

Canine Intervertebral Disc Disease

What is Intervertebral Disc Disease?

IVDD is a common condition affecting the spine in dogs and frequently requires surgery to aid prognosis. It is an age related, degenerative condition that affects the intervertebral discs though certain breeds, such as the Dachshund, are at increased risk and these breeds tend to suffer from early onset disc disease.

The intervertebral discs are fibrocartilaginous cushions that sit between each vertebra. These discs act a shock absorber, are supportive and they allow for movement along the vertebral column, allowing it to flex and extend.

The disc itself can be likened to a jam doughnut. It has an outer, fibrous rim with a jelly like centre which allows for the cushioning effect. When they degenerate, they become dehydrated and brittle, rendering them more likely to slip / herniate and cause spinal cord compression. The discs of breeds such as the dachshund can also calcify (develop calcium deposits within them) and these calcifications can be visible on xray.

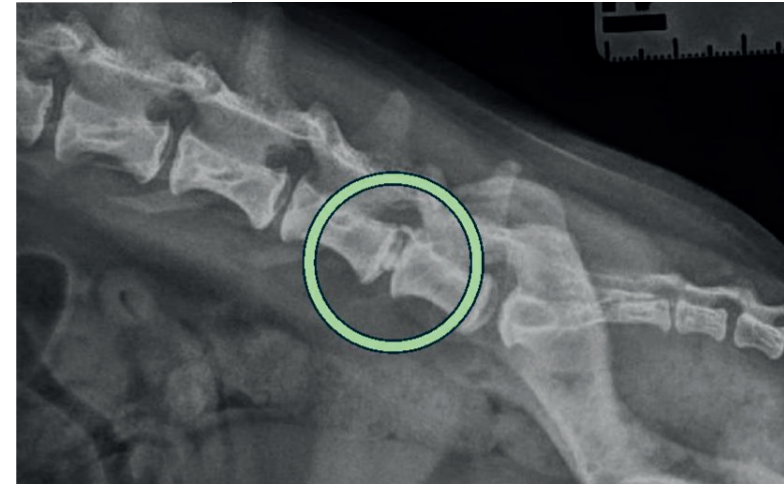
There are two main types of disc herniation:

Hansen Type I:

Bending and twisting action puts a strain upon the disc, it tears, and the jelly centre oozes out and pushes upwards resulting in compression of the spinal cord. Clinical signs are immediate and the severity of the injury to the spinal cord depends on the speed and volume of the disc extrusion.

Hansen Type II:

The disc disease usually occurs slowly and progressively (occasionally they are rapid). The outer rim of the disc bulges and protrudes upwards into the spinal cord. Sometimes the rim of the disc can tear, and the torn fragment can contribute to the spinal cord compression.



X-Ray showing a calcified disc between the lumbar vertebrae 6 and 7

Clinical signs of disc disease include:

Pain / yelping

Abnormal posture (arched back)

Unwillingness to move

Difficulty going up and down stairs, getting onto the sofa, etc.

Difficulty in walking, weak hind limbs, scuffing paws, wobbly gait pattern.

Complete paralysis.

Grading of Disc disease:

Disc disease is graded depending on the severity of the spinal cord damage:

Grade 1 – Pain only

Grade 2 – Pain and weakness - ambulatory

Grade 3 – Pain and weakness - non-ambulatory

Grade 4 – Pain and paraplegia – complete inability to move

Grade 5 – Pain and paraplegia with loss of deep pain sensation. Control of urination is lost between grade 4 and 5.

Patient prognosis sadly worsens with increasing grade.

ACTIVITIES OF DAILY LIVING

By following some simple steps you can help your dog to manage his Intervertebral Disc Disease



FLOORING

Today's modern homes can be a difficult environment for a dog living with disc disease. Laminate and tiled floors may cause a dog to slip and slide. This can result in deterioration of the disc and a pain flare-up. Use antislip tape, mats and runners to help prevent slipping.



EXERCISE

A strict programme for return to normal exercise will be put together by a physiotherapist. It is important to follow this, together with any rehabilitation exercises to aid recovery.



BODY WEIGHT

Maintaining a healthy weight is crucial for dogs with disc disease as excess body weight puts additional strain on the vertebral column and joints. When strict rest is required, it is recommended to reduce food by 10%,



FEEDING HEIGHT

It is important to make sure that food and water bowls are easily accessible and at the right height. If it is difficult for your dog to get to his bowls he may become dehydrated.

How is disc disease diagnosed?

Following on from a full clinical and neurological examination your vet may take an x-ray of the spine. This can show calcified disc material (as seen in the image overleaf) and narrowing of the disc space/s between adjacent vertebrae. More importantly, advanced imaging such as CT or MRI scans, are required to make a definitive diagnosis as not all disc material shows up on an x-ray and some discs can become calcified without causing a problem. Advanced imaging provides more information than radiographs alone can do, locates which disc/s have slipped / herniated and aids in surgical planning (if needed).

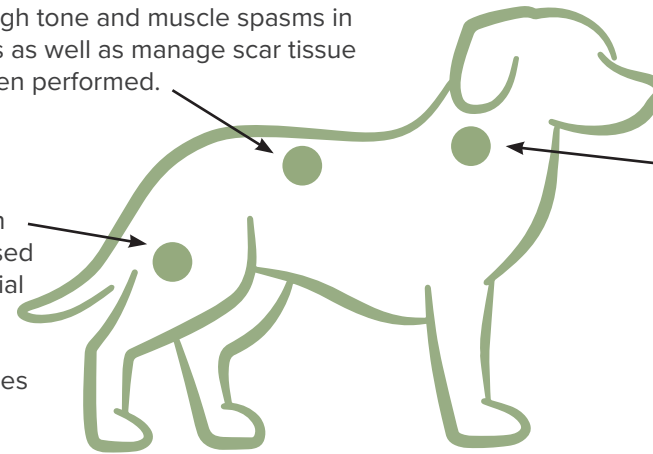
Conservative management or surgery?

Whether a dog has conservative management or surgery, physiotherapy, hydrotherapy and clinical canine massage are highly recommended – they play a vital role in the recovery and rehabilitation process.

Conservative management is indicated for patients with a grade 1 or grade 2 disc disease i.e. those in mild pain only or with mild deficits. If conservative management is tried, the most important aspect of care is strict rest – the dog must be crated to allow time for the spinal cord to heal and limit further disc extrusion and exacerbation of the disease. However, if a dog has lost deep pain sensation (when you pinch a dog's toes really hard, but they do not respond), which is seen in a grade 5, they become a surgical emergency. Prognosis for recovery from grade 5 disc disease is poor.

It can ease the high tone and muscle spasms in the back muscles as well as manage scar tissue if surgery has been performed.

It increases the circulation to the weakened / paralysed muscles providing essential nutrients and oxygen as well as removing waste metabolites. It also provides sensory stimulation to weakened / paralysed muscles.



Massage can treat areas of overcompensation, particularly in the neck, shoulders and forelimbs. It reduces the high tone in these supporting muscles and eases myofascial pain and discomfort.

How clinical canine massage can help