Partner Veterinary
EMERGENCY & SPECIALTY CENTER

Disk Disease and Caring for the Down Patient

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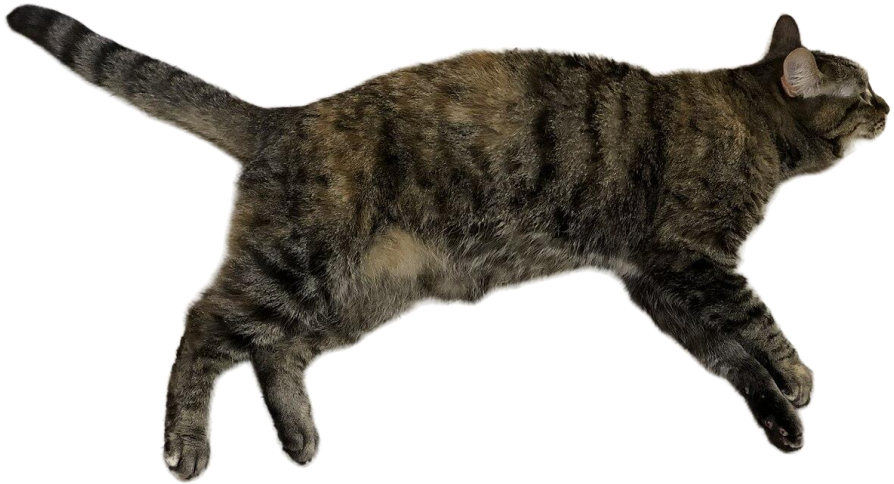
November 8, 2026





1. What does it mean to be “down”?
2. Types of Disc Disease
3. Managing the down patient.



What Does it Mean to be Down?

Inability to walk under one's own power

…and there are multiple causes…



- Drug loading
- Severe generalized weakness from disease
- Trauma / fractures
- Severe orthopedic disease
- Saddle thrombus
- Neoplasia

Inability to walk under one's own power

…and there are multiple consequences…

- Aspiration pneumonia
- Urine/fecal scald
- Pressure Sores
- Anxiety / fear
- Joint Contracture
- Muscle Adhesions
- Discomfort



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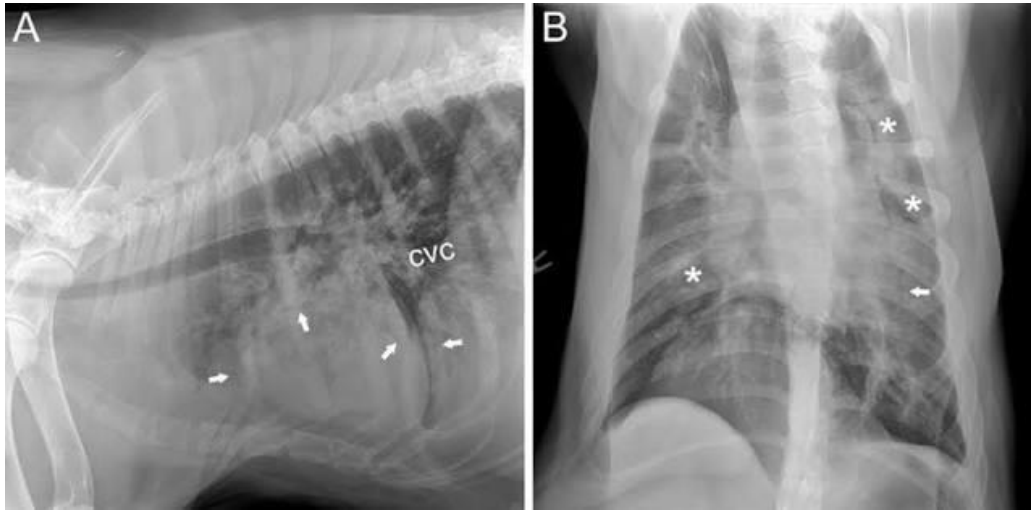

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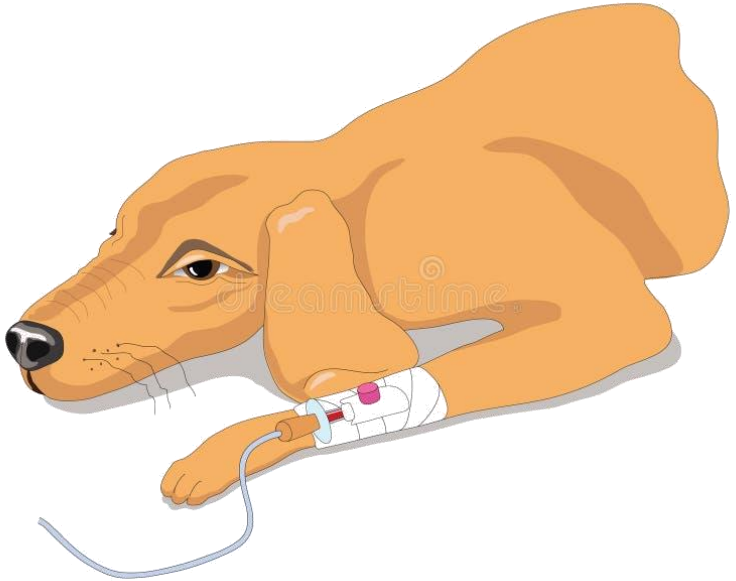

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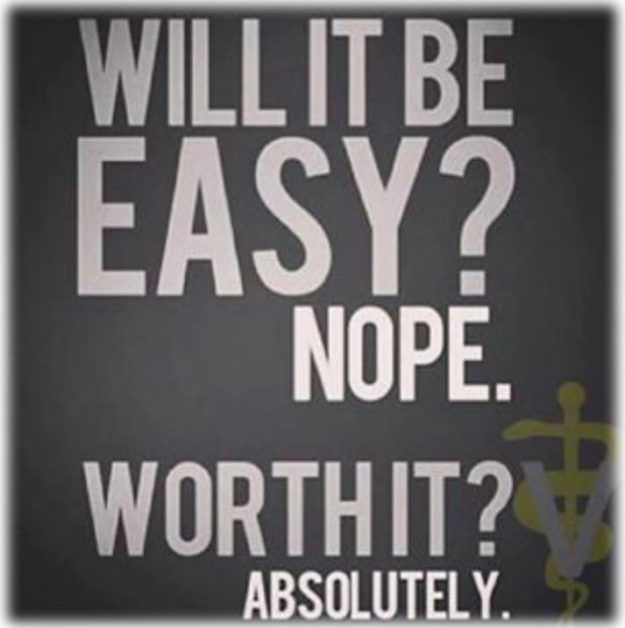
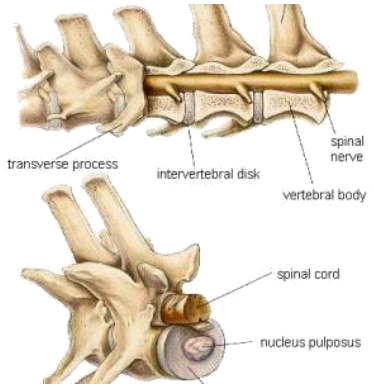


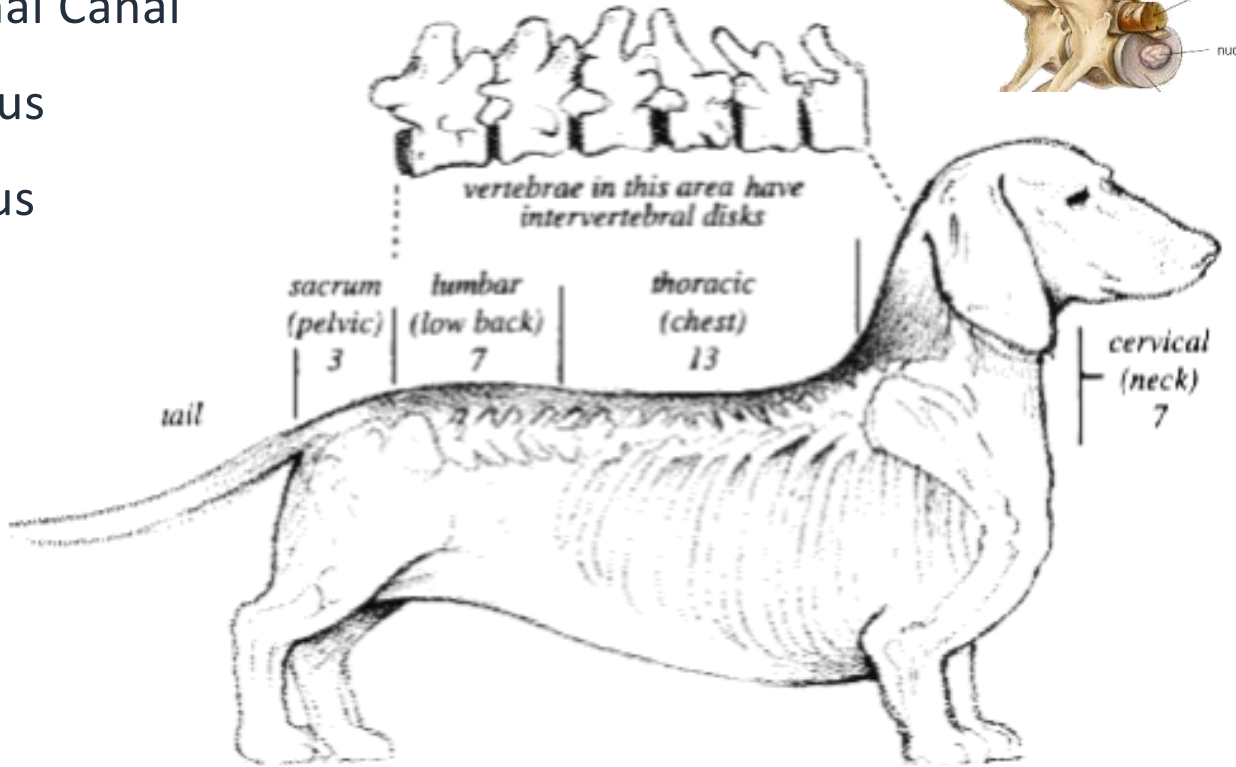
Disc Disease

One of the many causes of being down

A little anatomy to get started

- Intervertebral disc
- Vertebral / Spinal Canal
- Nucleus Pulposus
- Annulus Fibrosus





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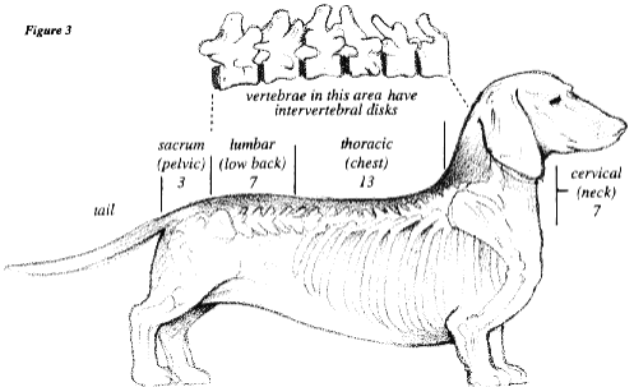
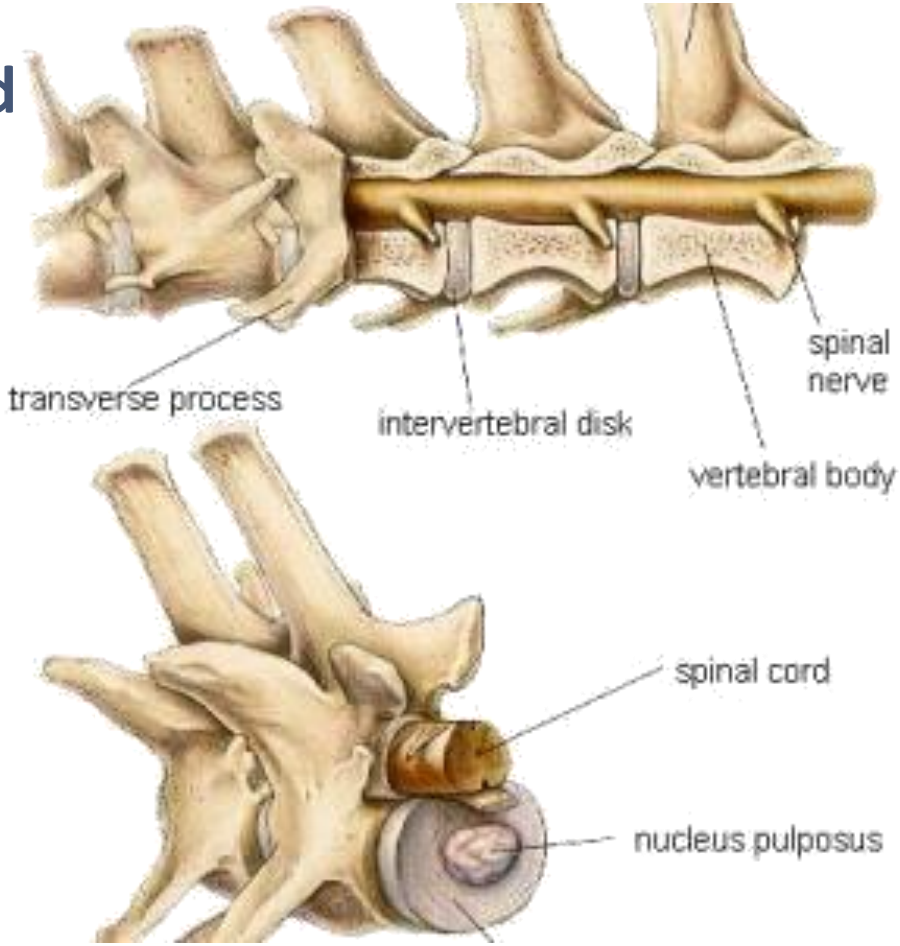


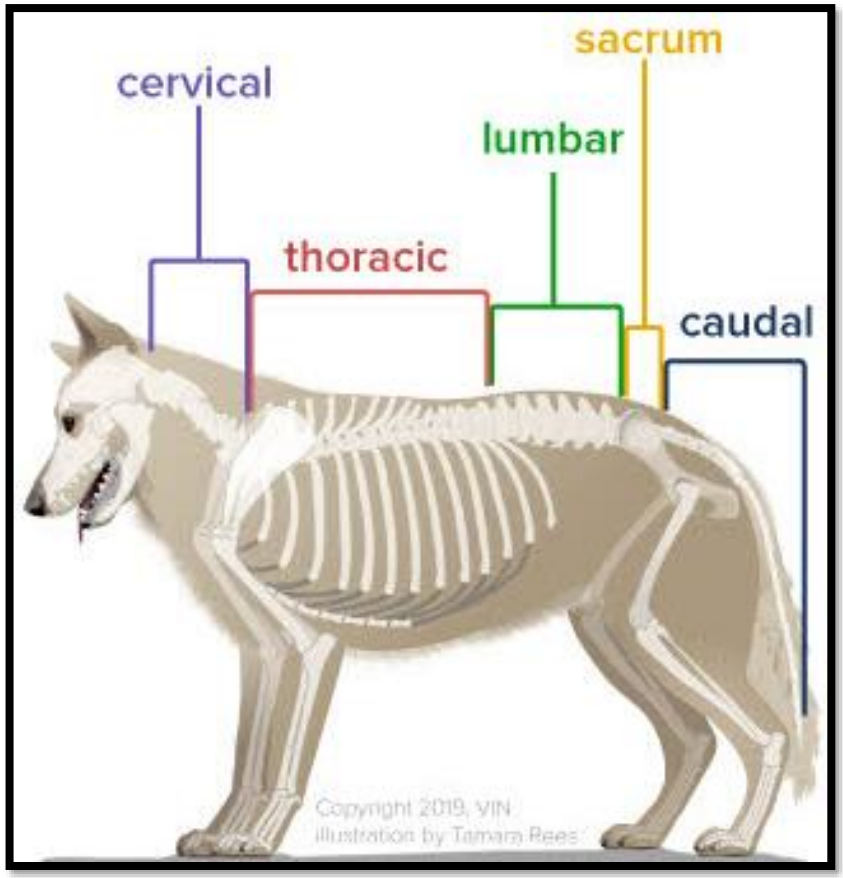


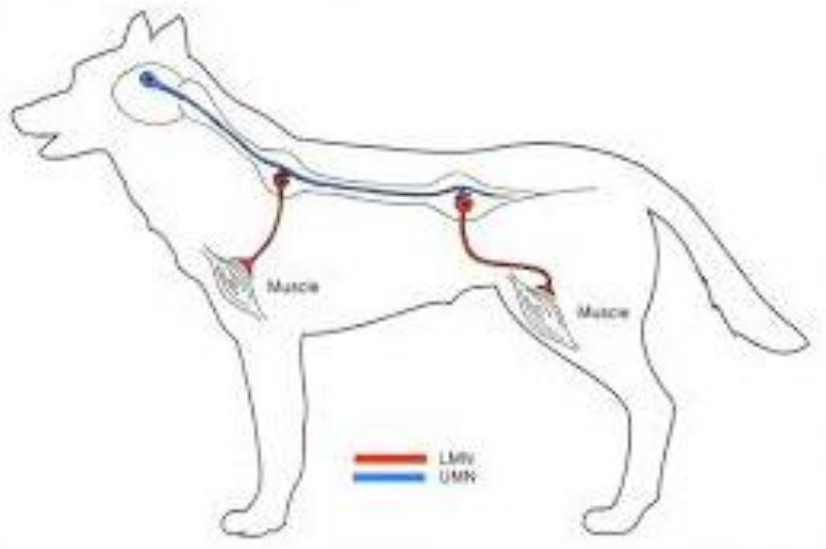
Definitions

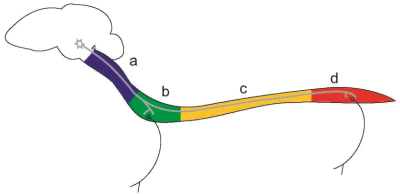


- Prefix
  - Para-
  - Tetra-
  - Hemi-
- Suffix
  - Paresis/paretic
  - Plegia/plegic
- Ataxia

Location, Location, Location…







SITE OF INJURY	THORACIC LIMB DEFICIT	PELVIC LIMB DEFICIT
a: C1-C5 (Cervical)	UMN	UMN
b: C6-T2 (Cervicothoracic)	LMN	UMN
c: T3-L3 (Thoracolumbar)	NORMAL	UMN
d: L4-S3 (Lumbosacral)	NORMAL	LMN

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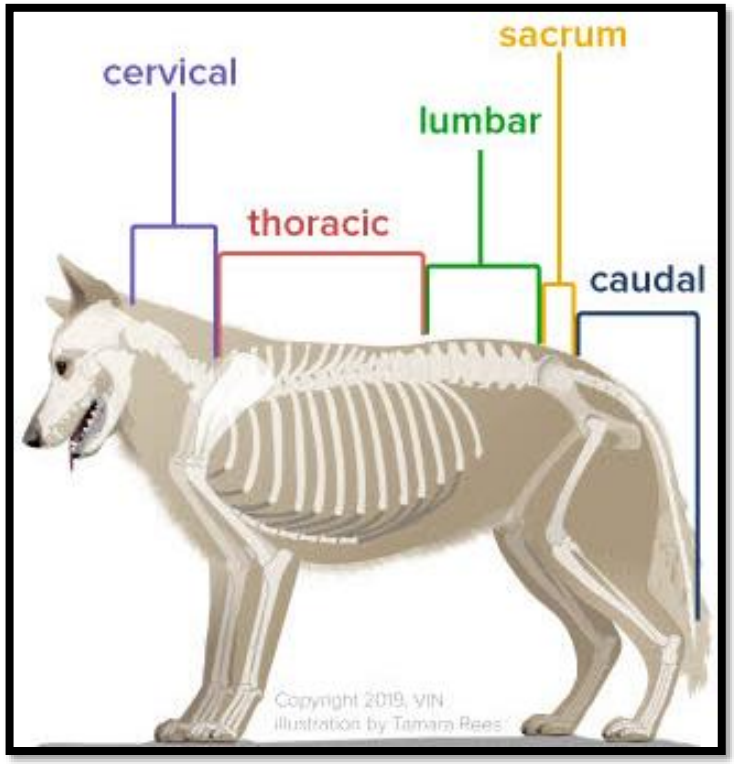

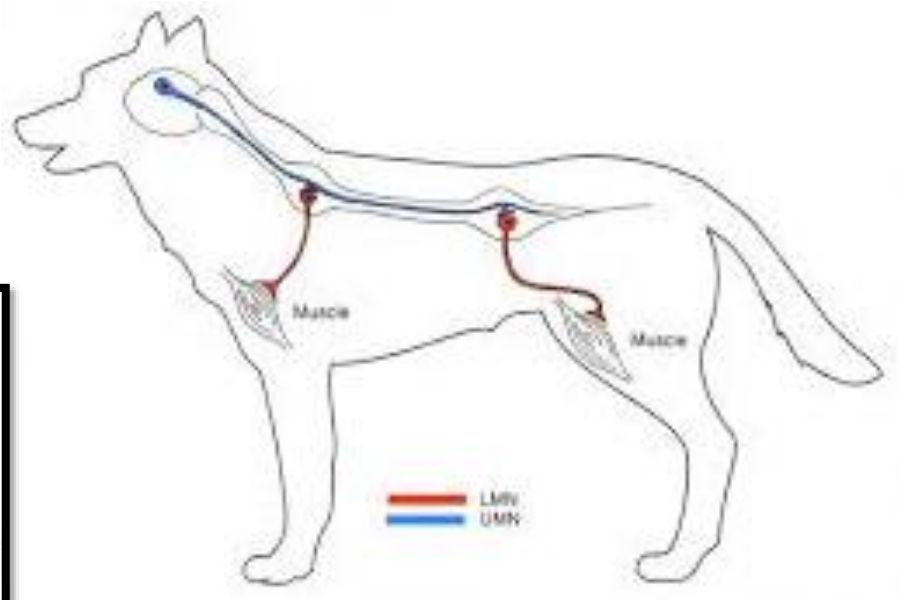

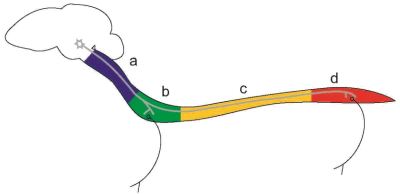

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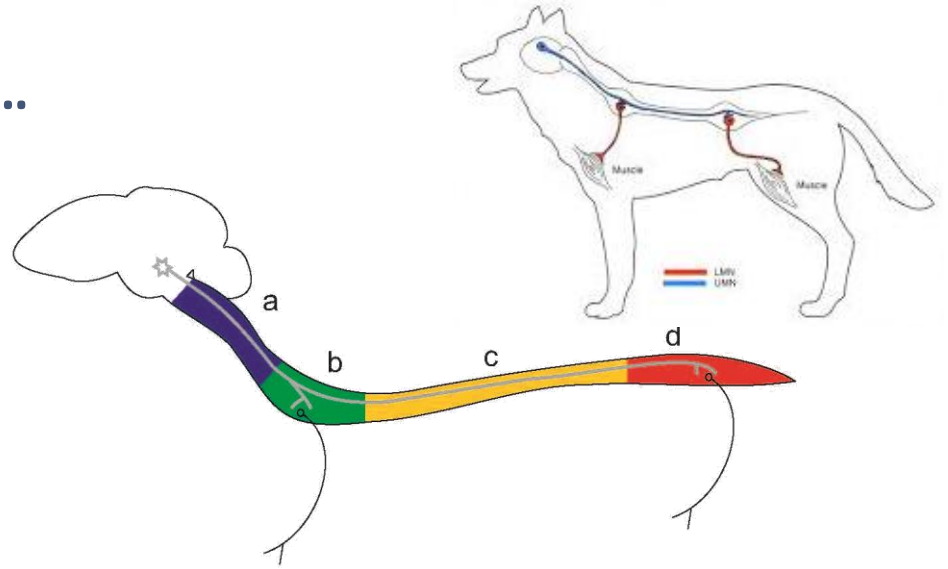

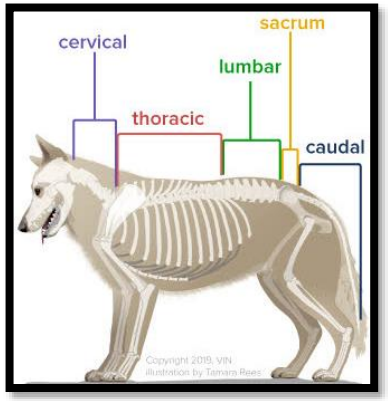

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Types of Disc Disease

- Hansen Type I
- Hansen Type II
- ANNPE/Traumatic Disc
- FCE
- Discospondylitis








Hansen Type I

Symptoms

- **Acute** pain and disability
- Difficulty rising, using stairs and jumping
- "Downstream Effects":
  - ↓ proprioception
  - ↓Strength
  - Ataxia
  - Paresis / Paralysis

Usual Suspects: French Bulldogs, Dachshunds, Corgis, Shih Tzu, Cocker Spaniels
Chondrodystrophic Breeds





Hansen Type II

Symptoms

- **Chronic** pain and disability
- Difficulty/slow rising, using stairs and jumping
- "Downstream Effects":
  - ↓ proprioception
  - ↓Strength
  - Ataxia
  - Paresis / Paralysis (chronic)

Usual Suspects: Older, large breed dogs



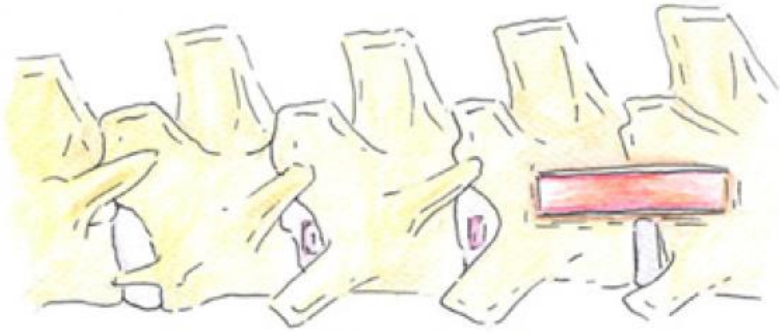


“Acute on Chronic”

A chronic Type II disc protrusion that has an acute NP extrusion



Compressive IVDD Treatment

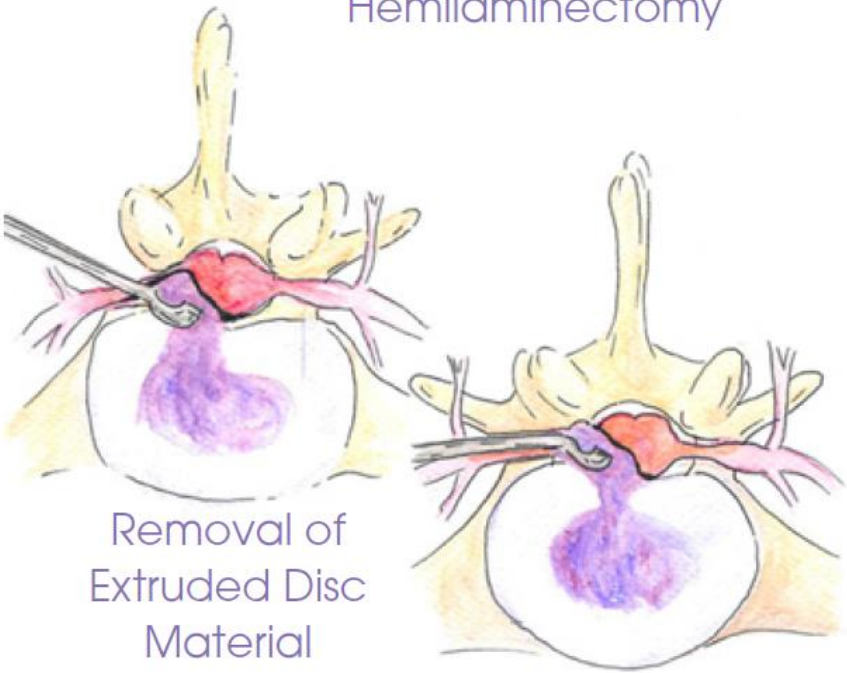


Hemilaminectomy

Conservative Management

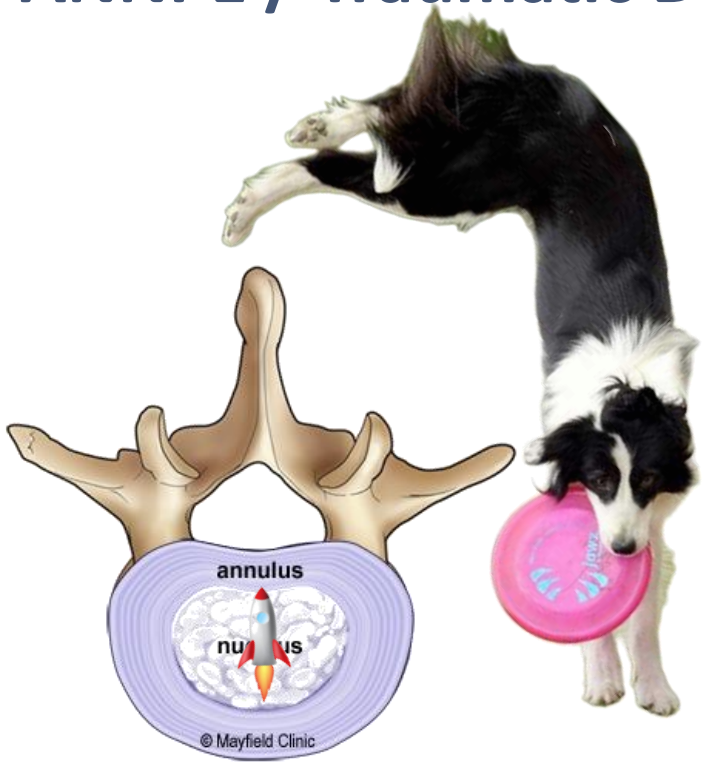
- Minir atients
- “First s”
  - M
  - 4 t
  - L ions





Removal of Extruded Disc Material

ANNPE / Traumatic Disc

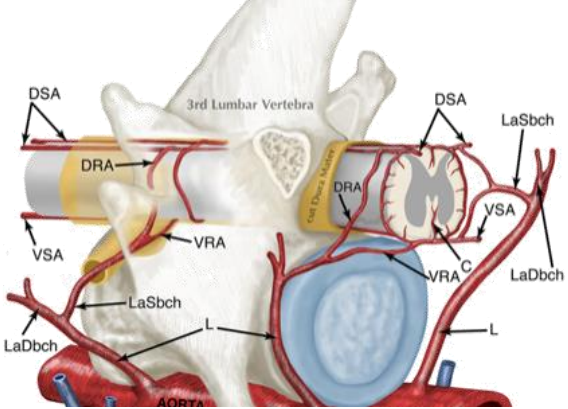


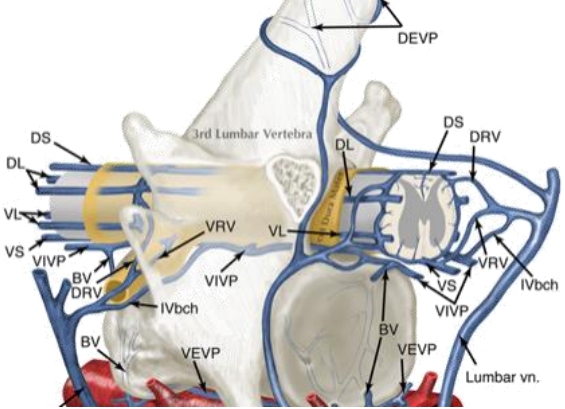
Small portion of NP strikes the cord at high velocity. “Bruised Spinal Cord.”

Symptoms:

- Very acute: Normal to down within seconds/minutes.
- Initially Painful

Usual Suspects: Any dog but medium to large breed most common.







Fibrocartilaginous Embolism

Symptoms

- Very sudden onset: Immediate dysfunction
- Initially painful but pain dissipates after a few hours

Small portion of the disc breaks off and occludes a vessel to the cord. A “stroke” to the spinal cord.

FCE & ANNPE Similar but not the same

- Similar presentation
- Similar prognosis
- Same treatment
- May be difficult to distinguish on MRI



Non-Compressive Disc Treatment



- Supportive Care (we will dive in)
- Physical Therapy
- Medications as needed

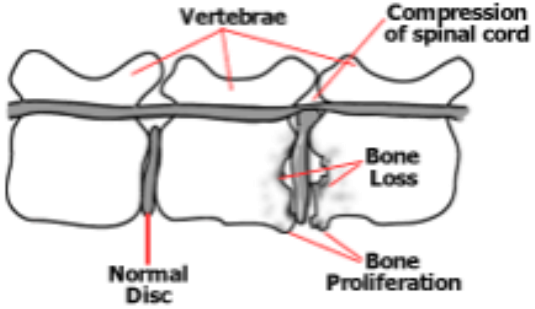
Surgery is not indicated!



Discospondylitis



FIG. 60-1 Caudal aspect of a thoracic vertebra affected with diskospondylitis. (Courtesy of Dr. J. N. Kornegay)



Infection of the disc and adjacent vertebrae

Symptoms:

- EXTREME pain
- +/- Fever
- +/- varying degrees of neurologic dysfunction

Usual Suspects: Male/Intact, larger dogs

Discospondylitis

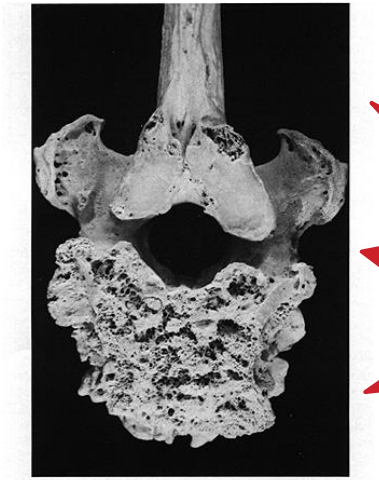


FIG. 60-1 Caudal aspect of a thoracic vertebra affected with diskospondylitis. (Courtesy of Dr. J. N. Kornegay)

Zoonosis Potential!!

Infection of the disc and adjacent vertebrae

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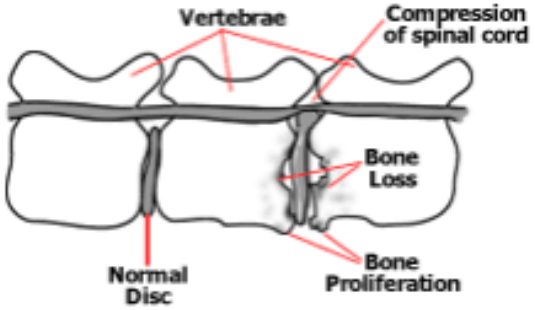
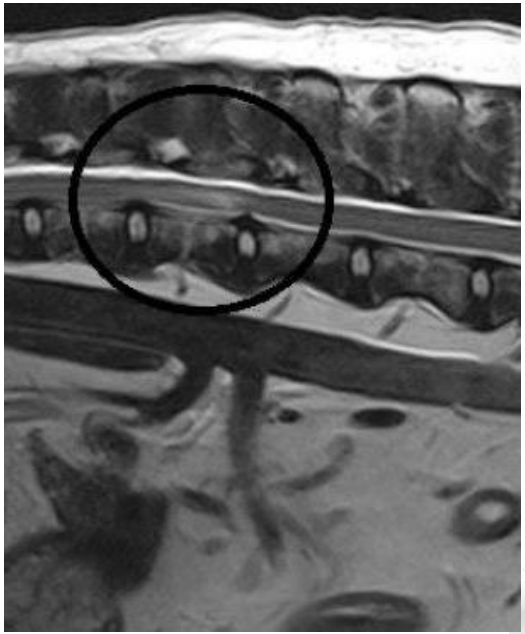


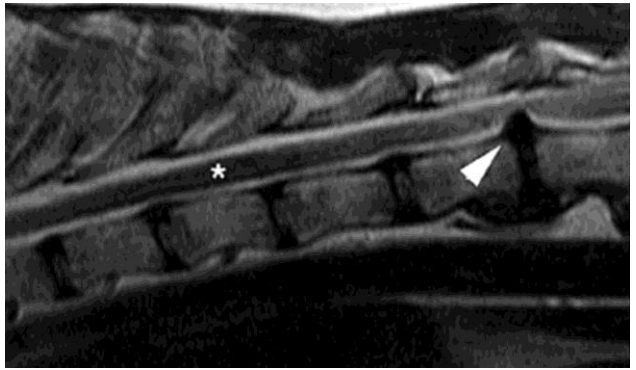
Treatment:

- Appropriate anti-microbial therapy
- +/- surgery depending on compression

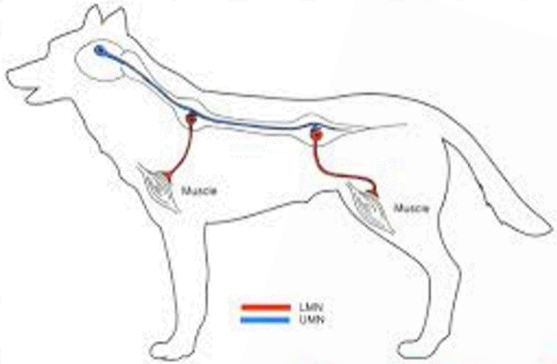
How we diagnose the disk disease













PROGNOSIS



Type I

Vs.

Type II

Vs.

FCE

Vs.

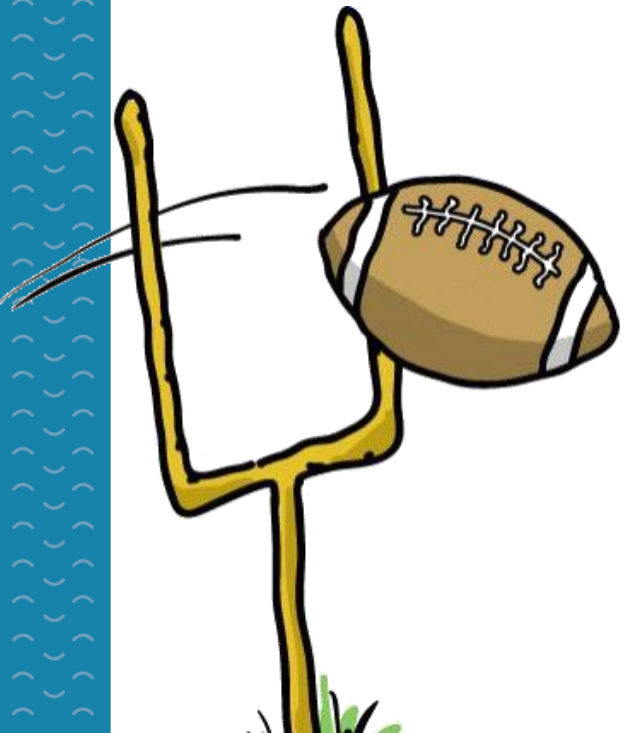
ANNPE

Vs.

Disco

Nursing Considerations for the Down Patient

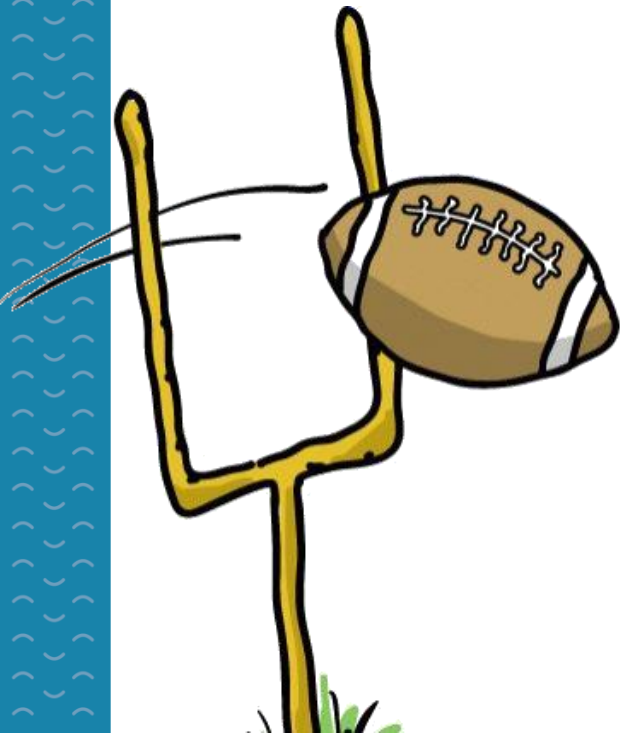
Goals of Nursing the Down Patient



Provide optimal patient comfort

Avoid secondary injury/ complications that you can control

Goals of Nursing the Down Patient



- Husbandry
- Patient Positioning / Rotation
- Physical Therapy
- Pain Recognition and Management
- Anxiety Recognition and Management
- Urinary Management

Husbandry

Inability to walk under one's own power



...and there are multiple consequences...

- Aspiration pneumonia
- **Urine/fecal scald**
- **Pressure Sores**
- Anxiety / fear
- Joint Contracture
- [illegible] Adhesions
- [illegible]ort

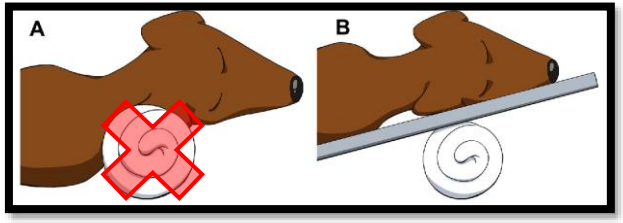






Patient Positioning and Rotation







Patient Positioning and Feeding

- Always feed and offer water in sternal position with head elevated
- Feed small frequent meal and offer water frequently in small amounts
- Do not allow patient to gorge
- Maintain sternal position for at least 10 minutes post feeding and watering



Terrible AI generated image

Physical Therapy

Remember this slide?



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Physical Therapy

Well there's more



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Physical Therapy

- Abrasions
- Compartment Syndrome
- Atelectasis



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Physical Therapy

More than just prevention…promotion!

- Preserve tissue strength
- Replenish synovial fluid
- Return to function
- Increases Circulation
- Improved Lymph drainage
- Mental Wellbeing

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Physical Therapy

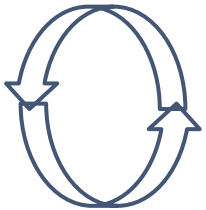
- **Rotate patient every 2-4 hours**
  - Left side, right side, sternal
- **Passive range of motion**
  - Imagine making a bicycle motion
  - Avoids joint contracture
  - Stimulus to voluntarily move limbs
- **Massage** (go from distal to proximal)
  - Increases circulation
  - Avoids muscle adhesions
- **Sit and Stand exercise**
  - Relearn proprioception and strength



Passive Range of Motion & Stretching







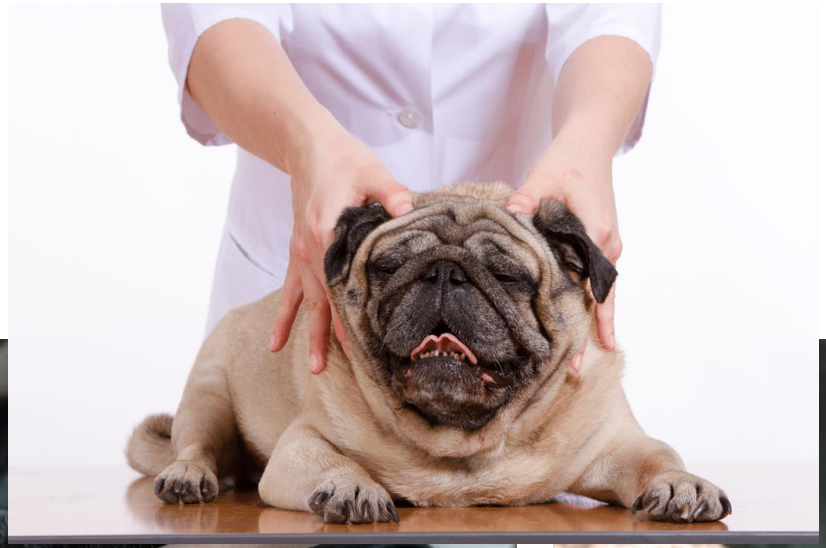




Massage



Massage









Sit-Stand Exercises







A handout for reference

Partner Veterinary
EMERGENCY & SPECIALTY CENTER

“Home Exercises for the Neurologic Patient”

Pain Recognition and Management

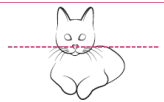
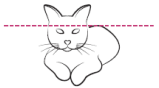
Pain Score	Example	Psychological & Behavioral	Response to Palpation	Body Tension
0		☐ Comfortable when resting ☐ Happy, content ☐ Not bothering wound or surgery site ☐ Interested in or curious about surroundings	☐ Nontender to palpation of wound or surgery site, or to palpation elsewhere	Minimal
1		☐ Content to slightly unsettled or restless ☐ Distracted easily by surroundings	☐ Reacts to palpation of wound, surgery site, or other body part by looking around, flinching, or whimpering	Mild
2		☐ Looks uncomfortable when resting ☐ May whimper or cry and may lick or rub wound or surgery site when unattended ☐ Droopy ears, worried facial expression (arched eye brows, darting eyes) ☐ Reluctant to respond when beckoned ☐ Not eager to interact with people or surroundings but will look around to see what is going on	☐ Flinches, whimpers cries, or guards/pulls away	Mild to Moderate Reassess analgesic plan
3		☐ Unsettled, crying, groaning, biting or chewing wound when unattended ☐ Guards or protects wound or surgery site by altering weight distribution (i.e., limping, shifting body position) ☐ May be unwilling to move all or part of body	☐ May be subtle (shifting eyes or increased respiratory rate) if dog is too painful to move or is stoic ☐ May be dramatic, such as a sharp cry, growl, bite or bite threat, and/or pulling away	Moderate Reassess analgesic plan
4		☐ Constantly groaning or screaming when unattended ☐ May bite or chew at wound, but unlikely to move ☐ Potentially unresponsive to surroundings ☐ Difficult to distract from pain	☐ Cries at non-painful palpation (may be experiencing allodynia, wind-up, or fearful that pain could be made worse) ☐ May react aggressively to palpation	Moderate to Severe May be rigid to avoid painful movement Reassess analgesic plan

Feline Grimace Scale

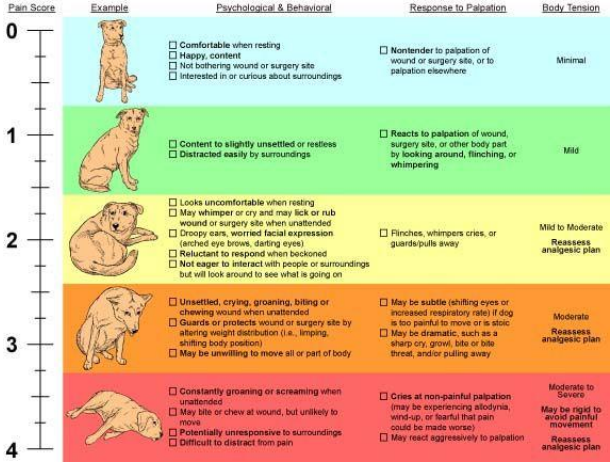
The Feline Grimace Scale was developed by the Université de Montréal to evaluate pain in cats. Below is an infographic showing how to score the five "action units" based on facial expressions. A higher score indicates more pain. If a patient scores a 4 or higher, pain medication should be considered. For more information see **felinegrimacescale.com**.



Rate each action unit from 0 to 2:
0 = action unit is absent | **1** = moderately present | **2** = markedly present

Action Unit	0	1	2
Ear Position	 Ears facing forward	 Ears slightly pulled apart	 Ears rotated outward
Orbital Tightening	 Eyes opened	 Partially closed eyes	 Squinted eyes
Muzzle Tension	 Relaxed (round shape)	 Mild tension	 Tense (elliptical shape)
Whiskers Change	 Loose (relaxed) and curved	 Slightly curved or straight (closer together)	 Straight and moving forward (rostrally, away from the face)
Head Position	 Head above the shoulder line	 Head aligned with the shoulder line	 Head below the shoulder line or tilted down

Pain Recognition and Management



Pain Score	Example	Psychological & Behavioral	Response to Palpation	Body Tension
0		☐ Comfortable when resting ☐ Happy, content ☐ Not bothering wound or surgery site ☐ Interested in or curious about surroundings	☐ Nontender to palpation of wound or surgery site, or to palpation elsewhere	Minimal
1		☐ Content to slightly unsettled or restless ☐ Distracted easily by surroundings	☐ Reacts to palpation of wound, surgery site, or other body part by looking around, flinching, or whimpering	Mild
2		☐ Looks uncomfortable when resting ☐ May whimper or cry and may lick or rub wound or surgery site when unattended ☐ Droopy ears, worried facial expression (arched eye brows, darting eyes) ☐ Reluctant to respond when beckoned ☐ Not eager to interact with people or surroundings but will look around to see what is going on	☐ Flinches, whimpers cries, or guards/pulls away	Mild to Moderate Reassess analgesic plan
3		☐ Unsettled, crying, groaning, biting or chewing wound when unattended ☐ Guards or protects wound or surgery site by altering weight distribution (i.e., limping, shifting body position) ☐ May be unwilling to move all or part of body	☐ May be subtle (shifting eyes or increased respiratory rate) if dog is too painful to move or is stoic ☐ May be dramatic, such as a sharp cry, growl, bite or bite threat, and/or pulling away	Moderate Reassess analgesic plan
4		☐ Constantly groaning or screaming when unattended ☐ May bite or chew at wound, but unlikely to move ☐ Potentially unresponsive to surroundings ☐ Difficult to distract from pain	☐ Cries at non-painful palpation (may be experiencing allodynia, wind-up, or fearful that pain could be made worse) ☐ May react aggressively to palpation	Moderate to Severe May be rigid to avoid painful movement Reassess analgesic plan

Feline Grimace Scale

The Feline Grimace Scale was developed by the Université de Montréal to evaluate pain in cats. Below is an infographic showing how to score the five "action units" based on facial expressions. A higher score indicates more pain. If a patient scores a 4 or higher, pain medication should be considered. For more information see **felinegrimacescale.com**.

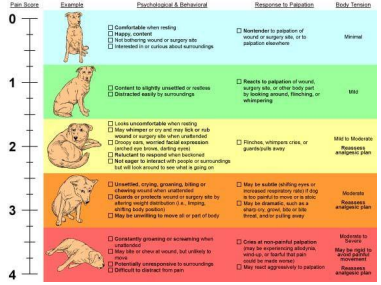


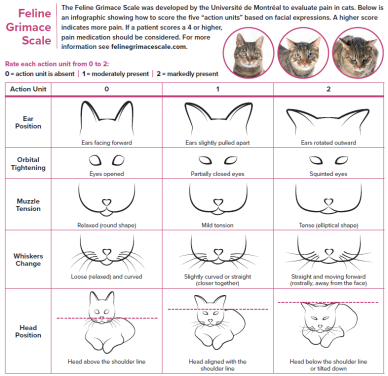
Rate each action unit from 0 to 2:

0 = action unit is absent | **1** = moderately present | **2** = markedly present

Action Unit	0	1	2
Ear Position	Ears facing forward	Ears slightly pulled apart	Ears rotated outward
Orbital Tightening	Eyes opened	Partially closed eyes	Squinted eyes
Muzzle Tension	Relaxed (round shape)	Mild tension	Tense (elliptical shape)
Whiskers Change	Loose (relaxed) and curved	Slightly curved or straight (closer together)	Straight and moving forward (rostrally, away from the face)
Head Position	Head above the shoulder line	Head aligned with the shoulder line	Head below the shoulder line or tilted down

Pain Recognition and Management

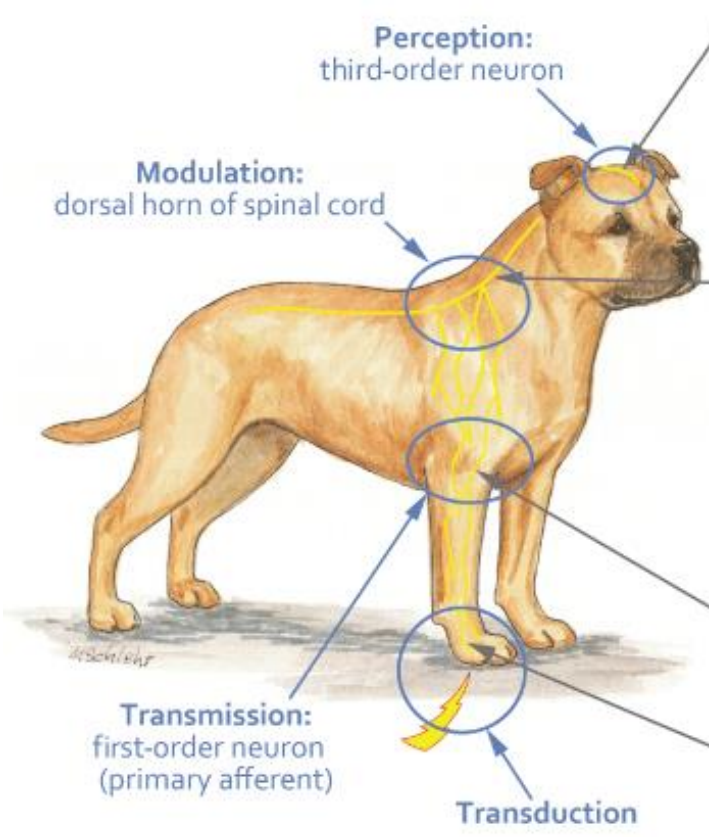




Common signs that a patient is painful

- Vocal/Crying out
- Excessive panting
- Aggressive behavior
- Posture (see charts)
- Elevated temperature
- Decreased appetite
- Decreased social interaction

Pain Recognition and Management



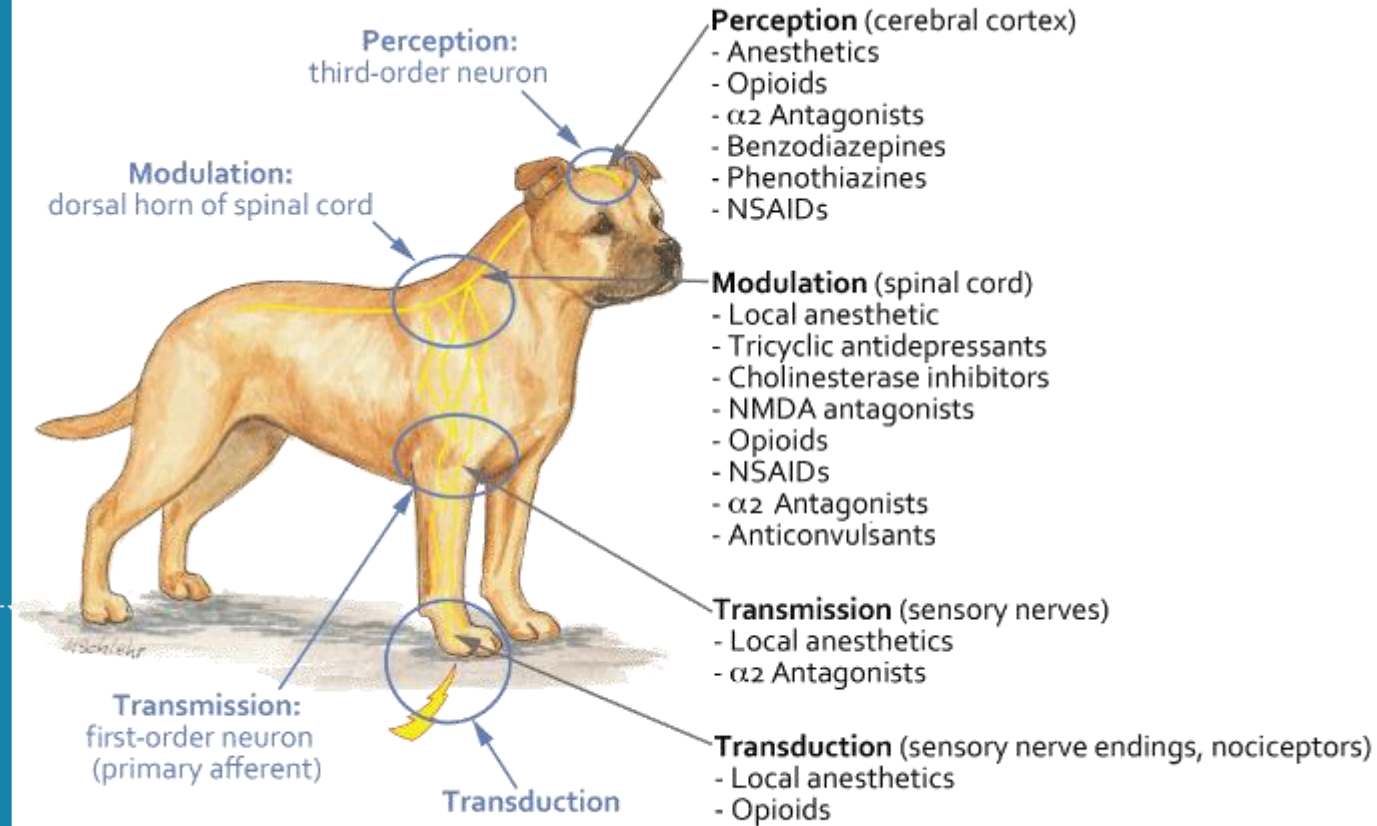
Perception (cerebral cortex)
- Anesthetics
- Opioids
- α2 Antagonists
- Benzodiazepines
- Phenothiazines
- NSAIDs

Modulation (spinal cord)
- Local anesthetic
- Tricyclic antidepressants
- Cholinesterase inhibitors
- NMDA antagonists
- Opioids
- NSAIDs
- α2 Antagonists
- Anticonvulsants

Transmission (sensory nerves)
- Local anesthetics
- α2 Antagonists

Transduction (sensory nerve endings, nociceptors)
- Local anesthetics
- Opioids
- NSAIDs
- Corticosteroids

Pain Recognition and Management



<u>Opioids:</u>

Injectable:

-Methadone

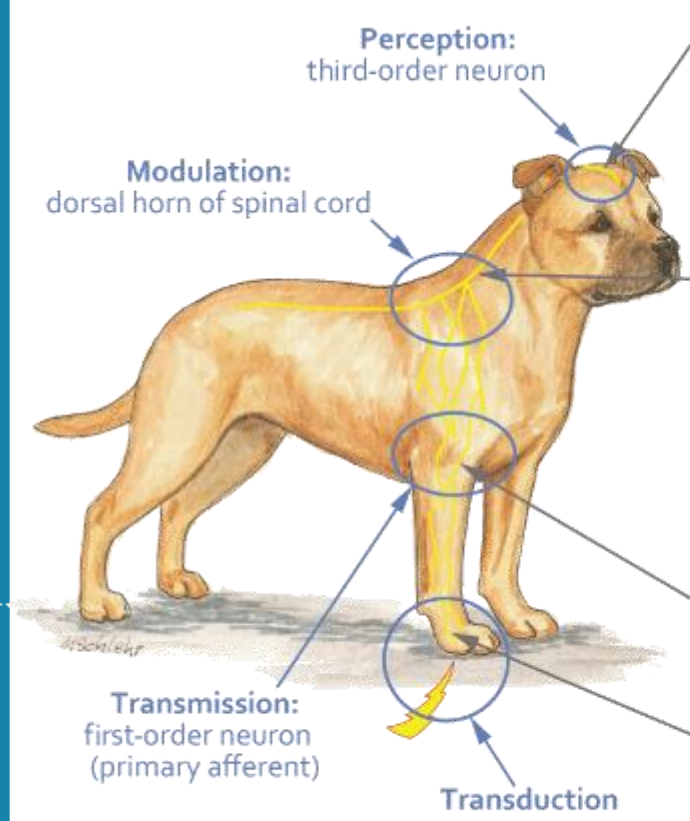
-Hydromorphone

-Morphine

Oral:

-Codeine

Pain Recognition and Management



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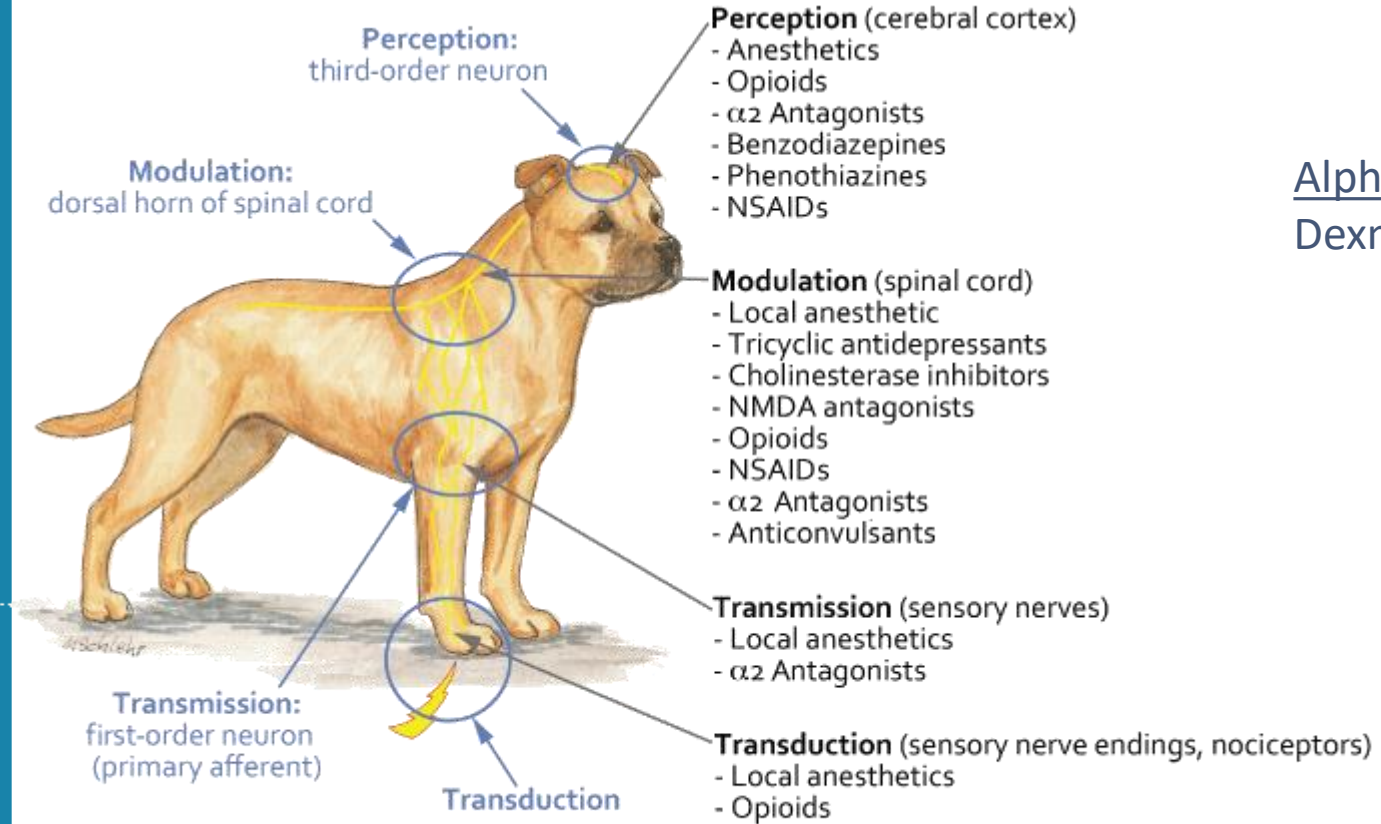
NSAIDs:
-Carprofen
-Meloxicam
-Deracoxib
-Firocoxib
-Grapiprant
-Robenacoxib

Pain Recognition and Management



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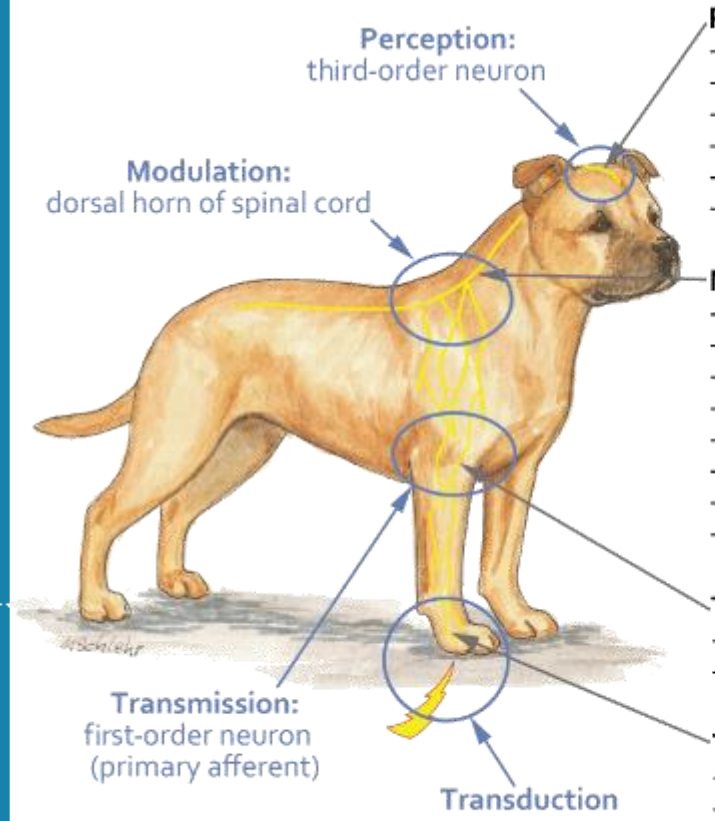
Alpha2 Agonists:
Dexmedetomidine

Pain Recognition and Management



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Other:

NMDA Antagonist:
-Ketamine (inj.)
-Amantadine (oral)

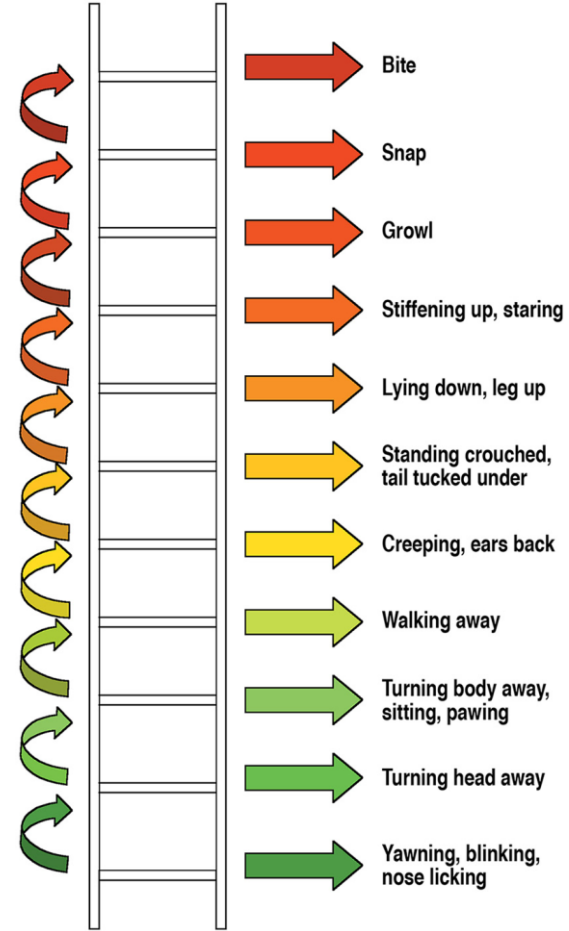
Anticonvulsant:

-Gabapentin

Local:

-Warm or cool compressing

Anxiety Recognition and Management



Anxiety Recognition and Management



Anxiety Recognition and Management

- Vocal/Whining
- Decreased appetite
- Destructive behavior
- Pawing or biting at the cage door
- Excessive grooming
- Vomiting or colitis



Drugs are great, but look at the patient first



Are they?:

- Painful or generally uncomfortable?
- Scared?
- Hungry?
- Soiled Bedding?
- Bored?
- Tired?

Drugs are great, but look at the patient first

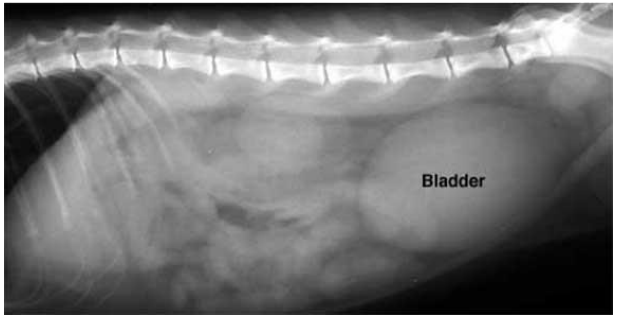




Fluffy Blanket Hoarder

Urinary Management

- Many pets who are unable to walk have difficulty urinating leading to:
  - Source of discomfort and anxiety
  - Urine Retention
  - Urinary Incontinence
  - Urinary Tract Infection
  - Distention causing permanent damage
  - Urine leakage causing urine scald and skin infections



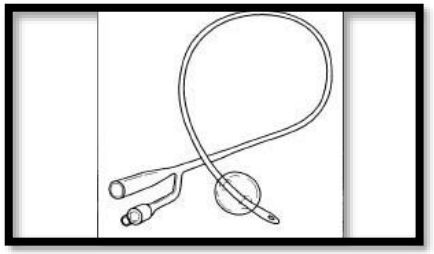
Small, frequent amounts or dribbling may indicate overflow rather than urination!

Urinary Management



Expression

- Providing gentle pressure on the bladder to produce urine stream



Catheterization

- Placement of indwelling or red rubber catheter to remove all urine



Drugs

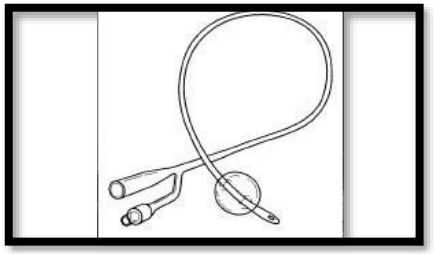
- Pharmacological support to make expression or urination easier

Urinary Management



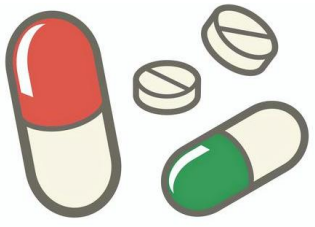
Expression

- Can be difficult
- Can be uncomfortable for patient
- Avoid if painful, aggressive, obstruction, “overly conditioned” or previous trauma



Catheterization

- Can increase risk of urinary tract infections



Drugs

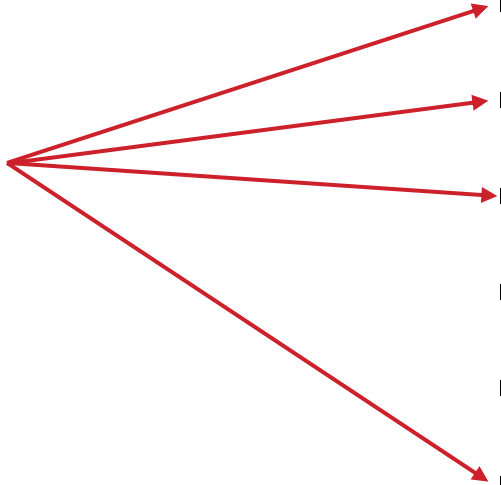
- Best when timed close to anticipated bladder expression
- Never use bethanechol without a relaxant

Each of these work together…to avoid this…

- Aspiration pneumonia
- Urine/fecal scald
- Pressure Sores
- Anxiety / fear
- Joint Contracture
- Muscle Adhesions
- Discomfort

Each of these work together…to avoid this…

Husbandry



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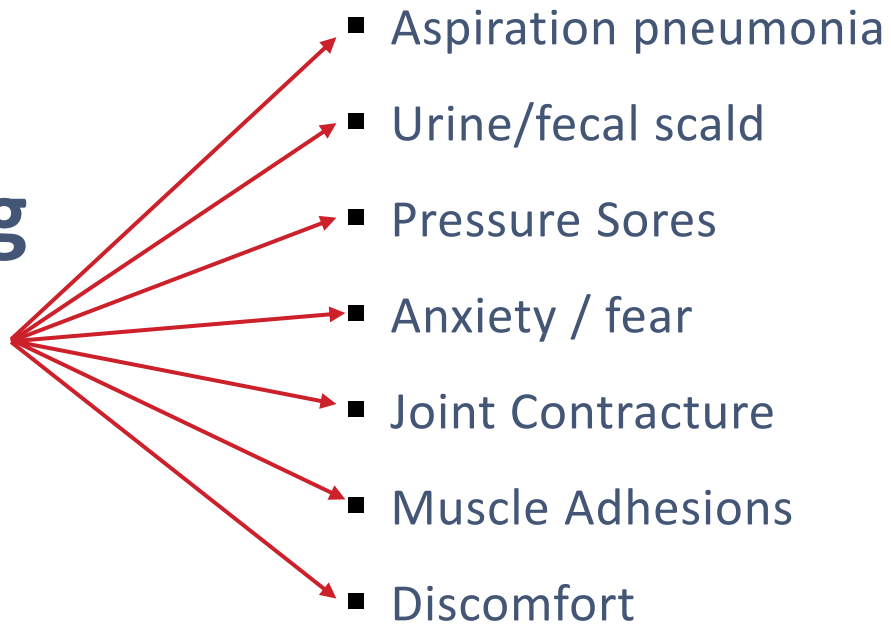
Patient Positioning
Rotation
Physical Therapy



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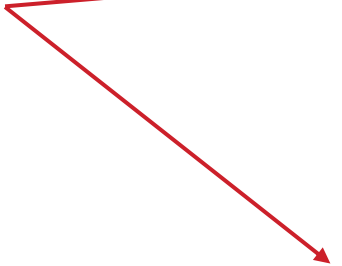
Pain Recognition



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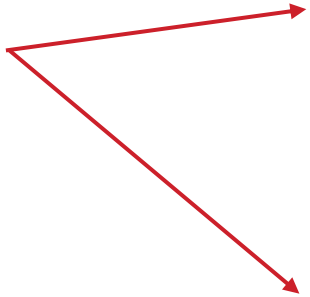

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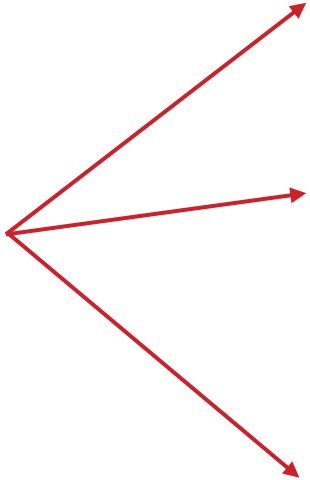
Urinary Management



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Summary

Summary

“

Disk disease is only one reason for a patient to go “down.” But it is a common one



Summary

“

Disk disease is treatable and can have a good outcome, but takes time for “down” dogs (and cats) to recover



Summary

“

Patient monitoring and optimal nursing care are crucial to avoid secondary injury and promote optimal healing



Summary

“

Patient monitoring and optimal nursing care includes listening to your patient to determine their needs.



Summary

“

Caring for the down dog (or cat!) is incredibly rewarding work for the veterinary technician and assistant



Partner Veterinary

EMERGENCY & SPECIALTY CENTER

Thank you!

cweaver@partnervesc.com

