

## Intervertebral Disk Disease in Dogs (IVDD) in Dogs

**Dr.Dhaval Chauhan, Dr.Alpesh Rathva, Dr Prasanna Vasava**

Pet Practioner<sup>1</sup> Govt Vet Officer<sup>2</sup>

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Canine intervertebral disc disease (IVDD) is a painful spinal condition that requires veterinary management for the best chance of improvement.

The health of your dog's spine is important for walking, sending signals between the body and the brain, elimination of feces and urine, and more. Intervertebral disc disease (IVDD) in dogs is a neurological condition that involves the spinal cord, the vertebrae or back bones (the small, round bones that make up the spinal column or spine), and the disc material between each vertebra.

The vertebrae protect the spinal cord and the nerves that transmit impulses to and from the brain and the rest of the body.

The spine also supports the weight and movement of the body.

When something is wrong with the spine, it causes pain or even immobility. In between each vertebra is a soft, jelly-like disc surrounded by thick fibrous tissue.

This intervertebral material serves as a cushion to absorb shock and help provide flexibility to the body as it moves.

IVDD in dogs is a condition that occurs when the cushioning discs between the bones of the spinal column either bulge or burst into the space containing the spinal cord.

When this disc material pushes on the spinal cord, it can cause pain, nerve damage, and even paralysis. This condition is also known as a slipped disc, herniated disc, or bulging disc.

Certain dog breeds that have a long back and short legs are predisposed to IVDD. These include:

- Dachshunds
- Basset Hounds



- Shih Tzu
- French Bulldogs
- Lhasa Apso
- Pekingese
- Beagles

The disease has also been known to occur in large-breed dogs, such as German Shepherds or pitbull-type dogs.

### **Types of IVDD in Dogs**

There are two different types of IVDD in dogs: Hansen Type I and Hansen Type II. Both types cause a disc to press painfully against the spinal cord:

Hansen Type I occurs when the soft, jelly-like center of the disc becomes hardened. With one wrong jump or sudden impact, this rock-like disc shoots out of its thick shell and pushes upward into the spinal cord and its surrounding nerves.

This movement of the disc material (called a herniation) causes compression and bruising of the spinal cord.

This is a very sudden, sharp pain with varying degrees of reduced nerve function.

Type I disc disease is most common in Dachshunds and other similar breeds with the same body structure.

Hansen Type II involves a much slower degenerative process, where the disc material impinges on the spinal cord and spinal nerves over time from a matter of months to years.

The thick fibers around the soft disc material will slowly collapse over time and push upward. This causes more long-term pain and spinal cord compression.

Type II disc disease is common in German Shepherds and other large breed dogs.

### **Symptoms of IVDD in Dogs**

Signs of IVDD in dogs depend on the type of disc herniation and location in the spinal column.

Starting at the neck and moving toward the tail are five regions of the spine—the cervical, thoracic, lumbar, sacral, and caudal vertebrae.

The most common sites of disc herniation in dogs are at the end of the thoracic vertebrae (T11-T12) and the beginning of the lumbar vertebrae (L2-L3).

These herniations are painful and impact a dog's ability to move. Cervical (neck) herniations are less common, but if they do occur it's almost always in Dachshunds, Beagles, or Poodles and they tend to create more pain but less loss of function.



### **Symptoms of IVDD in dogs include:**

- Limping or lameness, unsteady walking
- Dragging back legs
- Stumbling over back feet
- Hunched back or neck with tense muscles
- Weakness
- Pain
- Unwillingness to jump
- Anxious behavior (e.g., shivering, panting)
- Decreased activity level
- Decreased appetite
- Loss of bladder and/or bowel control (urinary and/or fecal incontinence)
- Difficulty posturing to urinate/defecate
- Paralysis

### **Causes of IVDD in Dogs**

IVDD in dogs is the result of a herniated disc and compression of the spinal cord.

In chondrodystrophic dog breeds (those with a hereditary cartilage development abnormality), such as Dachshunds, Corgis, and Bassett Hounds, IVDD is commonly caused by an acute or sudden rupture of the disc material.

While wear and tear damages the disc over time, the rupture generally occurs suddenly as the result of a forceful impact (e.g., jumping, landing).

In large-breed dogs, such as Shepherds, Labradors, and Doberman Pinschers, the discs become hardened over a longer period, eventually bulging or rupturing to cause spinal cord compression.

This type happens gradually, and a specific forceful impact isn't usually the cause of damage.

### **How Veterinarians Diagnose IVDD in Dogs**

If you suspect your dog is having any back pain or difficulty getting around, have your pup examined by a veterinarian as soon as possible.

With IVDD, the sooner you treat the problem, the better the chance for a full recovery. Your veterinarian will perform a complete physical and neurological exam including blood work and urine testing to assess your dog's overall health.



Based on the results of the examination, if IVDD is suspected your vet will likely recommend imaging tests (X-rays, MRI, CT scan) to visualize the spine and surrounding tissues to determine the severity of the condition.

Your veterinarian may be able to tell that IVDD is present with X-rays but will not be able to assess damage to the spinal cord.

While CT scans and MRIs often require referral to a specialty center, MRIs are the most effective imaging modality for examining the damage to the spinal cord. Your dog will likely be sedated for any imaging completed. Anesthesia is necessary for CT scans and MRIs.

### **Treatment of IVDD in Dogs**

Depending on the severity of the damage to your dog's spinal cord, treatment can range from medical management to emergency surgery.

In mild cases of IVDD in dogs, treatment focuses on reducing pain, inflammation, and swelling. This is achieved using pain medications and strict rest.

Pain medications commonly used include NSAIDs like carprofen or steroids like prednisone, gabapentin, and muscle relaxants like methocarbamol.

