

Intervertebral Disc Disease in Dogs

A Brief Guide • Part of the Educational Pet Disease Series from Lap of Love

Signs & Symptoms

Initial Symptoms

- Excessive panting
- Shaking
- Reluctance to play, jump
- Dislike of grooming
- Overgrown nails from disuse
- Arched or abnormal posture

Intermediate Symptoms

- Difficulty getting comfortable
- Painful when lifted
- Weight loss
- Lethargic, clingy
- Whines, especially when laying down
- Muscle loss

Advanced Symptoms

- Increased irritability
- Abnormal signs of aggression when bothered
- Dragging legs, paralysis
- Unwilling to move neck

Crisis Situations Requiring Immediate Medical Intervention

- Difficulty breathing/panting
- Dragging back legs/unable to walk
- Blue gums and/or tongue
- Sudden collapse
- Uncontrollable vomiting/diarrhea
- Crying or whining in pain

What Is It?

Intervertebral disc disease (IVDD) is a relatively common diagnosis among the canine population and is a disease that primarily involves the sensitive spinal cord. Millions of nerves make up the bulk of the spinal cord and when injured typically results in irreversible damage and scar tissue formation. The spine is made up of a connection of bones (vertebrae) that protect the spinal cord in a bony canal. At each vertebral junction, a gelatinous rubber like disc acts as a cushion between the two bony processes. The disc is comprised of two areas of density. The outer rim of the disc (annulus fibrosus) is a tough, protective fibrous cover. The more sensitive, thin, and soft central area (nucleus pulposus) absorbs impact and torsion. When a disc ruptures, the pet has experienced spontaneous degeneration of the protective outer ring. This causes the soft inner pulp to protrude out, also known as a ruptured, herniated, or slipped disc. The herniation of this pulp from the disc subsequently affects the spinal cord, as the herniated material tries to find a place to escape from. When the pulp ruptures, it travels out the small tear at the top half of the disc into the space of the spinal cord, which when surrounded becomes pinched due to the increasing pressure. When the spinal cord is pinched, the communications that occur from all over the body to the brain, and from the brain to the body become interrupted. Sometimes, this interruption is mild and a pet is stiff and sore, and other times this interruption is severe and a pet may suffer from sudden paralysis. The lower to mid back is the most commonly affected place and the neck the second most common location. Though a rupture can be sudden and paralysis seen within a couple hours, the herniation can also be slow and progressive over time.

Diagnosis

Most pets that have suffered from an event, mild or traumatic, that leads to IVDD present to the veterinary office with partial or complete paralysis, stiffness, pain, reluctance to move their head, jump, or go up stairs. They may cry when picked up underneath the belly, pant, shake, stop eating, and show other signs of distress. Based upon these findings, and with certain breeds at a higher level of suspicion, a preliminary diagnosis of IVDD is made. After this process, subsequent diagnostics to locate the specific area(s), severity, extent, and degree of injury may include a myelogram (dye injected into the spinal cord), spinal x-rays, MRI, CT, neurological exam with a neurological specialist. Spinal x-rays are generally not of much use as the spinal cord and vertebrae are not easily visualized. MRI and CT are commonly recommended, especially when surgery is advisable, however, they are expensive, require anesthesia, and are only available at specialist facilities.

Treatment and Management

Treatment and management of disc disease is dictated by a standard classification system of the severity of the stage of disease. The stages span from 1 to 5 with stage 1 defined as a pet with mild pain that corrects with rest at home to stage 5 defined by complete paralysis. Generally, surgery is indicated for stage 4-5 patients which are paralyzed with or without retention of feeling. The surgery should be done as soon as possible by a specialist surgeon for the best potential outcome. Stage 1 may require no intervention, however varying degrees of stage 2-3 may require oral non-steroidal anti-inflammatories, neurological pain medications, opioids, support supplements, physical therapy, dieting, acupuncture, laser therapy, and other multi-modal treatment options. Pets with stage 1-3 disease can move into stages 4-5 over short or long periods of time and should be monitored.

Prognosis

The prognosis depends on the stage of disc disease and the timeliness and aggressiveness of the intervention. Stage 5 patients have a grave prognosis for return of function without surgical intervention within 48 hours of onset of paralysis.

Continued



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continued from page 1

With surgery, success rates on average are 75%. The prognosis drops to grave without surgery as only 15-25% of patients tend to recover with only medical management. Stages 1-3 often have better outcomes. Stage 1 has the best prognosis, success rates are equally as high with and without surgery for the group. Stages 2-3 both have a good to fair prognosis without surgery with a 30-60% chance of full recovery utilizing medical management. With surgery the success rate tends to be above 90%. Talk to your veterinarian, and consider consultation with a veterinary neurologist, surgeon, and physical therapist to learn your best options from all resources.

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Management Tips

Consider providing:

- Easily accessible water and food
- Consistently measured meals
- Elevated feeding dishes for large dogs
- Ramps and short stairs
- Traction, such as a rug, to all slippery areas
- Wide open paths with traction
- Well-lit hallways, nightlights
- Well shoveled paths in the snow
- Protective booties, clothing
- Mobility aids such as harnesses and carts, slings etc. when useful
- Diapers and potty pads if needed for mild to complete incontinence.

Try to:

- Be consistent with medications
- Meal feed, not free feed, your dog to monitor, appetite and eating behavior
- Track appetite, urination, drinking, weight, vomiting, diarrhea, energy, etc.
- Limit stress (kids, noise)
- Keep up with preventative care
- Address concerns and pain ASAP
- Keep your pet healthy and moving
- Use harnesses over collars

Before your pet's condition becomes unmanageable or they are losing quality of life, it is important to begin end-of-life care discussions. Learn about pet hospice care and/or euthanasia services in your area so you are prepared.