

## Bearded Dragon Seizures

### What causes my bearded dragon to suffer seizures, and how can I prevent them?

*By Margaret A. Wissman, DVM, DABVP*

My female bearded dragon has suffered some seizures. I would like to know what causes this and what I can do to prevent it from happening again. This is not the first time she has had a seizure, but this time it is taking longer for her to recover. I also think she is pregnant and was wondering if this is why it is taking longer for her to recover? I got her a new reptile terrarium yesterday and put some crushed walnuts at the bottom for substrate. Could she have had an allergic reaction to them? She is allergic to peas.

Thank you,  
Louise

I have never heard of a bearded dragon being allergic to peas, so I wonder what prompted you to come to that conclusion? However, the bearded dragon seizures are of concern to me, and I wish that you had given me some information about your reptile husbandry – temperature range, lighting, diet, etc.

First, let me explain what a seizure is. A seizure is caused by abnormal electrical activity in the brain. During a seizure, the electrical impulses that normally follow established pathways go around in the brain willy-nilly, instead. This may result in the brain sending out signals to the muscles to twitch uncontrollably. If a seizure involves the entire body's muscles to contract and relax rhythmically, it is called a tonic-clonic seizure. This used to be called a grand mal seizure. Another type of seizure is the focal seizure, a type of seizure where the brain only causes abnormal twitching in a certain group of muscles because the abnormal electrical activity only involves a localized area in the brain. Seizures may be caused by low calcium levels in the bloodstream, and this may start out as just one muscle or muscle group twitching and, over time, may progress to tremors and full-blown seizures.

Bearded Dragon seizures are most commonly related to calcium problems. If you don't have a full-spectrum light that emits the UVB portion of light, if you don't change that light at the manufacturer's recommended intervals, if you have the light too far from the bearded dragon or it is filtered through glass or plastic, if you are not keeping the bearded dragon at the correct temperature range, or if you are not feeding the bearded dragon an appropriate diet – any one of those things could be involved with why she is having a seizure.

I encourage you to go through the archived questions and answers from my column to get detailed [information on husbandry and diet for bearded dragons](#). In my experience, the most common bearded dragon husbandry problem is that most people don't keep bearded dragons warm enough. If the bearded dragons don't sit in their basking spot and gape with their mouths open, they are probably not hot enough. If the bearded dragons are kept at too low of a temperature, they cannot properly digest and absorb nutrients, which can also cause calcium absorption problems.

Female bearded dragons developing eggs require a lot of calcium, which the female bearded dragon must pull from her bones and the calcium stored in her body, and while she will do her best to maintain her blood calcium level within the normal range, producing eggs is an enormous strain on her calcium level. If she has low blood calcium, it may result in her developing seizures. You didn't say if you have bred your female bearded dragon by placing her with a male, or whether she has previously laid eggs successfully.

I encourage you to bring your bearded dragon in to see a qualified herp veterinarian who will go over the diet, husbandry and caging – so be sure to bring this information with you for the appointment – and who will examine your lizard and will most likely recommend drawing blood for basic tests. One test is the blood calcium level, which may still appear within the normal range or at the low end of the normal range, even if low blood calcium is causing the seizures. Because the body will try to maintain the calcium level in the bloodstream within the normal range, it may only dip periodically to a level low enough to cause seizures. For that reason, a blood calcium level drawn during or shortly after a bearded dragon seizure is more likely to be diagnostic.

Seizures may also be caused by many other conditions and diseases, including liver disease, toxins, infections, tumors, parasites, endocrine disorders or trauma, to name some. Blood tests and X-rays may be necessary in an attempt to determine the cause of the seizures, but in some cases, this may not be possible.

I don't recommend using crushed walnut shells as the cage substrate for bearded dragons, because if they ingest any, it

may result in impaction or gastrointestinal problems. Any abrupt changes to the bearded dragon's environment may cause them to go into a sort of torpor, where they try to bury themselves and stop eating for a period of time as a natural reaction to adverse change. So, this might not have been the best time to move your bearded dragon into a new habitat.

Until you can make an appointment to have your bearded dragon examined and tested, I would recommend you ask your herp veterinarian if you should start a calcium supplement for your potentially gravid (meaning she is developing eggs) bearded dragon. Make sure you have a good quality full-spectrum light that emits UVB rays, that it is changed periodically according to the manufacturer's recommendations and that the light rays are not being blocked by plastic or glass, which filters out the majority of the ultraviolet rays that are necessary for the lizard to utilize nutrients correctly.

If you can safely take her outside so she can enjoy the benefits of natural sunlight (again, not filtered through glass or plastic), that is always a good thing. Just make sure she has adequate shade and cannot be injured by predators or escape while outdoors. Nothing substitutes for natural sunlight. Several hours per week would be wonderful, in addition to providing her with a full-spectrum light bulb.

If your bearded dragon continues to have seizures, there is a nutritional supplement called dimethylglycine (DMG) that has been shown to be helpful. DMG, an antioxidant, can increase the threshold for bearded dragon seizures, meaning it may prevent seizures in many cases by causing the brain to need more electrical excitement to initiate a seizure.

It is important to attempt to ascertain the cause of the seizures so the underlying reason can be treated. For most anticonvulsants (medicine used to prevent the occurrence of seizures), there are no established doses or protocols developed for animals, including reptiles. I really recommend the use of DMG for seizure disorders in reptiles because it is a very safe supplement and can help partially control or even completely control seizures in reptiles, precluding the use of anticonvulsants, which have not been investigated in these species.

DMG is only available by prescription from your veterinarian. Ask your herp veterinarian about this valuable supplement for your bearded dragon until you are able to have a diagnosis made. It certainly can't hurt, as it is a nutritional supplement and an antioxidant, and I think it is completely safe for use in herps.

Good luck with your bearded dragon. Please get her the veterinary medical help she needs and pursue a diagnosis.

#### Need a Herp Vet?

If you are looking for a herp-knowledgeable veterinarian in your area, a good place to start is by checking the list of members on the Association of Reptilian and Amphibian Veterinarian (ARAV) website at [www.arav.com](http://www.arav.com). Look for DVMs who appear to maintain actual veterinary offices that you could contact.

Or, check out the state by state ReptileChannel Vet Listings.