

## **Idiopathic vestibular syndrome (IVS)**

### **What is idiopathic vestibular syndrome (IVS) and what are the causes?**

The vestibular system is responsible for maintaining balance and posture. The vestibular system includes a balance receptor situated in the inner ear, an associated nerve and specific areas in the brain. To maintain balance, the balance receptor continuously sends information to the brain to update it about the body's orientation with reference to gravity and movement. If there is a dysfunction in any of the vestibular structures then the brain will receive wrong information and lead to clinical signs.

A syndrome describes a set of clinical signs or symptoms. In the case of IVS there is often a sudden onset of vestibular (balance) dysfunction which leads to the clinical signs detailed below. The exact cause of IVS is unknown but it is thought to be the result of an abnormality within the balance organ in the inner ear.

### **Which pets typically get IVS?**

Dogs and cats of any age and breed can develop IVS but it especially affects older dogs and is therefore often referred to as idiopathic geriatric vestibular disease or old dog vestibular syndrome.

### **What are the signs of IVS?**

Common signs include drifting and falling to the side and/or circling (ataxia), a head tilt (rotation of the head) and flickering of the eyeball from side-to-side (nystagmus). Some pets will be unable to stand and will even roll over if you try to move them. Often these signs are accompanied by nausea or vomiting. Sometimes dogs with IVS also have an idiopathic facial nerve paralysis and will show signs like drooping of the muscles in the face.

### **How is IVS diagnosed?**

This is a diagnosis of exclusion, meaning we need to rule out other (more serious) disease processes. A neurological examination can give an indication if the clinical signs are suggestive of IVS or if it is more likely that there is another problem (e.g. a tumour, stroke, bleed or inflammation). The greatest degree of confidence is then achieved by imaging (MRI scan of the brain and middle/inner ear) and cerebrospinal fluid (CSF) analysis. We will usually take blood samples investigate for endocrine diseases which can also cause vestibular dysfunction. If all these tests are normal a diagnosis of IVS can be made.

### **What treatment options are available?**

There are not any specific treatments available for IVS itself. Symptomatic treatment is aimed at reducing nausea, managing nutrition and helping to rehabilitate patients so that they can safely return home.

### **What is the prognosis for IVS?**

In most cases animals will recover spontaneously within days to weeks. In some patients the recovery may longer and it is possible for some pets to have residual abnormalities such as a head tilt.