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Degenerative Myelopathy

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What is degenerative myelopathy?

Degenerative myelopathy is a condition in which the spinal cord gradually loses normal function. This loss of function most commonly occurs in the thoracic and lumbar area, leading to neurologic problems in the back legs.

What type of dog can be affected and what are the clinical signs?

The most common breed affected by this disease is the German shepherd. However, other breeds such as Corgies, Boxers, Chesapeake Bay Retrievers and mixes thereof, are also known to be affected. There are likely many other breeds that can also develop this progressive neurological disorder. Most dogs are older than 5 years old when the clinical signs start but it can also occur in younger dogs.

Dogs with degenerative myelopathy will show progressive and, ultimately, severe loss of coordination in the back legs. Dogs are often described as walking like a "drunken sailor" with the body swaying from side to side, crossing their legs, and sometimes falling because they get caught in their own feet. The toes will often drag on the floor and it is not unusual to see severe wearing of the nails, sometimes to the point of bleeding. Some dogs will have wounds on the top surface of their paws because they drag their feet (knuckling) on rough surfaces. There is no spinal pain associated with this loss of coordination. The changes in gait are subtle at first and slowly get worse. For most dogs, it is impossible to pinpoint an exact date for the beginning of clinical signs. It is not until the terminal end of the disease progression, that the forelimbs may start to show neurological deficits and incontinence may develop. Because of the slow progression, clinical signs are often present for quite a few months before the first veterinary consultation.

What is the cause of degenerative myelopathy and how can it be diagnosed?

This disorder probably has many factors that impact the time of onset and rate of progression. Recently, a genetic test has been developed that can identify carrier (one copy of the disease gene) and affected animals (two copies of the disease gene). It is important to remember that even if an animal tests "affected" that does not mean the signs they show are due to the disease of DM, only that they are likely to develop it at some point in their lifespan. Thus, though carrying a disease gene will lend support to suspicion, diagnosis must

still be based on ruling out other diseases that can affect the spinal cord and cause similar problems (e.g., disk herniation, tumor, chronic infection or inflammation of the vertebrae or of the spinal cord). This can be done through the imaging of the spine (x-rays, myelogram, magnetic resonance, or computed tomography) and spinal fluid analysis. Especially when the clinical signs started acutely or in other breeds than the German shepherds, a diagnosis of degenerative myelopathy should not be made without ruling out other diseases first.

Genetic screening is available through the University of Missouri at www.caninegeneticdisease.net/DM

What is the treatment of degenerative myelopathy?

Unfortunately, no cure exists for degenerative myelopathy. Many different treatments have been tried (cortisone, vitamin E, other vitamins and minerals) without conclusive results. There are many oral supplements and vitamin regimens that have been investigated and some owners choose to utilize. However, regular physical activity seems to be the most important factor in slowing the progression of the clinical signs and keeping affected pets ambulatory.

Despite the treatment, the condition will continue to progress. In some cases, the progression is more rapid than others. Most dogs will lose the use of their back legs 6 to 36 months or more after the diagnosis. Dogs affected will keep the control of their bladders and bowel but will eventually need help to stand and squat for their needs. At first, dogs will benefit from being helped with a sling under the abdomen or around the rear legs when taken for walks. However, as the disease progresses, it might be necessary to use a cart. Canine carts are equivalent to wheelchairs for dogs that can be homemade or ordered from companies found on the Internet. Those carts are to be used mainly outdoors.

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