

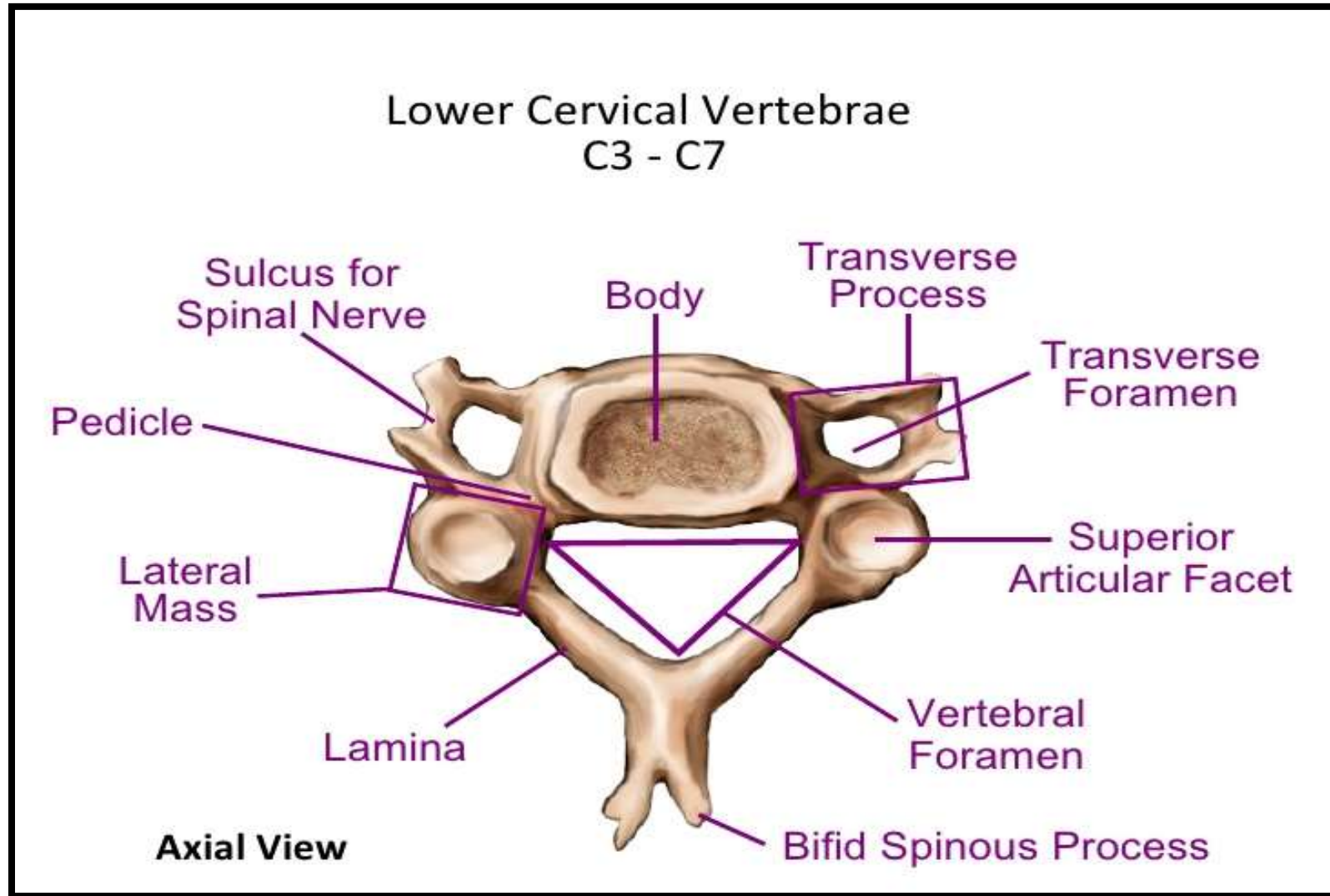
# **NORMAL MRI SPINE ANATOMY**

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# NORMAL CERVICAL MRI ANATOMY





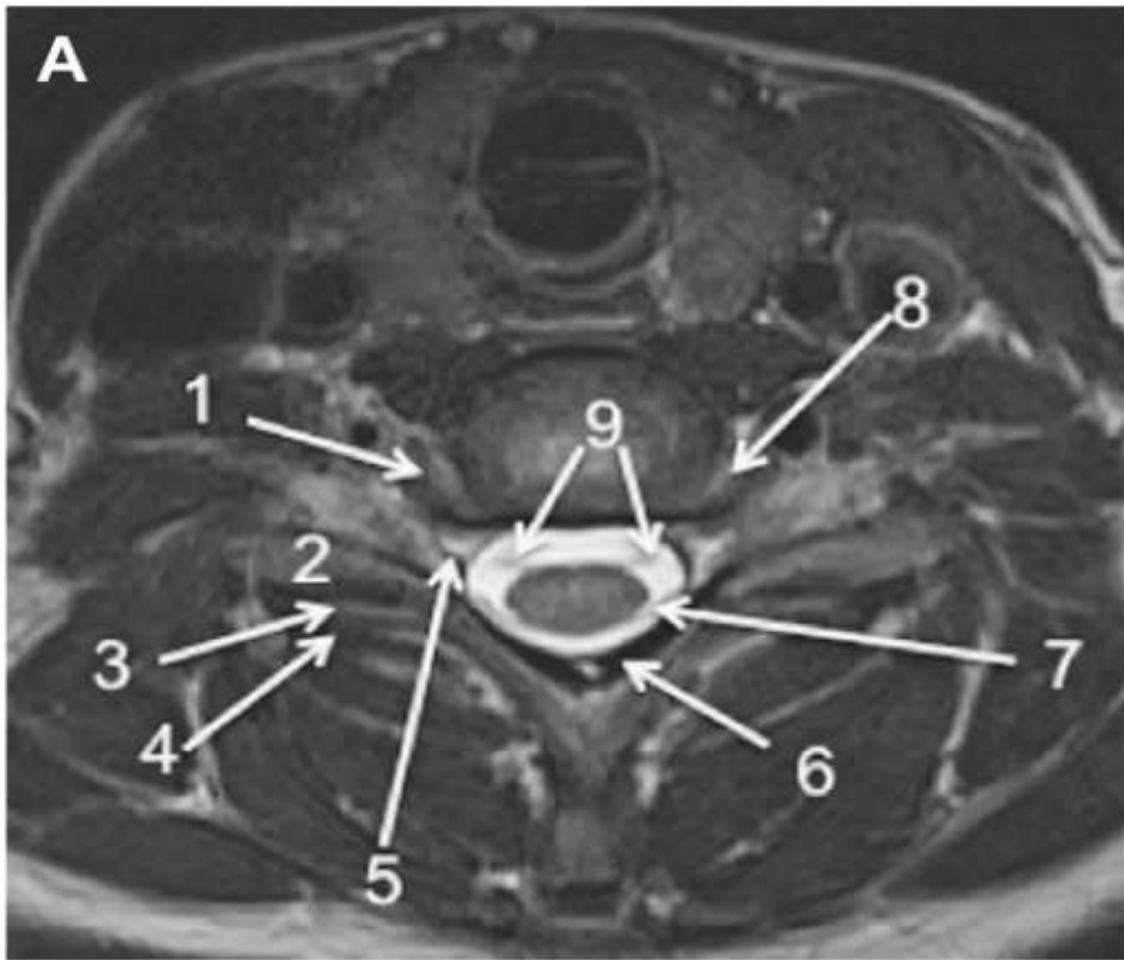
**T1 W SAGITTAL IMAGE**

pons  
 Clivus  
 craniocervical junction  
 C2 body  
 prevertebral space  
 anterior longitudinal ligament  
 posterior longitudinal ligament  
 disc  
 CSF  
 cord  
 interspinous ligament  
 ligamentum flavum  
 end plates



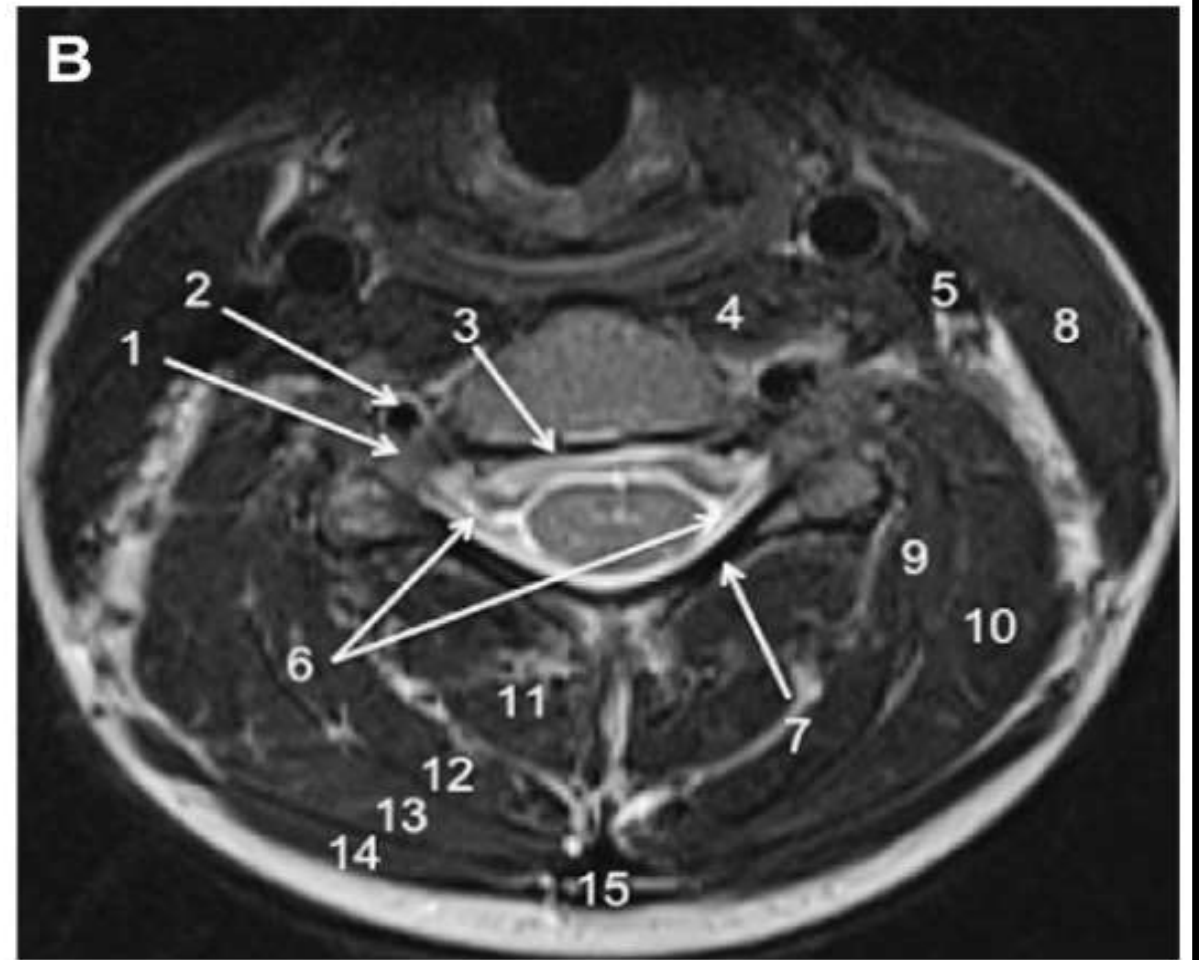
**T2 W SAGITTAL IMAGE**

Post Arch C1  
 Nuchal Ligament  
 Interspinous Ligament

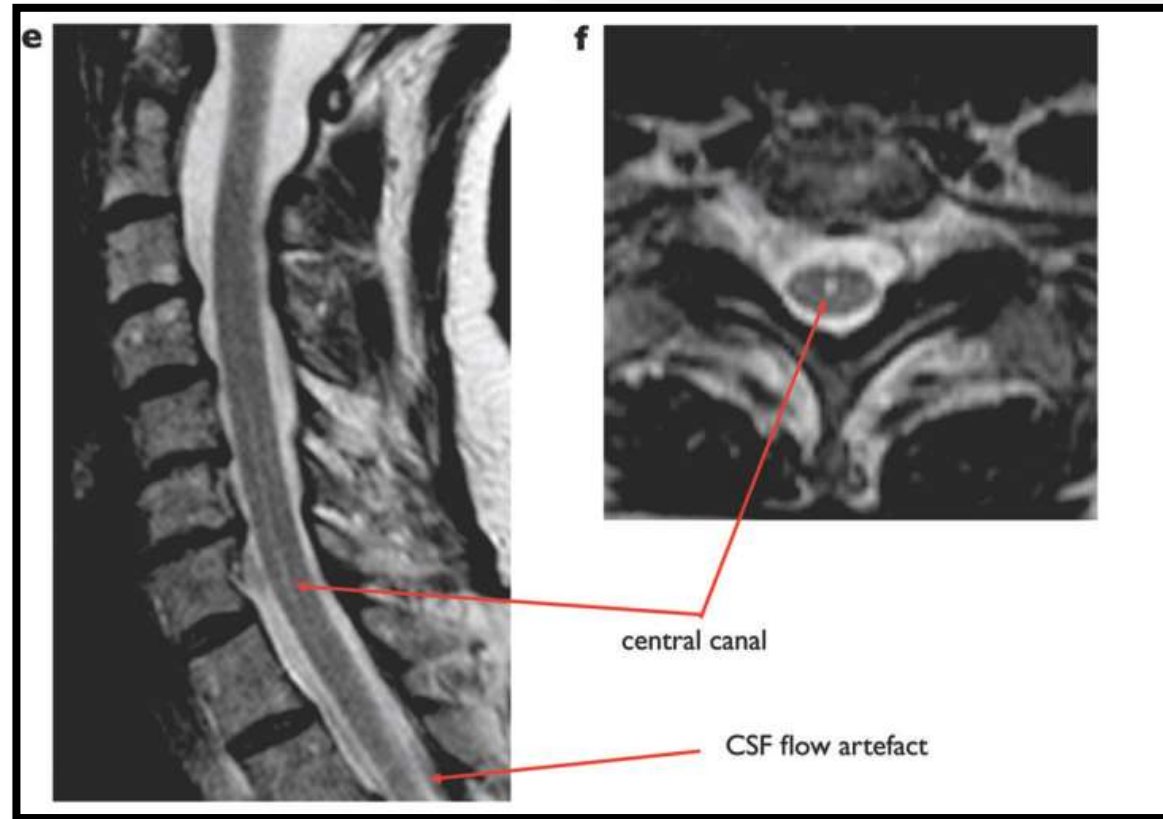
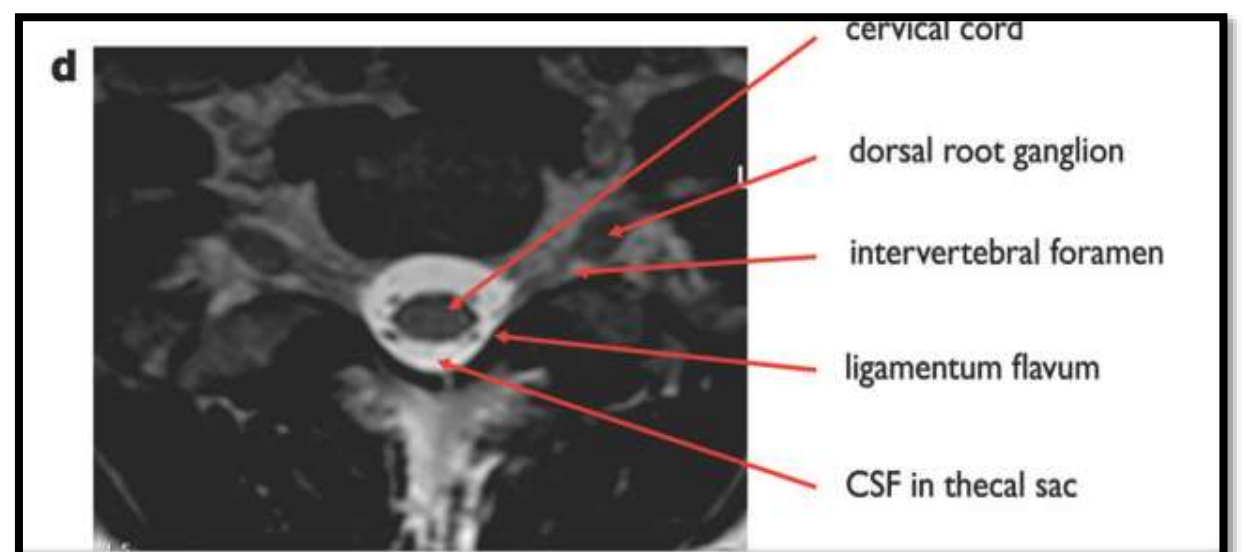
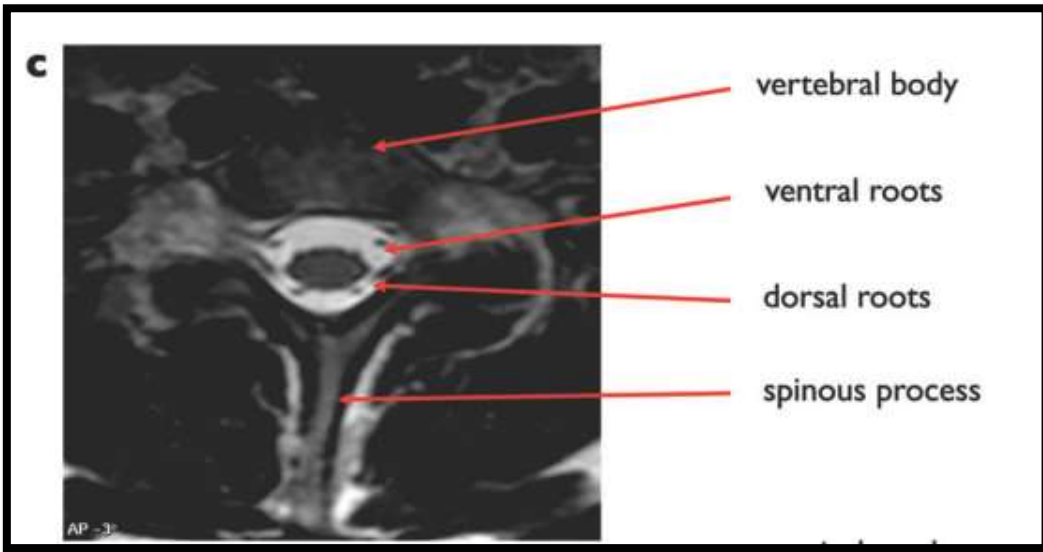


**Axial T2-weighted image, lower cervical spine.**

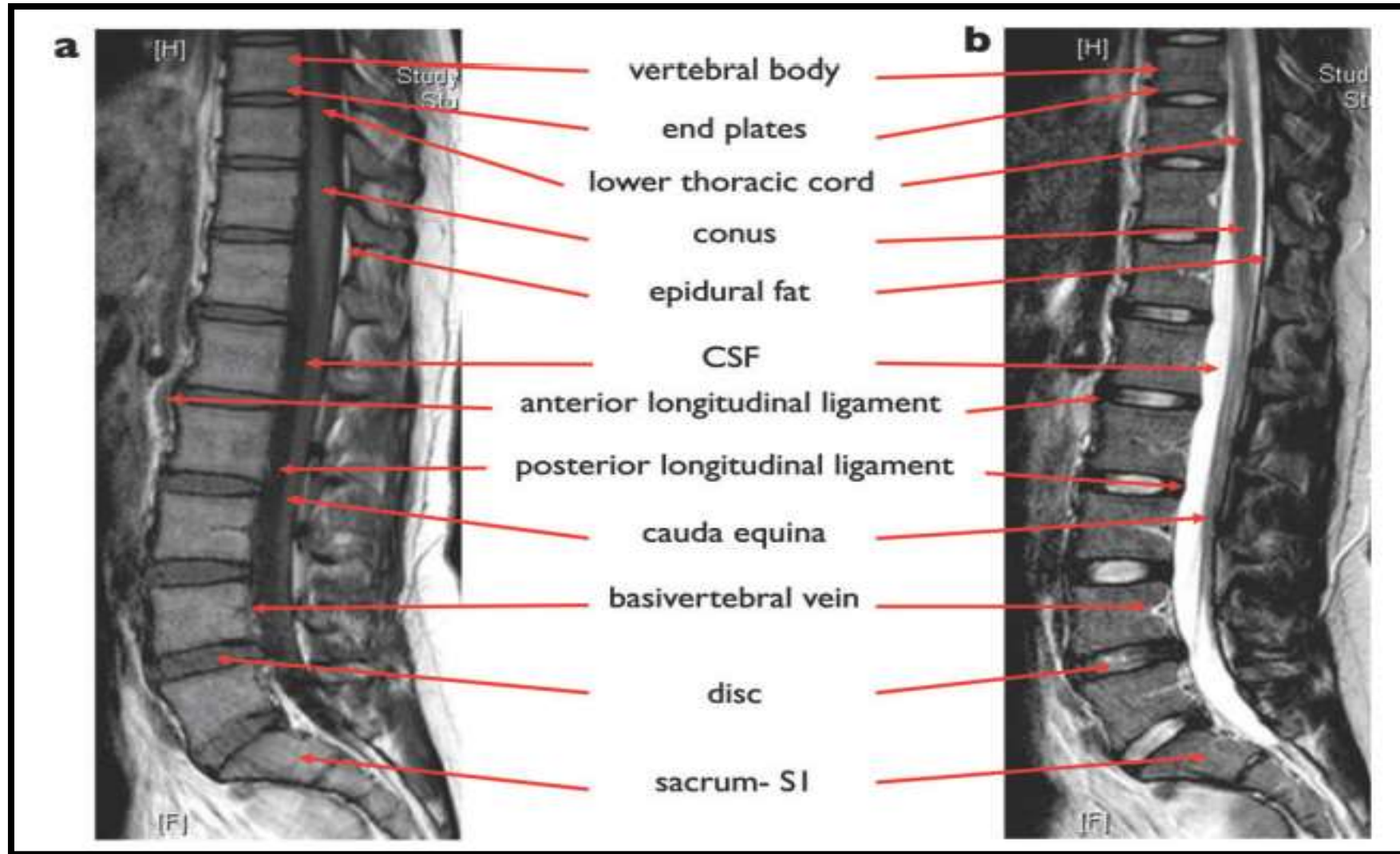
**1, Uncinate process C7; 2, Superior articular process C7; 3, Apophyseal (facet) joint; 4, Inferior articular process C6; 5, Foraminal vein; 6, Ligamentum flavum/cortex of lamina; 7, Dorsal rootlet C7; 8, Uncovertebral joint; 9, Ventral rootlets C7.**



**Axial T2-weighted image, mid cervical spine. 1, Dorsal root ganglion; 2, Vertebral artery; 3, Posterior longitudinal ligament; 4, Longus colli; 5, Internal jugular vein; 6, Dorsal rootlets; 7, Lamina; 8, SCM muscle; 9, Longissimus capitis ; 10, Levator scapulae; 11, Semispinalis colli; 12, Semispinalis capitis; 13, Splenius capitis; 14, Trapezius; 15, Nuchal ligament.**



# NORMAL LUMBOSACRAL MRI

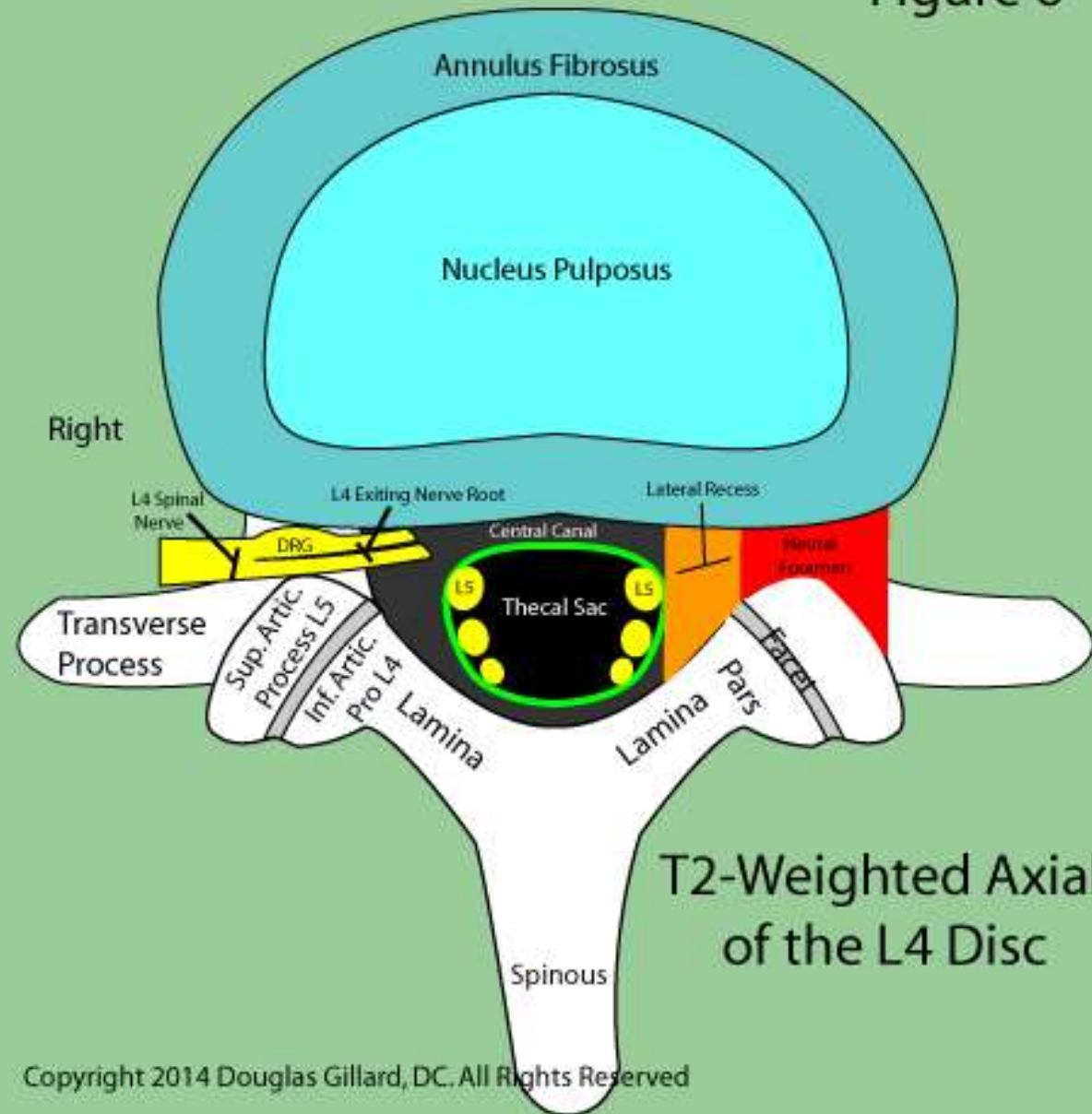


**T1 W SAGITTAL IMAGE**

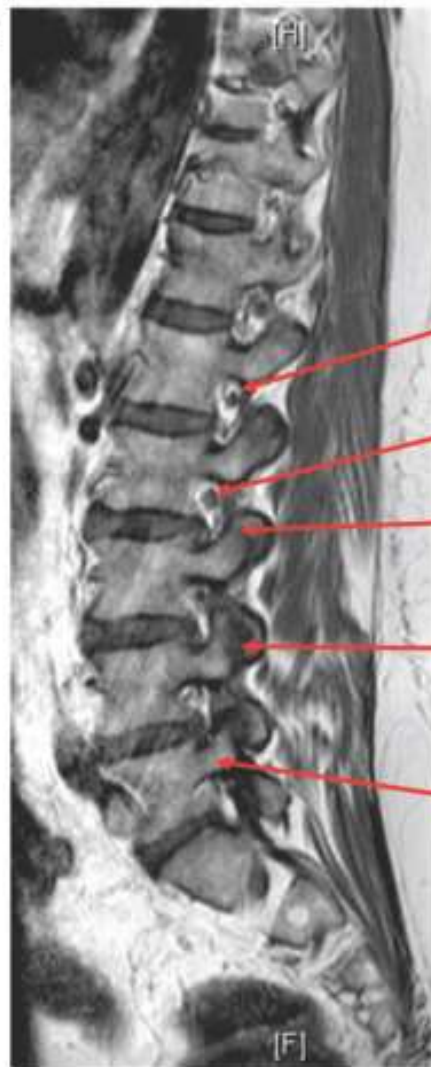
**T2 W SAGITTAL IMAGE**

Front

Figure 6



c



neural foramen

L2 root

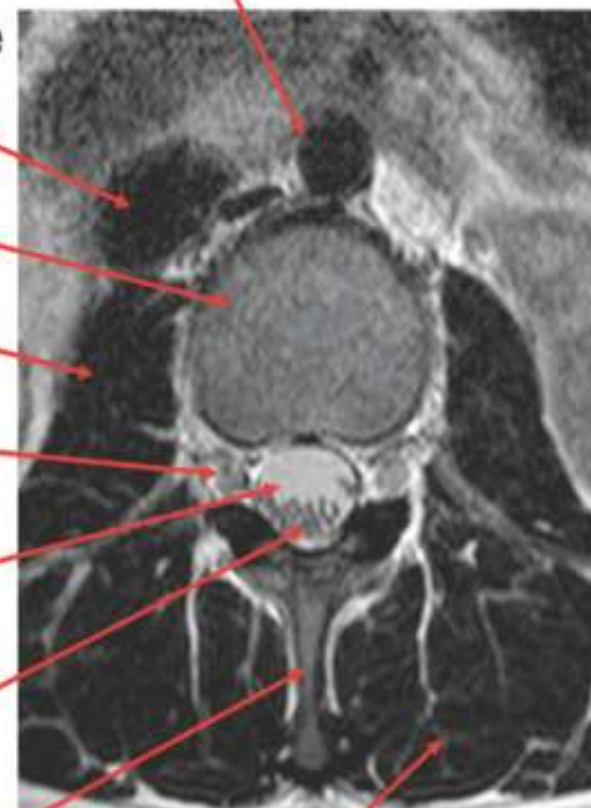
superior  
articular facet

facet joint

L5 pedicle

aorta

e



inferior vena cava

vertebral body

psoas muscle

dorsal root ganglion  
in intervertebral foramen

CSF in thecal sac

cauda equina

spinous process

paravertebral muscles

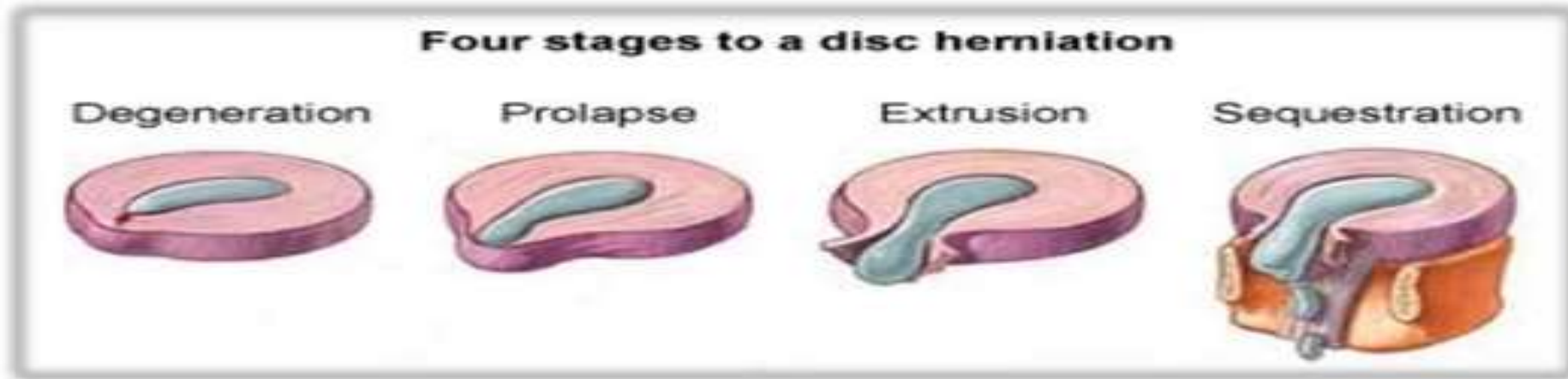


## Anatomic classification

Disc protrusion: the herniated portion of the disc covered with a thin layer of annulus

Disc extrusion: disc material herniated through annulus but remains continuous with disc space

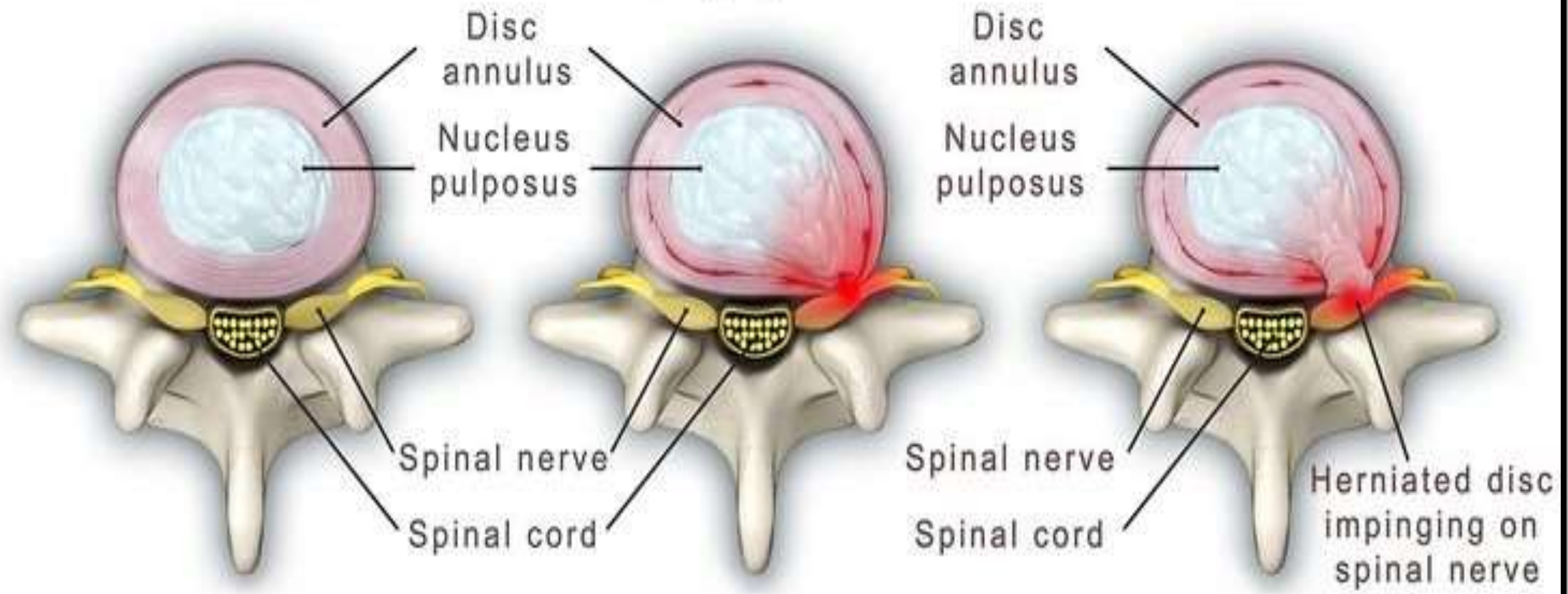
Disc sequestration: the disc fragment herniates through the annulus and loses contact with the originating disc space



**Normal disc**

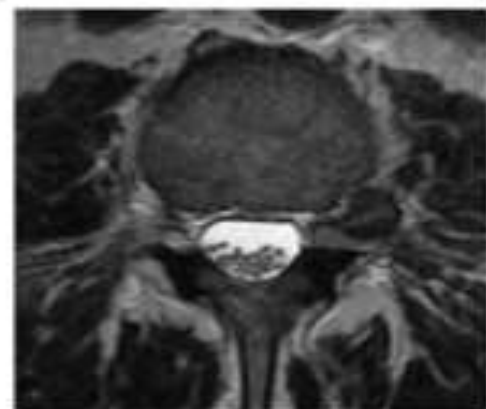
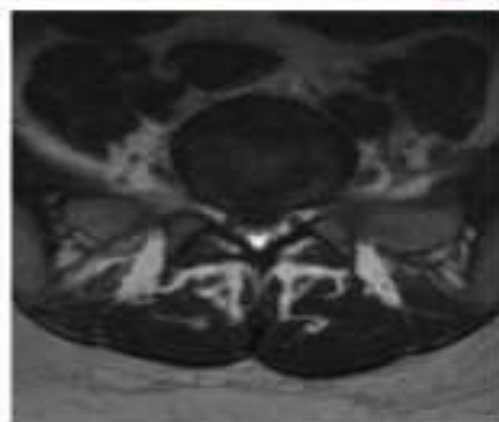
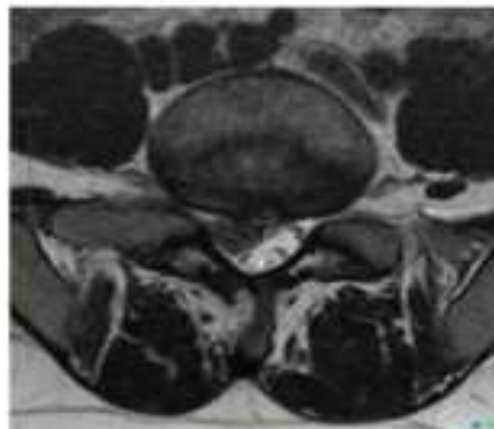
**Bulging disc**

**Herniated disc**



## Classification based on the location of the disc herniation

- Posterolateral/paracentral prolapse:
  - Commonest
  - PLL weakest in this area
  - Herniated disc impinges on the traversing nerve roots(e.g the L5 nerve root in L4-5 disc prolapse)
- Central prolapse:
  - may present with back pain only or Cauda-equina(severe cases)
- Foraminal/extra foraminal/far lateral herniation:
  - Less common
  - The herniated disc impinges on the exiting nerve roots  
(e.g. L4 nerve root in L4-5 level)

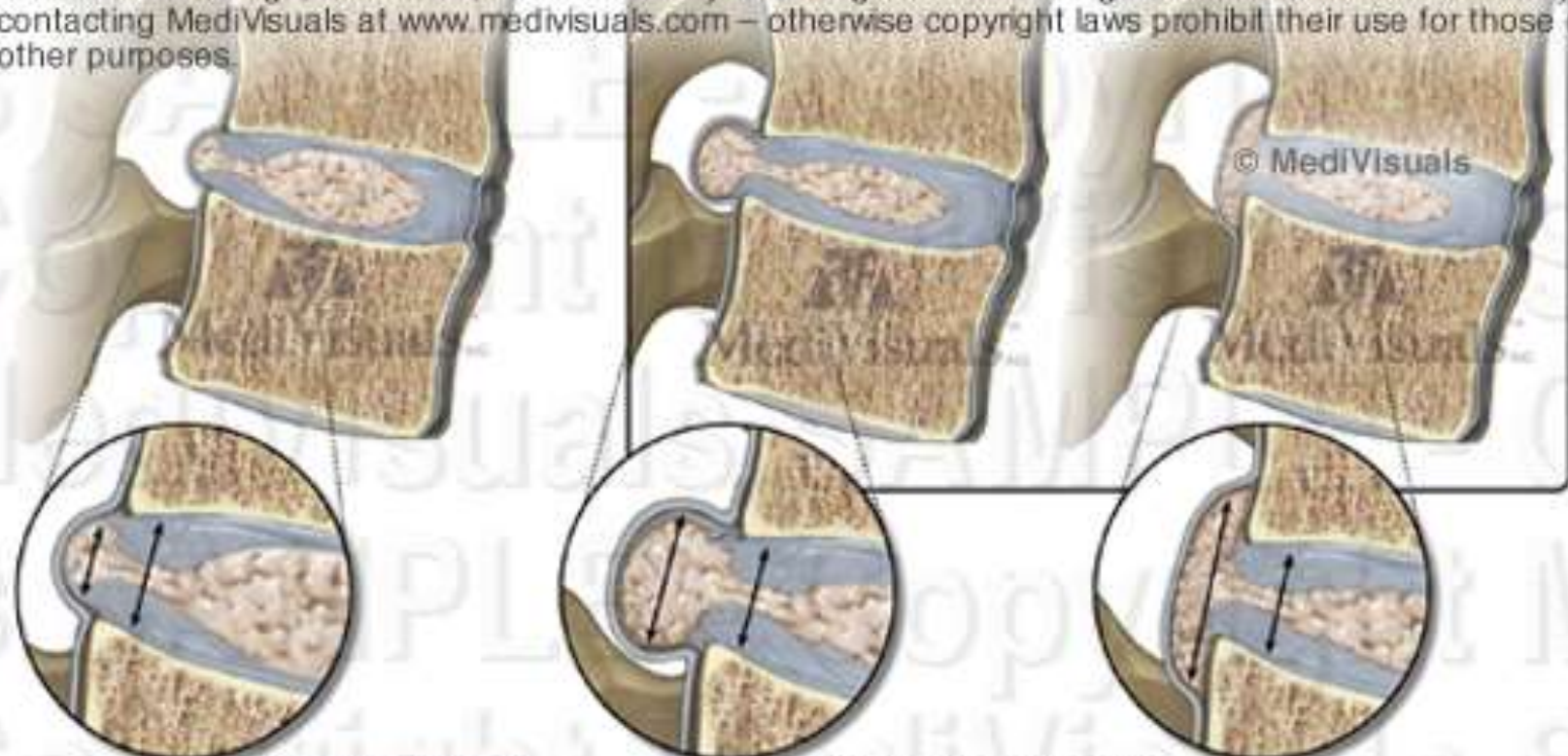


# Protrusion v. Extrusion

## Protrusion

## Extrusions

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Disc material present outside of normal disc space

Cranio-caudal dimension of displaced material is greater than that of the parent disc

THANK YOU