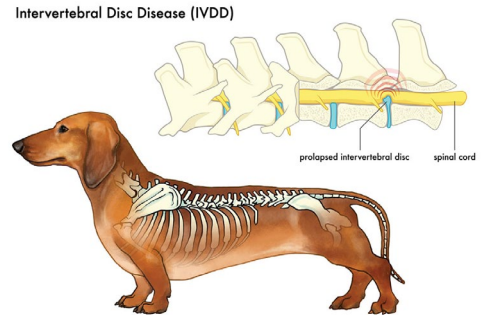




## **Thoracolumbar Intervertebral disc disease (IVDD)**

### **What is the Intervertebral Disc?**

The discs are the structures between the bones of the spine (vertebrae) that act as shock absorbers. They consist of a soft centre (the nucleus pulposus) inside a fibrous ring (the annulus fibrosus).



### **How does Thoracolumbar Disc Disease Occur?**

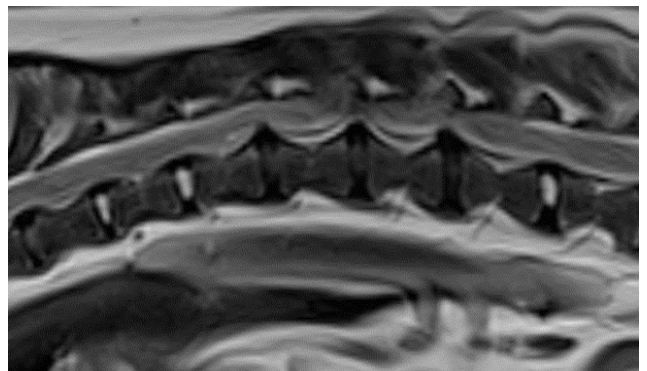
A more common term for thoracolumbar disc disease is a 'slipped disc' in the back. As in people, discs in dogs degenerate as they get older. This process results in the discs becoming dehydrated and losing their cushioning effect. They may then 'slip' in one of two ways. Firstly, the material in the centre of the disc can come out of the fibrous ring and injure the spinal cord (this is called a disc extrusion). Secondly, the fibrous ring may thicken and compress the spinal cord (this is called a disc protrusion). Either type of 'slipped disc' may cause back pain and spinal cord injury. The signs of thoracolumbar disc disease can vary depending on whether the disc has an extrusion or protrusion, and the degree of spinal cord injury.

### **What are the Signs of Thoracolumbar Disc Disease?**

- A wobbly or weak back leg walking pattern
- Spinal pain which can appear as an arched back and tight abdominal muscles
- In more severe cases there can be loss of ability to walk or complete paralysis of the back legs
- These signs can occur slowly (several weeks to months) or very rapidly (sometimes over a few minutes to hours), but most dogs will show signs developing over a few days.

### **How is Thoracolumbar Disc Disease Diagnosed?**

A full clinical examination is required to rule out underlying conditions that could masquerade as nerve injury. For example, abdominal pain can make dogs reluctant to jump and an orthopaedic injury to one or both hind limbs can make dogs reluctant walk. Examination of specific nerve reflexes (neurological examination) can identify which region and sometimes which specific spinal cord segment is damaged. These tests such as the knee-jerk (patellar) reflex, are normally relatively simple to perform in the conscious patient. X-rays of the back can show broken bones (fractures), dislocations, identify narrowed disc spaces and calcified discs. However, standard x-rays do not show the spinal cord. Even if a narrowed or calcified disc space is identified this does not confirm damage to the spinal cord at this location. More advanced imaging under general anaesthetic is required in the form of CT or MRI. Fluid that surrounds the spinal cord (cerebral spinal fluid) is often collected at this stage and sent for laboratory analysis. This test can be useful to diagnose inflammatory conditions of the spinal cord.



## How can Thoracolumbar Disc Disease be Treated?

The two principle methods of managing thoracolumbar disc disease are:

**Conservative treatment:** In dogs with thoracolumbar disc disease undergoing conservative treatment exercise must be restricted. Short lead walks for toileting purposes may be necessary, with strict confinement at other times. The hope is that the 'slipped disc' will heal, any back pain subside, and the spinal cord recover from any injury. Painkillers may be necessary and possibly other drugs, such as muscle relaxants. During this period some dogs will require assistance to urinate either by gently expressing the bladder or by urinary catheterisation. If a dog that is being managed conservatively deteriorates then emergency surgery may be required

**Surgery:** The aims of surgery are to remove any disc material compressing the spinal cord and to prevent any more disc material 'slipping'. Decompressive surgery involves making a window in the bone around the spine (laminectomy) to enable retrieval of disc material. Further 'slipping' can be prevented by cutting a small window in the side of the disc and removing material in the centre (disc fenestration). Occasionally vertebral stabilisation (fusion) procedures are necessary, especially in large dogs.

## What Can I Expect if my Dog is Treated for Thoracolumbar Disc Disease?

Following surgery, a two to seven-day period of hospitalisation is typically needed for pain relief and to monitor for return of voluntary urination as many dogs require their bladder to be emptied manually. A few dogs may be discharged with a urinary catheter in place, and you will be instructed how to use this to prevent the bladder from over-filling.

Exercise following surgery must be restricted for around four to six weeks during the healing process. After a few weeks, controlled exercise (on a lead) may be gradually increased and hydrotherapy may be recommended. Physiotherapy is very important, and instructions will be provided for you to carry this out at home.

Approximately 85% of mildly affected dogs have successful conservative treatment and avoid the need for surgery. More severely affected dogs that have lost the ability to walk are usually treated with surgery however, the outlook is generally very good with over 90% of these dogs regaining the ability to walk well. The success of surgery is worse for dogs with the most severe injuries and the recovery period can sometimes be prolonged. Some injuries to the spinal cord are unfortunately irreversible.

## Will the problem recur?

If the spinal surgery has been successful, then it is unusual for there to be a problem with the same disc. However, there may be a problem with other remaining degenerate discs. If possible other "at risk" IVD are fenestrated at the original surgery to reduce the risk of recurrence.