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What is intervertebral disc disease?

Intervertebral disc disease (IVDD) is one of the most common neurologic syndrome seen in dogs, and infrequently in cats. It occurs as a result of degenerative changes in the intervertebral discs.

The discs are situated between vertebral bodies of the vertebral column (spine). The vertebral column with the help of the intervertebral discs helps to protect the spinal cord from external forces that occur with normal everyday movements. The disc itself is composed of a thick fibrous outer layer (annulus fibrosis) and a jelly-like central portion (nucleus pulposus). The disc provides flexibility for movements of the vertebral column as well as serving as shock absorbers.



The health of the intervertebral discs can decline over time as normal aging changes lead to break down of the nucleus pulposes as well as weakening of the annulus fibrosis. Normal wear and tear can lead to disc degeneration and subsequent inflammation, protrusion or even extrusion of the disc material.

There are 2 forms of intervertebral disc disease. Hansen Type I (disc extrusion) and Hansen Type II (disc protrusion). Hansen type I injuries occurs when there is degeneration/dehydration of the nucleus and subsequent weakening of the annulus. This can lead to extrusion of the nucleus into the vertebral canal. Hansen Type II is when there is progressive thickening of the annulus over time, which then protrudes into the vertebral canal. Both forms of the disease can cause compression of the spinal cord and nerve roots leading to varying degrees of neurologic impairment.

Are any specific breeds more likely to develop intervertebral disc disease?

There are breeds that are predisposed to degenerate disc disease. For Hansen Type I injuries, small-breed dogs (Dachshund, Shi Tzu, Pekingese, Beagle, Lhasa Apso, etc.) are predisposed. However, Hansen Type I injuries can be seen in any breed of dog (Labradors, Doberman Pinschers, German Shepherds, etc.). The other form of disc degeneration (Hansen Type II) occurs in large breed dogs. Their signs become apparent later on in life and tend to not be as severe as Type I injuries.







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What are the clinical signs associated with intervertebral disc disease?

Intervertebral disc disease can occur in the back as well as the neck. Signs that may be present in your pet are back or neck pain, difficulty walking without falling over or wobbling, unable to move legs (paralysis), loss of bladder function, and unaware of painful stimulation in the toes. These signs that your pet result of either pressure of the herniated disc material on the spinal cord (compression) or from damage to the spinal cord caused by the impact of the disc as it herniated (concussion). The signs can either be acute (occur rapidly) in onset or more chronic (occurring and progressing over a longer period of time) in onset. The more chronic cases can be seen in large breed dogs. These animals tend to not show significant signs of discomfort, but more so signs of weakness later in life.

What should I do if I think my pet is showing signs of intervertebral disc disease?

If you identify any of these signs in your pet, please seek immediate medical attention with your primary care veterinarian or with an emergency hospital.

How do you diagnose intervertebral disc disease?

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Diagnosis is based on clinical signs in conjunction with imaging of the spine. A radiograph of the spine can be taken to help determine if there is evidence of degenerative disc disease. Radiographs can also help to rule out other causes for back pain and hind limb weakness including infections (discospondylitis), fractures or even bone tumors. However, in most cases advanced imaging is required such as a CT scan or an MRI. These techniques help to determine the location and severity of your dog's disc disease.

How do you treat intervertebral disc disease?

Although surgical treatment (hemilaminectomy or ventral slot) is preferred in many cases of Type I injuries, conservative therapy may provide an adequate recovery in dogs with minimal neurological deficits if veterinary recommendations are strictly followed. Conservative management includes medications, strict exercise restriction, and varying forms of physical therapy. With Type II injuries, the animals can respond to conservative management as well. Your veterinarian can make treatment recommendations.

What is the prognosis of intervertebral disc disease?

The prognosis depends to the severity of your pet's injury as well as what treatment modality you choose. In many cases of Type I injuries, there is a more favorable outcome with surgery, especially when the signs are severe (paralysis and loss of pain sensation). In the more chronic cases, the prognosis can vary dramatically.