

# NEUROLOGY

## Canine Degenerative Myelopathy (DM)

by Anthony Conte, DVM

Canine Degenerative Myelopathy (DM) is a degenerative condition of the spinal cord that occurs most often in older dogs and is most similar to ALS (Lou Gherig's Disease) in people. DM is also known as chronic degenerative radiculomyelopathy.

This condition is most often recognized in Boxers, Corgis, German Shepherds and other large breed dogs. Pugs have also been found to have a higher incidence of developing DM.

The cause of this condition is presumed to be multi-factorial, but a genetic mutation in the SOD-1 gene has been identified as a precursor for development.

Therefore, a genetic test is available to determine the likelihood of having DM (or lack thereof). This test is submitted to the University of Missouri Comparative Genetic Laboratory.

Therefore, it is recommended in any at-risk breed displaying clinical signs consistent with DM pursue genetic testing however it is important to note that this is not a substitute for other testing.

The test can determine:

- dogs that are clear of DM (two normal copies of the gene)
- dogs that are carriers (one normal copy of the gene and one abnormal copy)
- dogs that are at risk (two copies of the mutated gene)

DM is a diagnosis of elimination. We look for other causes of the weakness using diagnostic tests like radiographs (X-rays), MRI and cerebrospinal fluid (CSF). When we have ruled them out, we end up with a presumptive



diagnosis of DM. The only way to confirm the diagnosis is to examine the spinal cord under the microscope when a necropsy (autopsy) is performed.

DM is not painful and does not respond to medical or surgical treatment. It begins with a loss of coordination (ataxia) in the hind limbs. The affected dog will wobble when walking, knuckle over or drag the feet. This can first occur in one hind limb and then affect the other. As the disease progresses, the limbs become weak and the dog begins to buckle and has difficulty standing. The weakness gets progressively worse until the dog is unable to walk. The clinical course can range before dogs become paraplegic (unable to move either back limb). If signs progress for a longer period of time, loss of urinary and fecal continence may occur and eventually weakness will develop in the front limbs. The progression of DM is variable and typically spans anywhere from 6 months to 2 years from the first onset of signs to loss of pelvic limb function.

Treatment for DM is supportive as there is no cure for this condition or medication to slow its progression. However, veterinary literature has shown that aggressive physical therapy can keep dogs ambulatory for a longer period of time. However unfortunately the long-term prognosis is poor.