Approach to low back pain

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Back pain

Mechanical

Inflammatory

Constant

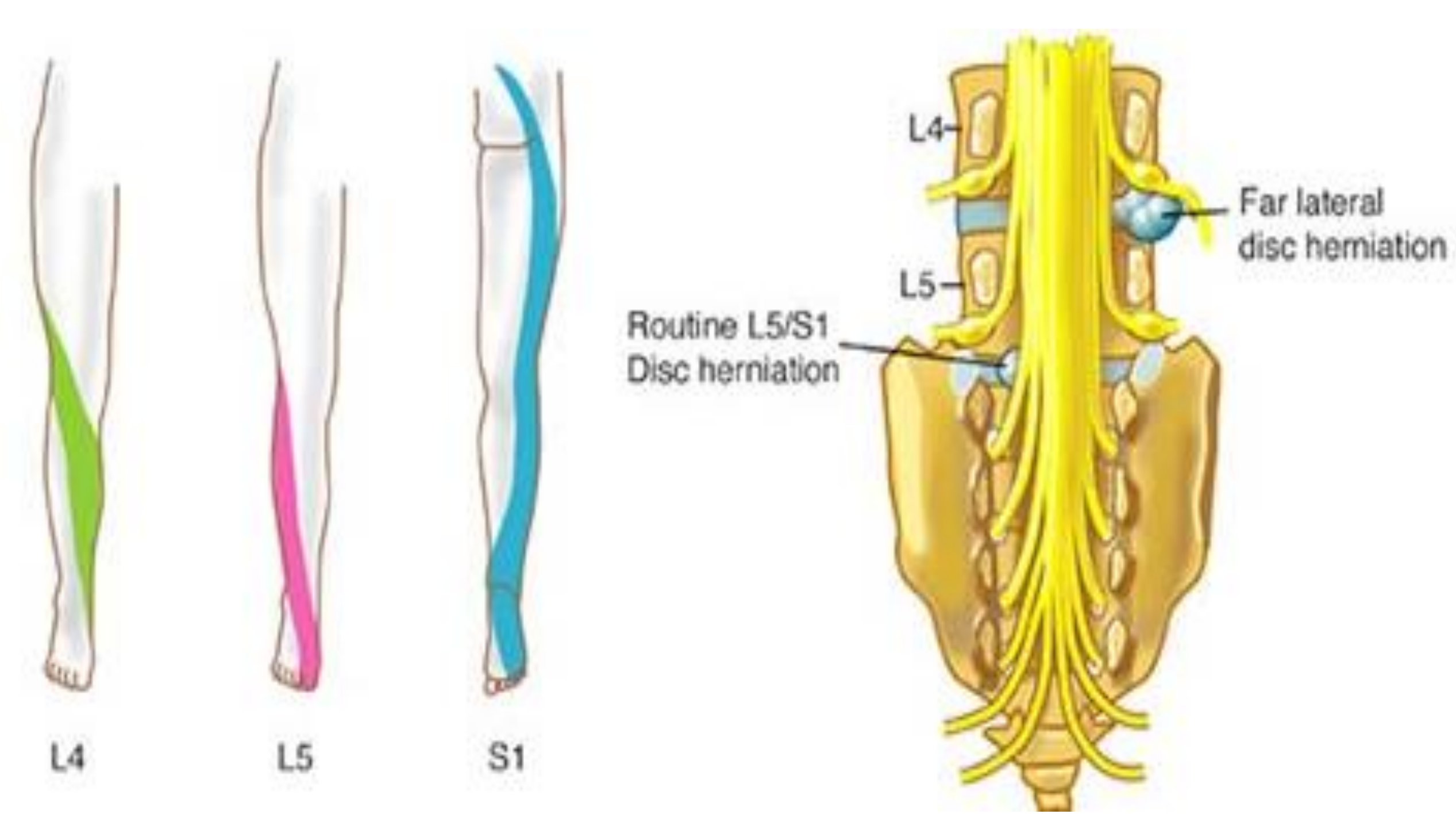
A 35 years old man come to office due to **acute back pain** since **yesterday**

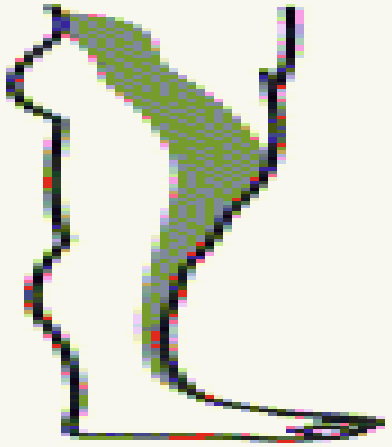
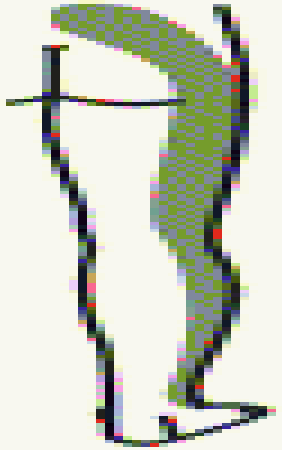
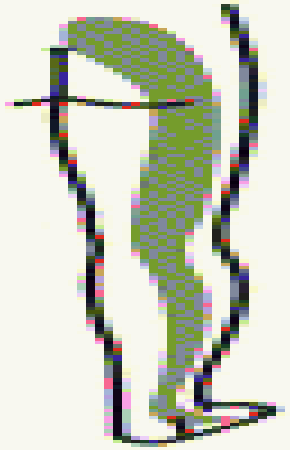
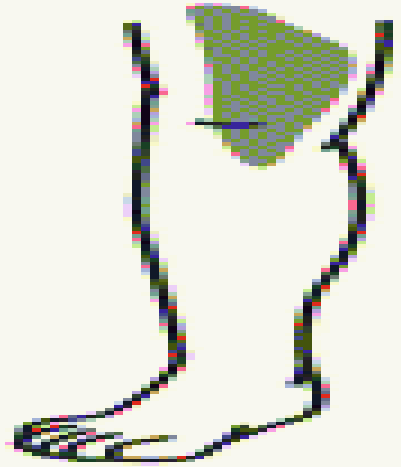
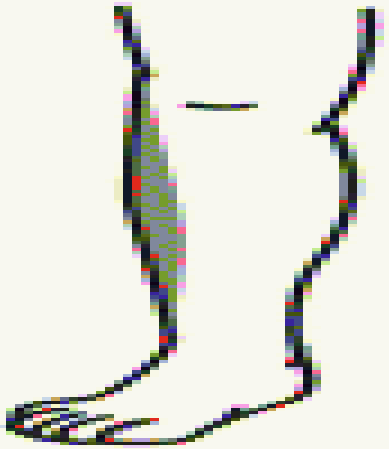
The pain **radiated** to left lower limb ,and worsen by standing and working

The pain was worsen with cough

The first toe has **numbness**

<u>What is your diagnosis?</u>


L4
L5
S1
L4
L5
Routine L5/S1
Disc herniation
Far lateral
disc herniation

Nerve root	L4	L5	S1
Pain			
Numbness			
Motor weakness	Extension of quadriceps.	Dorsiflexion of great toe and foot.	Plantar flexion of great toe and foot.
Screening exam	Squat & rise.	Heel walking.	Walking on toes.
Reflexes	Knee jerk diminished.	None reliable.	Ankle jerk diminished.

Clinical manifestation

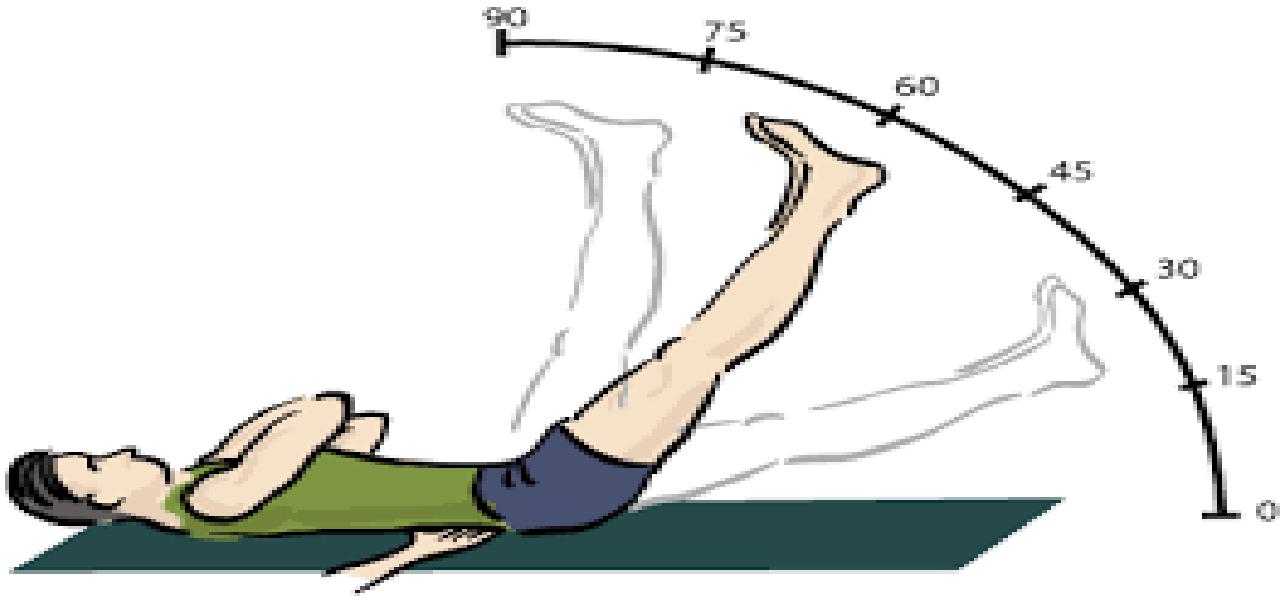
- Radicular back pain
- Attenuation by cough
- Paresthesia
- Neurologic deficit

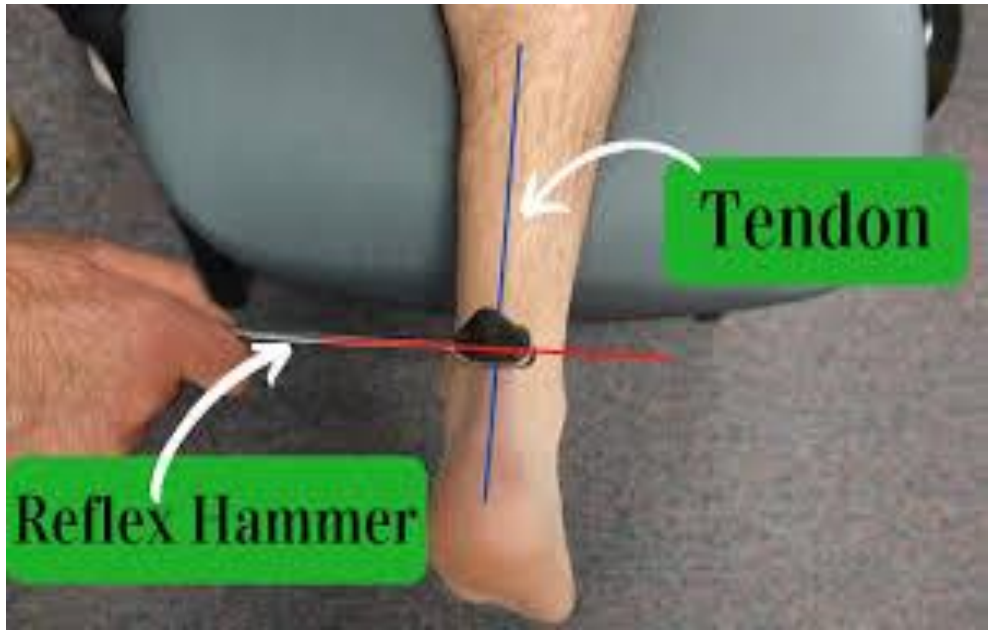
Red flag

- Saddle anesthesia
- Urine incontinency
- Fecal incontinency
- Progressive neurologic deficit

Diagnosis

History
Physical examination
NOT MRI





Treatment

Education and assurance

- NSAIDs
- Acetaminophen
- Acetaminophen + NSAID
  no more beneficial

- Muscle relaxant (4 weeks)
- tizanidine
- Baclofen
- Methacarbamol
- Short course benzodiazepine

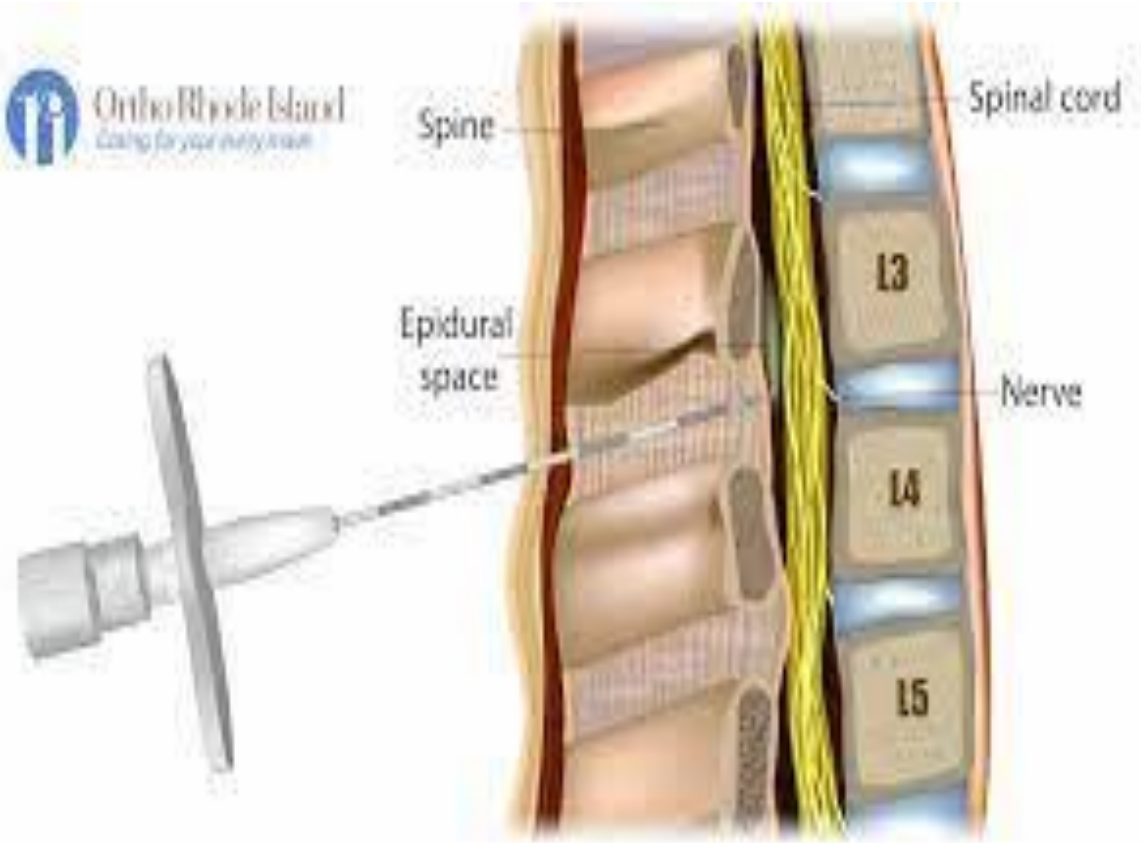
A short course of oral corticosteroids ???????

However, there are no studies to support the use of oral steroids for isolated acute low back pain

Treatment

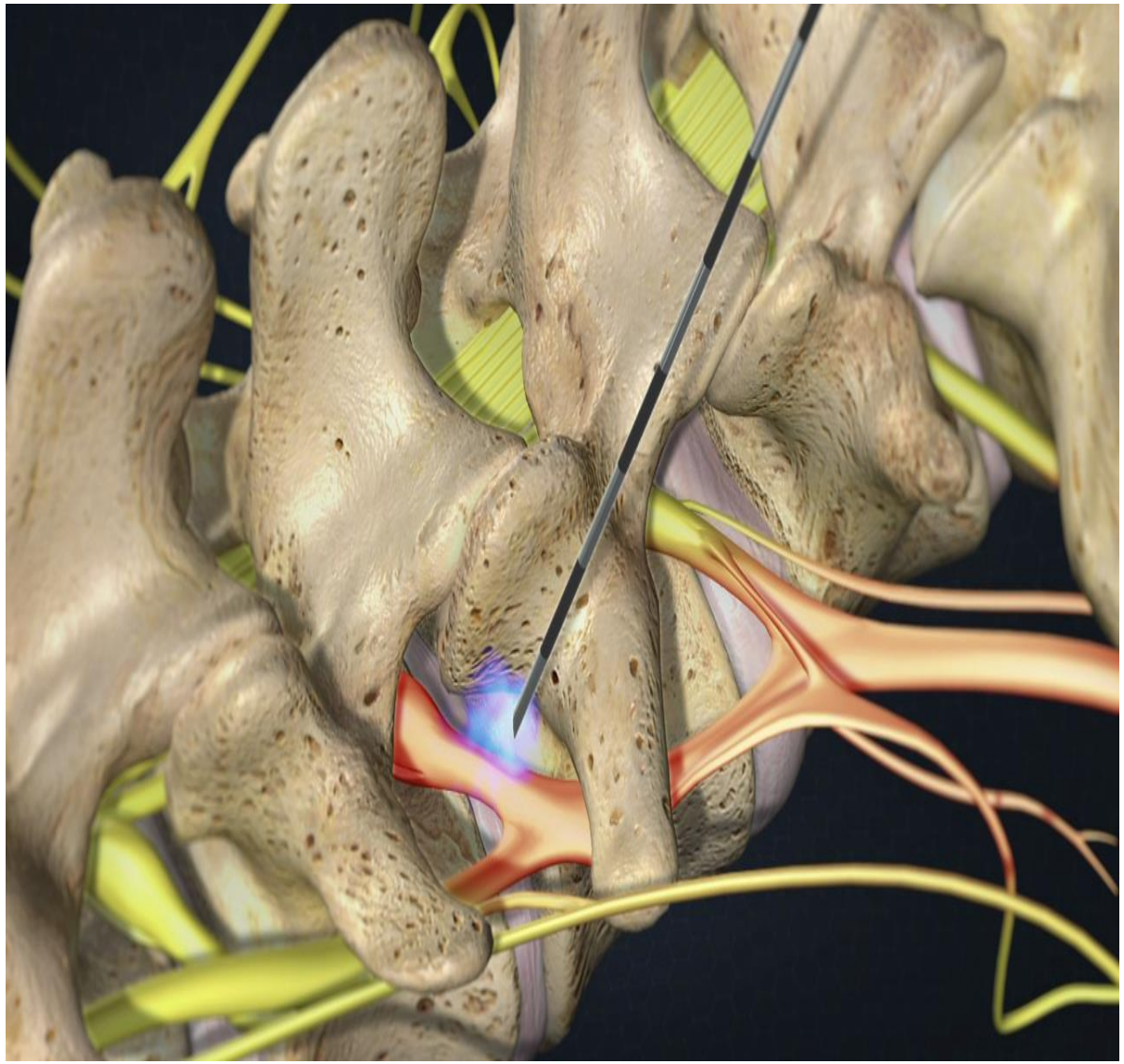
- epidural steroid injection

- **Indication :**
- radicular pain not respond to **2-6 weeks** of non invasive treatment



Treatment

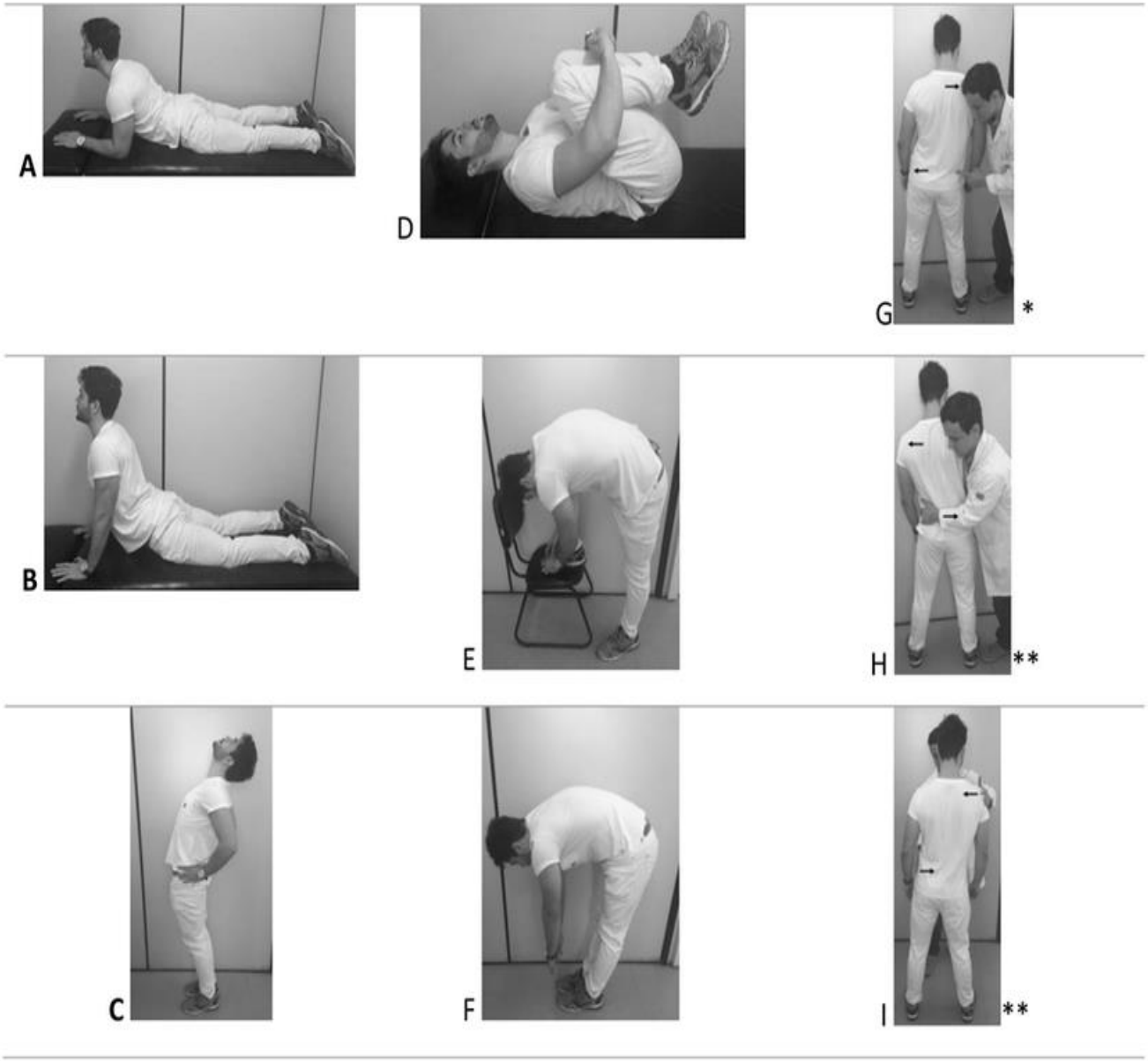
- Transforaminal injections appear to have more favorable short- and long-term benefit than traditional interlaminar injections.



Physical therapy

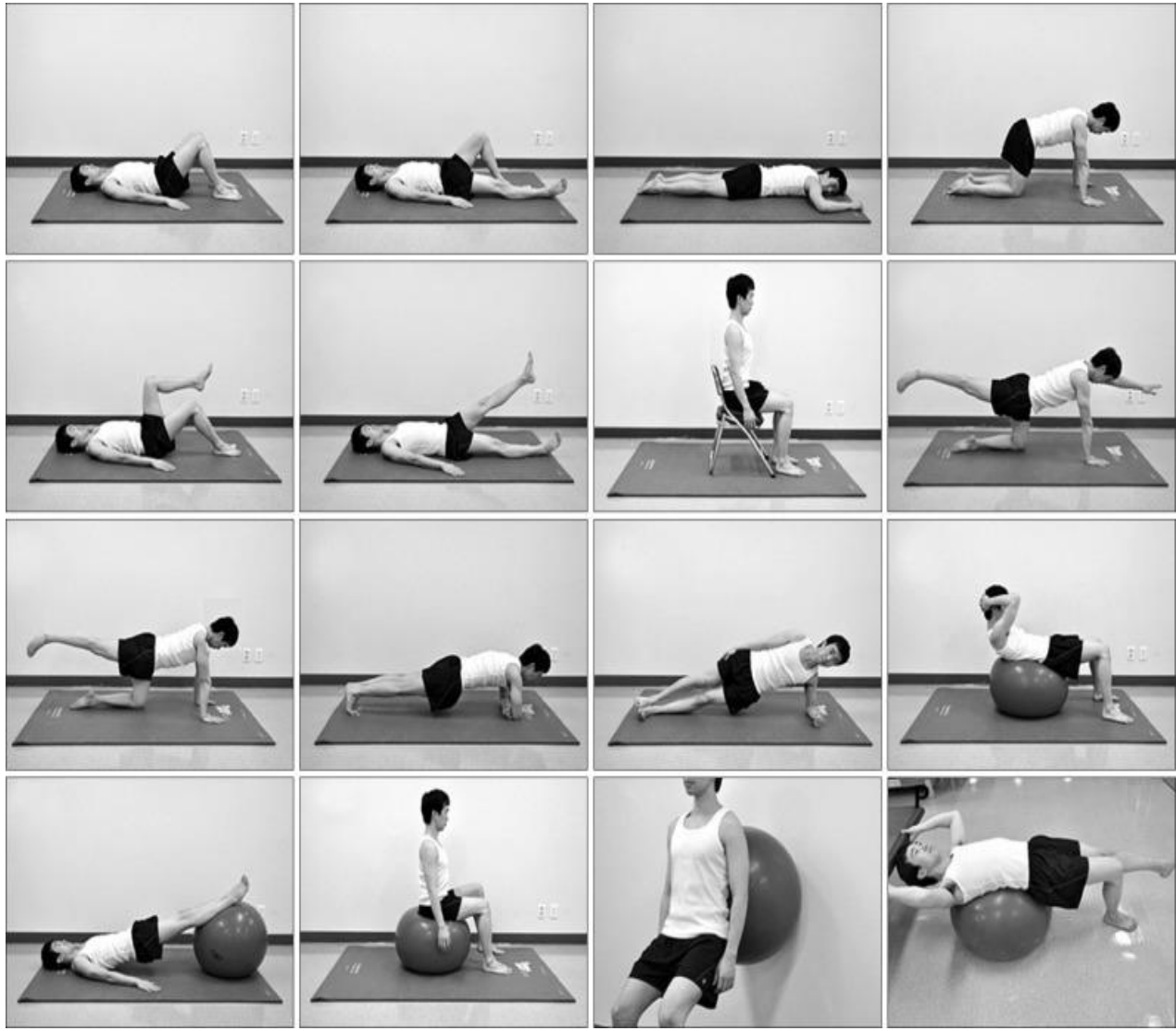
- The McKenzie method
- effect on disability is conflicting
- Not good long-term benefits

- http://www.mckenziemdt.org/approach.cfm
- video demonstration is available at http://www.youtube.com/watch?v=wBOp-ugJbTQ



Spine stabilization exercises

- Decrease pain, disability
- Decrease risk of recurrence after a first episode of back pain



- in the **first five days**
- Heat effective for reducing Pain

- no difference between heat application and McKenzie therapy at seven days.

- **heat therapy + education or NSAIDs** is more effective than education or NSAIDs alone at 14 days.

- ice and heat therapy have similar analgesic effects.

Acupuncture

- acupuncture may be cost-effective in patients with pain lasting longer than four weeks.

Chiropractic

Bed Rest

joint stiffness
muscle wasting
loss of bone mineral density
pressure ulcers
venous thromboembolism.

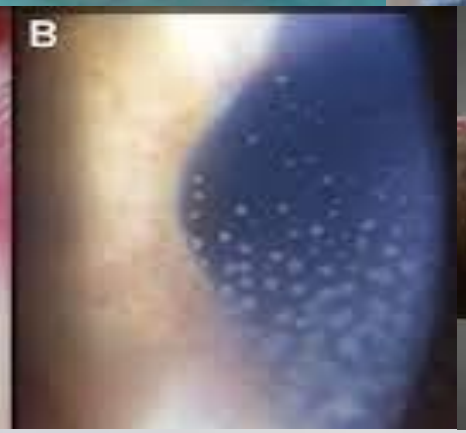
Surgery indication

Saddle anesthesia
Urine incontinency
Fecal incontinency
Progressive neurologic deficit

A 30 years old male come to office due to back pain since 4 months ago

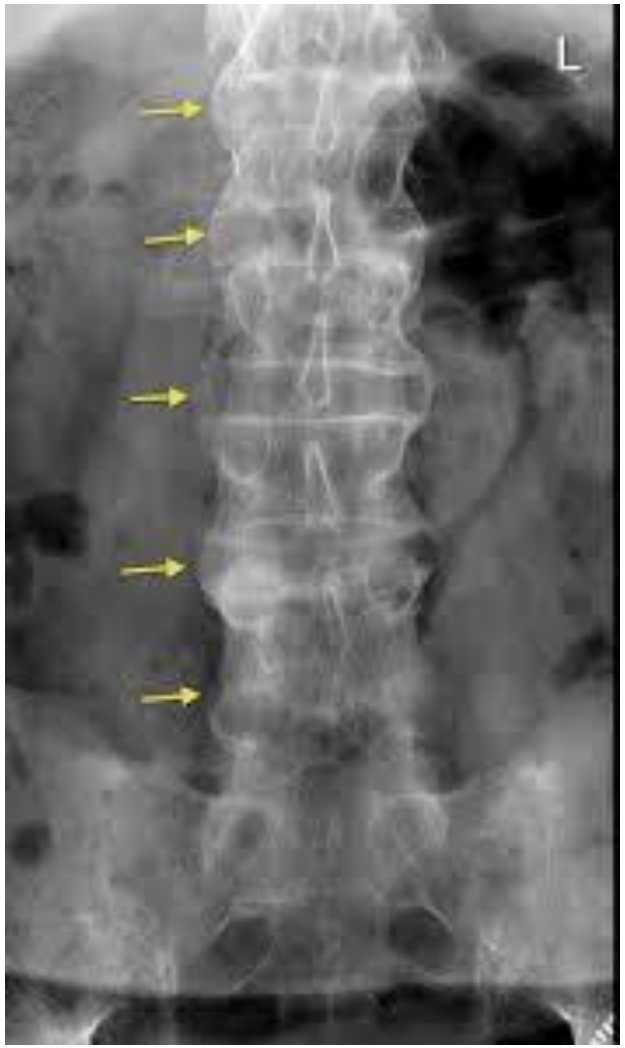
The pain worsen in mid night and early morning
The pain reduced with activity


A

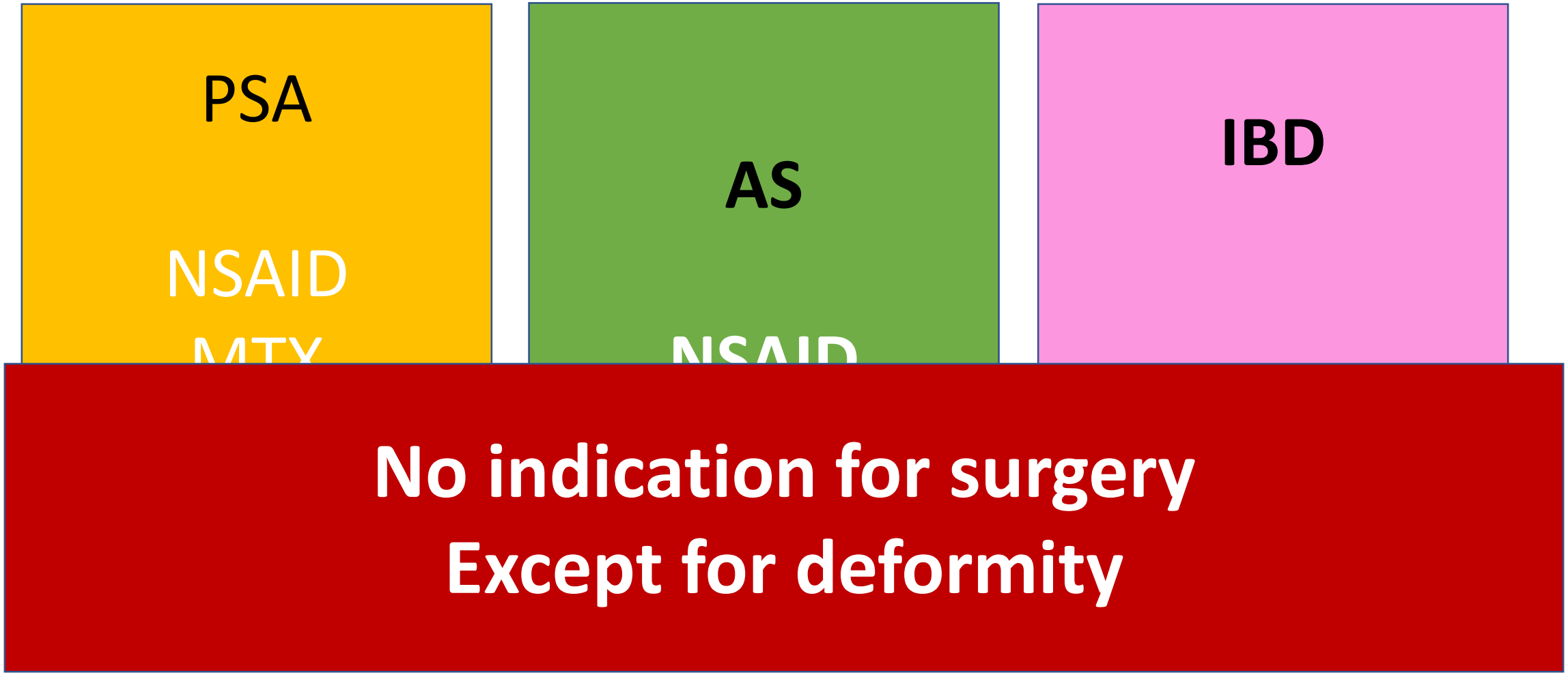

B


IBD

Diagnosis



Treatment


PSA
NSAID
AS
IBD
No indication for surgery
Except for deformity

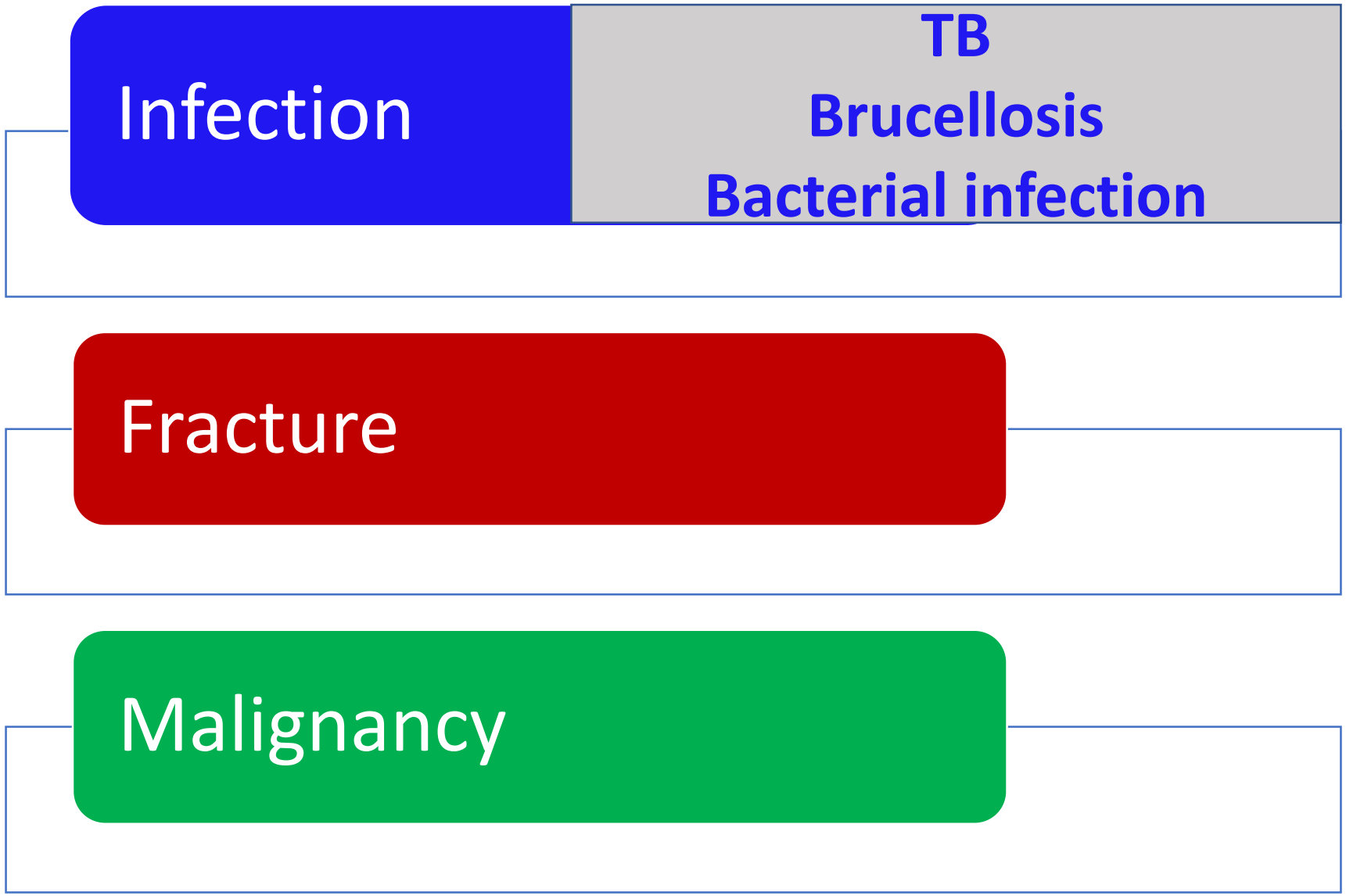
A 75 years old man come to visit due to back pain since 2 weeks ago

The pain worsen in night

The pain is **constant** and both activity and rest increase the severity

In physical examination he had limitation in all lumbar movement

What are the diagnosis?


Infection
TB
Brucellosis
Bacterial infection
Fracture
Malignancy

Clinical manifestation

Symptom

- **Fever 52–68%**
- **Point tenderness**
- **neurological compression in 33–59%**

Lab finding

- Leukocytosis
- Elevated ESR
- Blood culture (55–75%.)

MRI findings	BS [n (%)]	TS [n (%)]	χ^2 value	*p* value
Site of involvement			11.106	0.025
Cervical spine	0	1 (3.70%)		
Thoracic spine	2 (14.18%)	6 (22.22%)		
Thoracolumbar spine	2 (14.18%)	9 (33.33%)		
Lumbar spine	18 (69.23%)	9 (33.33%)		
Lumbosacral spine	4 (15.38%)	2 (7.40%)		
			0.670	0.715

MRI findings	BS [n (%)]	TS [n (%)]	χ^2 value	*p* value
Vertebral destruction			20.974	< 0.001
Mild (≤ 1/3)	23 (88.46%)	8 (29.63%)		
Severe (> 1/3)	2 (7.41%)	19 (70.37%)		
Vertebral wedge			0.229	0.632
≤ 1/2	7 (26.92%)	20 (74.07%)		
> 1/2	1 (3.85%)	5 (18.52%)		
Posterior convex deformity	1 (3.85%)	6 (22.22%)	3.902	0.048
Vertebral appendage lesion	3 (11.54%)	5 (18.52%)	0.504	0.478
Dead bone	0 (0.00%)	13 (48.15%)	16.587	< 0.001
Vertebral hyperplasia	25 (96.15%)	8 (29.63%)	24.948	< 0.001
Intervertebral space			10.540	0.005
Normal	11 (42.31%)	2 (7.41%)		
Narrow	15 (57.69%)	22 (81.48%)		
Disappear	0 (0.00%)	3 (11.11%)		

MRI findings	BS [n (%)]	TS [n (%)]	χ^2 value	*p* value
Abscess			22.945	< 0.001
Paravertebral abscess	17 (65.38%)	6 (22.22%)		
Epidural abscess	9 (34.62%)	8 (29.62%)		
Psoas abscess	0 (0.00%)	18 (66.67%)		
Abscess scope			27.451	< 0.001
Beyond the vertebra lesion	1 (5.88%)	17 (94.44%)		
In the vertebra lesion	16 (94.12%)	1 (5.56%)		

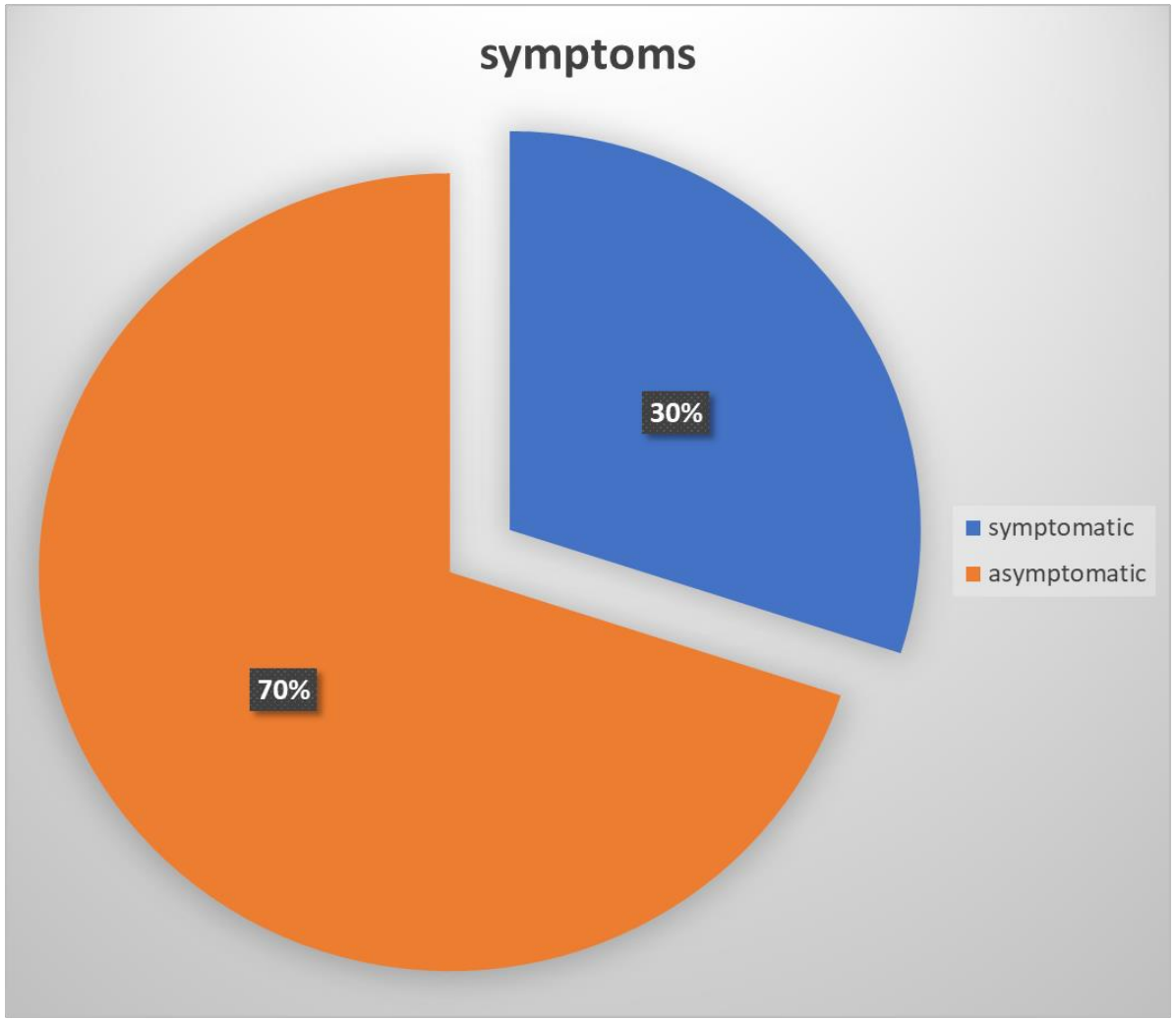
Diagnosis

Imaging

- MRI

- CT guided biopsy

Vertebral fracture



Treatment

- Treat underlying disease

Surgery indication

- Drainage abscess
- Vertebral instability
- Persistent intractable back pain
- Neurological deficit
- Kyphosis or pseudarthrosis

Take home message

1- First step in low back pain is defining the characteristic of pain

2-Define acute from chronic

3-Most of the back pains have conservative treatment

4-Surgery indication are neurologic deficit and instability


THANKS FOR YOUR ATTENTION