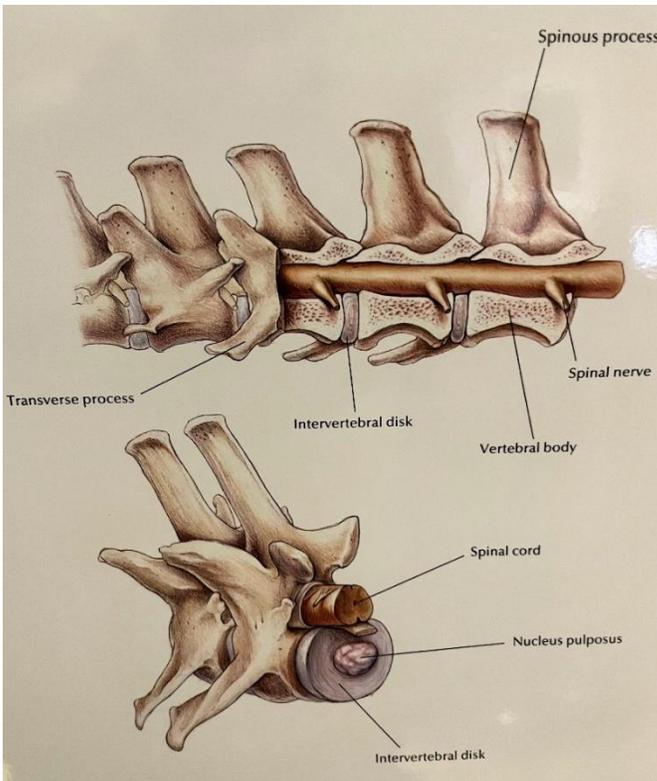




## Intervertebral Disk Disease

The vertebrae are small bones that make up the spine. Their role is to provide structure and support to the body and to protect the spinal cord that runs through each bone down the length of the body. The vertebrae have cartilaginous disks between them that act as a cushion and also allow for movement between the bones which in turn allows the spine to flex and twist. There are 7 vertebrae in the neck, called the cervical vertebrae. This is followed by 13 thoracic vertebrae that have ribs attached. Next there are 7 vertebrae in the lower back called the lumbar vertebrae. 3 vertebrae are fused to create the sacrum. Finally, dogs and cats have a variable number of coccygeal vertebrae that make up the tail.



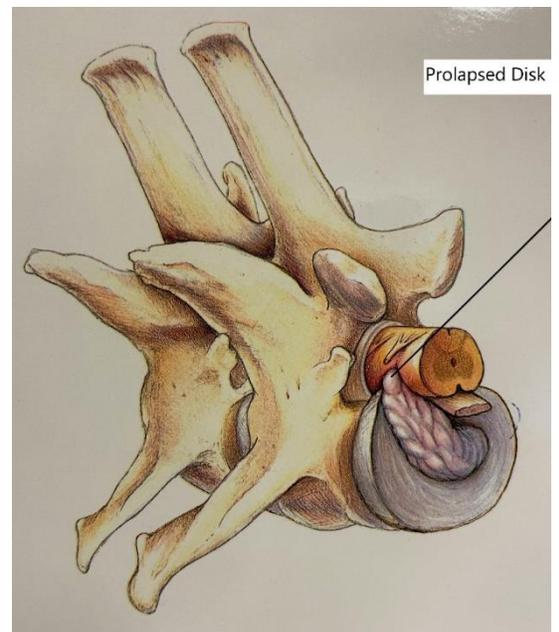
### What is disk disease?

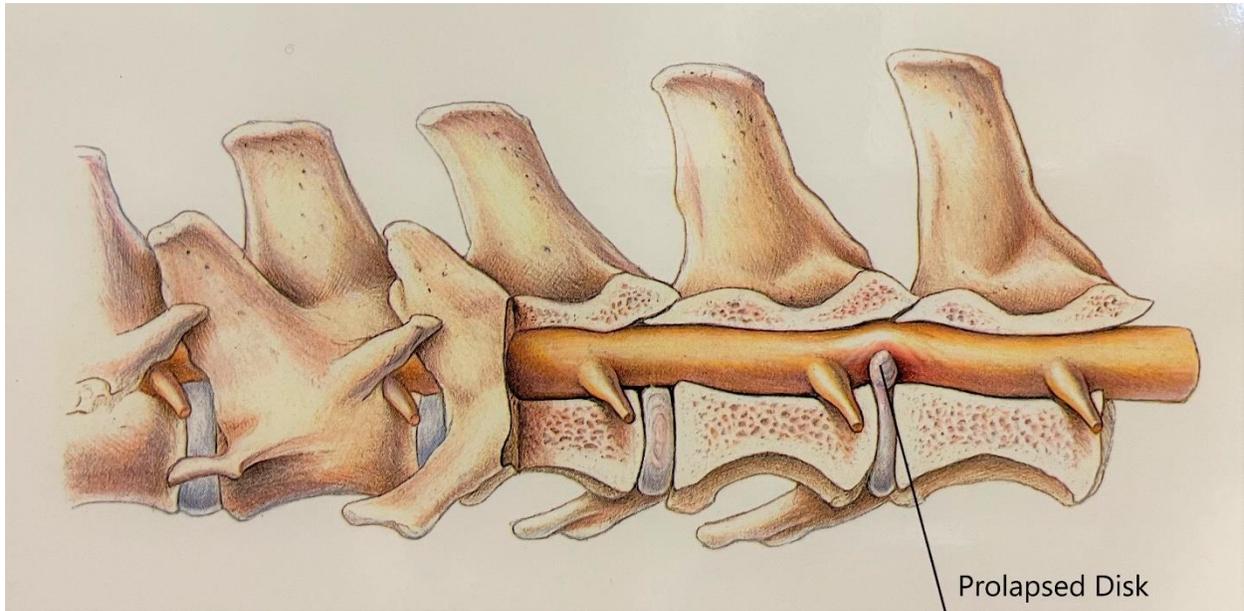
Intervertebral disk disease occurs when the cushioned disk between the vertebrae is compressed causing it to protrude, buldge or rupture into the spinal cord space. This can cause compression or pressure on the spinal cord.

### There are 2 types of disk disease that can occur

Type 1 disk disease occurs when the inner portion of the disk is no longer soft and becomes hard or calcified. Small tears in the outer portion may rupture completely when under pressure causing the inner portion of the disk to rupture. This will often cause an acute occurrence of clinical signs where the patient may even be unable to walk. This type of disk disease may commonly be seen in small breed dogs that are younger or middle aged.

Type 2 disk disease occurs more chronically when the disk bulges into the spinal cord space causing mild to moderate pressure. This can cause pain although sometimes the pain is intermittent or may not be as significant if the process is slow enough. This type of disc disease can occur in any breed of dog, small or large. Patients with this type of disk disease will often be a little older.





### What are the common clinical signs?

- Acute pain
- Whining, crying
- Not wanting to walk
- Not wanting to eat
- Unable to jump
- Walking with a hunched posture and stiff legs
- Ataxia, appearing drunk, wobbling in the back and sometimes front legs
- Falling over, appearing unable to stand straight

In mild cases, patients may have a sore back while those with severe cases may be completely paralyzed and unable to feel their limbs or even feel pain. The loss of pain sensation represents a critical and time sensitive situation.

### Common breeds affected

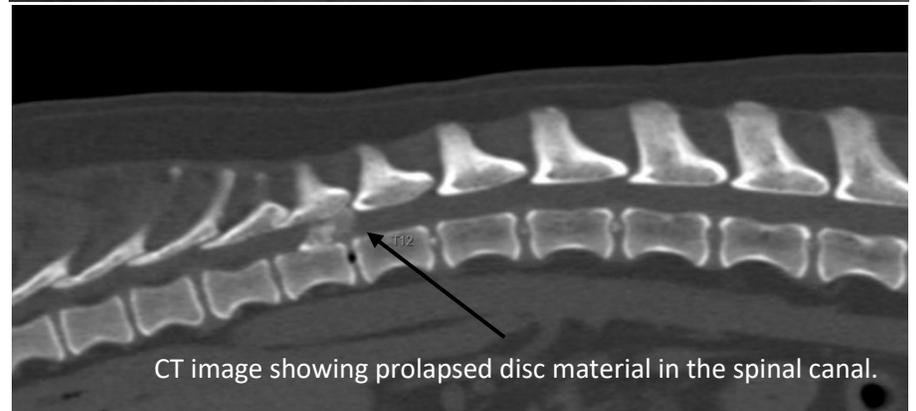
- Dachshunds
- Shih tzus
- Beagles
- Toy poodles
- Basset hounds
- Chihuahuas
- Labrador retrievers
- Rottweilers





## Diagnosis

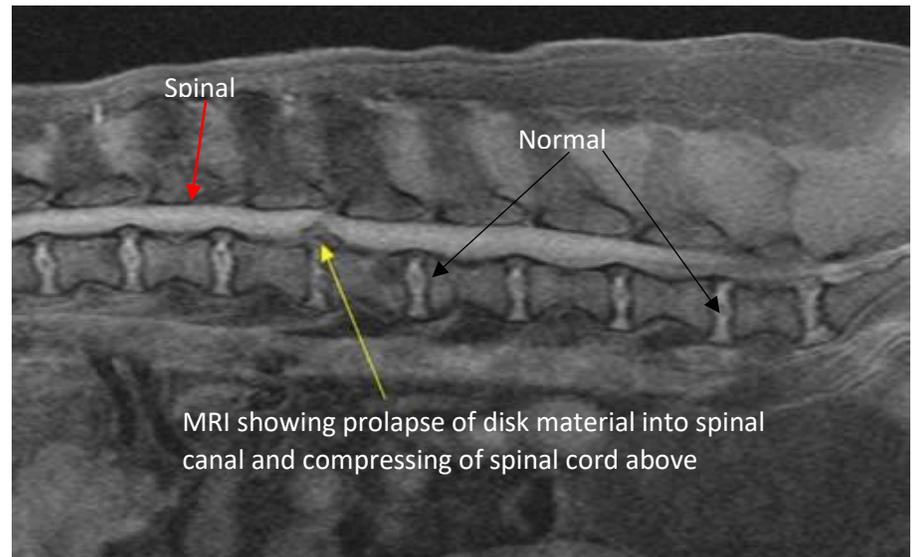
A complete orthopedic and neurological exam will help the veterinarian localize the problem. Radiographs (x-rays) are helpful in the diagnosis of disk disease and help to rule out other causes of back pain or neurological dysfunction. Disk prolapse and compression may lead to a narrowing of the intervertebral disc space which can be visible on x-rays. Calcified disks in Type 1 disk disease can be visible on x-rays as well. Before Computed Tomography (CT) or MRI were available, a myelogram was often performed. This is where a contrast material was injected into the spinal cord space to highlight the area where the spinal cord is compressed. Today, CT or MRI are often performed instead in patients who may undergo surgical intervention as they provide greater detail and help to precisely localize the problem.



## Treatment Options

### Medical Management

Medical management for patients means keeping them comfortable with pain medications. This may include non-steroidal anti-inflammatories, muscle relaxants, opioids and medications that help with neuropathy pain. Patients are asked to rest completely when not undergoing rehabilitation therapy. Jumping and running are not recommended. Patients are recommended to remain in a kennel large enough to stand and turn around and have room for their food and water but cannot jump up or start to run. Rehabilitation can be helpful for recovery when done properly and after an initial period of rest.



Slings may be used to help dogs with mobility problems from disc disease to support them while relieving themselves outside. Picking up small dogs properly is important to not harm their back further or cause additional pain. When picking up small dogs, effort should be made to keep their back straight. This can be done by having one hand support the weight



under their chest and the other support the weight under their backside. Often placing your hands between their front limbs down the sternum and the other between their hind legs down their belly will help keep the back straight.

### ***Surgical Management***

Surgical management is recommended for patients with complete paralysis or paresis and unmanageable pain. Immediate surgical intervention is crucial for dogs who have lost the ability to feel pain in their affected limbs as this indicates severe compression of the spinal cord and carries a worse prognosis without immediate surgical intervention. Decompression surgery is performed by a veterinary neurologist or surgeon. A window is made in the affected vertebrae to allow removal of the calcified disc material that has caused the compression on the spinal cord.

### **Recovery and Prognosis**

Many patients with more mild signs such as back pain will be able to live a fairly normal life with the aid of pain medication and rehabilitation. These dogs may have recurrent flare up episodes that may result in further discomfort. Changes to their lifestyle is often recommended such as using small stairs to allow smaller dogs easy access on the couch or bed and discouraging jumping up and down.

Dogs who undergo surgery in more advanced cases will have a better prognosis the sooner the surgery occurs. A patient who has complete paralysis and no pain sensation of their limbs will have a poorer prognosis compared to a patient recovering from surgery who had ataxia and pain but no paralysis.

