VelarityHCS

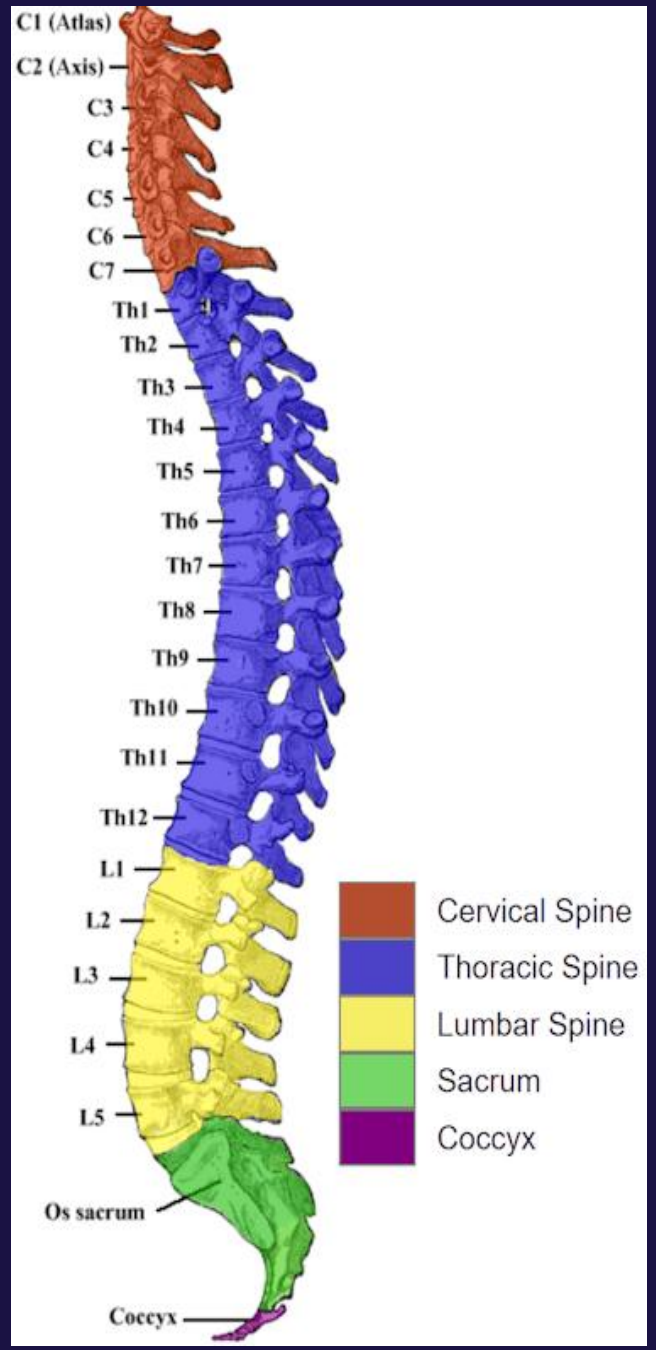
SPINAL COLUMN INJURIES

Enhancing Patient Outcomes Through Detailed Data Analysis

OBJECTIVES

- Review anatomy of spinal column
- Observe the different fractures
- Discuss the ICD-10-PCS codes

PURPOSE


C1 (Atlas)
C2 (Axis)
C3
C4
C5
C6
C7
Th1
Th2
Th3
Th4
Th5
Th6
Th7
Th8
Th9
Th10
Th11
Th12
L1
L2
L3
L4
L5
Os sacrum
Coccyx
Cervical Spine
Thoracic Spine
Lumbar Spine
Sacrum
Coccyx

PURPOSE

- Structural support
- Protection of the spinal cord
- Movement and flexibility
- Shock absorption
- Support for nerves and blood blow

ANATOMY

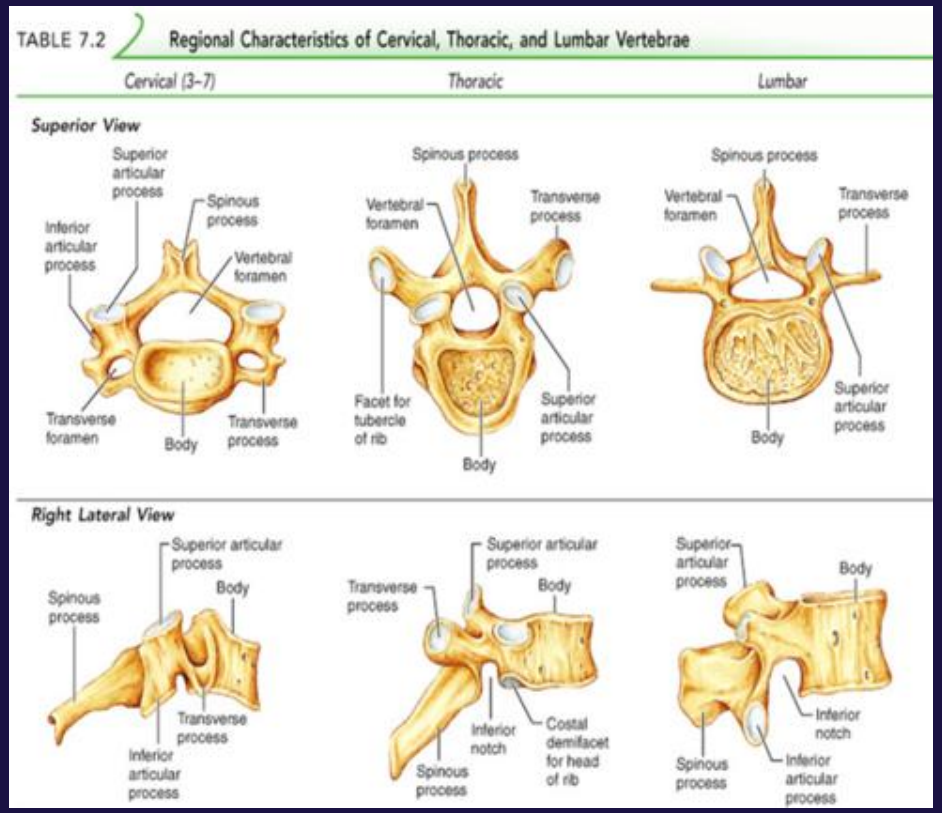
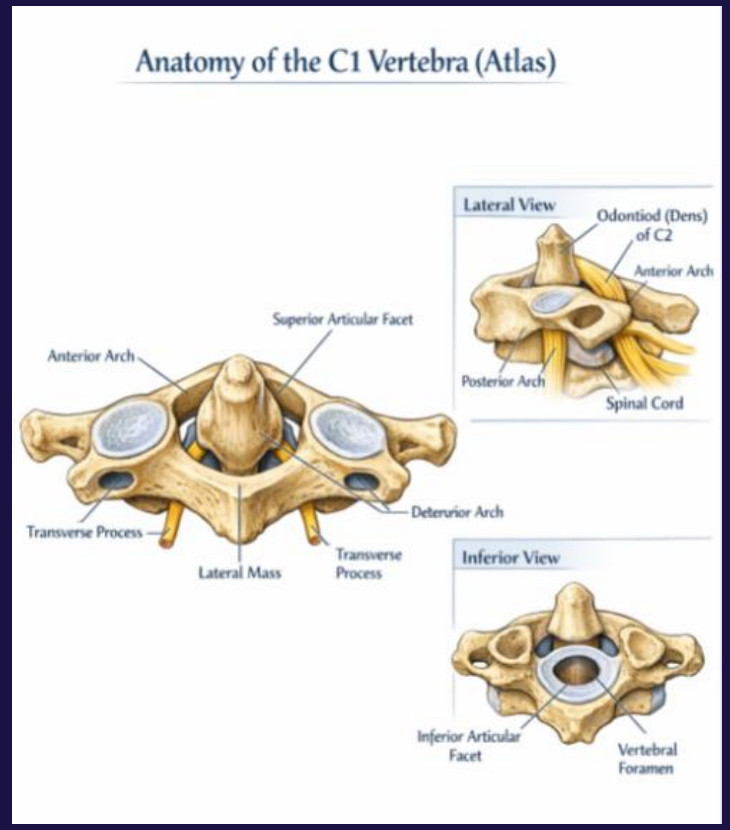
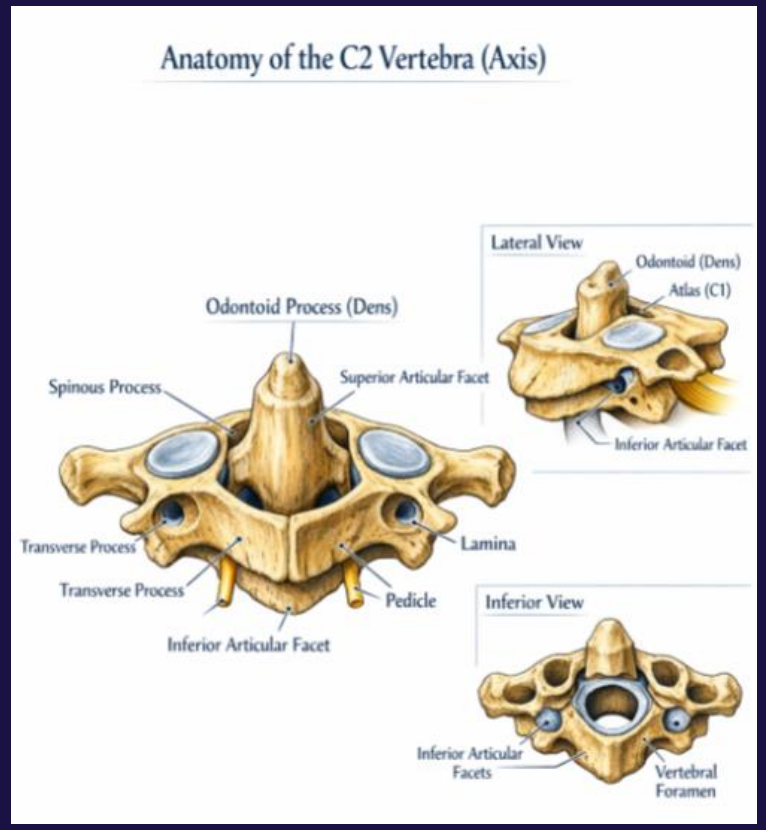
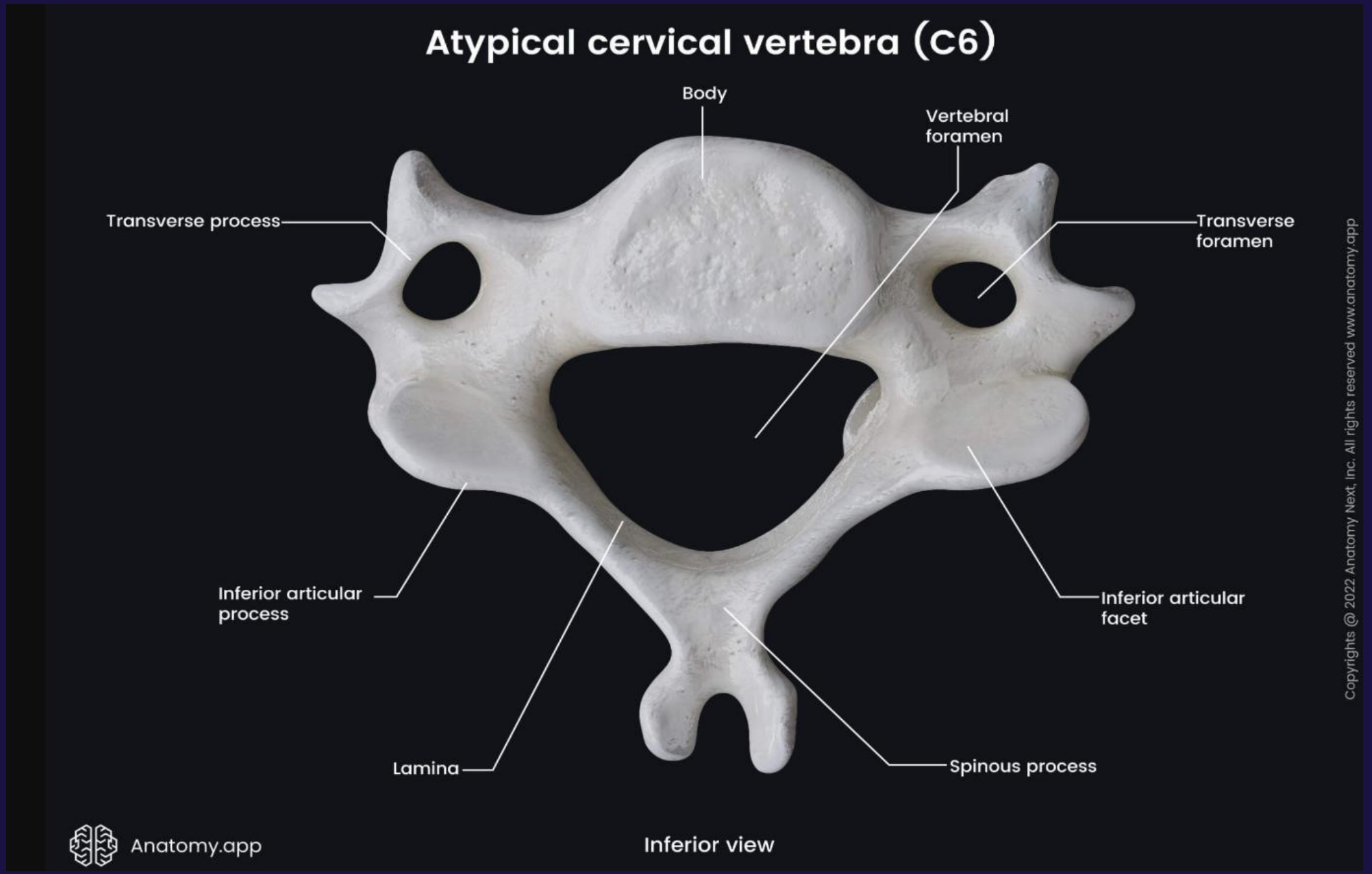


TABLE 7.2 Regional Characteristics of Cervical, Thoracic, and Lumbar Vertebrae
Cervical (3–7)
Thoracic
Lumbar
Superior View
Superior articular process
Spinous process
Inferior articular process
Vertebral foramen
Transverse foramen
Body
Transverse process
Spinous process
Vertebral foramen
Transverse process
Facet for tubercle of rib
Superior articular process
Body
Spinous process
Vertebral foramen
Transverse process
Superior articular process
Body
Right Lateral View
Superior articular process
Body
Spinous process
Transverse process
Inferior articular process
Superior articular process
Body
Transverse process
Inferior notch
Costal demifacet for head of rib
Spinous process
Superior articular process
Body
Inferior notch
Spinous process
Inferior articular process

ANATOMY


Anatomy of the C1 Vertebra (Atlas)
Lateral View
Odontiod (Dens) of C2
Anterior Arch
Posterior Arch
Spinal Cord
Superior Articular Facet
Anterior Arch
Posterior Arch
Transverse Process
Lateral Mass
Transverse Process
Inferior View
Inferior Articular Facet
Vertebral Foramen


Anatomy of the C2 Vertebra (Axis)
Lateral View
Odontoid (Dens)
Atlas (C1)
Inferior Articular Facet
Odontoid Process (Dens)
Spinous Process
Superior Articular Facet
Transverse Process
Transverse Process
Lamina
Pedicle
Inferior Articular Facet
Inferior View
Inferior Articular Facets
Vertebral Foramen


Atypical cervical vertebra (C6)
Body
Vertebral foramen
Transverse process
Transverse foramen
Inferior articular process
Inferior articular facet
Lamina
Spinous process
Anatomy.app
Inferior view
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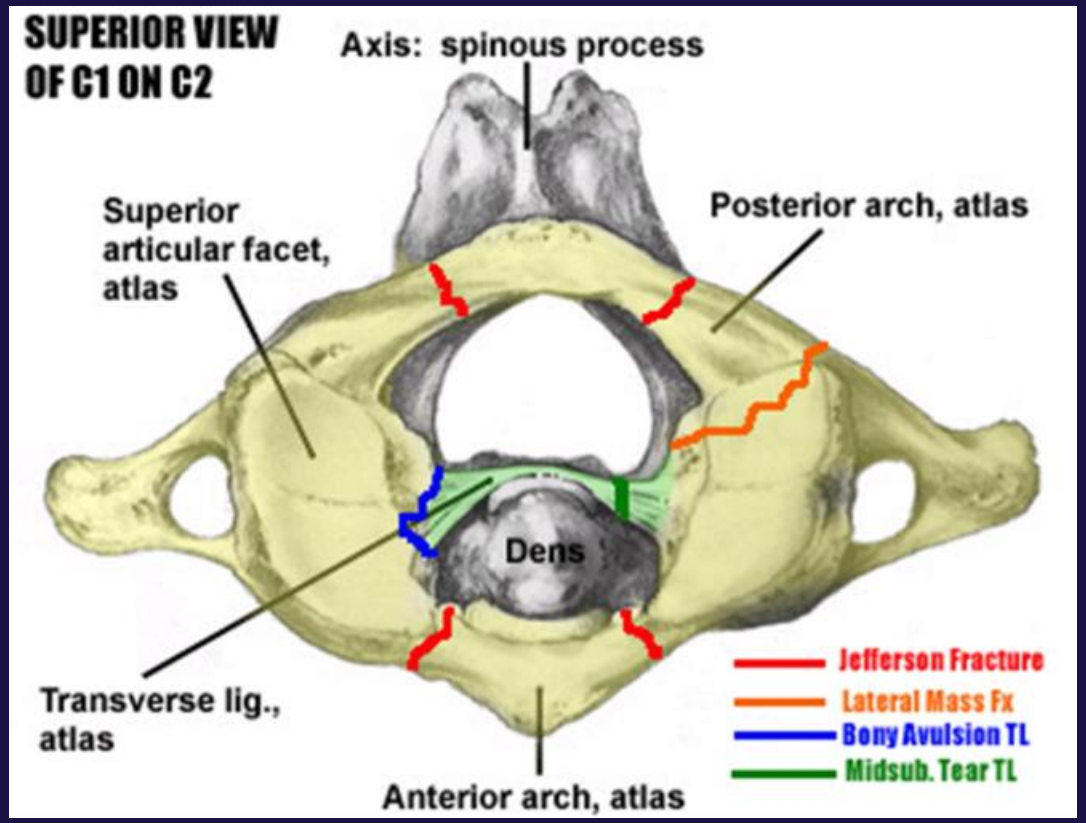
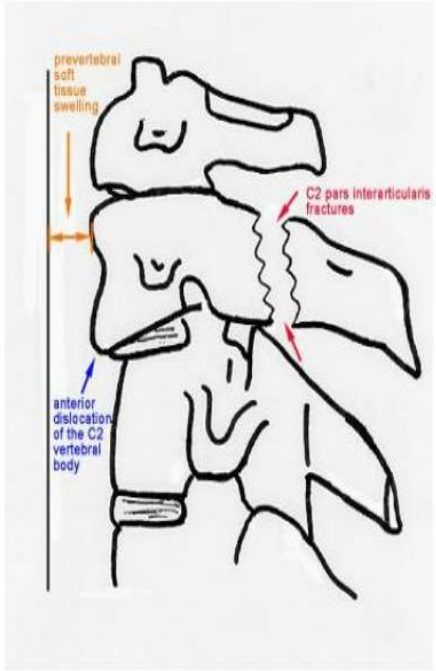
C1 FRACTURE


SUPERIOR VIEW
OF C1 ON C2
Axis: spinous process
Superior
articular facet,
atlas
Posterior arch, atlas
Dens
Transverse lig.,
atlas
Anterior arch, atlas
Jefferson Fracture
Lateral Mass Fx
Bony Avulsion TL
Midsub. Tear TL

C2 FRACTURE

HANGMAN'S FRACTURE

- Fractures through pars interaticularis of the axis
- Unstable if occurs with facet dislocation
- Mechanism – hyperextension
- Features –
  - Prevertebral soft tissue swelling
  - Avulsion of anterior inferior corner of C2 assoc. with rupture of the ant. Longitudinal ligament
  - Anterior dislocation of C2 body
  - Bilateral C2 pedicle fractures.



Odontoid fracture classification

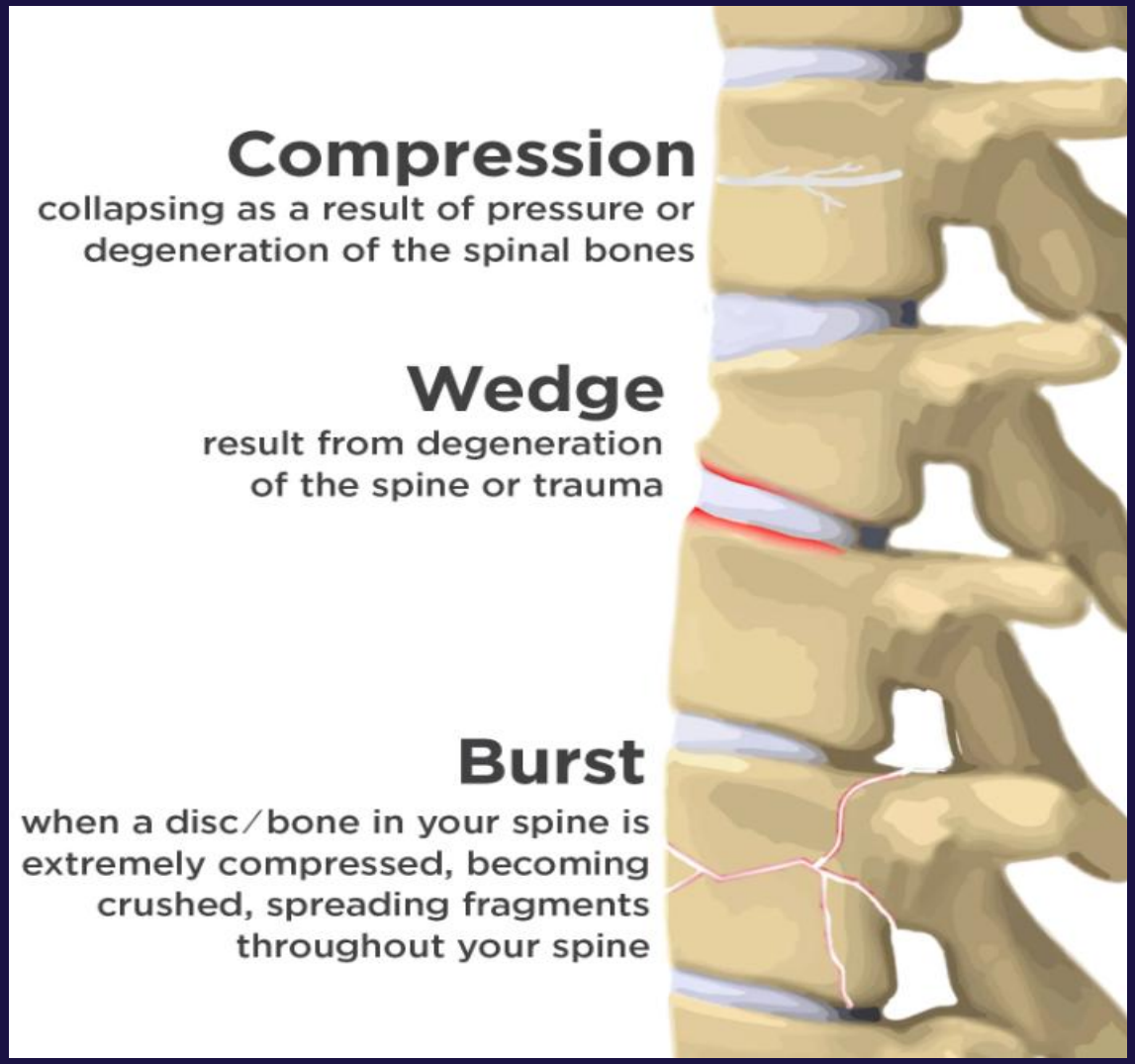
Type I :
Fracture of the upper part of the odontoid peg ; it's rare and potentially unstable

Type II :
Fracture at the base of the odontoid ; unstable, and has a high risk of non-union

Type III :
Through the odontoid and into the lateral masses of C2 ; best prognosis for healing

M. Niknejad
Radiopaedia.org

SUBAXIAL CERVICAL SPINE FRACTURES (C3-C7)



PROCEDURE CODES

- Root Operations
  - Reposition
    - Reducing or realigning fractured cervical vertebrae
  - Fusion
    - Commonly performed for unstable cervical fractures, especially those involving the vertebral joints

REPOSITION

0PS334Z – Reposition Cervical Vertebra with Internal Fixation Device, Percutaneous Approach

0PS30ZZ – Reposition Cervical Vertebra, Open Approach (no device)

0PS344Z – Reposition Cervical Vertebra with Internal Fixation Device, Percutaneous Endoscopic Approach

0PS304Z – Reposition Cervical Vertebra with Internal Fixation Device, Open Approach

FUSION

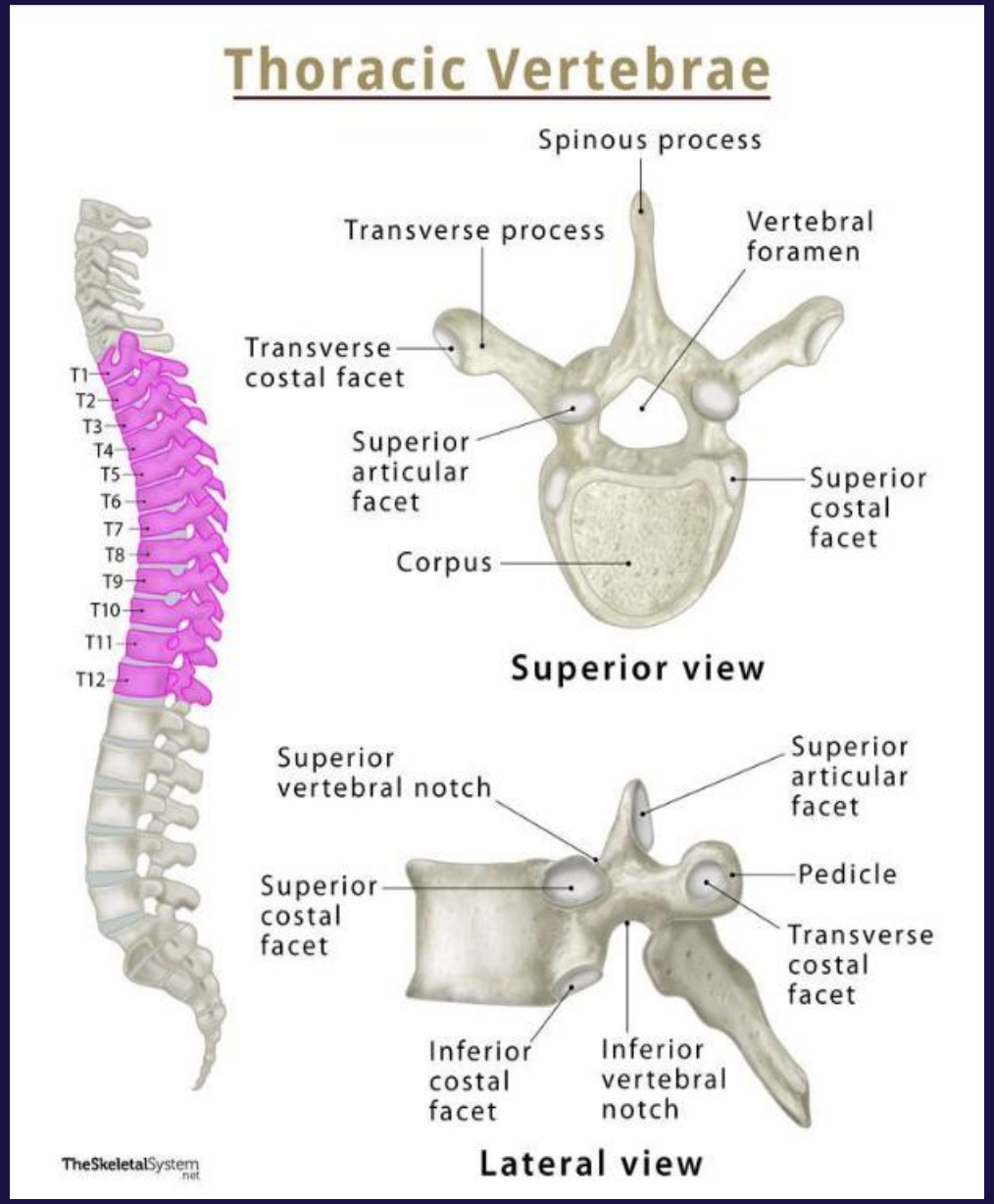
0RG107J – Fusion of Cervical Vertebral Joint with Autologous Tissue Substitute, Posterior Approach, Posterior Column, Open Approach

0RG10A0 – Fusion of Cervical Vertebral Joint with Interbody Fusion Device, Anterior Approach, Anterior Column, Open Approach

0RG10K0 – Fusion of Cervical Vertebral Joint with Nonautologous Tissue Substitute, Anterior Approach, Anterior Column, Open Approach

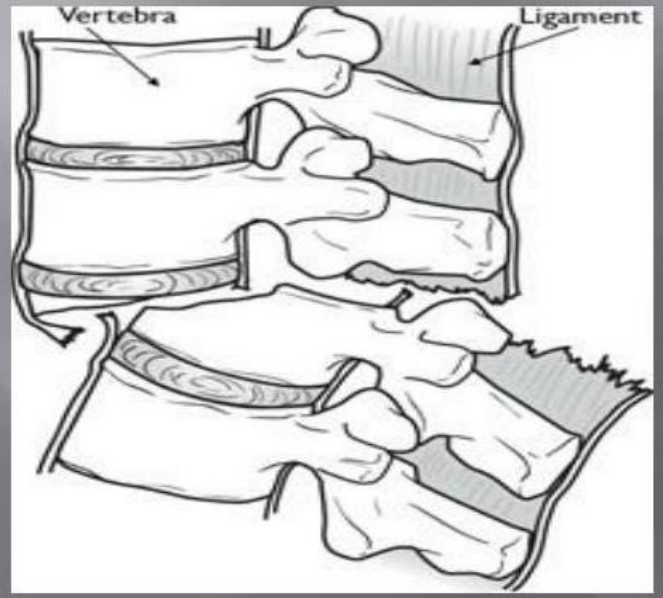
0RG1070 – Fusion of Cervical Vertebral Joint with Autologous Tissue Substitute, Anterior Approach, Anterior Column, Open Approach

Thoracic

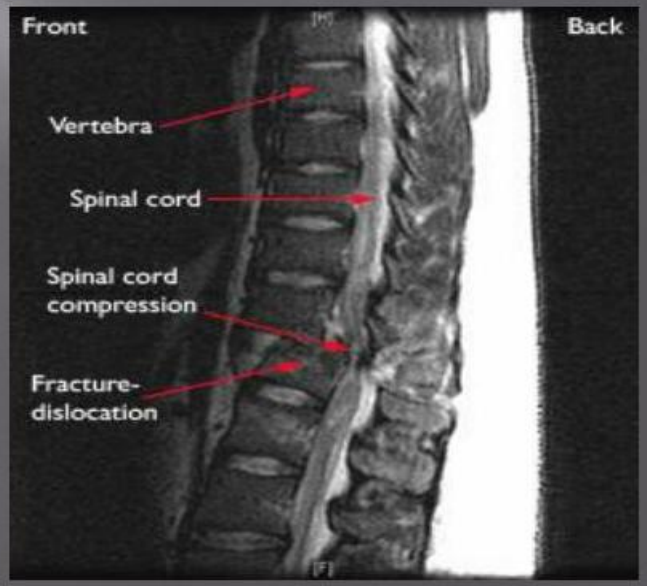

Thoracic Vertebrae
Spinous process
Transverse process
Vertebral foramen
Transverse costal facet
Superior articular facet
Superior costal facet
Corpus
Superior view
T1
T2
T3
T4
T5
T6
T7
T8
T9
T10
T11
T12
Superior vertebral notch
Superior articular facet
Superior costal facet
Pedicle
Transverse costal facet
Inferior costal facet
Inferior vertebral notch
Lateral view
TheSkeletalSystem.net

Fracture-dislocation. This is an unstable injury involving bone and/or soft tissue in which a vertebra may move off an adjacent vertebra (displaced). These injuries frequently cause serious spinal cord compression

A SIDE-VIEW OF A FRACTURE-DISLOCATION OF A THORACIC VERTEBRA.



A MAGNETIC RESONANCE IMAGING (MRI) SCAN OF A FRACTURE-DISLOCATION IN THE THORACIC SPINE. NOTE THE DISRUPTION OF THE SPINAL CORD.



Types of Spinal Fractures

Compression

collapsing as a result of pressure or degeneration of the spinal bones

Wedge

result from degeneration of the spine or trauma

Burst

when a disc/bone in your spine is extremely compressed, becoming crushed, spreading fragments throughout your spine

REPOSITION

- Open Approach
  - 0PS404Z – Reposition Thoracic Vertebra with Internal Fixation, Open Approach
  - 0PS40ZZ – Reposition Thoracic Vertebra, Open Approach (no device)
- Percutaneous Approach
  - 0PS434Z – Reposition Thoracic Vertebra with Internal Fixation, Percutaneous Approach
  - OPS43ZZ – Reposition Thoracic Vertebra, Percutaneous Approach (no device)
- Percutaneous Endoscopic Approach
  - 0PS444Z – Reposition Thoracic Vertebra with Internal Fixation Device, Percutaneous Endoscopic Approach
  - 0PS44ZZ – Reposition Thoracic Vertebra, Percutaneous Endoscopic Approach (no device)

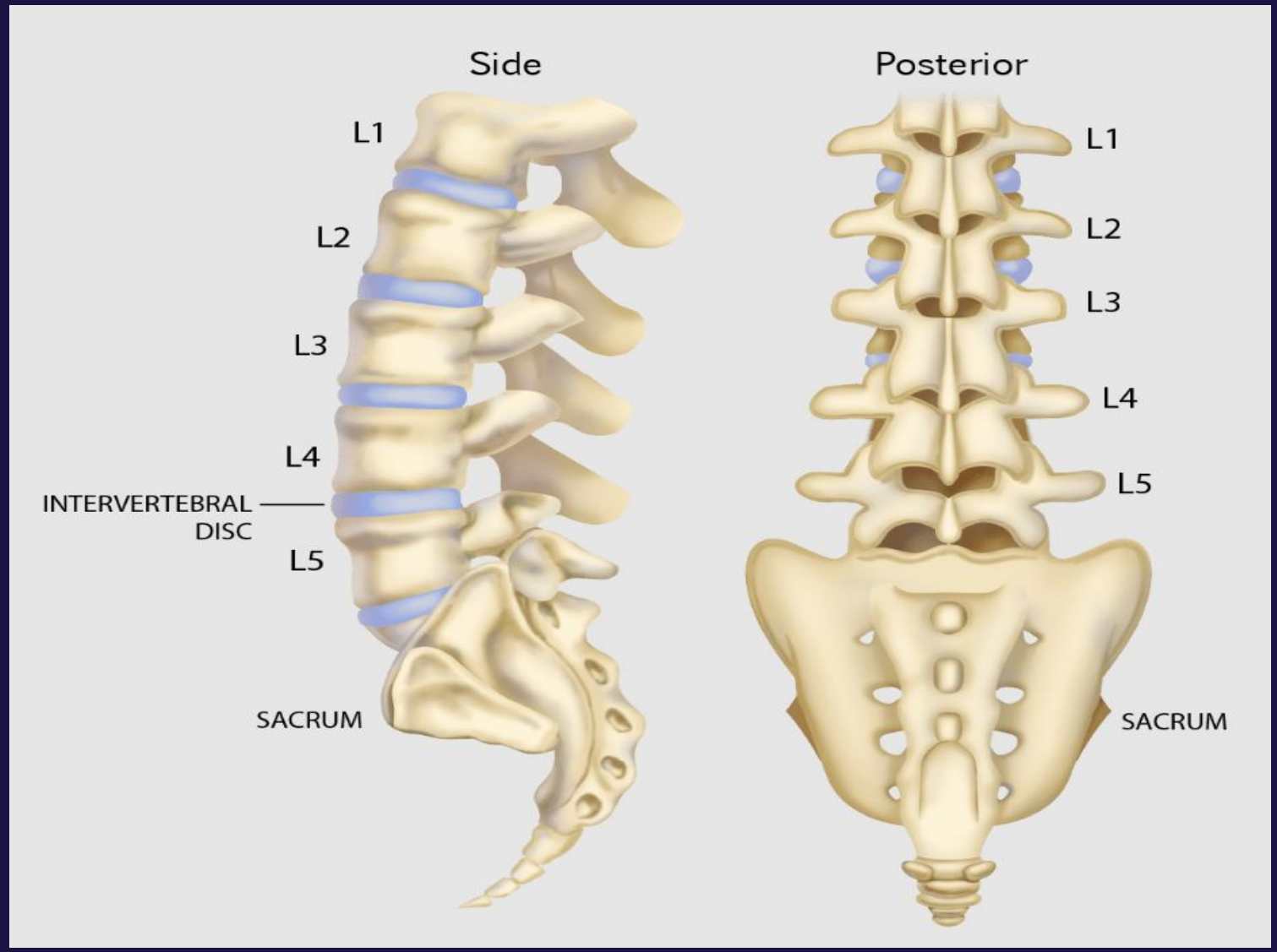
FUSION

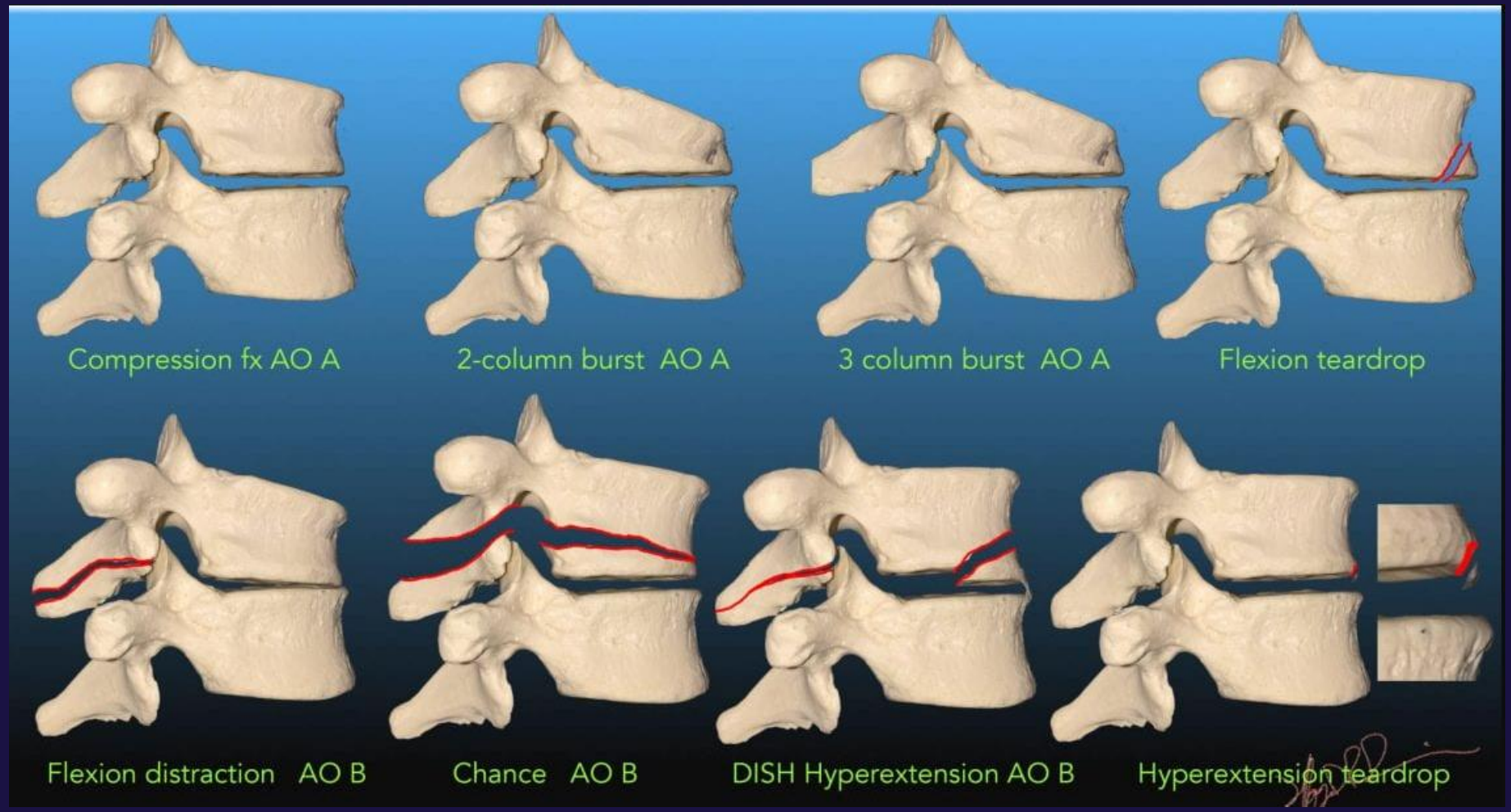
0RG6070 – Fusion of Thoracic Vertebral Joint with Autologous Tissue Substitute, Anterior Approach, Anterior Column, Open Approach

0RG60A0 – Fusion of Thoracic Vertebral Joint with Interbody Fusion Device, Anterior Approach, Anterior Column, Open Approach

0RG60AJ – Fusion of Thoracic Vertebral Joint with Interbody Fusion Device, Posterior Approach, Anterior Column, Open Approach

Lumbar


Side
Posterior
L1
L2
L3
L4
L5
INTERVERTEBRAL DISC
SACRUM
L1
L2
L3
L4
L5
SACRUM


Compression fx AO A
2-column burst AO A
3 column burst AO A
Flexion teardrop
Flexion distraction AO B
Chance AO B
DISH Hyperextension AO B
Hyperextension teardrop

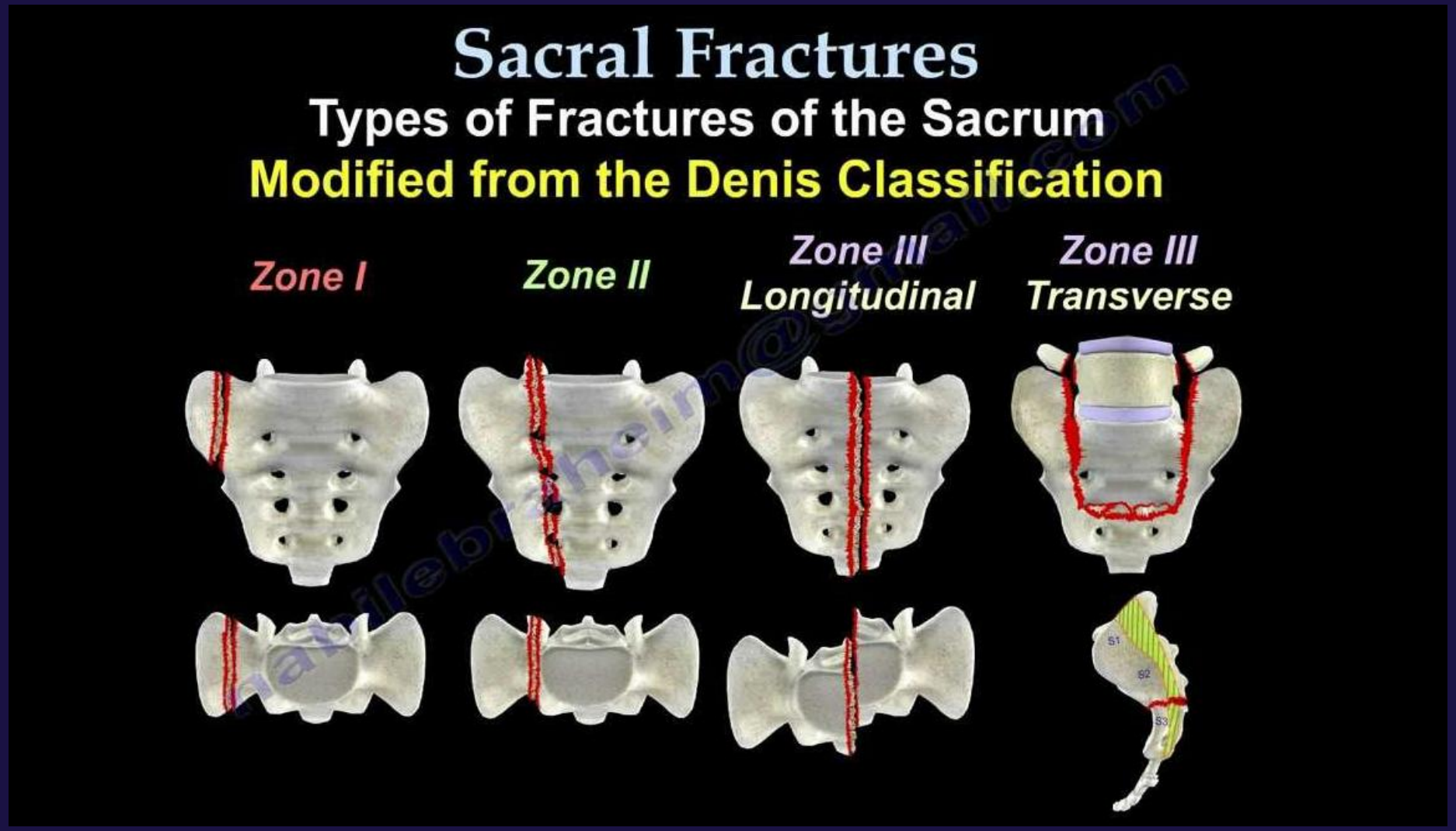
REPOSITION

- 0QS004Z – Reposition Lumbar Vertebra with Internal Fixation Device, Open Approach (e.g., pedicle screws, plates for ORIF)
- 0QS00ZZ – Repostion Lumbar Vertebra, Open Approach (no device)
- 0QS034Z – Reposition Lumbar Vertebra with Internal Fixation Device, Percutaneous Approach

FUSION

- 0SG0071 – Fusion of Lumbar Vertebral Joint with Autologous Tissue Substitute, Posterior Approach, Posterior Column, Open Approach (posteriolateral fusion)
- 0SG00A1 – Fusion of Lumbar Vertebral Joint with Interbody Fusion Device, Posterior Approach, Posterior Column, Open Approach
- 0SG00AJ – Fusion of Lumbar Vertebral Joint with Interbody Fusion Device, Posterior Approach, Anterior Column, Open Approach (e.g., TLIF/PLIF)
- 0SG00A0- Fusion of Lumbar Vertebral Joint with Interbody Fusion Device, Anterior Approach, Anterior Column, Open Approach (e.g., ALIF)

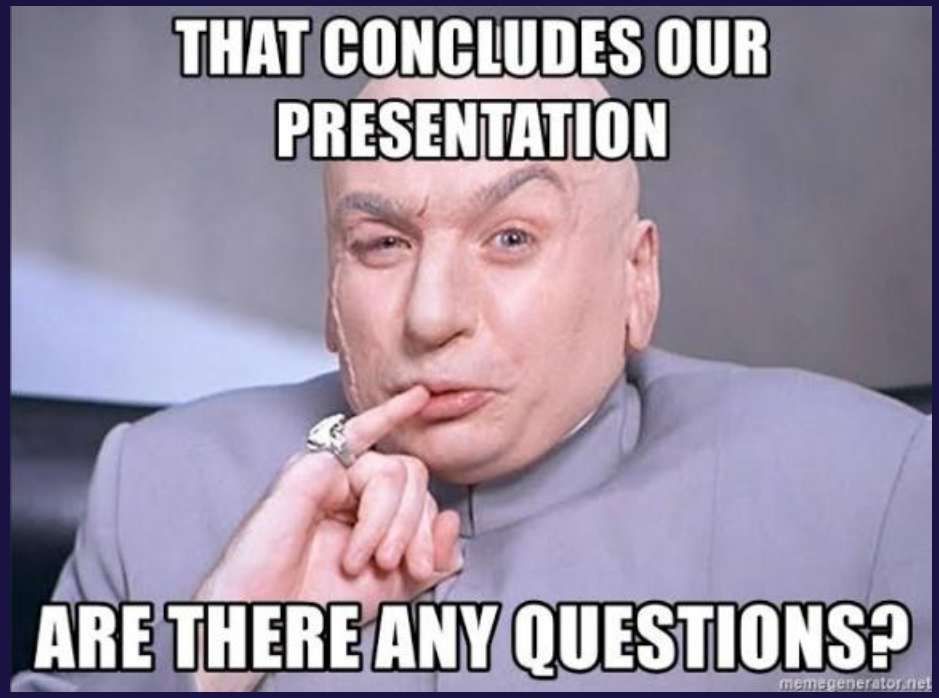
SACRUM


Sacral Fractures
Types of Fractures of the Sacrum
Modified from the Denis Classification
Zone I
Zone II
Zone III
Longitudinal
Zone III
Transverse
S1
S2
S3

REPOSITION

- Open Approach (common for complex or ORIF)
  - 0QS104Z- Reposition Sacrum with Internal Fixation Device, Open Approach
  - 0QS10ZZ – Reposition Sacrum, Open Approach (no device)
- Percutaneous Approach (minimally invasive, e.g., percutaneous iliosacral screws or sacroplasty)
  - 0QS134Z – Reposition Sacrum with Internal Fixation Device, Percutaneous Approach
  - 0QS13ZZ – Reposition Sacrum Percutaneous Approach (no device)

SUMMARY


THAT CONCLUDES OUR PRESENTATION
ARE THERE ANY QUESTIONS?
memegenerator.net

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