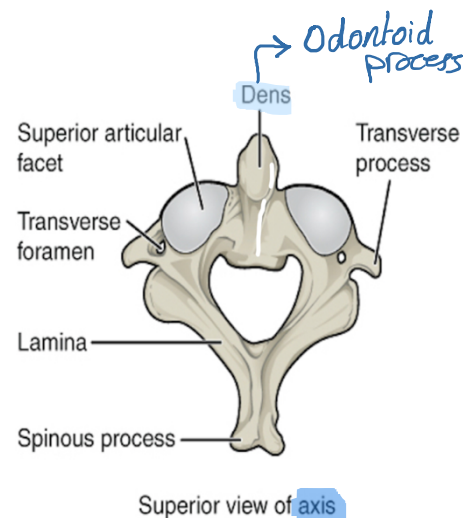
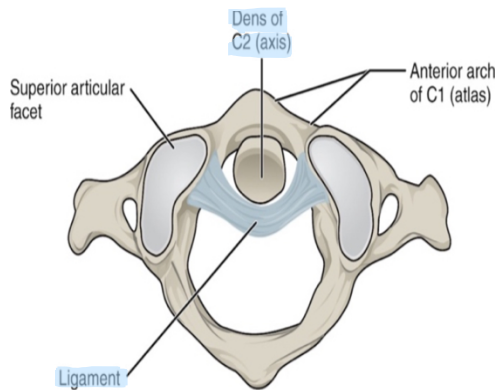
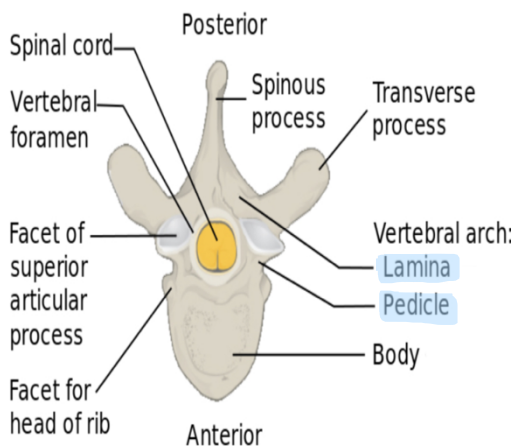


Spine



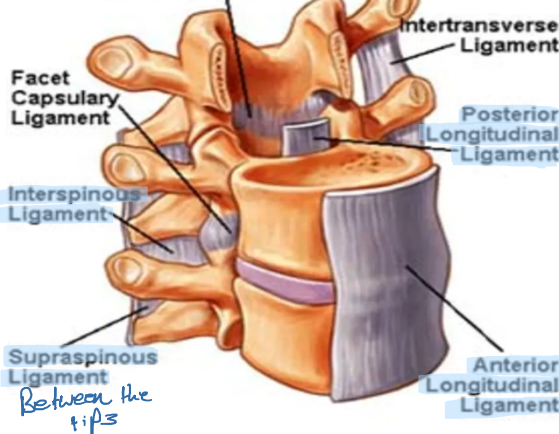
Superior view of atlas

Superior view of axis

Break the tips → clay shovellers
 Avulsion of tip → between laminae

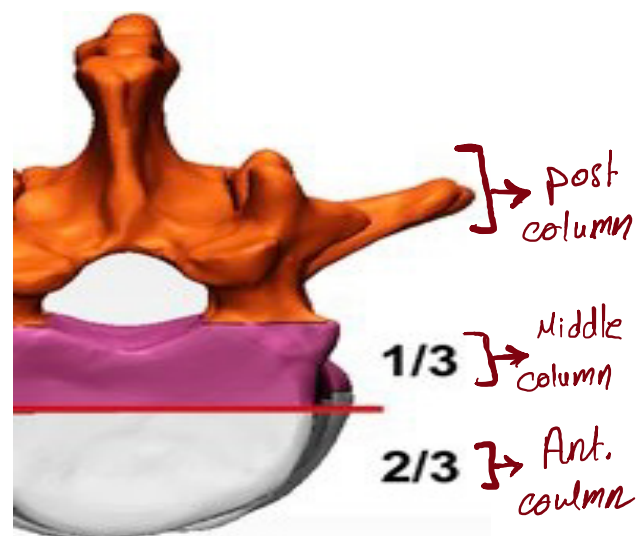
it doesn't have body or spinous process

Ligamentum Flavum → May cause stenosis.



stronger at T levels
 same as Ahh

Thinner & wider at disc
 Thicker & narrow at body



Spinal injury

M:F 4:1 Due to Falls down, road accidents, sport injury, knife & bullets.
 ~ cervical (6)

Classification:

According to....

significance?

Stability?

Neural involvement?

Minor Fx in a:

Major Fx in a:

Stable:

Unstable:

Intact.

Damaged

- spinous / transverse process.
- articular process.
- Body... compression,
- burst, dislocation.

One column 2 or more.

Complete Incomplete

-Ant. SCS -Post. SCS
 -Central SCS -BSS -CES

➔ Clinical presentation:

History of trauma, LOC, pain on movement, , disturbed sensation, inability to move a part, or pass a urine , difficult breathing/ if cervical.

- Sensory level / Motor loss bellow / Hypotonia bellow / Areflexia below ► **CORD** Damage
- Sensory loss in dermatome / Motor loss in Ms / Hypotonia in MS / Reflx Loss ► **ROOT** Damage

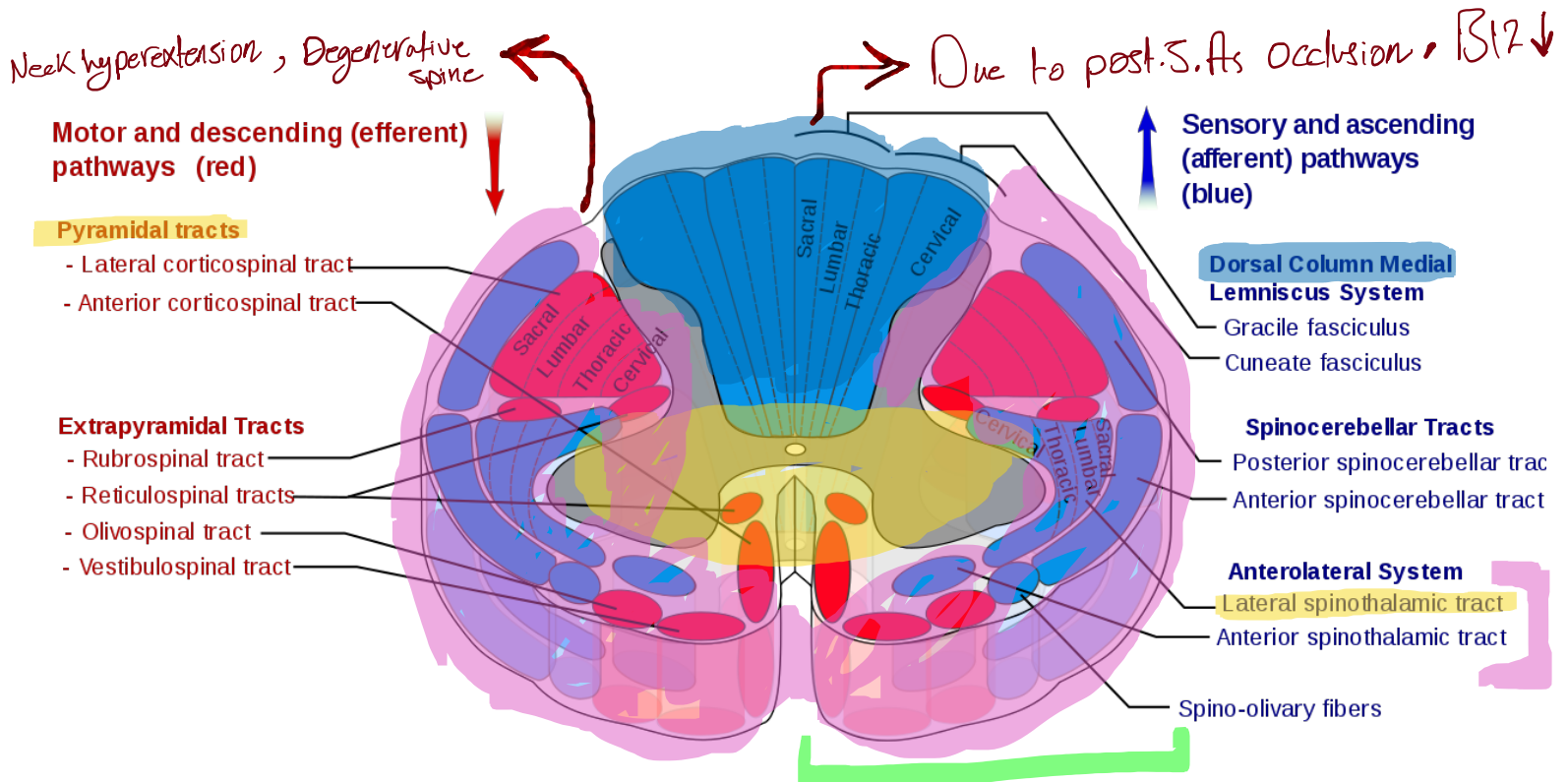
Central Cord Syndrome

- 1- bilateral motor weakness (UL >> LL).
- 2- loss of pain and temperature.

MC incomplete Type

Posterior Cord Syndrome

- 1- loss of fine touch, proprioception, vibration, pressure
- 2- ataxia with positive roomberg sign



Anterior Cord Syndrome

- 1- bilateral loss of pain, temperature sensation, below
- 2- bilateral UMN dysfunction (spastic), below
- 3- bilateral LMN deficits (flaccid)/ ant horns. at the level
- 4- autonomic dysfunction.

↳ Ant.S.A Occlusion
or hyper flexion, Disk prolapse

Brown-Sequard Syndrome / Hemisection

- 1- ipsilateral loss of all sensations, at the level
- 2- ipsilateral flaccid paralysis, at the level
- 3- ipsilateral spastic paralysis/ babinski, below
- 4- contralateral loss of pain, temperature, below
- 5- ipsilateral loss of proprioception, pressure, below

↳ penetrating trauma

➔ **Diagnosis :**

Do **X-ray** >> first line **CT** >> show the extent of injury/ stability **MRI** >> cord injury

BE AWARE !! USE Neck Collar , ATLS Guidelines

➔ **Management :**

Without Neurological Deficit ▶ Stable injury ? Minor Fx ▶ rest , analgesia

▶ Unstable injury !? Major Fx ▶ traction & maintenance / screws, plates

▶ If not, open reduction

With Neurological Deficit. ▶ Stable injury ? conservative, methylprednisolone iv + see BP, RR

If high injury >> tracheostomy, analgesia, surgery if deteriorated or detects the compressing element

▶ Unstable injury !? All + reduction by surgery and immobilization

by plates & screws + decompression in case of incomplete lesions

Cauda equina and conus medullaris

syndromes:

- Patients with lesions affecting only the cauda equina can present with a polyradiculopathy with pain, radicular sensory changes, asymmetric lower motor neuron-type leg weakness, and then -> sphincter disturbances.
- Lesions affecting only the conus medullaris cause early disturbance of bowel/bladder function.

Complete spinal cord transection syndrome:

- The classic syndrome of quadriplegia with upper and lower extremity areflexia; anesthesia below the affected level.
- Neurogenic shock (ie, hypothermia and hypotension without compensatory tachycardia);
- Loss of rectal and bladder sphincter tone.
- Respiratory insufficiency ?
- Spinal shock.