

People with epilepsy have a number of choices when it comes to treatment, but medication is the first option. Medications to control seizures are called antiepileptic drugs (AEDs). AEDs do not cure epilepsy, they control seizures. They are intended to reduce or stop seizures, preferably with minimal or no side-effects.

Choice of medication

The AED chosen will depend on the type of seizure, age, gender, medication side effects, desire to have children, type of employment, lifestyle, the need to drive and many other individual factors.

Commencing medication

Medication is usually started slowly, gradually building the dose over days or weeks, depending on the drug. During this time its effect should be closely monitored. When the desired effect is reached – less or no seizures with minimal side effects – the dose can be stabilised. If the medication does not work well, a second medication may be added and the first one may be gradually withdrawn.

Some people may need to trial a number of medications before they obtain the best seizure control.

In children, medication is usually calculated by body weight so sometimes as a child grows seizures may occur. This doesn't mean the medication has stopped working or the seizures are getting worse. It may simply mean the medication dose may need adjusting because the dose isn't high enough for their body weight anymore.

Many people with epilepsy achieve seizure control with one medication (monotherapy). However, for some more than one medication (polytherapy) will be necessary.

Duration of therapy

How long someone has to take AEDs varies from person to person. It depends on several factors including:

- the type of epilepsy or syndrome,
- side effects of the medication,
- how the seizures have responded to the medication,
- the length of time seizure-free,
- the likelihood of the seizures recurring,
- other medical conditions or medications the person may have
- social factors such as driving and employment also come into consideration.



For some, therapy is for life, whilst others may grow out of their epilepsy or have a remission from seizures.

Stopping medication

Any withdrawal from medication should be done slowly and **always** under the advice and supervision of the prescribing doctor.

Suddenly stopping medication can provoke a seizure and possibly a medical emergency.

Unwanted effects

Side effects are seen mostly when starting a medication. They should lessen or disappear after the first few weeks of treatment but the prescribing doctor needs to be aware, especially if the effects persist, are intolerable or are listed as serious. In these

Fact Sheet: Medical Management of Epilepsy

cases, the medication dose may be lowered or withdrawn and the unwanted symptoms will usually resolve within a few days or weeks.

Some AEDs can reduce the effectiveness of the contraceptive pill and some contraceptive pills can affect the uptake and absorption of some AEDs. This may mean that the type or dose of a contraception may need to be changed.

Some AEDs are known to have a higher risk of causing birth defects so women who are planning a pregnancy should plan well ahead and discuss medication choice with the neurologist.

Children can sometimes have the opposite reactions to adults. For instance a medication that makes some adults drowsy may make a child over active.

**All known unwanted effects are listed in the manufacturer's product information sheets.
Ask your pharmacist for one if you do not receive it**

Unwanted effects from AEDs that need to be reported to a doctor include:

- increase in frequency and severity of seizures
- any rash, skin redness, acne, excessive sweating, swelling, tingling or itching, yellowing of the skin or eyes, hot flushes, excessive hair loss or excessive body hair growth
- flu-like symptoms
- gastric upsets such as changes in taste, dry mouth, sore throat, mouth ulcers, heart burn, difficulty swallowing, stomach pains, nausea, vomiting, diarrhoea, constipation, increase or decrease in appetite, weight gain or loss
- drowsiness, dizziness, clumsiness, headache, blurred or double vision, tremor, mood change such as agitation, irritability and confusion, slurred speech, difficulty concentrating or remembering, depression, thoughts of self harm or suicide, nervousness, hearing voices or seeing visions of things that do not exist (hallucinations)
- chest pain, irregular or rapid heart rate, difficulty breathing or unusual coughing, bruising or bleeding, dark urine, uncontrollable irregular or rapid eye movements
- unexplainable pain, muscle weakness, unsteady walking
- missed or painful periods, vaginal discharge, itching or swelling

Blood level monitoring

The main goal of AED therapy is good seizure control with few or no side effects. If this is the case, then blood level monitoring is not usually necessary.

There are some situations where medication blood level monitoring is needed such as when someone is:

- taking phenytoin (Dilantin)
- having more seizures than usual or changes in seizures or seizure control
- taking many medications (polytherapy)
- a young child, elderly or disabled
- having what are thought to be unwanted effects
- suffering another medical condition that requires monitoring



If a person is having unwanted effects from their medications or they are feeling unwell, the doctor may suggest other tests to check the levels of substances in the person's blood, bone marrow and liver.

**Taking antiepileptic medications regularly as prescribed is crucial to controlling seizures.
Changing doses may provoke unwanted effects and seizures.**

Staying with the same brand



There can be many different names for the same medication. These are different brands and generic brands. Once seizures are controlled with a medication it is important to avoid changing brands as there is a small risk of “breakthrough” seizures for some people. Different forms of antiepileptic medication are effective but should not be substituted. If you have a medication that works, do not change brands even if the pharmacist suggests it. **[See Epilepsy Action’s Switching Brands fact sheet for more detail].**

Missing doses

Missing a medication dose is the most common cause of breakthrough seizures. Missed medication can trigger seizures in people with both well-controlled and poorly controlled epilepsy. Seizures can be more frequent, more severe or longer than normal. There is a risk of status epilepticus (prolonged seizures) which is a medical emergency and can lead to death if the seizures can’t be stopped.

It’s very individual, but if only one dose is missed, the chances of having a seizure may be only slightly higher. However, missing one dose is more likely to cause seizures if someone is only taking a once-a-day dose because one dose is a full day of medication. If medication is taken two to four times a day, the seizure risk from missing one dose is less. But missing several doses consecutively increases the likelihood of a seizure.

What to do if you forget a dose ¹

This should be discussed with the neurologist when first starting a medication. Everyone’s situation is different and there may be varying instructions for different medications.

- In general, if someone takes medication morning and night and the morning dose is forgotten - if its lunchtime or earlier take the forgotten dose as soon as possible. If it’s after lunchtime and getting too close to the evening dose it’s better to omit the morning dose take the evening dose.
- For once-daily medication, the forgotten dose should be taken as soon as you remember it.
- It is also important that if a dose is missed, not to take twice as much the next time because a larger than normal dose could cause side-effects.
- For more information about what to do if you miss a dose see Dr Dan McLaughlin discuss it here <http://www.epilepsy.org.au/smart-clips>



If you are unsure of what to do if a dose is missed or a double dose is taken, contact the prescribing doctor, pharmacist, epilepsy nurse or medicines line on 1300 888 763.

Medications used for epilepsy

- Carbamazepine [Tegretol, Teril]
- Clobazam [Frisium]
- Clonazepam [Rivotril]
- Diazepam [Valium]
- Ethosuximide [Zarontin]
- Gabapentin [Neurontin]
- Lacosamide [Vimpat]
- Lamotrigine [Lamictal]
- Levetiracetam [Keppra]
- Methylphenobarbitone [Prominal]
- Midazolam [Hypnovel]
- Nitrazepam [Mogodon]
- Oxcarbazepine [Trileptal, Magadon]
- Perampanel [Fycompa]
- Phenobarbitone [Phenobarbitone]
- Phenytoin sodium [Dilantin]
- Pregabalin [Lyrica]
- Primidone [Mysoline]
- Sodium valproate [Epilim, Valpro]
- Sulthiame [Ospolot]
- Synacten [ACTH]
- Tiagabine [Gabitril]
- Topiramate [Topamax]
- Vigabatrin [Sabril]
- Zonisamide [Zonegran]

New drugs being trialled by patients under doctor’s supervision:

- Eslicarbazepine [Zebinix]
- Rufinamide [Bamzal]
- Stiripentol [Diacomit]

¹ <http://www.epilepsy.org.au/node/375>

Fact Sheet: Medical Management of Epilepsy

Taking antiepileptic medication regularly is crucial in the management of epilepsy. Most people will miss one or more doses at some time, whether this is due to forgetfulness, unwanted effects of medication or lifestyle.

It is important to identify reasons for not taking medication so that options can be discussed with your doctor.

Taking other medications

Medications are known to interact with each other, including AED's and medications for other health conditions, over-the-counter drugs, illicit drugs and complementary therapies. Always ask your prescribing doctor or pharmacist about any possible interactions with medications, complementary therapies or supplements. You can also call the Medicines Line on 1300 888 763 and speak to a pharmacist who can also advise you about medication interactions.

Managing your epilepsy

It is vital that epilepsy be managed under the guidance of your GP and, where appropriate, neurologist or paediatrician. Obtain clear instructions from your doctor on how and when to take your medication and what side effects may occur. As general guidelines:

- Read the manufacturer's instructions
- Take your medication as prescribed. Changing dosage or daily routine may provoke seizures and possibly a medical emergency.
- Check what medications or preparations may interfere with your medication.
- Know what to do if you miss taking your medication.
- Avoid changing medication brands
- Ensure that you have a continuous supply of medication especially when travelling.
- Store all tablets in original containers, clearly labelled and in a cool dry place out of reach of children.
- Discuss with your doctor what effect alcohol may have on your medication and seizures or how your medication may affect contraception.
- To avoid missing doses take your medication at a regular time. If you are taking several medications, take them all at the same time—once, twice or three times a day as directed by your doctor.

What you can do to help control seizures

Just taking medication is not always enough to control seizures. It is important for to be aware of other things that may help with seizure control. These include:

- avoiding known seizure triggers such as sleep deprivation and stress
- keeping healthy by eating a balanced diet and exercising regularly
- having regular check-ups with the doctor
- consulting with the doctor if unwell or having unwanted symptoms
- keeping a seizure diary
- avoiding taking medications with grapefruit or Seville orange juice as these it may alter the absorption of some medications **(See Epilepsy Action's Self-Management fact sheet).**



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This information is given to provide accurate, general information about epilepsy. Medical information and knowledge changes rapidly and you should consult your doctor for more detailed information. This is not medical advice and you should not make any medication or treatment changes without consulting your doctor.

