



What is vestibular disease?

Vestibular disease is caused by a problem with the system of balance (the vestibular system). There are two parts to the vestibular system. One part resides outside of the brain in the inner ear and the other resides inside the brain stem.

What are the symptoms of vestibular disease?

The most common symptoms of vestibular disease include head tilt, leaning/falling to one side, circling to one side, abnormal eye movements (called nystagmus) and abnormal eye position (called strabismus). Nausea/vomiting can also occur, especially in the initial stages of the disease. Other symptoms of vestibular disease depend on whether the problem lies outside the brain (called peripheral vestibular disease) or inside the brain (called central vestibular disease). Dogs with peripheral vestibular disease are usually still mentally alert, even when disoriented due to lack of balance. Dogs with central vestibular disease may be mentally dull, weak, or have problems with nerves that supply the face causing difficulty blinking, swallowing, and chewing.

What causes vestibular disease?

There are many different causes of vestibular disease. In most cases of peripheral vestibular disease, an underlying cause is not identified and it is called "idiopathic." Peripheral vestibular disease can also be seen in animals with infection, inflammation, or cancer in the ear. A sudden onset of vestibular disease occurs commonly in old dogs and is referred to as "old dog vestibular syndrome." The most common causes of central vestibular disease include brain tumor, stroke, auto-immune brain inflammation, and infection.

How is vestibular disease diagnosed?

A full neurological exam is necessary to determine whether the symptoms reflect a problem with the peripheral or central vestibular system. Thorough examination of the ear is performed, usually under sedation. Imaging of the brain and middle ear is usually recommended either with an MRI or CT scan. In cases of central vestibular disease, cerebrospinal fluid is often collected to look for inflammation, infection, and some types of cancer.

How is vestibular disease treated?

Treatment for vestibular disease depends on the underlying cause.

- Animals with idiopathic or "old dog" vestibular disease are treated supportively and typically improve over a period of days. They may need to be hospitalized to receive intravenous fluids and anti-nausea medications over the first couple of days.
- Animals with infection of the ear are treated with a combination of antibiotics and sometimes surgery. Animals with tumors in the ear may also undergo surgery depending on the type and extent of the tumor.
- Animals with vestibular disease secondary to strokes in the brain typically get better with supportive care over several days or weeks. Tests to look for an underlying cause for the stroke (i.e. heart disease, kidney disease, thyroid disease, high blood pressure) are done to try to prevent future strokes. In many cases, an underlying cause for a stroke is not identified.
- Animals with central vestibular disease secondary to infection or inflammation in the brain are treated with medications for that particular disease.
- Treatment for vestibular disease secondary to a brain tumor includes medical and/or surgical management depending on the type and location of the tumor.

What is the prognosis?

The prognosis for idiopathic vestibular disease is very good. Most animals will recover over a period of days. Some dogs will have a residual head tilt even after all the other vestibular signs have resolved. It is not uncommon for dogs with idiopathic or "old dog" vestibular disease to have subsequent vestibular episodes. Prognosis for the other diseases that cause vestibular disease is variable.