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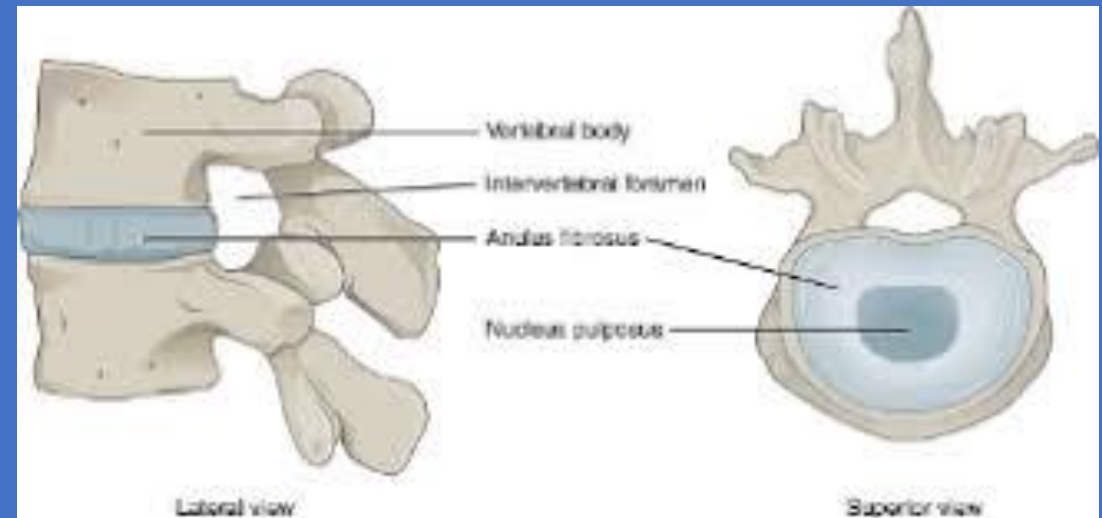
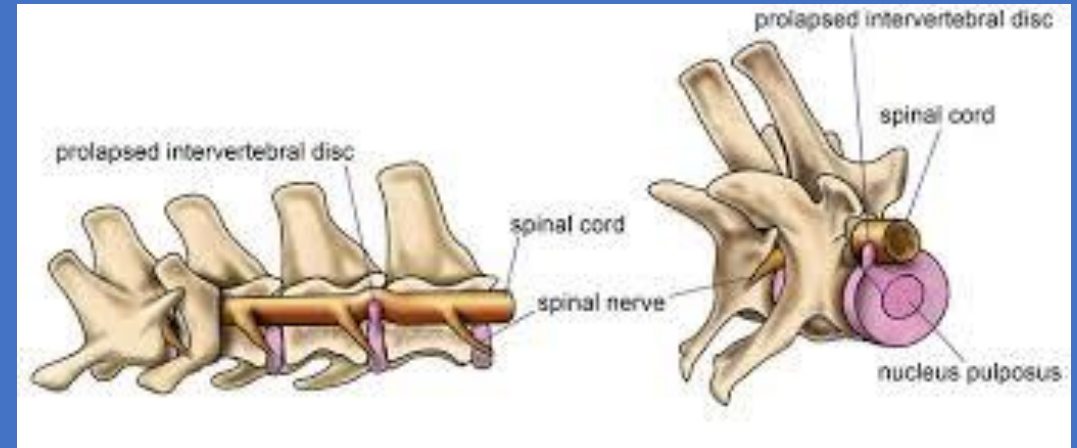
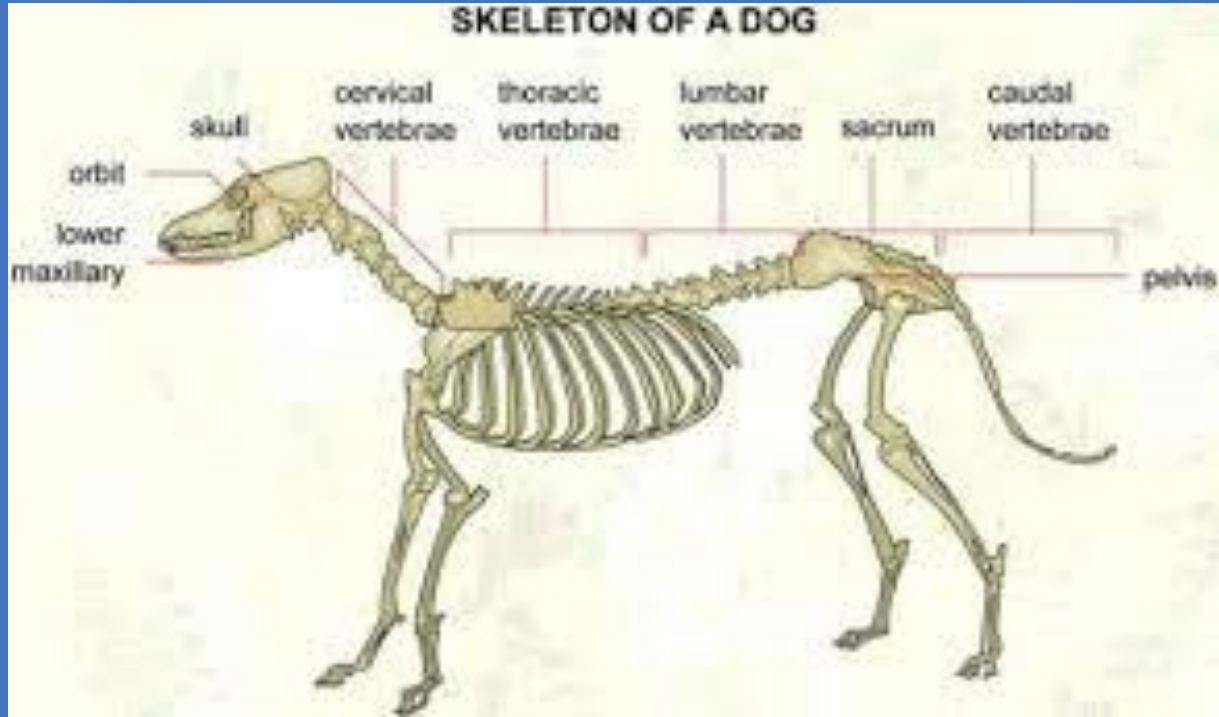
## Intervertebral Disk Disease: What you need to know as a dog owner



# Outline

- What is IVDD?
- Who gets IVDD?
- What does IVDD look like?
- What are treatment options for IVDD?
- When is IVDD an emergency?
- What is the prognosis for IVDD?

# Anatomy

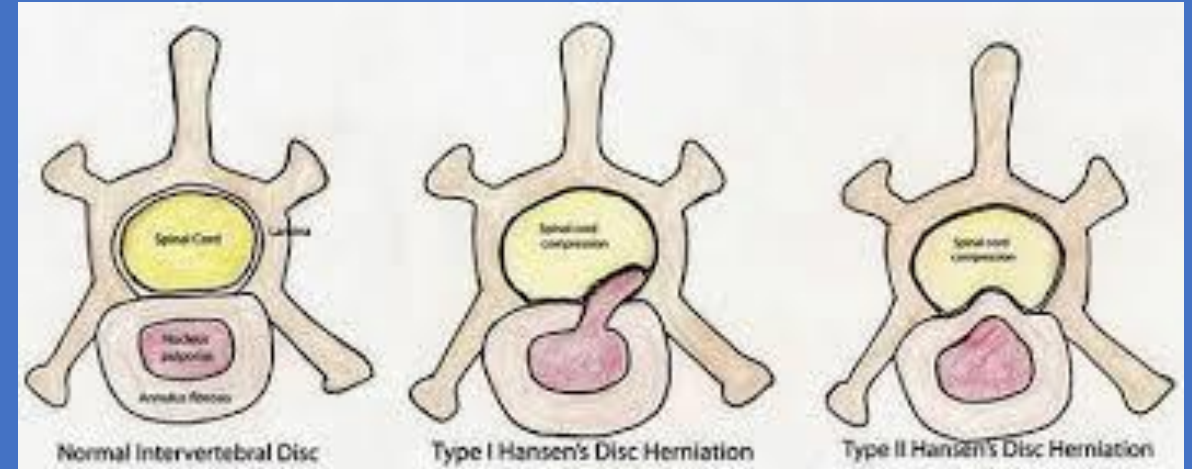


# What is IVDD?

- Intervertebral Disk Disease
  - Means you have degenerated (abnormal, worn down) discs
- Intervertebral disc protrusion/extrusion
  - aka slipped disk or herniated disk or a protruded disk...
- Disk degenerates, pushes up into the spinal canal, and eventually causes spinal cord compression

# What is IVDD?

- There are two types...



- Type 1: Acute extrusion in a chondrodystrophic dog
  - Dachshund
- Type 2: Chronic protrusion in a non-chondrodystrophic dog
  - German shepherd dog
- Extrusion – sudden extrusion of the nucleus
- Protrusion – slow bulge of the annulus

# Who gets IVDD?

- Anyone...
- Chondrodystrophoid dogs
  - Short, stumpy legs, smooshy faces...
  - FGF4 retrogene
  - Acute disk extrusions
- Non-chondrodystrophoid dogs
  - Chronic disk protrusions

# What does IVDD look like?

- First, anatomy...

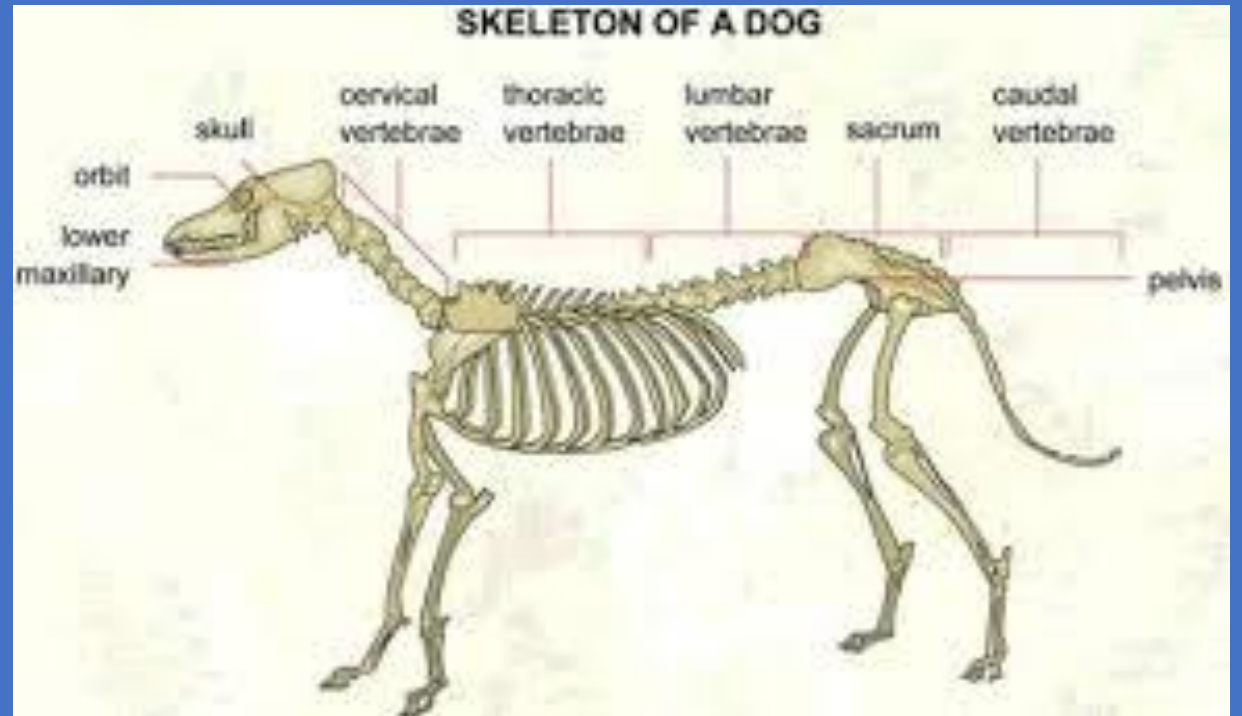


- Can occur anywhere you have a disk

- Most commonly occurs in the mid-back (T3-L3)
- Common in the neck (cervical)

# What does IVDD look like?

- Pain
  - If in the neck...
    - Affects all 4 legs
  - If in the back...
    - Only affects the back legs





# What does IVDD look like?

- Second, severity.
  - Pain only
  - Walking with incoordination and lack of awareness
  - Not able to walk, can voluntarily move legs
  - Not able to walk at all, truly paralyzed, can feel feet
  - Paralyzed, cannot feel feet

# How do you diagnose IVDD?

- Radiographs (x-rays) are NOT diagnostic for IVDD.
  - They show bone, not cartilage.
- You need:
  - A neurological examination
  - A specialist (usually a surgeon or a neurologist)
  - Advanced imaging (under general anesthesia)
    - Computed tomography (CT) +/- myelography (contrast injection)
    - Magnetic resonance imaging (MRI)

# How to find a specialist?

- Ask your regular veterinarian who they like/trust/have worked with in the past.
- Look online
  - ACVIM Neurology: <https://vetspecialists.com>
  - ACVS (surgeons): <https://acvs.org>
- You don't need a referral!
- You can always get a second opinion.

# Why do you need a specialist and a CT/MRI?

- Specialists have extra training focusing on diagnosing and treating these conditions
  - >internship, residency
- There are lots of other things you could find and you want to have all the information possible
- Ideally, you want to be able to go straight from imaging to surgery, if indicated

# What are treatment options for IVDD?

- Medical Management
- Imaging and surgery
- Humane euthanasia

# What are treatment options for IVDD?

- **Medical management**

- STRICT REST!!!, pain control & anti-inflammatory medications
- Recommended when:
  - Dogs can still walk
  - Maybe when dogs can't walk but can still move their legs
- Not recommended when:
  - Dogs are paralyzed with or without feeling

# What are treatment options for IVDD?

- **Medical management**

- STRICT REST!!!

- In a crate 23.5 hours a day. Only goes out on a leash to use the bathroom

- Pain control & anti-inflammatory medications

- NSAID or corticosteroid
    - Gabapentin, tramadol
    - Methocarbamol less useful – muscle relaxant

# What are treatment options for IVDD?

- **Imaging**

- You need the imaging (CT or MRI) to know if and where to do surgery

- **Surgery**

- Cervical: ventral slot
- Thoracolumbar: hemilaminectomy
- Fenestration: controversial, questionable effects, not benign



# What are treatment options for IVDD?

- Humane euthanasia
- Serious condition with the potential to affect quality of life
- Expensive
- Potential for intensive recovery period requiring care
- Consider concurrent diseases, care situation, long-term goals

# What are outcomes for dogs with IVDD?

- If only the back legs are affected:
- So long as they can still feel their feet (intact pain perception)...

• >96%

# What are outcomes for dogs with IVDD?

- If only the back legs are affected:
- If they have lost feeling in their feet (absent pain perception)...
  - Within 24-ish hours ~50% chance of return of function
  - Greater than 48 hours, <20% chance return of function
- If you have lost pain perception, you are at risk for myelomalacia!

# What is myelomalacia?

- Terrible.
- Severe spinal cord injury causes the spinal cord to die
- We can't predict who will get it
- Most likely within 7 days of injury
- Surgery does not prevent it
- There is no treatment
- It will kill a dog, so humane euthanasia is recommended

# When is IVDD an emergency?

- If a dog is suddenly wobbly, make an appointment for the next day or two.
- If a dog loses the ability to walk, go to your nearest emergency clinic as soon as possible!

# Will this happen again?

- Recurrence rates are published at ~20%
  - These are usually dachshunds, shih tzus...
- That means:
  - Another episode of pain
  - Another episode of weakness
- Does NOT necessarily mean another surgery

# How much will this cost?

- Exam fees: \$100-300
- CT: \$800-2000
- MRI: \$2000-5000
- Surgery: \$2000-5000
  - This includes hospitalization, treatments and medications
- Total: \$4000-12000
  - This will vary significantly based on location

Questions?