



Vestibular Disease

Who can be affected?

Vestibular disease or poor balance is a sign of brain or nerve disease and can happen to any pet. The good news is that many of the causes of vestibular disease are very responsive to treatment; however, some causes are life-threatening. Therefore, if your pet has vestibular disease, achieving a rapid diagnosis can be very important. This information will help you understand what may be the cause of your pet's balance problem.

Indications of Nerve (Peripheral) Disease

- Horizontal or rotary nystagmus (eye twitching)
- Fast phase of nystagmus is opposite the direction of the head tilt
- Nystagmus at a rate of 1 beat per second
- Pets are able to walk & are bright & responsive
- Vomiting can occur in the first few hours
- Balance and nystagmus improve in 1-2 days and head tilt improves more slowly

Indications of Brain (Central) Disease

- Vertical nystagmus or fast phase towards head tilt
- Slow rate of nystagmus or only seen when the head is in certain positions
- Inability to walk or high stepping when walking
- Dullness, glassy-eyed appearance, confusion, eliminating in the house.
- Seizure, blindness, head turn, different pupil sizes

Pets with vestibular disease walk as if they are drunk because they side step, lean, or stumble to one side.

Poor balance is called vestibular disease because the receptors that sense movement and head position are located in the vestibule of the inner ear. Information from these receptors runs along the vestibular nerve into the brain. The brain then processes this information to make adjustments in head and body position.

The cause of vestibular disease can be from a problem in the brain or a problem in the nerve. Disease located in the brain is often called central while disease of the nerve is called peripheral. Nerve or peripheral disease is generally self-limiting or easily treated; however, disease of the brain can be life threatening, especially when left untreated.

A careful examination will indicate the location and therefore the seriousness of the disease.

Central vs. Peripheral – A Critical Distinction

In addition to controlling head and body position and therefore balance, the brain also controls level of awareness, strength, walking, pupil size, breathing and the heart beat. Some of the diseases that affect the brainstem can cause difficulty walking, coma and even death. These diseases can be rapidly progressive; therefore, distinguishing central from peripheral disease early on can be very important.

Causes for Vestibular Disease

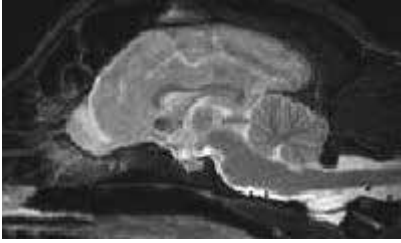
The most common diseases of the peripheral nerve are bacterial infection and inflammation that cross from the middle ear into inner ear, low thyroid and a process called idiopathic peripheral vestibular disease. The most common diseases of the brainstem are granulomatous meningoencephalomyelitis (GME), tumor, stroke, low thyroid and infection.

Common Testing for Pets with Poor Balance

- Blood evaluation (Chemistry, Complete Blood Cell Count, thyroid levels, tests for infection)
- Blood pressure
- MRI
- Cerebral spinal fluid (CSF) analysis
- Antibiotic and/or steroid trial
- Brainstem auditory evoked response (BAER)

MRI is invaluable as it is the best imaging test for the brain, middle and inner ear. Which test(s) BVNS would choose in any particular case often depends on age, breed, progression and clinical impression.

When to See a Neurologist



MRI of a Canine Brain

Many veterinarians offer referral to get the best opinion about where the disease is located. Once this is determined, the most appropriate test may become obvious allowing for more accurate and rapid treatment. Another common reason for referral is the suspicion that the disease may be in the brain and therefore, life threatening. Timely advanced testing followed by specific therapy, can be the difference between life and death.

Common Diseases Resulting in Poor Balance

Encephalitis

Encephalitis means that there is inflammation of the brain – it does not imply that the cause of the inflammation is known. Encephalitis can be infectious or non-infectious. Encephalitis is more common in small dogs, younger than 8 years of age, but any dog or cat can get the disease. The diagnosis is often made using MRI, spinal fluid analysis and infectious disease tests. A rapid, specific diagnosis provides for the best treatment and outcome of this life-threatening disease.

Granulomatous Meningoencephalomyelitis (GME)

GME is inflammation (more white blood cells than normal) in the brain, meninges or spinal cord in the absence of infection or a brain tumor. GME is theorized to be an immune disease where the immune system attacks the nervous system.

GME often involves the balance center of the brain and many patients have several of the signs of central disease listed on the front. MRI and CSF analysis and a high index of suspicion are often required to make a diagnosis of GME. If the patient is not rapidly deteriorating, infectious disease tests and an antibiotic trial are ideally done to rule-out an infectious cause. GME can be rapidly progressive and about 10% of pets do not survive their initial manifestation of the disease.

There are many new drugs for GME which are allowing more dogs to do well.

The current 1 year survival rate for this disease is about 70% with many patients living longer, normal lives while on medication. A rapid diagnosis improves the odds of being able to survive the initial symptoms and go on to live well.



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