



**Ettinger: Textbook of Veterinary Internal
Medicine, 7th Edition
Degenerative Myelopathy
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What is degenerative myelopathy?

Degenerative means deterioration of tissues that become functionally useless. *Myelopathy* means disease of the spinal cord. The spinal cord is the accumulation of groups of nerves transporting information between the brain and the body. The spinal cord extends throughout the spine inside a canal formed by the vertebrae. Anything that affects the spinal cord will prevent at least some information or signals from reaching its destination, leading to neurologic problems. If the spinal cord is affected in the neck, all four limbs will be affected. If there is a problem in the area of the chest (thoracic) or in the back (lumbar), then only the back legs will be affected.

Like the name indicates, a 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, therefore causing neurologic problem 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. Most dogs are older than 5 years old when the clinical signs start but it can also occur in younger dogs. Although it is less common, other breeds can sometimes be affected as well as cats (rarely).

Dogs with degenerative myelopathy will show progressive and, ultimately, severe loss of coordination in the back legs. Owners usually observe a high stepping gait along with some weakness. Owners often describe their dog 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 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. 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?

The exact cause of the disease is still unknown. Many theories have been proposed (inherited disease, vitamin or mineral deficiency, immune-mediated disease). Because

it affects one breed in particular (German shepherd), it is reasonable to think that heredity might play a role.

Because it is degeneration, diagnosis is 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 tap analysis (analysis of the fluid that flows around the spinal cord). 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.

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. Some veterinarians believe that one drug, aminocaproic acid or Amicar, can improve clinical signs and slow the progression of the disease, but others report no improvement with this drug. The drug is expensive but safe and has no real contraindication. Further nothing is wrong with supplementing your pet's diet with vitamins B and E. A regular activity level seems to be important to maintain blood flow to spinal cord and muscles. This could slow the progression of the clinical signs.

Despite the treatment, the condition will continue to progress slowly. 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 bladder 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.

The degenerative myelopathy may progress to affect the front limbs but this will occur only after complete loss of function of the back legs.