

## Lumbosacral Degenerative Stenosis



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# Lumbosacral Degenerative Stenosis

Lumbosacral degenerative stenosis (also known as cauda equina syndrome) is a condition that is a cause of back leg problems, typically in medium to large breed dogs. It occurs when the nerves in the lower spine are compressed by a combination of bulging intervertebral disc, scar tissue and new bone formation (osteophytosis) and occurs secondary to chronic degeneration of the intervertebral disc where the lumbar spine joins on to the sacrum at the level of the pelvis.

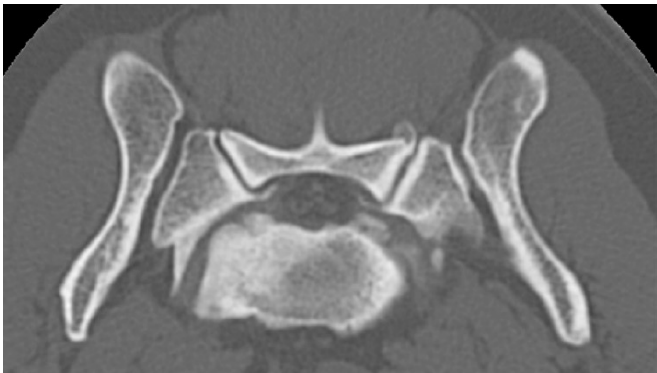
## Symptoms of lumbo sacral degenerative stenosis

Symptoms can include: weakness in the back legs, difficulty rising, difficulty climbing stairs or jumping into a car, weakness or loss of use of the tail, poor bladder control, scuffing of the back paws, pain in the lower spine or on elevation of the tail.

These symptoms are common to a number of conditions affecting the lower spine. They commonly but are not always gradual in onset.

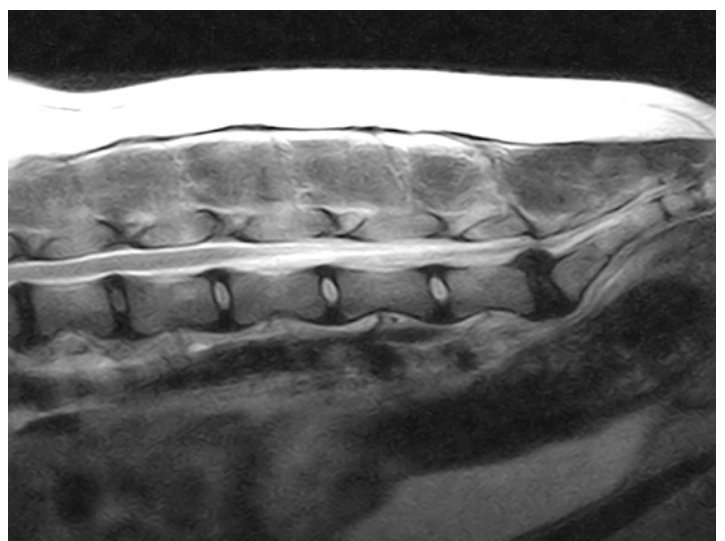
## Diagnosis of lumbo sacral stenosis

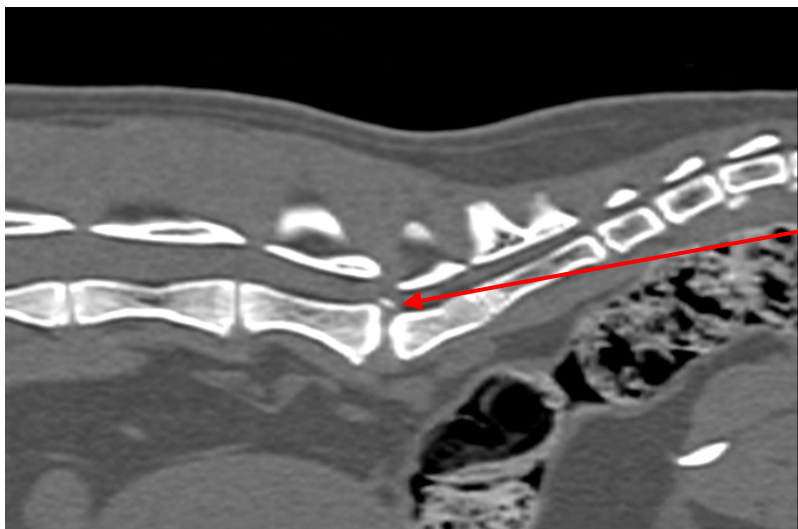
A combination of physical exam tests indicating pain in the lower spine and possible neurological symptoms affecting the hind limbs will be assessed by the attending veterinarian. Diagnostic testing then confirms the diagnosis. X-rays are typically the first test used which can show degeneration of the intervertebral disc and associated tissues, and also rule out some alternative diagnoses such as bacterial infection of the intervertebral disc. X-rays will also investigate concurrent problems with the hips or stifles. A definitive diagnosis requires advanced imaging such as MRI or CT scan. These tests are needed to demonstrate the physical compression of the nerves as this cannot be shown with a normal x-ray.



*Transverse CT slice showing narrowing of the foraminae of L7-S1 with osteophyte formation and intervertebral disc protrusion.*

*Transverse CT slice showing narrowing of the foraminae of L7-S1 with osteophyte formation and intervertebral disc protrusion.*





*CT scan of an L7-S1 intervertebral disc protrusion in a cat (arrow points to mineralised disc)*

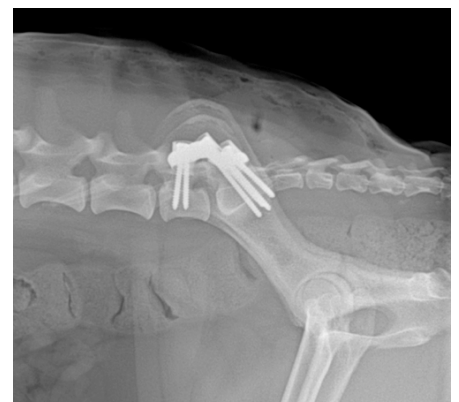
### **Treatment of lumbo sacral stenosis**

Treatment recommendations for lumbo sacral stenosis depend on the severity of symptoms. Dogs with pain as their only symptom are initially treated with rest, physiotherapy and pain relieving medications such as anti-inflammatory drugs, opioids and gabapentin. This gives persistent relief from symptoms in around 55% of cases but does not resolve the problem due to the persistent disc protrusion. Epidural corticosteroid injections can also be used to treat pain associated with lumbo sacral stenosis, and is used commonly in older animals with a positive response seen in around 80% of cases after a course of 3 injections.

Surgical treatment is indicated where there is pain that does not respond to medical treatment or if significant neurological symptoms are present. Surgical treatments vary depending on the findings of the MRI or CT scan. They include decompressive surgery (where bone is removed to take the pressure off neural tissue) or stabilisation procedures (where implants are used to reduce the amount of motion at the intervertebral disc space to stop repetitive minor compression of nerve tissue).

Decompressive procedures include dorsal laminectomy (where the top of the vertebra of L7 and S1) are removed and foraminotomy (where bone around the holes at the side of the vertebrae is removed to enlarge the hole if nerves are compressed at that level). Stabilising procedures include screw and bone plate, screw and bone cement, screw and bone graft or custom made 3D printed stabilising devices. The prognosis varies depending on the severity of symptoms, but in general, 80-90% of dogs are significantly and persistently improved following surgery.

*Lateral radiograph showing custom made, 3D printed lumbo sacral stabilisation implant.*



**If you have any questions, please feel free to contact of the Specialist Surgeons at Veterinary Specialist Services.**



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