Lumbosacral Stenosis (Cauda Equina Syndrome) in Dogs

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Lumbosacral stenosis has also been termed lumbosacral instability, lumbosacral malformation, lumbosacral malarticulation, lumbar spinal stenosis, lumbosacral spondylolisthesis, lumbosacral nerve root compression, and cauda equina syndrome. All these terms describe arthritis of the joint between the last lumbar vertebra and the sacrum, which is one of the bones that makes up the pelvis. This arthritis narrows the canal through which the spinal cord and nerves pass through. The intervertebral disc between the vertebra and the sacrum is often abnormal as well, further narrowing the canal. The arthritis and disc disease put pressure on the nerves coming off the spinal cord. The symptoms of lumbosacral stenosis, then, are a result of nerve injury.

What are the symptoms of lumbosacral stenosis?

The most common sign of cauda equina syndrome is pain. The pain may occur in the back, in one or both hind legs, or the tail. The dog usually has difficulty rising from lying down, but once he begins to walk about he works out of the stiffness. There may be muscle loss in one or both rear legs. The dog may have difficulty urinating or defecating because of the pain, may become incontinent, or may be unable to urinate. Some dogs are unable to move their tail, or have severe pain if the tail is moved. Often dogs will have a shuffling gait, and scuff their toes. Some dogs will chew on their pelvic area, hind limbs, or tail, sometimes creating considerable damage by this self-mutilation.

Many of the signs seen with lumbosacral stenosis can mimic those of hip dysplasia, and the two conditions need to be differentiated.

Which animals are at risk of having lumbosacral stenosis?

Lumbosacral stenosis occurs most commonly in large breed dogs. German Shepherds appear to be more likely to develop this condition. The condition can be acquired, meaning the dog started out normal and then developed this condition. Or, lumbosacral stenosis can be a congenital condition, meaning the dog was born with the abnormality. Either way, the symptoms generally do not occur until the dog is between 3 and 7 years of age.

Lumbosacral stenosis is rarely seen in cats.

How is lumbosacral stenosis diagnosed?

The veterinarian will ask the owner for a history of when the symptoms developed, etc. A physical exam will then be performed. The hind limbs will be manipulated in various ways to determine which positions are painful. The veterinarian will also do a neurological exam, including testing the reflexes, to determine which nerves may be injured.

Radiographs (x-rays) are taken to evaluate the spine and pelvis. The findings can be very suggestive of lumbosacral stenosis, but are not sufficient to make the diagnosis. To achieve a diagnosis, special procedures must be performed by injecting dye into the affected area and re-radiographing. Depending on where the dye is placed, the procedure is called myelography, epidurography, or diskography. These procedures must be done under anesthesia. Displacement of the dye by the abnormalities in the bones and intervertebral disc confirms the diagnosis of lumbosacral stenosis.

How is lumbosacral stenosis treated?

Depending on the severity of the condition, amount of pain the animal is experiencing, overall health of the animal, financial restrictions, and other factors, lumbosacral stenosis is treated surgically or nonsurgically.

Nonsurgical treatment: If the condition is mild, dogs may be treated with strict rest for 6 to 8 weeks. Anti-inflammatory medications such as prednisolone are given. In many cases, this can relieve the symptoms. However, when the dog becomes more active, the symptoms can return.

Surgical treatment: There are two different surgical techniques used to treat lumbosacral stenosis. In the first, the bones are fused together in as normal a position as possible. This prevents abnormal motion between them, and reduces the risk of further arthritis. In the second technique, part of the bone and the intervertebral disc are removed to reduce pressure on the spinal cord and nerves.

In either case, dogs must be confined for 2 to 4 weeks after surgery, and may also be placed on prednisolone therapy. For dogs who have difficulty or are unable to urinate, the bladder must be manually expressed several times a day.

What is the prognosis for dogs with lumbosacral stenosis?

The outlook for dogs with lumbosacral stenosis is dependent on the severity of symptoms before treatment. Dogs who are mildly affected may be able to return to normal function. For those who are incontinent or unable to urinate prior to treatment, the prognosis is much poorer.