

# How to Manage a Dog or Cat That Is Having Seizures

## BACKGROUND

A seizure is a sudden neurologic event that causes changes in consciousness and repetitive involuntary movements of parts of the body. Pets may experience seizures for a number of reasons, including ingestion of poisons, low blood sugar, inflammation or masses involving the brain, head trauma, severe liver disease, or epilepsy, to name a few. At the beginning of a seizure, a pet lies down or collapses onto his/her side because seizures produce an altered state of consciousness. A seizure can then produce symptoms such as a rigid body posture; jerking, “running,” or “paddling” movements of the limbs; lifting of the lips and very rapid movements of the jaws (“gum-chewing”); vocalizing; and loss of control of the bowels and/or urine.

The goal of managing a pet’s seizure at home is to provide a calm, quiet environment to allow the seizure to finish, and to intervene if the seizure lasts a long time.

- If there is a specific metabolic imbalance that has been documented previously and that can be reversed to help the seizure, then you should do so as soon as the seizure begins. A common example is a hypoglycemic seizure (seizing due to low blood sugar), which can occur in diabetic animals receiving insulin and which you can treat with oral sugared syrups (see below).
- If a seizure lasts more than 5 minutes, you should notify your veterinarian (or animal emergency clinic if after hours) and bring your seizing pet for immediate treatment.

## TROUBLESHOOTING BEFOREHAND

It is vitally important for you to protect yourself and others from being bitten during a pet’s seizure. During a seizure, a dog or cat has no awareness of what he or she is doing. The “gum-chewing” jaw motions that seizing pets make are without conscious control and extremely powerful. You must absolutely keep your hands and face away from the pet’s mouth during and immediately after the seizure activity. During a seizure, the jaws can clamp down on a hand or other body part and not let go; these bites are highly damaging and can cause the loss of fingers or disfiguring injuries.

An old folk tale describes seizures as causing an animal (or person) to swallow their tongue. This is impossible and a myth that probably arose from the gurgling or gagging sounds seizures cause. The important point is that you must not try to touch the tongue or pull it forward: there is no need, and trying to do so can cause you to be badly injured because the chewing motions during a seizure are uncontrolled and extremely powerful.

Sustained seizure activity, called *status epilepticus*, can start to become dangerous after 5 minutes or longer of continued vigorous seizing. The constant muscle activity of seizures generates heat, which increases body temperature. If a seizure has been ongoing for 5 minutes or more, especially in warm weather, be sure to try to terminate it with veterinary antiseizure medication (as described below), or bring your seizing pet to an emergency veterinary center without delay.

When seizures occur in water, there is a significant risk of drowning. This is not so much a concern with water bowls, which would be pushed aside by the seizing motions of the patient, but can be serious with swimming pools, lakes, ponds, beaches, and the like. Dogs known to have seizures should not be allowed to play unsupervised in water or near pools, but rather should be watched and should be within immediate reach should a seizure

begin. A good option is for you to be in the water with the dog, with a long, retractable leash on the dog so there is room to play, but you are still connected and able to pull him/her to safety if a seizure begins.

## PROCEDURE

- First and foremost when a seizure occurs, do not panic. Realize that seizures produce an altered state of consciousness. Even though seizures may look dramatic to you, your pet—like a person who has an epileptic seizure—will not remember it happened.
- Move quickly to take your pet away from immediately dangerous situations, in the rare event that a seizure occurs in a hazardous location. Examples could include the edge of a steep dropoff on a hiking trail, a busy roadway, the top of stairs at home, or in water. When a seizure begins near one of these potential hazards, take your pet by the collar, the scruff of the neck, or the hind legs and drag him/her away from the hazard. For waterborne seizures, drag your dog immediately onto shore or onto a boat or platform. In all situations, be sure to protect yourself from being bitten. This may involve picking your dog up by the hind legs rather than the collar to pull him/her to safety without approaching the head and teeth.
- Most seizures last only seconds to minutes; however, those seconds or minutes may feel longer than they really are. Be sure to look at a clock/watch at the beginning of the seizure so you will know how long it lasted.
- As described above, seizures that last 5 minutes or more require antiseizure medications. DO NOT administer human antiseizure medications if you have them on hand, unless your veterinarian counsels you to do so. Unguided administration of human antiseizure drugs can easily cause an overdose that could be life threatening.
- One effective at-home method owners can use is to give diazepam (Valium) rectally to the pet during a seizure. This is because the violent “gum-chewing” motions of the mouth make oral administration impossible, and the flailing of the limbs makes intravenous injection into a leg vein equally unlikely. For rectal diazepam/Valium administration, the directions are as follows:
  - When the seizure begins, open a vial of liquid diazepam/Valium. If it is in small, single-use, all-glass bulbs, be very careful not to cut yourself on the sharp glass edge of the crack-off bulb top (use a square of gauze or a facecloth between your fingertips and the bulb when opening). If you are using a bottle of diazepam/Valium that has a round plastic cap on top, pry it off to reveal a round rubber stopper on top (often grey, surrounded by a flat metal cap, shaped like a washer).
  - Place a needle onto a syringe. Typically this means removing both the needle and syringe from their casings and removing their protective caps.
  - Use the needle and syringe to draw up a single dose of diazepam/Valium from the vial as prescribed previously by your veterinarian for this use.
  - **Carefully remove** the needle from the syringe, and discard the needle safely for proper disposal as medical sharps. Be sure to do this slowly and correctly to avoid giving yourself a needlestick injury.

- If it was provided to you, you may place a plastic teat cannula, which is a small nozzle-like tip, onto the syringe where the needle was. Otherwise, the procedure can continue just fine without it.
- Lift your pet's tail with one hand (left hand if you are right-handed) and take the syringe with the diazepam/Valium with the other hand (right hand if you are right-handed), holding the syringe like a pen. **Do not** have your thumb on the plunger of the syringe; rather, just hold the barrel of the syringe with the first 3 fingers, like you hold a pen.
- Rest the palm of your hand holding the syringe on your pet's hind end, below the tail, such that you can place the tip of the syringe into the anus just by turning your wrist and pushing the syringe tip into the anus gently.
- Advance the syringe into the anus, being sure to advance the barrel of the syringe (the whole syringe); **do not** touch the plunger (white plastic part of the syringe that injects) until the syringe is advanced well into the anus.
- When the barrel of the syringe is halfway or more into the anus, remove your thumb from the barrel of the syringe, leaving the syringe held between your second and third fingers like a cigarette; move your thumb up to the plunger and depress the plunger to deliver the diazepam/Valium in one dose. This does not have to be especially fast or slow (1 or 2 seconds is fine).
- The effect of the medication should be seen in the form of slowing of the seizure and then termination of the seizure within 3 to 5 minutes of administration (total seizure time: less than 10 minutes).
- Another option is to administer sugar syrup by mouth, but only if the seizure is known to be caused by low blood sugar. The two situations where this may occur are diabetes (mellitus) that is being treated with insulin, and certain types of tumors that decrease blood sugar levels, such as insulinoma and smooth muscle tumors. Be sure to check with your veterinarian before giving sugar solutions in an attempt to treat seizures.
  - Move the seizing pet to a nearby easily cleaned surface such as a tile or linoleum floor.
  - Pour corn syrup or maple syrup into a spoon:  $\frac{1}{2}$  to 2 teaspoons (2 to 10 mL) is appropriate for cats/small dogs to large dogs, respectively.
  - Hold the spoon in your right hand if right-handed; with your other hand, hold the seizing pet's lip up to completely expose the gums on one side. This is most easily done by taking the whiskers and gently pulling to lift the lip. **Do not** put your fingers on the gums or in or near the mouth, as you may be severely injured through biting.
  - A seizing pet will virtually always be lying down on his/her side. Therefore, pulling the lip up and exposing the gums allows you to drip the syrup onto the gums. Some of it will often run through and onto the floor, but some can be absorbed by the gums or may be swallowed if your pet is licking.
  - If your pet's seizure signs are mild and he/she is still sitting up or standing, you may instead put the spoon into the cheek pouch, which is the corner of the lips on either side of the mouth. Putting the syrup here is best for your pet to swallow it. Be sure to handle the lips or cheeks **only** by pulling on the hair of the face, not by handling the edges of the lips or putting your fingers inside the cheek pouch, any of which can result in your getting bitten.

## AFTERWARDS

Pets may be disoriented for some time after the seizure has ceased. This is to be expected and is referred to as the *postictal period*. Due to this disorientation, pets may not recognize their owners or other family pets. These signs generally will slowly disappear over the next hour/hours. Pets may also appear blind and may bump into objects. This too should disappear over minutes to hours, but your pet is reliant on you during this time to protect him/her from hazards such as stairs or objects that can topple if bumped into.

If a pet is receiving daily medications for seizures, you should contact your veterinary hospital to make them aware of the occurrence of the seizure. Blood levels of the medication may need to be monitored and/or the medication may need to be increased. Alternatively, sometimes new medications may also be added to help control the seizure activity. It should be remembered that you will need to administer daily medications for the life of your pet to control his/her seizures.

Some pets can have their seizures triggered by certain events or circumstances, and you may find that a pattern emerges where seizures occur at a particular time. If this is the case, you should consider eliminating these triggers—such as certain activities—if possible.

## FREQUENTLY ASKED QUESTIONS

### *Why do I need to time my pet's seizure?*

It is important to time the seizure because seizures that last for more than 5 minutes can raise the body temperature and should be terminated with medication given by injection (veterinarian) or rectally (by you, if medication has been prescribed for this purpose).

### *Why is it important to keep track of seizures in a log?*

After a series of seizures, some owners can forget when and for how long the seizures occurred. By reviewing your journal log of seizure activity, your veterinarian can better determine a treatment protocol for your pet.

### *Do seizures cause permanent damage?*

Uncontrolled seizure activity that lasts for more than 5 minutes does risk causing hyperthermia. This is the reason ongoing seizure activity warrants an immediate visit to a veterinary facility for treatment, or treatment by you if your veterinarian has prescribed it previously (rectal diazepam/Valium, for example). Hyperthermia can cause brain damage if it is severe and ongoing. Seizures themselves may also favor more seizures occurring in the future, and for this reason, daily oral antiseizure medications are warranted if the seizures are occurring frequently. This should be an important point of discussion with your veterinarian.

### *Are seizures painful?*

No, the exact same types of seizures that occur in humans and animals are not described as painful by humans who can tell us how it feels. The sensation is of an impending seizure (aura), then the seizure itself (during which the animal is unconscious), and then the postictal, or recovery, phase in which the animal regains consciousness. It is not a painful process unless movement or thrashing causes injury, and preventing this is an important way you can help during the seizure (see above).

### *What if my pet has a seizure when I'm not home?*

It is important to modify the home environment in anticipation of seizures occurring during the day if no one is home. Ways of doing this can include installing baby gates at the top of stairs so a pet is confined to one floor of the home (and cannot fall down the stairs when a seizure occurs); moving or bracing furniture and objects that could fall or break if struck by the legs during a seizure; and quickly assessing the home before leaving for the day to be able to notice changes such as spills or objects that have moved as evidence of a seizure having occurred.



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