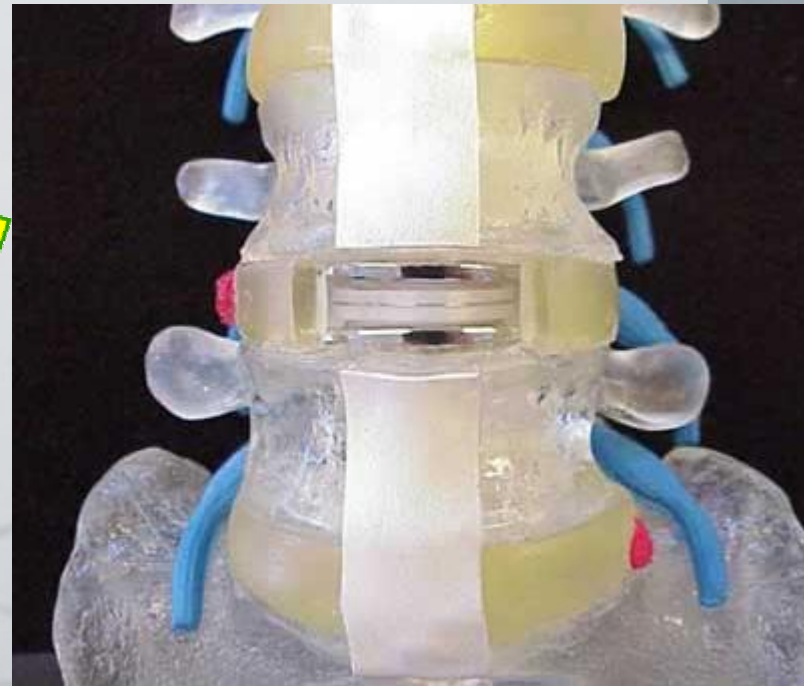
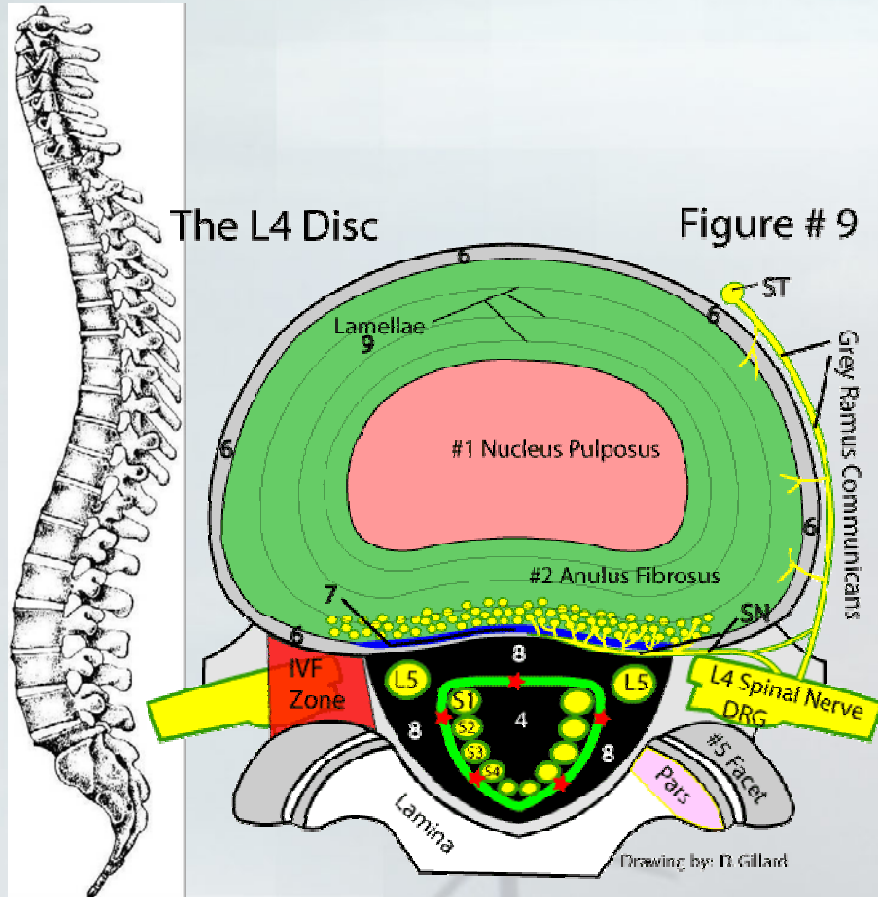


DD Low Back



Case History considerations

- **Logical, Methodical & progressive (Fluid)**
- **What hurts**
- **Where does it hurt most (PMI)**
- **Any neuro symptoms**
- **Onset (when & how)**
- **Progression (plot the time course)**
- **Pain Desc**
- **DP**
- **Agg/Rel factors (your benchmarks)**

- **Previous history/ previous treatment/ rehab? Successful?**

Epidemiology Of Low Back Pain

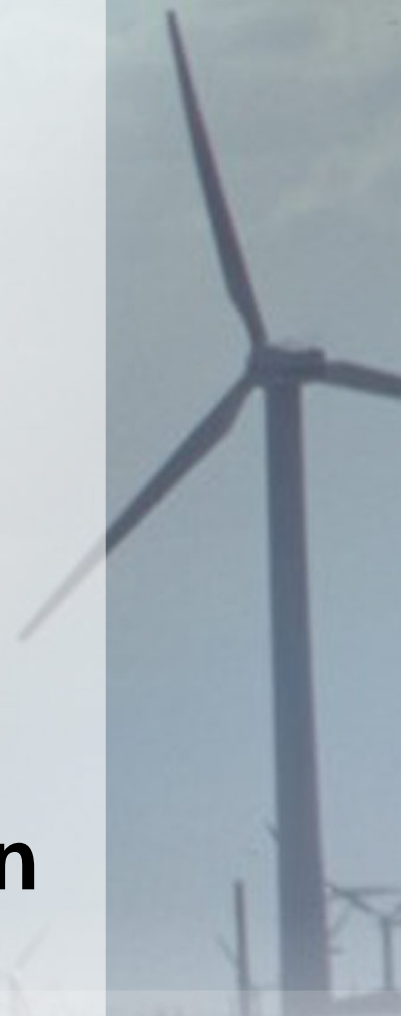
- **Very complex issue**
 - Psychosocial
 - Environmental
 - Genetic
 - Individual risk factors
- **Studied have been inconclusive in terms of prevalence in Pop**
 - Manchester BP Study 36% (40% 1 Epi's)
 - Swedish study 24%
 - Study that only 50% seek advice
 - And that of those who do seek advice 10% still have pain and stop seeking advice
- **Twin studies show a strong genetic link (70%)**
- **All are agreed on U shape curve**
- **Read Biomech Of Back Pain (Ch 6)**

Common Conditions

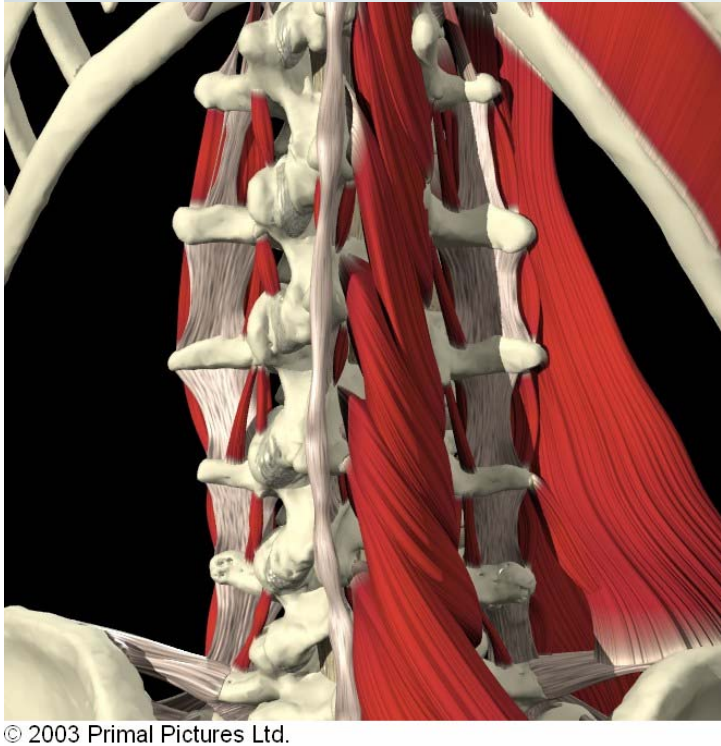
- **Muscle strain**
 - Les
 - QL/Psoas
- **Ligamentous sprain**
 - Iliolumbar
 - Inter spinous
- **Discogenic**
 - Internal Disc Disruption
 - Disc bulge
 - Annular Tear
 - PIVD
- **OA**
 - Facet joint → Foraminal encroachment → NR irritation
 - Vertebral body
- **Spinal Anomalies**
 - Spina Bifida
 - Spondylolysis/spondylolisthesis
 - Lumbarised sacrum
 - Sacralised lumbar
 - Transitional vertebrae

Muscle Strain

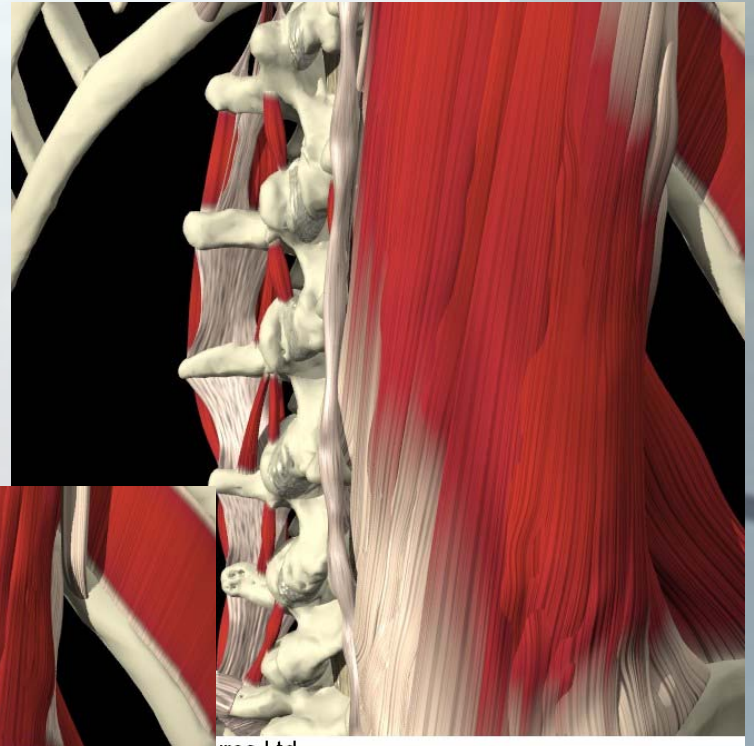
- **Commonest injury seen in practice**
- **Prime movers/stabilisers of axial skeleton**
- **Long lever loading**
 - Out of mid line
 - Lift & Twist
 - Hyperextension & loading (lift tech)
 - Flexion/extension pulling & loading
- **Prolonged Sitting (tissue creep)**
- **Static/dynamic postural dysfunction**
- **Occupational RSI**



Posterior Muscles



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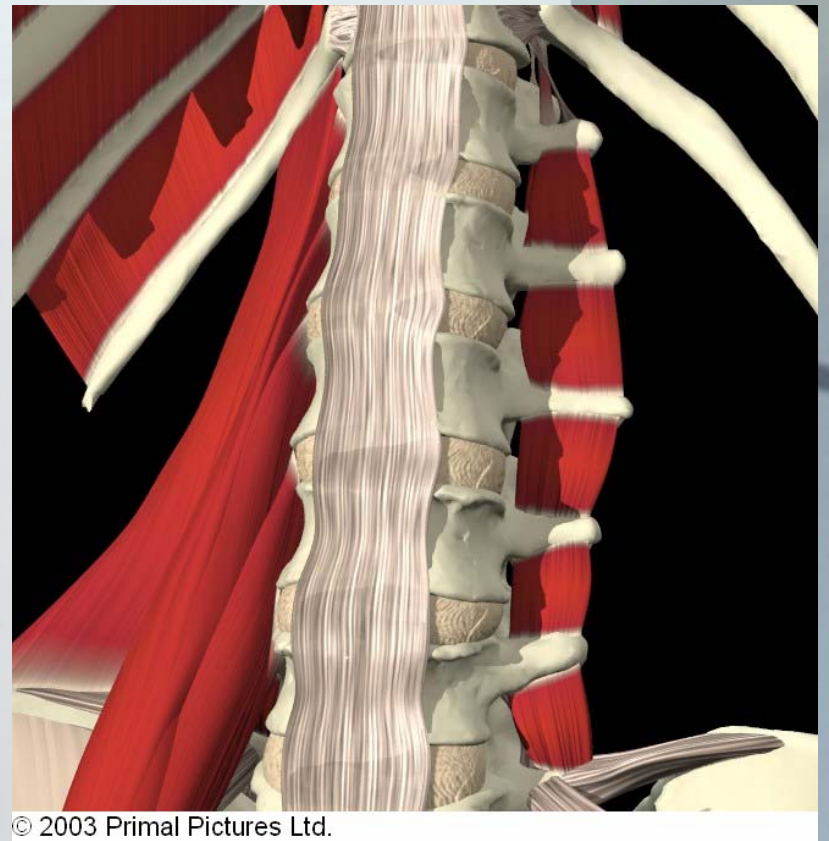
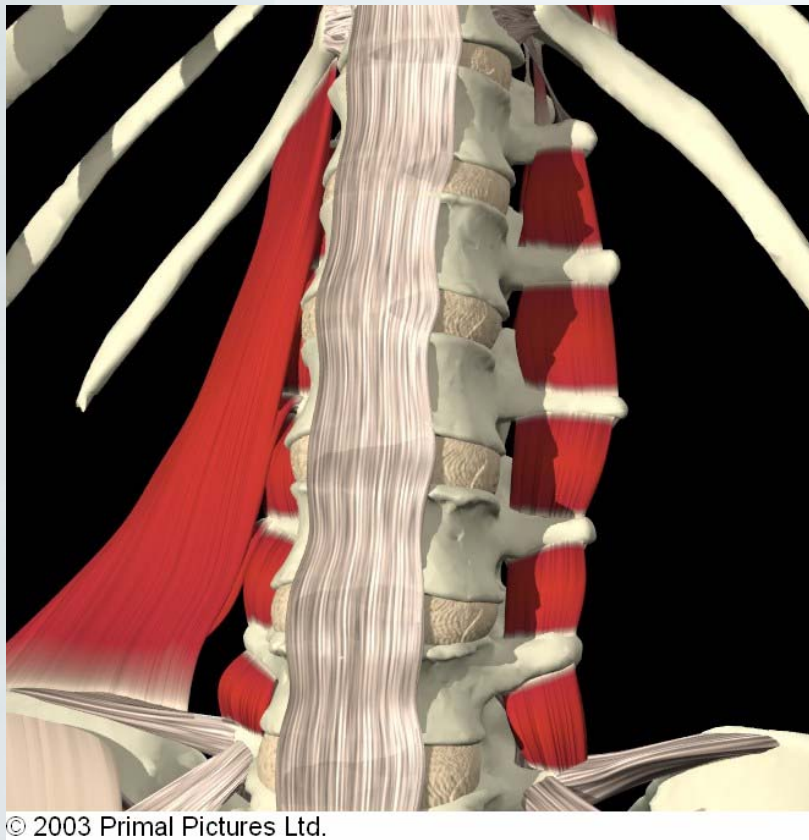


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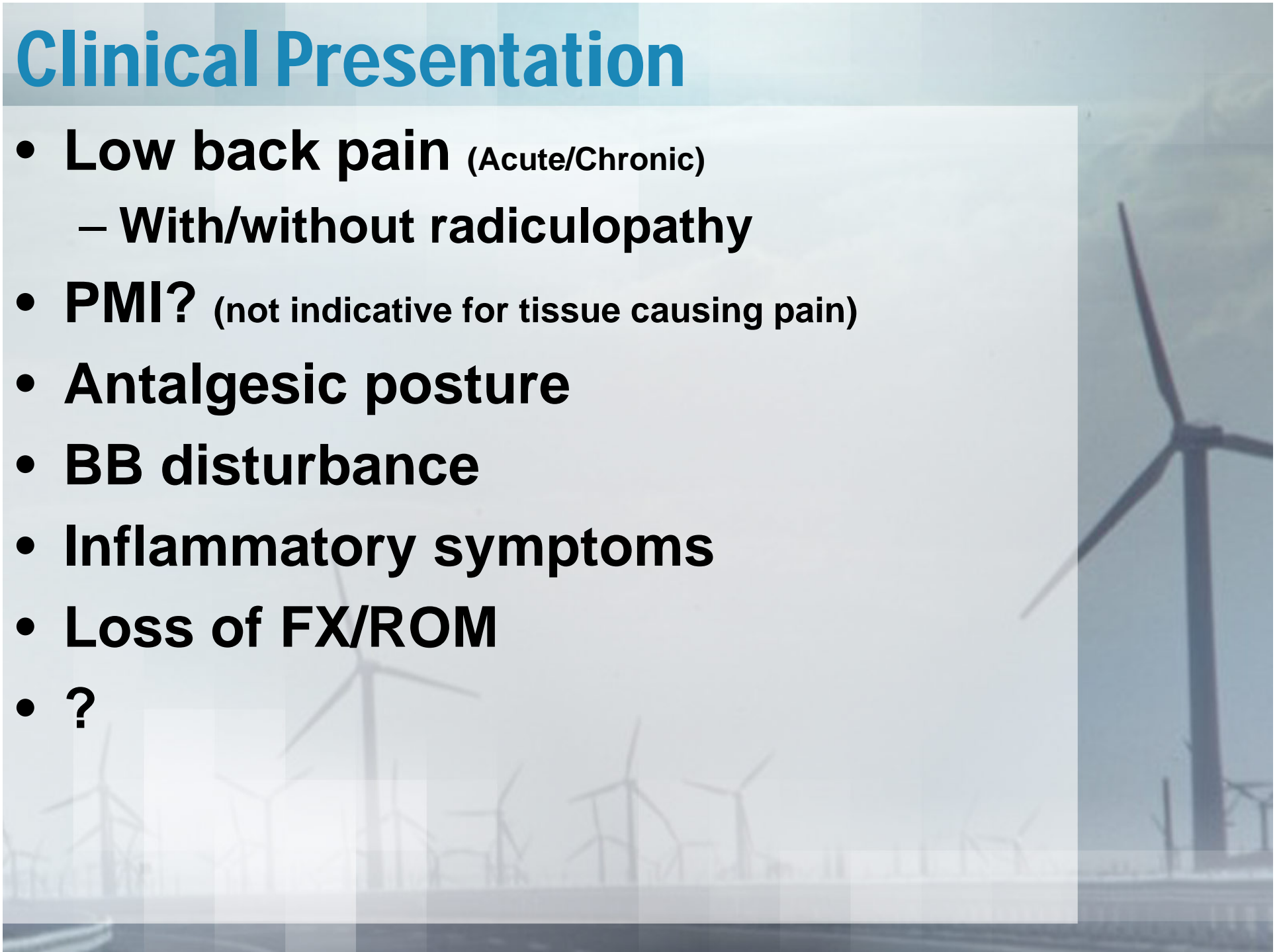
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Anterio-lateral Muscles

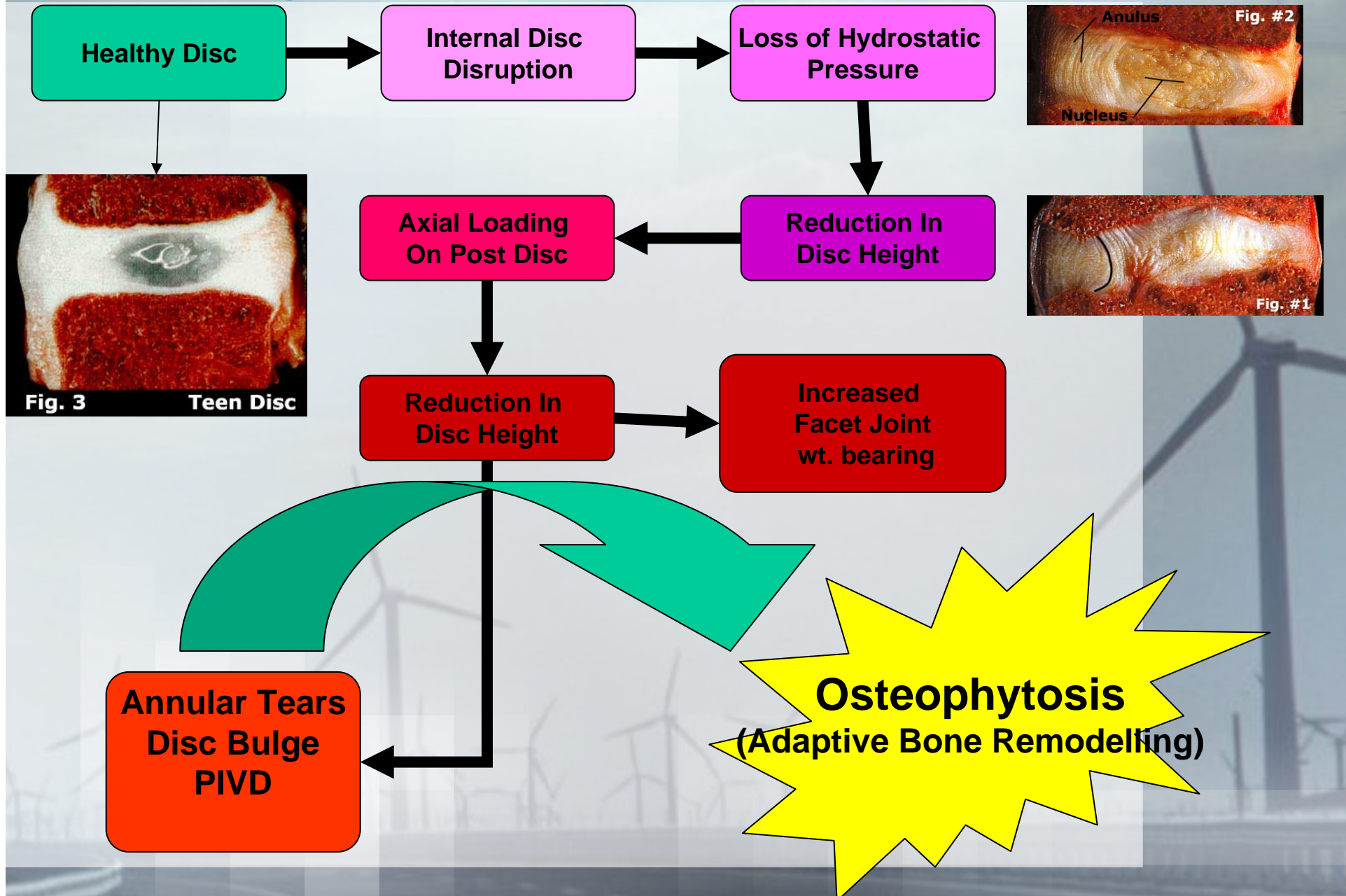


Clinical Presentation

- **Low back pain** (Acute/Chronic)
 - **With/without radiculopathy**
- **PMI?** (not indicative for tissue causing pain)
- **Antalgic posture**
- **BB disturbance**
- **Inflammatory symptoms**
- **Loss of FX/ROM**
- **?**

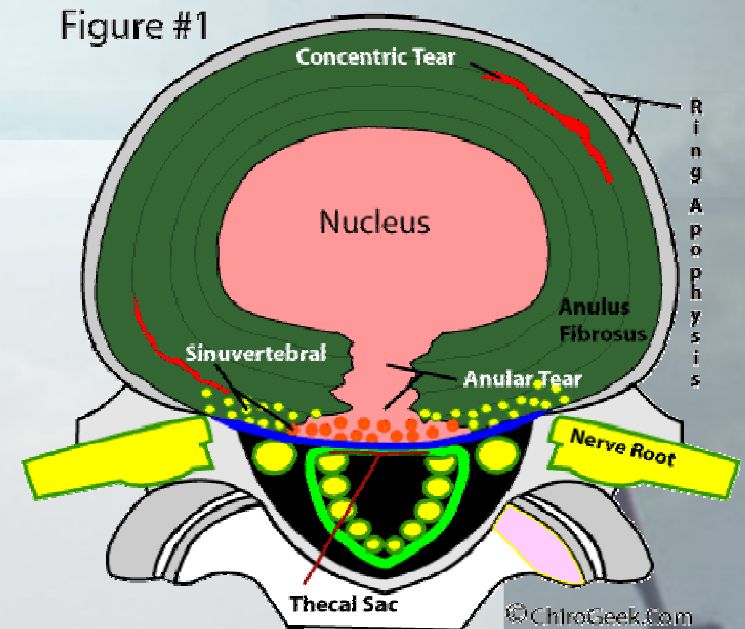


Disc Degenerative Disease

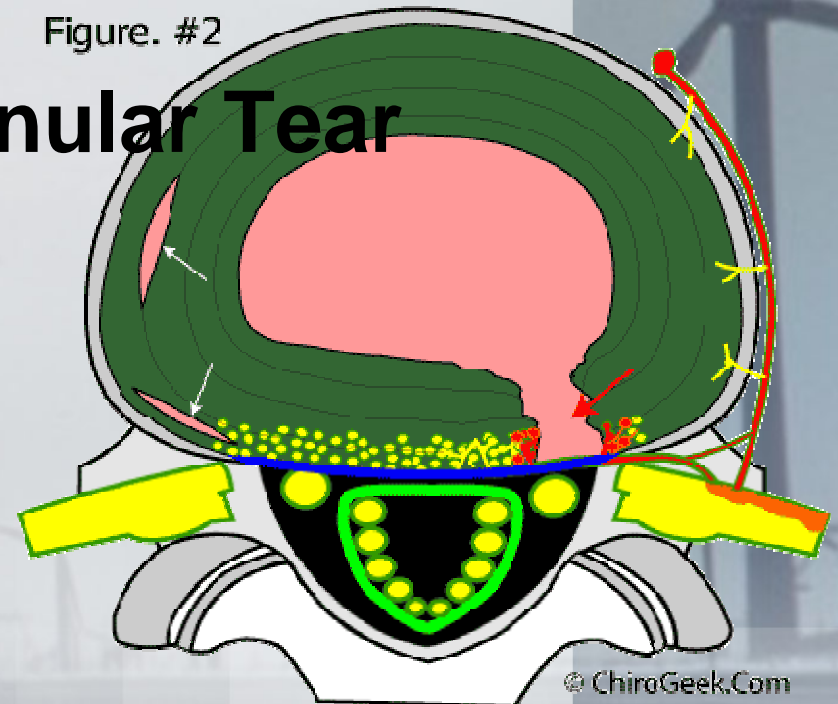


Disc Prolapse

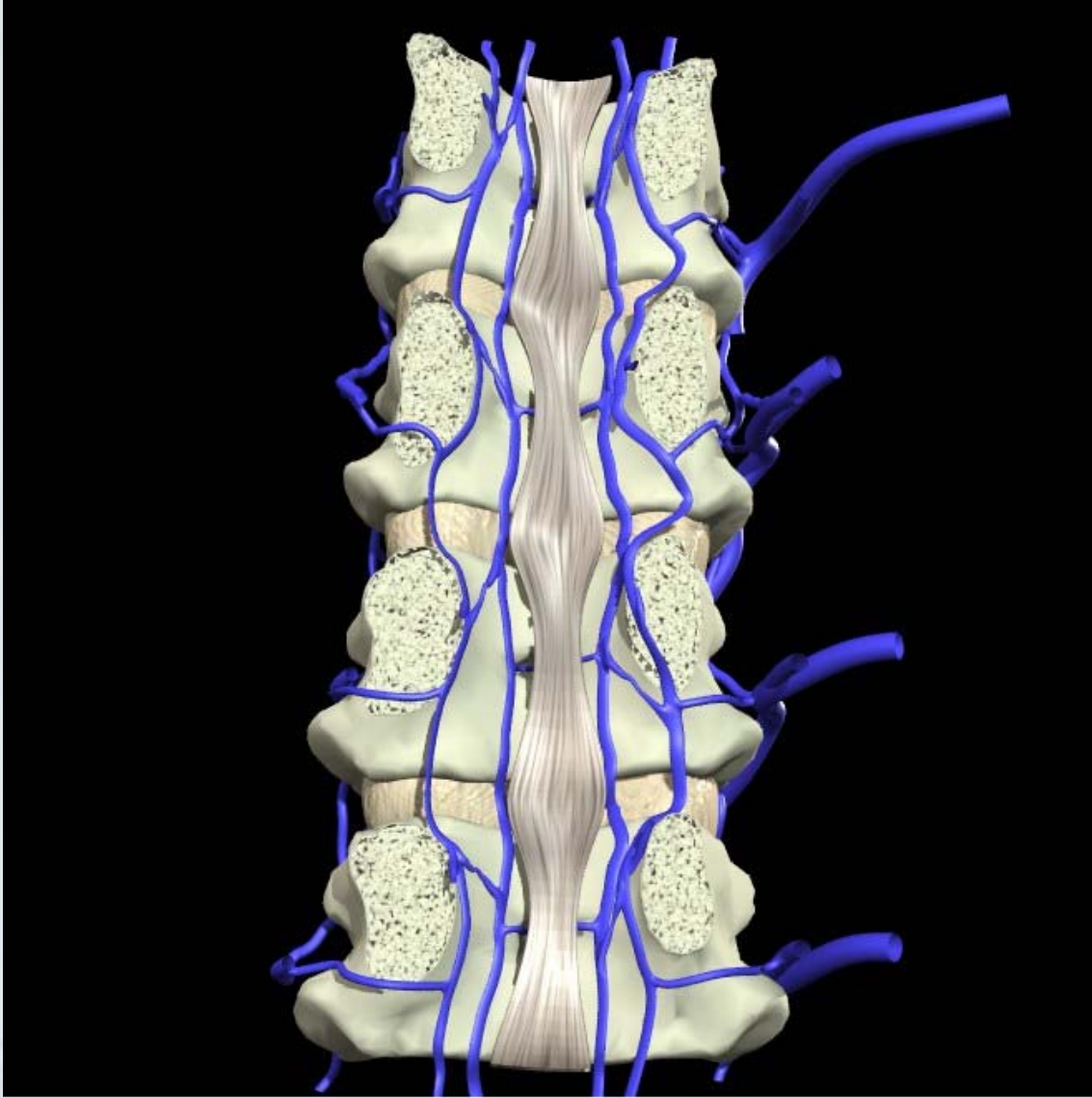
- **3 Categories** (Bodguk P69)
 - Protrusion
 - Extrusion
 - Sequestration



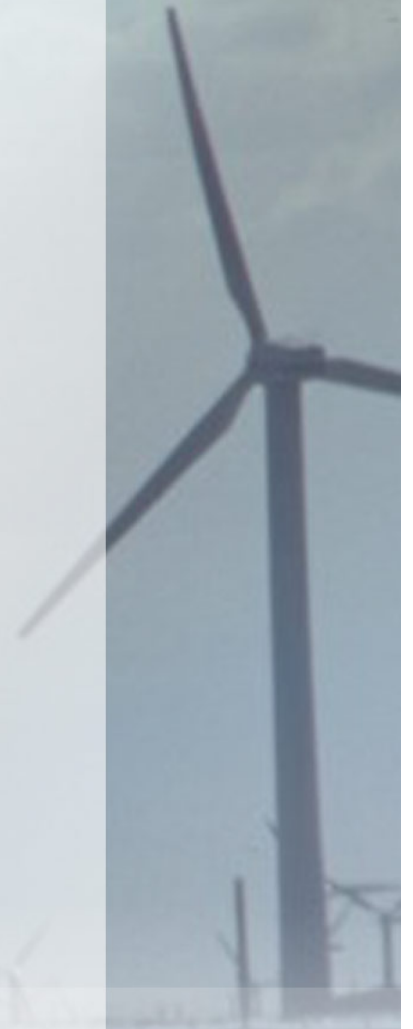
- **3 Common Types of Annular Tear**
 - Concentric cleft
 - Radial fissure
 - Rim lesions



PLL (Denticulate Ligament)

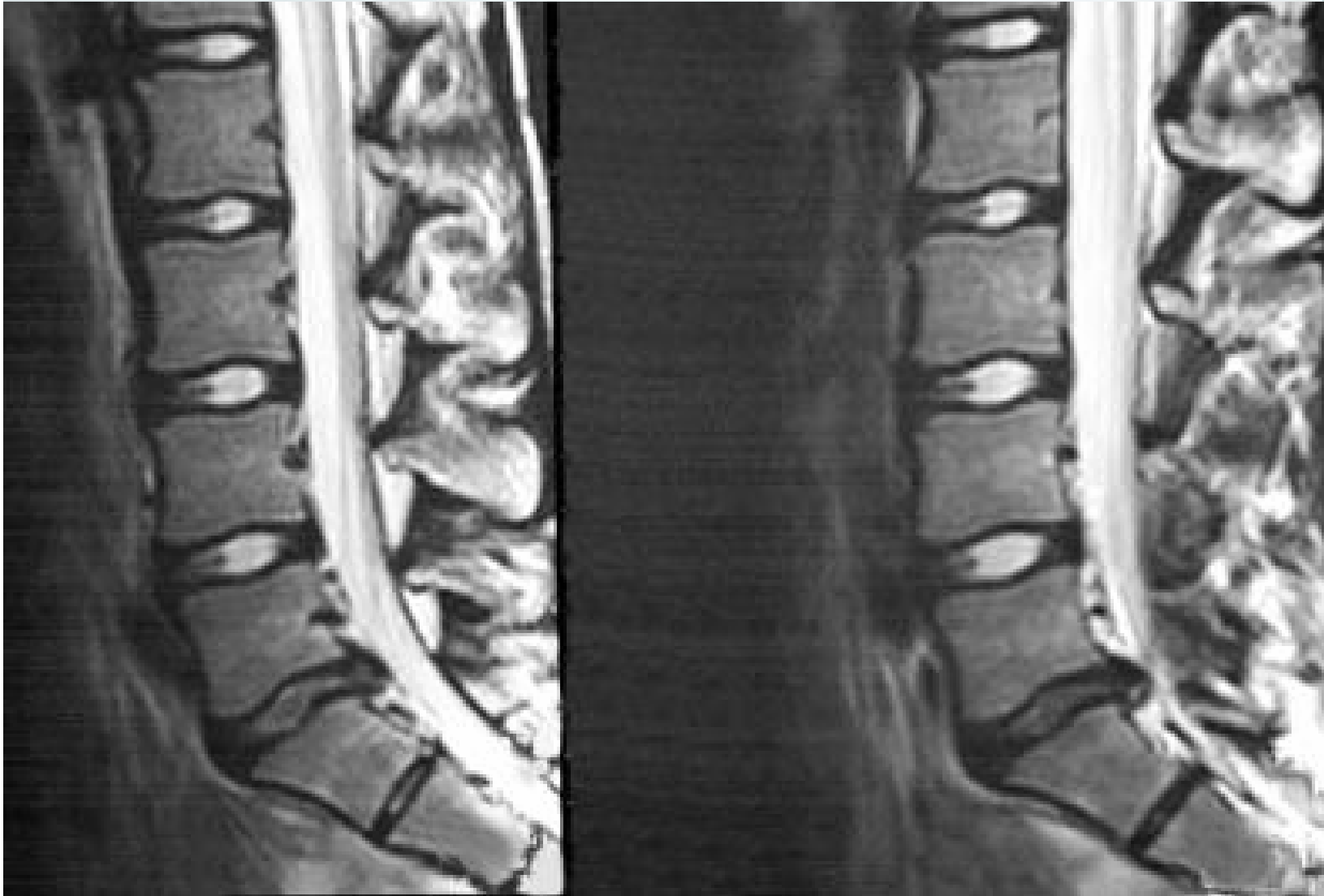


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Diagnosis???

(satisfy the search)

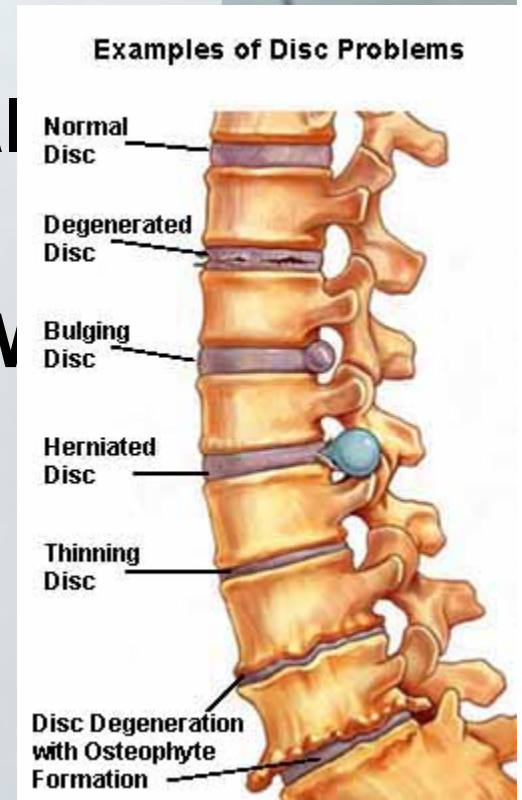


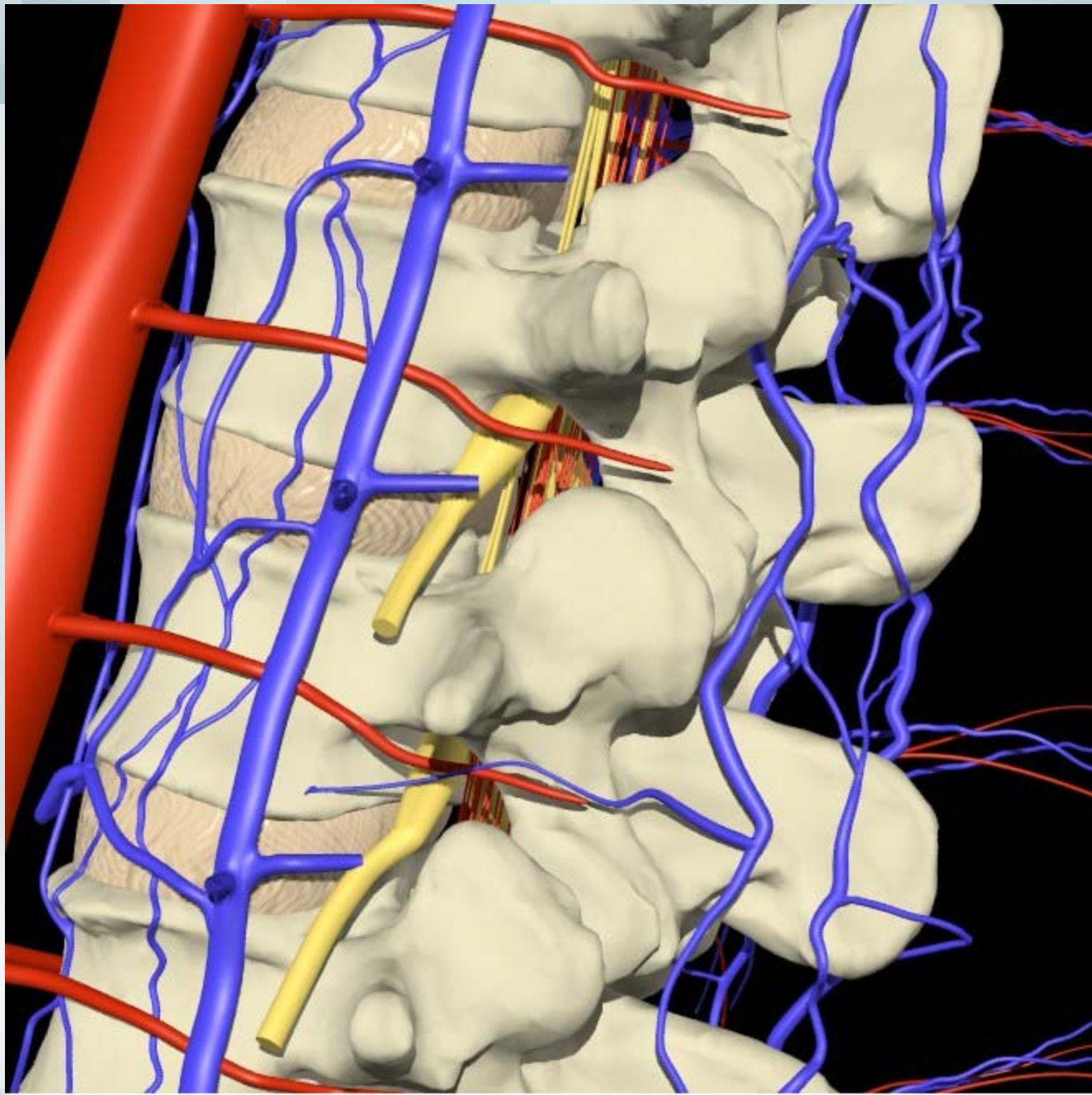
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OA & Foraminal Encroachment

Clinical picture

- Age Related
- Previous history of DDD/PIVD/anomalous
- Occupational/traumatic history
- Loss of segmental joint complex ROM in all vectors
- Overlying muscle hypertrophy
- Nerve root irritation/hypoxia
 - Direct mechanical compression
 - Osteophytes
 - Swelling
 - Inflammation/chemical irritation

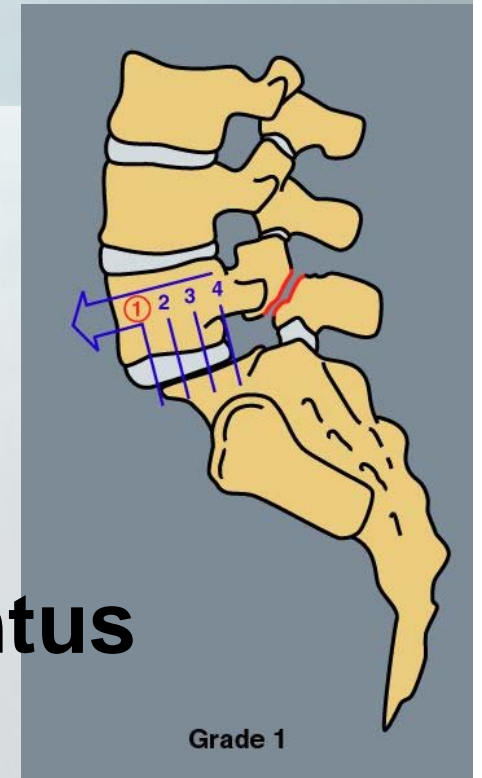




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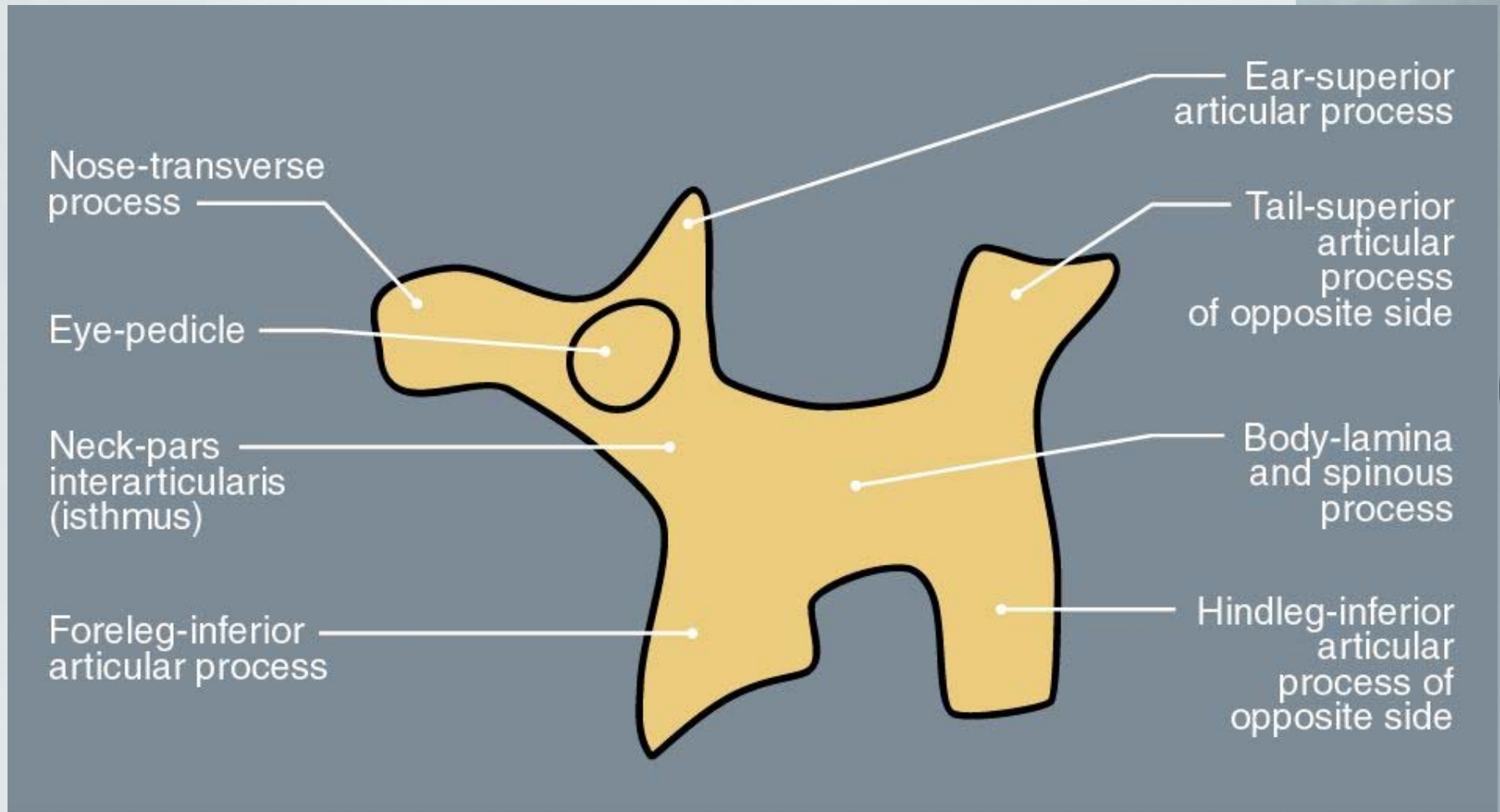
Spondylolisthesis

- **Congenital, Traumatic, Acquired, Degenerative**
- **Usually asymptomatic**
- **Can increase tissue creep so protective muscle spasm/ligamentus inflammation**
- **Palpable step**
- **Beware spondies at L3**

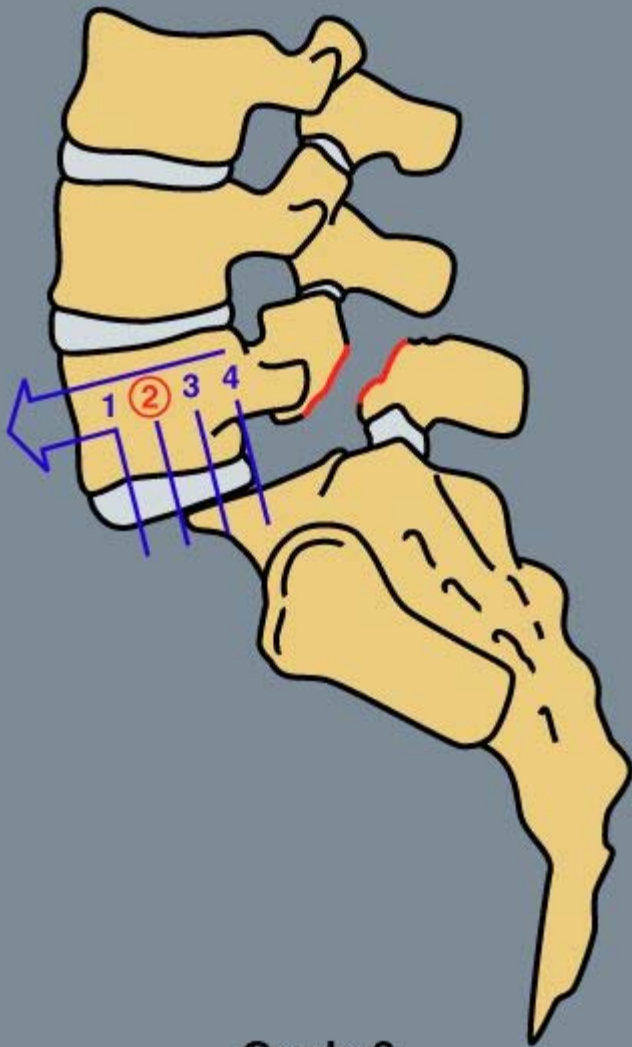


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Scotty Dog??

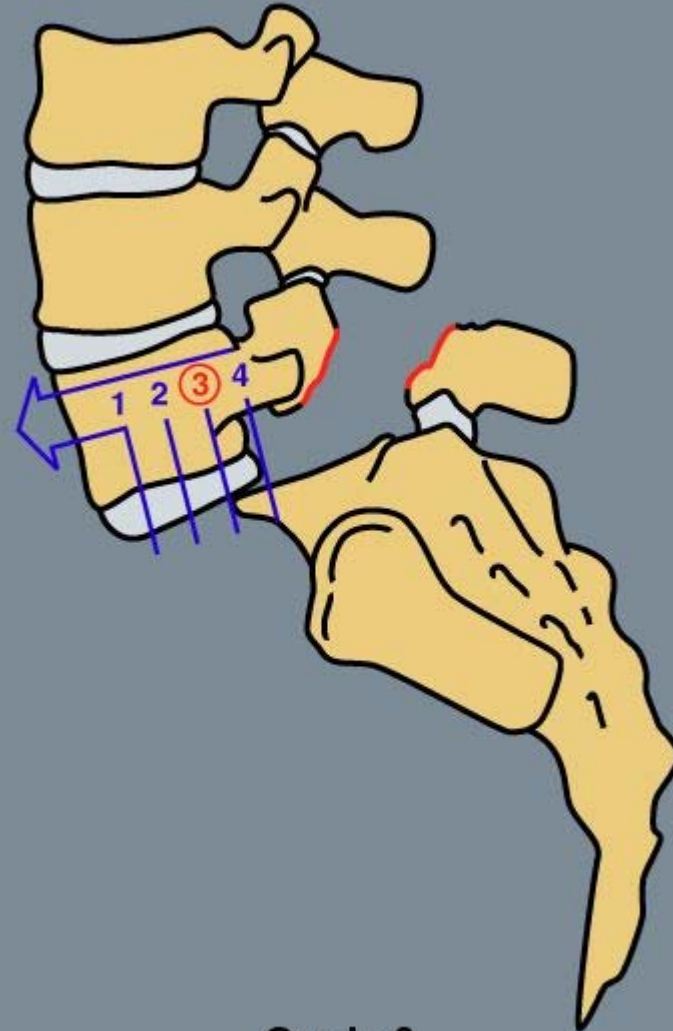


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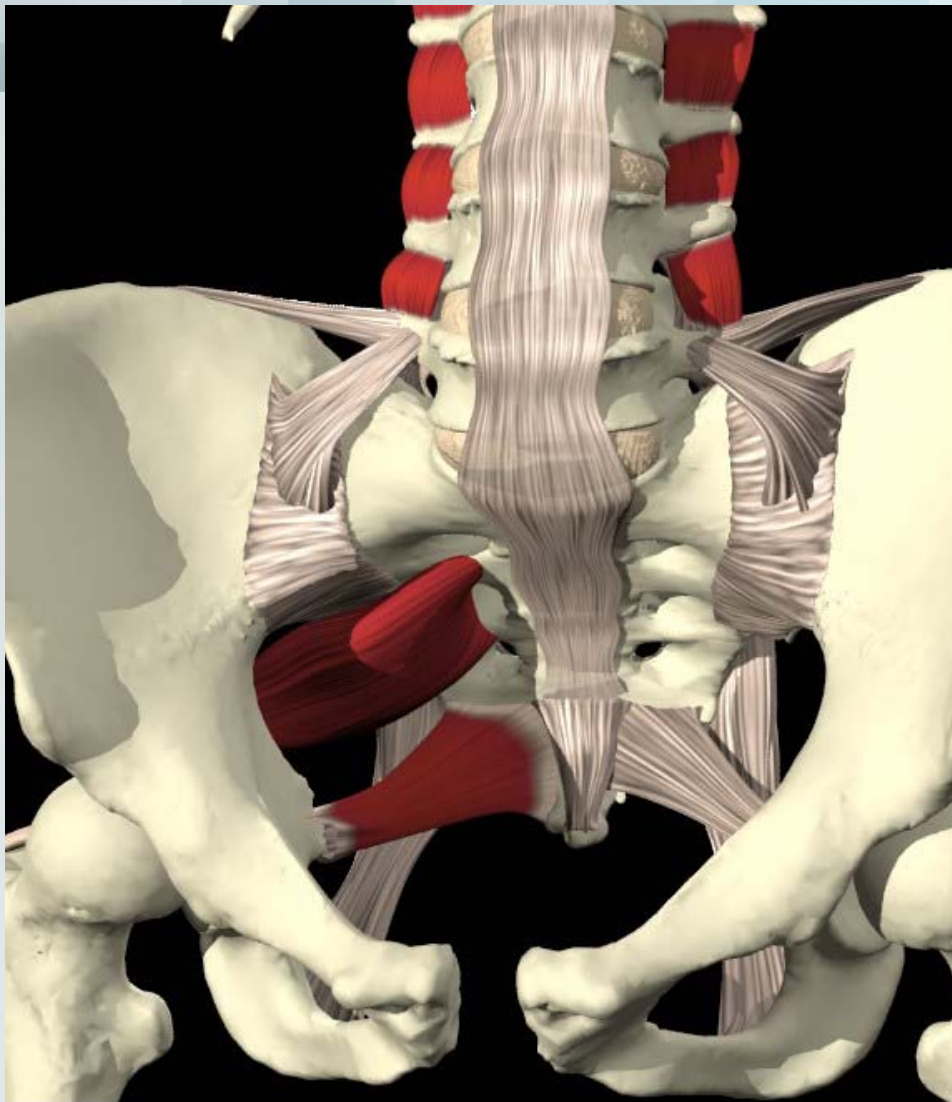
Grade 2

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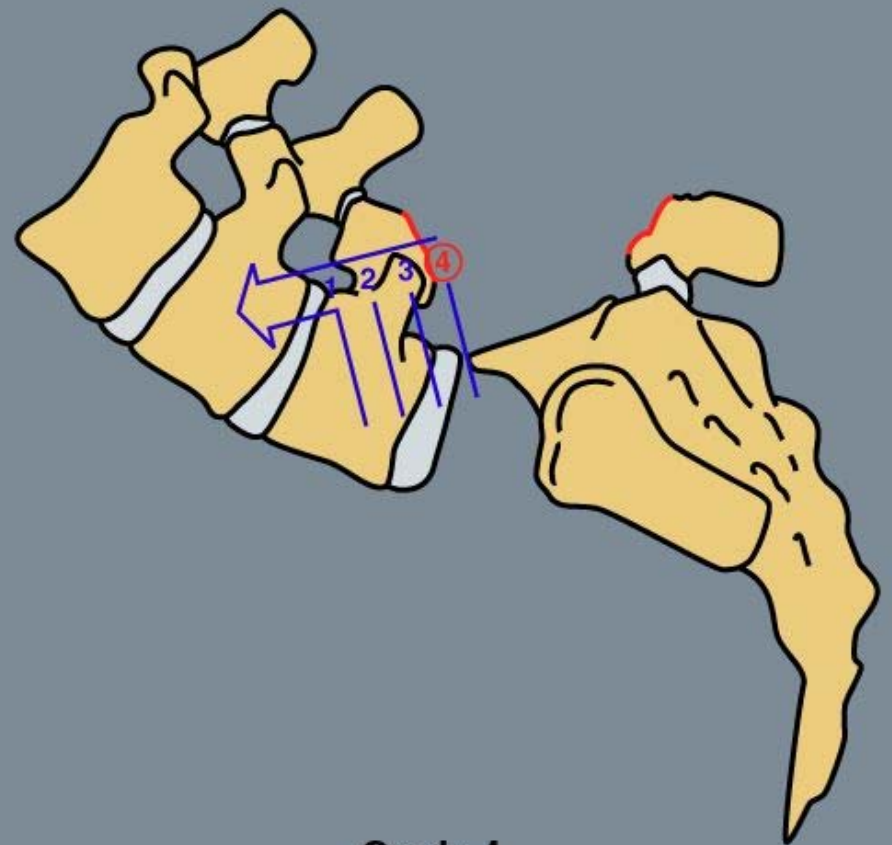


Grade 3

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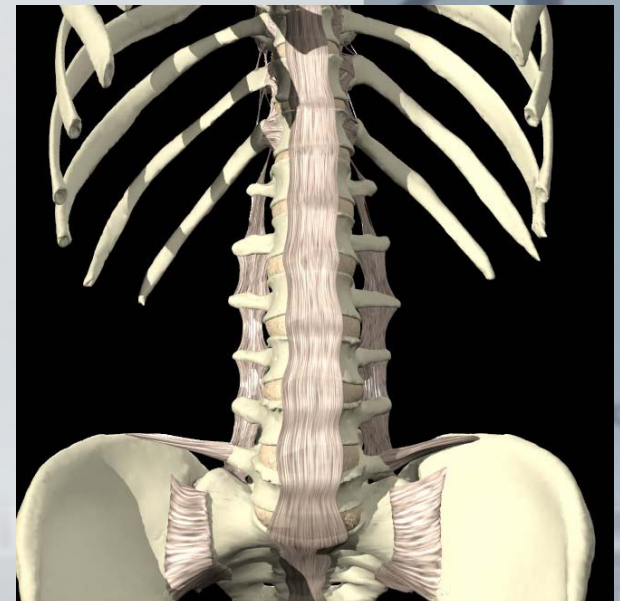


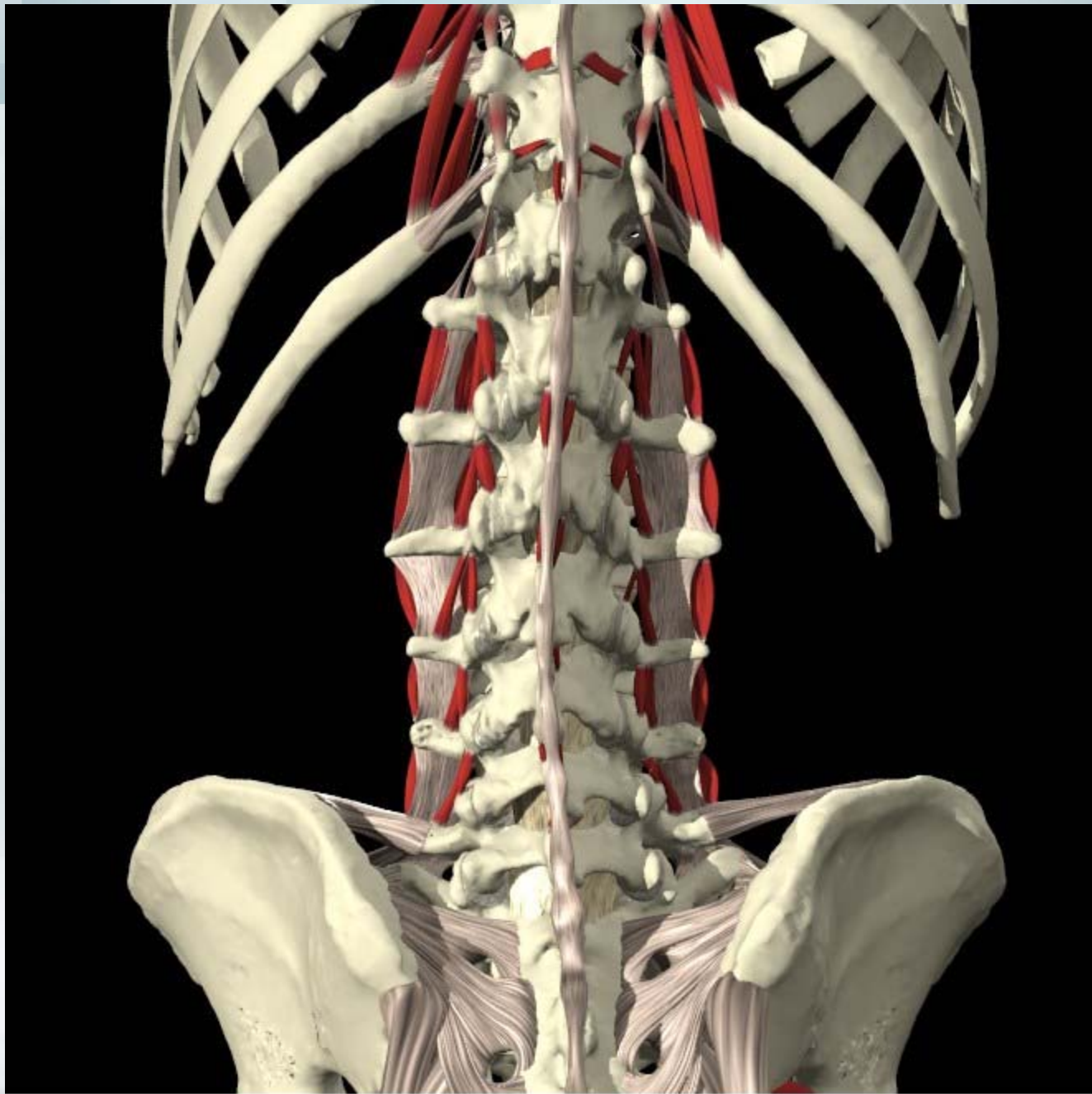
Grade 4

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Ligamentus Sprain

- **Normally traumatic as a primary injury**
 - RTA
 - Sports injury
 - Occupational RSI
- **Secondary inflammation due to proximity of overlying LES**
- **Commonly seen in WAD**
 - (forced compression/distraction)
- **Pain at end range**





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Case Study

A 40 year old male presented with acute low back pain with radiating pain into the posterior lateral aspect of the right leg with altered sensation over the dorsum of the foot.

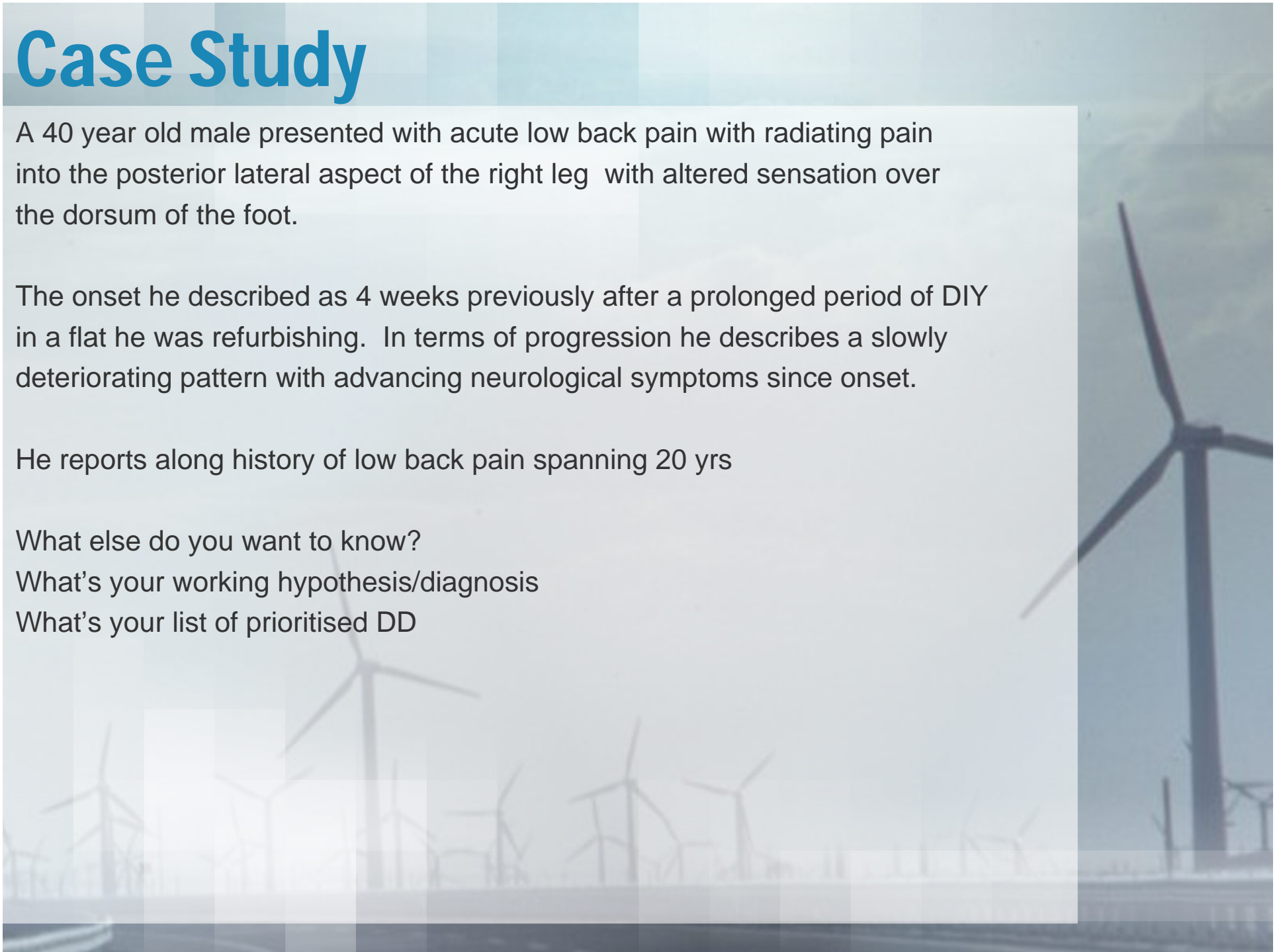
The onset he described as 4 weeks previously after a prolonged period of DIY in a flat he was refurbishing. In terms of progression he describes a slowly deteriorating pattern with advancing neurological symptoms since onset.

He reports along history of low back pain spanning 20 yrs

What else do you want to know?

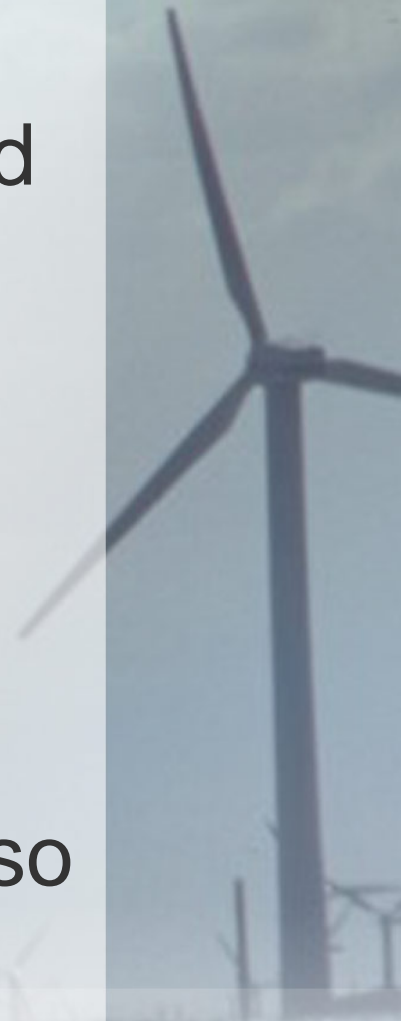
What's your working hypothesis/diagnosis

What's your list of prioritised DD



On Examination

- Antalgic posture noted
- Gross movement limited in all vectors with increasing sensory symptoms and radiating pain into the lower extremity
- Patient had weak plantar flexion
 - Gold Standard!!
- What special tests would you have undertaken based on what you know so far



Motor Engram - Definition

Engrams are a hypothetical means by which memory traces are stored as physical or biochemical change in the brain (and other neural tissue) in response to external stimuli.

Motor programming

3 Phases

- The Awareness Phase (Cognitive)
- The Practice Phase (Associative)
- The Acquired Phase (Autonomous)

Rehabilitation

- Practise good technique from the start:
- Learn technique fresh and in a friendly environment: (**Give Handouts!!**)
- Move from the known to the unknown:
- Most demanding to least demanding

The Inner Triad

3 fundamental interdependent processes that define our life

- **Psychological processes**

- these relate to mind and behaviour and involve thoughts and feelings.

- **Autonomic processes**

- automatically control the physiological operations of the body eg: heart rate, breathing, blood vessel size, digestion...

- **Motor processes**

- these include muscle fibre recruitment, coordination, muscle tone, and can affect technique, power, endurance, flexibility, posture etc

