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Medical cannabis in the treatment of epilepsy

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epilepsy
tasmania

Medical cannabis in the treatment of epilepsy

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Summary

- Epilepsy Tasmania recognises the need for more effective and safe therapies to assist patients and their families facing severe, intractable seizures.
- The effectiveness and safe use of medical cannabis products for epilepsy is currently lacking a sound evidence base.
- A recent trial of medical cannabis published in the New England Journal of Medicine offers cautious optimism on the role of medical cannabis. Further trials are due to report.
- Should evidence support that benefits outweigh adverse events, then best practice guidelines can be developed.
- Epilepsy Tasmania supports further clinical trials to reach this evidence base.
- The unregulated manufacture, supply or possession of cannabis, in any form, is illegal in all states of Australia.
- Pharmaceutical cannabis products available in the treatment of pain and wasting associated with HIV and chemotherapy, and in the treatment of spasticity in multiple sclerosis are not suitable for the treatment of severe refractory epilepsy or catastrophic epilepsy syndromes.
- Until the Therapeutic Goods Administration approves medical cannabis as an adjunct treatment for severe epilepsy, Epilepsy Tasmania urges all people living with epilepsy, their families and carers to consult with an epilepsy specialist and explore the many existing treatment options, so that they can make informed decisions with their specialist that weighs the risks and benefits of the different treatment options, including any participation in clinical trials of medical cannabis.

Background Information

In 2016 Australian State and Federal governments responded to the calls from patients, families, their carers and clinicians for more effective therapies in severe, intractable epilepsies, by introducing legislation to facilitate the introduction of medical cannabis as a treatment for epilepsies as well as in other conditions.

Medical cannabis products remain an unapproved drug but now may be accessed via certain medical practitioners through the Controlled Access Scheme (CAS) or Authorised Prescriber Scheme¹.

The unregulated manufacture of cannabis products, whether for medicinal or recreational purposes remains illegal in all Australian states. The Therapeutic Goods Agency (TGA) states: Cannabis remains a highly regulated drug in Australia and the use and supply of cannabis for non-medical purposes (for example, recreational use) is illegal in Australia, in accordance with applicable Commonwealth, state and territory laws¹.

There are two forms of cannabis for medical use. Components that have attracted considerable attention are cannabidiol (CBD), the major non-psychoactive compound, and tetrahydrocannabinol (THC) the compound that gives cannabis its psychoactive effect, and combinations of these compounds.

Where the use of cannabis in epilepsy is concerned, one of the cannabinoids called cannabidiol (preferably with 98% purity) has been found by a number of small studies as well as anecdotally to reduce seizure activity. Cannabidiol does not produce a 'high' and has been found in a number of small studies and anecdotally to reduce seizure activity.

At this stage research data on the use of medical cannabis with regard to its safety and efficacy for the treatment of epilepsy is limited.

Small clinical trials have provided some evidence for safety and anticonvulsant properties of CBD. However, the lack of information on the compounds of the cannabis, the small numbers in the trials and the difficulties this causes in comparing as well as legal restrictions make it difficult to assess the evidence. Much of the data on efficacy and safety is confined to anecdotal reports.^{2, 3}

A Cochrane Review published in 2014 on Cannabinoids for Epilepsy reviewed published literature to assess the efficacy and safety of cannabinoids when used as monotherapy or add-on treatment for people with epilepsy found that no reliable conclusions could be drawn at present regarding the efficacy of cannabinoids as a treatment for epilepsy. Only four studies from 1978 to 1990 met the selection criteria of randomized control trials (RCTs) whether blinded or not. Patient numbers were small, 48 in total, with varying reports on reduction in seizure frequency and/or seizure freedom (2 of 4 patients at 3 months, Mechoulam, 1978), and as the studies ran for short periods of time, (4 weeks 18 mths) the safety of long term cannabidiol treatment cannot be reliably assessed.⁴

The American Academy of Neurology conducted a systematic review of the efficacy and safety of medical marijuana in selected neurological disorders, found that the use of oral cannabinoids are of unknown efficacy in epilepsy, that the risks and benefits of medical marijuana should be weighed carefully, and that the comparative effectiveness of medical marijuana vs other therapies is unknown for epilepsy.⁵

In the United States in 2014, the Food and Drug Agency has given Orphan Drug Status[a] to Epidiolex (cannabidiol) as an investigational drug therapy of Dravet and Lennox-Gastaut syndromes.⁶ Epidiolex has also been given European Orphan Drug Status in 2017.⁷ There is an ongoing open label study, i.e. a clinical research study in which the participant, health care professional, and others know the drug and dose being given, that has recently released data for 27 patients treated for more than 12 weeks.⁷ Four patients were seizure free and approximately half the patients had a 50% reduction in seizures. Somnolence, fatigue, diarrhoea and altered appetite were each seen in more than 10% of these patients. These interim results look positive and we wait for further results to be published.

More recent reports of a phase 3, double-blind randomised placebo controlled trial of Epidiolex with 171 patients with Lennox-Gastaut has shown a reduction in drop seizures but increased treatment related adverse events were also recorded by those on the Epidiolex compared with the placebo.⁸ Very recently, the results of a double-blind placebo controlled trial in 120 children and young adults with Dravet Syndrome were reported in the NEJM. Those in the CBD group demonstrated a decrease in seizures compared to the placebo group, but reported increased adverse events. Some of these adverse events were controlled by dose reduction but 8 patients on CBD withdrew from the trial.⁹

The current situation in Australia

The situation in Australia is changing at a very fast pace.

Much has been put in place by the TGA to provide the basis for prescribing medical cannabis. Medical cannabis is imported at the moment but is regulated by the TGA. Patients will need a prescription from the treating doctor to obtain medical cannabis. This will come under the Controlled Access Scheme (CAS). If the prescribed medicine is more than 2% THC (the part of cannabis that creates a “high”) then it is considered very restricted and the doctor needs to apply for an additional Schedule 8 permit. This is unlikely to impact on people with epilepsy as medical cannabidiol here will contain 2% or less THC and is then a Schedule 4 drug and does not require anything more than then SAS permit.

In Victoria the government is providing access to cannabidiol on a compassionate scheme for some 29 young children with uncontrolled seizures. This is being closely monitored by their treating specialists and data is being collected on the results. In Queensland medical cannabis is available for a number of conditions including uncontrolled epilepsy and can be prescribed by both specialists and general practitioners after applying through the TGA SAS and to the Queensland Dept. of Health. Similar arrangements are enacted in other states.

In October 2016 Federal parliament passed legislation to enable applications for licences and permits for the cultivation, production and manufacture of medical cannabis products in Australia. This industry will be highly regulated. It will also mean a new pharmaceutical industry for Australia and a consistently high standard of medical cannabis products. Barriers to the use of all medical cannabis products in Australia at present are the shortage of supply of imported product and their cost.

It is worthwhile noting that at present there are few guidelines available on standardised dosages of medical cannabis or on how to prescribe it. Education sessions are becoming available to medical practitioners to learn about prescribing medical cannabis in a number of conditions.

The current situation in Tasmania

Epilepsy Tasmania welcomes the Tasmanian government announcement of a Controlled Access Scheme (CAS) from 1 September 2017, to allow Tasmanians with serious, unresponsive medical conditions to access medical cannabis when prescribed by a specialist doctor.

The CAS is not decriminalisation but will allow Tasmanians with serious, unresponsive medical conditions to access medical cannabis products when grown lawfully under Commonwealth licenses and prescribed by a specialist doctor.

Under the CAS, a medical specialist doctor will be able to seek approval to prescribe a medical cannabis product for a specified medical condition, for example a child suffering severe epilepsy. Importantly, the decision of whether or not this is an appropriate treatment for a particular condition for a particular patient will be initiated by specialist doctors.


Tasmania's state Budget, released in May 2017, allocated \$3.75 million to enable the comprehensive clinical assessment of patients with severe epilepsy who may be eligible for medical cannabis, due to being non-responsive to mainstream medications.

Specialists will consider the scheme's rules, including patient safety and appropriateness for the individual case. This funding should improve the treatment of children and young people with severe epilepsy by recruiting more expert staff to support neurology specialists and increasing the testing and treatment options available.

"There is potential for medical cannabis to help some people control their epileptic seizures when all other options have failed," said Epilepsy Tasmania Board Member Dr Elizabeth Lord. "Until now, people with severe refractory seizures or catastrophic epilepsy syndromes have been unable to access and trial medical cannabis as an anti-epileptic treatment option."

Commonwealth law means that Therapeutic Goods Administration (TGA) approval will still be required to access medical cannabis products approved under the CAS. The Department of Health and Human Services will establish an expert panel of clinicians to assess applications.

At present, risks relating to medical cannabis are the lack of legally available products, and no oversight by appropriate health professionals.



Black market products such as oils, tinctures and plant matter may contain unknown ingredients that can put people at risk. It is also difficult to monitor appropriate dosages, and there are risks of interactions and reactions with other medicines.

Epilepsy Tasmania hopes the CAS will result in ongoing scientific trials and research into the use and efficacy of medical cannabis. CEO Wendy Groot said “The new Controlled Access Scheme is a leap forward for Tasmanians because the efficacy of medical cannabis can now be trialled in a safe and controlled manner under the supervision of prescribing specialist doctors.”

Epilepsy Tasmania continues to be a strong supporter of clinical trials and the work being done by the NSW Government following a memorandum of understanding signed last year on a range of issues and opportunities for Tasmanian patients.

The Tasmanian Government is working with local businesses to maximise opportunities to cultivate medical cannabis and manufacture products, under the nationally-consistent licensing scheme operated by the Commonwealth Government.

Tasmanian Alkaloids, with their partner AusCann, an Australian medical cannabis stock supplier, have been granted a medical cannabis licence, and a research and development licence. This is a significant step towards cultivating, growing and processing medical cannabis in Tasmania.

Epilepsy Tasmania supports the use of medical cannabis under specialist medical supervision for the management of epilepsy and the ongoing scientific trials and research into the use of medical cannabis.

The future of Medical cannabis in epilepsy treatment

In the future, Australia should have a safe consistent supply of medical cannabis for a number of conditions including epilepsy. As the Australian industry develops, there will be more trials conducted which will be of particular importance to encourage in the case of children and young people with epilepsy as this ensures the highest standards of their care.

Epilepsy Tasmania urges all people living with epilepsy, their families and carers to consult with an epilepsy specialist and explore the many existing treatment options, so that they can make informed decisions with their specialist that weighs the risks and benefits of the different treatment options, including any participation in clinical trials.

While these results are encouraging we need to exercise caution because of the lack of evidence around the efficacy and safety of using medical cannabis in children and the potential impact it can have on the developing brain in regard to memory, cognition, and the potential for psychosis in later years. Even more caution should be exercised with regard to using marijuana bought illicitly since the ingredients in it will be unknown and untested. Patients and families need to give careful consideration to such issues.

Any interested patient or parent of a patient who thinks they may meet the criteria for prescription under the Controlled Access Scheme should speak with their GP when the scheme opens.

It is vitally important to not discontinue prescribed, proven medications for epilepsy under any circumstances.

The use of Medical cannabis and driving motor vehicles

Prescribed medical cannabis products for the treatment of epilepsy are likely to be prescribed to people of driving age.

This section discusses CBD, THC and non-prescribed cannabis products.

Prescribed CBD is not an illicit drug under the Road Safety Act in Victoria. However, CBD would be considered a drug by the Road Safety Act if it deprives the person consuming it of any of his/her mental or physical capacities, in other words being impaired by the CBD. This is the case with any drug, prescribed or not.

Prescribed THC is an illicit drug for the purposes of the Road Safety Act and any presence of THC in blood is a driving offence.

Cannabidiol does not necessarily show up in any of the standard roadside tests, however THC does.

When being prescribed a medical cannabis product it is important to use it in accordance with the prescribing doctor's directions and to seek advice as to driving a motor vehicle while using that specific product.

There are discussions taking place amongst the States to develop a nationally consistent approach to driving and medical cannabis but at this point in time each State has some variations about which drivers will need to inform themselves.

Endorsed by Epilepsy Australia, July 2017

Medical Cannabis Trials

Epilepsy Tasmania fully supports the current interest in these trials and the leadership at the political level to progress research via clinical trials whilst addressing legislative changes to decriminalise use in certain circumstances.

The Office of Drug Control (ODC) provides information about the Australian Government moves towards legalisation of medical cannabis and also provides information about cultivators, manufacturers and patient access. **See the ODC website for more information.**

The Australian Government Department of Health has issued a **Medical Cannabis Fact Sheet** which provides a lot of information about access to medical cannabis in Australia.

Read here the statement released by the TGA regarding guidelines for consumers, health professionals and sponsors of **Access to Medical Cannabis Products**.

Medical Cannabis Trials - Status by State:

Victoria: **Read the latest news from the Victorian Premier's Office**

New South Wales: **Read the latest news from the New South Wales Government**

South Australia: **Read the latest news from the Premier of South Australia**

Queensland: **Read the latest news from the Queensland Government**

Tasmania: **Read the latest news from the Premier of Tasmania**

Western Australia: **Read the latest news from the West Australian Government**

Read the medical cannabis statement published by the Epilepsy Society of Australia. The Epilepsy Society of Australia is a professional organisation for clinicians, scientists and technologists involved in the diagnosis, treatment and research of epilepsy in Australia.

Clinical trial results for Medical cannabis treatment in Dravet syndrome:

The first randomised, double-blind, placebo controlled trial using medical cannabis for the treatment of a form of epilepsy known as Dravet syndrome, has been completed. *Read a summary of the trial results here.*

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*Orphan drug status is given to drugs which are defined as those intended for the safe and effective treatment, diagnosis or prevention of rare diseases/disorders that affect fewer than 200,000 people in the US, or that affect more than 200,000 persons but are not expected to recover the costs of developing and marketing a treatment drug.