

## **Fibrocartilagenous embolic myelopathy (FCEM) and acute non-compressive nucleus pulposus extrusion (ANNPE)**

### **What is FCEM?**

Fibrocartilagenous embolic myelopathy (FCEM or FCE) is a spontaneous disorder of the spinal cord in the neck or back. A small part of the intervertebral disc gets stuck in one of the small arteries supplying the spinal cord. The damage to the spinal cord is caused by the lack of blood supply to the affected area, very similar to a “stroke” in the brain. There are different hypotheses about how and why this happens but we still do not really know.

### **What is ANNPE?**

Acute non-compressive nucleus pulposus extrusion (ANNPE) is a spontaneous extrusion (material gets forced out) of a small amount of disc material. This happens with a very high velocity and the material hits onto (and sometimes into) the spinal cord. This causes mainly bleeding and bruising of the spinal cord but not compression as in a “classical” intervertebral disc extrusion.

### **What are the signs of FCEM and ANNPE?**

The clinical signs of both of these diseases are very similar. The onset is very acute and can happen in any situation but especially in ANNPE often happens when running, jumping or playing. In the first seconds to minutes there can be some signs of pain but after that it is a non-painful condition. The clinical signs are normally very lateralized similar to a “stroke” in the brain. Depending on if it happens in the neck or the back there will be a varying degree of paralysis of the legs.

### **How is FCEM and ANNPE?**

The fairly typical history and neurological examination will give us already a good idea that your dog might have a FCEM or an ANNPE. Nevertheless, an MRI scan will be necessary to get a final diagnosis. This can be very important because one of the top differential diagnosis would be a “classical” intervertebral disc extrusion which might be a neurosurgical emergency and should not be missed or mistaken for an FCEM or ANNPE.

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

These are non-surgical conditions – the paralysis is a result of contusion/bruising to the spinal cord and not a result of something compressing the spinal cord. The mainstay of treatment is supportive – nursing care of the bladder as some patients may be urinary incontinent, physiotherapy and rehabilitation exercises and management to help prevent pain developing in other joints and muscles.

### **What is the prognosis?**

The prognosis for the majority of patients with this condition is good. However, those patients that have the most severe presentations (i.e., they cannot feel their feet), or have marked damage to their spinal cord as seen on the MRI scan, may not recover function even with supportive care. Based on your pet's presentation and MRI findings the neurologist will be able to give you some indication about their expectation for time to recover. Some patients may have long term intermittent faecal incontinence.