Degenerative Lumbosacral Stenosis

Your pet has been diagnosed with presumed degenerative lumbosacral stenosis disease (DLSS). There are many different causes of this condition in dogs including disc bulging, ligament thickening, vertebral instability, thickening of the joint capsules putting pressure on nerves, narrowing of the boney tunnels where the nerves exit the spinal canal, infection, abscesses, and rarely tumors. The treatment and outcome depends on the underlying cause, which is best determined utilizing specialized imaging studies like an epiduragram, myelogram, CT, or MRI. MRI is actually the best study to perform but it is very expensive ($1300-1400) and has to be done at a special facility in the evening hours. MRI requires general anesthesia and almost an hour to complete the study. CT is much more affordable ($725) and easily accomplished at Veterinary Imaging Partners in Nashville. This study takes usually less than a half an hour and in most cases intravenous contrast agent is used to help detect the cause of your pet’s clinical signs. Some surgeons believe that only an MRI can adequately evaluate compression of the nerve roots as they exit the spine. This is called foraminal stenosis and if left untreated can lead to a poor outcome. Whenever possible financially, an MRI is the gold standard of imaging for the lower spine.

The hallmark of DLSS is pain in the rear spinal column near the base of the tail. Lifting the tail, having a bowel movement, jumping up, going up stairs, all create discomfort. Many patients have difficulty when arising. As the disease advances, neurological signs start to develop including weakness in the rear legs, conscious proprioceptive deficits (knuckling of the rear feet and dragging the toes), and diminished reflexes in the rear legs. In the most advanced stages, your pet can have paralysis of the tail, rectum and bladder. This can lead to urinary and fecal incontinence (dribbling urine and fecal material). Most surgeons are reluctant to operate on pets with bladder dysfunction as this rarely resolves after surgery.

If caught early, in the painful stage or mild neurological signs, surgery can be very effective at relieving the pain and weakness. Unfortunately, significant pathology can be missed with even the most sensitive pre-surgical studies leaving your pet still symptomatic after surgery. Additionally, your pet could have other disc ruptures further up the spinal cord that are masked by the DLSS leaving your pet with continued pain and neurological dysfunction even after repairing the lumbosacral condition.

It is important to mention that there is another disease that mimics many of the clinical signs of DLSS. Old dog myelopathy is a degenerative condition that affects large breed dogs, especially German Shepherds, where the spinal cord starts deteriorating (much like senility changes in the brain in older people) from the tail towards the head. This condition can worsen slowly over 6-12 months and does not usually exhibit any pain in the pelvic region. Unfortunately, patients can have both myelopathy and DLSS at the same time, improving for a time after surgery and then slowly worsening afterwards. There is no test to diagnose this disease before surgery. Only a spinal cord biopsy during a necropsy (autopsy) can give a definitive diagnosis.

Recent studies have shown that almost half of all patients with DLSS also have hip dysplasia. It is thought that the change in stride from the hip pain puts pressure on the lower spine, causing the disc to bulge and ligament to thicken, pinching the spinal nerves in between the two structures. Depending on the clinical presentation of your pet, initial treatment is usually cage rest for 3-4 weeks. If no improvement is seen, then a trial of non-steroidal anti-inflammatories is indicated.
along with the rest. Surgery should only be considered in patients with refractory pain that does not respond to treatment or patients that are showing weakness or neurological deficits in the rear legs. Even under the best circumstances, some patients will recover from surgery with a neurological status that is worse than before surgery. This is a normal response to the gentle, but necessary, manipulation of the spinal nerves during surgery to retrieve the disc material and/or remove osteophytes and soft tissue. In most cases, your pet will return to their pre-surgical status within three to five days. Please understand that if your pet has any incontinence the chance for a complete recovery diminishes greatly. Pets with only pain and mild to moderate rear leg weakness make a full recovery 85-90% of the time. In most cases, there will be no complications and your pet will return to normal in 6-12 weeks. Like all surgeries, lumbosacral laminectomy can have complications. These include infection (less than 3%) which may require additional testing and medication at an additional cost, lack of improvement after surgery, blood clots that can lodge in major organs causing stroke or rarely death, and delayed healing of the spinal cord (this is not under the control of the surgeon), myelomalacia (melting or necrosis of the spinal cord substance from lack of oxygen and blood supply) which results in permanent paralysis. Pain relief usually occurs first and can happen in as little as one day, although most patients slowly improve week by week. Scar tissue can form in about 15% of patients that cause a recurrence of signs and require a second surgery.

This picture shows how the bulging disc (A), thickening of the of the dorsal annulus of the disc (B), mechanical instability with subluxation of the L7-S1 vertebra (C), osteophyte formation in the spinal canal and around facet joints (D), thickening of joint capsule of facet joint (E), and thickening of interarcuate ligmament (F) all combine to create a very complex condition that contribute to compression of the nerves in the lower spine.