

Specific Spinal Disorders

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A. Sacroiliitis

History

- **Trauma is very common**
- **Repetitive LS motion--lumbar rotation or axial loading**
- **Commonly have LLD.**

Differential Diagnosis:

A- Fracture

- **Traumatic**
- **Insufficiency stress fractures: elderly patient with osteoporosis without history of trauma**
- **Fatigue stress fractures: usually athletes / soldiers**

- B- Degenerative joint dis.**
- C- Referred pain**
- D- Spondyloarthropathies**
 - **RA , AS.**



Diagnostic Tools

- **X-rays:** Up to 25 % of asymptomatic adults over 50 years can have abn.
- **MRI / CT:** Only if looking for tumor
- **Bone scan:** Good for fractures

Treatment

- **Medications: NSAIDS**
- **Physical therapy**
- **Correct limb discrepancy**
- **Injection: Fluoroscopy-guided.**

B. Cauda Equina Syndrome

History:

- **Sudden, partial or complete loss of voluntary bladder function due to massive disc impingement on spinal nerves**
- **Can include loss of sensation as well as sphincter tone**



54-year-old woman presenting with cauda equina. Due to a massive L4-5 disk herniation

Treatment

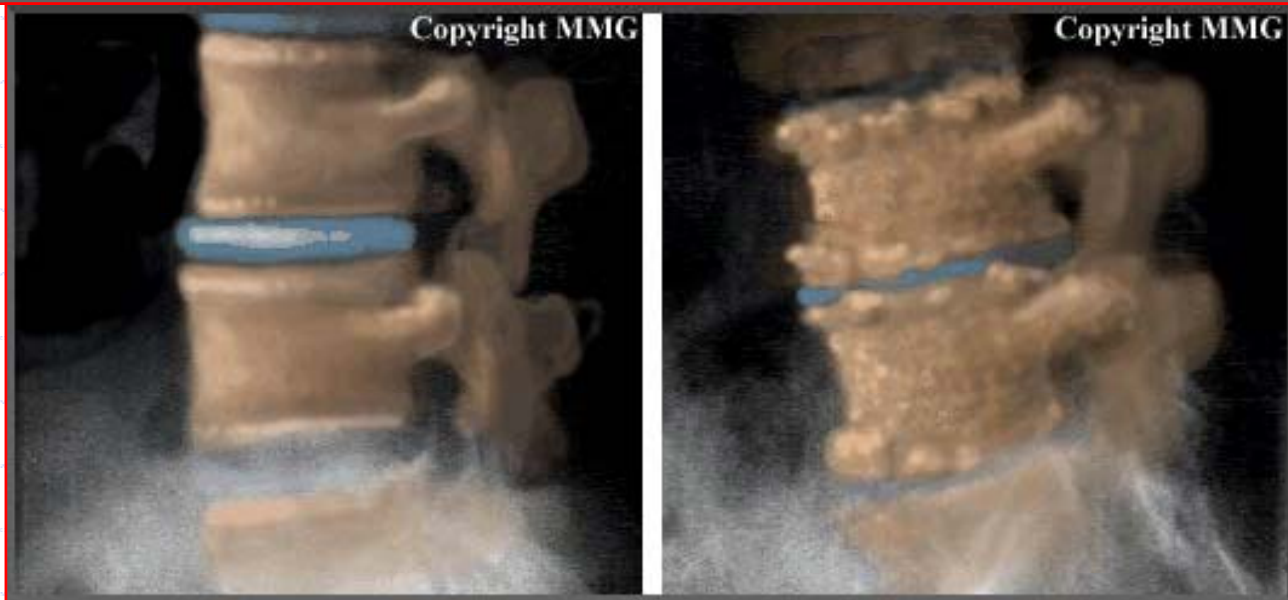
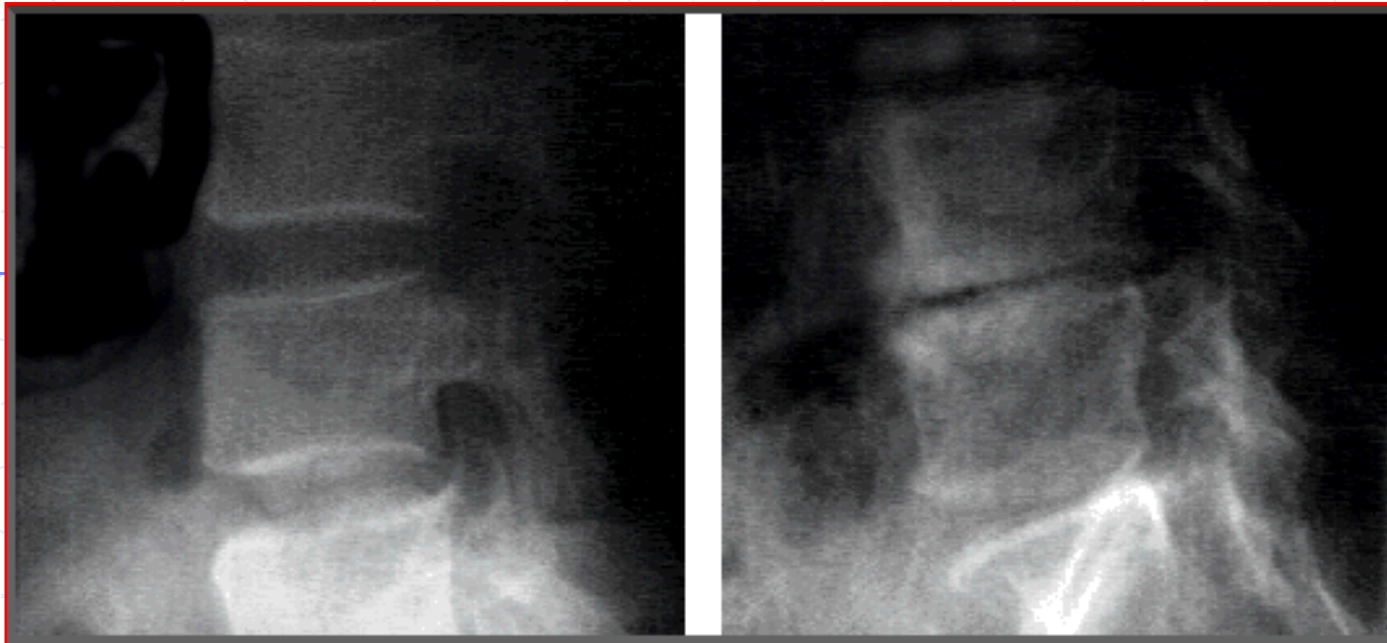
- Urgent decompression is mandatory for prevention of irreparable / irreversible bladder damage
- **12 hours** is the maximum time prior to irreversible changes.

C. DDD and Spondylosis:

Clinical

= Up to 75 % of involvement of the spine occurs at 2 levels:

L5-S1 and L4-L5



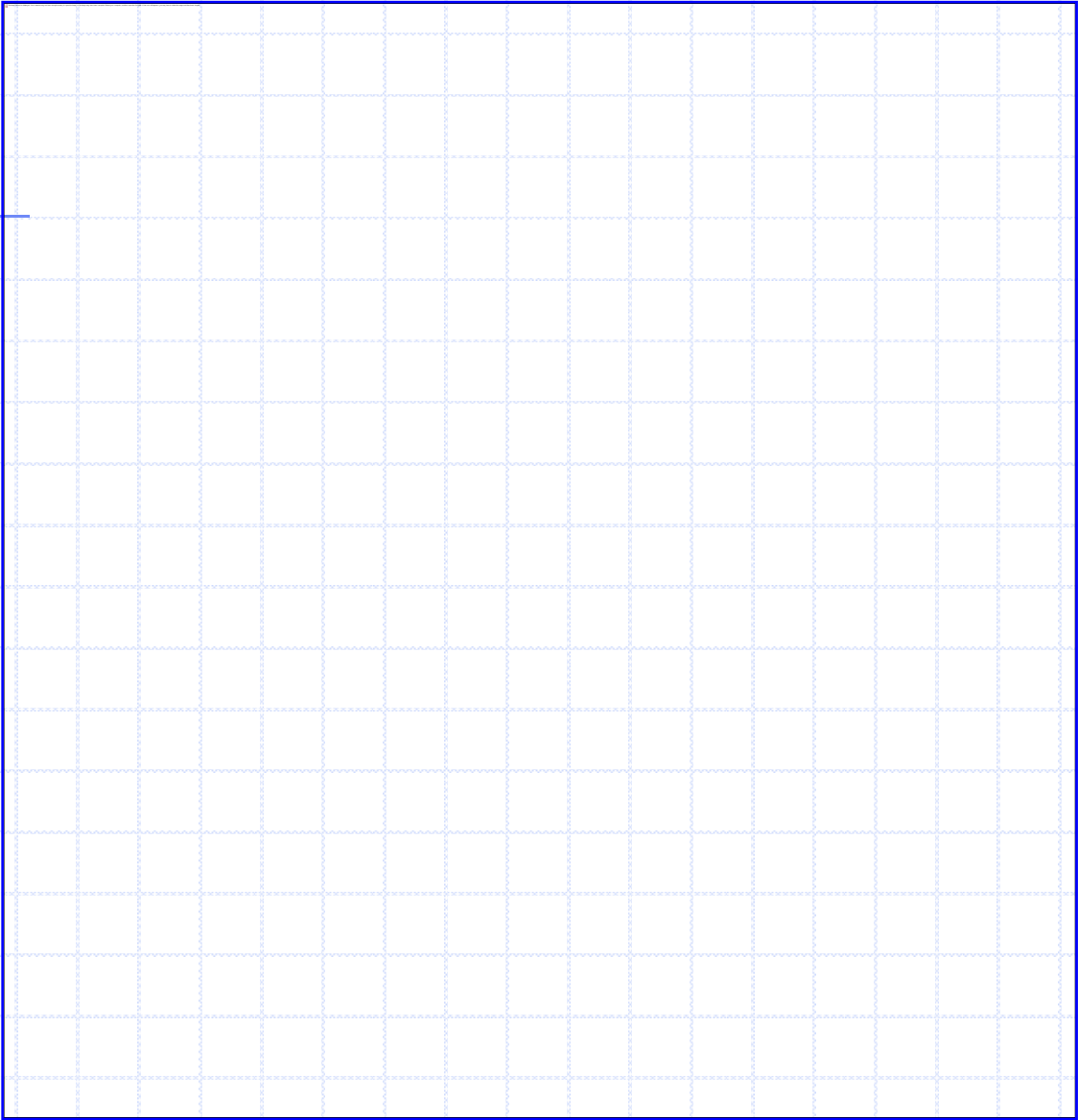
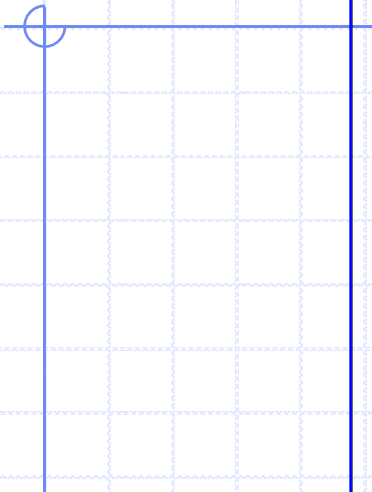
Treatment:

- **Medications**
- **Physical therapy**

D. Spinal Stenosis:

Clinical:

- Results from narrowing of spinal canal and / or neural foramina (**CONG. OR DEGENERATIVE**)
- Most common complaint is leg pain, limiting walking
- Neurogenic / Pseudo-claudication = (pain in lower extremities with gait)





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Classification

A- Congenital

- Developmental
- Achondroplasia

B- Acquired

- Degenerative
- Spondylolisthesis
- Disc Herniation
- Degenerative & Disc Herniation
- Degenerative & congenital

C-Others:

- **Paget's**
- **Spinal tumour**
- **Infection (TB)**
- **Post-surgery**
- **Trauma**

• **The L4-L5 segment is the most commonly affected, followed by the L3-L4.**

Men are more commonly affected than women, because their spinal canals are narrower at the L3-L5 levels.

Pathophysiology

Narrowing of the central canal and/or intervertebral foramina is due to:

- 1. Annular bulging**
- 2. Bone spur formation**
- 3. Facet joint enlargement**
- 4. Ligamentous hypertrophy**

=Relief can occur with:

- stopping activity**
- sitting, stooping or bending forward**

=complaints of weakness and numbness of extremities

Diagnosis

CT and MRI

Activity	Vascular Claudication	Neurogenic Claudication
Walking	Distal- proximal pain; calf pain	Proximal- distal thigh pain
Uphill Walking	Symptoms develop sooner	Symptoms develop later
Rest	relief with standing	relief with sitting or bending
Bicycling	Symptoms develop	No symptoms
Lying Flat	Relief	May increase symptoms

Treatment

- Medications
- Physical therapy
- **Surgical decompression**

Indications:

1. Severe neurological symptoms
2. failed conservative treatment + impaired ADL

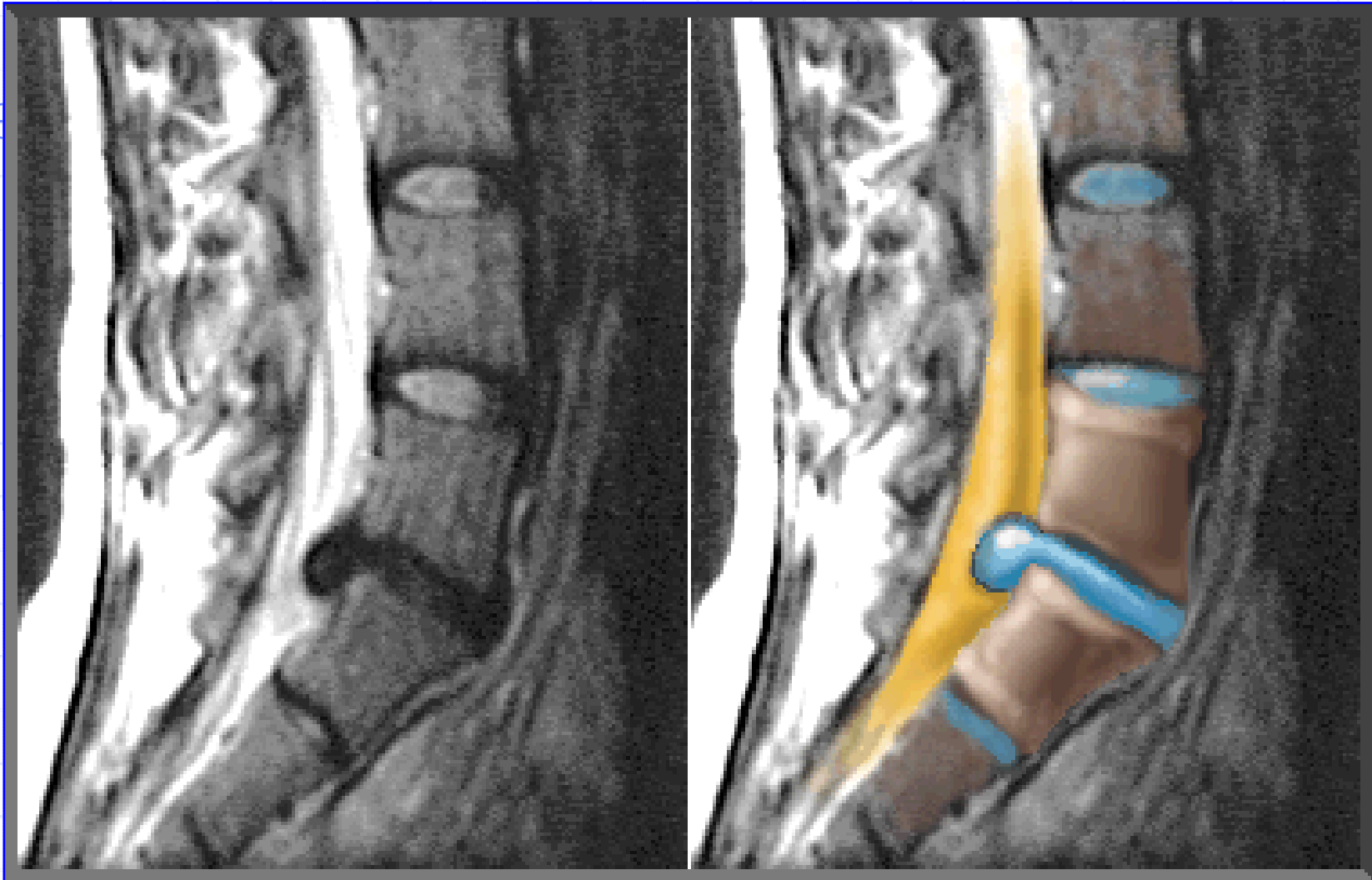
E. Disc herniation

Clinical:

- **LBP associated leg symptoms**
- **Positions can induce radicular symptoms**
- **Posterolateral disc pathology why?**
 - = Area where annular fibers least protected by PLL
 - = Greatest shear forces occur with forward or lateral bend

- **Central disc pathology**

Usually with LBP only without radicular symptoms, unless a large defect is present



- **Treatment**

- **Conservative treatment:**
 - > 90 % success rate of symptom resolution with non-operative management**

Treatment

- Medications
- Physical therapy
- Injections
- **Surgery**

F. Pars Interarticularis Defects

Spondylolysis:

- **Anatomic defect in the bony pars interarticularis within the lamina**
- **May be uni- or bilateral**
- **Can be congenital or induced**
- **Usually without clinical symptoms with incidental findings on radiographs**

Spondylolisthesis

- **Progression of spondylolysis with separation**

- » **Grades assigned I-IV**

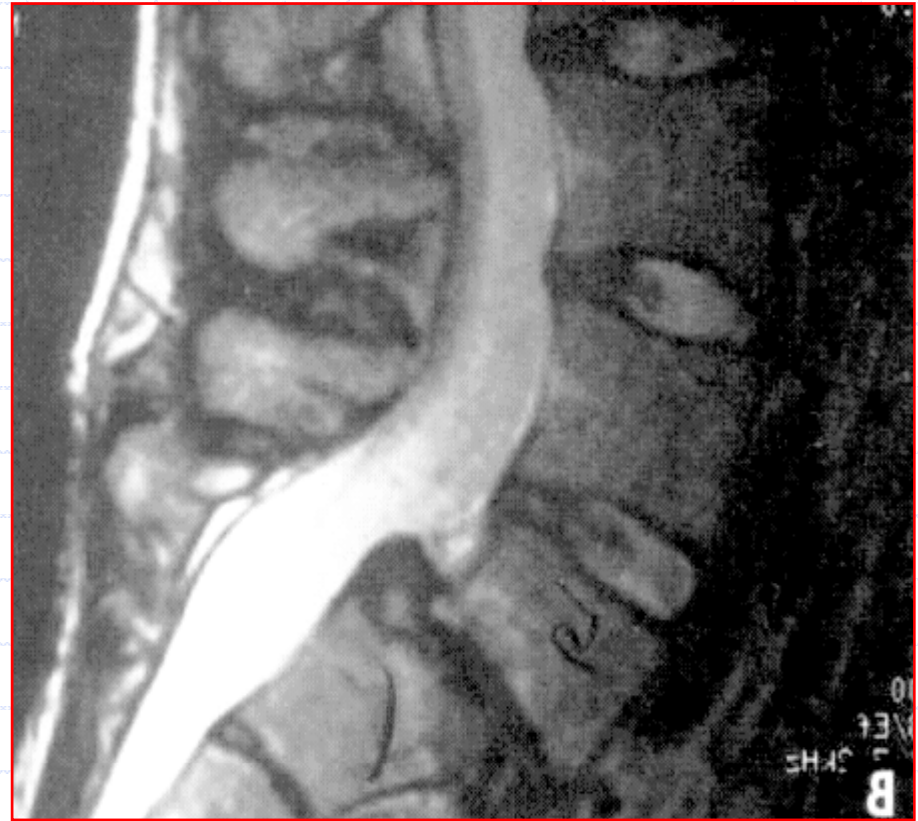
- » **Most common levels are**

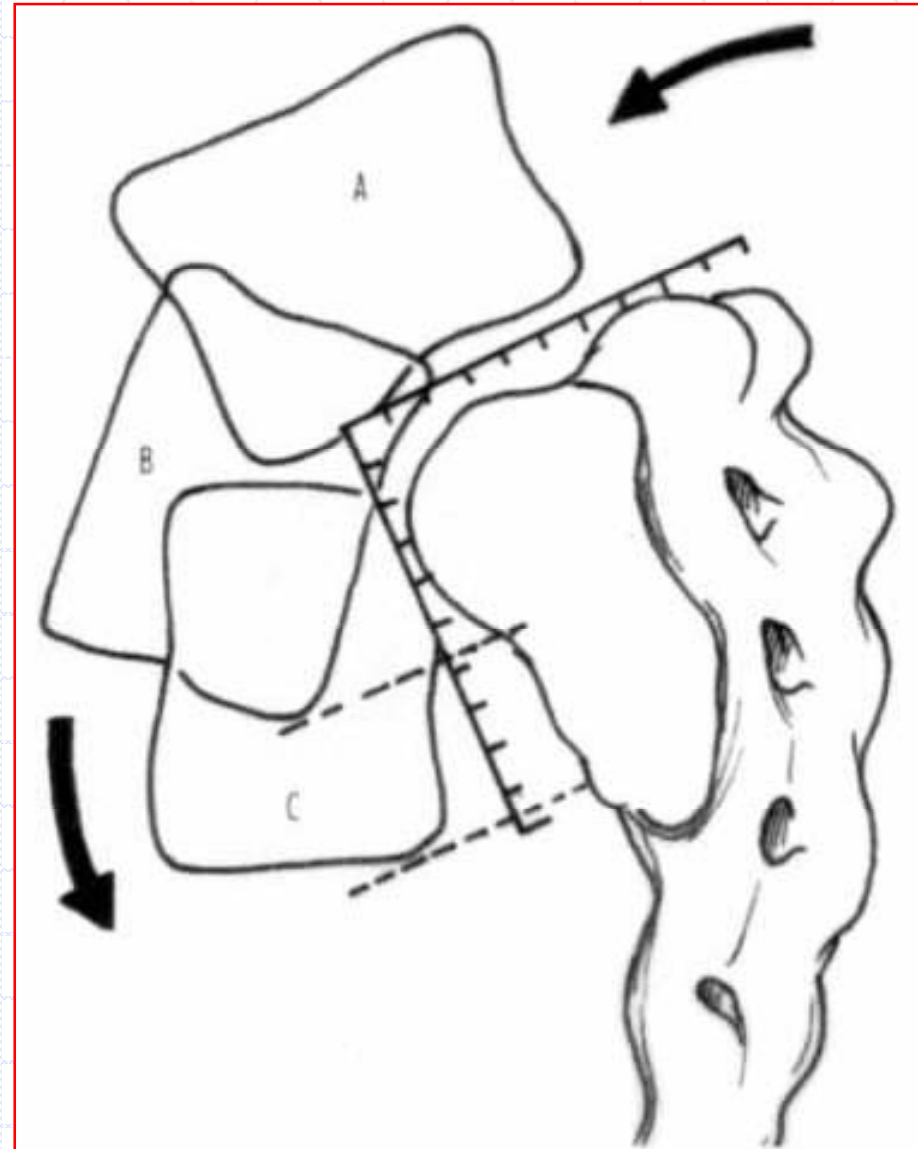
L5-S1 (70 %)

L4-L5 (25 %)

Spondylolisthesis

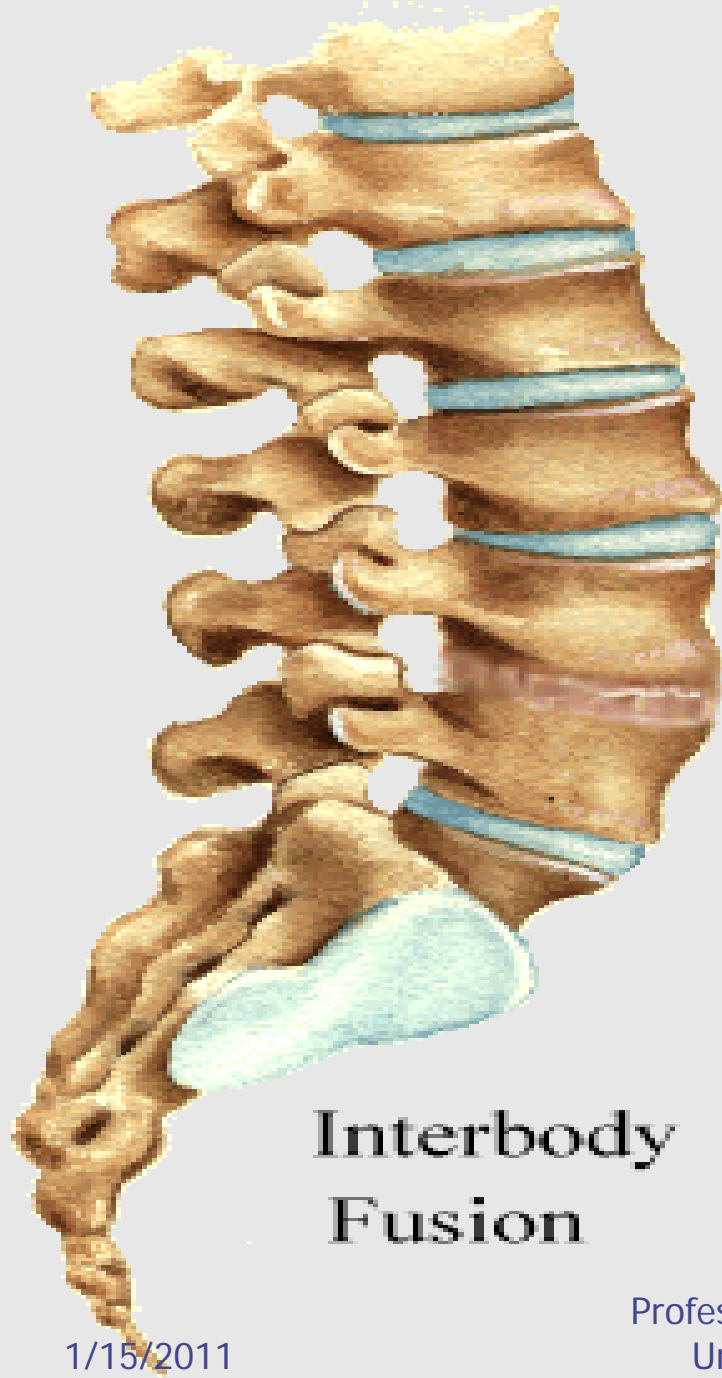
- **May be asymptomatic, but can result in**
 - » **DDD**
 - » **Radiculopathy**



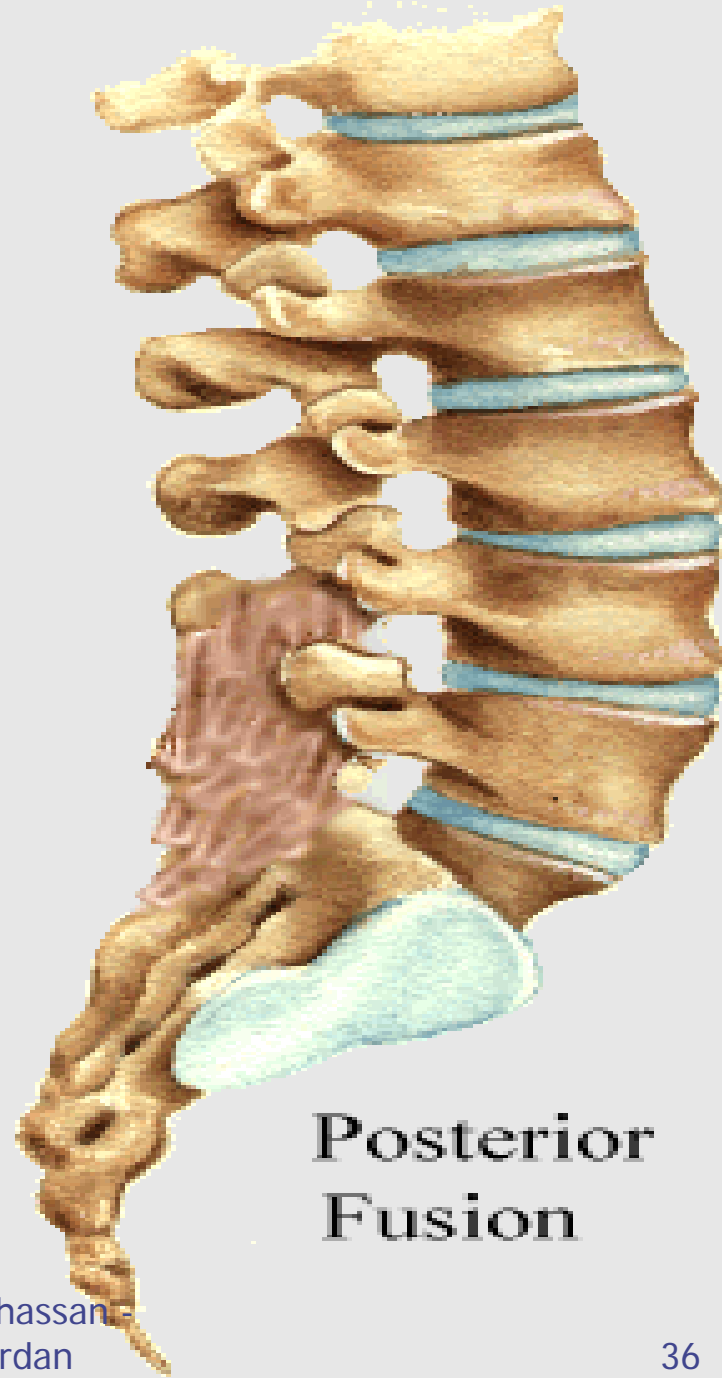


Treatment

- **Medication**
- **Physical Therapy**
- **Injections**
- **Surgery**



**Interbody
Fusion**



**Posterior
Fusion**



A photograph of a sunset over a beach. The sun is low on the horizon, creating a bright orange and yellow glow. Several palm trees are silhouetted against the sky on the right side. The text "GOOD LUCK" is written in large, white, 3D-style letters across the upper left portion of the image.

GOOD LUCK

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38