

SEIZURES

Level 1, 26 Robertson St
Kensington 3031 VIC Australia
T (03) 9092 0400
F (03) 9376 8567
info@advancedvetcare.com.au
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ABN 29 814 586 915

What is a seizure?

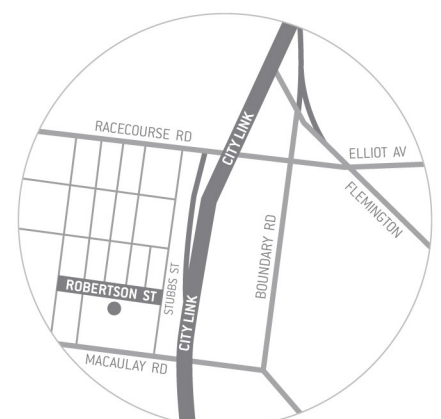
Seizures (sometimes called convulsions or a fit) are any abnormal, involuntary behaviour and are classified as

1. Generalised (Grand mal) seizures - this is the most common form in pets in which the entire body is involved and can be very dramatic and violent to witness. Signs include usually falling to the side, stretching out the head, neck and legs and becoming stiff, or trembling, or having episodes of stiffness/contraction (tonic/clonic action). Pets may also salivate profusely, urinate or defecate and can lose consciousness.
2. Partial seizures - usually involve a specific area of the body. May only see head bobbing or jaw chomping which may or may not progress to a full seizure
3. Psychomotor seizures - this is a predominantly behavioural seizure where, for instance, pets may involuntarily howl, snap, circle or pace. The abnormal behaviour may then be followed by a generalised seizure.

Often a seizure is preceded by an aura or strange feeling associated with a coming seizure. As our pets cannot speak this is generally not noticed – although sometimes pets may hide, appear nervous, restless or start shaking or seek out its owner. This pre-seizure behaviour, if noticed, may last anywhere from a few seconds to a few hours.

A generalised seizure can last from a few seconds to five minutes. It is generally followed by a period of disorientation after the seizure which can last 30 minutes or several hours. During this time pets may appear disorientated, become restless or pace, have continued

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salivation and even appear blind.

Generalised seizures can sometimes look like a fainting spell from heart disease (called Syncope). If your pet faints it can also collapse onto its side and stretch out its head, neck and front legs. However fainting animals do not usually have such a long period of disorientation after these episodes and are usually up and normal within seconds to minutes after an episode occurs.

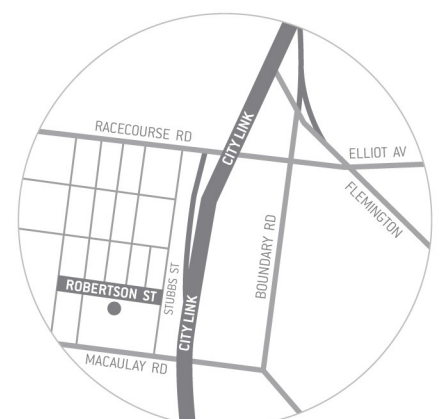
Why do seizures occur?

Broadly speaking seizures are either due to a problem in the body, which then secondarily affects the brain, or due to a direct primary problem in the brain.

Blood tests are usually performed to assess if the problem is in the body. Problems in the body could include:

- Liver or Kidney disease – both of these organs remove the waste products and toxins that are produced in our bodies. If these waste products are not removed, seizures can occur. Usually animals show other clinical signs (such as lethargy, reluctance to eat or drink or vomiting) prior to having seizures. However if animals are born with a liver or kidney problem they may show no abnormal signs before having a seizure.
- External Poisons – such as eating snail bait or badly contaminated food such as old and mouldy fish or meat, or dairy products.
- Low blood glucose – which can occur in very young puppies/kittens, in animals receiving treatment for diabetes mellitus or can occur secondarily to certain types of cancer

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Problems in the brain include:

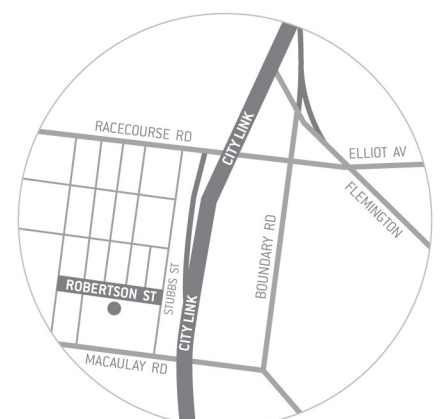
- Meningitis – an infection or inflammation in the fluid surrounding the brain which usually occurs in dogs less than one year old or in animals less than 10-15kg. Analysis of this fluid, obtained by a tap under general anaesthesia, is required if this disease is suspected. Treatment involves either antibiotics or corticosteroids depending on the cause of the meningitis
- Cancer or a mass pressing on the brain – this is more likely in animals over 5 to 7 years of age. A scan of the brain (a CT or an MRI scan) is required for diagnosis in these patients. If surgery is not an option then sometimes corticosteroids may be used to reduce swelling in the brain, as well as treatment (below) to suppress further seizures
- Epilepsy – this mainly occurs in animals between 1 to 7 years of age and is due to a problem in the brain for which no other cause can be found. Breeds which we commonly see with Epilepsy include German Shepherds, Boxers, Schnauzers, Collies, Hounds and Cocker Spaniels. This is not a unique disease but because there is not single test for Epilepsy a complete work up (including full blood work, a CSF tap and at CT scan or MRI) may be recommended for a definite diagnosis.

What medications are used to treat epilepsy and suppress seizures?

As all drugs that are used to treat seizures can have side effects, treatment of any seizure disorder is aimed at reducing the frequency and severity of seizures, rather than complete eradication. In the case of epilepsy, the aim of treatment is to prevent more than 1 to 2 seizures every 3 to 4 months.

The drug of choice is called phenobarbitone and treatment is started when seizures occur in clusters (one after another) or when isolated seizures occur once a month or more.

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Phenobarbitone is an inexpensive drug that is given as tablets, or as a liquid, twice daily (morning and night). It takes about 1 to 2 weeks for this drug to build up to the levels in the blood that will be effective and capable of suppressing seizures. A blood test to determine phenobarbitone blood levels is generally recommended 2 weeks after starting the medication. Once the correct therapeutic levels are attained the phenobarbitone levels are checked every 6 months, or sooner, if breakthrough seizures occur. Blood tests are also run every 6 months to check liver function as this medication can be potentially harmful to the liver when used long term.

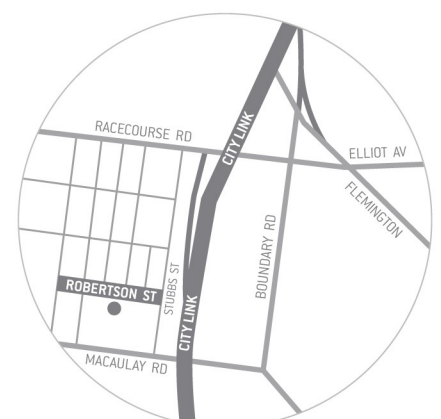
Sometimes additional drugs, such as potassium bromide, need to be added to the treatment if seizures cannot be controlled by phenobarbitone alone.

The most common side effects of phenobarbitone are

- Sedation – this effect is temporary and usually occurs in the first 2 weeks of initial treatment or if the dose needs to be increased during treatment
- Excessive thirst and appetite – these side effects are usually most obvious in the first 2 to 4 weeks of starting treatment but are often permanent. The increased thirst and drinking will also cause an increased need to urinate. Very rarely do animals become incontinent on this drug. However they need a fresh supply of water at all times (and particularly in hot weather). The increased appetite can cause increased weight but can also predispose your pet to gastrointestinal problems that can require intensive hospital care. These problems can be minimised by maintaining a strict diet. A good weight control or low fat tinned/dried food diet is recommended and all fatty food avoided for life (which includes bones, ham, table scraps etc).

Seizure medication is usually required for life. No medications should be changed or discontinued at any time without prior discussion with your veterinarian. Phenobarbitone, in particular, should never be abruptly discontinued.

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What to do if seizures occur at home?

Pets that are treated for epilepsy can have a very good quality of life. However it is rare for pets being treated for epilepsy to have no further seizures after starting medications. It is wise to be prepared for the fact that seizures are likely to occur at home (as the aim of treatment is to prevent more than 1 to 2 seizures every 3 to 4 months).

In most cases an occasional breakthrough seizure, although very difficult and initially frightening to watch, is not of serious concern. It is very important not to put yourself in danger around any animal having a seizure. During a full generalised seizure your pet will not recognise you and you can get bitten during the involuntary jaw snapping that may occur. Dogs and cats cannot swallow their tongue, so there is no need to go near your pet's mouth during a seizure.

It helps to keep a record /diary of when seizures occur, for how long the animal has a seizure and also how long the animal takes to recover.

There are emergency situations for which immediate medical treatment should be sought:

1. Seizure activity has been non stop for 5 minutes or more (full generalised seizure or status epilepticus)
2. More than three seizures in a 24 hour period

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