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Living with... peripheral vestibular disease (2010) by Linda Aronson, DVM

You may be like me and feel that we've beaten this subject to death, but this past weekend another Beardie with old dog vestibular disease ran up a huge bill at a veterinary ER as the vets chased some mystery neurological disease. At least she is still in the land of the living. More often I hear about them after the fact, misdiagnosed as a "brain tumor" or "incurable neurological disease" they have been euthanized, like the litter brother of my boy Ghost. If this article can save just one of these poor dogs it will have served a useful purpose. I am hoping it will save a whole lot more.

While each presentation is probably unique it really is pretty hard to miss a diagnosis of old dog vestibular disease. I don't know if it is becoming more common, I do think our dogs are living longer lives, and it seems almost a rite of passage for dogs once they reach a certain age. While the problem can show up in middle aged Beardies 10 -12 say, most cases are in older dogs 14 and up. I have diagnosed many a case of old dog vestibular disease in Beardies, other dogs and even a few cats with old cat vestibular disease, but never in one of my own. That was until the evening of the May 31st, it's always a bit different when it's your own!

My husband sprained his ankle the morning before, and one of the other dogs was under the weather. Ghost, my big blue boy, turns 15 in October. He's never had a sick day, but he is deaf. There was nothing to mark the day as different, he ate well, ran around like a loon and bounced as much as he can. However, after dinner I noticed he was restless and his legs seemed not to support him too well. I checked him out, all seemed normal, his eyes were stable and pointing ahead. I got on with my Bagpipes' article. Ghost finally settled at the foot of the stairs about 5 feet from my chair. Then I heard someone retching. It was him and he'd thrown up all his dinner, but he'd not gotten up to do so. I tried to get him up and realized he'd peed all over himself, and when I lifted him, no easy thing, his legs stuck out like he had rigor mortis but he was making actual fists of his paws. I moved him out of the vomit, slipping and sliding in that and the pee. Did I mention he's a big boy? Put him down and looked at his eyes once again. They were flashing one way (to the right) and returning slower in the other direction (to the left). The direction in which they move slowly



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is usually the side of the lesion, but if both sides are affected the nystagmus may not be as visible. Ghost's eyes almost seemed to be spinning with an up and down component. No wonder he was feeling nauseous.

Diagnosis made I managed to heft him a few more feet onto the front porch. My husband commented it looked really scary, and got in the way. I called my son who said he was 15 minutes away. Ghost sat on the front step as his world spun, and I cleaned up the hall. My son and I got him onto the grass where he lay pretty much out of it. I had the bright idea to try the garden cart. Being picked up has bothered Ghost anyway since he was deaf, and with the addition of these new sensations he flailed and fought worse than ever. We managed to get him in the cart, although nearly broke a few of my son's bones doing so. Once there though he was quite content and rode around like a little pasha - make that quite a big pasha. I made him a bed up in his run, covered it with pee pads, blankets and towels and gave him something for his nausea. Unfortunately, it was an oral medicine, fortunately he didn't throw it up, probably he was already empty. The next morning he got an i/v catheter and a shot of an antinausea drug called Cerenia. He seemed quite content to lie still most of the time, so we let him. The Ringer's solution kept him hydrated, and he didn't throw up again. Apart from turning around when he'd peed so he didn't lie in it that was pretty much it for the first 30 hours. Then he decided he could get on his feet. We took him out, he peed and staggered quite a long way, even up hill. He had little control of where he went though, so when it was time to go in, my son just carried him. He seemed interested in food, but would pull away from his bowl whether it contained food or water.

Sometimes he'd eat a few kibbles from my hand or a little raw chicken mix, but my eager eater was gone. The concrete floor of the dog room was impossible for him, but once outside he managed pretty well and he could walk on the rubber matting in his run a bit, mostly though he lay down and regained his strength. I did get some of his Nerve and Muscle Plus in him and also some cholodin. He had been getting these for a year or more, they are very good for elderly dogs in general, but especially after an episode of vestibular disease. By the morning of the 4th day he tried to lift his leg to pee, he fell over, but we all cheered anyway. He still wasn't really eating or drinking though. I syringed some chicken soup in and he helped lap it down. After the second try with this it was like a light bulb went off and he started eating again. He didn't get every last bite then but the eating and drinking were back. If you put a hand on his collar he was pretty



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steerable. He started to be able to climb the stairs. By day 5 he actually jumped over the threshold into the house. Gradually his stamina and abilities improved - I say gradually, but within 2 weeks he was walking everywhere, jumping and just had a list to port, so he'd start walking straight and veer left. He used his tail as a rudder. By the third week even that had gone and he climbed up and stole a loaf of bread off the back of the kitchen counter. He did manage to break a canine tooth in one of his falls, but otherwise he's completely recovered and as good as new. Actually, he may even be a bit better than new. He seems to hear if you talk in a loud voice, before he just heard the other dogs barking, which they did to help direct him when he couldn't figure out which door we were going in. He also barks a bit less. He has always been an opportunist and since his senior years arrived he's felt another meal might be forthcoming if he barked enthusiastically, no matter how recent that last meal was. Now he's a bit less demanding, although just as eager to have his food.

So what is old dog vestibular disease, or as it is more correctly named canine idiopathic peripheral vestibular disease? The vestibular system is part of the inner ear and consists of three fluid filled loops (semicircular canals) oriented in three different planes. As an animal rotates its head the fluid moves and stimulates tiny hairs attached to nerve endings telling the animal where it is in space and how fast it is moving, so that it can balance and right itself with respect to its environment. Up and down motion is detected by other receptors in the middle ear, in a similar fashion but in this case there are tiny weights - otoliths - rather than hairs that move with the head. If movement is rapid, the fluid is sloshed around and the animal is left feeling dizzy and disoriented. The data is sent to the cerebellum and brain stem which adjust the position of legs, neck and eyes to right and stabilize the body, and to the hypothalamus to make the animal aware of where it is in space in case it wants to make further adjustments. If the animal starts to fall when asleep it will wake up - this is why animals recover faster from anesthesia when turned from side to side. For reasons that we don't really understand (idiopathic) some dogs suddenly develop signs of vestibular disease.

Suggested causes have been inflammation of the nerve endings, abnormal drainage of the fluid in the vestibular system or a change in the consistency of that fluid. Suddenly, the dog doesn't know which way is up and it feels really really dizzy. The dog staggers and stumbles, suffers motion sickness, develops nystagmus, circles towards the lesion (unless both sides are



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affected in which case he may move quite straight but will still stagger), he will fall usually towards the lesion and be much happier lying on that side. When the dog is up the head will be tilted towards the lesion, so he looks rather inquiring. I noticed this especially with Ghost, who always tilted his head when we were talking until he went deaf, I rather enjoyed this aspect of the illness, although now the head tilt has gone again. It tends to linger beyond most of the other symptoms.

The severity of symptoms and their duration can vary from dog to dog, but generally there is significant improvement in 3 to 5 days. Owners may find it easier to check their dog into the vet's so he can have an IV running for fluids, and able bodies to help him get up and down and move around. Some dogs like the confinement of the bottom of a plastic crate. This can also be used to help prop them up in a sternal position rather than lying on their sides. This will help prevent bed sores in dogs that are debilitated for longer periods. Dogs with cerebellar strokes can show similar signs, and will recover with good nursing too, but may take a bit longer to do so. Strokes are relatively uncommon in dogs, so are brain tumors, so if you see these signs, most often it is old dog vestibular disease. During the recovery stage it is important to restrict the environment so the dog doesn't fall down stairs or out of a window or balcony. Most dogs will recover completely and never have another episode. Some dogs seem to enjoy the first one so much they do have further bouts. However, they will recover each time and be none the worse for wear.

If the dog shows signs of problems with other nerves controlling the head or face, if the nystagmus is primarily up and down rather than side to side, or only visible when the dog is in certain positions you may need to revise the diagnosis of old dog vestibular disease. These are more common with central vestibular disease - those areas of the brain which receive input from the vestibular system are affected rather than the vestibular system itself. This can be caused by a tumor, trauma or infection especially Rocky Mountain Spotted Fever or some other brain lesion. Obviously you'll likely know if your dog got a significant whack to the head or has been bitten by ticks. Otherwise it is probably prudent to just give supportive care for 3 or 4 days and watch for signs of improvement before pursuing other potential causes. Most of the time it will just be old dog vestibular disease and your dizzy friend will be well on the road to recovery without bankrupting you searching for a more esoteric cause. As we were told in vet school, this is



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the diagnosis you will be happy to deliver, and which the scared and anxious owners will be happy to hear - at least when it's been explained to them.