Παθήσεις και Κακώσεις της Σπονδυλικής Στήλης

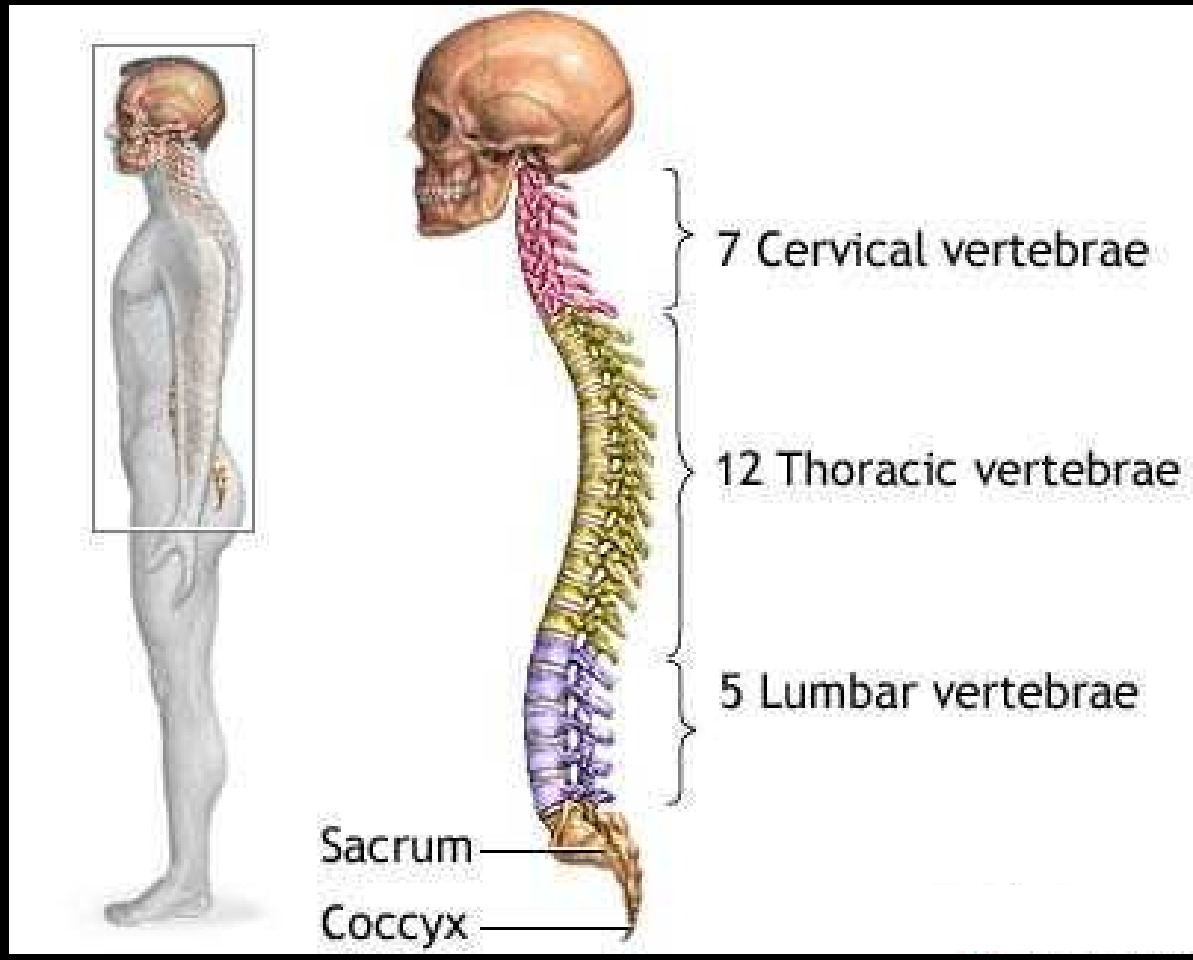
Δρ. Χρήστος Κ. Γιαννακόπουλος

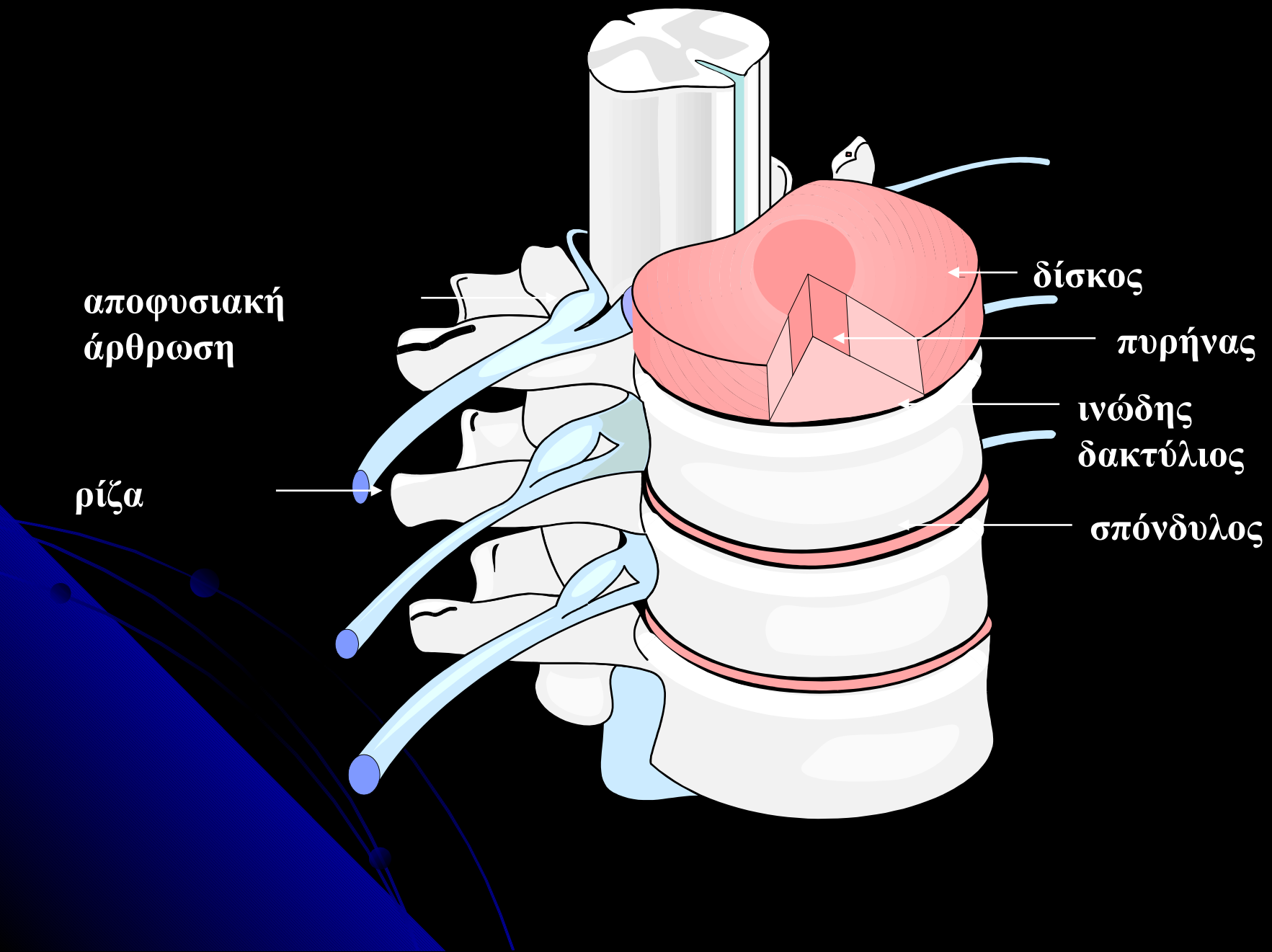
Ορθοπαιδικός Χειρουργός

Κέντρο Αρθροσκοπικής Χειρουργικής και Χειρουργικής Ώμου
Νοσοκομείο ΙΑΣΩ General, Αθήνα

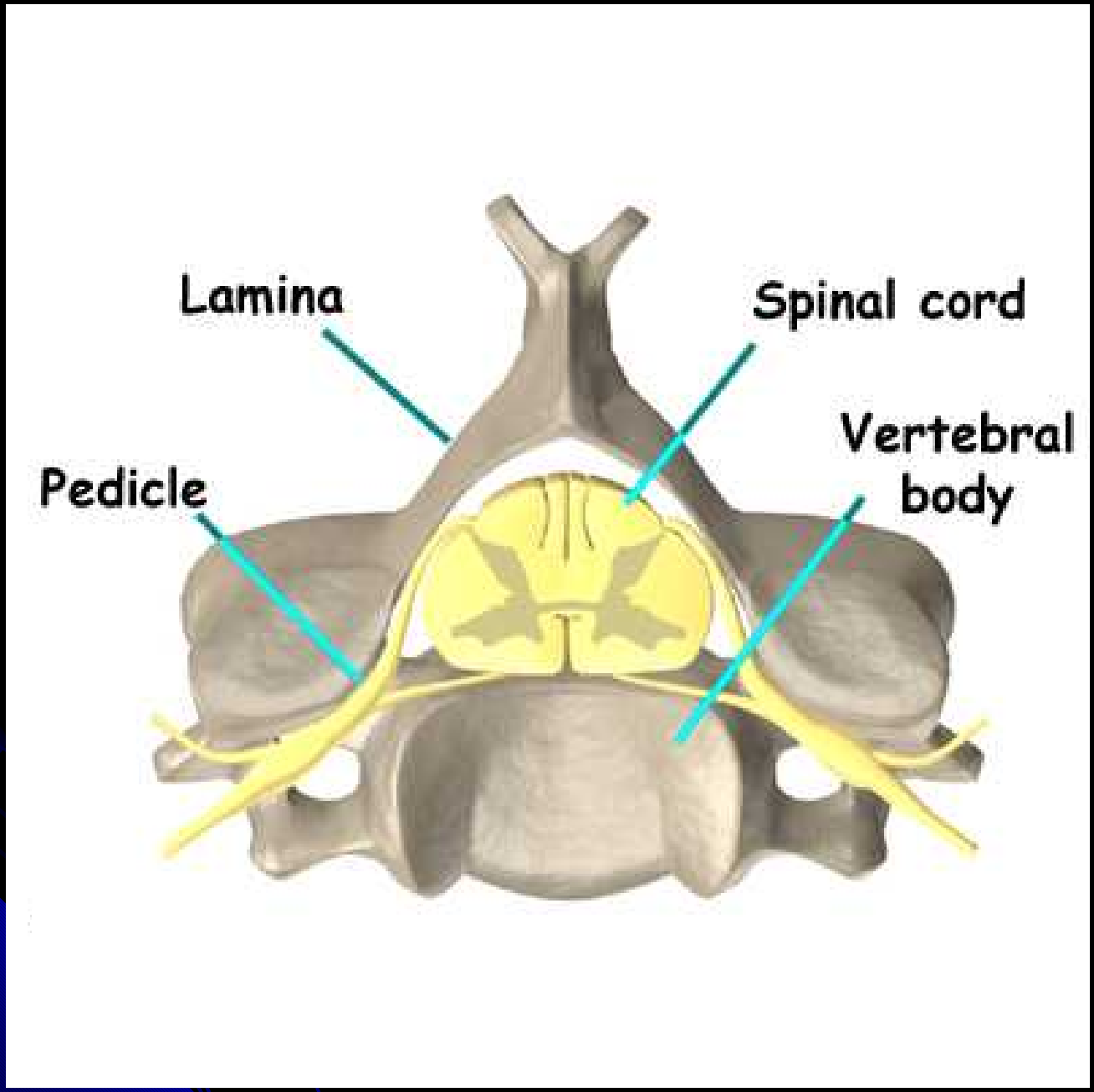
Μοίρες ΣΣ

- Αυχενική - 7
- Θωρακική - 12
- Οσφυική - 5
- Ιερή - 5
- Κοκκυγική - 4



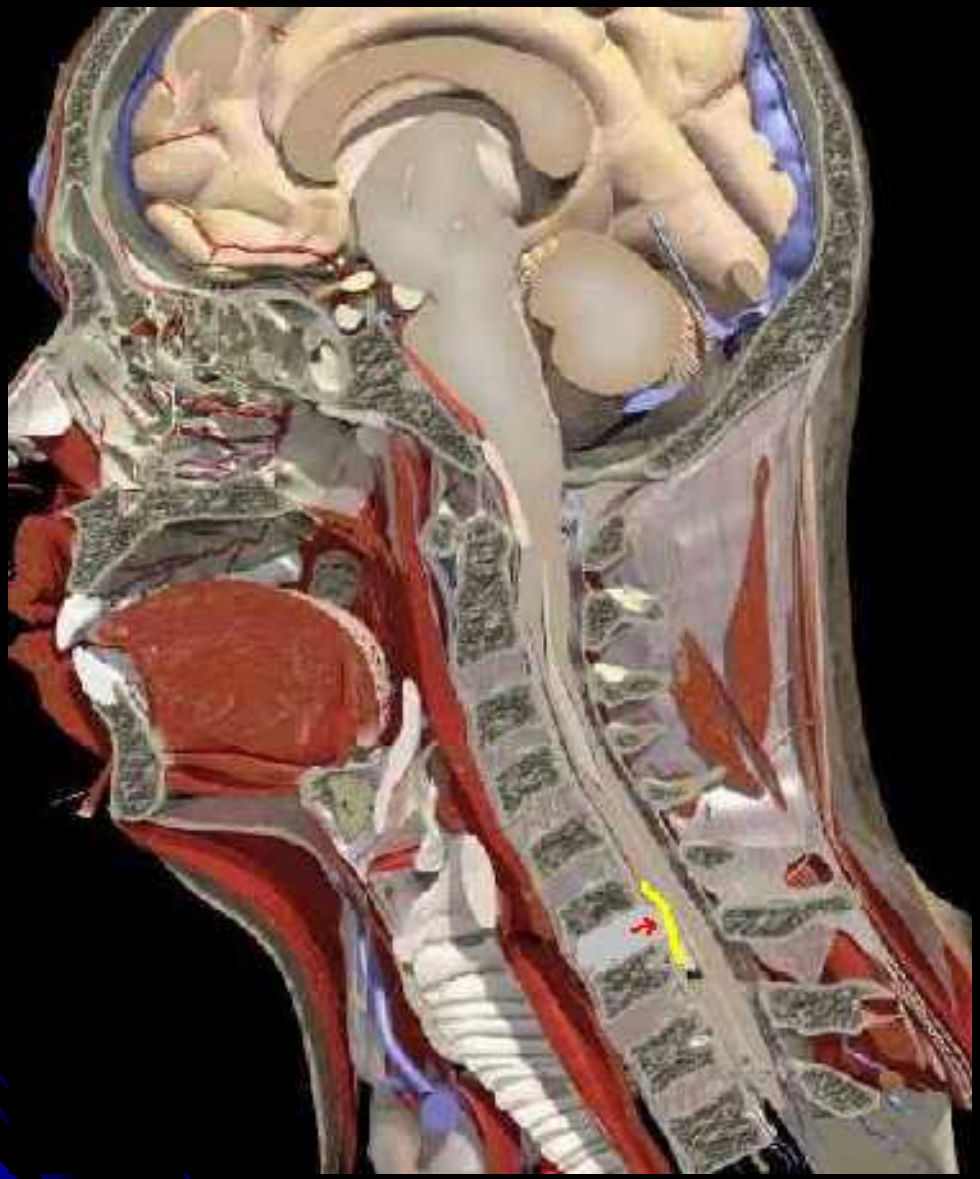

αποφυσιακή
άρθρωση
ρίζα
δίσκος
πυρήνας
ινώδης
δακτύλιος
σπόνδυλος

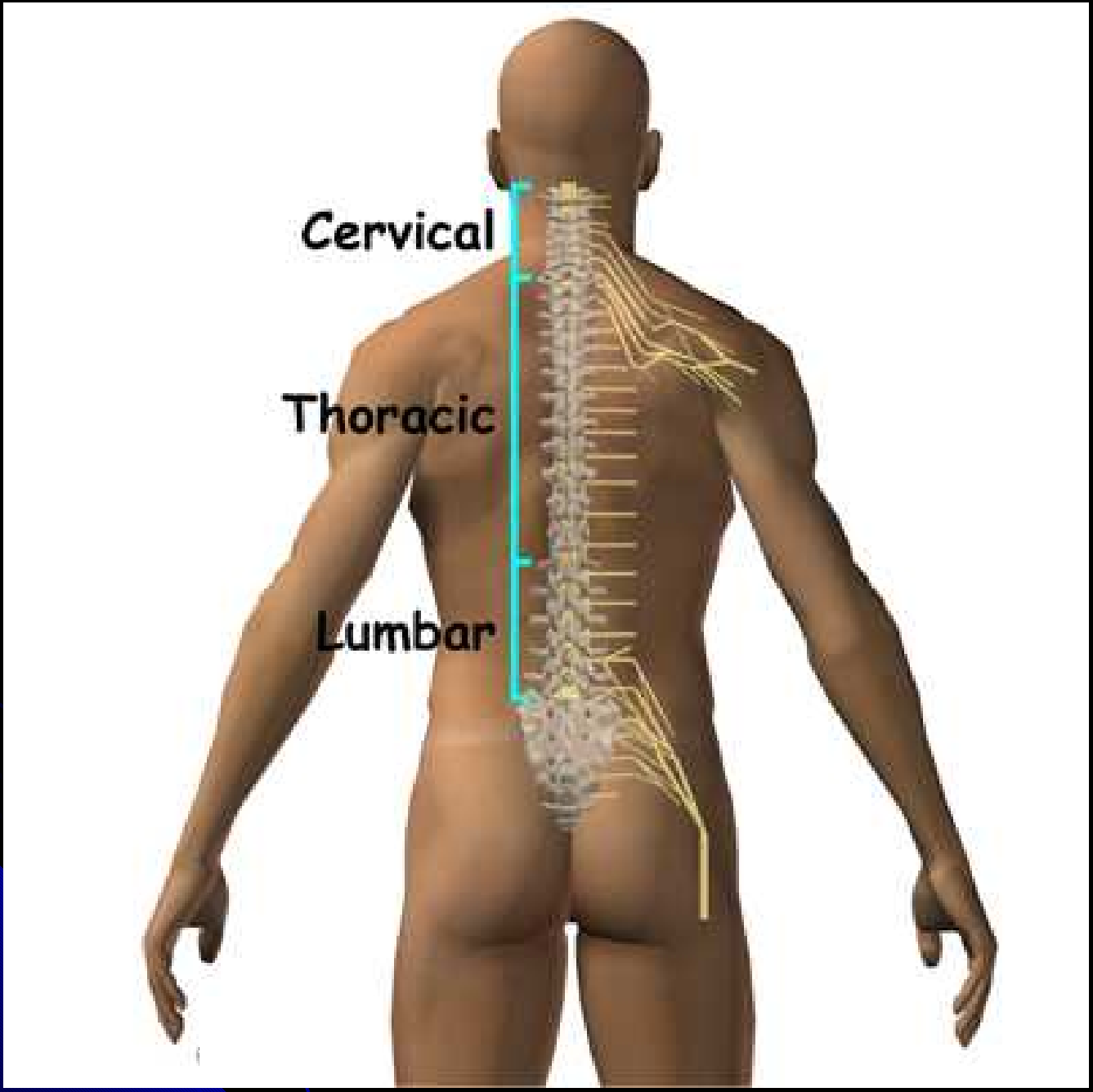
Αυχενική Μοίρα ΣΣ


Lamina
Spinal cord
Vertebral body
Pedicle

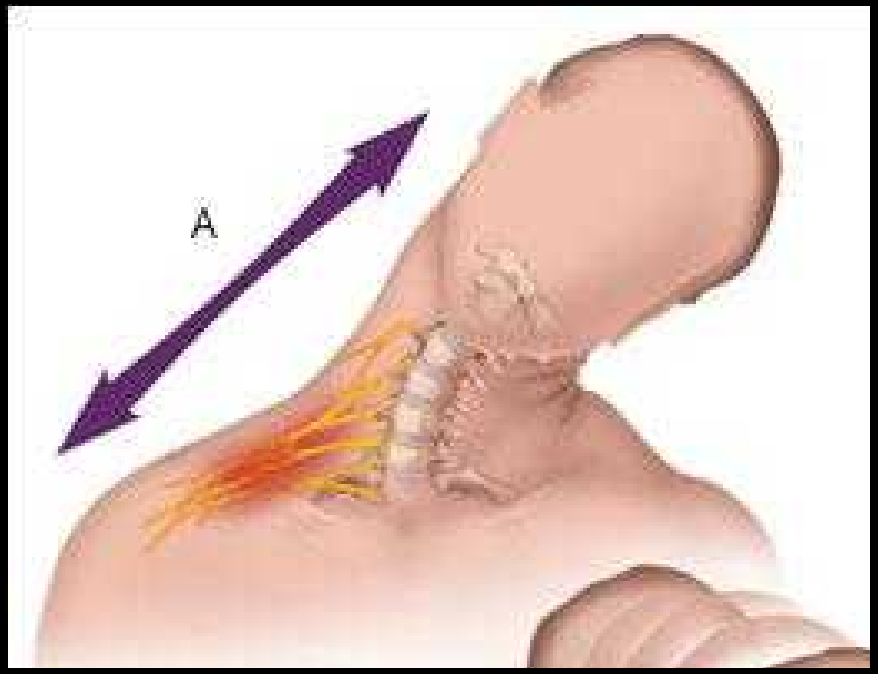
Κάταγμα Κρεμασμένου

Κήλη Μεσοσπονδύλιου Δίσκου




Cervical
Thoracic
Lumbar

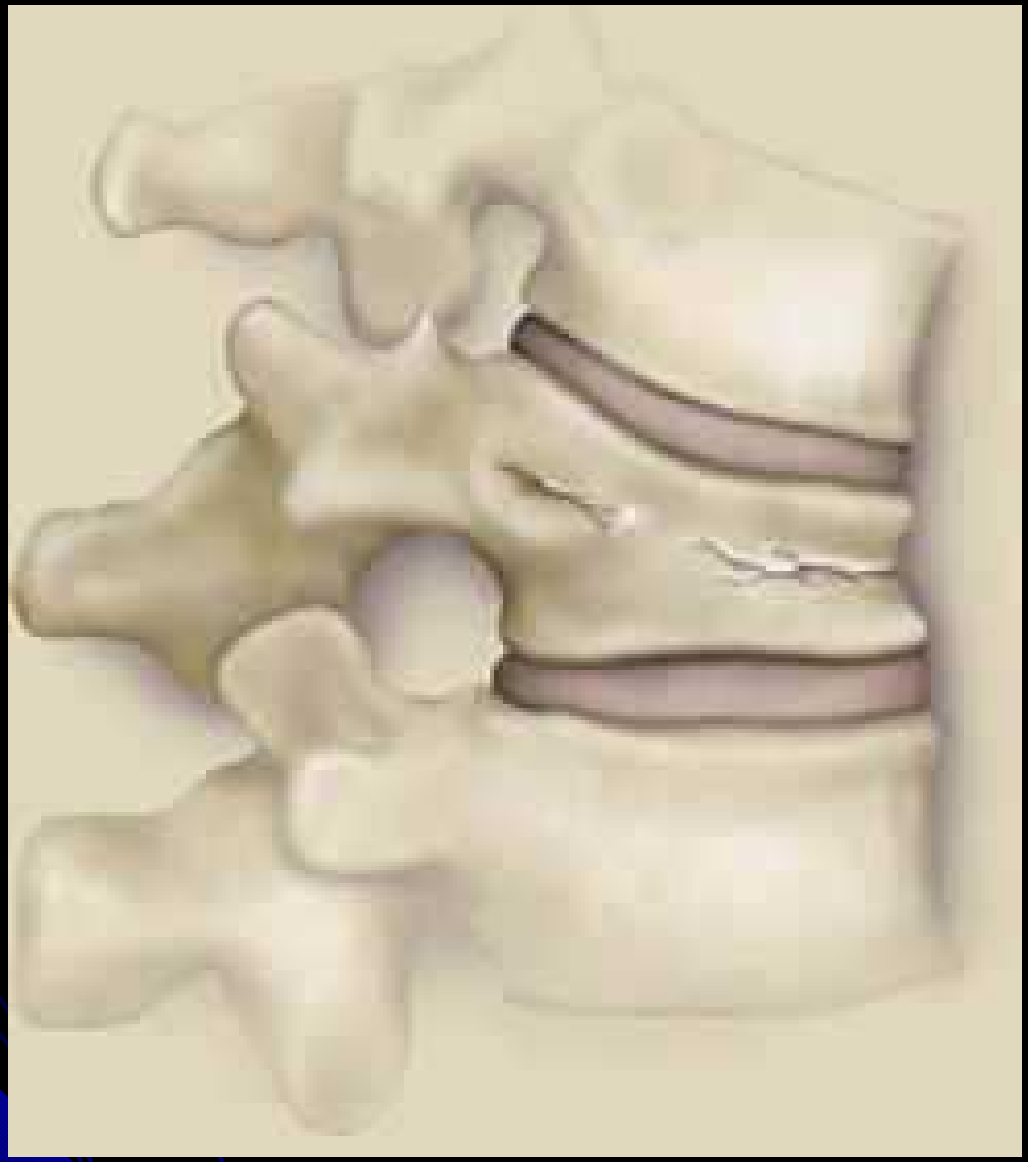
Stinger/Burner



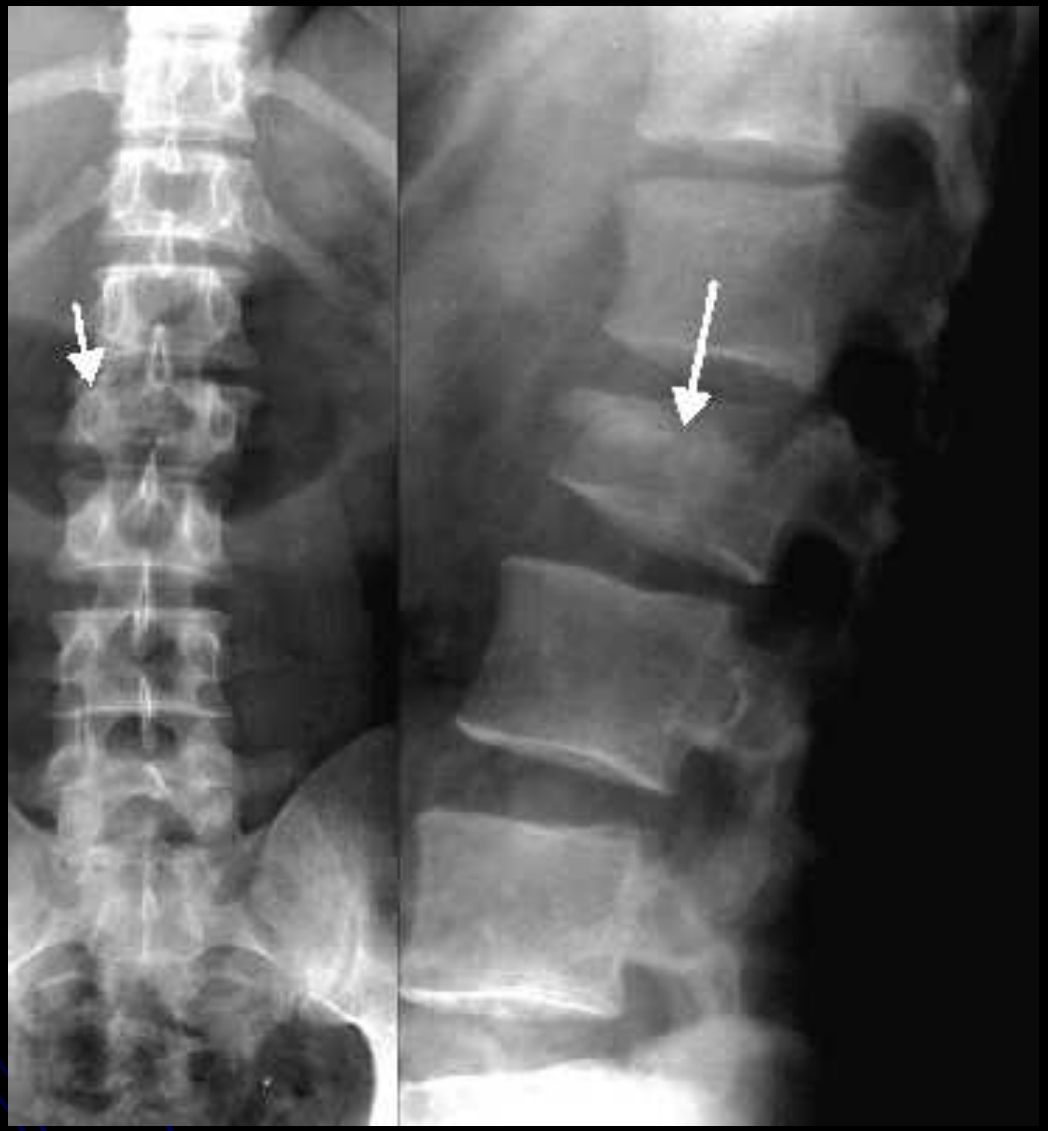
- Νευραπραξία από ελκυσμό των αυχενικών ριζών ή του βραχιονίου πλέγματος
- Η συνηθέστερη κάκωση της ΣΣ
- Σε νεαρούς με ασθενές μυικό σύστημα

Οσφυική Μοίρα ΣΣ

Κάταγμα



Κάταγμα



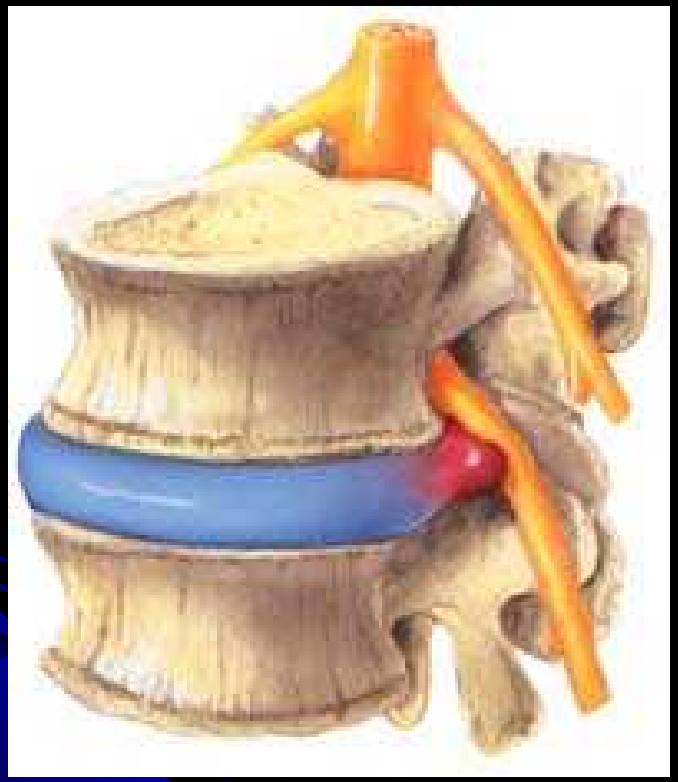
Αίτια Οσφυαλγίας

- Θλάση ή διάταση – 70%
- Εκφύλιση – 10%
- Κήλη δίσκου – 4%
- Οστεοπορωτικά κατάγματα – 4%
- Σπονδυλική στένωση – 3%
- Σπονδυλολίσθηση – 2%

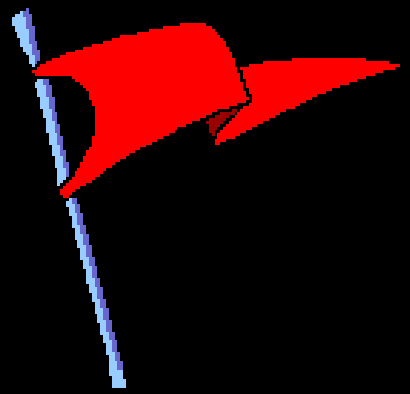
Αίτια Οσφυαλγίας….

- Σπονδυλόλυση, δισκογενής πόνος 2%
- Κάταγμα <1%
- Συγγενείς νόσοι <1%
- Όγκοι 0.7%
- Φλεγμονώδεις αρθρίτιδες 0.3%
- Φλεγμονές 0.01%

Κήλη Μεσοσπονδύλιου Δίσκου



RED Flags



Ιστορικό

- Καρκίνου
- Απώλεια βάρους
- Πυρετός, πρόσφατη φλεγμονή
- Ανοσοκαταστολή
- Ενδοφλέβια χρήση ουσιών
- Πόνος σε ύπτια θέση ή νυκτερινός πόνος
- Σημαντικός τραυματισμός
- Ήπιος τραυματισμός σε ηλικιωμένους
- Δυσλειτουργία κύστης ή εντέρου
- Αναισθησία δίκην σέλλας
- Προοδευτική νευρολογική σημειολογία από τα άκρα

Εγχύσεις

- Επισκληρίδιες
  - Ανεπαρκείς και αντικρουόμενες ενδείξεις
- Αποφυσιακές αρθρώσεις
  - Μικρή βελτίωση
- Τοπικές/Trigger point:
  - Ίσως κάποιο όφελος

Χειρουργική Επέμβαση

- Δισκεκτομή: προσωρινή θετική επίδραση – όχι μακροπρόθεσμη δράση
- Η μικροδισκεκτομή ίδια με την τυπική δισκεκτομή
- Νέες τεχνικές?

Failed Back Surgery Syndrome

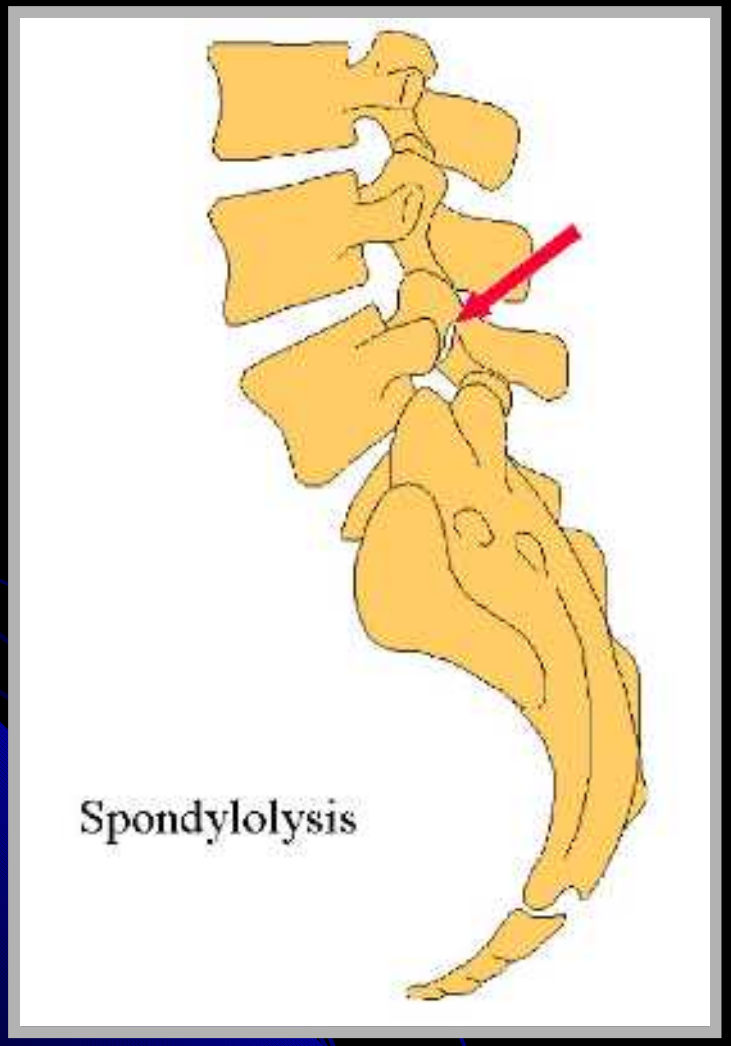
- Διάφορα μετεγχειρητικά ευρήματα
- Ίνωση επισκληρίδιου χώρου
- Υποτροπή ΚΜΔ
- Οστική στένωση
- Στένωση τρημάτων
- Κατάσταση σπονδυλοδεσίας
- Φλεγμονή

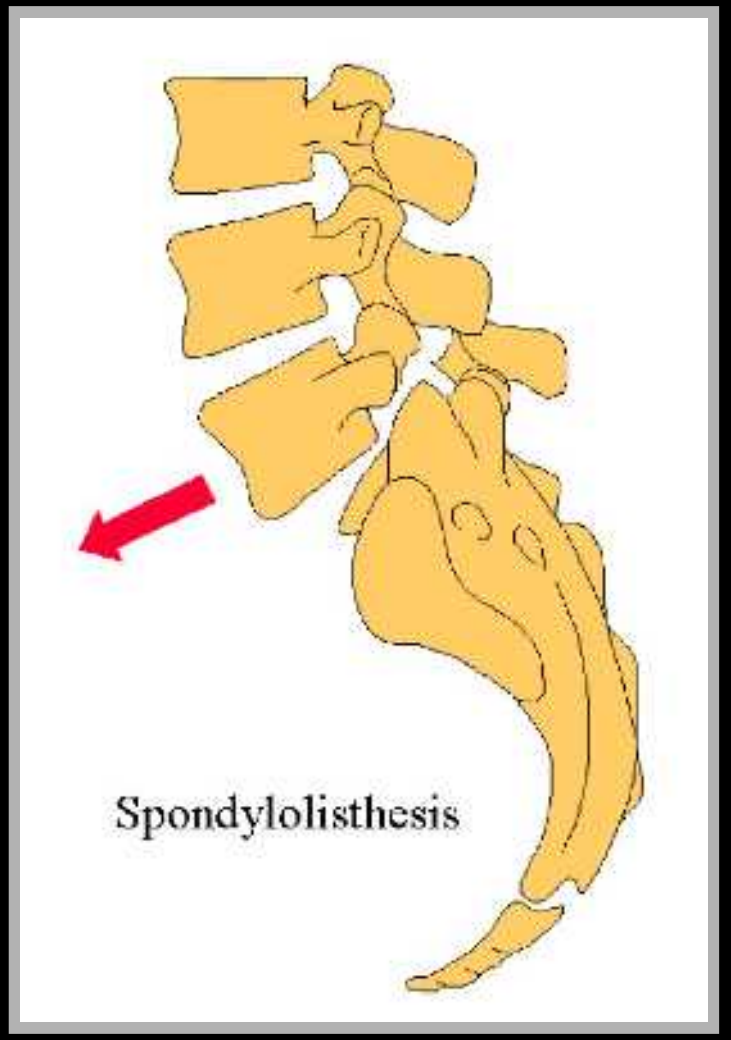
Σπονδυλική Στένωση

- Πόνος στη μέση και στα άκρα λόγω στένωσης του οσφυικού σωλήνα
- Πίεση πολλαπλών ριζών

Οσφυαλγία σε Εφήβους

Σπονδυλόλυση & Σπονδυλολίσθηση





Φυσιολογικό

Ισθμική βλάβη

Συντηρητική Αντιμετώπιση

1. Φυσικοθεραπεία
2. Aerobic conditioning
3. Όχι ναρκωτικά αναλγητικά
4. Αποκατάσταση συνήθως εντός 3 μηνών

Χειρουργική Θεραπεία

- Σημαντική ολίσθηση:
  1. κοσμητικά
  2. διαταραχές βάδισης

- Αποτυχία συντηρητικής θεραπείας:
  1. Σημαντικός πόνος
  2. Ακτινολογική ένδειξη αστάθειας
  3. Εξέλιξη ολίσθησης
  4. Επίταση νευρολογικών σημείων

Η σκολίωση δεν οφείλεται σε πλημμελή στάση του σώματος ή σε άρση βαρών, αλλά είναι γενετικά ελεγχόμενη

Back Strain/Sprain

- LBP is the most frequent cause of lost work time and disability in adults <45 years
- Most symptoms of limited duration
- 85% of patients improve and returning to work within 1 month

Low Back Pain

- **Spondylolisthesis**
  - Most common in children involved in hyperextension activities

Low Back Pain

- Spondylolisthesis
  - Meyer Classification

Low Back Pain

Spondylolisthesis

- Treatment
  - Modification of activity
  - NSAIDs, Tylenol, ASA
  - Physical therapy
  - Flexibility & strengthening exercises
  - Thoracolumbosacral orthosis

Isthmic Spondylolysis

- Usually represents a stress fracture of the pars interarticularis (O5)
  - chronic overload
- Sometimes acute extension injury related to athletics or trauma
- Tomographic radionuclide studies probably most sensitive test to detect stress reactions and early stress fractures

Isthmic Spondylolysis

- After fracture has been present for short time, multiplanar CT is the optimal test to delineate structural changes
- Fragmentation and hypertrophy of the pars can cause central or foraminal stenosis
- 5% in the normal population
- Fracture is usually bilateral
- Most often involves O-5 vertebra

Treatments for active spondylolysis

Bracing

Pain medications

Stretching

Exercise that is controlled and builds gradually over time, with restrictions on extension (bending backwards)

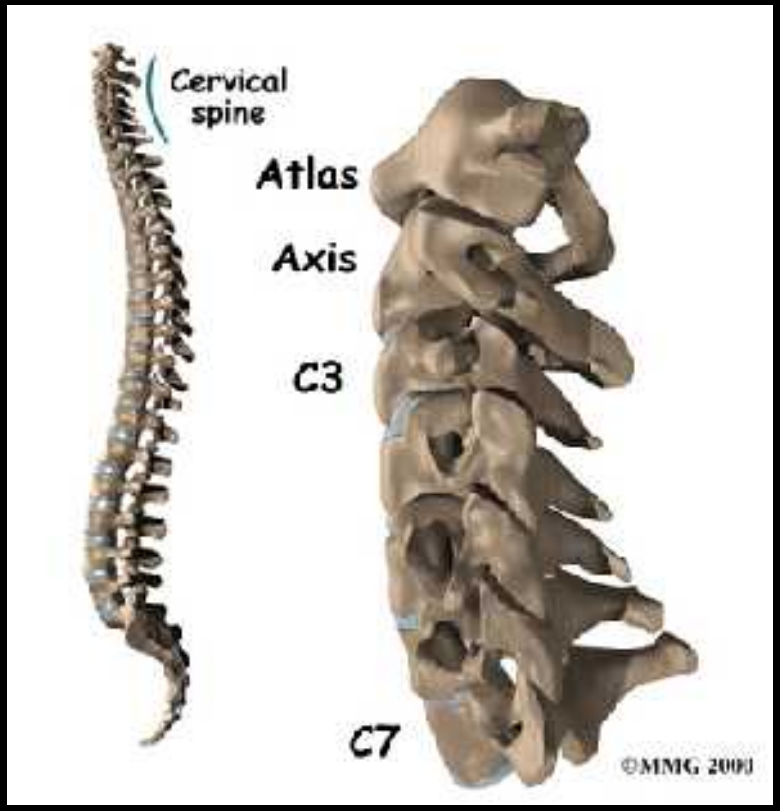
Fixation

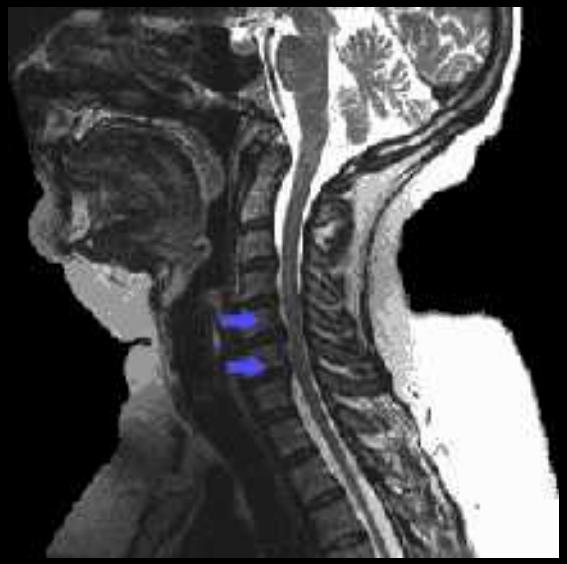
One study of adolescent athletes found that 37% of them showed signs of healing at the pars defects after 2 to 6 months of bracing

Isthmic Spondylolysis

- Definition
  - Stress fracture of the pars interarticularis
- Location
  - Lower lumbar
- Mechanism
  - Cyclic loading in extension
- Sports most at risk
  - Seen in up to 32% of gymnasts and 33% of ballet dancers. Also football lineman, figure skaters, wrestlers and divers.

Σπονδυλολίσθηση

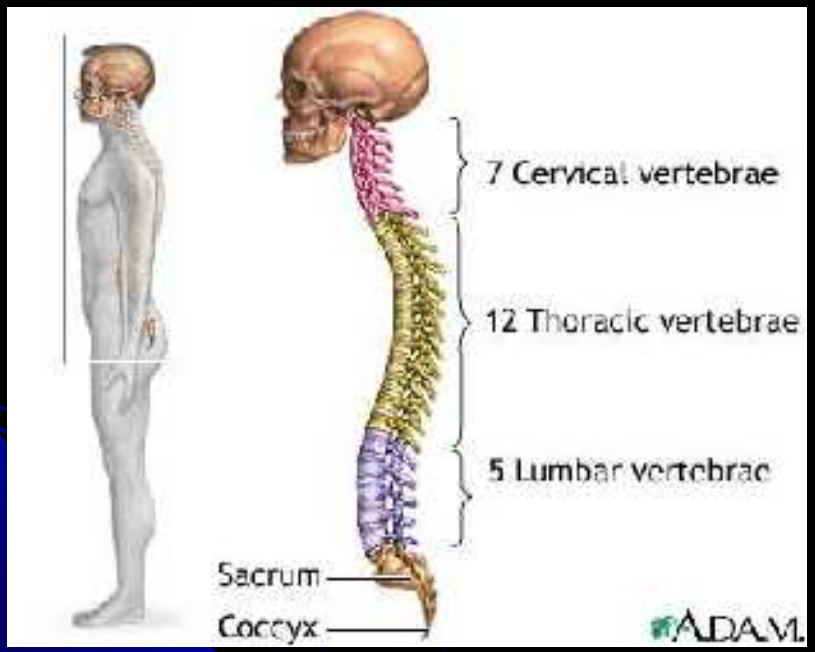

Cervical spine
Atlas
Axis
C3
C7
©MMG 2000

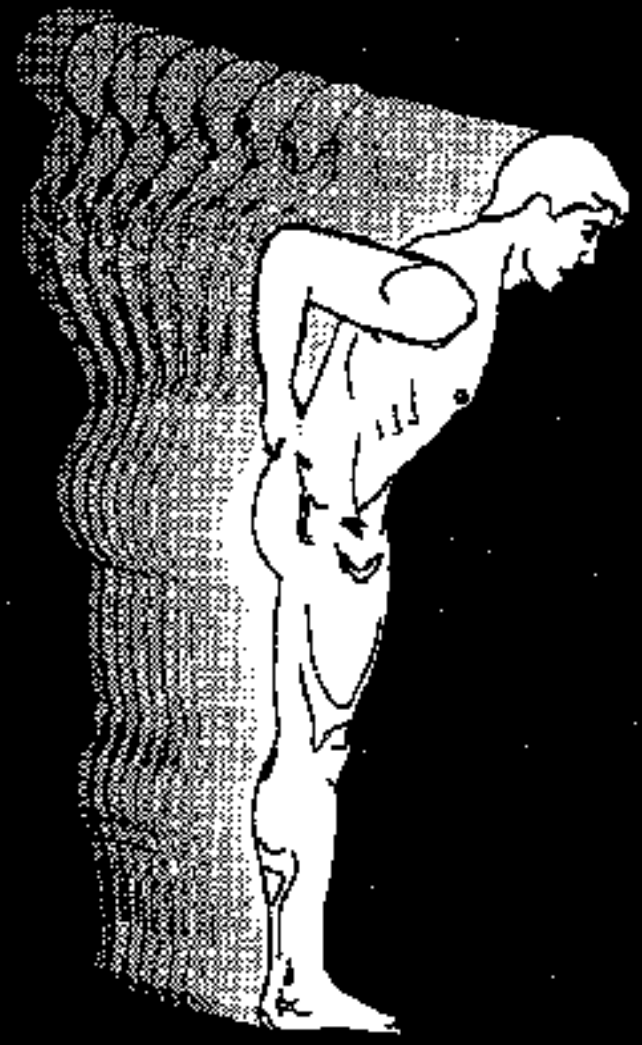


Spinal Stenosis

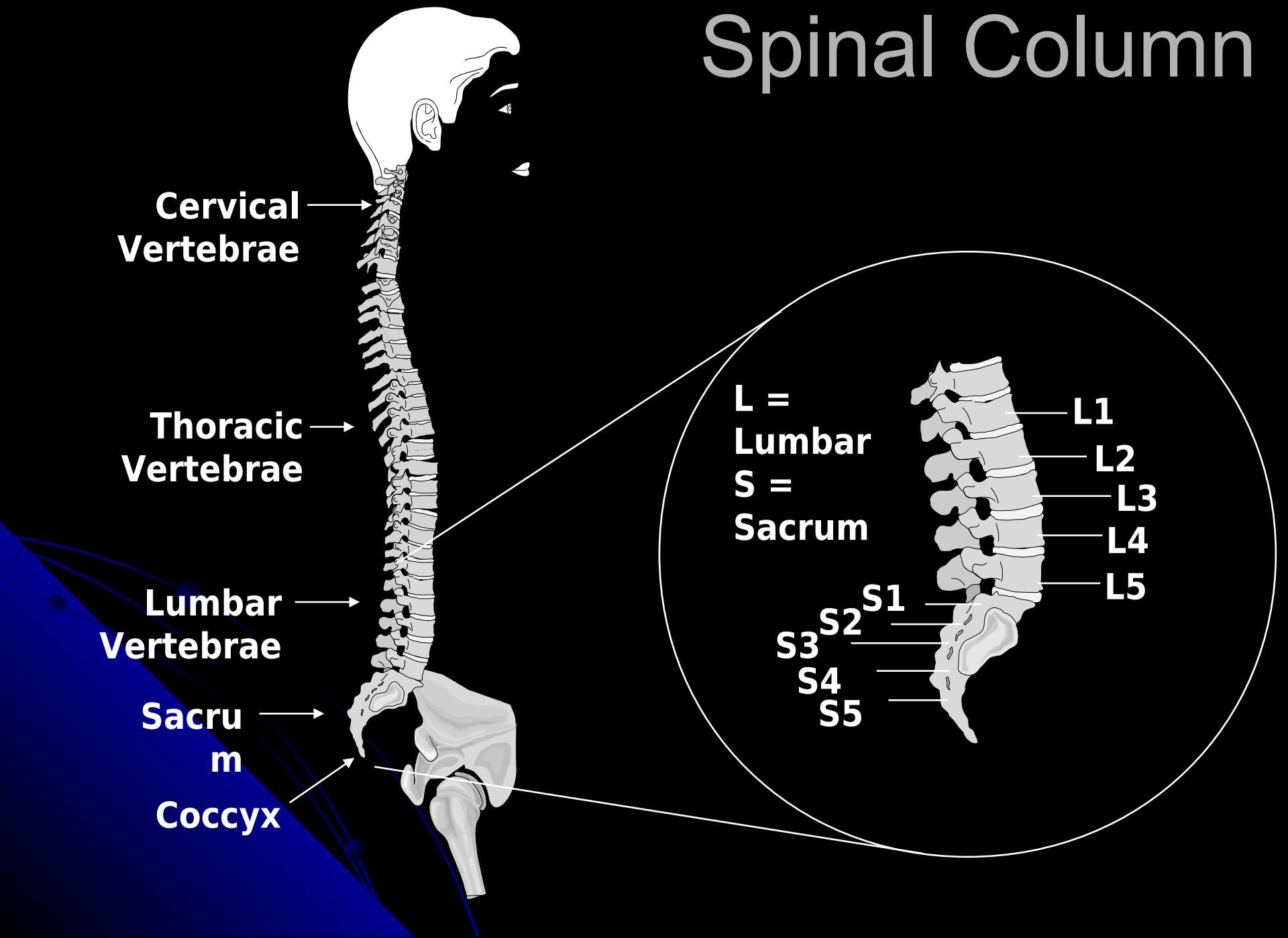
- Pain beyond back to buttock,thigh or lower legs
- “Neurogenic claudication”
- Worse with extension of LS (stand/walk)
- Improves with flexion (sitting)
- Average age of surgery-55 (4 yrs of sx’s)

THE Neck/BACK





Spinal Column

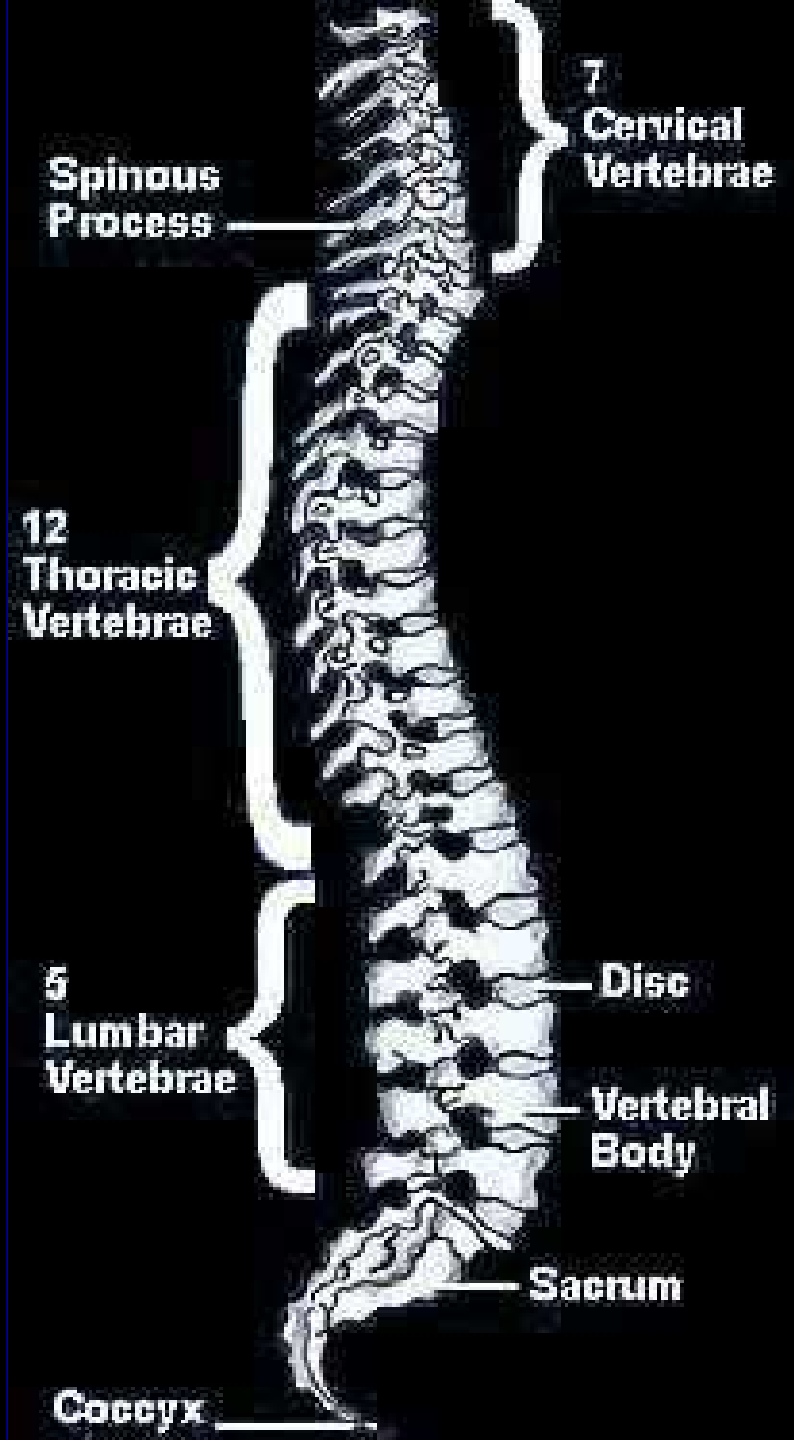


Functions of the Spine

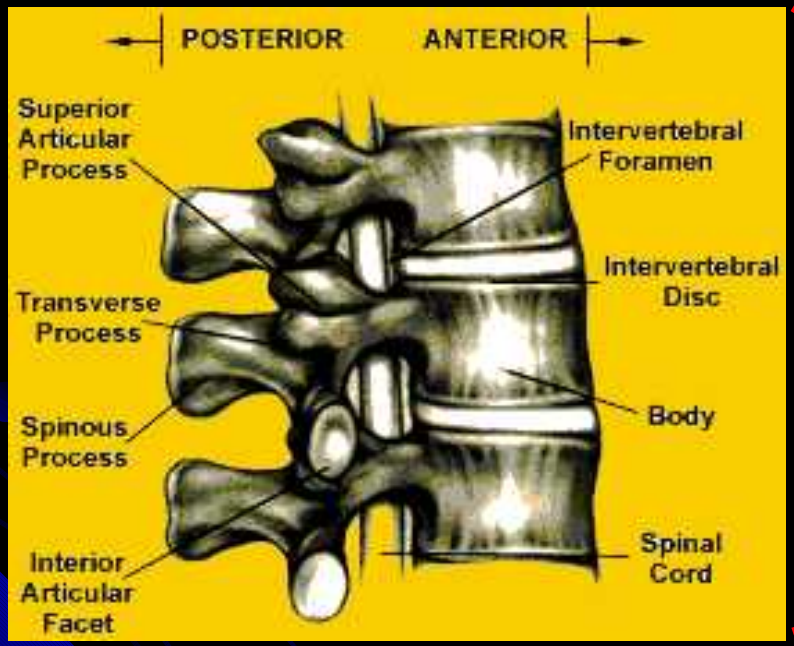
- Spinal cord protection
- Muscle attachments
- Curves provide shock absorbing capabilities
- Movements- flexion, extension, lateral flexion

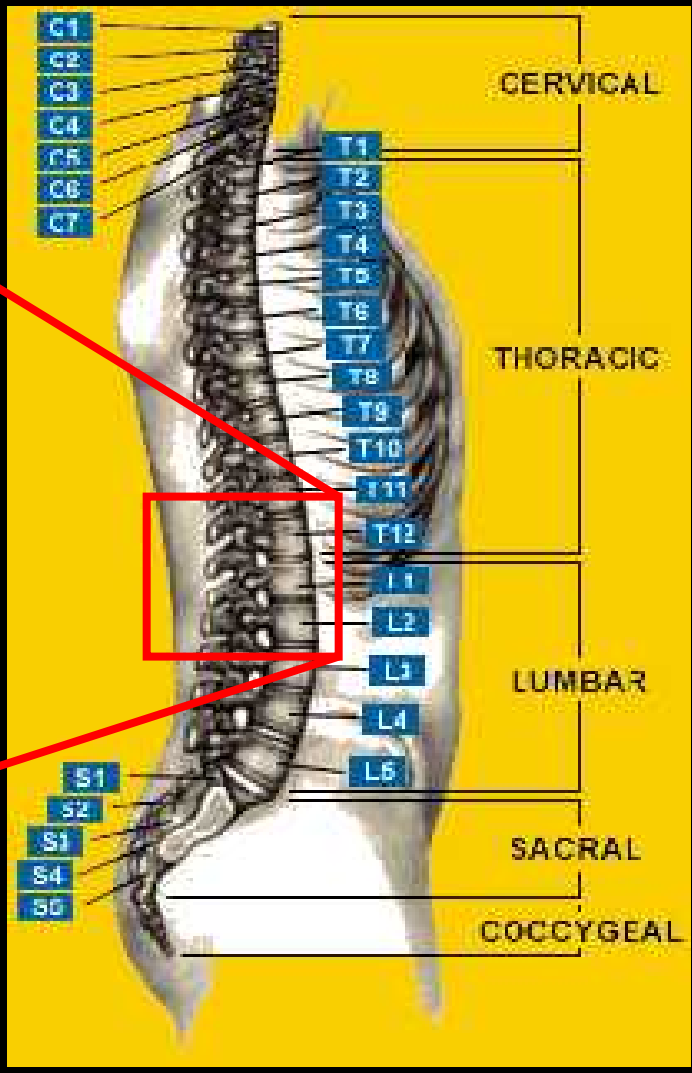
Watch your Back

- Anatomy
- Nutrition

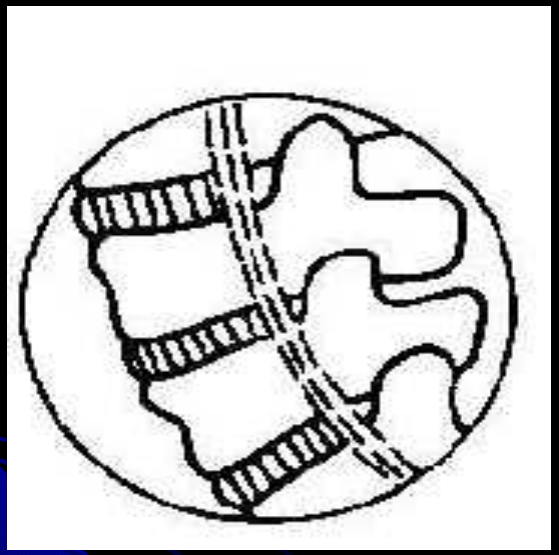


Back:How it works!

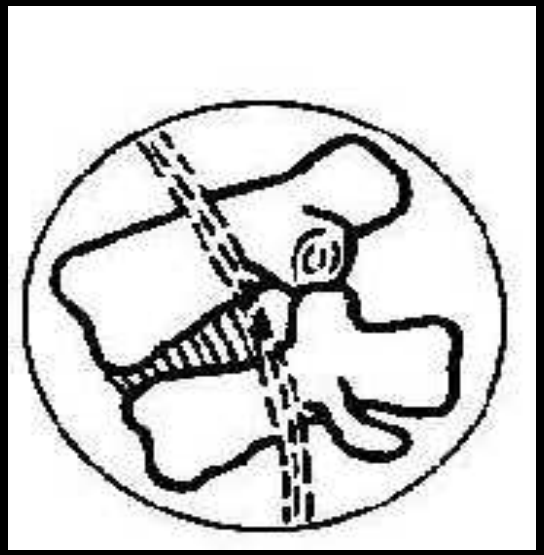




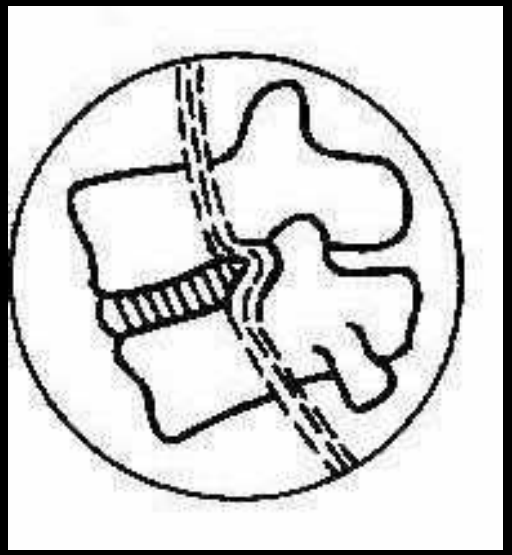
The Back: How it works!



Vertebrae, facets, discs aligned

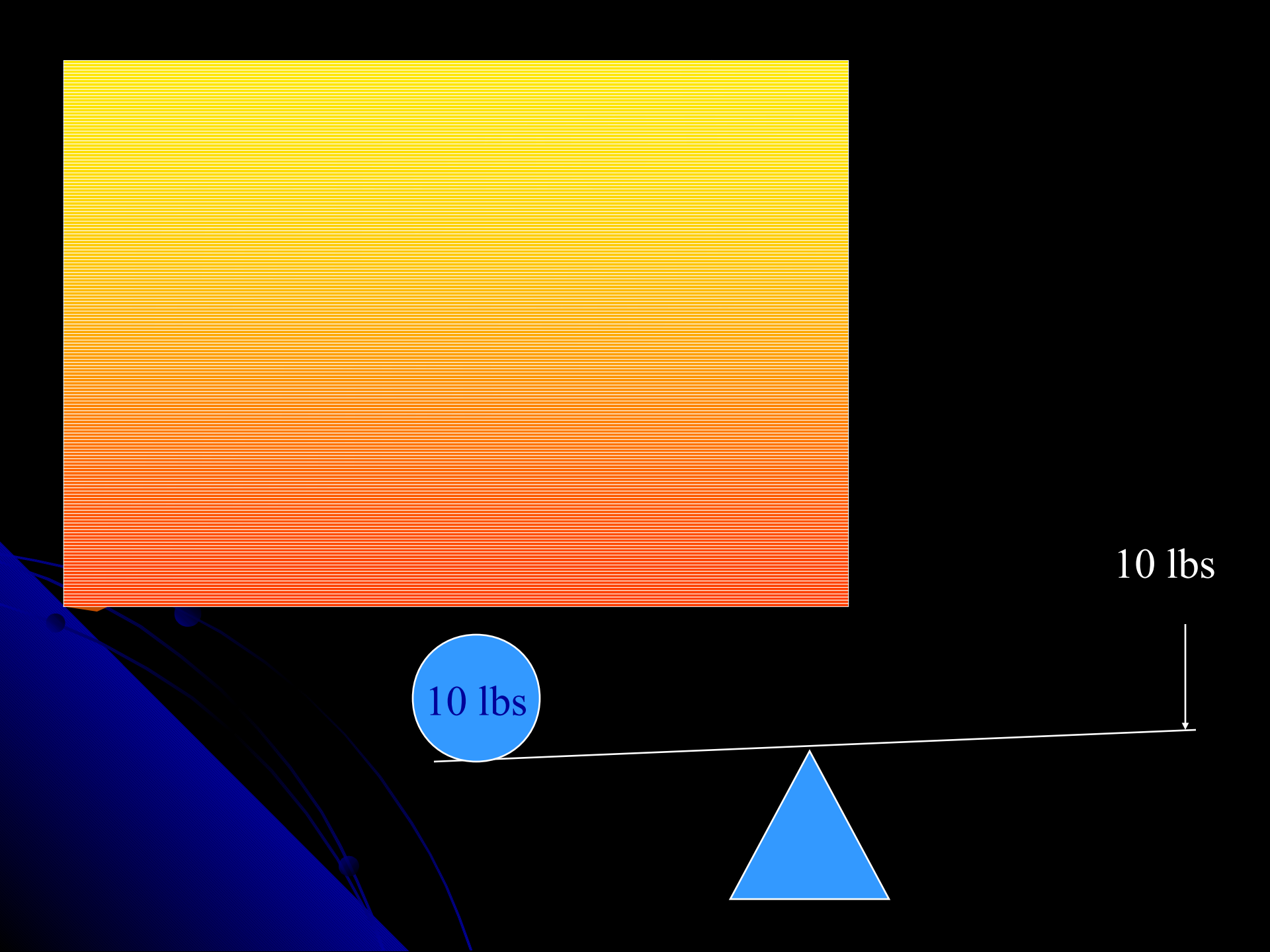


Facets dislocated, straining spinal nerve

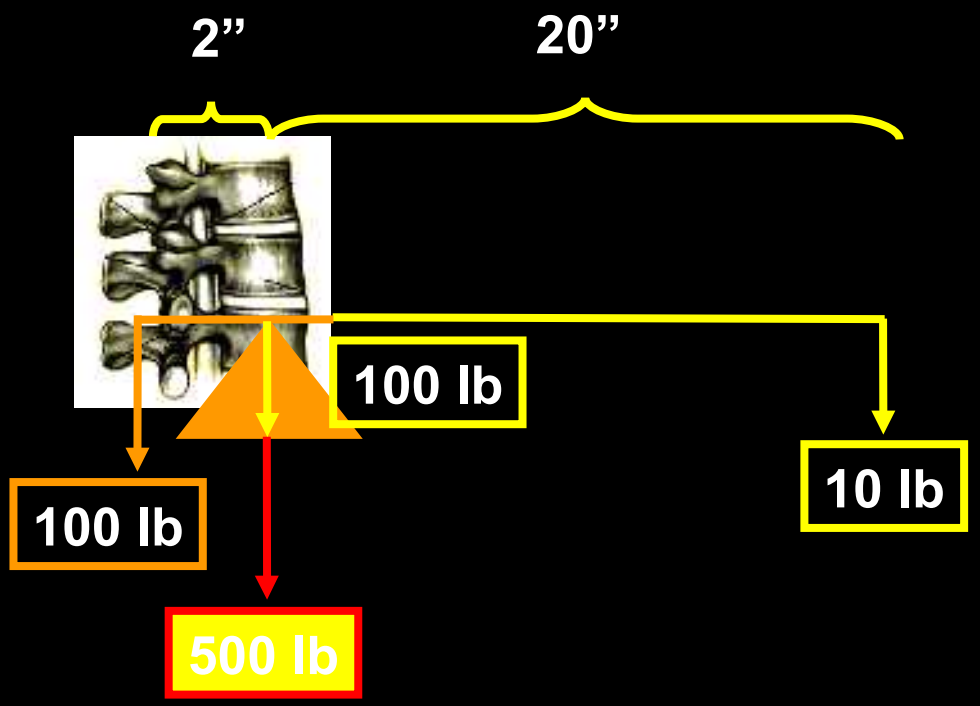


Herniated disc, pressing on spinal nerve

Benefits of the Disc . . . Cont.


10 lbs
10 lbs

Biomechanical Leverage



The Forces Involved:

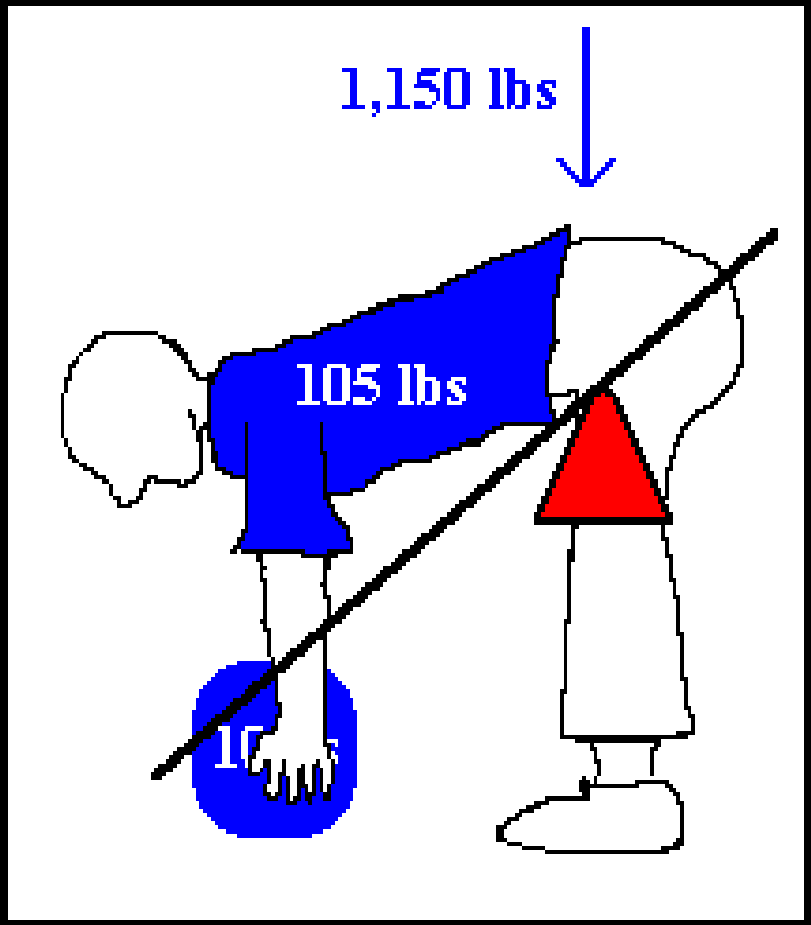
continued . . .

In addition:

The effect of not being in shape

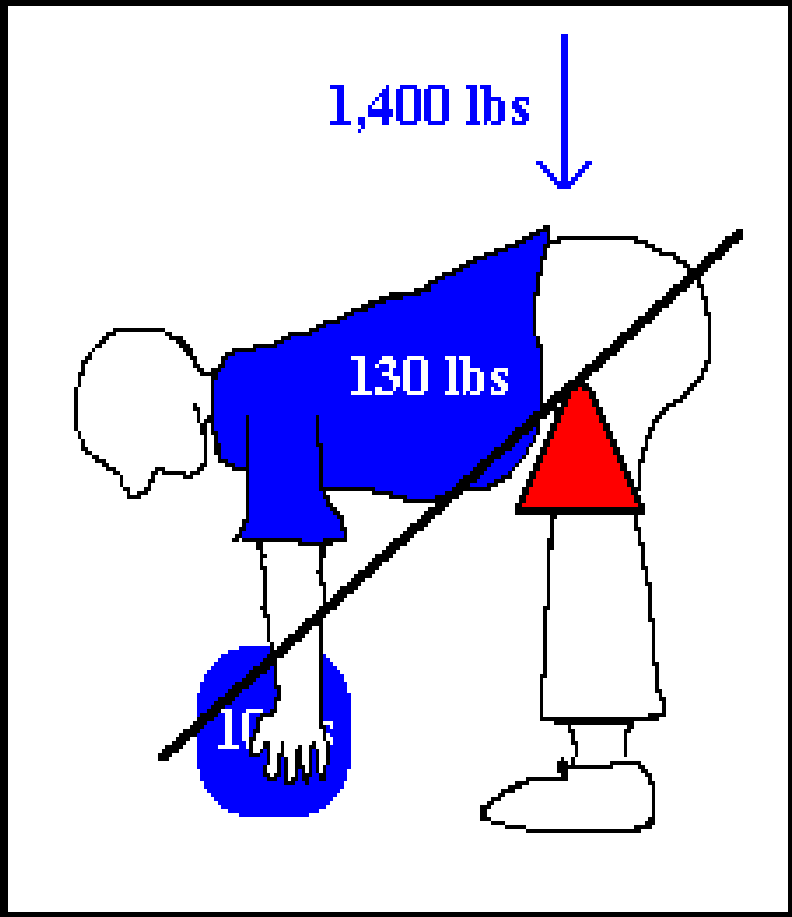
The Forces Involved

- **When you add in the 105 pounds of the average human upper torso, you see that lifting a ten pound object actually puts 1,150 pounds of pressure on the lower back.**



The Forces Involved

- **If you were 25 pounds overweight, it would add an additional 250 pounds of pressure on your back every time you bend over.**



Neck Strain -- Causes

- Overuse of the neck muscles and ligaments:
  - extended periods of neck flexion, eg:
    - looking into a microscope a large part of the day
    - computer workers who may strain their neck to see the screen better
- An acute event that causes trauma to the neck muscles and ligaments, eg:
  - whiplash injury in which the neck is forcefully bent backward then forward then back during an automobile accident

Neck Strain -- Diagnosis

- A thorough history and physical examination
- X-rays
- CAT scans
- MRI’s

Neck Strain -- Treatment

- Rest:
  - A soft collar can help relieve neck tension and allow the muscles to rest
- Range of motion therapy for the neck
- Medications
  - Non-steroidal anti-inflammatory medications
  - Muscle Relaxant
  - Cervical epidural steroids help alleviate arm and neck pain
- The vast majority of neck strains improve and resolve over 2-4 weeks
- If not, then Surgery is a must

Some symptoms:

- Tension, burning, aching in the back
- Numbness in the arm or hands
- Numbness in the legs

Background (NIOSH)

- Over-exertions account for 31% of all injuries.
  - Back is the body part mostly injured (22%)
- Manual Handling account for 27% of all industrial injuries
- Back injuries account for nearly:
  - 20% of all injuries and illnesses in the workplace.
  - 25% of the annual workers' compensation payments.
- The highest number of nonfatal injury by body part in 2001
- There were 29,714 back cases in 2001

Back Stress (Surgical Treatment)

Causes of back Injury

- Distance away from body of lifter
- Distance of travel (eg: bed-to-chair)
- Weight of resident
- Unwilling/unable resident
- Trying to prevent a resident from falling
- Incorrect lifting technique
- Multiple lifts/shift
- Awkward postures during lifts
- Ineffective training
- Lifting resident from floor

Cauda equina syndrome

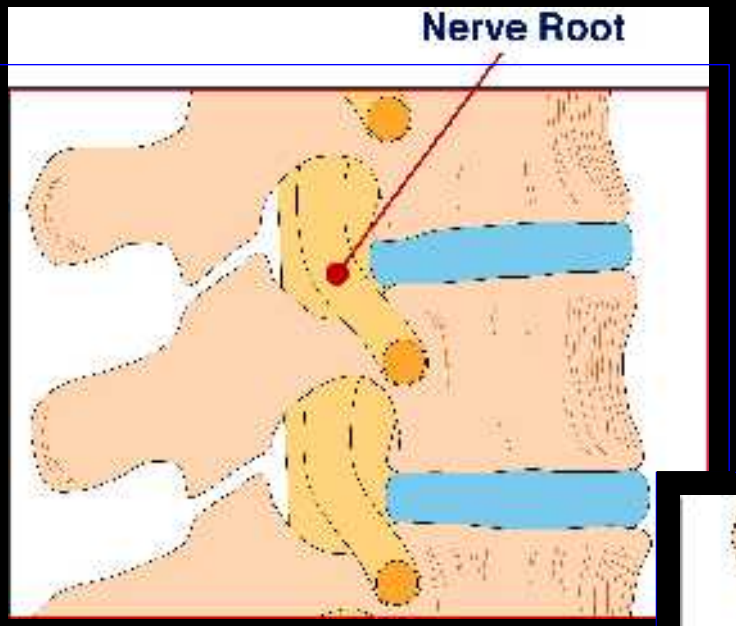
- Bladder dysfunction
- Saddle anesthesia
- Major limb motor weakness

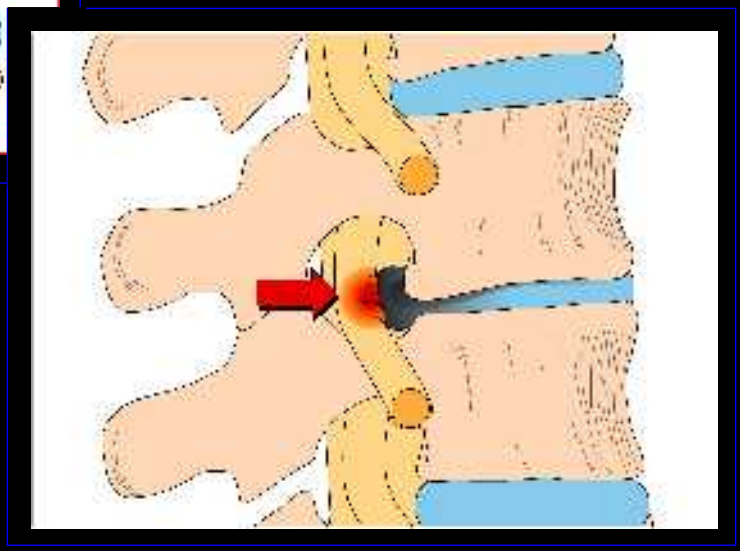
Κάταγμα

Symptoms of back injuries:

- Back or neck pain
- Shooting or stabbing pains in arms or legs
- Stiffness
- Weakness or clumsiness
- Burning sensations
- Heaviness

Κήλη Μεσοσπονδύλιου Δίσκου





Κήλη Μεσοσπονδύλιου Δίσκου