

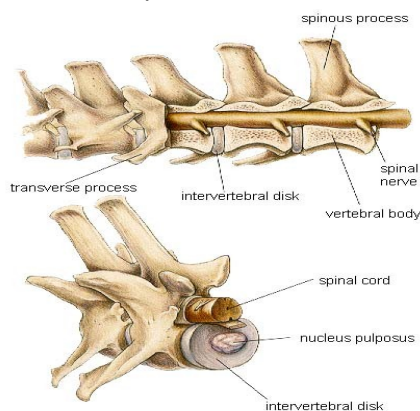
Intervertebral Disc Disease, IVDD



Anatomy of the spine:

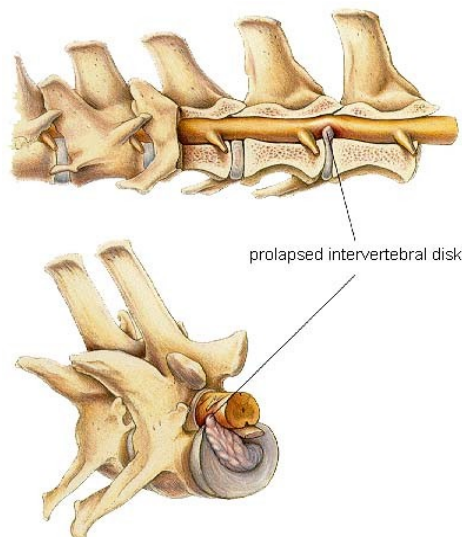
The normal spine consists of 27 bones (not including the tail) called vertebrae. The spine is divided into four main portions; cervical (neck), thoracic (support the thoracic cavity), lumbar (support the abdominal region) and coccygeal (tail). Intervertebral discs are located between the bones of the spine and serve as shock absorbers and stabilizers. Each disc consists of an outer fibrous ring, the annulus fibrosis that surrounds inner pocket of gelatinous material, the nucleus. Several muscles and ligaments support the bones of the spine.

Through the center of the vertebral bones is the vertebral canal, the home of the spinal cord, thus the cord is surrounded by bone. Each disc is located beneath the spinal cord where each of the spinal nerves exits the spine.



What is intervertebral disc disease?

In some breeds the intervertebral discs degenerate over time. The nucleus of the disc becomes calcified and the outer fibrous ring becomes weak and susceptible to tearing. This allows the nucleus to extrude through the annulus and compress the spinal cord. The trauma to the spinal cord is due to both the continued compression from the disc material as well as the bruising caused by the impact of the extruded disc. Disc extrusion can also be caused by trauma or can be seen in a dog with healthy intervertebral discs.



Signs and Symptoms:

Clinical signs depend on the level of spinal cord compression, the bruising from the compression as well as the location of the disc disease. Signs can range for back or neck pain to complete paralysis or the hind or all four limbs.

- Pain
- Lethargic, quiet, inappetence
- Unwilling to move neck

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- Ataxic/drunken appearance to the back limb gait +/- stiff front limb gait
- Non-weight bearing lameness in a front limb
- Weakness of front or back limbs
- Paralysis of front and/or back limbs
- Unable to urinate or dripping urine

All breeds of dogs can develop a disc rupture however it is more commonly seen in small breed dogs such as the dachshund, poodle, shitzu and cocker spaniel.

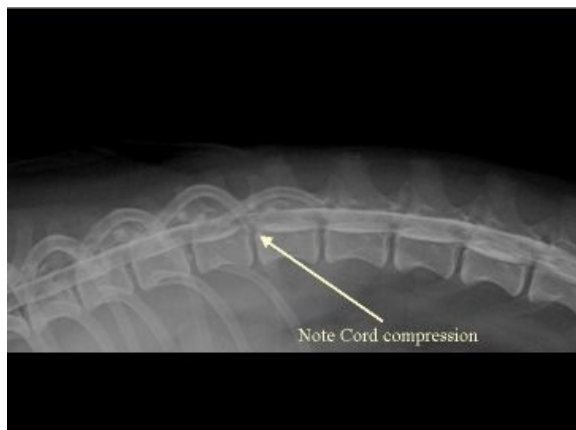
Most dogs are young to middle aged.

Diagnosis:

The initial diagnosis of IVDD is based upon physical examination and more importantly neurologic examination. The findings of those examinations will help to localize the lesion to one of the main spinal cord segments as well as help identify the severity of the lesion.

Radiographs are important to evaluate the bones of the spine and rule out disease processes such as cancer of the bone however they can't diagnose IVDD.

Advanced imaging such as myelogram, CT scan or MRI is required to diagnose the cause of the clinical signs as well as the location of the extruded disc material.



When is surgery indicated?

The decision to pursue surgery for IVDD is based upon several factors such as the severity of the clinical signs, level of pain, at home management and desired outcome. When patients are unable to walk on their own, are very weak in their limbs or have intractable pain surgery is the best treatment option.

Consultation and Surgery Scheduling:

We recommend consultation for full neurologic examination and discussion of treatment options. Often your vet will refer you to us or it might happen as an emergency during the night or over the weekend. We will discuss the treatment options for your pet and determine the best treatment plan for you and your pet.

We are available on an emergency basis and can do surgery the same day as consultation if indicated.

Patients usually stay with us for at least two nights after surgery for pain management and neurologic evaluation. We have a veterinarian monitoring our patients 24 hours a day.

Medical treatment:

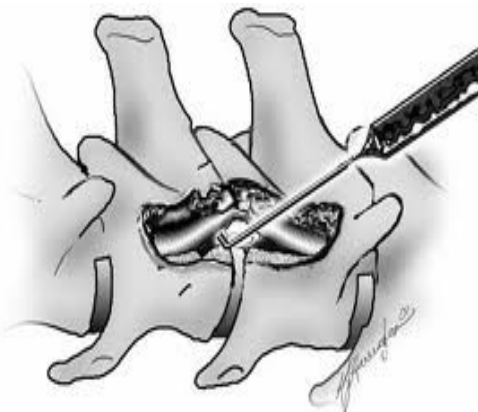
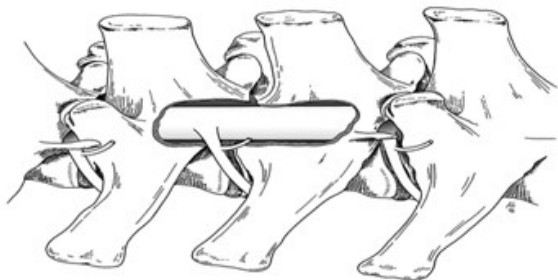
Medical treatment consists of strict cage rest, anti-inflammatory medication, narcotics, and muscle relaxants. We will determine if medical management is an option for your pet at the time of consultation.

Surgical treatment:

Surgical treatment starts with the use of advanced diagnostics (myelogram, CT scan or MRI) to identify the exact site of spinal cord compression. Once the location is identified surgery is performed. The most

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common procedure for IVDD in the thoracic or lumbar spine is a hemilaminectomy. This procedure involves removing a window of bone from the involved vertebrae to allow visualization of the spinal cord and herniated disc material. Once identified the material is gently removed from underneath the spinal cord so the cord can return to a normal position.



A ventral slot is most commonly performed for IVDD in the cervical spine. This involves removal of bone from the ventral aspect of the vertebral bodies and removal of the herniated disc material from that window.

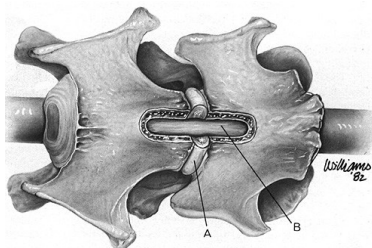


FIG. 62-14 Ventral cervical slot. A surgical drill is used to perform a ventral cervical decompression. The slot is one-half the ventral vertebral body width and one-third the length of each bordering vertebra. (A, IVD annulus; B, Spinal cord) (Redrawn after Shores A: Intervertebral disk syndrome in the dog; Part II. Cervical disk surgery. The Compendium on Continuing Education for the Practicing Veterinarian 3, No. 9:805-813, 1981)

Recovery and Prognosis:

The prognosis is good for dogs with IVDD that have motor function at the time of surgery. They have a very good chance of regaining motor function with surgery if they are able to feel their toes when pinched, even if they are unable to walk. If they are unable to feel their toes then there is about a 50% chance that they will regain motor function with surgery. Additional management such as carts and physical therapy are discussed and involved as needed.

At home care involved 4-6 weeks of restriction to allow the muscles and surgery site to heal. Other components of recovery include incision management, bladder management, passive range of motion and physical therapy.

Recheck examinations are performed 2 and 6 weeks after surgery and more frequently if needed. We are with you every step of the way throughout the recovery process.

