

Recovery time from spinal surgery is extremely variable between patients. Paralyzed patients on average take 7 to 28 days to regain the ability to walk after surgery. Some patients with more mild symptoms are able to walk within 24-48 hours of surgery. Hospitalization time is largely dependant on when the patient is able to empty the bladder on his/her own. Most dogs require bladder expression (squeezing the bladder) at least three times daily in the early postoperative period. Sometimes medications are prescribed to help with bladder function. Some medications (i.e. phenoxybenzamine) help to relax the urethral sphincter and other medications (i.e. bethanechol) improve bladder contraction. Pain management is an important facet of postoperative care. A trans-dermal fentanyl patch provides continuous systemic pain relief for 3-4 days postoperatively. Oral medications such as tramadol or other pain relievers may also be prescribed. Other aspects of nursing care include keeping the patient clean and dry, maintaining hydration and nutrition, and performing physical therapy.

Home Care instructions will be provided when your dog is ready to go home. The incision should be checked daily for redness, swelling or separation. Confinement to a kennel or playpen is required for the first 4 weeks following surgery. This confinement period allows time for the muscles and support structures of the spinal column to heal. Immersion of the incision is to be avoided until suture removal. However, sponge bathing should be performed as needed. Many dogs will not defecate in the first few days after surgery, but this is not a cause for concern. The patient should always be kept on clean, dry, absorbent bedding with adequate padding underneath. A base layer such as a comforter or foam pad covered with a towel or absorbent under pads aids in prevention of pressure sores.

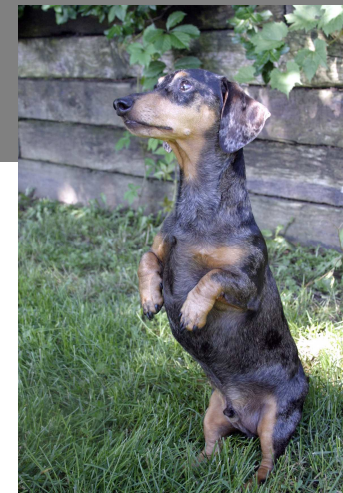
Physical therapy is recommended for patients who are unable to walk on their own. Passive range of motion therapy involves moving the rear limbs through a bicycle or walking motion. These exercises should be performed for 15 minutes at least 2-3 times daily. Always use caution performing physical therapy as some dogs may turn and bite with little warning.



Suture removal is scheduled 10-14 days following surgery. There is no charge for removal of the sutures. This is also a good time for the surgeon to evaluate the patient's progress and assess the neurological function.

The prognosis for most dogs with timely medical or surgical treatment is good. The prognosis for recovery depends on the severity of the dog's symptoms, how quickly they progress, and how rapidly surgery is performed. For patients still able to perceive deep pain sensation at the time of surgery, the prognosis is very good. Up to 95% of patients in this category are able to walk again with an average recovery time 1-4 weeks. For patients with loss of deep pain sensation the prognosis is less favorable, with reported recovery rates varying from 20-70% in a variety of studies. The incidence of another disk rupturing (somewhere else in the spine) at some point during the dog's life is around 10-20%. Weight management and avoiding jumping (especially down off of furniture) may help reduce the risk of re-injury.

Thoracolumbar Disk Disease



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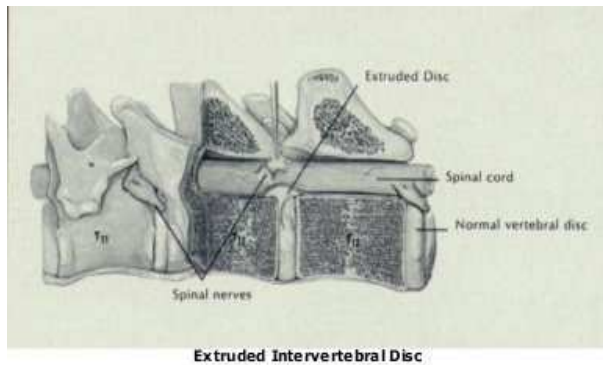
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Intervertebral Disk Disease (IVDD)

Intervertebral disk disease (often called a ruptured disk or slipped disk) is a common cause of rear limb weakness and paralysis in dogs. Thoracolumbar IVDD refers to the most common location of disk injury (chest/back area). Although dachshunds are most commonly affected, many other breeds may have this problem. The intervertebral disk is a soft tissue structure that provides cushioning and support between consecutive vertebrae in the spine. IVDD is caused by a combination of hereditary and environmental factors that weaken the disk. Bulging or rupture of the disk causes direct pressure on the spinal cord and/or nerve roots. Pain, weakness, and paralysis occur when a ruptured disc compresses the spinal cord within the spinal canal.



Symptoms caused by IVDD range from pain and reluctance to move to weakness and paralysis. Loss of ability to urinate or defecate may also occur. Symptoms may occur very rapidly or in some cases come on slowly over a period of days or weeks. In many patients the symptoms start with pain or anxiety and then progress to staggering on the hind limbs, and eventually collapse. Some dogs have symptoms which wax and wane over time. The more rapidly symptoms progress, the more urgent surgery becomes. Sometimes one rear limb is weaker than the other, and knowing which leg was affected first may help in making surgical decisions.

Treatment options include medical and surgical management. **Medical management** may be used to treat pain or mild neurological deficits. The cornerstone of medical management is *strict confinement* - which means confining the dog to a small kennel or cage for a period of at least three weeks. This confinement period is mandatory to prevent worsening of symptoms and to allow time for the disk to stabilize. Short leash walks to urinate/defecate are the only activity allowed. Medications to relieve pain may include corticosteroids, such as prednisone or a non-steroidal anti-inflammatory drug. Methocarbamol may be used to reduce muscle spasm.

Surgical management should be considered for unremitting pain, when difficulty standing or walking occurs, or in patients with rapid progression of symptoms. Surgical treatment involves a two-step process. The location of the ruptured disc must be identified. This requires a specialized x-ray technique called a myelogram. To perform a myelogram, the patient is anesthetized and a spinal needle is placed. A fluoroscope (video x-ray) is used to guide the precise placement of this needle. A special dye is injected into the space surrounding the spinal cord. Displacement of dye shows the location of spinal cord compression (and the ruptured disc) within the spinal canal. Interpretation of the shape and pattern of these changes determines the location of the surgical site. In some cases a CT scan may be needed to provide additional detail.



Myelogram image demonstrating a ruptured disk

Hemilaminectomy is the surgical technique of choice in most cases of IVDD. The primary goals of this procedure are to relieve the pressure within the spinal cord (decompression) and to remove extruded disc material. Following exposure of the spine, a precise window of bone is removed over the site of disc rupture (white arrow).



Extruded disk material is carefully removed and the spinal cord is inspected for bruising, bleeding, or other damage. A strip of fat is then applied to protect the spinal cord. Finally, the muscle layers and skin are closed with sutures.

The urgency of surgery depends on the degree of neurological impairment and the speed at which symptoms are progressing. Loss of motor function, or a “down dog”, means the patient is no longer able to stand on the rear limbs unassisted. These patients should be assessed for surgery as soon as possible. Dogs retaining the ability to walk may be candidates for conservative management or a planned surgery. Once a dog afflicted with IVDD loses pain sensation, urgent surgical intervention is required to prevent permanent spinal cord damage.

