

بنام خدا

دکتر آرش متقی
متخصص ارتوپدی
فلوشیپ ستون فقرات

کلیات برخورد با بیمار مبتلا به آسیب ستون فقرات

آناتومی عملکردی ستون فقرات

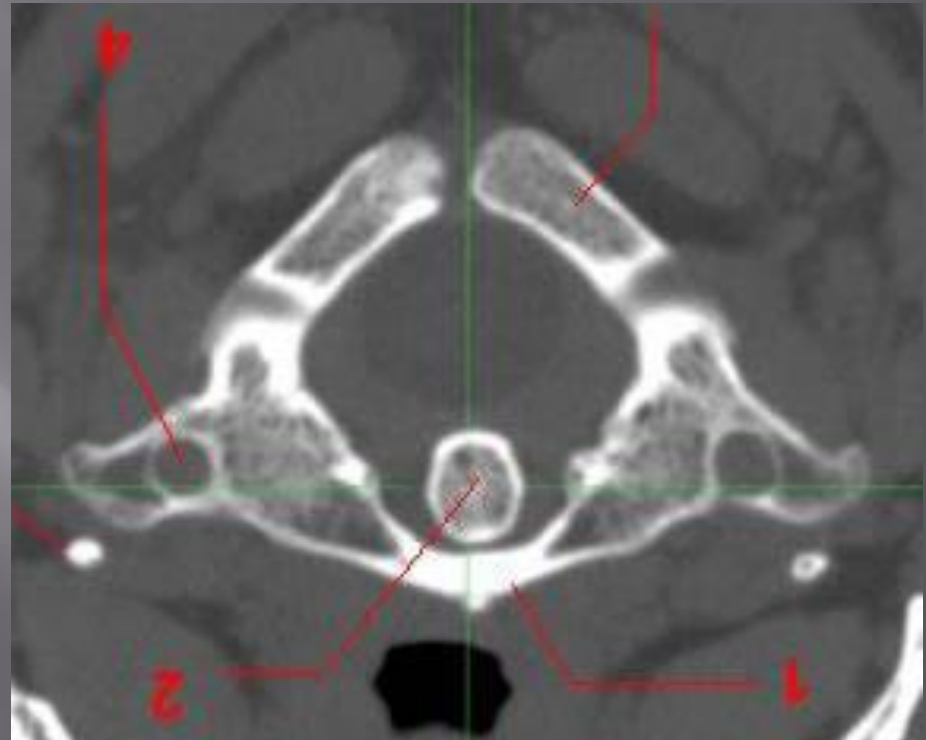
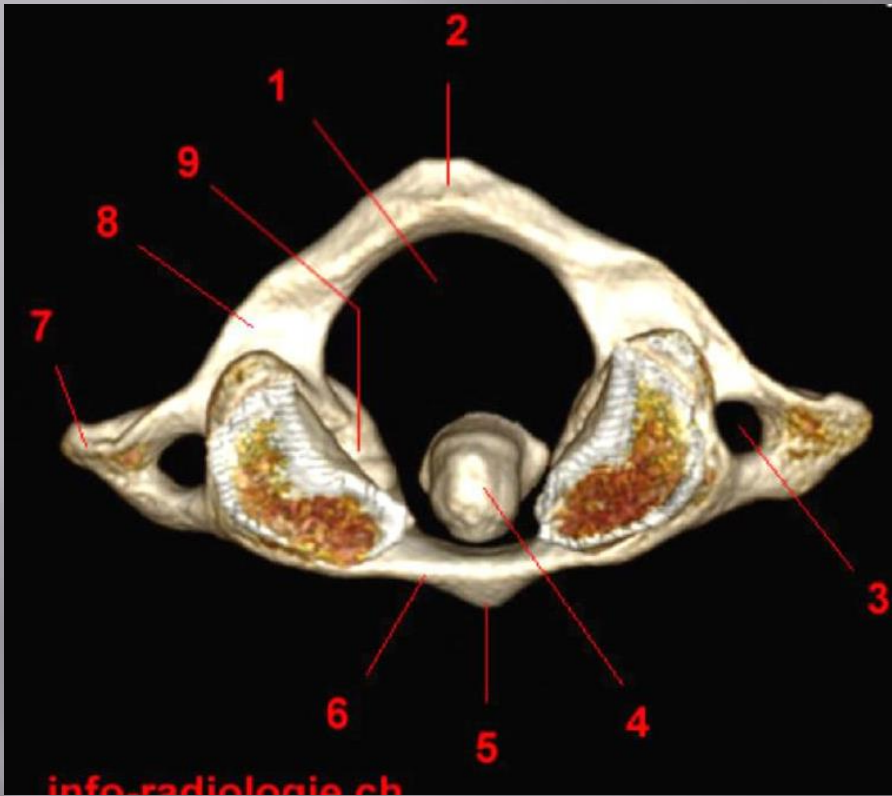
روش خواندن گرافی ساده ستون فقرات

معاینات

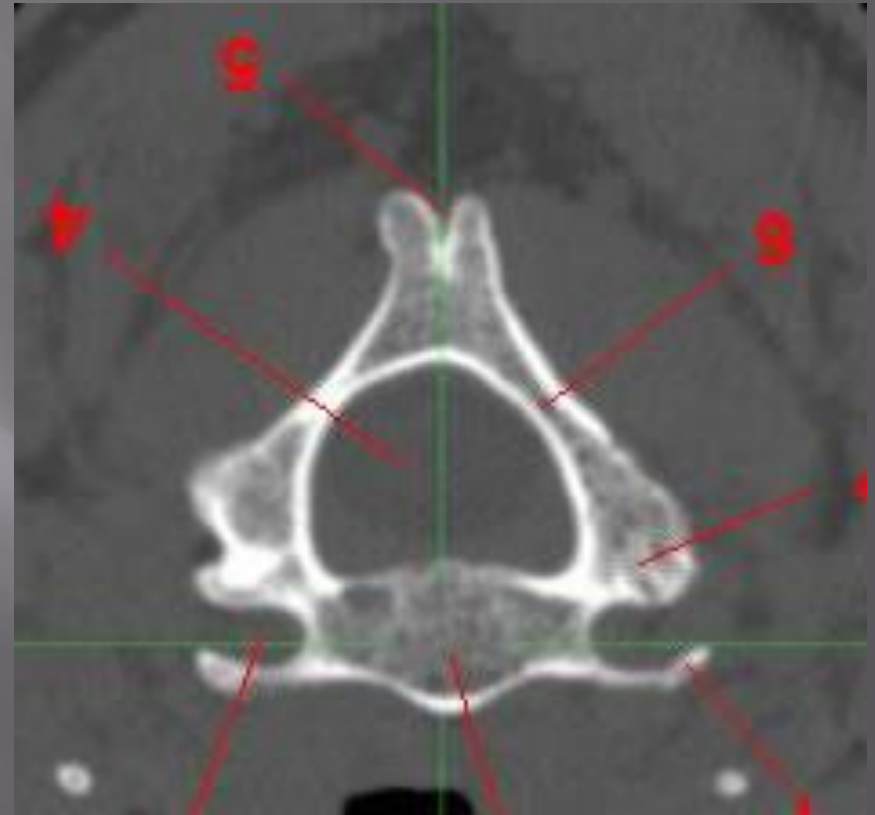
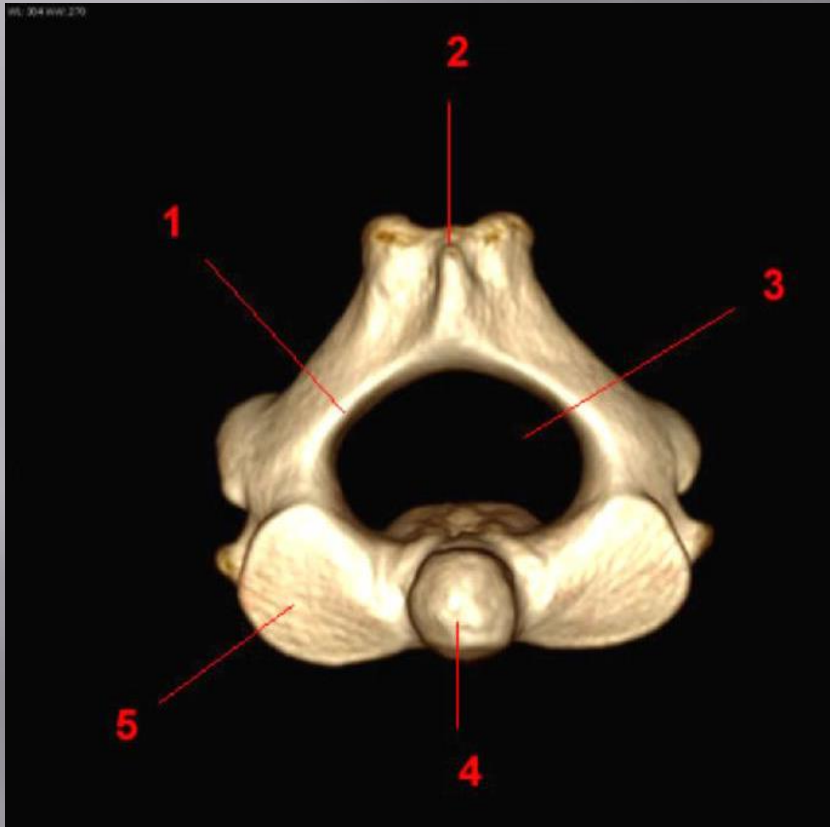
نوشتن پرونده

اورژانسها

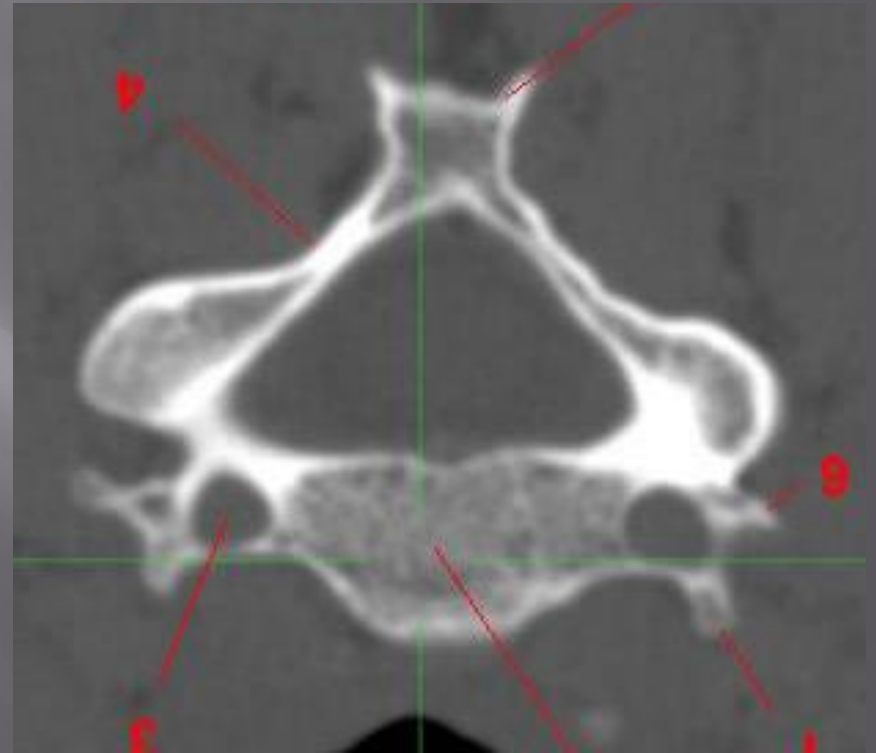
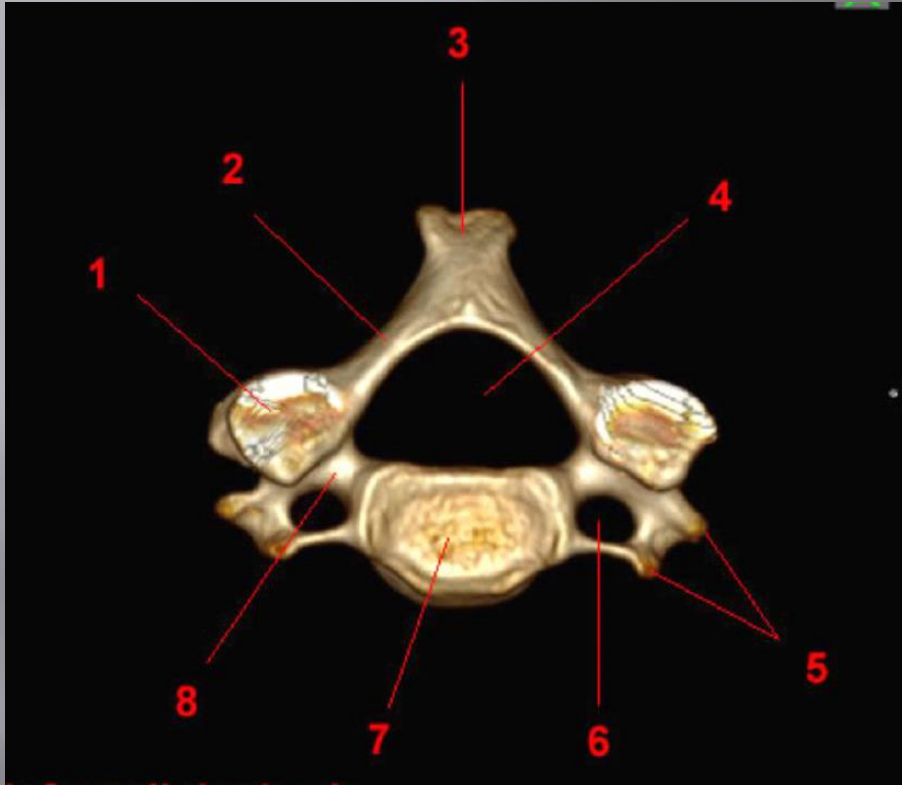
C1



C2

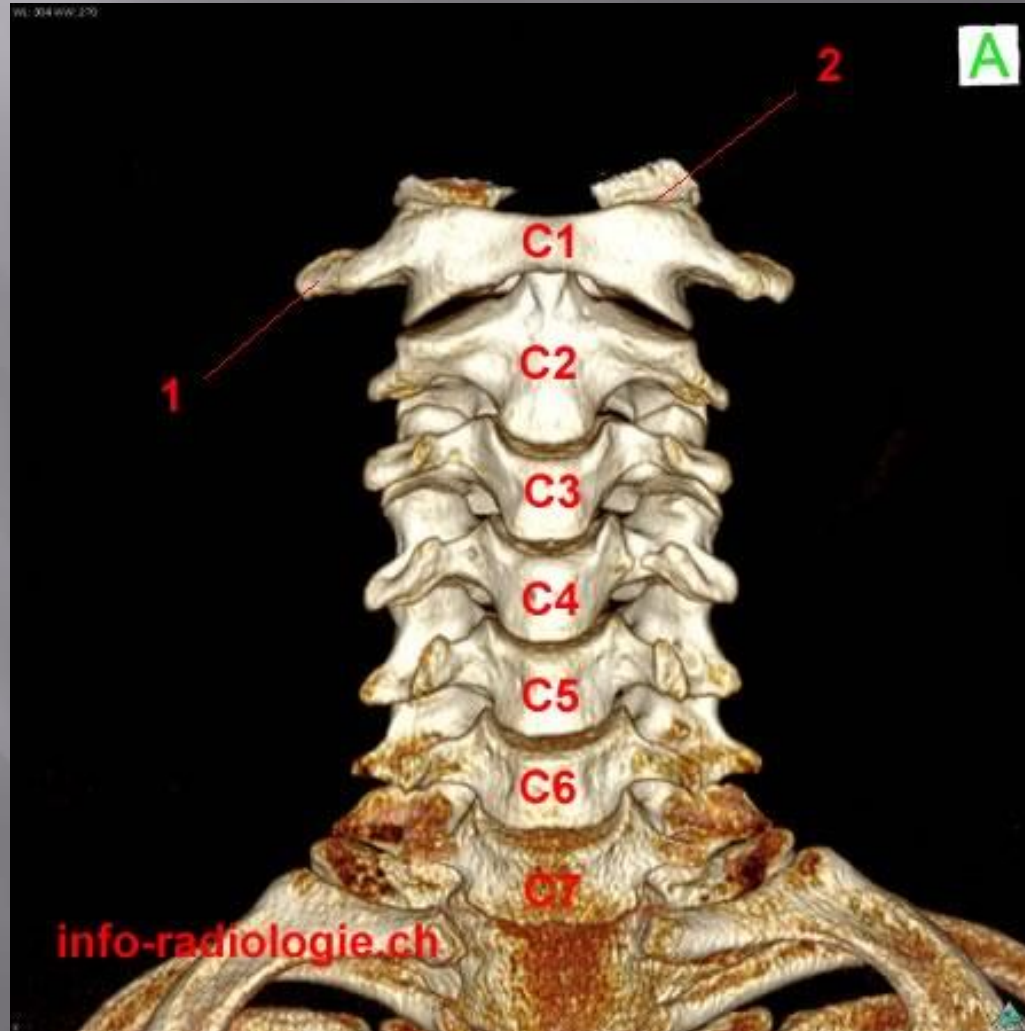


C3 to C6

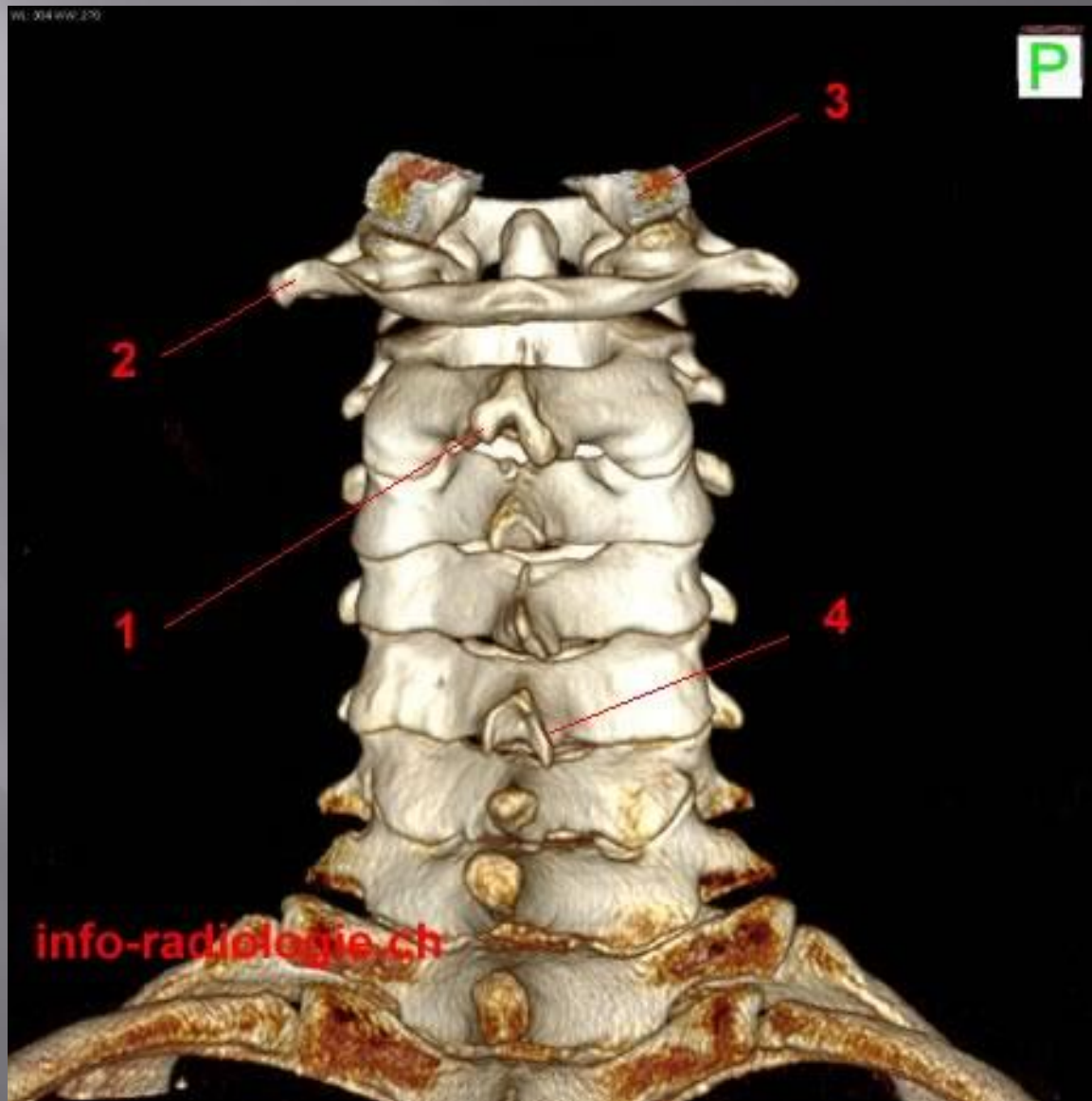


Cervical artery C6 to c1

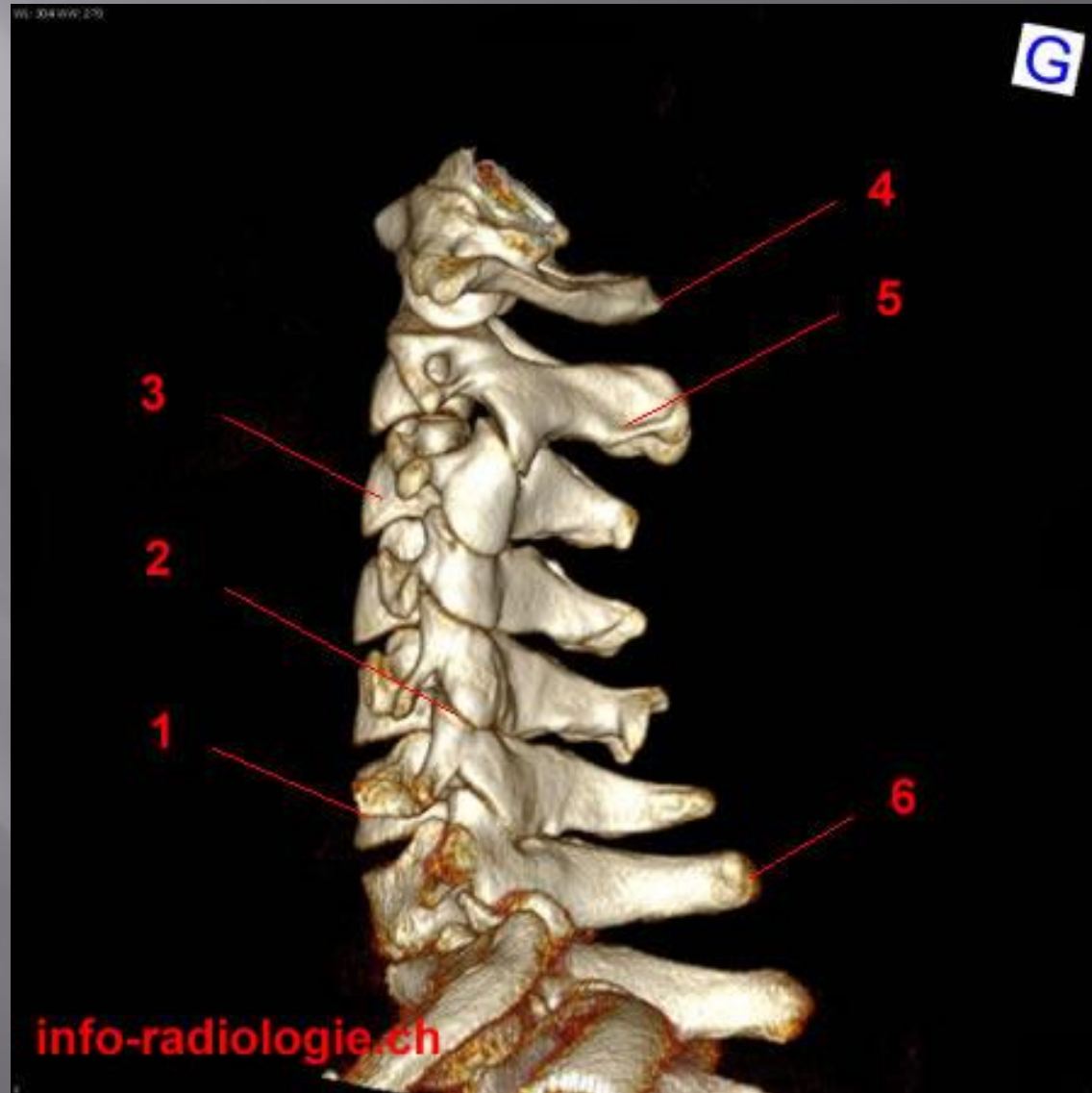
Cup shape body



Rectangular lateral mass



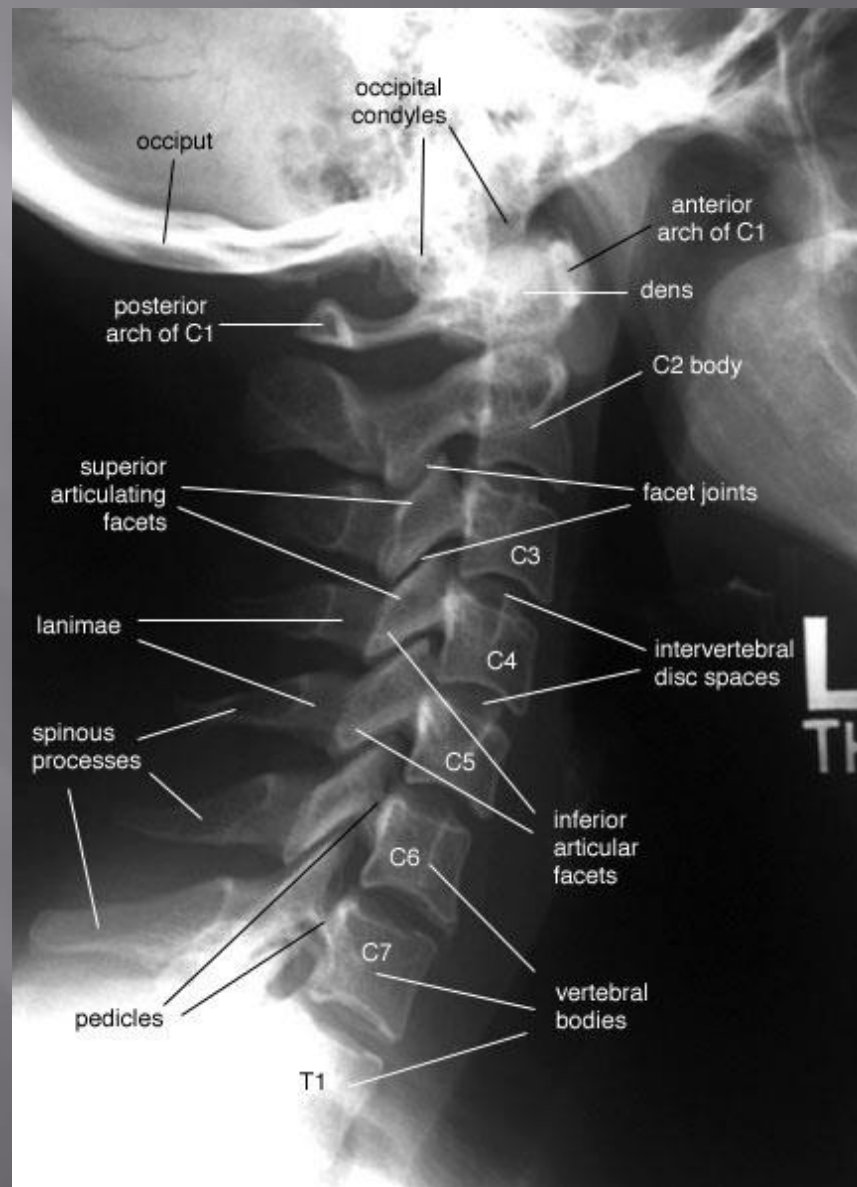
Grooves & spinous 2 & 7



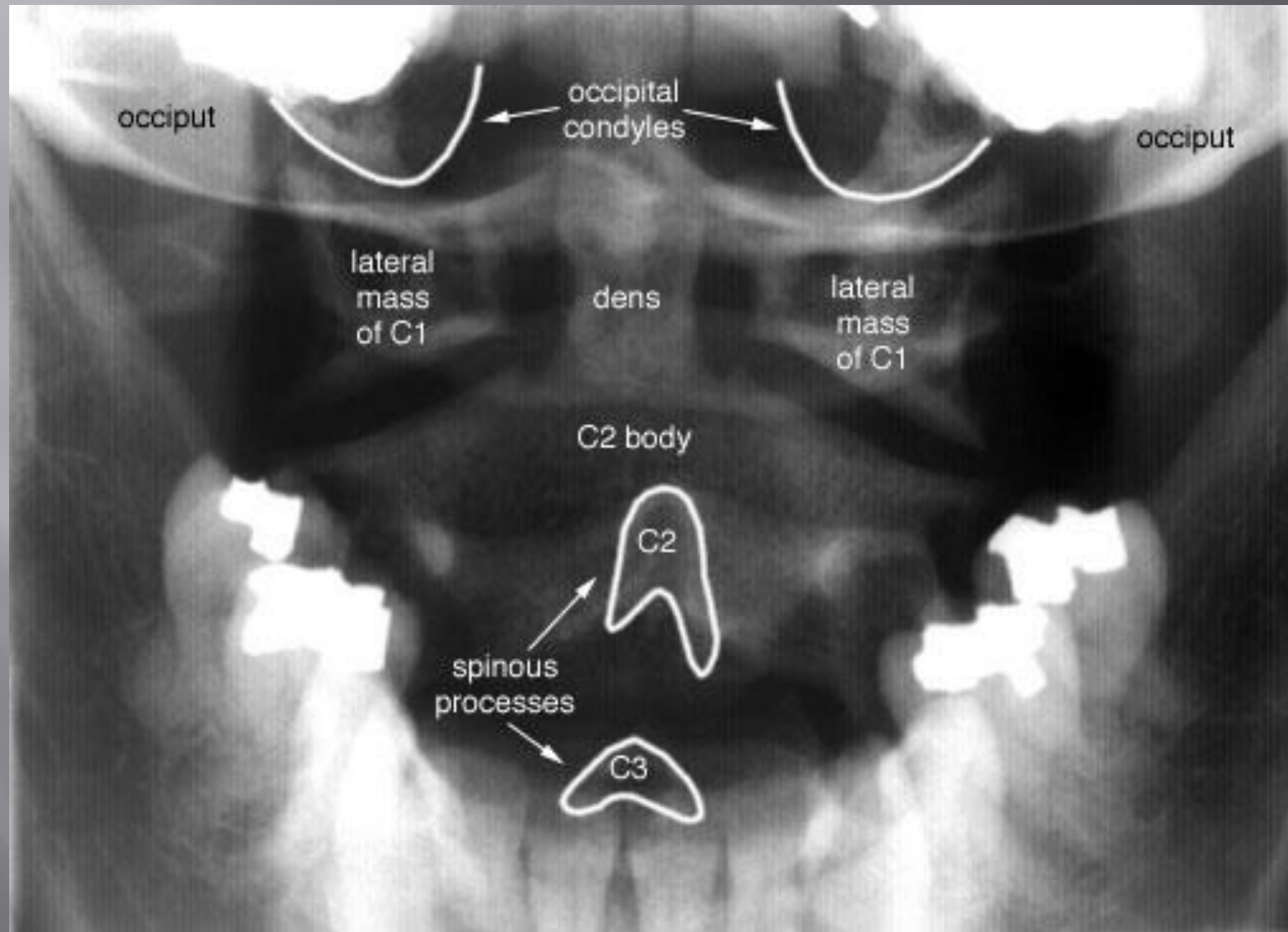
Cervical rib ?



Spinal line ALL..PLL..SL line



Open mouth (overhang 7.5m?)



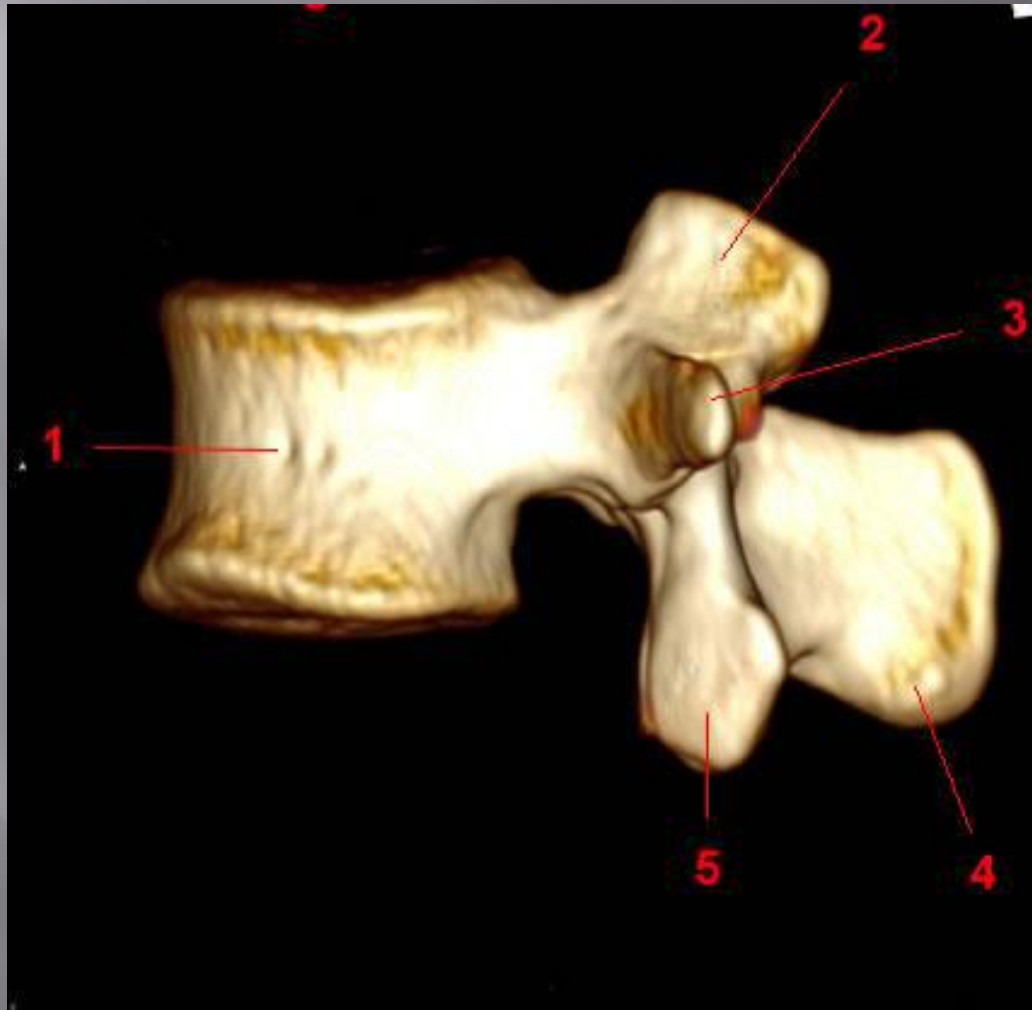
Facet arrangement
stacked parallelogram
vertebral artery low or high

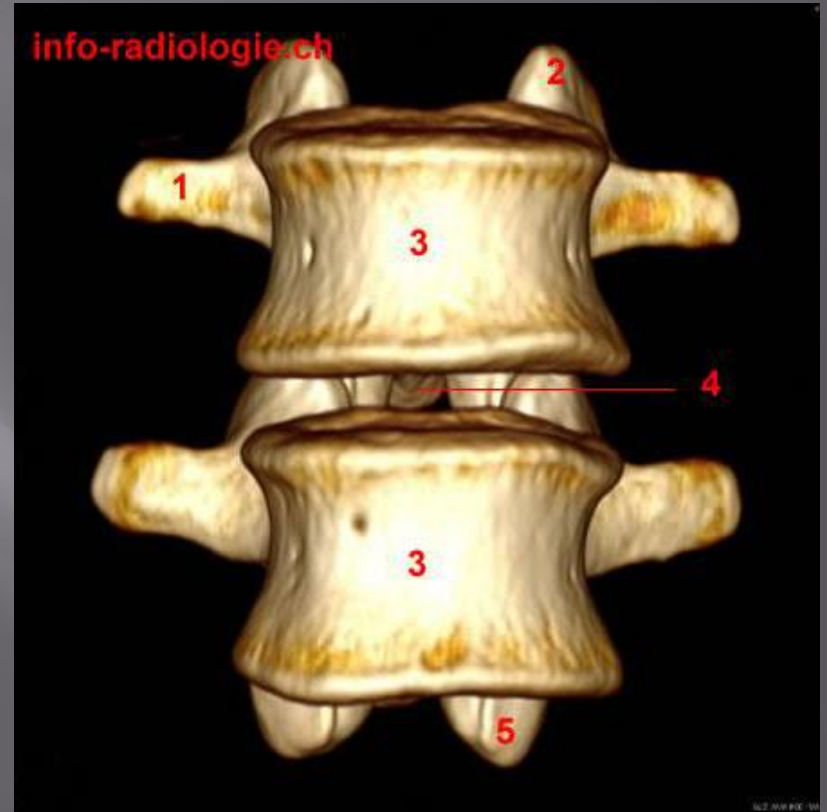
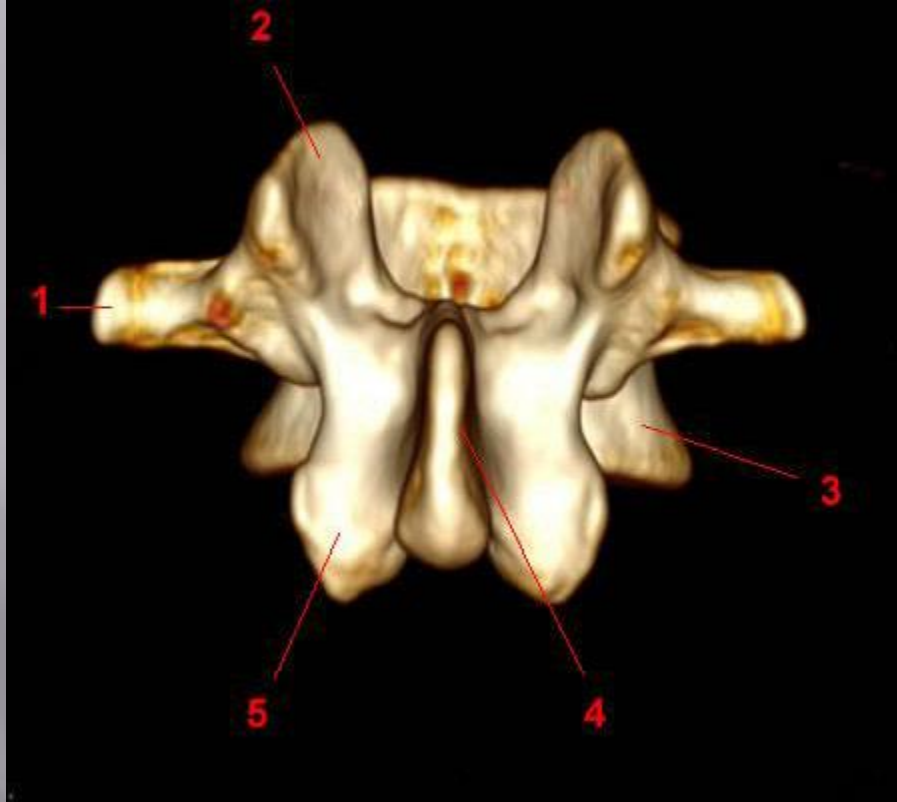


Spinal lines

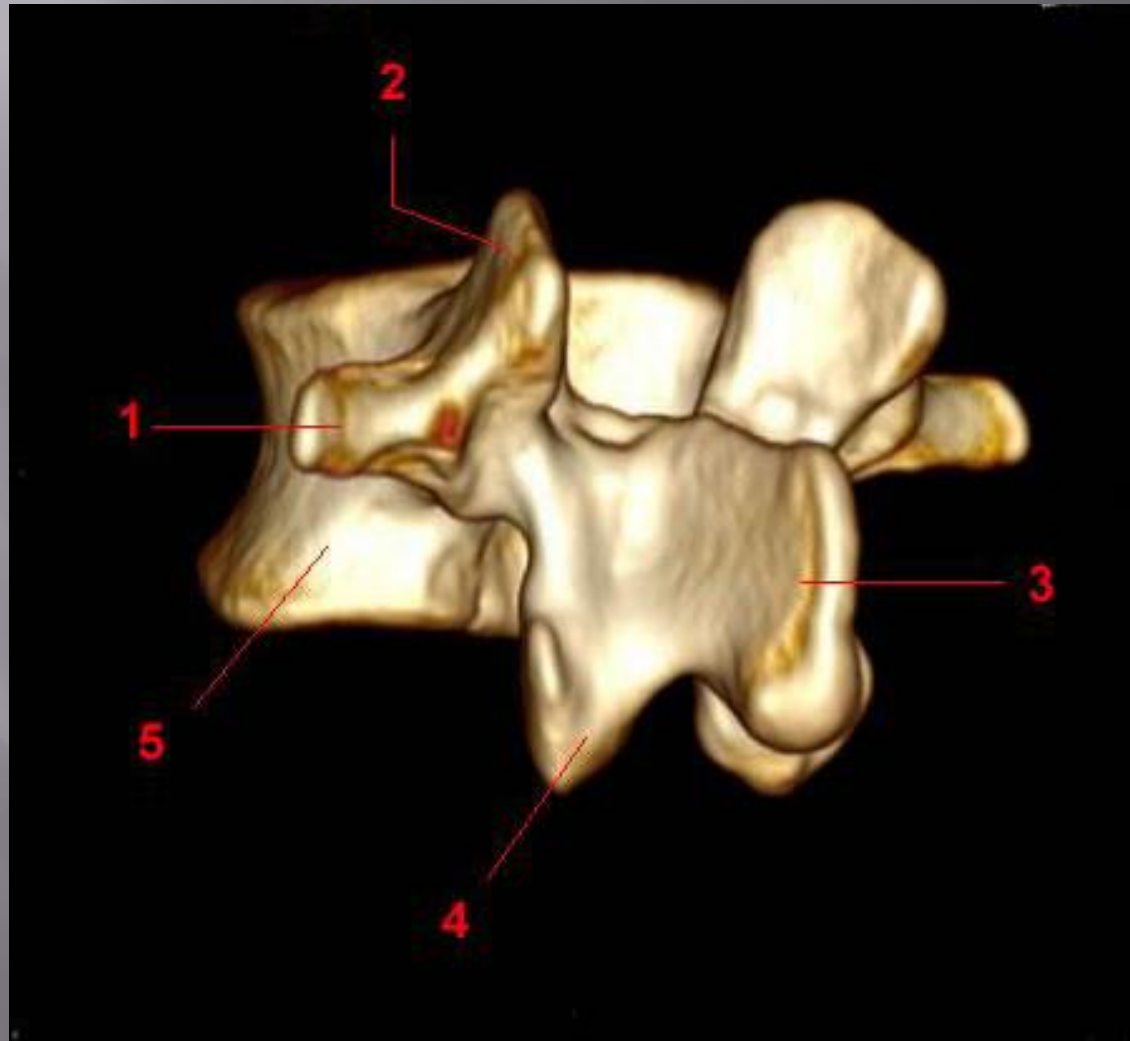


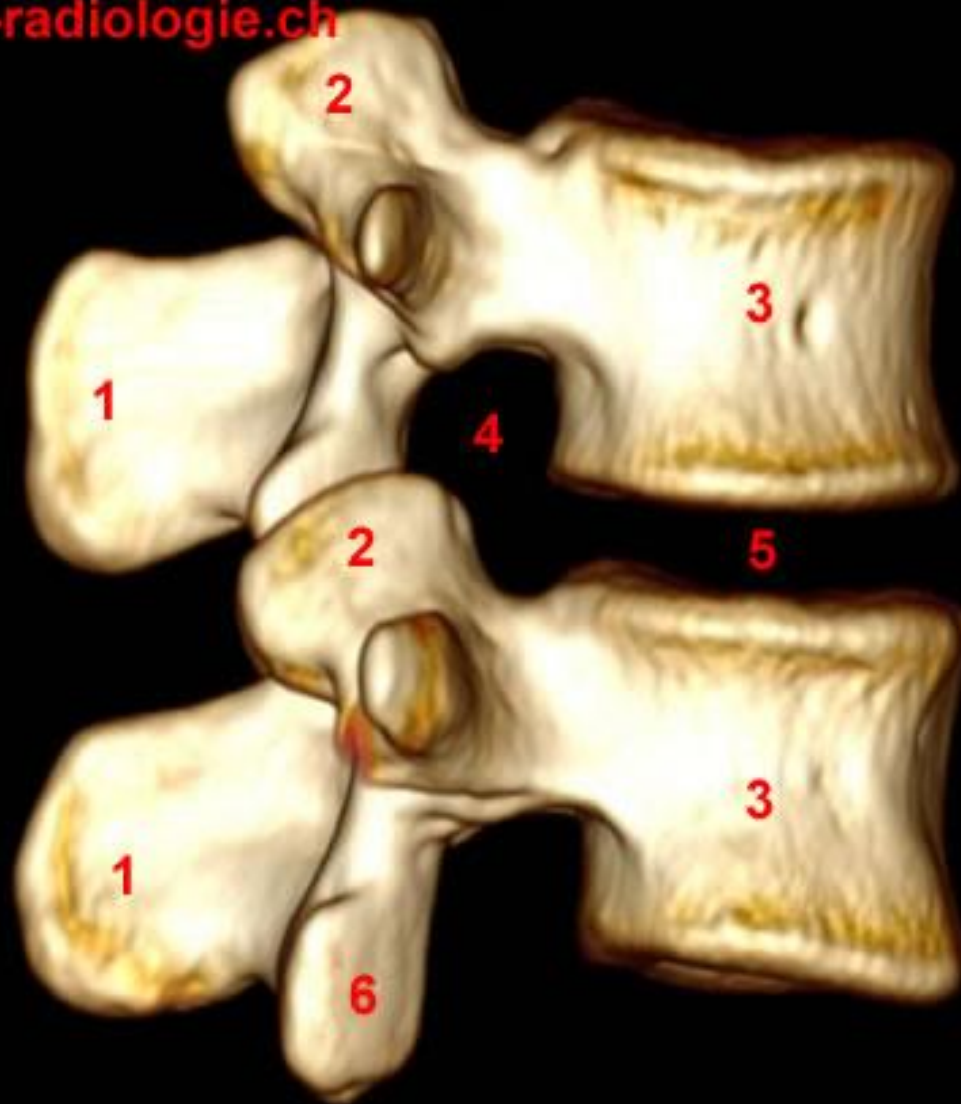
lumbar



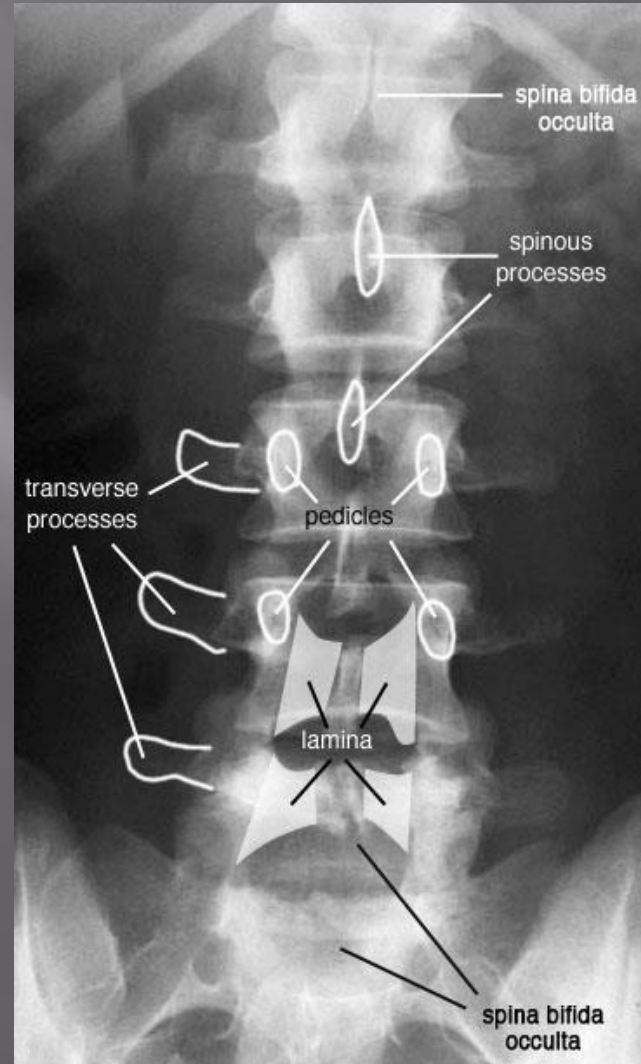
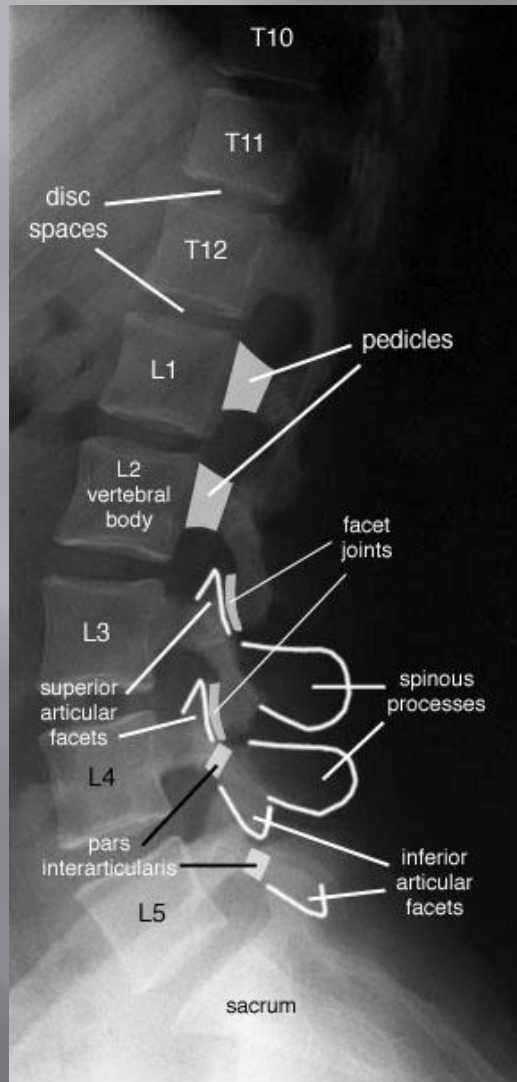


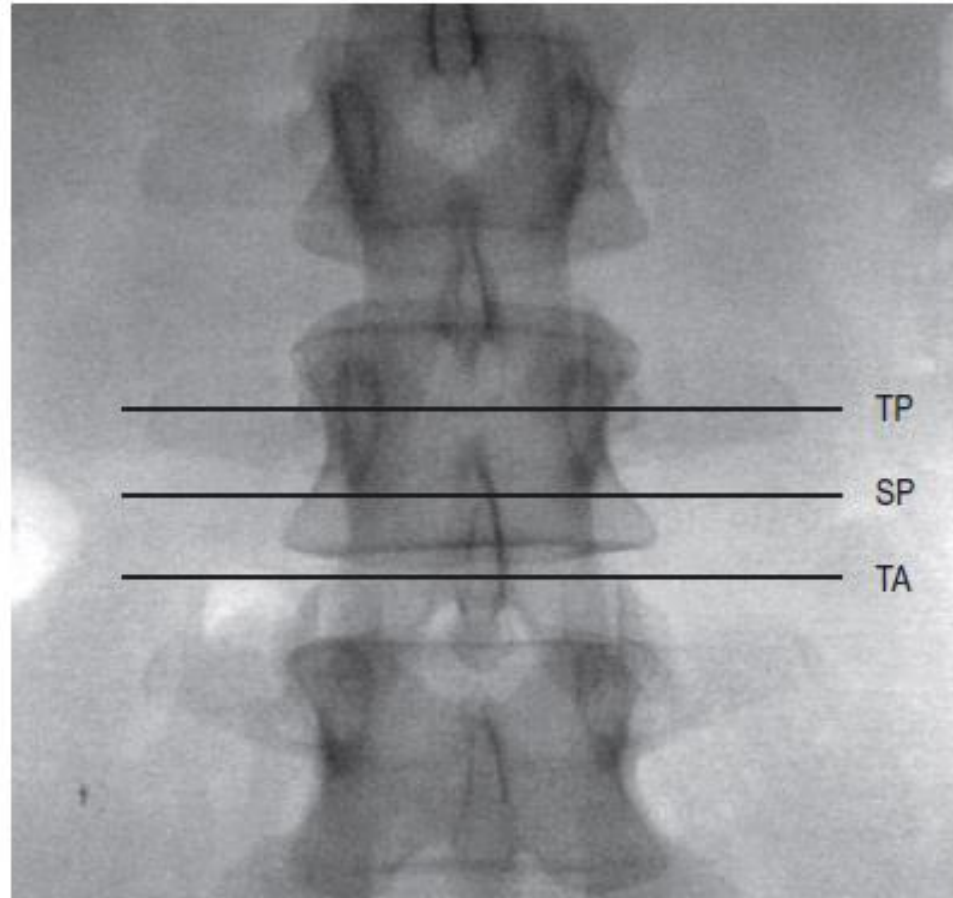
Scotty dog (pars)



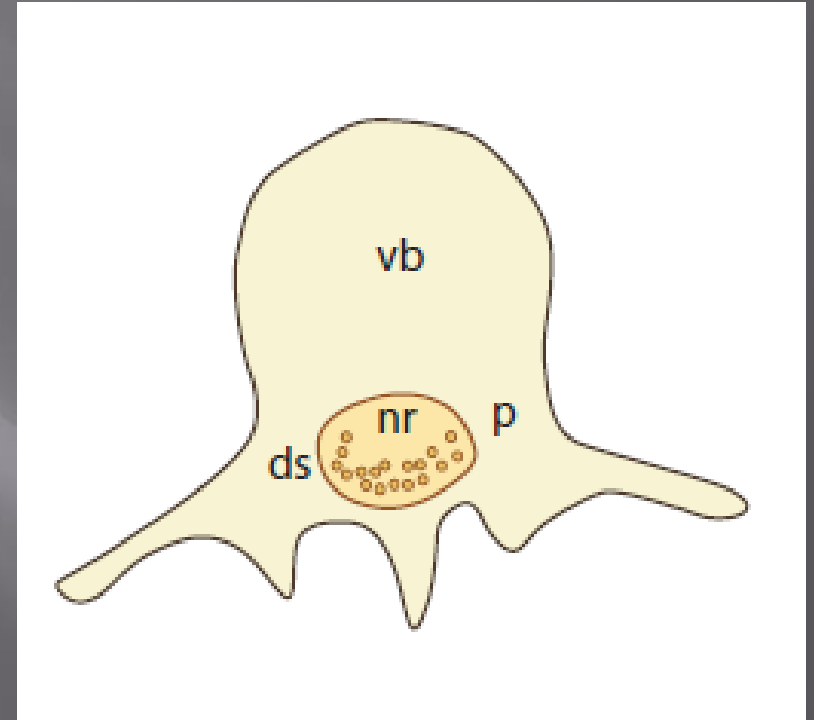


Standing Owl eyes

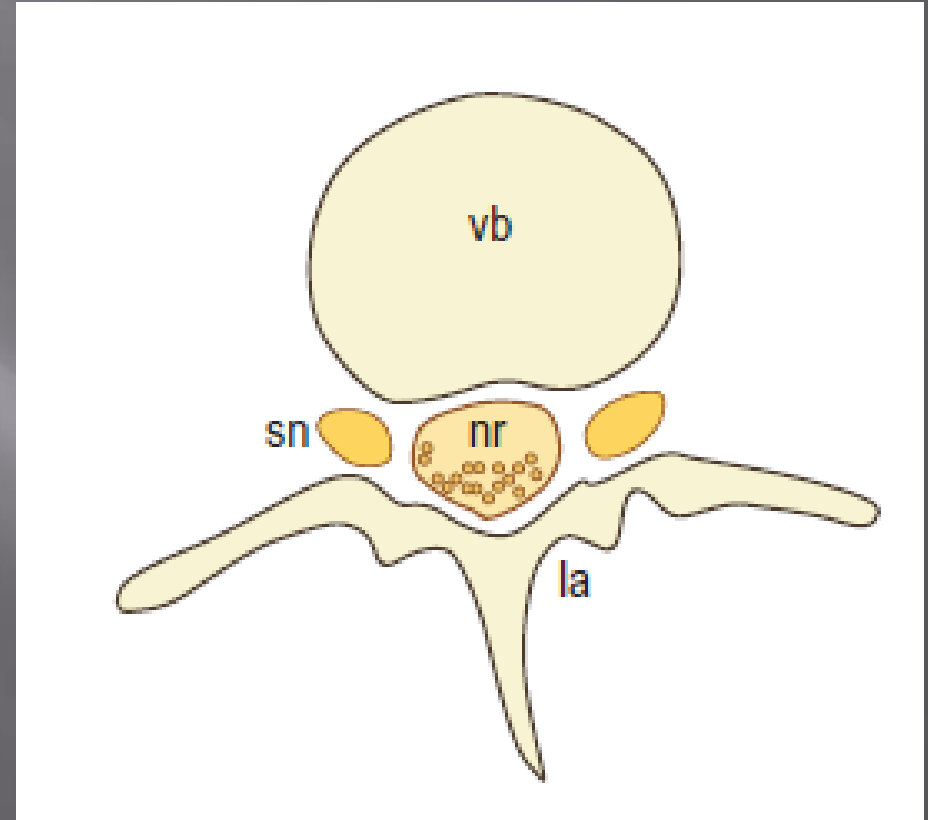




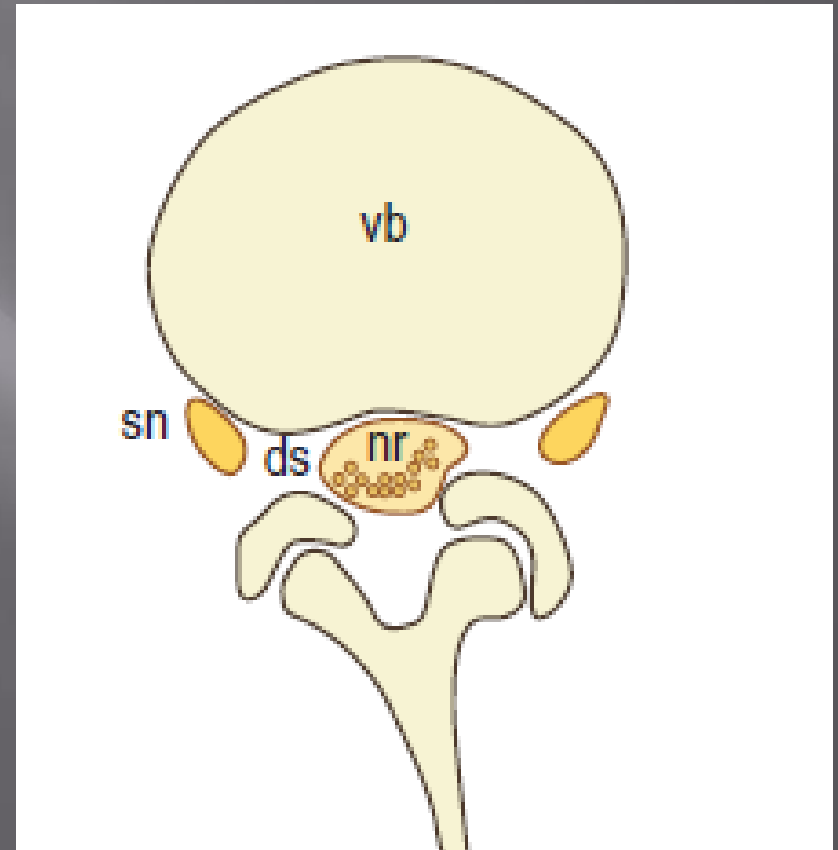
Trans pedicular



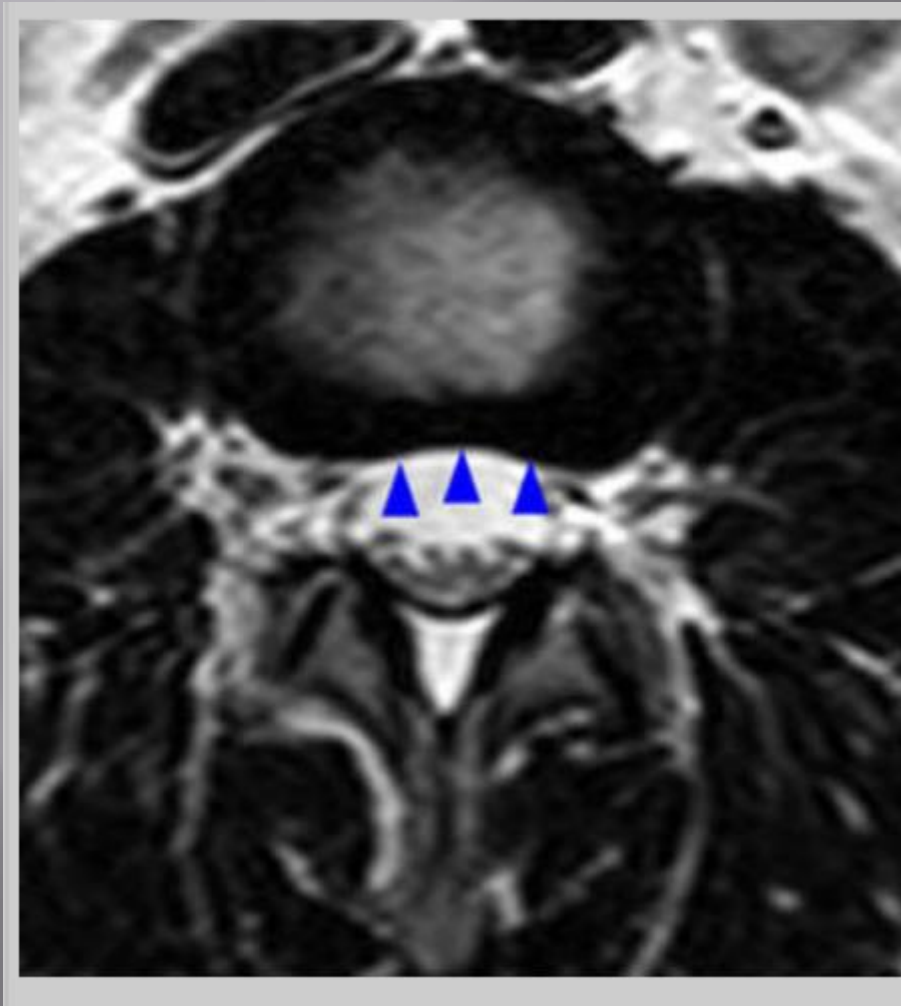
Trans foraminal



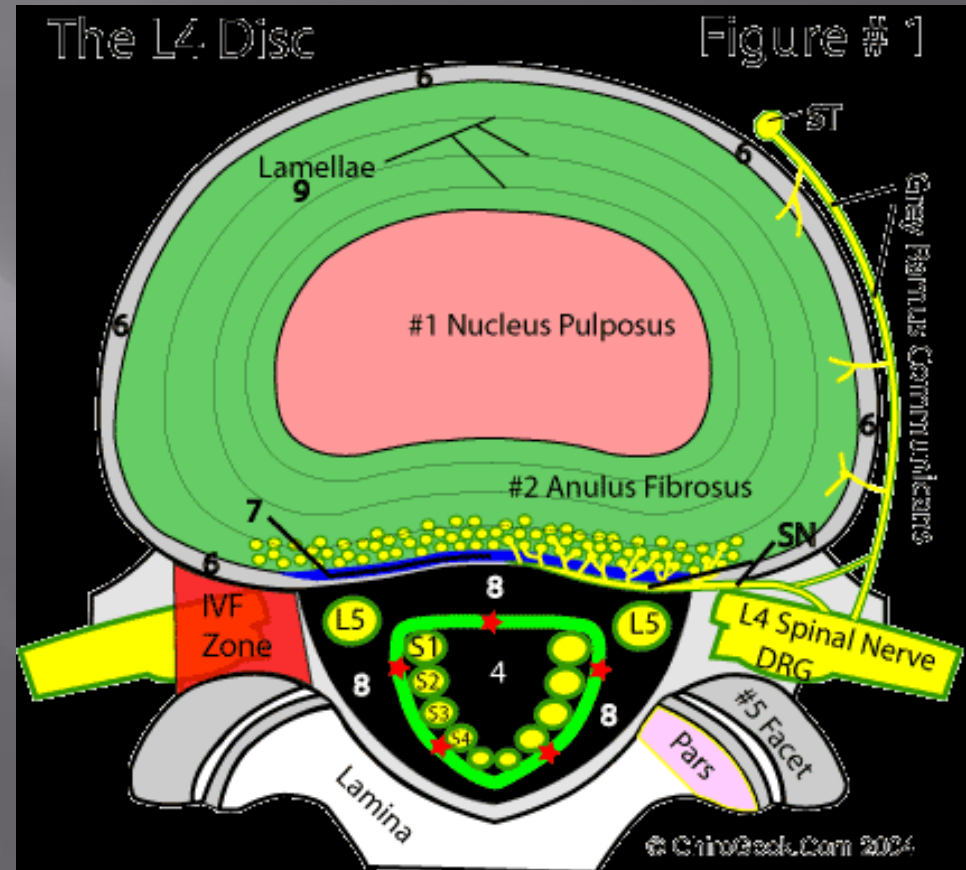
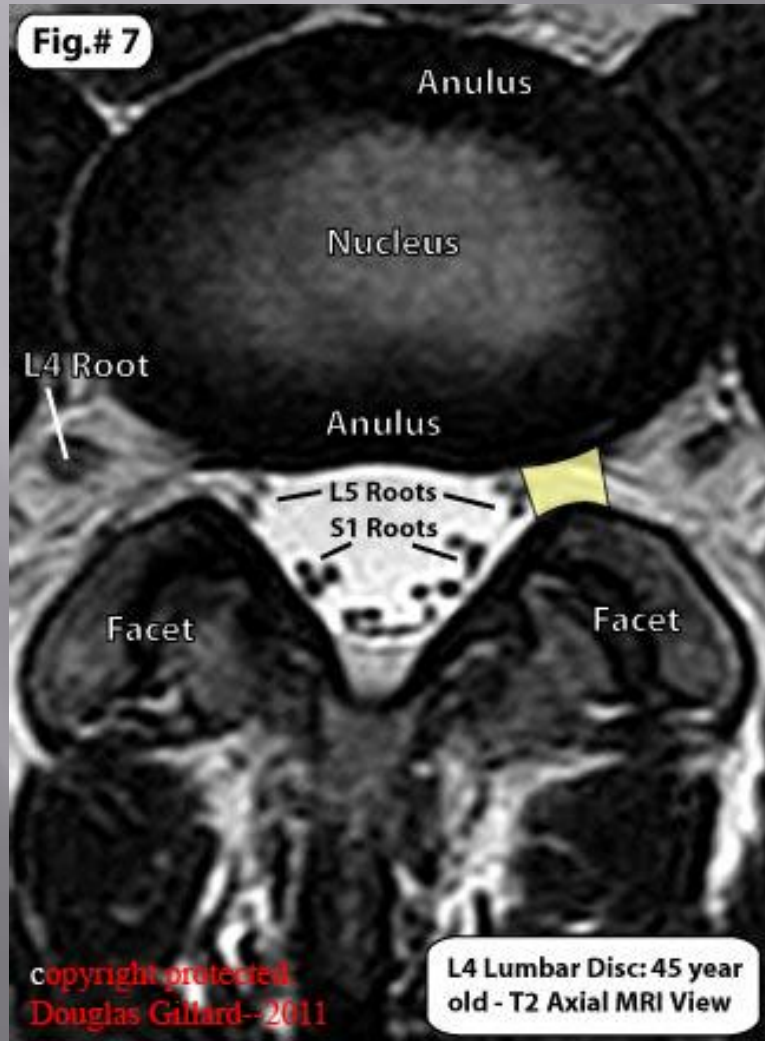
Trans articular (facet) sup facet impinge nerve



Normal axial & sagittal MRI



Exiting & traversing roots facet SUP , INF & disk



Sinuvevertebral nerve

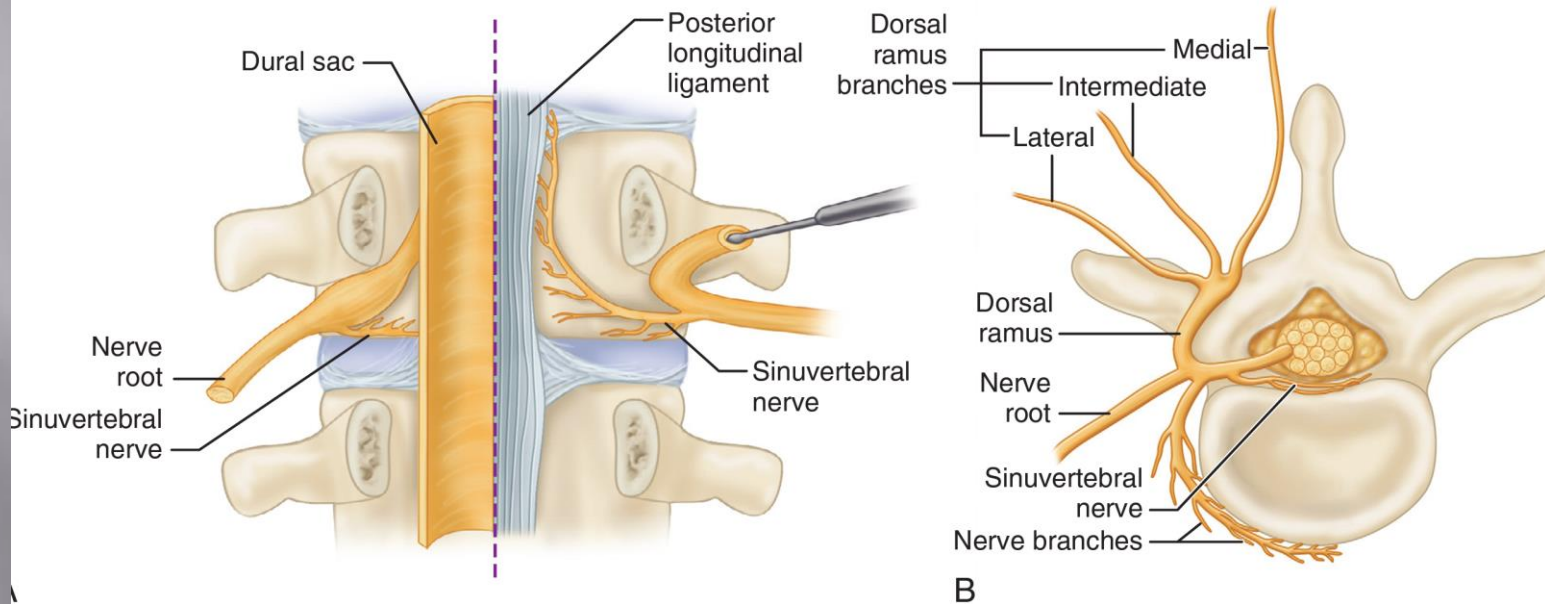


FIGURE 39-1 A. Dorsal view of lumbar spinal segment with lamina and facets removed. On left side, dura and root exiting a

roots

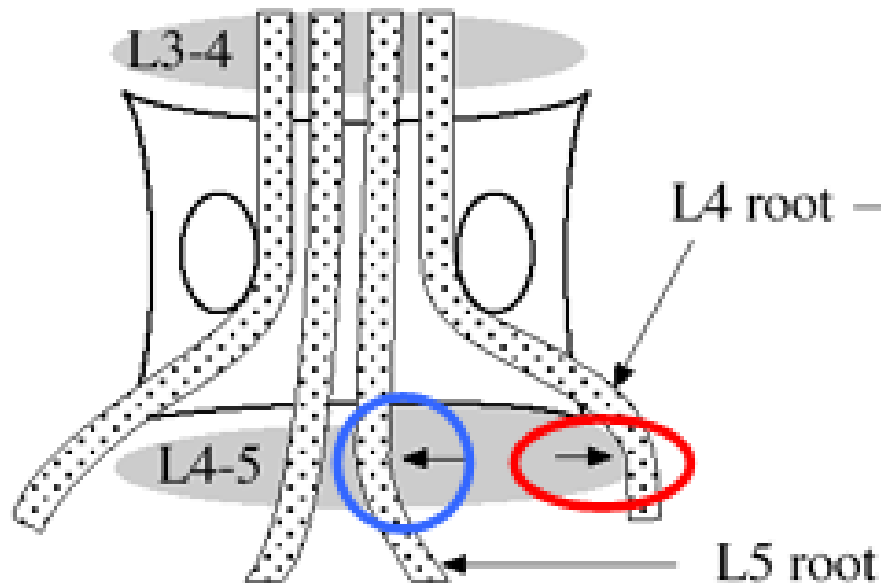


Figure 1

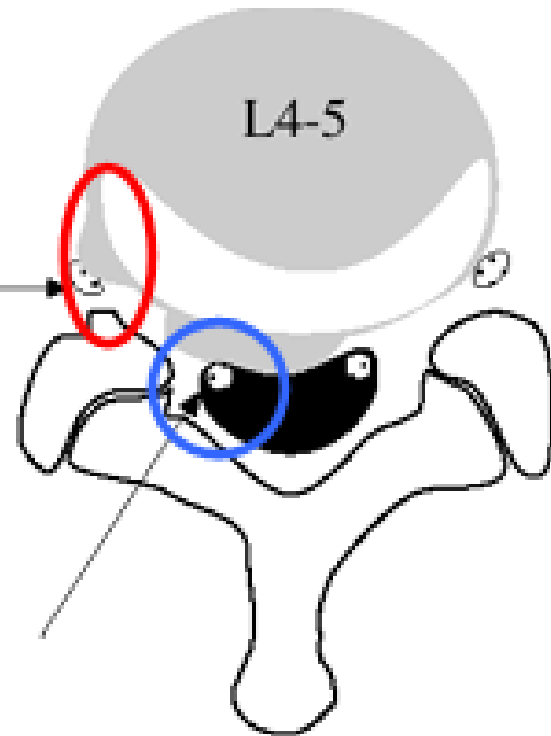
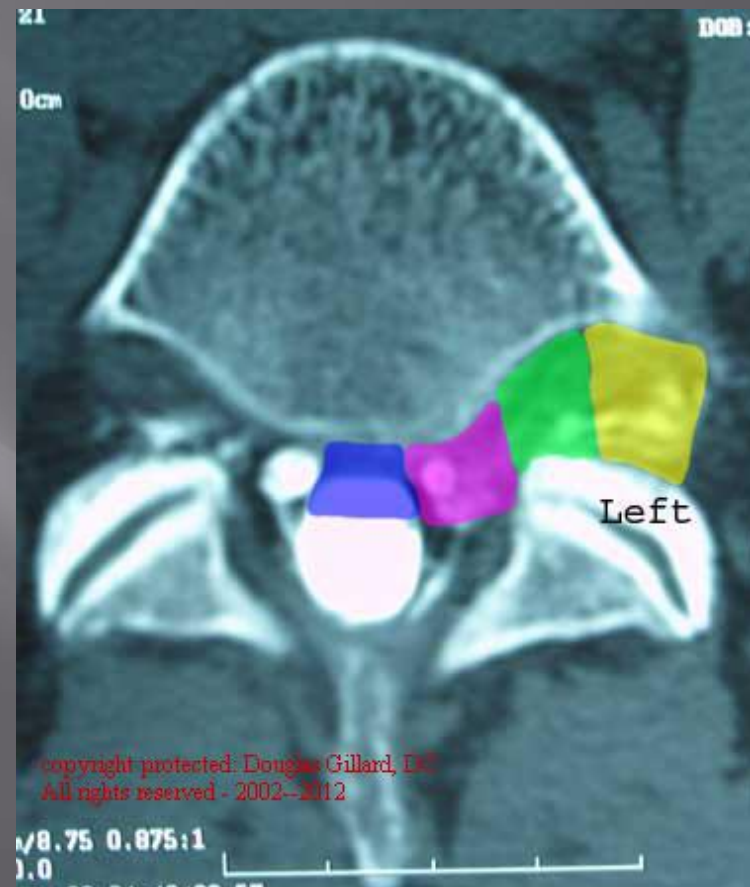
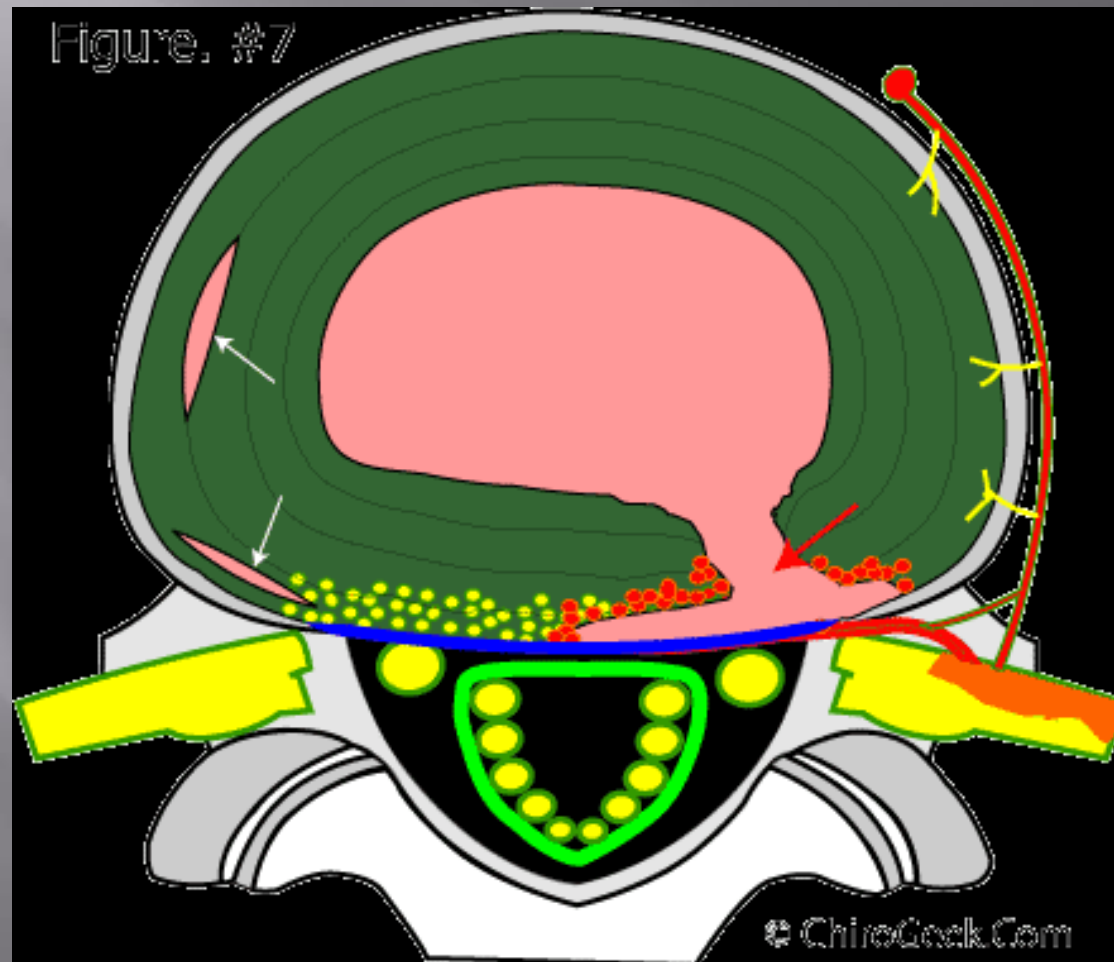


Figure 2

Foraminal zones

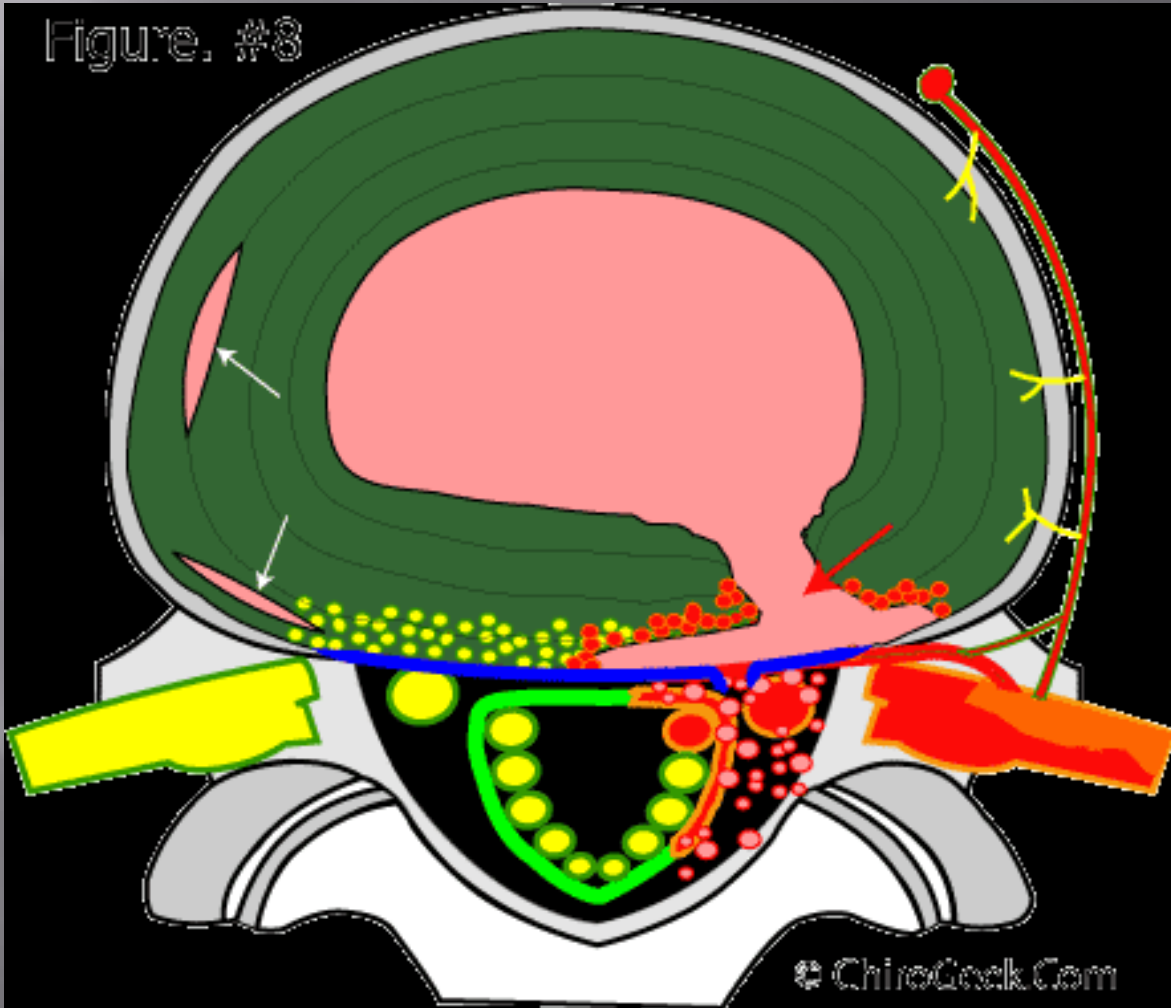


Internal disk disruption (IDD) black disk

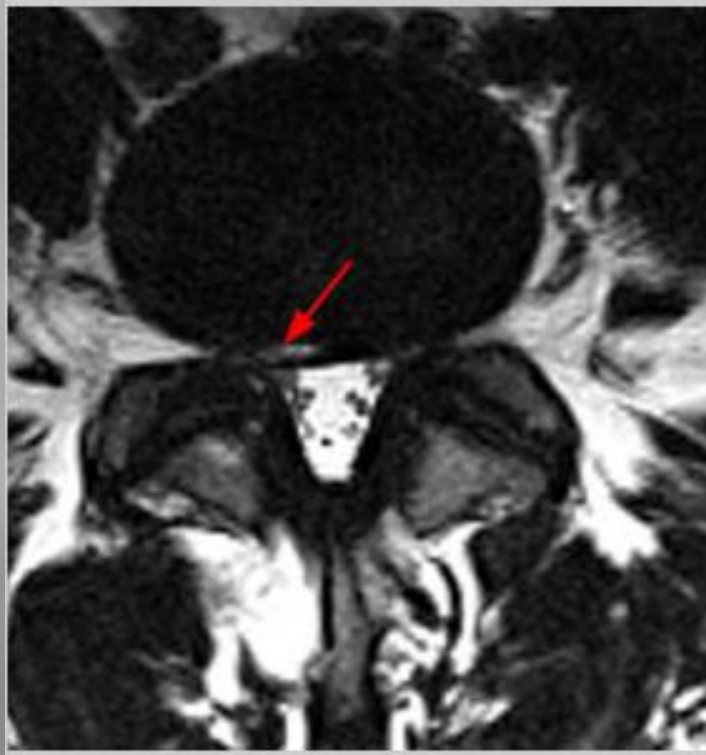


Fissure in disk chemical irritation

Figure. #8



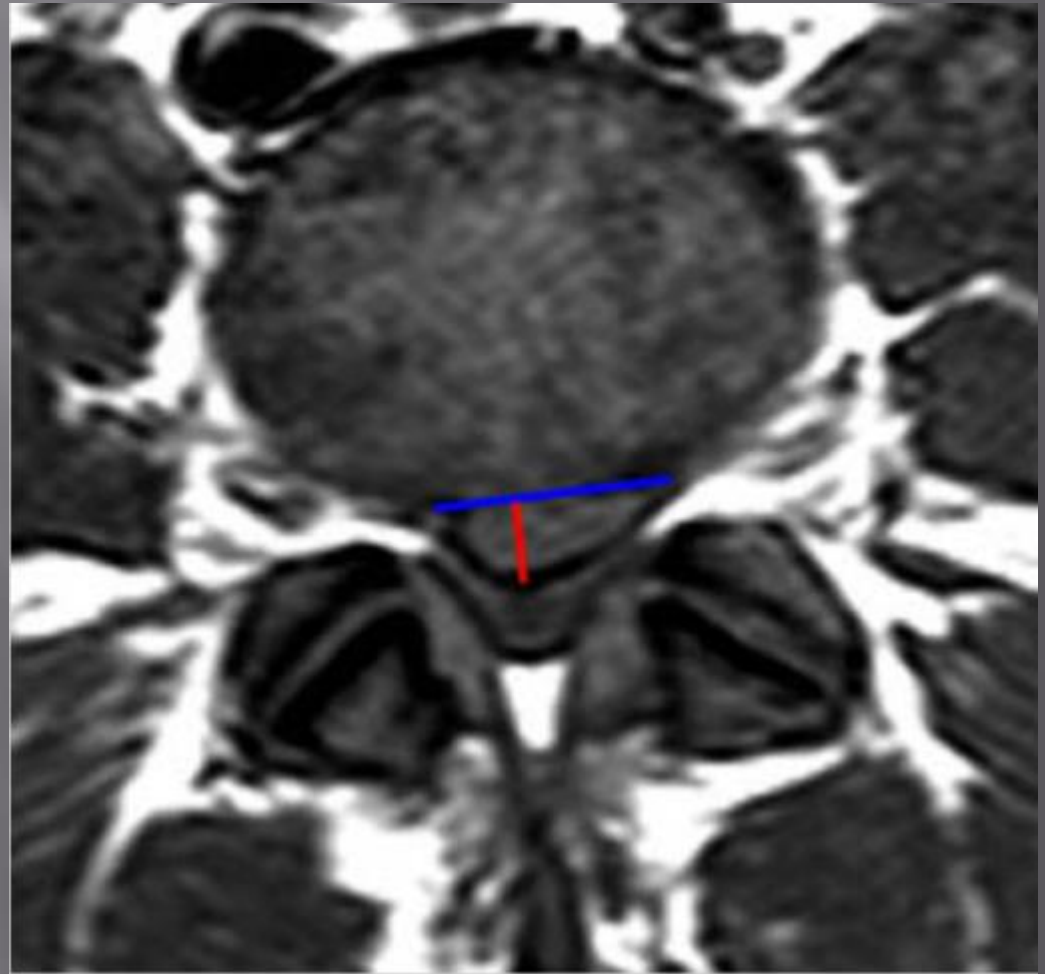
HIZ zone



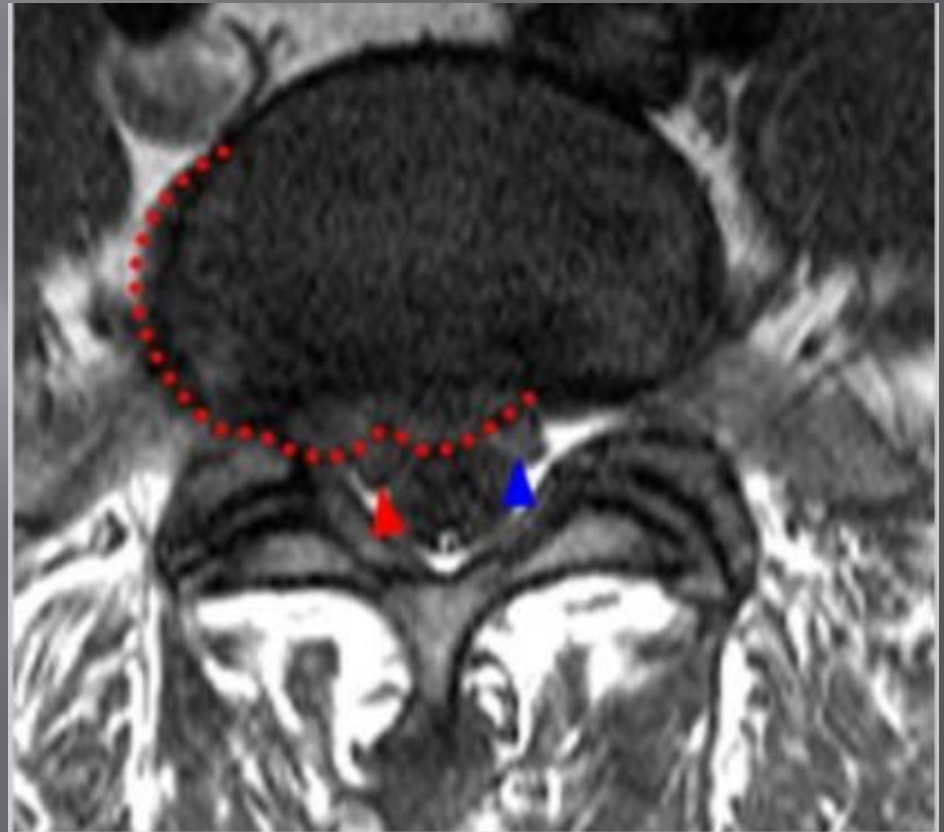
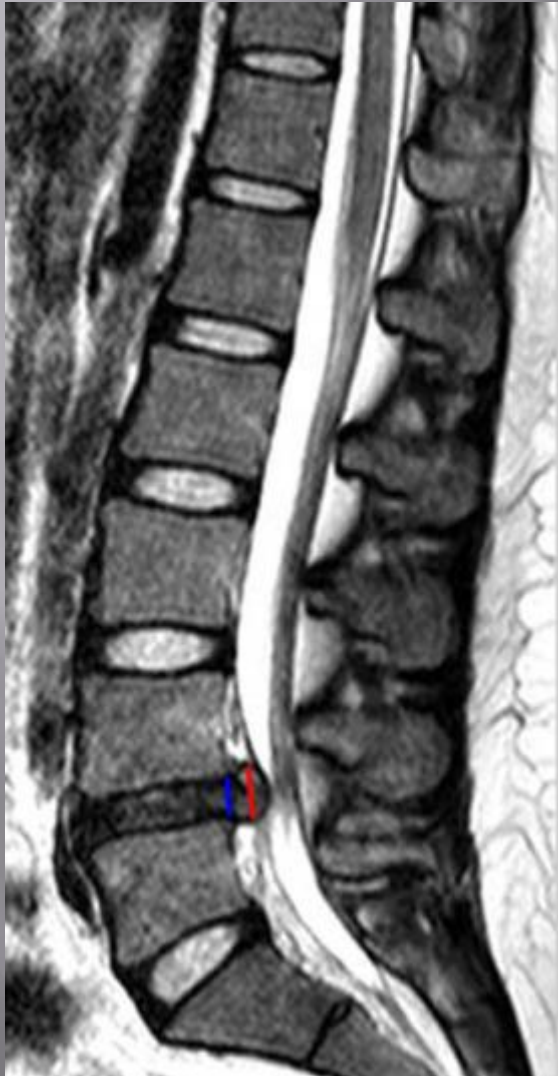
Bulging..protrusion..extrusion ..sequestration



protrusion



extrusion



- ▣ *1. examination and precaution and clearance*
- ▣ *2. emergency*
- ▣ *3. rule of thumb*
- ▣ *4. spinal shock*
- ▣ *5. sacral sparing*
- ▣ *6. Neurologic level*
- ▣ *7. Role of steroid injection (secondary hit)*

▣ Filling out paper

- GCS
- Other organ (seatbelt injury...falling..multilevel)
- objective examination (Motor & sensory & reflex)
- Subjective (radicular pain or myelopathic or N deficit)
- C5 (deltoid)..C6 (wrist EXT)..C7 (elbow EXT)..C8 (wrist flex)..T1 (inter osseous)
- C5 (LAT arm)..C6 (LAT forearm)...C7 (middle finger)..C8 (med forearm)..T1 (med arm)
- L3 (knee EXT)..L4 (ankle EXT)..L5 (1st toe ext)...S1 (1st toe flex)
- L3 (prox thigh)..L4 (knee & medial leg like MED malleolous)..L5 (lat leg & dorsal foot)...S1 (plantar & lat foot) like LAT malleolous

- ▣ Emergency (in 6 h) & precaution & clearance
 - Cauda equina
 - Conus medularis
 - Neurologic deficit progressive like in *Spinal hematoma or fracture displacement or retropulsive fragment or facet dislocation*..Most deficit in accident (90%)
 - *Facet DX if unilateral = radiculopathy ..can be skillfully neglected if late*
 - Clearance (cervical)...CT C0 to T4 in low GCS
 - ▣ Active ROM with out pain
 - ▣ Distracting injury..intoxication..

- ▣ Spinal shock
 - ▣ Depolarization
 - ▣ Timing (48 h)
 - ▣ Transvers reflex (Bulbo cavernous & Anal wink)
- ▣ Sacral sparing
 - S3 & S4 or saddle sensation
 - Anal contraction
 - *Complete or incomplete (spinal syndrom)*
- ▣ *Neurologic level*
 - *Intact and distal*
- ▣ *Steroid role*
 - *2nd HIT...complication (GI tract...infection)*
 - *Bolus & maintainance*
 - *Timing 3 or 8 hours*

- ▣ Seatbelt (shoulder & lap belt)
 - 3 or 2 point ?
 - Cantilever in children (rear and middle seat)
 - Pretensioner
- ▣ head restraint
 - prevent EXT injury
 - Active
- ▣ Collar and backboard
 - In AS people fix in previous neck shape
 - Timing of backboard (2h)
- ▣ Log rolling in examination
- ▣ Watershed area (T4-T9)