

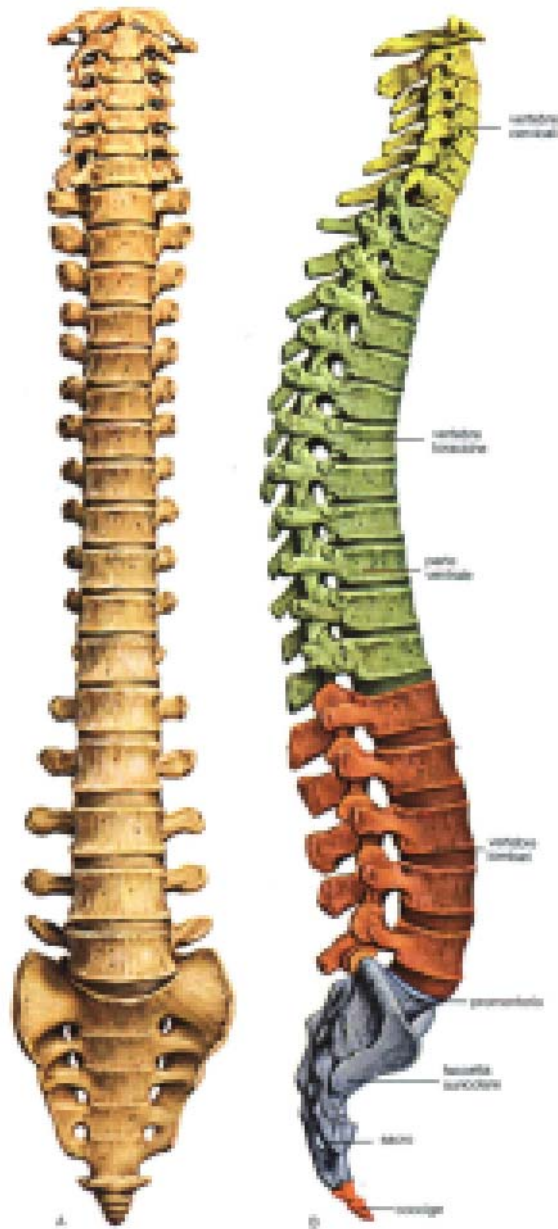
*L'IMAGING NELLA
PATOLOGIA
DEGENERATIVA DEL
RACHIDE CERVICALE*

www.fisiokinesiterapia.biz

La struttura vertebrale e la sua architettura

- Il progressivo aumento delle dimensioni vertebrali in senso longitudinale è correlato solo alla fisiologica risposta all'aumento progressivo di carico assile



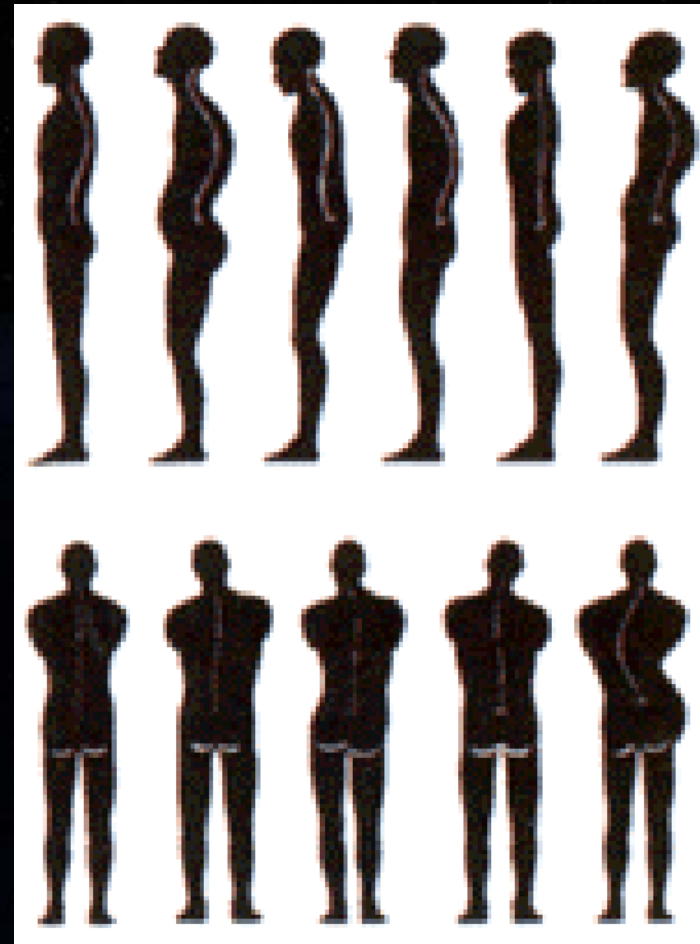


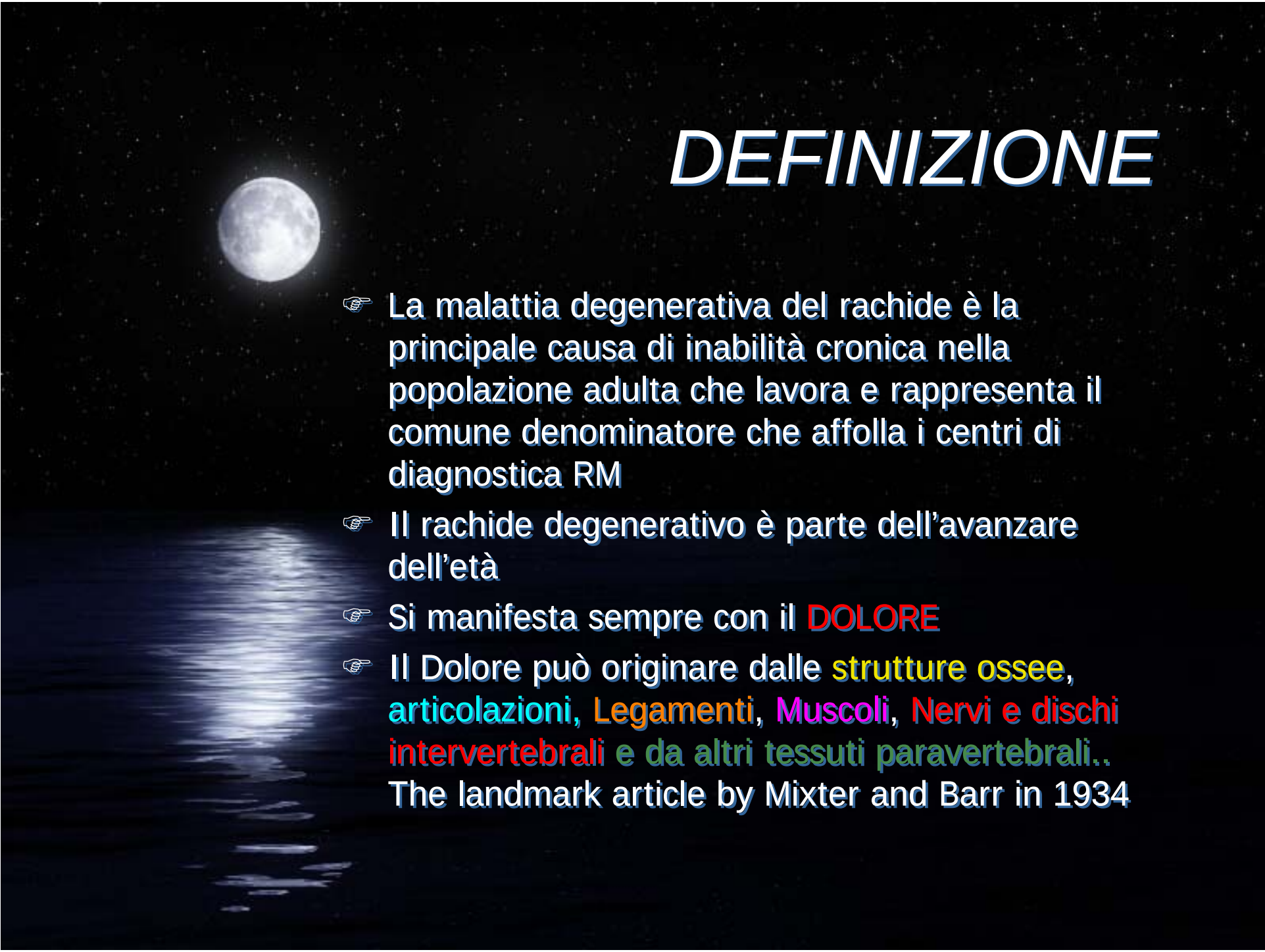
33 segmenti (24 mobili 9 saldati)

36° lordosi cervicale

35° cifosi dorsale

50° lordosi lombare

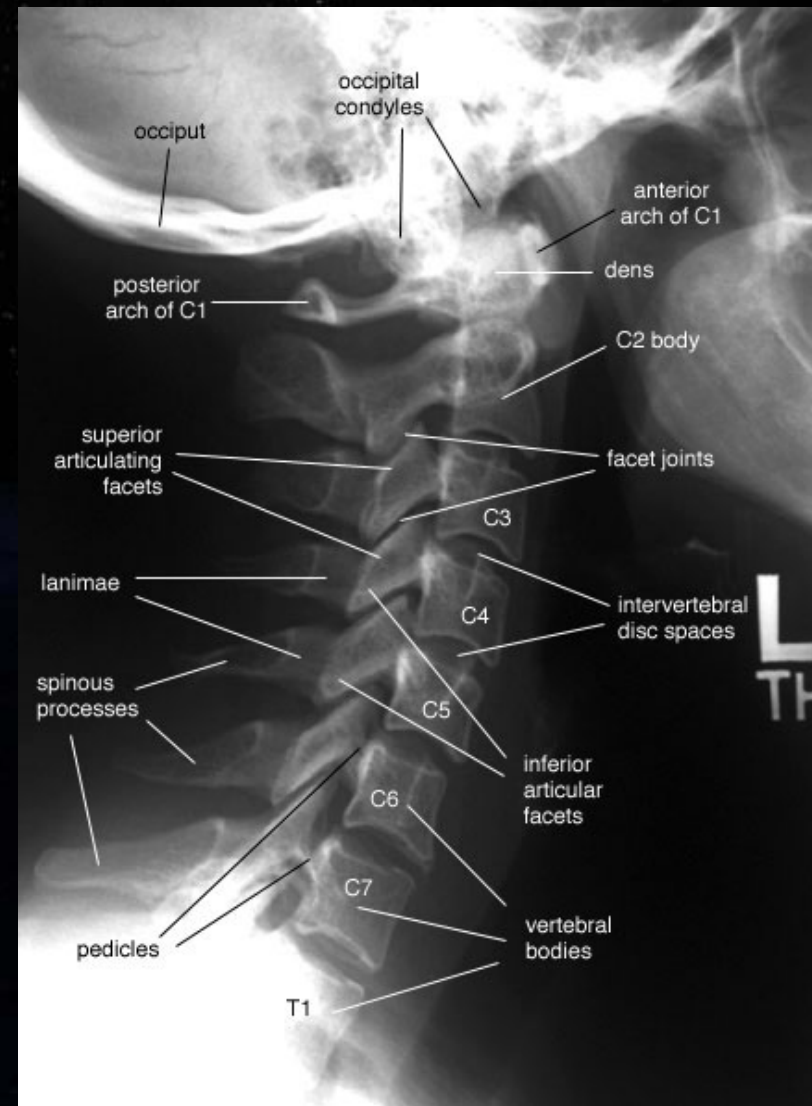
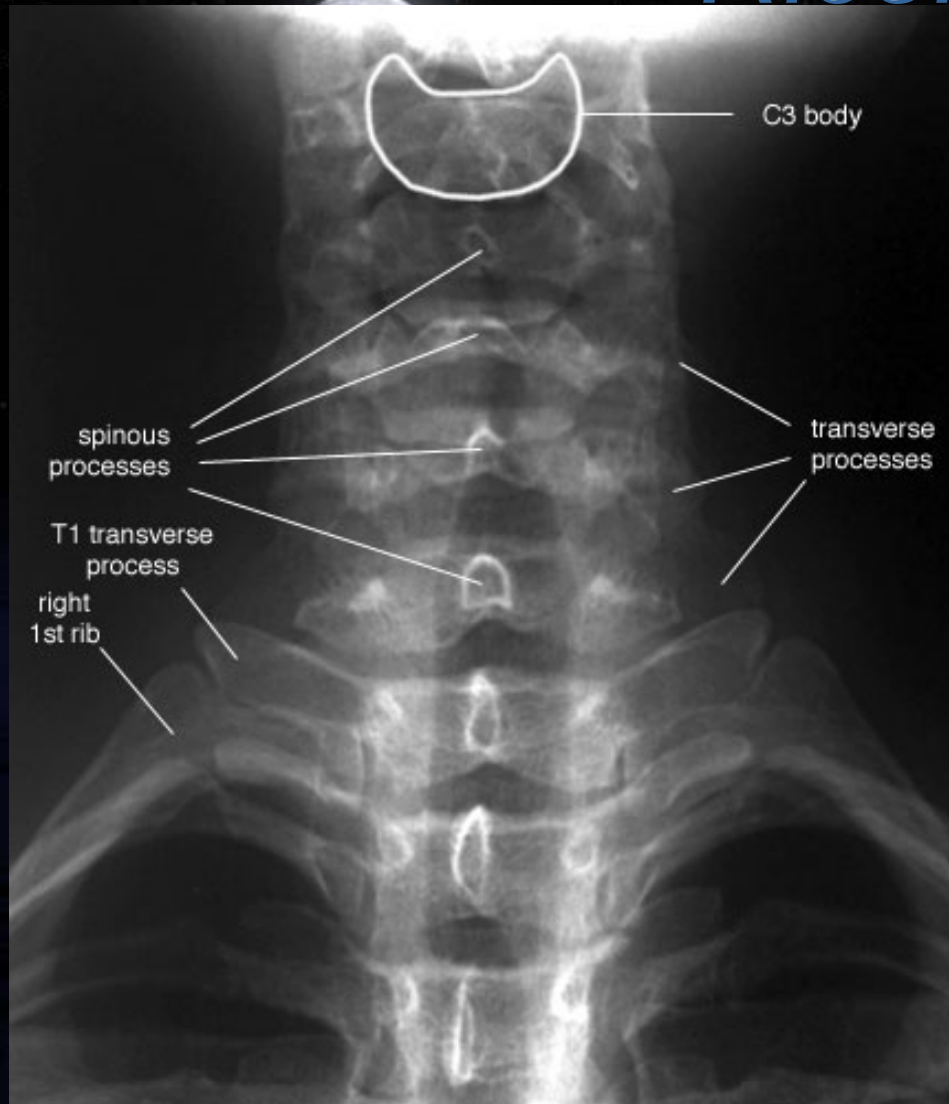




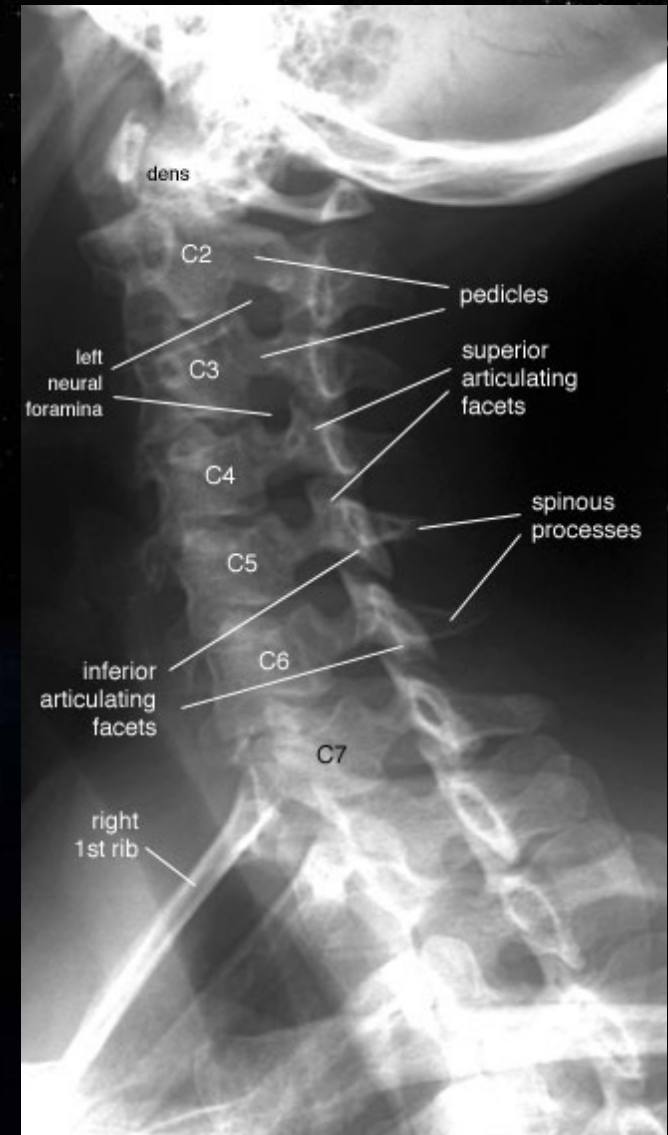
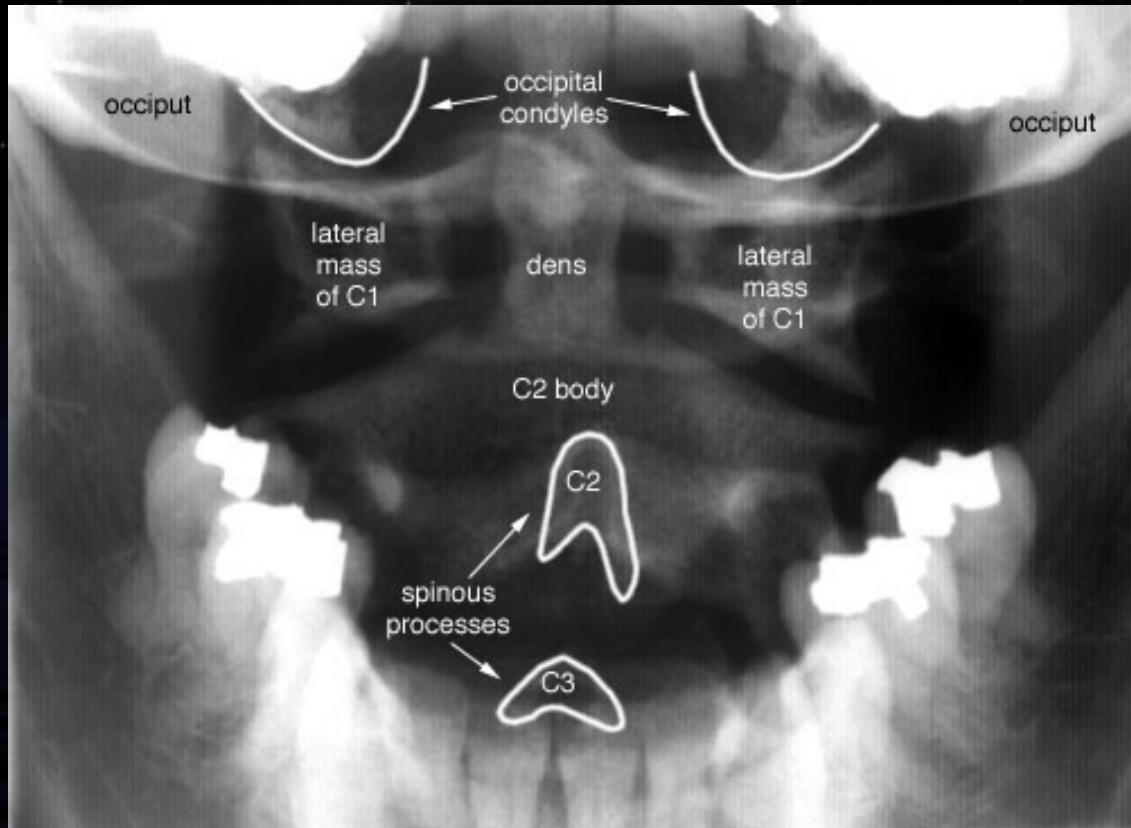
DEFINIZIONE

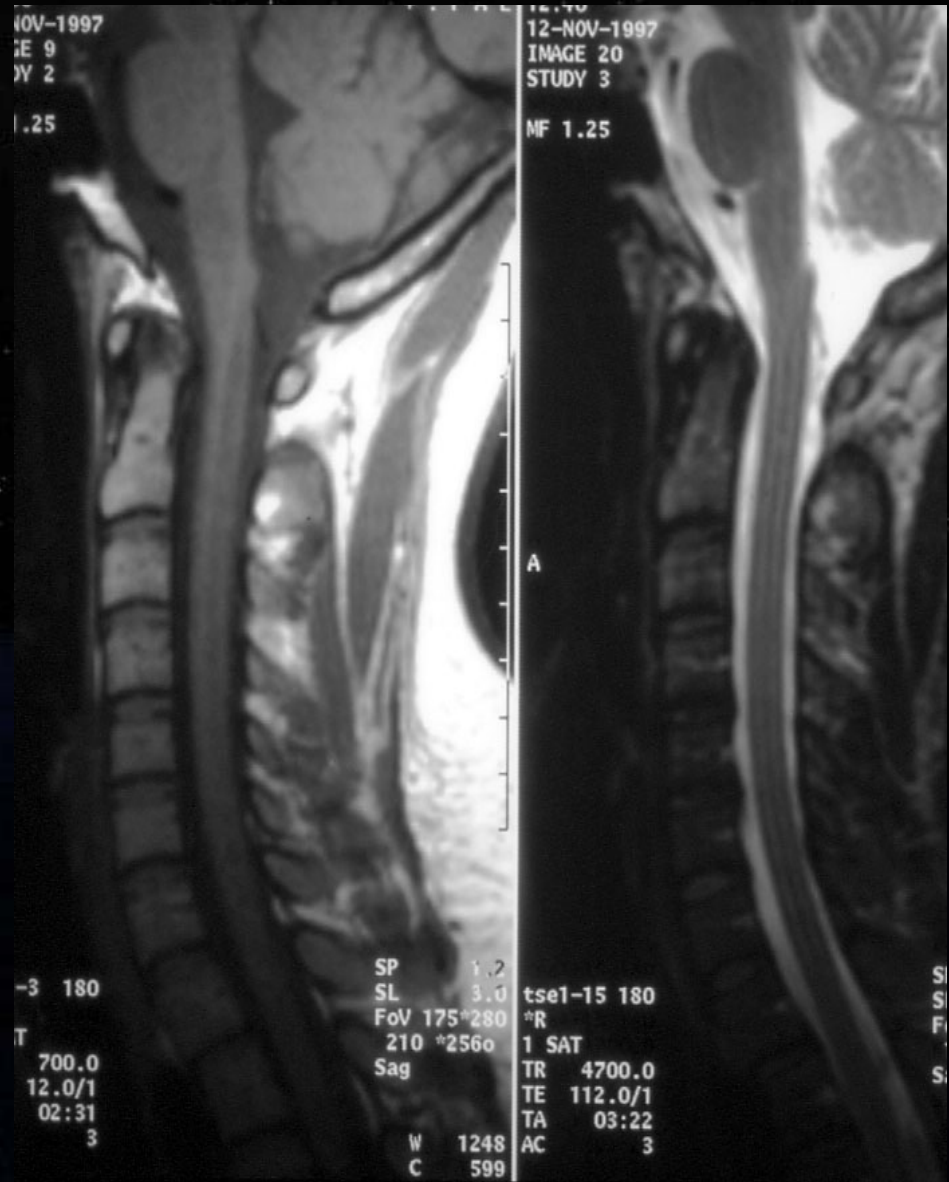
- ☞ La malattia degenerativa del rachide è la principale causa di inabilità cronica nella popolazione adulta che lavora e rappresenta il comune denominatore che affolla i centri di diagnostica RM
- ☞ Il rachide degenerativo è parte dell'avanzare dell'età
- ☞ Si manifesta sempre con il **DOLORE**
- ☞ Il Dolore può originare dalle **strutture ossee**, **articolazioni**, **Legamenti**, **Muscoli**, **Nervi e dischi intervertebrali** e da altri **tessuti paravertebrali**..
The landmark article by Mixter and Barr in 1934

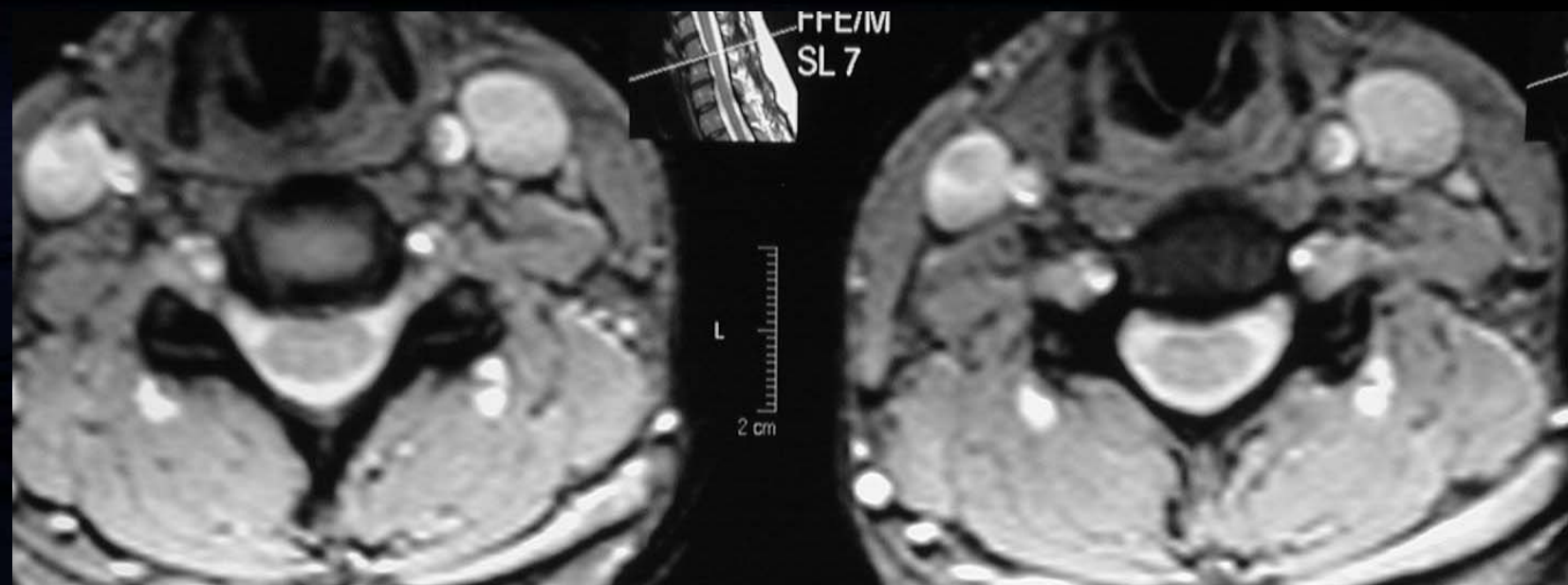
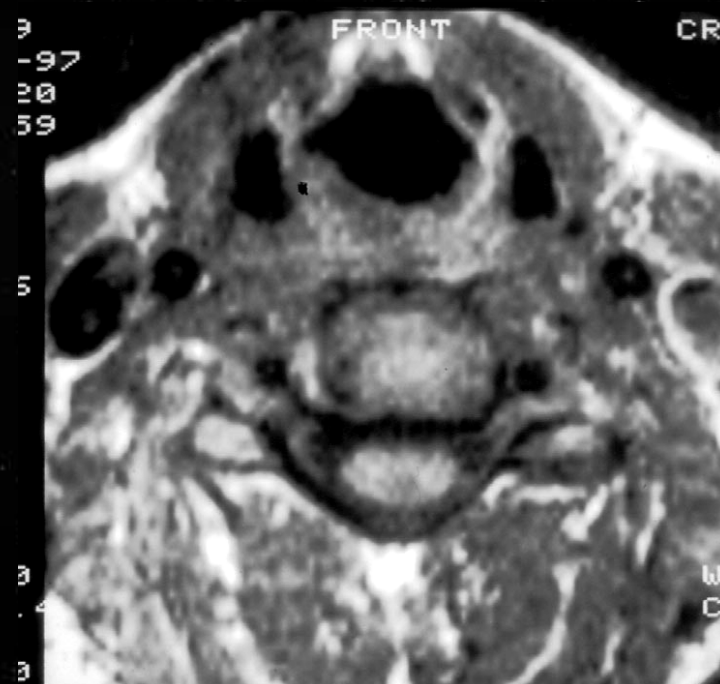
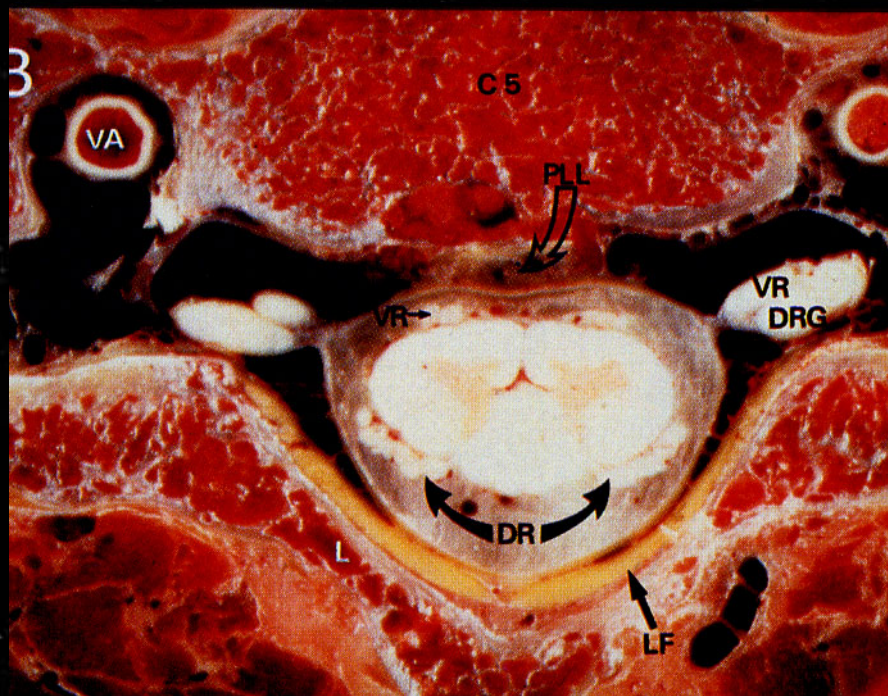
Ricordi di Anatomia

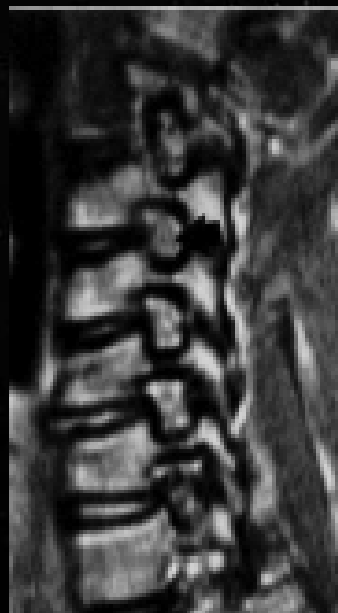


Ricordi di Anatomia

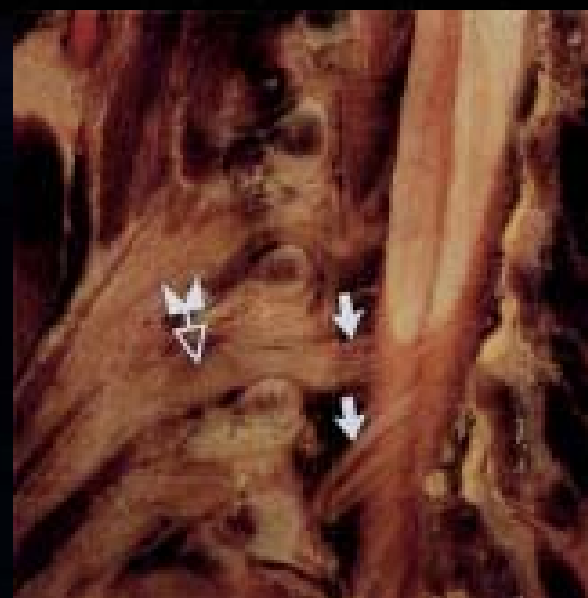
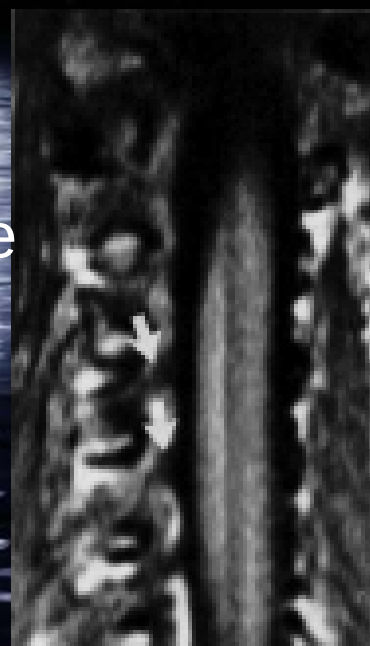






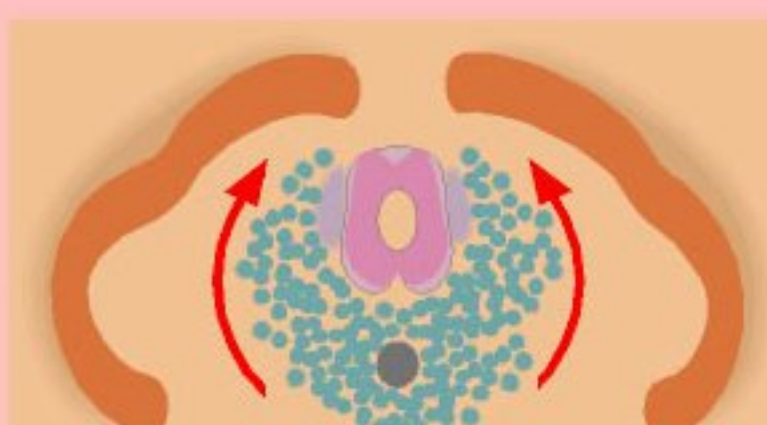


I Forami
di
Coniugazione



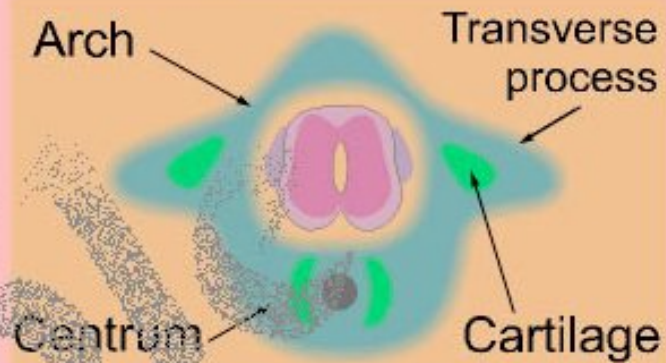
Il disco intervertebrale è un residuo embrionario della notocorda.

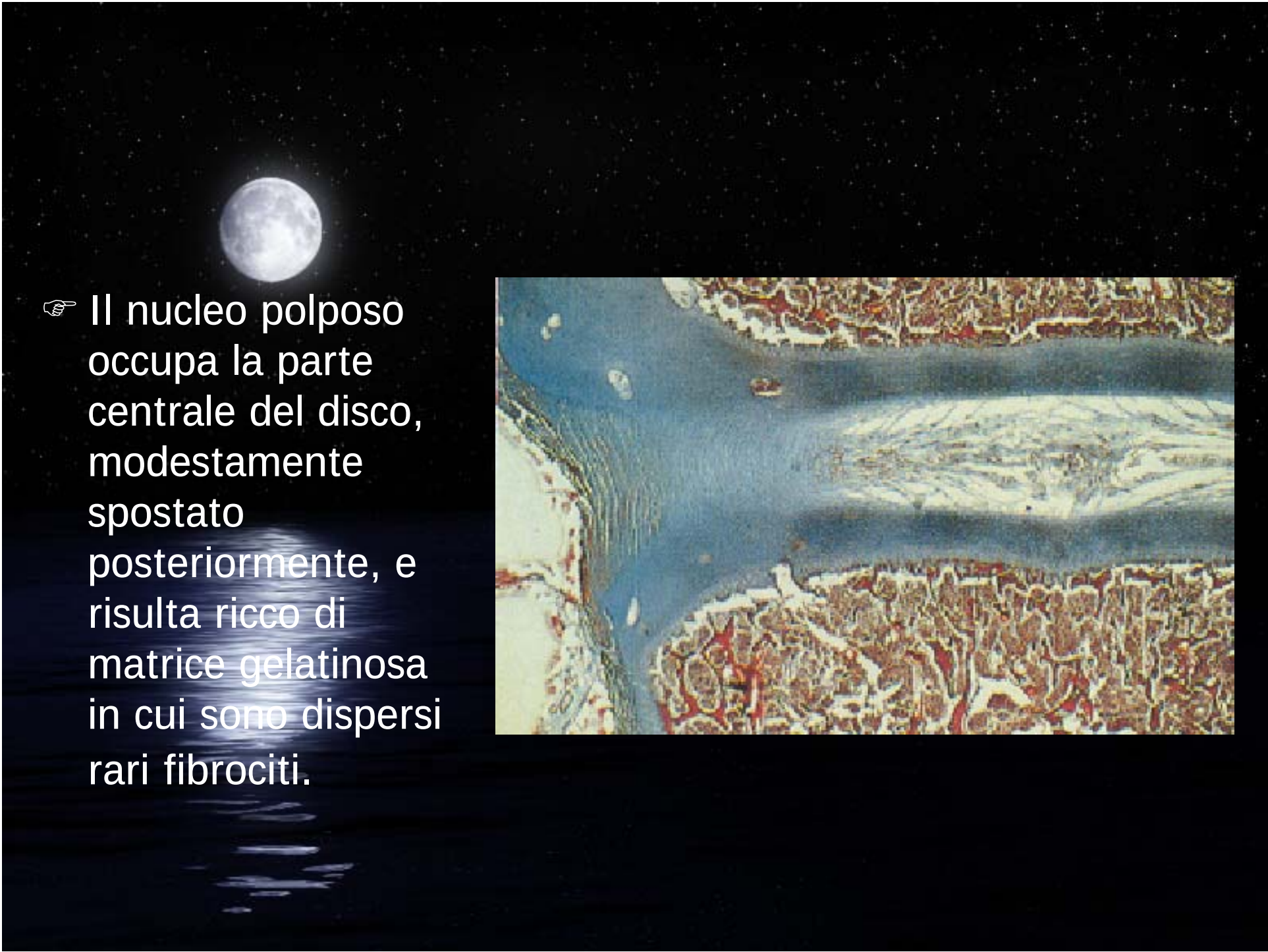
*Sclerotome
condenses
around the
neural tube*



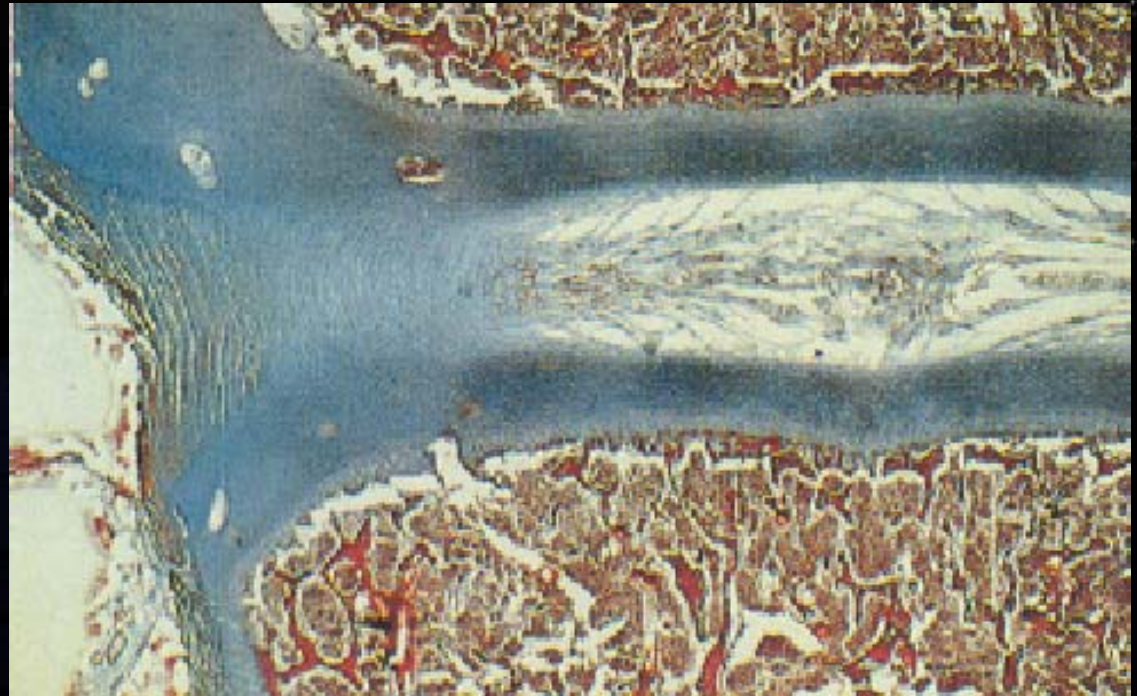
*Chondrification
begins locally
in week 6*

*Ossification
begins around
week 9 and
continues into
the late teens*

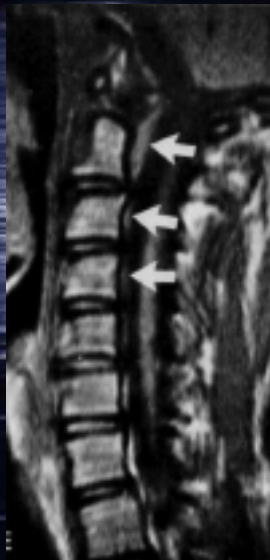
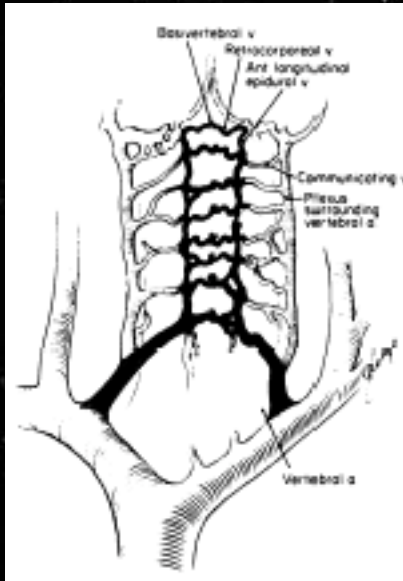




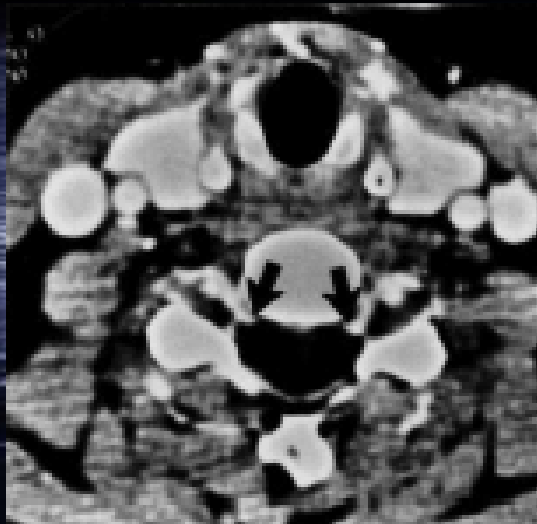
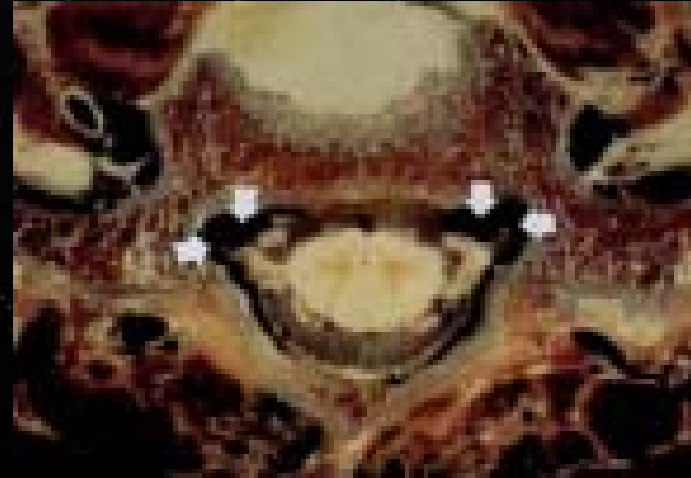
☞ Il nucleo polposo occupa la parte centrale del disco, modestamente spostato posteriormente, e risulta ricco di matrice gelatinosa in cui sono dispersi rari fibrociti.



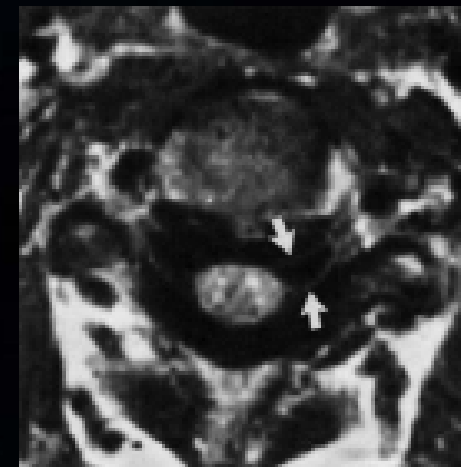
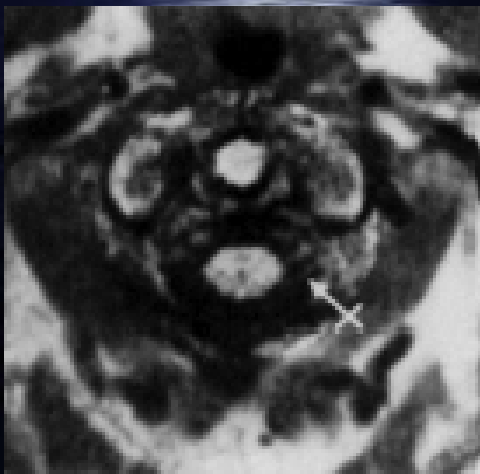
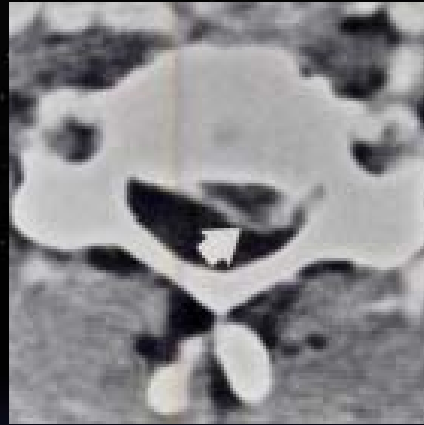
I Plessi Venosi Epidurali



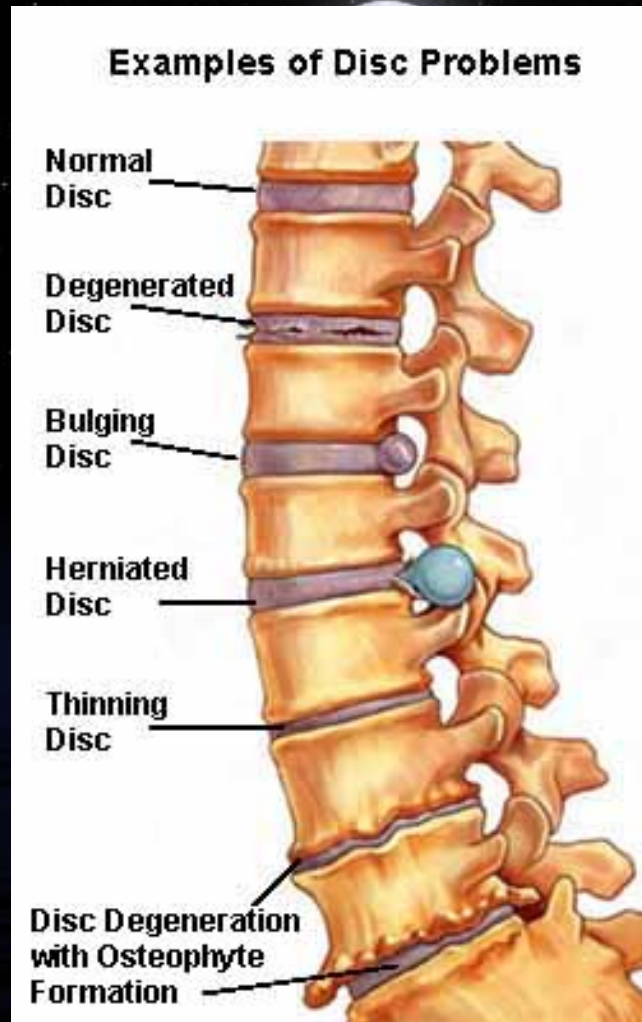
Anatomia Neurovascolare



Anatomia Neurovascolare



Patologia Discale



Desiccation - loss of disk water
Disk bulge - circumferential enlargement of the disk contour in a symmetric fashion

Protrusion - a bulging disk that is eccentric to one side but < 3 mm beyond vertebral margin

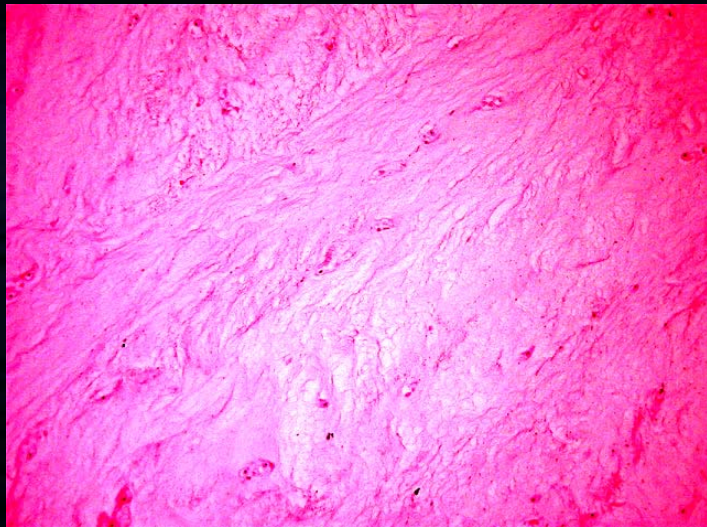
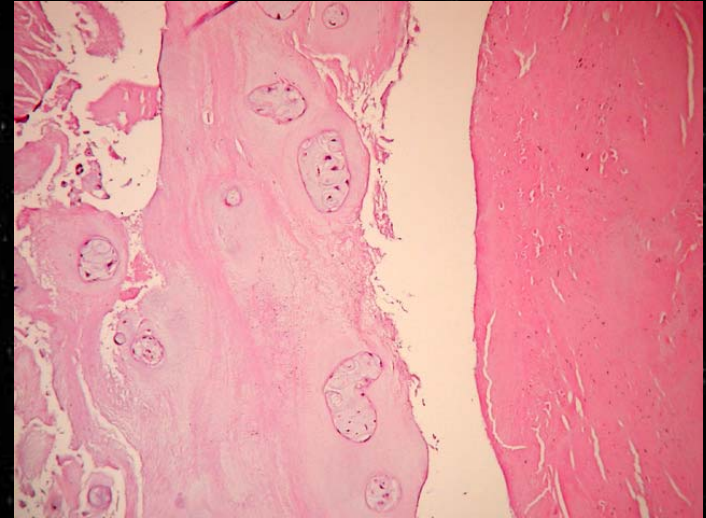
Herniation - disk protrusion that extends more than 3 mm beyond the vertebral margin

Extruded disk - extension of nucleus pulposus through the annulus into the epidural space

Free fragment - epidural fragment of disk no longer attached to the parent disk

Il disco degenerato

fisiologico invecchiamento del disco con graduale riduzione della componente idrica



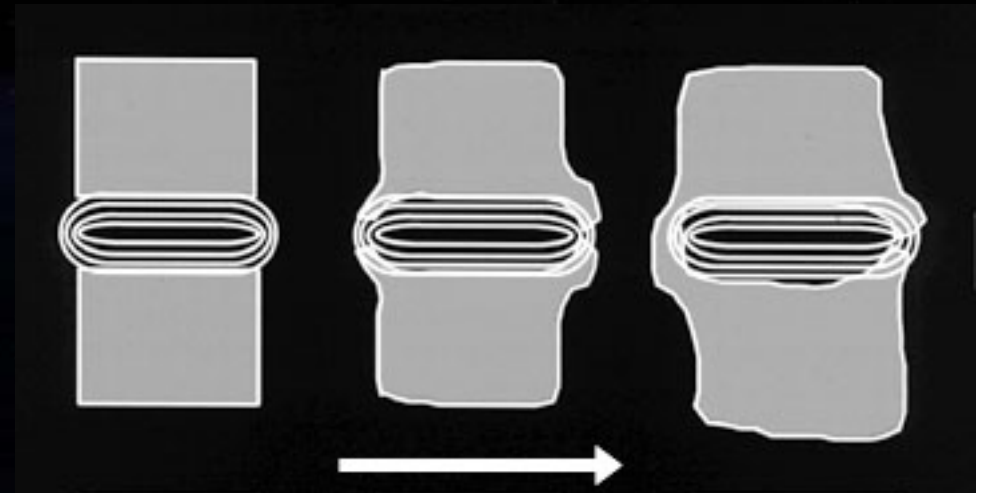
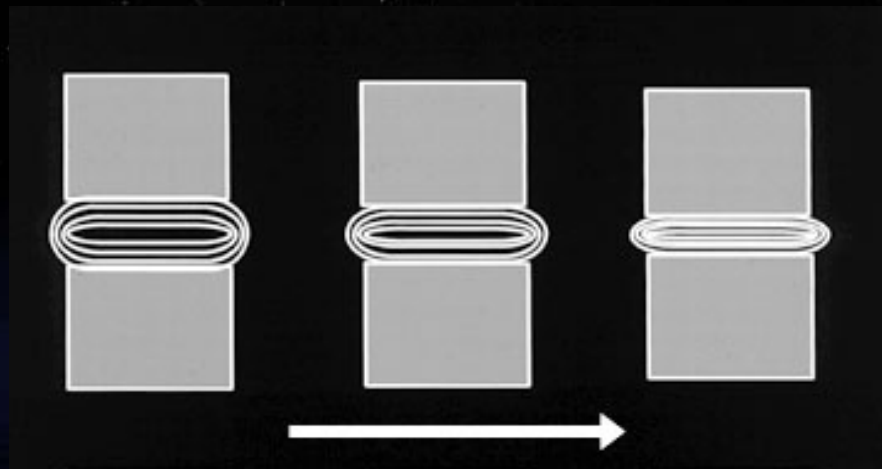
Base biochimica: variazione del rapporto fra le due catene polisaccaridiche della matrice gelatinosa:

condroitinsolfato LC

cheratosolfato SC

Il disco degenerato: Aspetti Radiologici

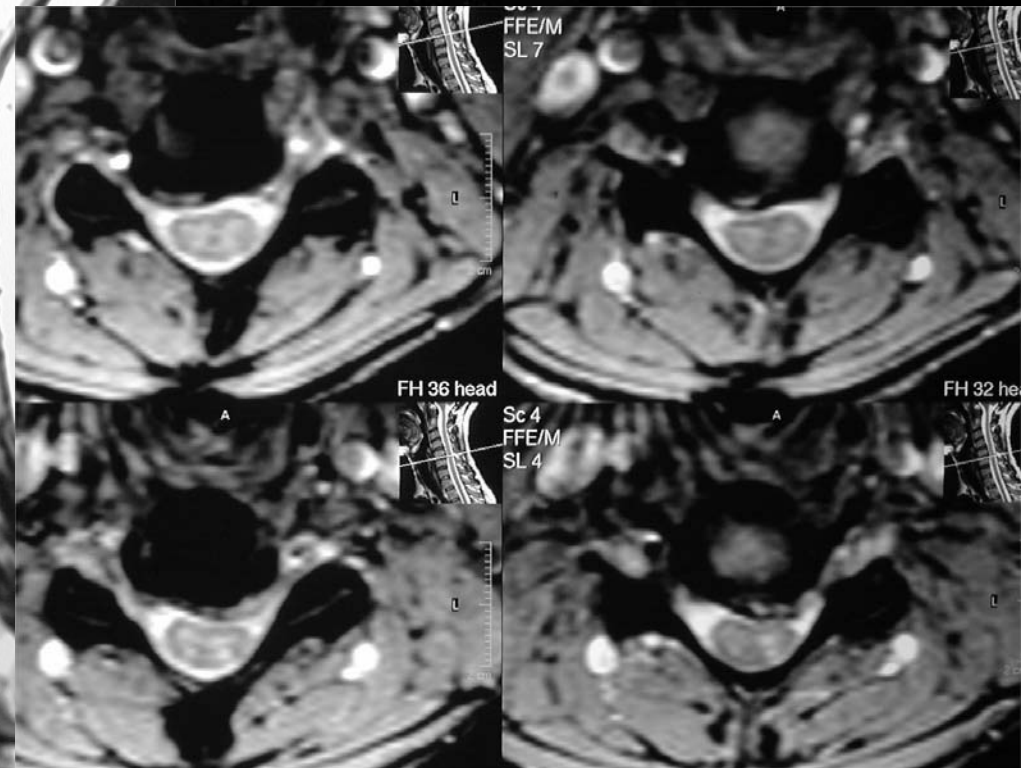
Degenerative nuclear disease



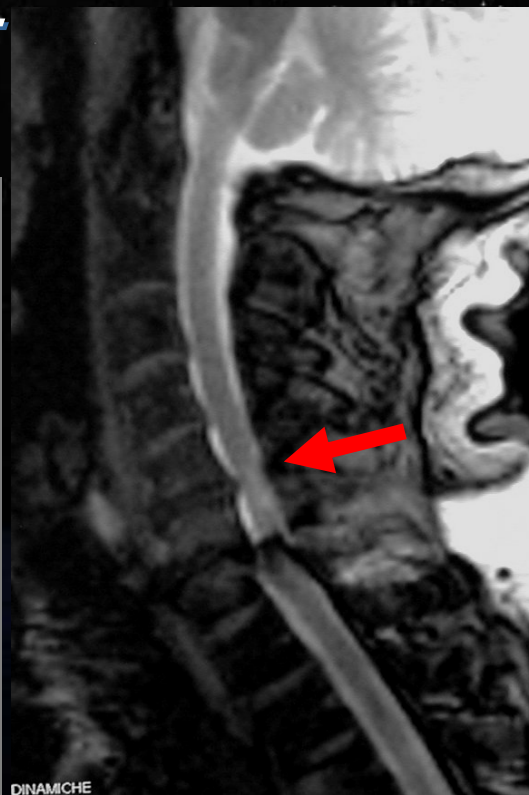
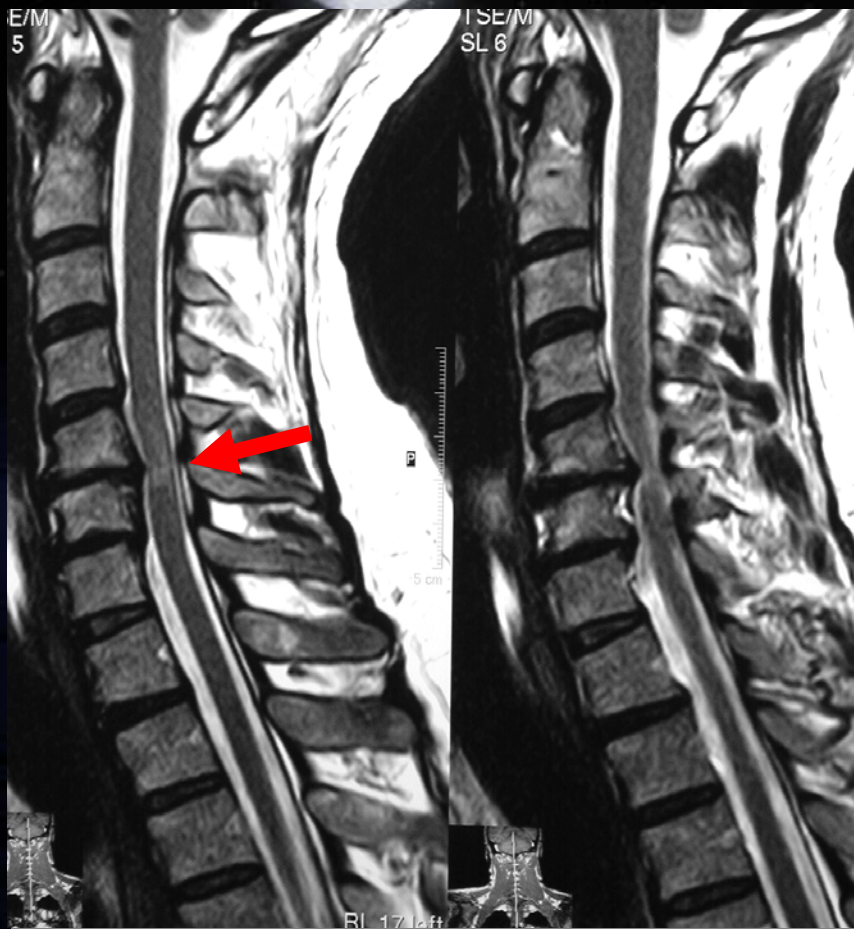
Degenerative annular disease

*Il disco degenerato:
Aspetti Radiologici*





CONSEGUENZE

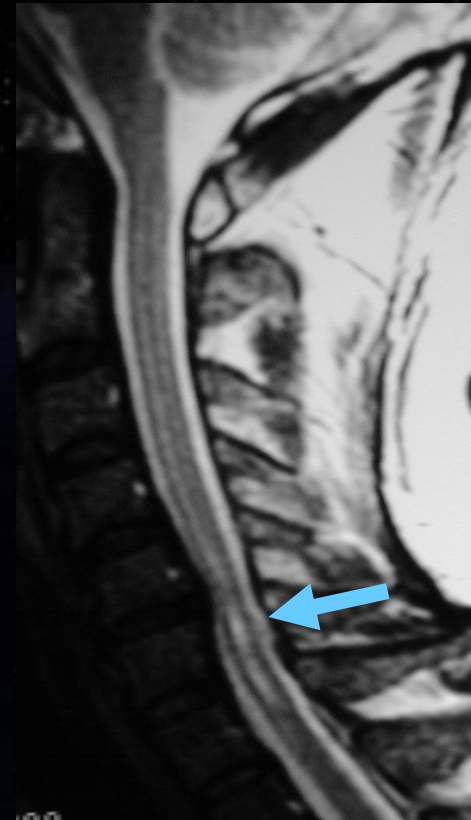
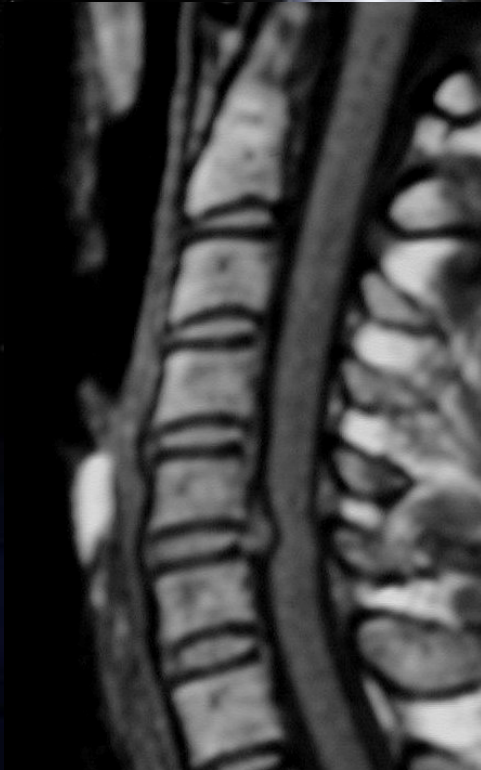


estensione



flessione

*CONSEGUENZE
RARE*





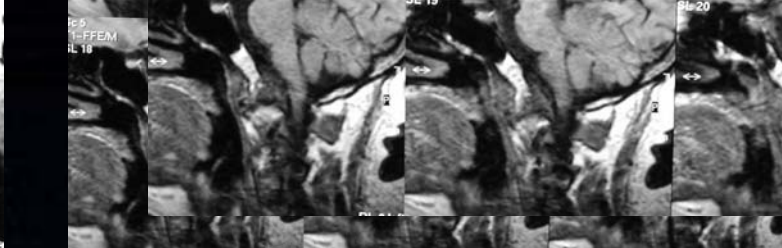
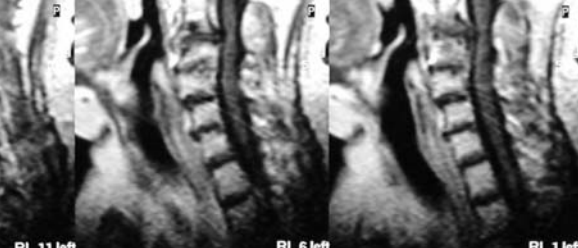
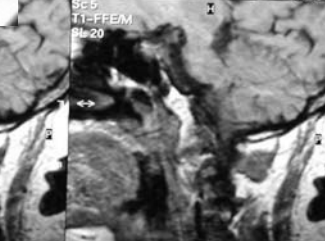
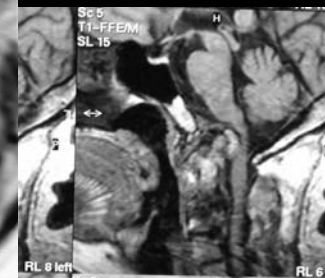
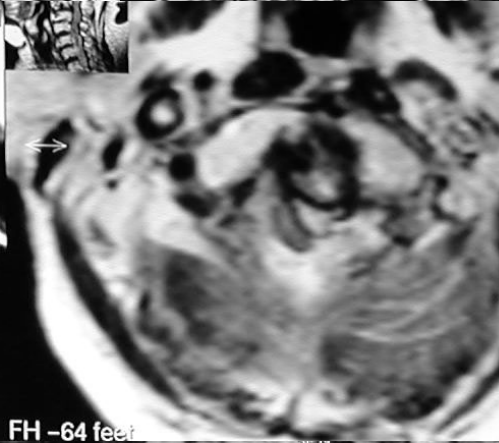
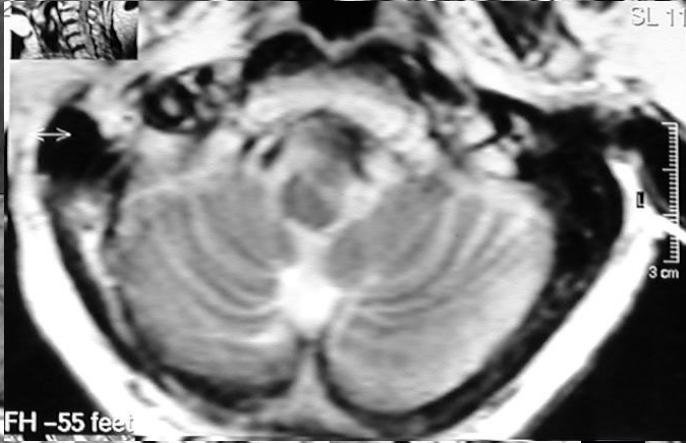
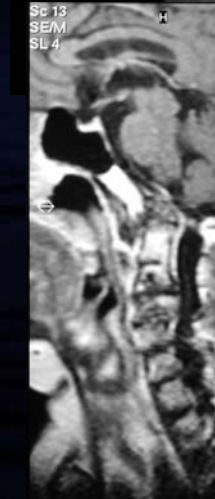
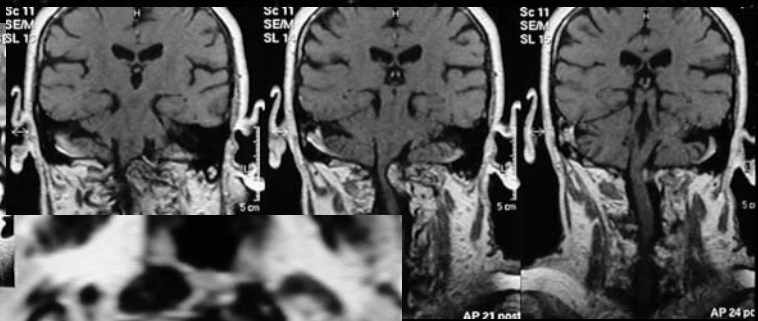
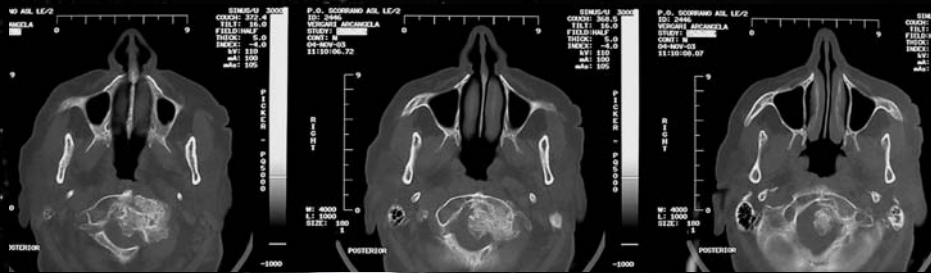
SPONDYLOSIS

☞ ***Vertebral Body Osteophytes***

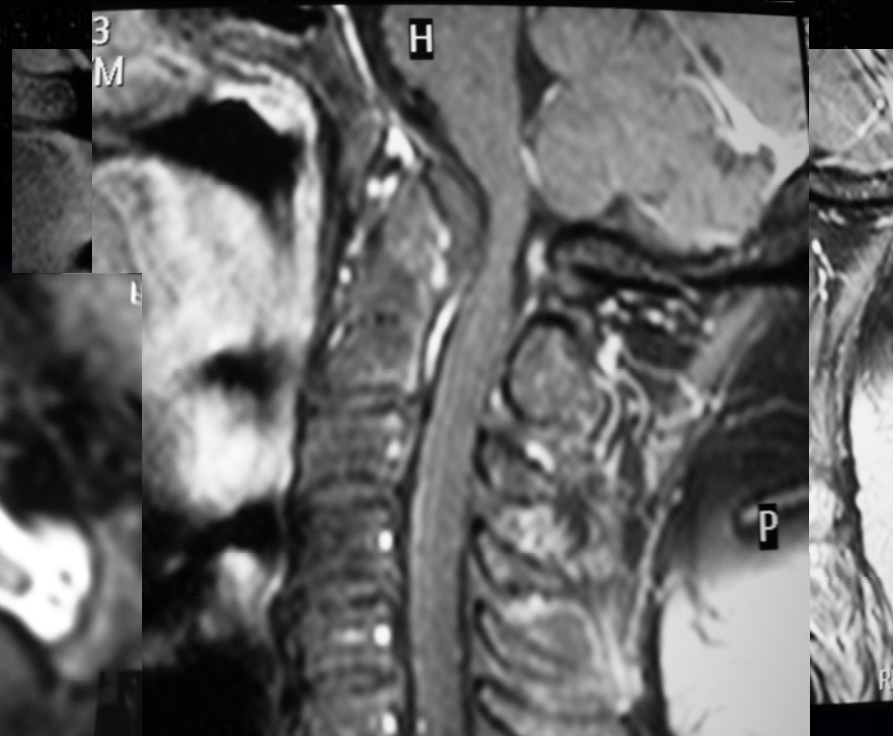
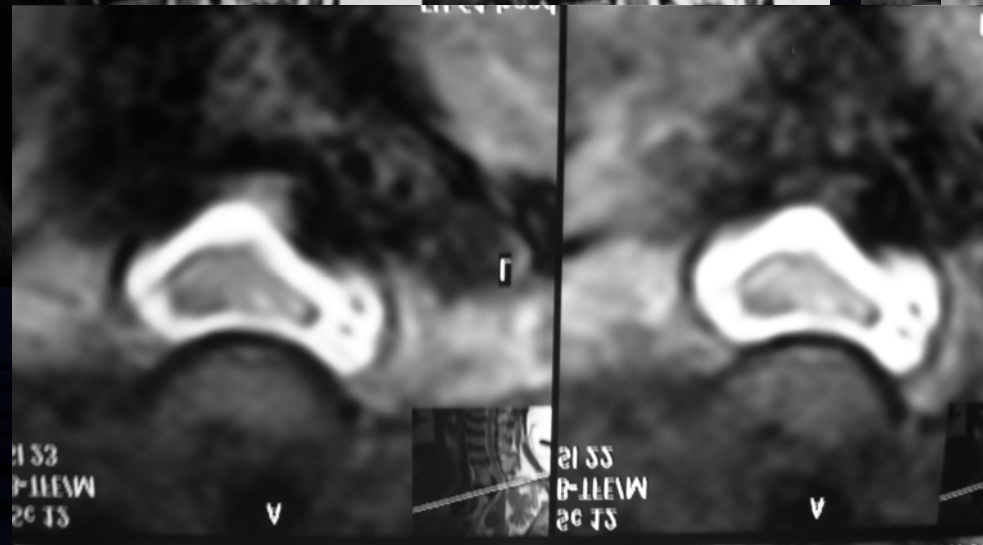
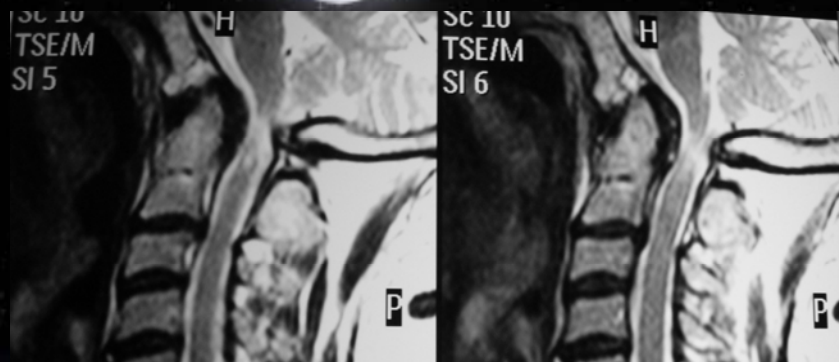
☞ ***Unco-Vertebral and Facet
Joint Arthrosis***

☞ ***Synovial Cysts***

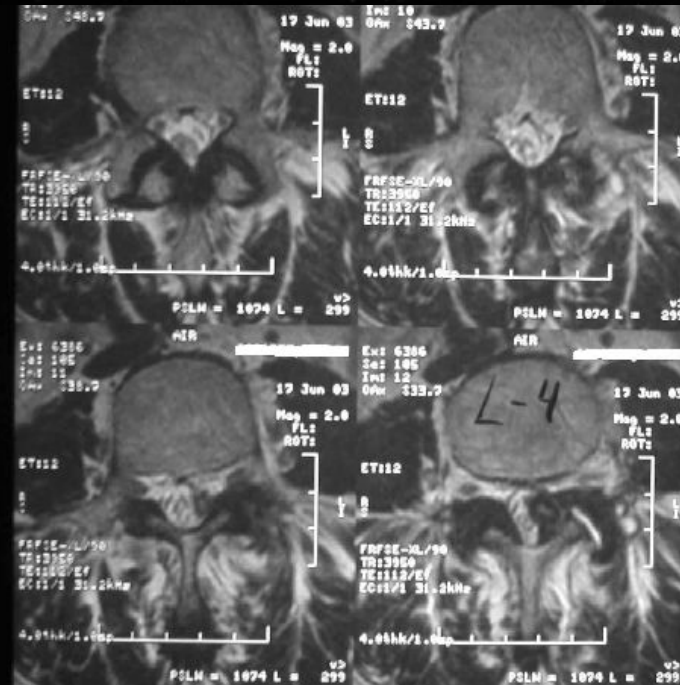
Vertebral Body Osteophytes



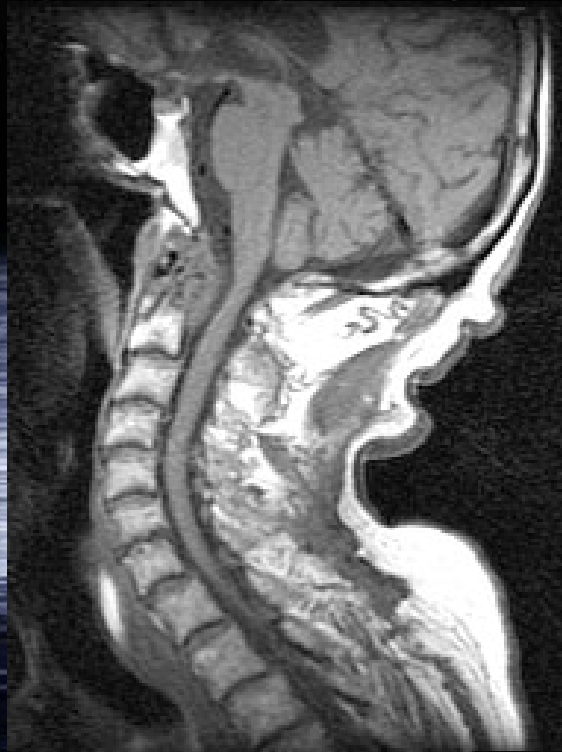
Panno Sinoviale



Cisti Sinoviale



Artrite Reumatoide



Stenosi del canale Spinale

- ☞ **Degenerazioni discali in più livelli**
- ☞ **Ipertrofia faccette articolari e legamento giallo**
- ☞ **Configurazione a Clessidra su T2 sagittale**
- ☞ **Forma Triangolare o a trifoglio su scansioni assiali**
- ☞ **Ridotta proporzione fra radici nervose e liquor**
- ☞ **Radici nervose serpiginose**
- ☞ **Plesso venoso retrovertebrale prominente**
- ☞ **Enhancement delle radici nervose indicanti la lesione**

Stenosi del canale Spinale

☞ Quadro sindromico secondario al
sinergismo progressivo di:

☞ bulging discale,

☞ artrosi,

☞ ipertrofia del legamento giallo



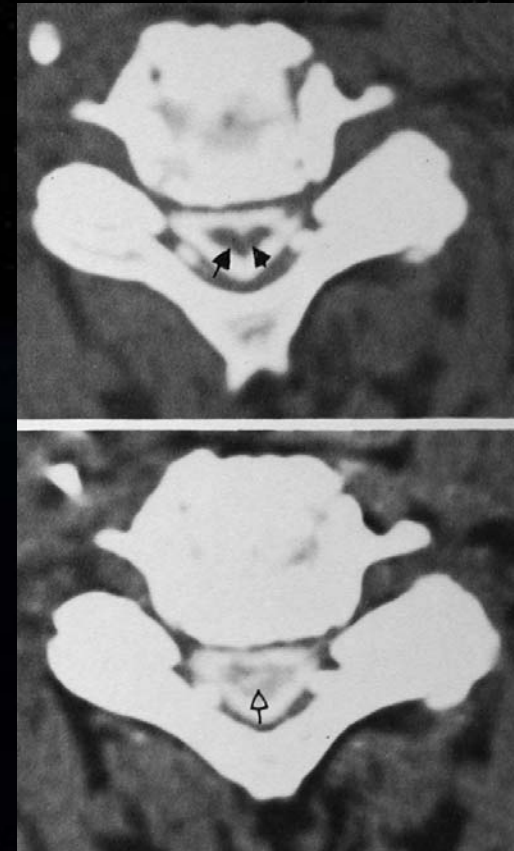
☞ riduzione di calibro del canale
spinale

☞ compressione sul midollo spinale

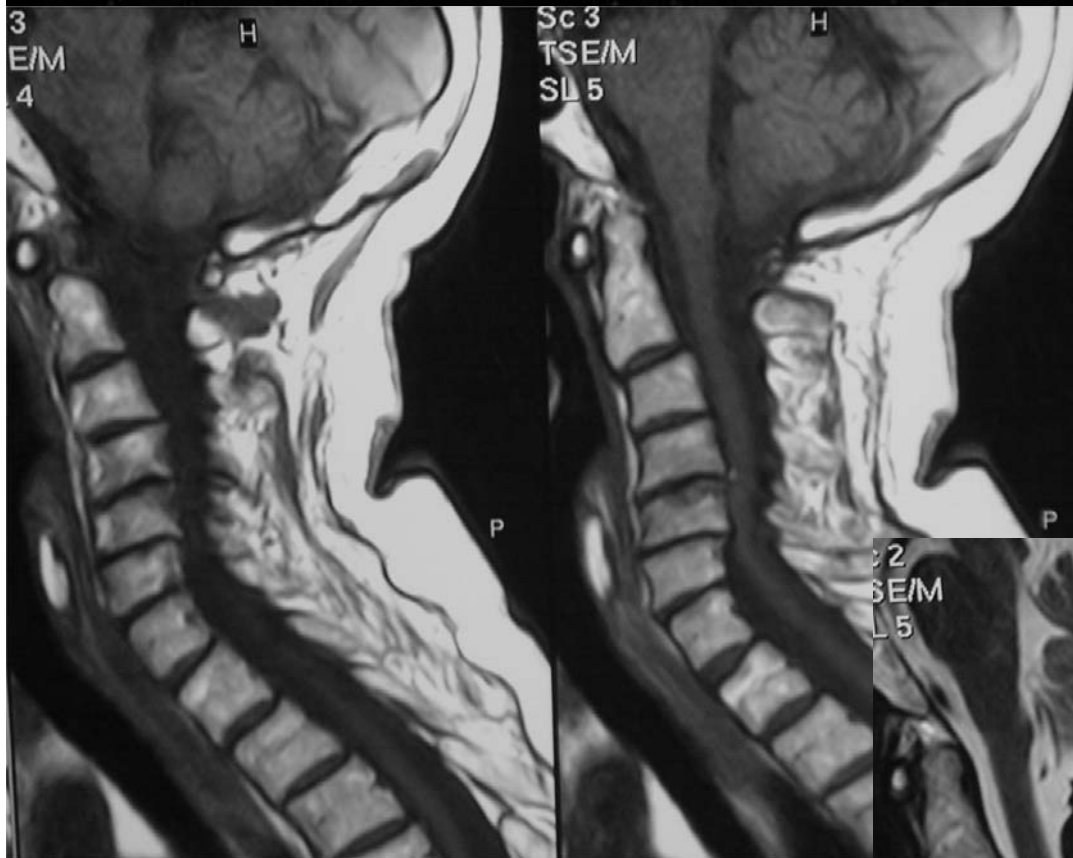
Stenosi del canale Spinale



Forma Triangolare o a
trifoglio su scansioni
assiali



CANALE STRETTO



Diffuse Idiopathic Skeletal Hyperostosis (DISH)

DISH è una sindrome abbastanza frequente e ad etiologia sconosciuta che si manifesta con ossificazione del legamento longitudinale anteriore, caratterizzato da grossolane escrescenze calcifiche del rachide a prevalenza anteriore che possono determinare turbe della deglutizione e fonazione.

Finding That Distinguishes Them From DISH

Ankylosing spondylitis
SI and facet joints must be normal

Degenerative nuclear disease
Disc spaces must be of normal height

Degenerative annular disease
Ossification must be seen along four contiguous vertebral bodies



SPONDYLOLISTHESIS



☞ *Spondylolysis*

☞ *Spondylolisthesis*

☞ *isthmic spondylolisthesis*

☞ *Degenerative Spondylolisthesis* "Segno
del canale largo"

INSTABILITA'

A)- Perdita della solidità di un segmento vertebrale.

B)- L'applicazione di una forza produce un'anomala Dislocazione rispetto alla norma.

C)- Comparsa di sintomatologia dolorosa, con potenzialità per deformità e complicanze neurologiche progressive



CAUSE D'INSTABILITA'

a) DA PATOLOGIA DEGENERATIVA

b) POST- CHIRURGICA

c) POST INTERVENTISTICA SPINALE

INSTABILITA'

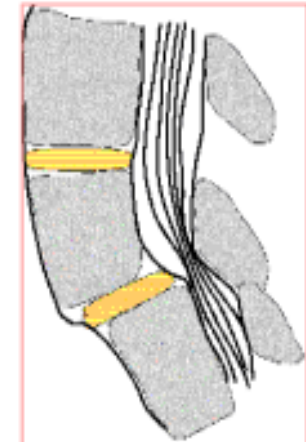
Isthmic Spondylolisthesis

- Spondylolysis:
 - 95% at L5
 - Usually bilateral
- Subluxation graded 1 - 4
- Canal stenosis rare
- Foraminal stenosis common
- Imaging:
 - Elongated canal in AP
 - Horizontal-bilobed foramen

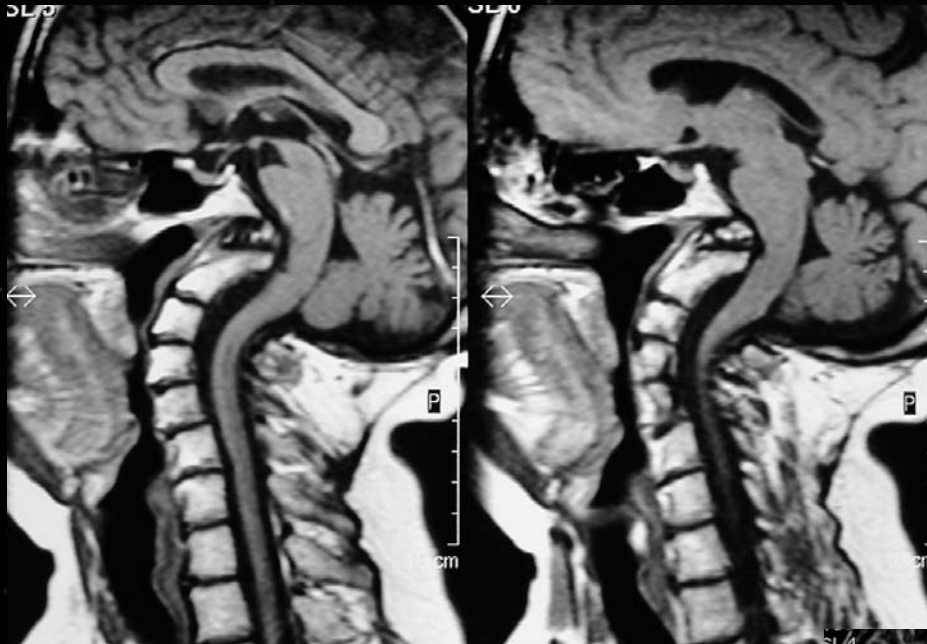


Degenerative Spondylolisthesis

- Occurs in patients over 60
- More common in women
- Most common level is L4-5
- Associated with severe facet joint disease
- Subluxation narrows spinal canal
- Hypertrophic facets encroach on foramina



INSTABILITA'



INSTABILITA'



POSTOPERATIVE SPINE

