

# **Degenerative Myelopathy the other DM that can affect Collies...**

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Degenerative Myelopathy is a progressive disease of the spinal cord that causes weakness, and eventually inability to walk in the rear legs. It has long been known to exist in German Shepherds, Corgis and over 50 breeds. It has long been suspected in collies, and this last year has been confirmed in a collie by Collie Health Foundation and University of Missouri, after confirmatory autopsy of a collie believed to be affected. In its early stages DM is commonly mistaken for “arthritis”, “old age”, “hip dysplasia” or “spine problems”.

## **Signs of Degenerative Myelopathy:**

Degenerative myelopathy typically occurs in older dogs, 7 to 14 years of age. It is a relentlessly progressive disease of the spinal cord. The first signs are loss of coordination (ataxia) and weakness in the hind legs. One rear leg is often worse than the other. The disease starts as trouble rising in the rear legs and weakness, and progresses to wobbly rear legs. Over time the rear legs become weaker, buckle, and have trouble standing or walking. Eventually, the disease progresses, over months to a couple years, to complete paraplegic. Lastly, fecal and urinary incontinence occurs, with front leg weakness. Amazingly this disease is not painful.

## **Cause of Degenerative Myelopathy:**

Degenerative Myelopathy starts with degeneration of the white matter of the spinal cord in the thoracic (chest) area. White matter is responsible for transmitting motor (movement) signals from the brain to the limbs and sensory information from the limbs to the brain. Because it starts in the thoracic region, the rear legs are affected first. Over time it spreads throughout the spinal cord and affects the front legs. The degeneration involves both demyelination (loss of the insulation material on the nerves) and axonal loss (loss of nerve fibers). Dr. Joan Coates and Dr. Gary Johnson’s research at University of Missouri, in collaboration with Dr. Claire Wade and Dr. Kirsten Lindbald-Toh, have identified a gene that is associated with a major increase in risk of disease. The genetic mutation discovered is equivalent to the most common inherited form of the human disease, ALS (Amyotrophic Lateral Sclerosis), also known as Lou Gehrig’s Disease.

## **Diagnosis of Degenerative Myelopathy:**

Unfortunately there is no single test to confirm DM in a live patient. The genetic test developed by University of Missouri can only confirm if a dog is at risk for the disease. Not all dogs with the affected genes will develop the disease. The test can be most valuable to rule in or out DM. If the test is negative, the dog does NOT have DM. If it is positive for both mutations, the dog is at risk, and further testing needs to be done to diagnose the disease. For genetic testing contact [OFA@OFFA.org](mailto:OFA@OFFA.org), and their on line store.

Many diseases that affect the dog’s spinal cord can cause similar signs, and some of these diseases can be treated effectively. It is important to pursue necessary tests to be sure that the

dog does not have other spinal diseases such as herniated disc, tumors, cysts, infections, injuries, and stroke. Usually your veterinarian would need to refer you to a board certified veterinary neurologist for a thorough neurologic exam and possibly further testing. Collies can and have been affected by all these diseases, and treatment can vary from medical to surgical intervention. Some of these other diseases have an excellent prognosis with appropriate treatment.

### **Treatment of Degenerative Myelopathy:**

It is important to confirm the diagnosis, as Degenerative Myelopathy has no proven treatment, and the prognosis is grave. Many have tried physical therapy, diets, supplements, and alternative medicine in an attempt to slow this progressive disease. More recently, stem cell therapy has been used in some affected German Shepherds which has subjectively slowed the disease. This is currently being done by ReGena Vet Laboratories with Dr. Richard Vulliet. Dogs affected with DM need a lot of nursing care and walking assistance (cart or assistance harness). Eventually euthanasia is usually elected when the quality of life is considered poor.