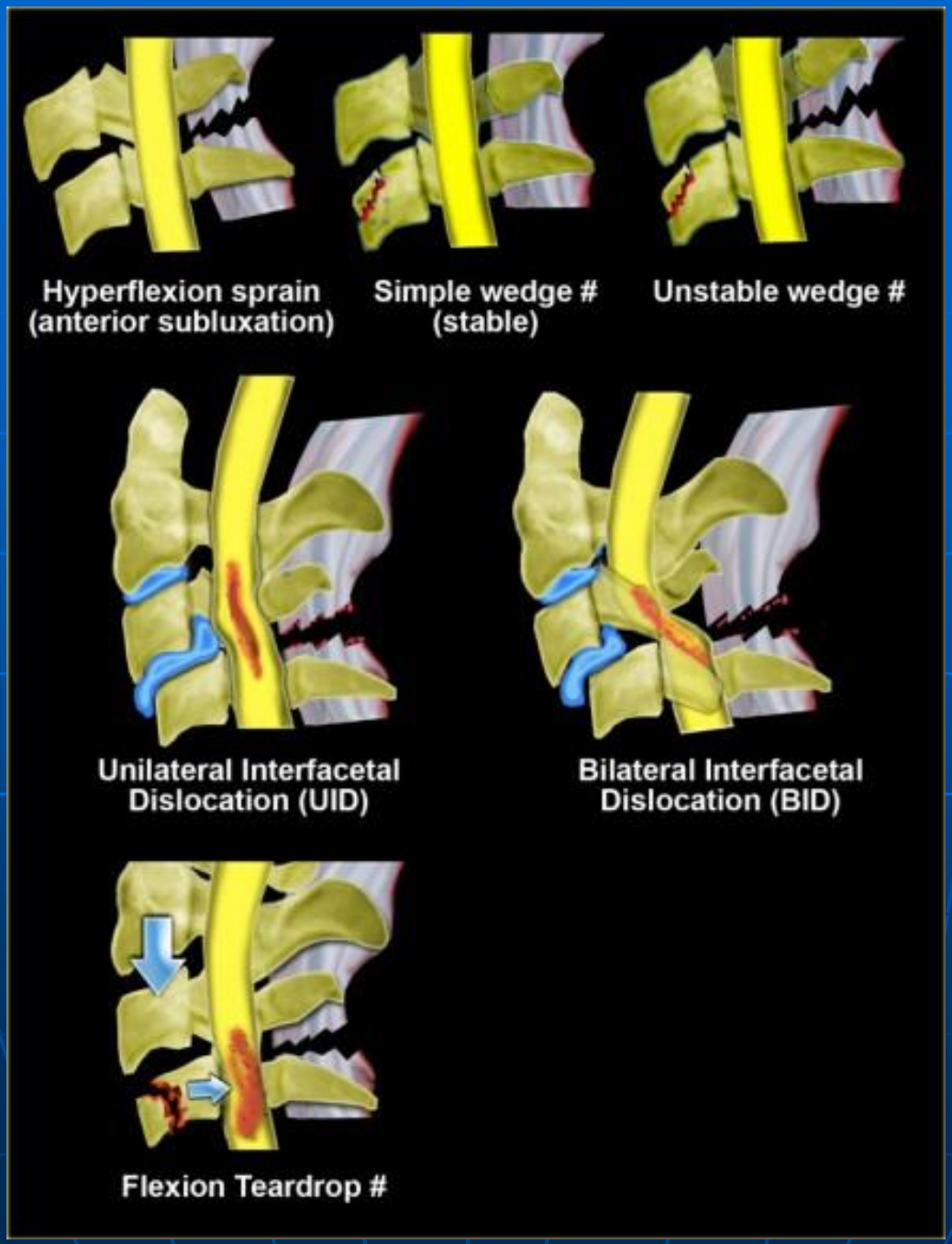
Cervical injury

- Most cervical spine fractures occur predominantly at two levels.
- One third of injuries occur at the level of C2.
- One half of injuries occur at the level of C6 or C7.

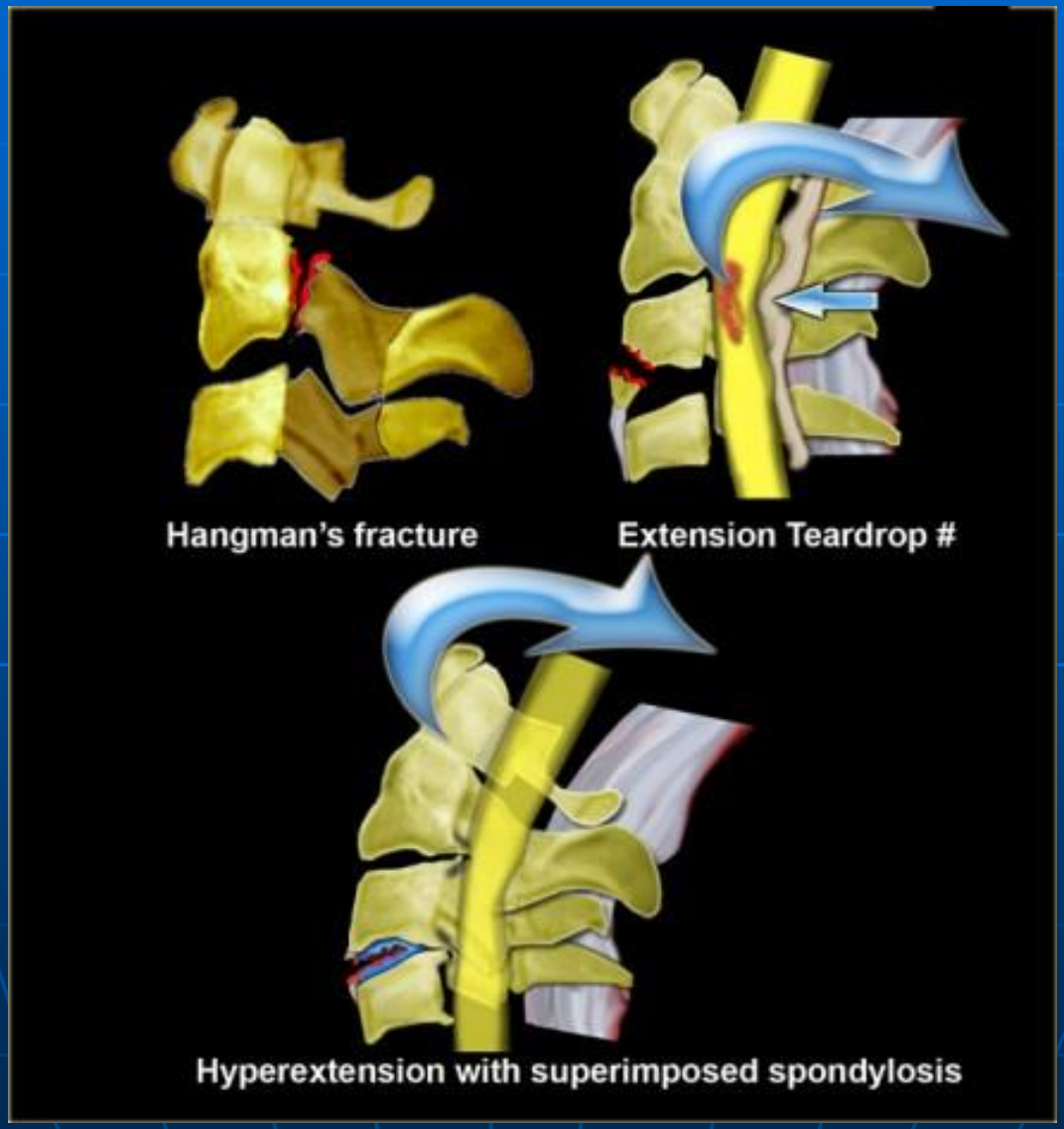
Flexion injuries

- **Anterior subluxation**
  - occurs when the posterior ligaments rupture.
    Since the anterior and middle columns remain intact, this fracture is stable.
- **Simple wedge fracture**
  - is the result of a pure flexion injury. The posterior ligaments remain intact. Anterior wedging of 3mm or more suggests fracture. Increased concavity along with increased density due to bony impaction. Usualy involves the upper endplate.
- **Unstable wedge fracture**
  - is an unstable flexion injury due to damage to both the anterior column (anterior wedge fracture) as the posterior column (interspinous ligament).
- **Unilateral interfacet dislocation**
  - Is due to both flexion and rotation.
- **Bilateral interfacet dislocation**
  - is the result of extreme flection. BID is unstable and is associated with a high incidence of cord damage.
- **Flexion teardrop farcture**
  - is the result of extreme flection with axial loading. It is unstable and is associated with a high incidence of cord damage.
- **Anterior atlantoaxial dislocation**


Hyperflexion sprain
(anterior subluxation)
Simple wedge #
(stable)
Unstable wedge #
Unilateral Interfacetal
Dislocation (UID)
Bilateral Interfacetal
Dislocation (BID)
Flexion Teardrop #

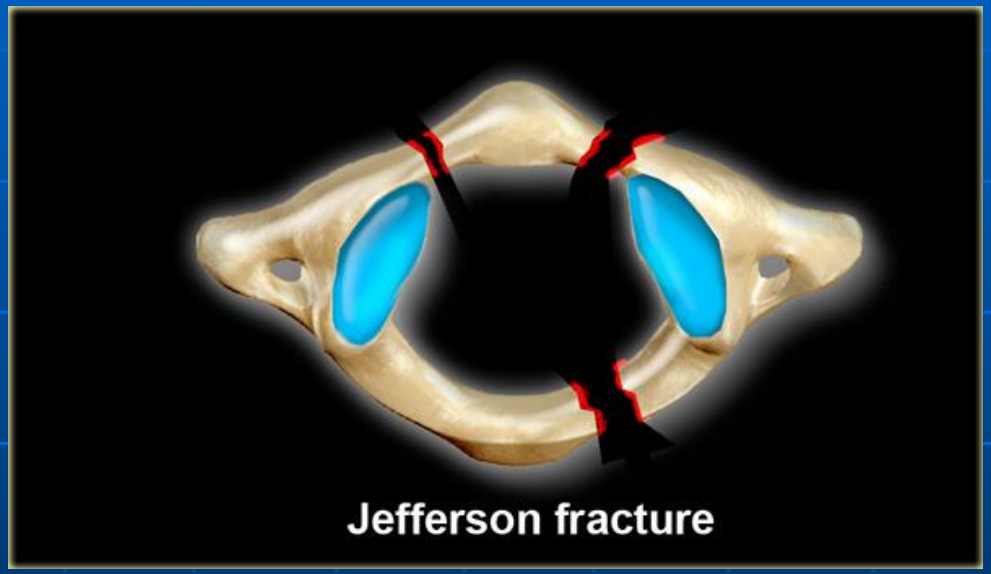
Extension injuries

- Hangman's fracture
  - Traumatic spondylolisthesis of C2.
- Extension teardrop fracture
- Hyperextension in preexisting spondylosis
  - 'Open mouth fracture'.


Hangman's fracture
Extension Teardrop #
Hyperextension with superimposed spondylosis

Axial compression injuries

- **Jefferson fracture** is a burst fracture of the ring of C1 with lateral displacement of both articular masses.
- **Burst fracture at lower cervical level**



Unstable fractures

- **Flexion**
  - Bilateral interfacetal dislocation
  - Flexion teardrop fracture
  - Wedge fracture with posterior ligamentous rupture
- **Extension**
  - Odontoid fracture type II
  - Hangman's fracture
  - Extension teardrop fracture
- **Vertical compression**
  - Burst fracture, e.g. Jefferson fracture