Disc

A 34 years old man present with weakness of his right extensor hallucis longus and decreased sensation over the dorsal aspect of this right foot . deep tendon reflexes are normal.which of the following types of lumbar disc herniation would best explain this patients symptoms?

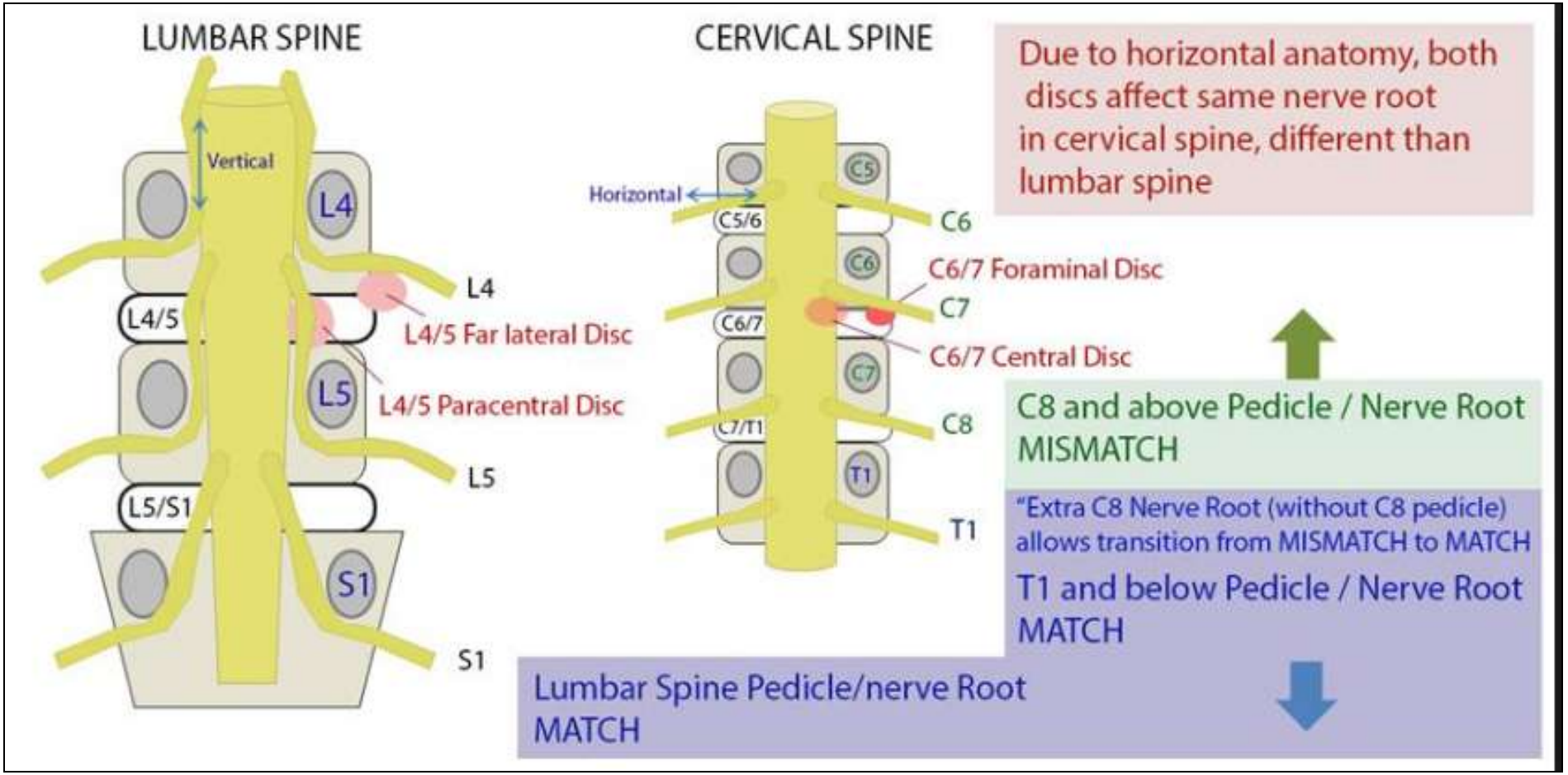
A) Postero lateral L5-S1 disc herniation

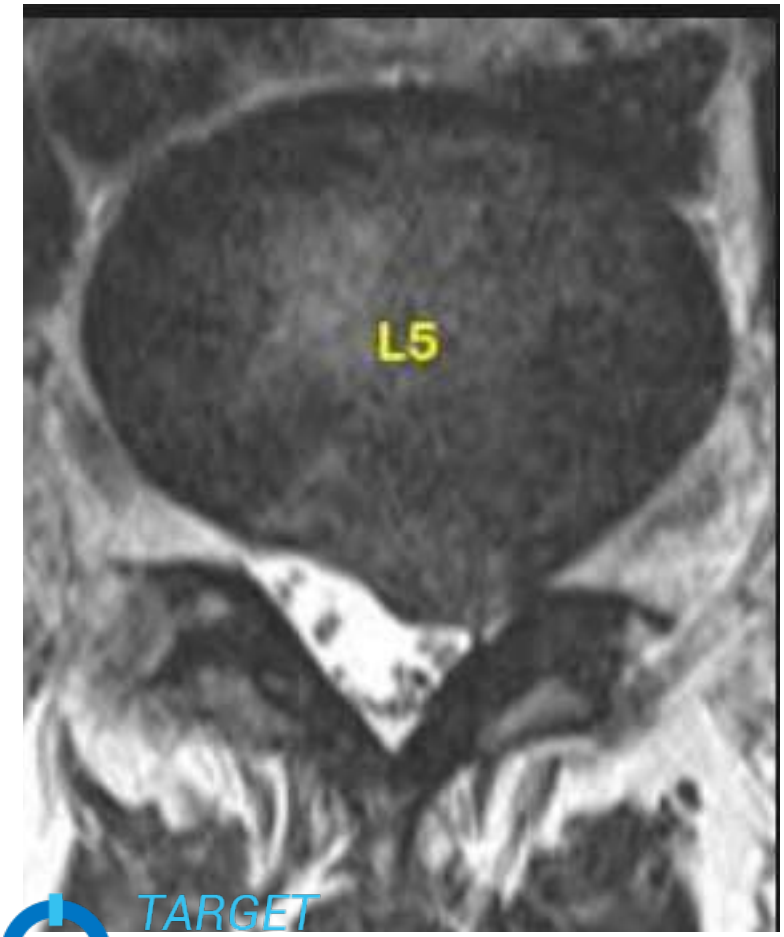
B)Extra foraminal L5-S1 Disc herniation

C) Postero lateral L3-L4 disc herniation

D)Extra foraminal L4-L5Disc herniation

E)Lateral L3-L4 Disc heniation





Disc pressure

Higher lumbar disc pressure is generated in which of the following positions ?

A) Sitting with lumbar Support
B) Sitting with out support
C) Standing at the case
D)Lying supine
E) Lying Prone

- Disc pressure is the lowest in the supine position, which is defined as laying down on your back. The body weight is evenly distributed and supported in this posture.

- Conversely, disc pressure is the highest when lifting weight from a seated, forward leaning position. Spinal pressure can be 25x more than when laying down .

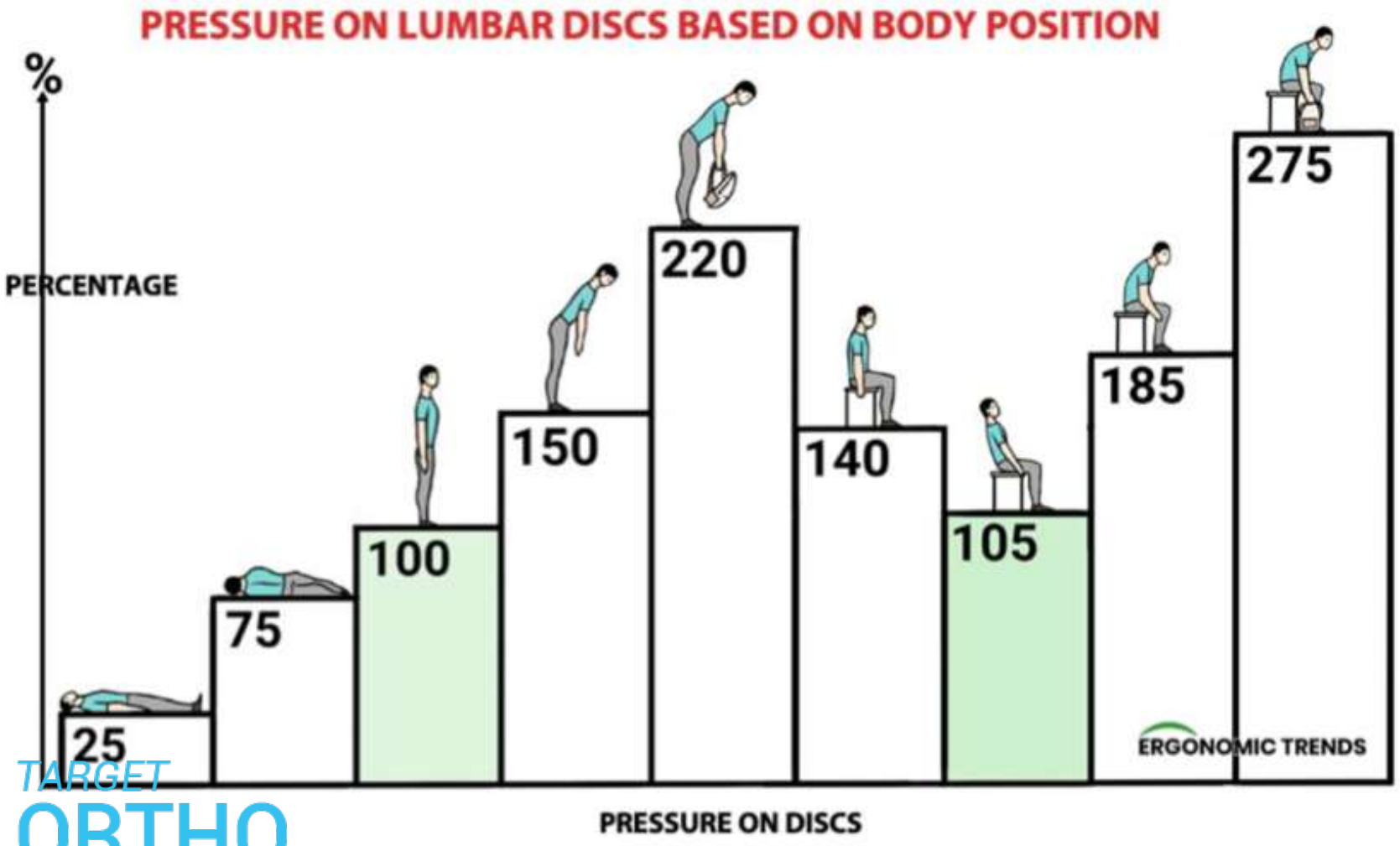
- Standing exerts less pressure on the back compared to most typical sitting positions. In a standing position, the natural curvature of the lumbar spine is preserved, distributing the compression force more evenly across the entire spine. [

- Sitting upright exerts 40% more pressure on the spine relative to standing.

- Sitting with a flexed spine, or in the slumped position, can add about 30% more pressure to the back compared to upright sitting.

- In the seated position, reclining the backrest 135 degrees was found to generate the least amount of pressure on the spine. [4]

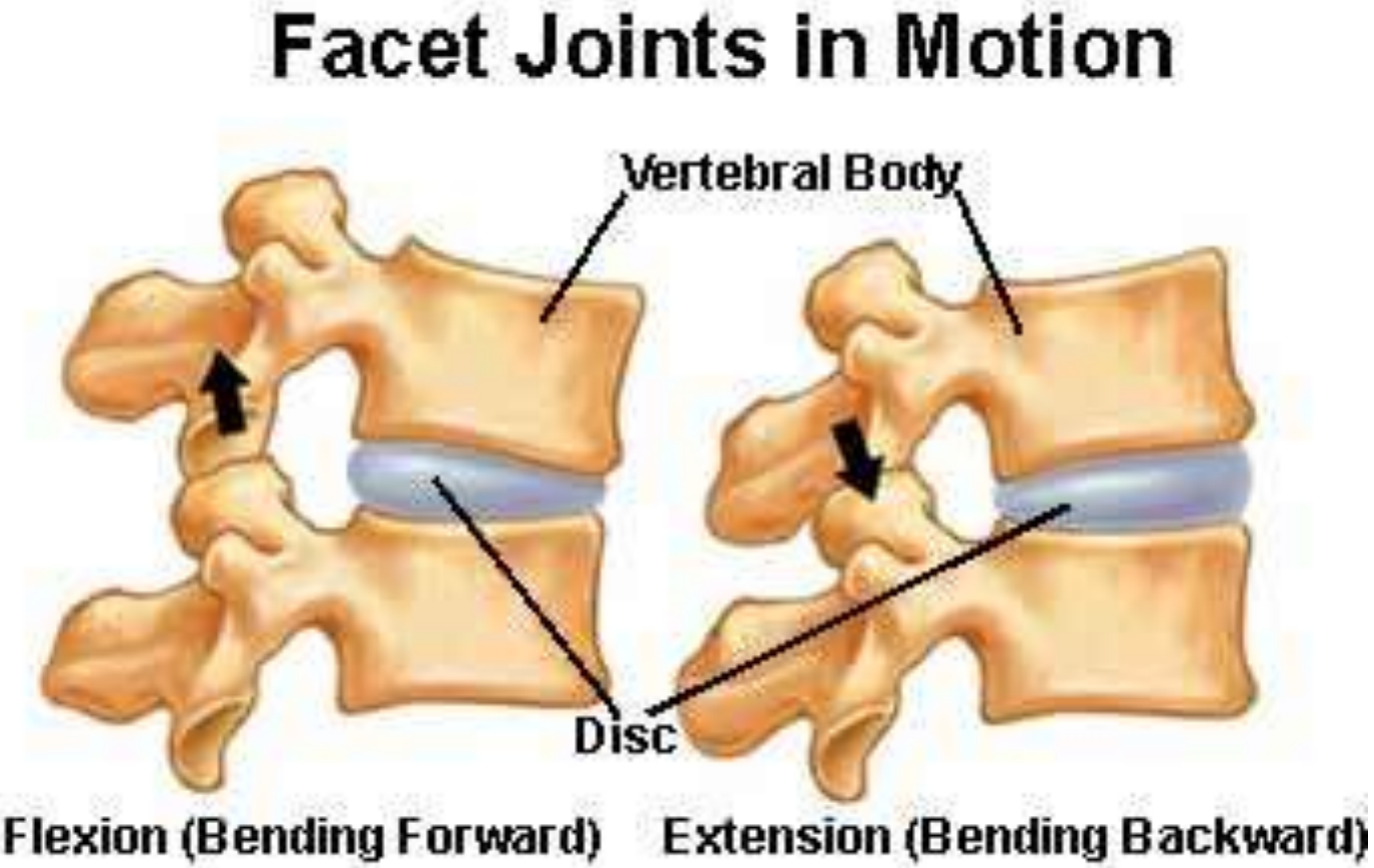
Disc Pressure Chart



What constitutes a spinal motion segment?

a. A disc and the facet joints at that level.
b. A disc and the vertebrae above and below, including their interlocking facet joints.
c. A section of the spine involved in a physiological curve with the similar function (i.e. thoracic kyphosis).
d. A vertebral body and the disc above.
e. A disc and the vertebrae above and below, including their interlocking facet joints and surrounding musculature.

Spinal motion segment



Indication for disc surgery all except?

- Significant leg pain X 8 weeks
- Foot drop
- Cauda equina syndrome
- Acute recurrent disc prolapse

Waddell sign

Waddell sign include all the following expect

A)Nonorganic tenderness

B) Simulation tests

C) motor and /or sensory compromise

D) Distraction tests

E) Over reactions

- **A 38-year-old female with lumbar radiculopathy and a lumbar disk herniation undergoes lumbar microdiscectomy. Which of the following preoperative findings is least likely to effect positive outcomes for this patient?**
- A.Depression
- B.Higher body mass index
- C.History of smoking cigarettes
- D.Younger age

- poor out come

a. smoking,
b. highbodymassindex,
c. depression,
d. workers'compensation

good out come

short duration, leg pain, younger age.

- **Correctanswer:D**

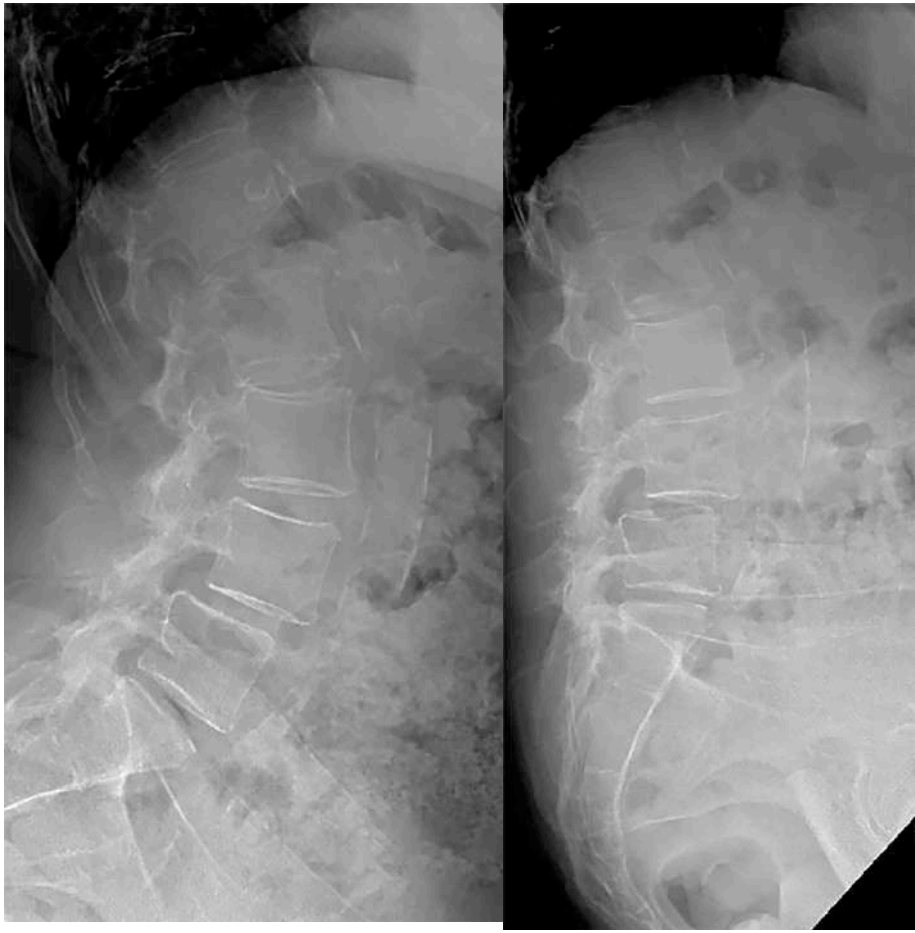
- Biggest contribution to lumbar lordosis

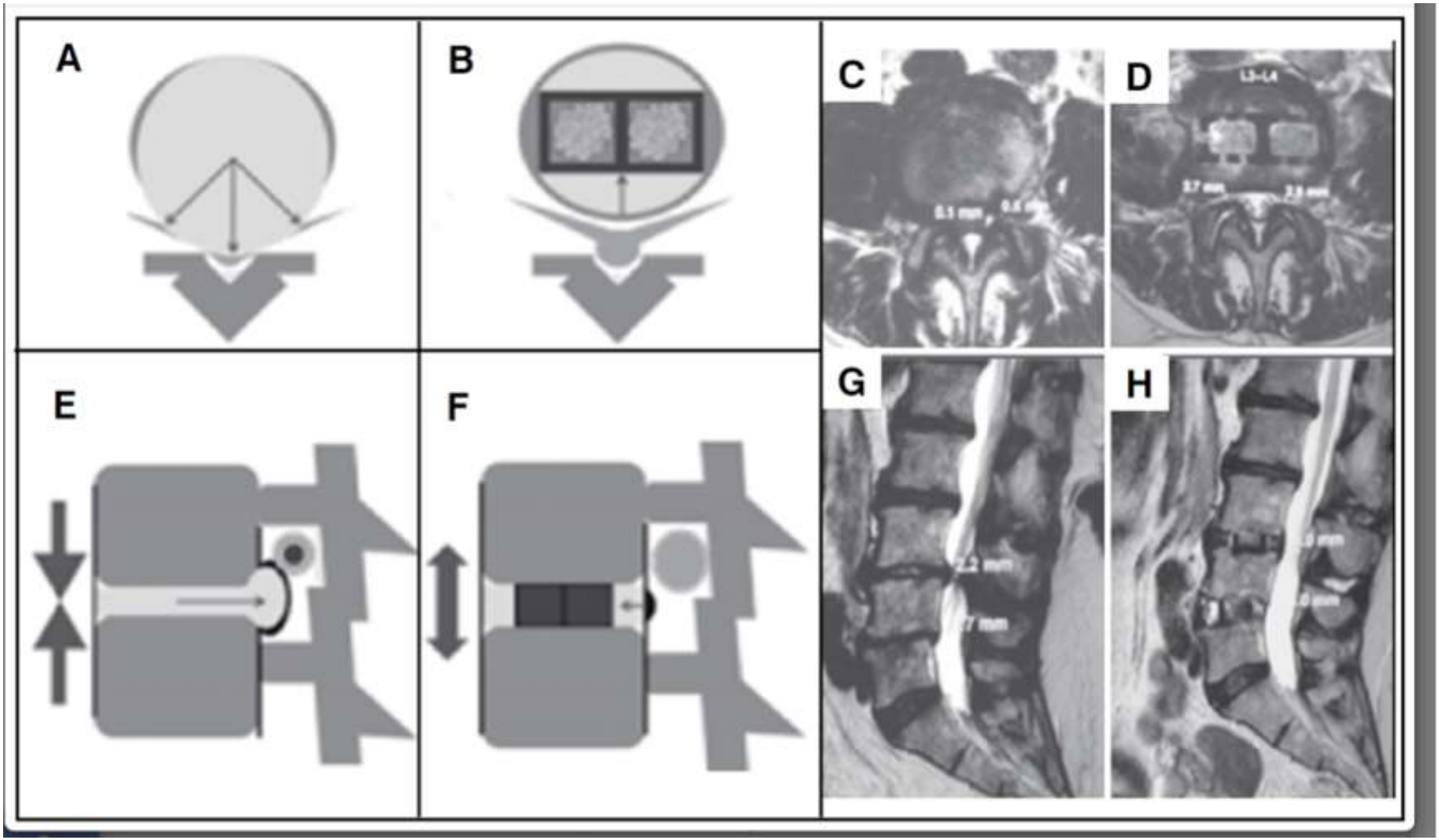
a. Occurs mostly within disc space
b. Occurs mostly within vertebral body
c. Increases with increasing age
d. Is normally 70 degrees

- Wedging in lumbar vertebrae and increased disc ht anteriorly contributes to the lumbar lordosis.
- But disc contributes more to lordosis than vertebral body.
- With age the disc ht decreases and lumbar lordosis decreases.
- The normal range is about 40-60deg
- Cervical lordosis-. 30-40deg.
- Thoracic kyphosis- 20 - 40deg
- But in thoracic spine,the wedged vertebral body contributes mainly to the thoracic kyphosis and the thoracic kyphosis increases with aging. To compensate for this increased thoracic kyphosis during old age , the cervical lordosis increases with age.

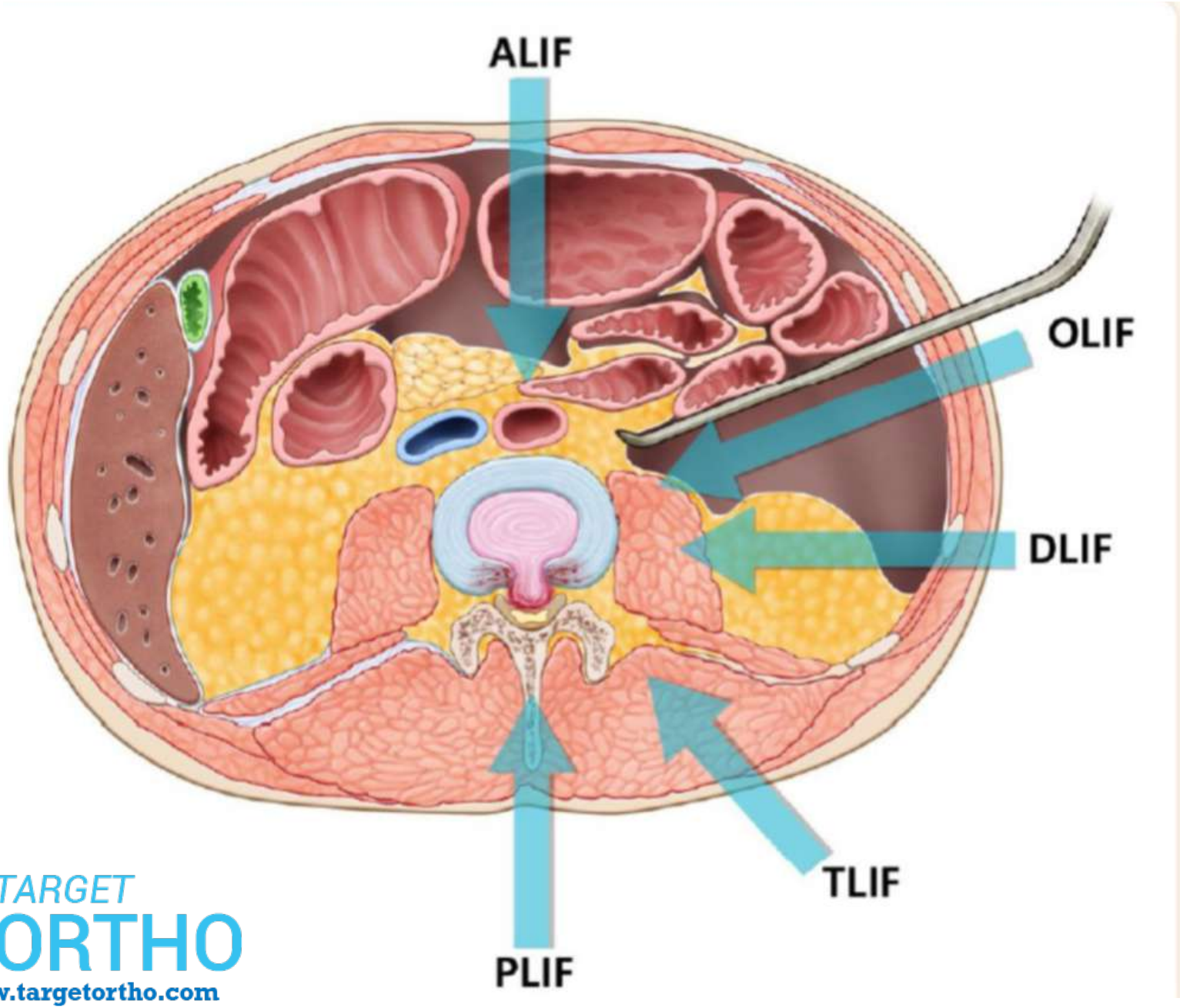
- Thoracic spine has relatively less mobility compared to cervical and lumbar spine.
- Prevalence of symptomatic disc prolapse in Thoracic spine - 0.1% to 3%
- In Thoracic spine ,T11- T12 has got maximum mobility and thin posterior longitudinal ligament.
- So most common level of Thoracic disc prolapse is T11- T12 . MC symptomatic level is also T11-T12.
- No need for any confusions-If they ask for one single level for Thoracic disc , it is T11-T12
- In one paper they have mentioned that 75% of disc prolapse in Thoracic spine occurs below T7-T8 segment . It's because the mobility of Thoracic segments increases below T7- T8 level.
- Most common levels of lumbar disc
- L4-L5 >L5-S1>L3-L4
- It corresponds to range of motion. L4L5 has got maximum mobility.
- cervical disc prolapse
- C5-C6 =C6-C7
- There is no clear evidence as in lumbar spine to say which is more common. C6C7 = MC

- **Figures 1 and 2 are the radiographs of a 60-year-old male who has symptoms of neurogenic claudication and backpain .An MRI scan shows severe central and lateral recess stenosis atL4-5. Non operativetreatment did not provided relief, and surgery is being considered.What surgical option is most appropriate?**
- A.Lumbar disk arthroplasty at L4-5
- B.Posterior lumbar decompression only
- C.Placement of an L4-5 interlaminar device
- D.Posterior lumbar decompression and fusion at L4-5

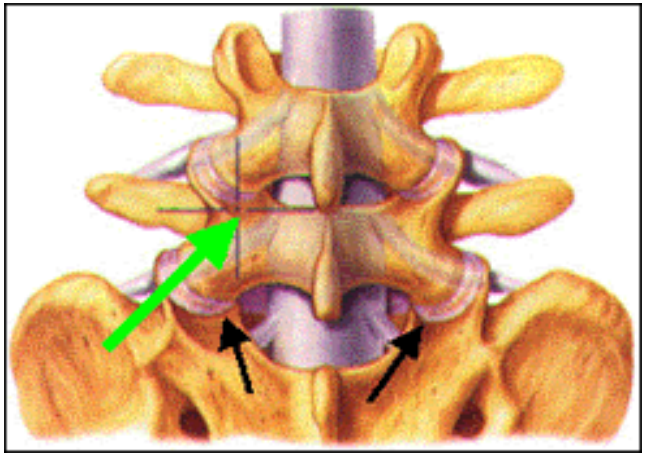




- 1.It utilises the space between great vessels and psoas muscle
- 2. Bowel injury and lumbar plexus injury is less compared to other anterior approaches
- 3. Indirect decompression depends upon the inserting large cage
- 4. Not suitable for adult degeneratice scoliosis.



Entry point identification



- Intersection technique
- Pars interarticularis technique.
- Mammillary process technique.

Intersection technique