

A QUICK GUIDE TO MEDICAL CANNABIS

With medical cannabis now legal in 44 countries around the world, and the UK likely to follow suit, here is what pharmacists need to know.

DAWN CONNELLY

Cannabis plants contain more than 100 cannabinoids, as well as other compounds like flavonoids and terpenoids, which is thought to be why some people respond better to herbal cannabis than pure cannabis derivatives.

Cannabinoids act on the body's endocannabinoid system, which helps regulate many bodily functions via CB1 receptors, found mainly in the brain; CB2 receptors in immune cells; the gastrointestinal tract; and peripheral nervous system.

The two most studied cannabinoids are THC and CBD.

THC (δ -9 tetrahydrocannabinol)

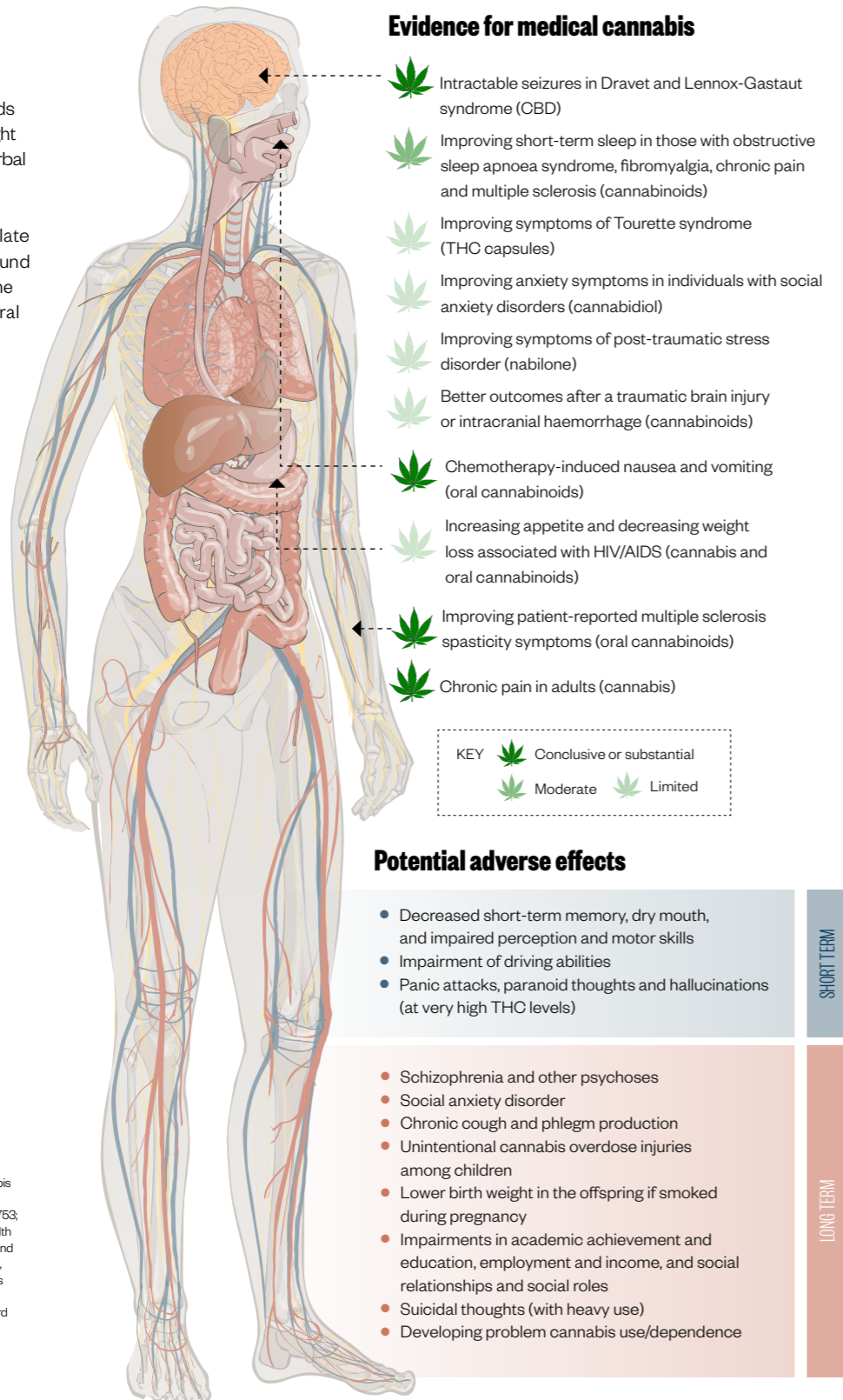
THC is the psychoactive component of cannabis. Weak partial agonist on CB1 and CB2 receptors. THC potency in dried cannabis has increased from an average of 3% in the 1980s to around 15% today. Some strains contain more than 25% potency

CBD (cannabidiol)

CBD does not produce psychoactive adverse effects. Has little affinity for CB1 and CB2 receptors directly. It is believed to modulate the effects of THC throughout the endocannabinoid system which is why the THC/CBD ratio can lead to different responses and adverse effects

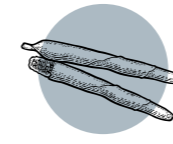
Sources: Stockings E, Zagio D, Campbell G *et al.* Evidence for cannabis and cannabinoids for epilepsy: a systematic review of controlled and observational evidence. *J Neurol Neurosurg Psychiatry* 2018;89:741-753; National Academies of Sciences, Engineering and Medicine. The health effects of cannabis and cannabinoids: the current state of evidence and recommendations for research. 2017; The National Academies Press, Washington DC; MacCallum CA & Russo EB. Practical considerations in medical cannabis administration and dosing. *Eur J Intern Med* 2018;49:12-19; Prohibition Partners. The European cannabis report. 3rd edition. 2018; Prohibition Partners, London.

Editorial adviser: Michael Boivin, pharmacist consultant, CommPharm Consulting Inc, Canada. **Infographic:** MAG



Routes of administration and dosing

There are no established uniform dosing schedules for products such as fresh marijuana, smoked/vaporised marijuana or cannabis oil. Patients should start with a very low dose, e.g. 1mg THC, and titrate slowly until the desired effect is achieved, stopping if unacceptable adverse effects occur.



Smoking

Onset: 5-10 minutes
Duration: 2-4 hours



Vaporisation*

Onset: 5-10 minutes
Duration: 2-4 hours



Oral (other)

Onset: 60-180 minutes
Duration: 6-8 hours



Topical

Onset: Variable
Duration: Variable



Oro-mucosal

Onset: 15-45 minutes
Duration: 6-8 hours

*using a vaporising device that blows hot air through finely ground cannabis at a specified temperature

Medical cannabis regulation in Europe

Different models of regulation exist. In most countries, the government controls cannabis production and supply is restricted to regulated outlets (e.g. pharmacies), although some also allow self-cultivation. Some countries restrict the conditions for which cannabis can be prescribed.

- Legal
- Legal but difficult to access
- Decriminalised
- Illegal (except for licensed cannabis-based derivatives, e.g. Sativex)

The Netherlands

Date legalised: 2003
Availability: Pharmacies
Production: Licensed producers regulated by the Office for Medicinal Cannabis
Cost: Reimbursed by health insurance companies
Conditions indicated for:

- Pain and muscle spasms or cramps associated with multiple sclerosis or spinal cord damage;
- Nausea, loss of appetite, weight loss and debilitation resulting from cancer or AIDS;
- Nausea and vomiting associated with chemotherapy or radiotherapy used in the treatment of cancer, hepatitis C or HIV infection and AIDS;
- Chronic pain (mainly neuropathic);
- Tourette syndrome;
- Therapy-resistant glaucoma.

Users: Around 10,000 patients received a prescription for herbal cannabis or cannabis oil in 2016

Germany

Date legalised: 2017
Availability: Pharmacies
Production: Currently imported from the Netherlands and Canada, with plans to cultivate in Germany. Regulated by a cannabis agency under the Federal Institute for Drugs and Medical Devices
Cost: Reimbursed by health insurance companies
Conditions indicated for: As a last resort for any illness that is either life threatening or that will affect the quality of life permanently because of the severity of the resulting health problems
Users: Estimated at 20,000-30,000

Croatia

Date legalised: 2015
Availability: Pharmacies
Production: Products are currently imported from Canada but there are plans to create a domestic industry.
Cost: Not covered by national health insurance companies
Conditions indicated for: Multiple sclerosis, cancer, epilepsy and AIDS
Users: No data but demand thought to be low

