

Canine Degenerative Myelopathy

What is canine degenerative myelopathy and what is the cause?

Canine degenerative myelopathy (DM) is a progressive disease of the spinal cord. It is generally a slowly progressive condition where over many months the nerves within the spinal cord stop functioning and are therefore unable to transmit impulses normally. The nerves in the middle of the back (thoracolumbar spinal cord) are affected first and then the disease progresses down and eventually up the spinal cord.

The exact cause is incompletely understood. It appears to be the result of a genetic mutation in the gene coding for superoxide dismutase (SOD).

Which pets typically get canine degenerative myelopathy?

Dogs of any breed can be affected but DM is particularly common in German Shepherds, Pembroke Welsh Corgi's, Boxer dogs and Soft Coated Wheaten Terriers. Clinical signs typically start between 8 and 14 years of age.

What are the signs of degenerative myelopathy?

Clinical signs are initially mild. Typically, only one leg is affected at the outset and there may be subtle signs of weakness e.g., scuffing the nails intermittently. This may gradually progress to affect both pelvic limbs and patients may have more obvious weakness and may appear wobbly (ataxic). As the disease progresses dogs may struggle to stand in their back legs and may have urinary and faecal incontinence. The condition is not painful.

How is degenerative myelopathy diagnosed?

DM can be suspected on the basis of the history and examination findings. However, it is a diagnosis of exclusion, meaning that other diseases that can look very similar need to be excluded by the neurologist first.

It is possible to perform a DNA test to look for a mutation in the SOD gene. In dogs that carry two defective copies of the gene they would be considered to be at risk of developing DM. This test does not definitively confirm the diagnosis.

In most cases we would recommend advanced imaging of the spinal cord and vertebral column with an MRI scan and sometimes a cerebrospinal fluid (CSF) analysis.

What treatment options are available?

There are no specific treatments available for DM, and sadly with time the clinical signs will continue to progress. However, many dogs can have an acceptable quality of life for months or even years. We would advise preventing affected dogs from becoming overweight, regular exercise on non-slip surfaces and regular physiotherapy and in some patient's hydrotherapy can be beneficial. There are also a number of mobility devices which can be useful.

What is the prognosis?

Unfortunately, DM is a progressive condition and with time patients will become paralyzed in their back legs. The disease will then start to progress up the length of the spinal cord to include the forelimbs and is ultimately a fatal condition. The rate of progression can be quite variable between patients. Once patients are unable to use their back legs and have lost urinary and faecal continence, we would recommend humane euthanasia.