low quality. |
| ODC craving                 | CBD                           | Oral          | 400–800 mg daily × 3 days (Hurd)                                                              | Research setting only                                                                                                                                             |
| Epilepsy (LGS, Dravet, TSC) | Purified CBD                  | Oral          | Epidiolex 10–20 mg/kg/day                                                                     | Avoid substituting dispensary CBD                                                                                                                                 |

**Terpenes overall:** a 2024 systematic review found terpene "entourage" effects unproven in humans ([André et al., Pharmaceuticals](#)). Use terpene profile as a secondary consideration only, and only for tolerability.

## Pharmacogenomics and EndoDNA

Genetic variation explains part of the wide inter-individual response to cannabinoids. A few associations are well replicated; most are not yet clinically actionable.

| Gene / variant | Finding                                                                                                                                                                                                | Strength               |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| CYP2C9*3       | After oral THC, *3/*3 homozygotes had threefold higher THC AUC and 70% lower THC-COOH than *1/*1, with a trend toward more sedation; *2 had no effect (n = 43) ( <a href="#">Sachse-Seeboth 2009</a> ) | Pharmacokinetic, small |

| Gene / variant            | Finding                                                                                                                                                                                                                                                        | Strength               |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| AKT1 rs2494732            | C/C carriers who used cannabis had about twice the odds of psychotic disorder, rising to about seven times with daily use (489 cases, 278 controls) ( <a href="#">Di Forti 2012</a> ). The journal's editor noted it does not yet work as a clinical risk test | Replicated association |
| COMT, FAAH, CNR1 variants | Associations with psychotomimetic response, pain sensitivity, and mood reported; a larger study found AKT1, COMT, and FAAH did not modulate acute cannabis experiences ( <a href="#">Hindocha</a> )                                                            | Inconsistent           |

**EndoDNA.** NYSOM works with EndoDNA (Endocanna Health) and integrates its results into the patient matching platform.

- **Test:** buccal swab or upload of existing raw genotype data; analyzed in a CLIA-certified, CAP-accredited lab for about 672,000 SNPs associated with the endocannabinoid system and cannabinoid metabolism ([GenomeWeb](#)).
- **Report:** about 57 trait reports in 12 categories ([Nebula review](#)), covering cannabinoid metabolism, predisposition to adverse effects, and traits such as mood, sleep, pain, and inflammation, plus a medication management report flagging drugs that may interact with THC or CBD. Each reported association is tied to peer-reviewed literature.
- **Physician access:** ordering physicians view results through a physician portal.
- **Patents:** US 11,612,582 (server-based genotype analysis and cannabinoid formulation recommendations) and US 12,288,603 (machine-learning efficacy prediction that groups patients by outcome, genetic, and biometric data).
- **How NYSOM uses it:** genetic results are one input to the matching platform alongside history, medications, and observed response. They never override the safety rules or pharmacist review. Consented outcomes feed the shared EndoDNA registry for IRB-approved analysis.
- **Evidence status:** individual associations come from published studies, but no prospective trial has yet shown that genotype-guided product selection improves efficacy or safety. Treat results as hypothesis-generating support for clinical judgment.
- **Consent:** New York Civil Rights Law §79-l requires dated, signed written informed consent before testing.

NYSOM has a business partnership with EndoDNA.

## Cannabinoid and terpene reference by condition

This table lists each compound, the conditions where it has been studied, the strongest type of evidence, and the source. Evidence type matters more than the finding: a positive animal study is not evidence of benefit in patients, and several compounds with strong lab data have failed in human trials.

**Evidence types:** **RCT-P** = randomized trial in patients · **RCT-H** = randomized experimental study in healthy volunteers · **Pre** = animal or lab only · **Neg** = negative or null human trial.

### Major cannabinoids

| Compound                         | Condition / outcome              | Evidence            | Finding                                                        | Source                                                       |
|----------------------------------|----------------------------------|---------------------|----------------------------------------------------------------|--------------------------------------------------------------|
| THC (incl. dronabinol, nabilone) | Chemotherapy nausea              | RCT-P; FDA-approved | Effective as add-on for refractory CINV                        | <a href="#">ASCO 2024</a>                                    |
| THC                              | AIDS anorexia                    | RCT-P; FDA-approved | Dronabinol approved indication                                 | <a href="#">CJASN table</a>                                  |
| THC                              | Chronic, mainly neuropathic pain | RCT-P               | THC-only -0.78 points; nabilone -1.59, dronabinol -0.23 (0-10) | <a href="#">Chou 2026</a>                                    |
| THC-dominant extract             | Chronic low back pain            | RCT-P               | NRS -0.6 vs placebo; ≥30% relief 54% vs 40%                    | <a href="#">Karst 2025</a>                                   |
| THC                              | PTSD nightmares                  | RCT-P               | Dronabinol d = 0.65, n = 171; nabilone positive, n = 10        | <a href="#">Roepke 2026</a> ; <a href="#">Jetly 2015</a>     |
| THC                              | Alzheimer's agitation            | RCT-P               | Nabilone and dronabinol reduced agitation                      | <a href="#">Herrmann 2019</a> ; <a href="#">Hopkins 2024</a> |

| Compound                    | Condition / outcome                      | Evidence            | Finding                                               | Source                                                   |
|-----------------------------|------------------------------------------|---------------------|-------------------------------------------------------|----------------------------------------------------------|
| THC                         | Glaucoma                                 | Physiologic only    | IOP falls 3–4 h only; not recommended                 | <a href="#">AAO</a>                                      |
| THC:CBD ~1:1                | MS spasticity                            | RCT-P               | Responder OR 2.41                                     | <a href="#">Kleiner 2023</a>                             |
| THC:CBD ~1:1                | ALS/MND spasticity                       | RCT-P               | Improved, n = 59                                      | <a href="#">CANALS 2019</a>                              |
| THC:CBD ~1:1                | Rheumatoid arthritis                     | RCT-P               | Pain -0.95 to -1.04, sleep +1.17, DAS28 -0.76; n = 58 | <a href="#">2026 scoping review</a>                      |
| THC:CBD 1:1                 | Tourette tics                            | RCT-P               | Reduced tic scores, n = 22                            | <a href="#">Mosley 2023</a>                              |
| THC + CBD (6% / 11% flower) | Acute migraine                           | RCT-P               | Superior to placebo at 2 h; CBD-only flower was not   | <a href="#">Schuster 2025</a>                            |
| CBD (purified)              | LGS, Dravet, TSC seizures                | RCT-P; FDA-approved | LGS drop seizures -44% vs -22%                        | <a href="#">GWPCARE4 summary</a>                         |
| CBD                         | Anxiety disorders                        | RCT-P (small)       | Hedges g -0.92 across 8 studies                       | <a href="#">Wang 2024</a>                                |
| CBD                         | Opioid use disorder: cue-induced craving | RCT-P               | Reduced craving and anxiety, n = 42                   | <a href="#">Hurd 2019</a>                                |
| CBD (topical)               | Thumb OA; foot neuropathy                | RCT-P (small)       | Pain reduced; n = 18 and n = 29                       | <a href="#">Heineman 2022</a> ; <a href="#">Xu 2020</a>  |
| CBD (oral)                  | Knee and hand OA pain                    | Neg                 | 600 mg/day no better than placebo, n = 86             | <a href="#">Pramhas 2023</a>                             |
| CBD                         | Ulcerative colitis remission             | Neg                 | 24% vs 26%                                            | <a href="#">Cochrane</a>                                 |
| CBD                         | Parkinson's: induced anxiety and tremor  | RCT-P (single dose) | Reduced, n = 24; overall PD meta-analysis negative    | <a href="#">de Faria 2020</a> ; <a href="#">AAN 2026</a> |

| Compound | Condition / outcome              | Evidence | Finding                                             | Source                      |
|----------|----------------------------------|----------|-----------------------------------------------------|-----------------------------|
| CBD      | Type 2 diabetes glycemic control | Neg      | No effect vs placebo (100 mg twice daily, 13 weeks) | <a href="#">Jadoon 2016</a> |

## Minor cannabinoids

| Compound | Condition / outcome          | Evidence                                       | Finding                                                                                                                        | Source                                     |
|----------|------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| CBN      | Sleep maintenance            | RCT-P (small)                                  | 20 mg nightly × 7 nights reduced awakenings and overall disturbance; no effect on sleep onset or WASO; adding CBD did not help | <a href="#">2024 RCT</a>                   |
| CBN      | Sleep                        | Pre + single-dose human trial                  | Increased NREM and REM sleep in rats; single-dose human insomnia trial reported as promising, presented but not yet published  | <a href="#">University of Sydney, 2024</a> |
| CBN      | Sleep                        | Industry-sponsored remote trial, self-reported | 25–100 mg reported to improve sleep; 50 mg best. Low quality                                                                   | <a href="#">FloraWorks release, 2023</a>   |
| CBN      | Pain, inflammation, appetite | —                                              | No human trials identified                                                                                                     | —                                          |

| Compound   | Condition / outcome                  | Evidence         | Finding                                                                                                           | Source                                |
|------------|--------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| CBG        | Acute anxiety and stress             | RCT-H            | 20 mg reduced anxiety and stress vs placebo; improved verbal memory; no impairment; n = 34 healthy adults         | <a href="#">Cuttler 2024, Sci Rep</a> |
| CBG        | Inflammatory bowel disease, glaucoma | Pre              | Animal models only                                                                                                | —                                     |
| THCV       | Type 2 diabetes                      | RCT-P            | 5 mg twice daily × 13 weeks lowered fasting glucose 1.2 mmol/L vs placebo and improved beta-cell function; n = 62 | <a href="#">Jadoon 2016</a>           |
| THCV       | Appetite and weight                  | Mixed human data | Conflicting metabolic findings across small studies                                                               | <a href="#">Summary table</a>         |
| THCV       | Parkinson's, seizures                | Pre              | Animal models only                                                                                                | —                                     |
| CBDV       | Focal seizures                       | Neg              | Phase 2, n = 162: ~40% reduction in both CBDV and placebo arms                                                    | <a href="#">GW topline</a>            |
| CBDV       | Autism, Rett syndrome                | Early-phase only | No adequately powered efficacy trial                                                                              | <a href="#">Review of CBDV trials</a> |
| THCA, CBDA | Nausea, inflammation                 | Pre              | Animal models only; no human trials identified                                                                    | —                                     |

## Terpenes

| Terpene                  | Condition / outcome  | Evidence                           | Finding                                                                                                                                                                                       | Source                                             |
|--------------------------|----------------------|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| d-Limonene               | THC-induced anxiety  | RCT-H                              | Vaporized with 30 mg THC, reduced "anxious" and "paranoid" ratings; other THC effects unchanged; n = 20                                                                                       | <a href="#">Spindle 2024</a>                       |
| Linalool                 | Anxiety              | RCT-P (lavender oil, not cannabis) | Silexan lavender oil (~37% linalool), 80 mg/day × 10 weeks, beat placebo in 5 RCTs, n = 1,213. Linalool content of cannabis is far lower; benefit from cannabis-derived linalool is unproven. | <a href="#">Silexan meta-analysis; composition</a> |
| Beta-caryophyllene       | Pain, inflammation   | Pre                                | CB2 agonist; analgesic in animal models                                                                                                                                                       | <a href="#">Liktors-Busa 2021, Pharmacol Rev</a>   |
| Myrcene                  | Relaxation, sedation | Pre                                | Exploratory data only; topical myrcene added nothing to CBD                                                                                                                                   | <a href="#">André 2024</a>                         |
| Pinene, humulene, others | Various              | Pre                                | No human trials identified                                                                                                                                                                    | <a href="#">Alfieri 2025 review</a>                |

| Terpene      | Condition / outcome                     | Evidence        | Finding            | Source                     |
|--------------|-----------------------------------------|-----------------|--------------------|----------------------------|
| All terpenes | "Entourage" enhancement of cannabinoids | Not established | Unproven in humans | <a href="#">André 2024</a> |

**Bottom line for product steering:** only THC, CBD, and their fixed ratios have patient trials across multiple conditions. Among minor compounds, CBN (sleep maintenance), CBG (acute anxiety, healthy volunteers), THCV (glycemic control), and limonene (THC-induced anxiety) each have one small human trial. Treat these as reasonable add-on considerations, not primary therapy.

## Clinical practice

### Titration

The most widely cited framework is the [2021 international Delphi consensus \(Bhaskar et al.\)](#) for chronic pain. It is expert opinion, not trial-derived, and was funded by a cannabis producer. It focuses on oral oils and capsules.

| Protocol | For whom      | Start                               | Titrate                                                                                                           | Ceiling before specialist input |
|----------|---------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Routine  | Most patients | CBD-predominant<br>5 mg twice daily | +10 mg/day every 2 to 3 days to 40 mg/day CBD.<br>If goals not met, add THC 2.5 mg/day, +2.5 mg every 2 to 7 days | 40 mg/day THC                   |

| Protocol     | For whom                                                        | Start                                                     | Titrate                                                                         | Ceiling before specialist input |
|--------------|-----------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------|
| Conservative | Frail, polypharmacy, complex comorbidity, mental health history | CBD-predominant<br>5 mg once daily                        | +5 to 10 mg every 2 to 3 days to 40 mg/day CBD. Then THC 1 mg/day, +1 mg weekly | 40 mg/day THC                   |
| Rapid        | Severe pain, palliation, prior cannabis experience              | Balanced<br>THC:CBD 2.5 to 5 mg each, once or twice daily | +2.5 to 5 mg of each every 2 to 3 days                                          | 40 mg/day THC                   |

- The consensus notes that about 10 mg/day THC is a typical therapeutic dose for most patients.
- Start THC in the evening to limit workplace and driving impairment.
- For breakthrough symptoms, vaporized dried flower is preferred over smoking or vaping extracts (EVALI risk).
- Follow up every 2 to 4 weeks during titration, then every 3 months when stable.
- Stop for moderate or severe adverse effects, lack of benefit at the agreed ceiling, or misuse or diversion.

## Contraindications and cautions

- **Avoid:** psychotic disorders, unstable cardiovascular disease, pregnancy, planned pregnancy, breastfeeding (Bhaskar consensus).
- **Use caution:** age under 25, bipolar disorder, personal or family history of psychosis, substance use disorder, older adults with fall risk, hepatic impairment (CBD).

## Drug interactions

THC is metabolized mainly by CYP2C9 and CYP3A4; CBD by CYP3A4 and CYP2C19. CBD inhibits several CYP450 and UGT enzymes. A [2024 systematic review of real-world reports](#) found warfarin, valproate, tacrolimus, and sirolimus were the most frequently reported interacting drugs. Penn State hosts a free checker at [CANN-DIR](#).

| Drug                              | Interaction                                                    | Action                                        |
|-----------------------------------|----------------------------------------------------------------|-----------------------------------------------|
| Warfarin                          | Increased INR and bleeding                                     | Check INR at start and with dose changes      |
| Clobazam                          | CBD raises N-desmethyclobazam via CYP2C19 inhibition; sedation | Monitor sedation; consider clobazam reduction |
| Valproate                         | Transaminase elevation with CBD                                | Baseline and periodic LFTs                    |
| Tacrolimus, sirolimus             | Increased levels                                               | Therapeutic drug monitoring                   |
| Clopidogrel                       | Possible reduced activation (CYP2C19)                          | Consider alternatives in high-risk patients   |
| DOACs                             | CYP3A4 and P-gp effects                                        | Use caution                                   |
| CNS depressants, alcohol, opioids | Additive sedation                                              | Counsel; avoid alcohol                        |

## Adverse effects and risks

- **Common:** dizziness, somnolence, dry mouth, nausea, tachycardia, cognitive slowing. In the AHRQ review, these rose moderately to substantially with THC-containing products.
- **Cannabis use disorder:** A [2024 meta-analysis](#) estimated CUD prevalence among medical users at 25% (95% CI 18 to 33%), similar to recreational users. A [2025 JAMA Psychiatry analysis of NSDUH](#) found higher CUD prevalence with medical-only than nonmedical-only use, likely reflecting more frequent use. Screen at baseline and follow-up.
- **Cardiovascular:** In 434,104 BRFSS respondents, daily use carried adjusted odds ratios of 1.25 for MI and 1.42 for stroke, and 1.49 and 2.16 among never-tobacco users ([Jeffers 2024, JAHA](#)). A [2025 meta-analysis in Heart](#) found a positive association with MACE. Cross-sectional data cannot prove causation, but caution is warranted in CAD.
- **Psychosis:** In a Danish cohort of 6.9 million, CUD carried adjusted HRs for schizophrenia of 2.42 in men and 2.02 in women. Up to one-fifth of cases in young men might be attributable to CUD, assuming causality ([Hjorthøj 2023](#)). Avoid high-potency THC in patients under 25.
- **Cannabinoid hyperemesis syndrome:** cyclic vomiting with compulsive hot bathing in heavy, long-term users. Resolution requires cessation.

- **Withdrawal:** irritability, insomnia, vivid dreams, reduced appetite, typically within days of stopping heavy use.
- **Overdose:** no confirmed deaths from respiratory depression, because CB1 receptors are sparse in brainstem respiratory centers. Serious harms still occur: pediatric ingestions, edible over-intoxication, falls, motor vehicle crashes, and acute cardiovascular events.

## Special populations

- **Pregnancy and lactation:** avoid.
- **Adolescents and young adults:** CBD has no consensus age limit; THC has none, but under-25 brain development and psychosis risk argue for caution.
- **Older adults:** start with the conservative protocol. Watch for orthostasis, falls, and confusion. Relevant to assisted-living and long-term-care settings.
- **Driving:** advise no driving while impaired. Oral THC effects can persist 6 hours or more.

## Documentation checklist

- ☐ Indication and target symptom with a measurable goal
- ☐ Prior treatments tried
- ☐ Psychiatric, cardiovascular, and substance use screen
- ☐ Medication reconciliation for interactions
- ☐ Pregnancy status where relevant
- ☐ Product type, THC/CBD ratio, route, and titration plan
- ☐ Follow-up date and stopping criteria

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# Cannabinoids and Terpenes: Complete Reference

Cannabis contains about 125 identified cannabinoids in 11 chemical classes, more than 120 characterized terpenes, and over 200 aroma compounds in total. Fewer than a dozen of these compounds have been tested in people. Most product labels and certificates of analysis (COAs) report about 10 cannabinoids and 20 to 40 terpenes.

**Evidence levels used on this page:**

| Level                    | Meaning                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Proven                   | At least one controlled human trial showed a benefit                                                                                                     |
| Human data, non-cannabis | The compound has been tested in people, but from another source (such as lavender or eucalyptus oil), usually at doses far higher than cannabis provides |
| Lab or animal only       | Effects seen in cells or animals; not shown in people                                                                                                    |
| Failed in humans         | A controlled human trial found no benefit                                                                                                                |
| Not studied              | Identified chemically; no pharmacology reported                                                                                                          |

## Cannabinoids on product labels

These are the cannabinoids most often measured on New York COAs and product labels. The "A" at the end of a name means the raw acid form found in the living plant; heat (smoking, vaping, baking) converts it to the active neutral form.

| Cannabinoid                                    | Intoxicating?     | Proven in humans                                                                                                                                                                                                                                            | Hypothetical (lab or animal only)                           | Notes                                                             |
|------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------------|
| <b>THC</b> ( $\Delta^9$ -tetrahydrocannabinol) | Yes               | Chemotherapy nausea, appetite in AIDS, MS spasticity (with CBD), modest relief of chronic and nerve pain, PTSD nightmares (see Physician Reference)                                                                                                         | Many                                                        | Most benefits and most side effects track with THC dose           |
| <b>THCA</b> (THC acid)                         | No, unless heated | None                                                                                                                                                                                                                                                        | Anti-nausea in animals, anti-inflammatory, nerve protection | Becomes THC when heated                                           |
| <b>CBD</b> (cannabidiol)                       | No                | Seizures in Lennox-Gastaut, Dravet, and tuberous sclerosis (Epidiolex); small trials in anxiety; topical CBD for thumb arthritis and foot neuropathy.<br><b>Failed:</b> oral CBD for knee arthritis, ulcerative colitis, and blood sugar in type 2 diabetes | Many                                                        | Inhibits liver enzymes that clear other drugs; check interactions |
| <b>CBDA</b> (CBD acid)                         | No                | None                                                                                                                                                                                                                                                        | Anti-nausea in animals                                      | Becomes CBD when heated                                           |
| <b>CBG</b> (cannabigerol)                      | No                | Acute anxiety and stress: 20 mg reduced both in 34 healthy adults ( <a href="#">Cutler 2024</a> )                                                                                                                                                           | Inflammatory bowel disease, glaucoma, antibacterial         | The plant makes THC and CBD from it                               |
| <b>CBGA</b> (CBG acid)                         | No                | None                                                                                                                                                                                                                                                        | Anti-inflammatory                                           | Parent molecule of most cannabinoids                              |

| Cannabinoid                          | Intoxicating?                   | Proven in humans                                                                                      | Hypothetical (lab or animal only)                                                                           | Notes                                                                         |
|--------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>CBN</b> (cannabinol)              | Mildly                          | Sleep: 20 mg nightly reduced awakenings ( <a href="#">2024 RCT</a> )                                  | Pain, appetite, antibacterial                                                                               | Forms as THC ages; old flower is higher in CBN                                |
| <b>CBC</b> (cannabichromene)         | No                              | None                                                                                                  | Anti-inflammatory, pain relief, nerve protection; acts on TRP pain channels ( <a href="#">2026 review</a> ) | Can be the second or third most abundant cannabinoid in some landrace strains |
| <b>CBCA</b> (CBC acid)               | No                              | None                                                                                                  | None established                                                                                            | Becomes CBC when heated                                                       |
| <b>THCV</b> (tetrahydrocannabivarin) | Weak; acts differently from THC | Type 2 diabetes: lowered fasting blood sugar in 62 patients ( <a href="#">Jadoon 2016</a> )           | Appetite suppression (human data conflicting), Parkinson's, seizures                                        | First isolated in 1971                                                        |
| <b>THCVA</b> (THCV acid)             | No                              | None                                                                                                  | None established                                                                                            | Becomes THCV when heated                                                      |
| <b>CBDV</b> (cannabidivarin)         | No                              | <b>Failed:</b> no better than placebo for focal seizures in 162 adults ( <a href="#">GW topline</a> ) | Autism, Rett syndrome, nausea                                                                               | Early-phase studies only in autism                                            |
| <b>CBDVA</b> (CBDV acid)             | No                              | None                                                                                                  | None established                                                                                            | Becomes CBDV when heated                                                      |
| <b>Δ8-THC</b>                        | Yes, less potent than Δ9-THC    | Only four human studies since 1970                                                                    | —                                                                                                           | Occurs in trace amounts; most products are lab-converted from CBD (see below) |
| <b>CBL</b> (cannabicyclol)           | No                              | None                                                                                                  | None established                                                                                            | Forms when CBC is exposed to light                                            |
| <b>CBE</b> (cannabielsoin)           | No                              | None                                                                                                  | None established                                                                                            | Forms from CBD                                                                |

| Cannabinoid                              | Intoxicating? | Proven in humans | Hypothetical (lab or animal only) | Notes                                                       |
|------------------------------------------|---------------|------------------|-----------------------------------|-------------------------------------------------------------|
| <b>CBT</b> (cannabitol or cannabicitran) | No            | None             | None established                  | Labels use "CBT" for two different compounds; ask which one |

## Complete cannabinoid catalog: 125 compounds in 11 classes

A 2021 review by the University of Mississippi cannabis program counted 125 cannabinoids isolated from the plant ([Radwan et al., Molecules 2021; summary](#)). Outside the compounds in the table above, almost none has been tested for any medical effect; most were identified only as trace constituents of high-potency flower or hashish.

Names ending in -varin (C3), -orcol (C1), -hexol (C6), and -phorol (C7) are the same core molecule with a shorter or longer side chain. In lab tests, binding to the CB1 receptor rises as the chain lengthens, up to about eight carbons.

| Class              | Count | Members                                                                                                                                                                                                                                                                                                                                                                                                                                 | What is known                                                                                                                                        |
|--------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Δ9-THC type</b> | 25    | Δ9-THC; THCA-A and THCA-B; THC-C4 (THCB) and its acid; THCV and THCVA; tetrahydrocannabiorcol (THC-C1) and its acid; THC aldehyde (tetrahydrocannabinol); eight esters of THCA with terpenes (β- and α-fenchyl, epi-bornyl, bornyl, α-terpenyl, 4-terpenyl, α-cadinyl, γ-eudesmyl); 8α- and 8β-hydroxy-THC; 11-acetoxy-THCA; 8-oxo-THC; cannabisol (a THC dimer); THCP (tetrahydrocannabiphorol, C7); THCH (tetrahydrocannabihexol, C6) | THC and THCV studied in people. THCP binds CB1 about 30 times more strongly than THC in lab tests ( <a href="#">Citti 2019</a> ). Others not studied |
| <b>Δ8-THC type</b> | 5     | Δ8-THC; Δ8-THCA; 10α- and 10β-hydroxy-Δ8-THC; 10α-hydroxy-10-oxo-Δ8-THC                                                                                                                                                                                                                                                                                                                                                                 | Δ8-THC has four human studies since 1970; the rest not studied                                                                                       |

| Class            | Count | Members                                                                                                                                                                                                                                                                                   | What is known                                                                        |
|------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>CBG type</b>  | 16    | CBG; CBGA; CBG monomethyl ether (CBGM) and its acid (CBGAM); cannabigerovarin (CBGV) and its acid (CBGVA); cannabinerolic acid; 5-acetyl-4-hydroxy-CBG; $\gamma$ -eudesmyl- and $\alpha$ -cadinyl-cannabigerolate; four 6,7-epoxy-CBG and CBGA derivatives; camagerol; sesquicannabigerol | CBG has one small human trial; the rest not studied                                  |
| <b>CBD type</b>  | 10    | CBD; CBDA; CBD monomethyl ether (CBDM); CBD-C4 (CBDB); cannabidivarin (CBDV) and its acid (CBDVA); cannabidiol (CBD-C1); cannabidiol (CBDH, C6); cannabidiphorol (CBDP, C7); cannabitwinol (a CBD dimer)                                                                                  | CBD proven; CBDV failed in seizures; CBDP never biologically tested                  |
| <b>CBND type</b> | 2     | Cannabinodiol (CBND); cannabinodivarin                                                                                                                                                                                                                                                    | Not studied                                                                          |
| <b>CBE type</b>  | 5     | Cannabielsoin (CBE); cannabielsoic acids A and B; CBE-C3; cannabielsoic acid B-C3                                                                                                                                                                                                         | Not studied                                                                          |
| <b>CBL type</b>  | 3     | Cannabicyclol (CBL); cannabicyclic acid (CBLA); cannabicyclovarin (CBLV)                                                                                                                                                                                                                  | Formed when CBC or CBCA is exposed to light, so not true plant products. Not studied |
| <b>CBC type</b>  | 9     | CBC; CBCA; two forms of cannabichromevarin (CBCV); cannabichromevarinic acid (CBCVA); 4-acetoxy-CBC; 3"-hydroxy- $\Delta^4$ "-CBC; 7-hydroxycannabichromane; a CBC-C3 derivative                                                                                                          | CBC lab and animal only; the rest not studied                                        |

| Class                | Count | Members                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | What is known                                                                            |
|----------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <b>CBN type</b>      | 11    | CBN; cannabinolic acid; shorter-chain homologs including cannabivarin (CBV) and cannabiorcol; CBN methyl ether; 8-hydroxy-CBN and 8-hydroxy-CBNA; 1'S-hydroxy-CBN; 4-terpenyl cannabinolate                                                                                                                                                                                                                                                                                                                                                            | CBN has one small human sleep trial; the rest not studied                                |
| <b>CBT type</b>      | 9     | Three cannabitril isomers; CBT-C3 and a C3 homolog; two ethoxy-cannabitriols (likely made by ethanol during extraction); 8,9-dihydroxy-CBT; a CBDA ester of 9-hydroxy-CBT                                                                                                                                                                                                                                                                                                                                                                              | Not studied                                                                              |
| <b>Miscellaneous</b> | 30    | Dehydrocannabifuran; cannabifuran; 8-hydroxy-isohexahydrocannabivarin; 10-oxo- $\Delta^6$ a(10a)-THC; cannabicitran; cis- $\Delta^9$ -THC; cannabicoumaronone and cannabicoumarononic acid; cannabiripsol; cannabitetrol; cannabichromanones (C5, C3, B, C, D); cis- and trans-iso- $\Delta^7$ -THCV and iso- $\Delta^7$ -THC; four geranyl-pentylphenol and benzoquinone derivatives; cannabimovone; cannabioxepane; six hydroxylated or epoxidized hexahydrocannabinols (natural relatives of HHC); 9 $\alpha$ -hydroxy-10-oxo- $\Delta^6$ a,10a-THC | Not studied. Natural HHC relatives occur only in traces; commercial HHC is made in a lab |

**Totals by class:**  $\Delta^9$ -THC 25 ·  $\Delta^8$ -THC 5 · CBG 16 · CBD 10 · CBND 2 · CBE 5 · CBL 3 · CBC 9 · CBN 11 · CBT 9 · miscellaneous 30 = 125. Later reviews count over 150 as new trace compounds are reported.

## Converted, semi-synthetic, and synthetic cannabinoids

These are usually made in a lab from hemp CBD or by chemically modifying THC, and are sold mostly in unregulated hemp stores. None has been evaluated for safety in people.

| Compound                                   | How it is made                    | Human evidence                | Concerns                                                                                                                                                                                                 |
|--------------------------------------------|-----------------------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Δ8-THC</b>                              | Chemically converted from CBD     | Four human studies since 1970 | Intoxicating. FDA received 104 adverse event reports in one 15-month period, 55% needing medical care, and warned about contaminants from the conversion process ( <a href="#">UCLA Health summary</a> ) |
| <b>Δ10-THC</b>                             | Chemically converted              | None                          | No safety data                                                                                                                                                                                           |
| <b>HHC</b><br>(hexahydrocannabinol)        | Hydrogenation of THC              | None                          | Intoxicating; no therapeutic data. Distinct from the trace natural HHC relatives in the catalog                                                                                                          |
| <b>THCP and THCB sold as hemp products</b> | Mostly synthesized                | None                          | THCP binds CB1 far more strongly than THC in the lab; potency in people unknown                                                                                                                          |
| <b>THC-O acetate</b>                       | Synthetic; not found in the plant | None                          | Not the same as tetrahydrocannabinol (THC-C1), which is sometimes also abbreviated THCO                                                                                                                  |

**Metabolite worth knowing: 11-OH-THC** is made by the liver from swallowed THC. It is strongly psychoactive and is a main reason edibles feel stronger and last longer than inhaled THC at the same dose.

## Primary terpenes

More than 120 terpenes have been characterized in cannabis, including 61 monoterpenes and 51 sesquiterpenes ([2025 forensic methods paper](#)). These are the ones most often reported on COAs. Only one, limonene, has a controlled human study done with cannabis. Two others, linalool and eucalyptol, have strong human data from other plant sources at far higher doses.

| Terpene                | Aroma; also found in                       | Human evidence                                                                                                                | Hypothetical (lab or animal only)                                                                                                        | Notes and safety                                                                                                                                       |
|------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>β-Myrcene</b>       | Earthy, musky; hops, mango, lemongrass     | None                                                                                                                          | Sedation and pain relief in rodents                                                                                                      | Often the most abundant cannabis terpene. Topical myrcene added nothing to CBD in a combination study ( <a href="#">André 2024</a> ). See safety notes |
| <b>d-Limonene</b>      | Citrus; orange and lemon peel              | <b>Proven, small:</b> inhaled with THC, reduced THC-caused anxiety and paranoia in 20 adults ( <a href="#">Spindle 2024</a> ) | Mood, anti-inflammatory                                                                                                                  | Did not change other THC effects or THC blood levels                                                                                                   |
| <b>β-Caryophyllene</b> | Peppery, spicy; black pepper, cloves, hops | None with cannabis                                                                                                            | Full agonist at the CB2 receptor; anti-inflammatory in mice, with the effect absent in mice lacking CB2 ( <a href="#">Gertsch 2008</a> ) | The only major terpene shown to act on a cannabinoid receptor. Approved as a food additive                                                             |

| Terpene                             | Aroma; also found in                        | Human evidence                                                                                                                                                                                           | Hypothetical (lab or animal only)                                | Notes and safety                                                                  |
|-------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| <b><math>\alpha</math>-Pinene</b>   | Pine; pine needles, rosemary                | None                                                                                                                                                                                                     | Anti-inflammatory, airway opening, memory effects in lab studies | Common in many cultivars                                                          |
| <b><math>\beta</math>-Pinene</b>    | Pine, woody; conifers                       | None                                                                                                                                                                                                     | Limited lab data                                                 | Often paired with $\alpha$ -pinene                                                |
| <b>Linalool</b>                     | Floral, lavender; lavender, coriander       | <b>Human data, non-cannabis:</b> lavender oil capsules (Silexan, about 37% linalool), 80 mg daily for 10 weeks, beat placebo for anxiety in 5 RCTs with 1,213 patients ( <a href="#">meta-analysis</a> ) | Sedative and anti-seizure effects in animals                     | Cannabis delivers far less linalool than these capsules                           |
| <b><math>\alpha</math>-Humulene</b> | Hoppy, woody; hops, sage                    | None                                                                                                                                                                                                     | Anti-inflammatory in animals                                     | A ring-opened form of caryophyllene                                               |
| <b>Terpinolene</b>                  | Fresh, piney, floral; lilac, nutmeg, apples | None                                                                                                                                                                                                     | Sedative in mice                                                 | Dominant in some cultivars, such as Jack Herer ( <a href="#">ACS Omega 2021</a> ) |
| <b><math>\beta</math>-Ocimene</b>   | Sweet, herbal; basil, mint, orchids         | None                                                                                                                                                                                                     | Limited lab data                                                 | —                                                                                 |

| Terpene                              | Aroma; also found in                     | Human evidence                                                                                                                                                             | Hypothetical (lab or animal only)                                                                 | Notes and safety                                                       |
|--------------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>1,8-Cineole (eucalyptol)</b>      | Camphor-mint; eucalyptus, rosemary       | <b>Human data, non-cannabis:</b> 200 mg three times daily for 6 months cut COPD exacerbations by 38.5% and improved uncontrolled asthma in RCTs ( <a href="#">review</a> ) | Anti-inflammatory, mucus-thinning                                                                 | Cannabis contains only trace amounts compared with these capsule doses |
| <b>Caryophyllene oxide</b>           | Woody, dry; oxidized clove oil           | None                                                                                                                                                                       | Limited lab data                                                                                  | Forms as caryophyllene oxidizes during drying and storage              |
| <b><math>\alpha</math>-Bisabolol</b> | Floral, sweet; chamomile                 | None for therapeutic effect                                                                                                                                                | Anti-inflammatory, skin soothing in lab studies                                                   | Widely used as a soothing ingredient in skincare                       |
| <b>Nerolidol</b>                     | Woody, floral; neroli, ginger, jasmine   | None                                                                                                                                                                       | Sedation in animals; helps other compounds pass through skin ( <a href="#">Liktor-Busa 2021</a> ) | Relevant to topicals                                                   |
| <b>Guaiol</b>                        | Pine, woody; guaiacum wood, cypress pine | None                                                                                                                                                                       | Limited lab data                                                                                  | —                                                                      |

| Terpene                  | Aroma; also found in                   | Human evidence                                                                                                               | Hypothetical (lab or animal only)                                  | Notes and safety                                   |
|--------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------|
| <b>Camphene</b>          | Damp woodland, fir needles             | None                                                                                                                         | Lipid-lowering in rats                                             | —                                                  |
| <b>Borneol</b>           | Camphor, minty; camphor tree, rosemary | None with cannabis                                                                                                           | Pain relief in animals                                             | Long used in traditional Chinese medicine          |
| <b>Fenchol</b>           | Camphor, citrus; basil, fennel         | None                                                                                                                         | Limited lab data                                                   | —                                                  |
| <b>Geraniol</b>          | Rose, floral; roses, geranium          | None                                                                                                                         | Limited lab data                                                   | —                                                  |
| <b>α-Terpineol</b>       | Lilac, floral; pine oil                | None                                                                                                                         | Limited lab data                                                   | —                                                  |
| <b>Valencene</b>         | Sweet citrus; Valencia oranges         | None                                                                                                                         | Cartilage protection in lab studies ( <a href="#">André 2024</a> ) | —                                                  |
| <b>trans-β-Farnesene</b> | Green apple, woody; apple peel, hops   | None                                                                                                                         | Limited lab data                                                   | —                                                  |
| <b>Menthol</b>           | Cool mint; peppermint                  | <b>Human data, non-cannabis:</b> FDA-recognized topical pain reliever at 1.25% to 16% ( <a href="#">FDA monograph M017</a> ) | —                                                                  | Trace in cannabis; relevant when added to topicals |

| Terpene        | Aroma; also found in | Human evidence                                                                                           | Hypothetical (lab or animal only) | Notes and safety                                   |
|----------------|----------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------|
| <b>Camphor</b> | Medicinal, cooling   | <b>Human data, non-cannabis:</b><br>FDA-recognized topical counterirritant at 3% to 11% (same monograph) | —                                 | Trace in cannabis; relevant when added to topicals |

## Other terpenes and terpenoids reported in cannabis

These appear on extended terpene panels or in published profiling studies, usually at low levels. None has been tested in people for a cannabis-related effect. Unless noted, the evidence level is "not studied" or "limited lab data."

| Group       | Compound               | Aroma; also found in               | Notes                      |
|-------------|------------------------|------------------------------------|----------------------------|
| Monoterpene | $\delta$ -3-Carene     | Sweet, pine, cedar; cypress        | —                          |
| Monoterpene | $\alpha$ -Terpinene    | Woody, citrus; cardamom            | —                          |
| Monoterpene | $\gamma$ -Terpinene    | Herbal, citrus; citrus peel        | —                          |
| Monoterpene | $\alpha$ -Phellandrene | Peppery, minty; dill               | —                          |
| Monoterpene | $\beta$ -Phellandrene  | Minty, citrus; water fennel        | —                          |
| Monoterpene | p-Cymene               | Citrus, woody; cumin, thyme        | —                          |
| Monoterpene | Sabinene               | Spicy, woody; black pepper, nutmeg | —                          |
| Monoterpene | cis- $\beta$ -Ocimene  | Sweet, herbal; basil               | Isomer of $\beta$ -ocimene |

| Group         | Compound                         | Aroma; also found in                  | Notes                          |
|---------------|----------------------------------|---------------------------------------|--------------------------------|
| Monoterpenoid | Isopulegol                       | Minty, herbal; mint oils              | —                              |
| Monoterpenoid | Pulegone                         | Minty, camphor; pennyroyal            | See safety notes               |
| Monoterpenoid | Citronellol                      | Rose, citrus; citronella, rose        | —                              |
| Monoterpenoid | Nerol                            | Sweet rose; neroli, lemongrass        | Isomer of geraniol             |
| Monoterpenoid | Geranyl acetate                  | Fruity, floral; citronella, palmarosa | —                              |
| Monoterpenoid | Terpinen-4-ol                    | Peppery, woody; tea tree              | Main component of tea tree oil |
| Monoterpenoid | Sabinene hydrate                 | Minty, herbal; marjoram               | —                              |
| Monoterpenoid | Isoborneol                       | Camphor, woody                        | Isomer of borneol              |
| Monoterpenoid | Fenchone                         | Camphor, earthy; fennel               | —                              |
| Sesquiterpene | $\alpha$ -Bergamotene            | Woody, citrus; bergamot               | —                              |
| Sesquiterpene | $\alpha$ - and $\beta$ -Selinene | Herbal; celery seed                   | —                              |
| Sesquiterpene | Germacrene B and D               | Woody, spicy                          | —                              |
| Sesquiterpene | $\gamma$ -Elemene                | Woody, spicy                          | —                              |
| Sesquiterpene | $\delta$ -Cadinene               | Herbal, thyme                         | —                              |
| Sesquiterpene | $\alpha$ -Copaene                | Woody, spicy                          | —                              |
| Sesquiterpene | Longifolene                      | Woody; pine resin                     | —                              |
| Sesquiterpene | $\alpha$ -Guaiene                | Woody, balsamic; guaiacum             | —                              |
| Sesquiterpene | $\alpha$ -Cedrene                | Cedar                                 | —                              |

| Group           | Compound                                      | Aroma; also found in       | Notes                                                                  |
|-----------------|-----------------------------------------------|----------------------------|------------------------------------------------------------------------|
| Sesquiterpenoid | $\alpha$ -, $\beta$ -, and $\gamma$ -Eudesmol | Woody                      | $\gamma$ -Eudesmol forms an ester with THCA in the plant (see catalog) |
| Sesquiterpenoid | Bulnesol                                      | Spicy, woody               | Often reported with guaial                                             |
| Sesquiterpenoid | Cedrol                                        | Cedar                      | —                                                                      |
| Sesquiterpenoid | Farnesol                                      | Floral; lily of the valley | —                                                                      |
| Sesquiterpenoid | Humulene epoxide                              | Woody                      | Forms as humulene oxidizes                                             |
| Diterpene       | Phytol                                        | Faint floral               | Breakdown product of chlorophyll                                       |
| Triterpene      | Friedelin and epifriedelanol                  | Odorless                   | Found mainly in roots, not flower                                      |

## Other compound families

Cannabis contains more than 500 identified constituents in total. Beyond cannabinoids and terpenes, three families come up in patient questions.

| Family            | Compounds                                                                                                                                          | What is known                                                                                                                                                                                                                                                                                                       |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Flavonoids</b> | Cannflavin A, B, and C (unique to cannabis); isocannflavin B (caflanone); apigenin, luteolin, kaempferol, quercetin, orientin, vitexin, isovitexin | Lab only. Cannflavin was 30 times more potent than aspirin at blocking an inflammatory signal in cells, but 18 times weaker than indomethacin ( <a href="#">history</a> ). A cannflavin derivative slowed pancreatic tumors in animals when delivered with radiation. Flavonoids make up well under 1% of the plant |

| Family                           | Compounds                                                              | What is known                                                                                                                                                                                                            |
|----------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Stilbenoids</b>               | Canniprene and other prenylated bibenzyls                              | Lab only. Canniprene blocks inflammatory enzymes in cell studies                                                                                                                                                         |
| <b>Volatile sulfur compounds</b> | 3-Methyl-2-butene-1-thiol ("VSC3") and related prenyl sulfur compounds | The source of cannabis's skunk smell, identified in 2021 ( <a href="#">ACS Omega</a> ). Chemically related to garlic's sulfur compounds; no health effects studied. Levels rise late in flowering and peak during curing |

## Safety notes

- **Terpenes break down when overheated.** In laboratory dabbing studies, myrcene, limonene, and linalool formed methacrolein, an airway irritant, at all temperatures hot enough to vaporize cannabinoids, and benzene, a carcinogen, at the highest temperatures consumers use ([Portland State, ACS Omega 2017](#)). Low-temperature vaporizers and avoiding high-heat dabbing reduce exposure.
- **Synthetic myrcene and pulegone** were removed from FDA's list of approved food flavorings in 2018 because they caused cancer in lab animals at high doses. FDA found no public health risk at normal use levels, and natural myrcene in plants was not affected ([FDA](#)).
- **Added terpenes.** Some vape oils and edibles add "botanical" terpenes that did not come from cannabis. The COA should list total and individual terpene content.
- **Converted cannabinoids** such as delta-8 THC and HHC sold outside regulated programs carry contamination and labeling risks (see above).

## Bottom line

- For nearly every condition, the THC:CBD ratio matters far more than any minor cannabinoid or terpene.
- **Positive human data with the cannabis compound:** CBN (staying asleep), CBG (acute stress, healthy volunteers), THCV (blood sugar), limonene (THC-caused anxiety). Each rests on one small study.

- **Positive human data from other sources, at much higher doses:** linalool (lavender oil for anxiety), eucalyptol (COPD and asthma), menthol and camphor (topical pain).
- **Most interesting but untested in people:**  $\beta$ -caryophyllene, the only major terpene that acts on a cannabinoid receptor.
- **Failed in people:** CBDV for seizures; oral CBD for arthritis pain and ulcerative colitis.
- Everything else on this page is chemistry, not proven medicine. Use terpene profiles as a tiebreaker between products with the same THC:CBD ratio.

## Sources

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