

**PLACE de la CHIRURGIE
dans la PATHOLOGIE
LOMBAIRE
DEGENERATIVE**

J M VITAL

Unité de Pathologie Rachidienne Tripode Bordeaux FRANCE





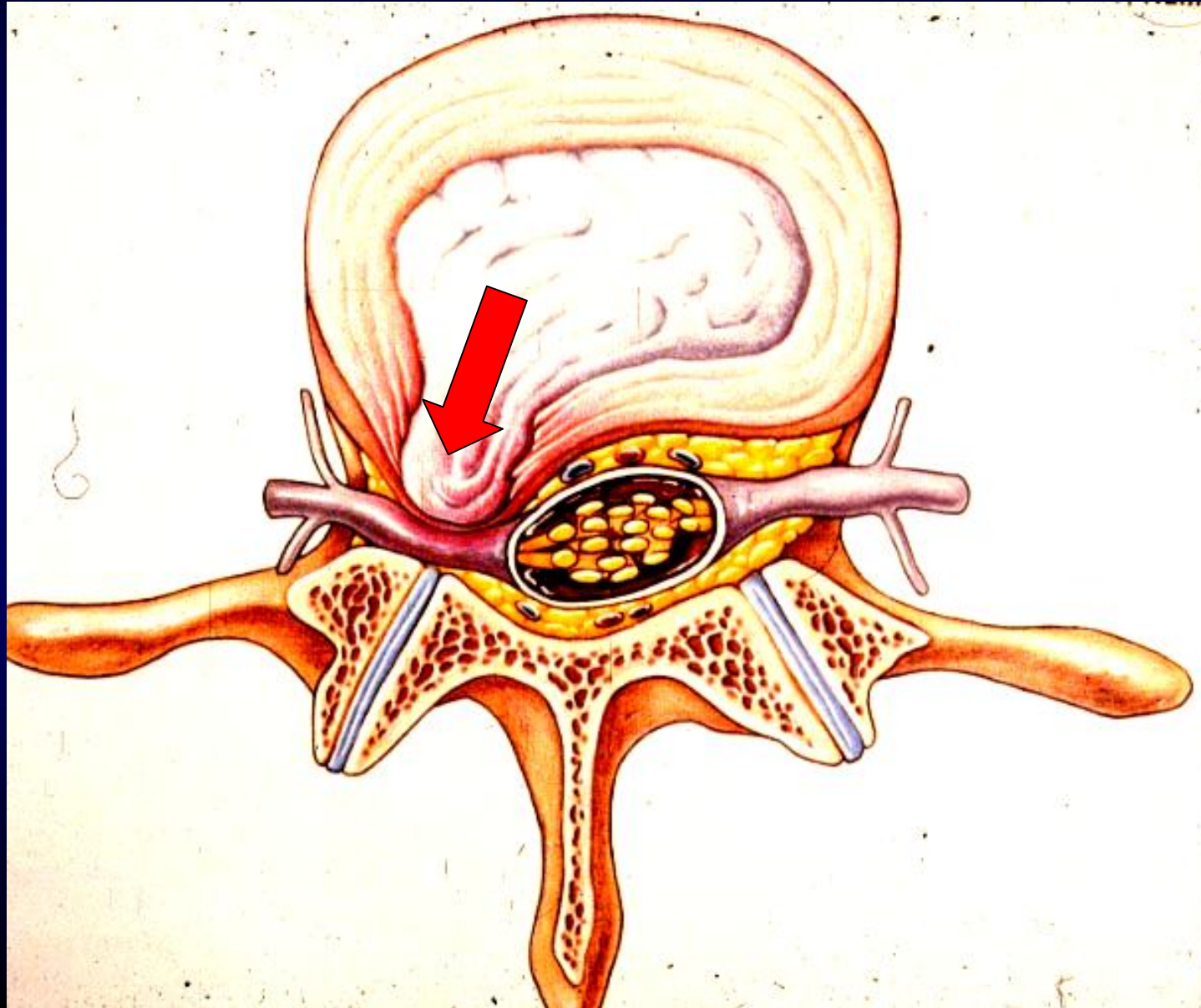
HERNIE DISCALE

CANAL LOMBAIRE ETROIT

SPL DEGENERATIF

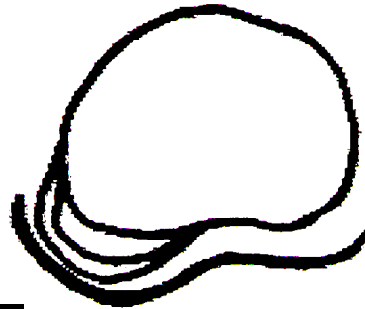
SCOLIOSE DEGENERATIVE

HERNIE DISCALE LOMBAIRE





PROTRUSION



BULGING



H. SOUS-LIGAMENTAIRES



SEQUESTREE : S.

NON SEQUESTREE : N. S.



H. TRANS-LIGAMENTAIRES



IRRITATION MECANIQUE

compression - traction

IRRITATION CHIMIQUE

(nucléus pulposus)

Métalloprotéinase

Phospholipases

Interleukine 1

INFLAMMATION INTRANEURALE

Ischémie , œdème , fibrose , démyélinisation

Déficit sensitivomoteur

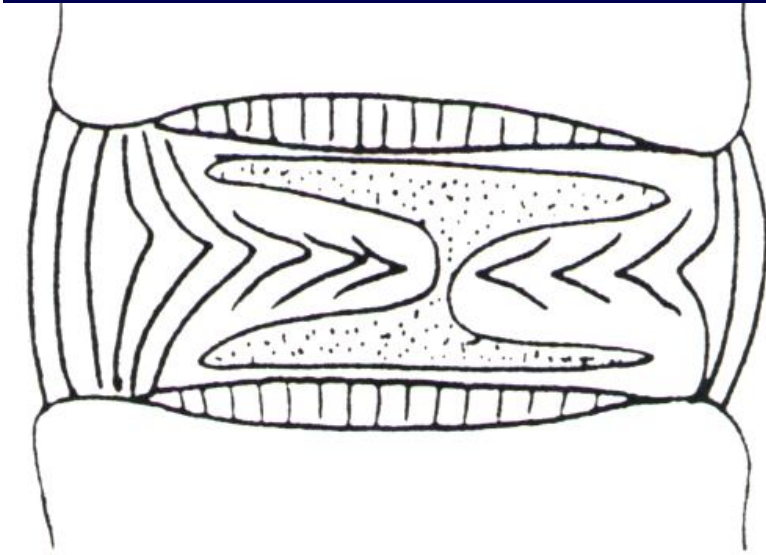
Hyperexcitabilité , douleur

**INTERPRÉTATION NOUVELLE DE
L'ANATOMIE, LA PHYSIOLOGIE ET
LA PATHOLOGIE DE L'ARTICULATION
INTER-SOMATIQUE VERTÉBRALE**

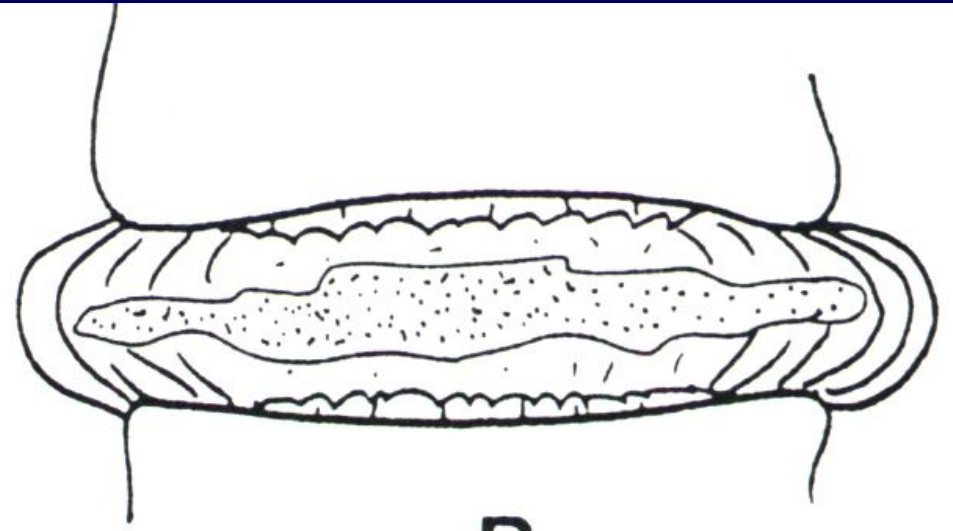
La hernie discale n'existe pas

A. CHEVROT, C. VALLÉE

(J. Radiologie, 1993)

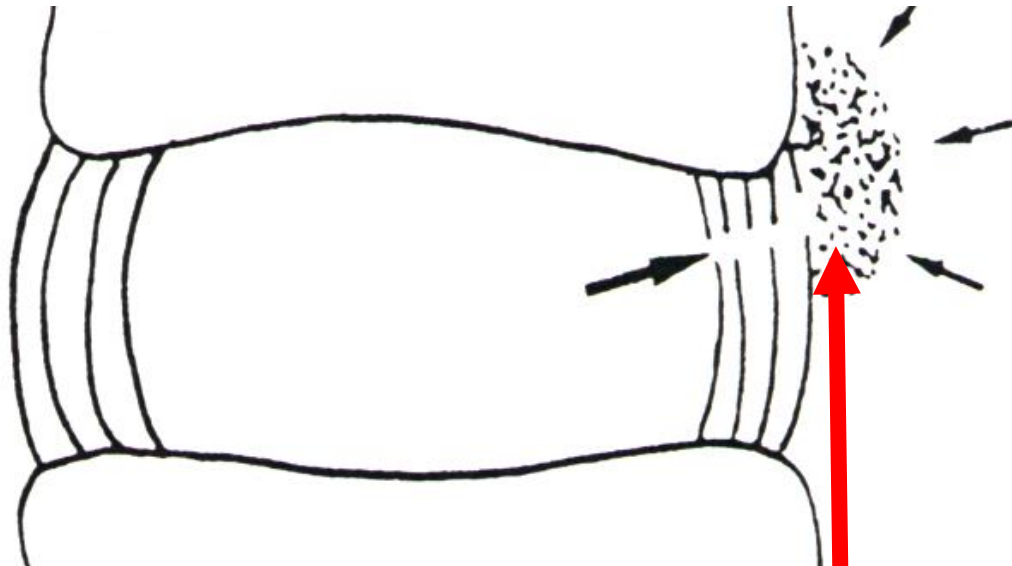


A



B

BROCK, Spine 1991

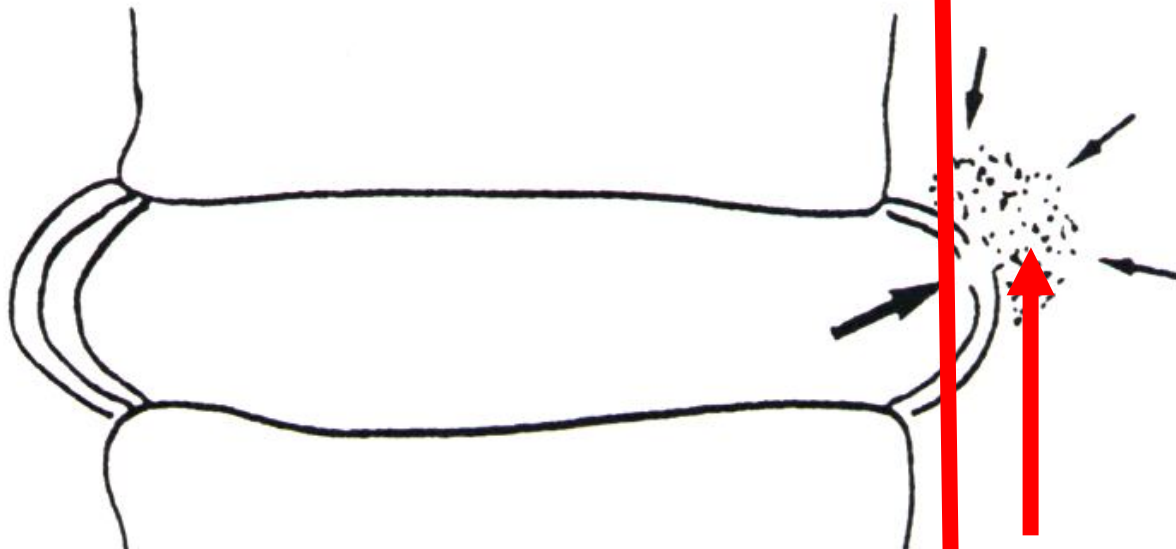


ENTORSE GRAVE DISCALE

nucléus

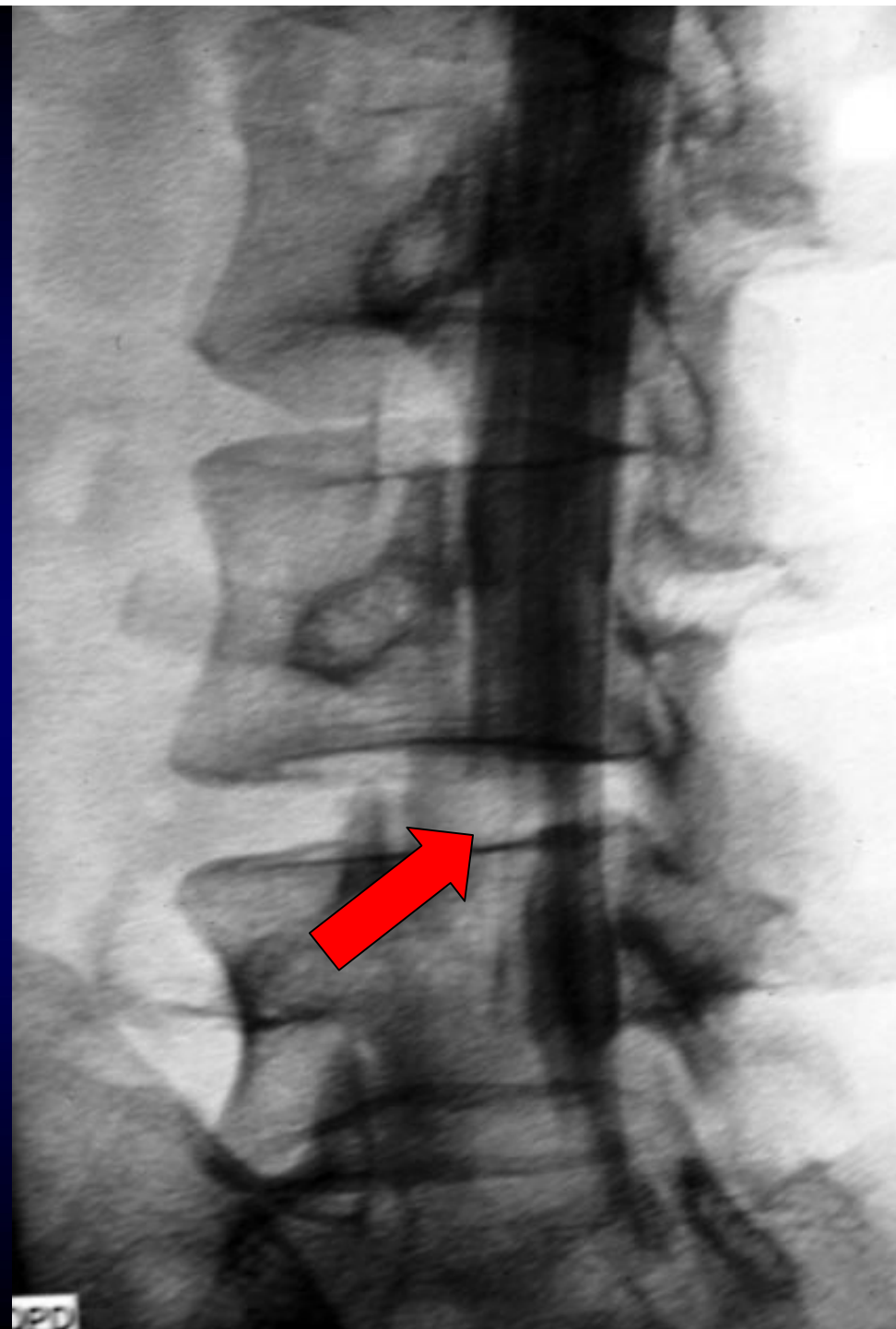
annulus

plateaux cartilagineux

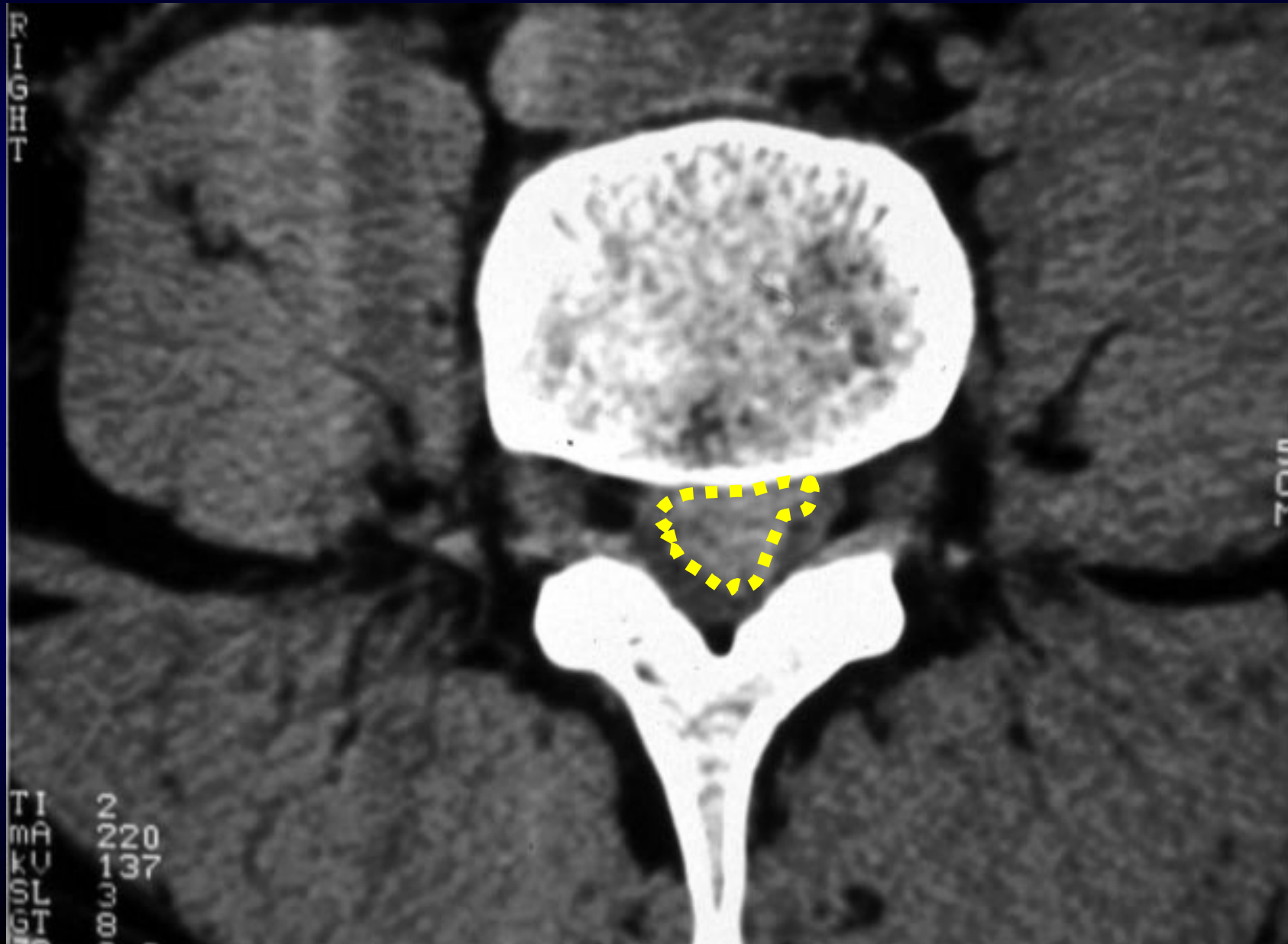


« TUMEFACTION des PARTIES MOLLES »

SACCORADICULOGRAPHIE



TOMODENSITOMETRIE

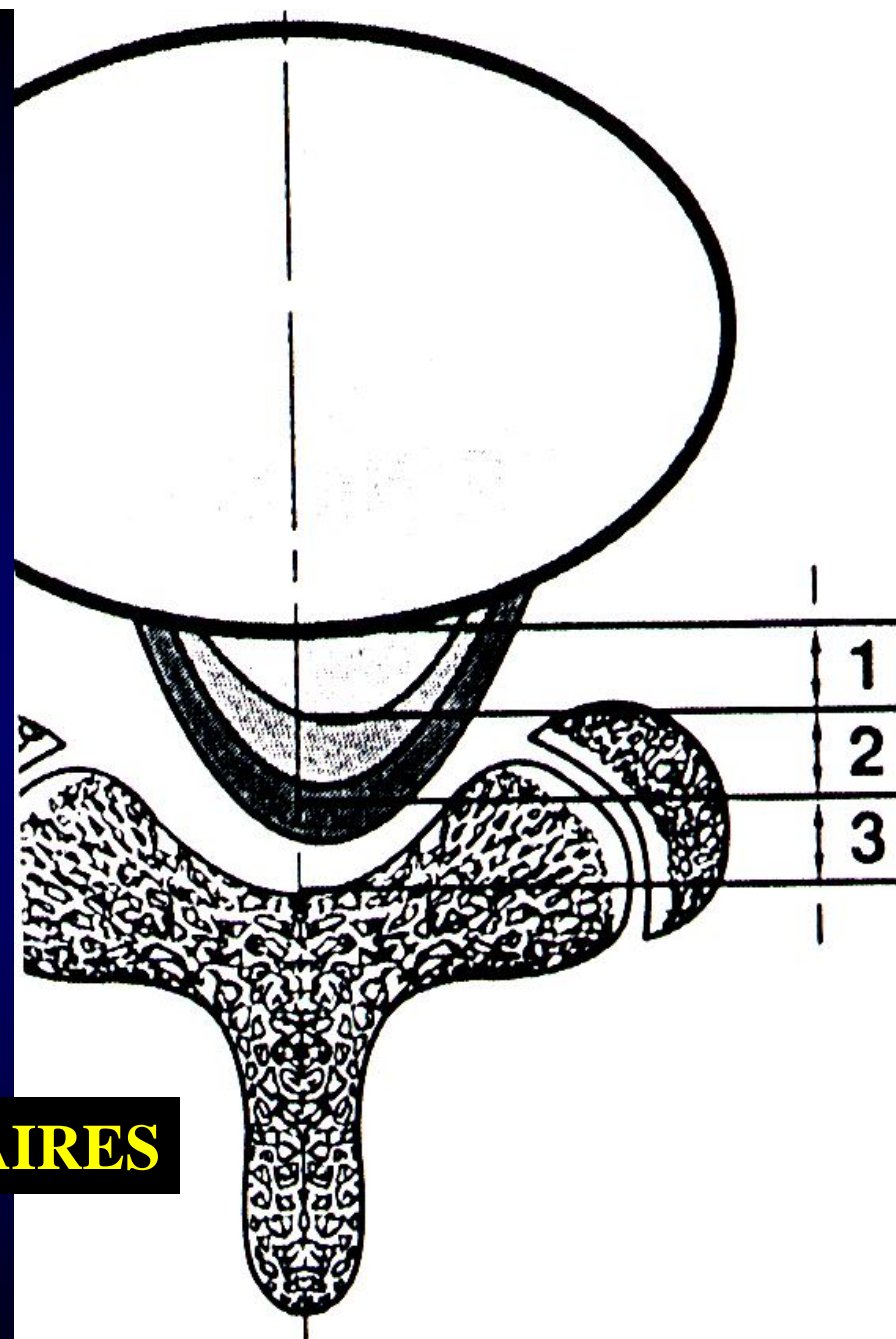
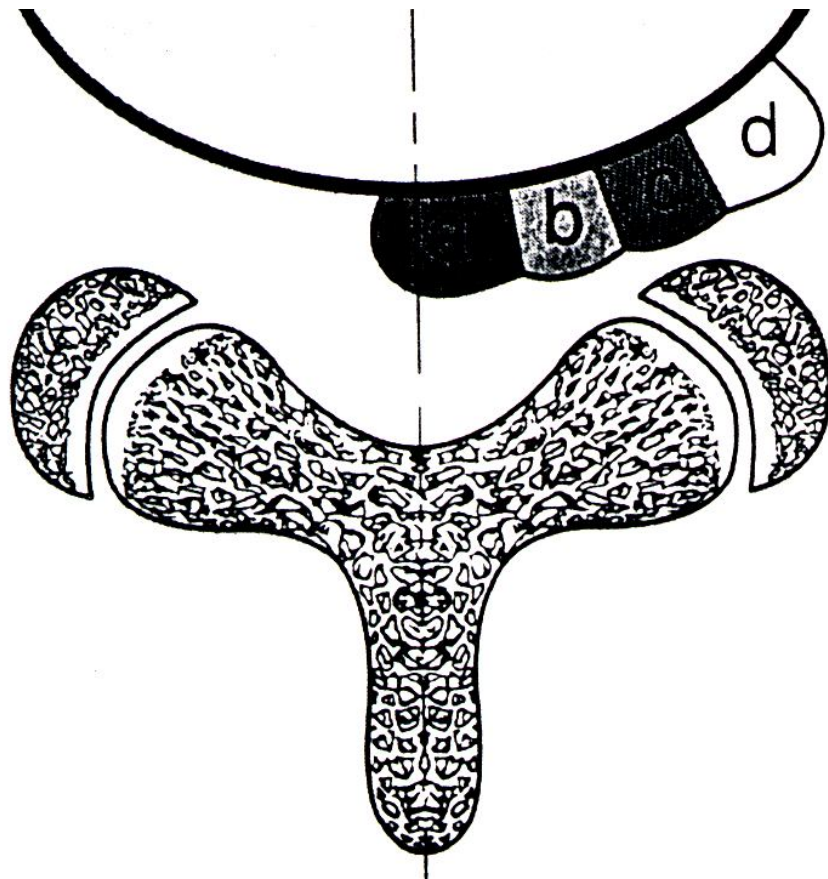


SCAN



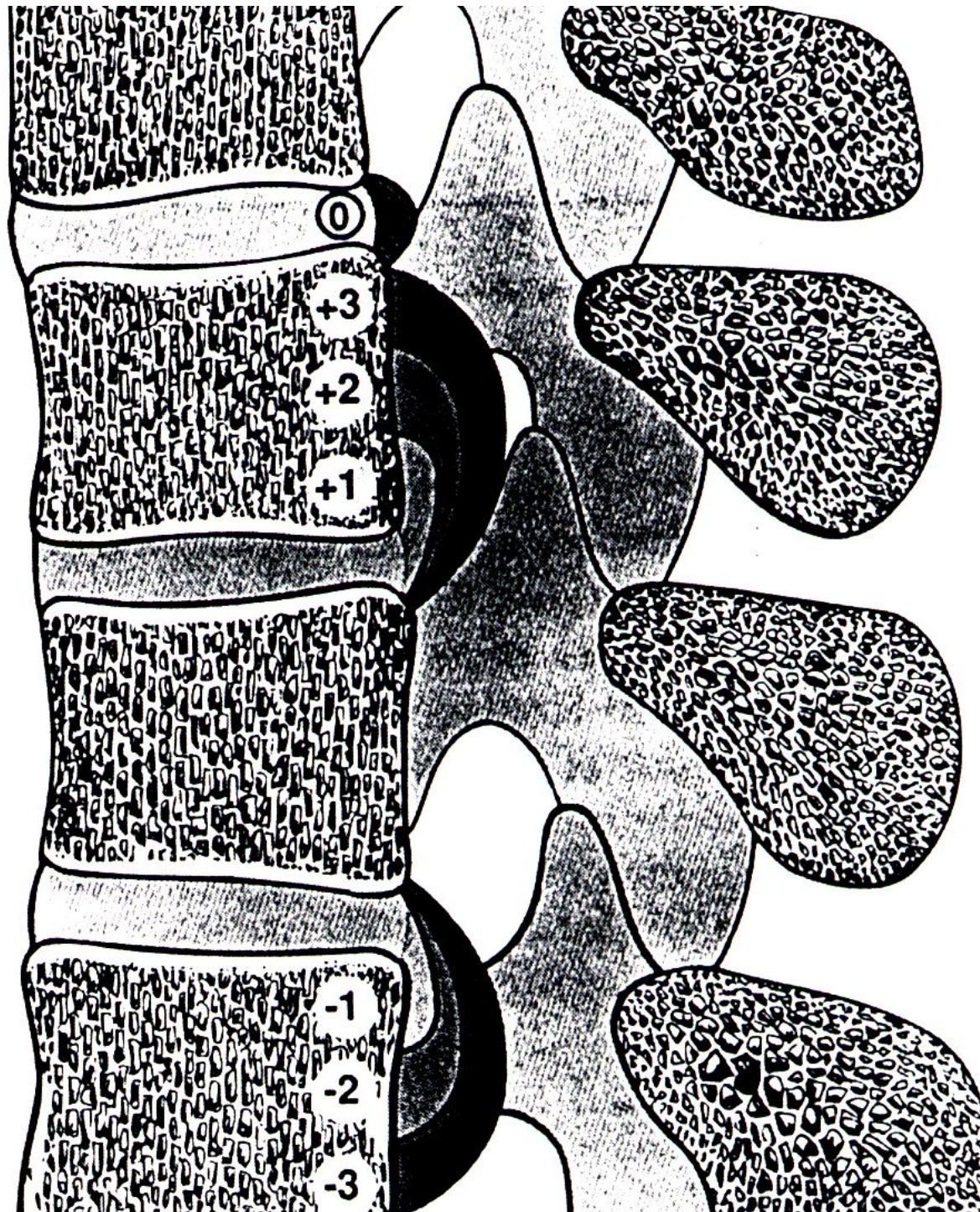
MYELOGRAPHY

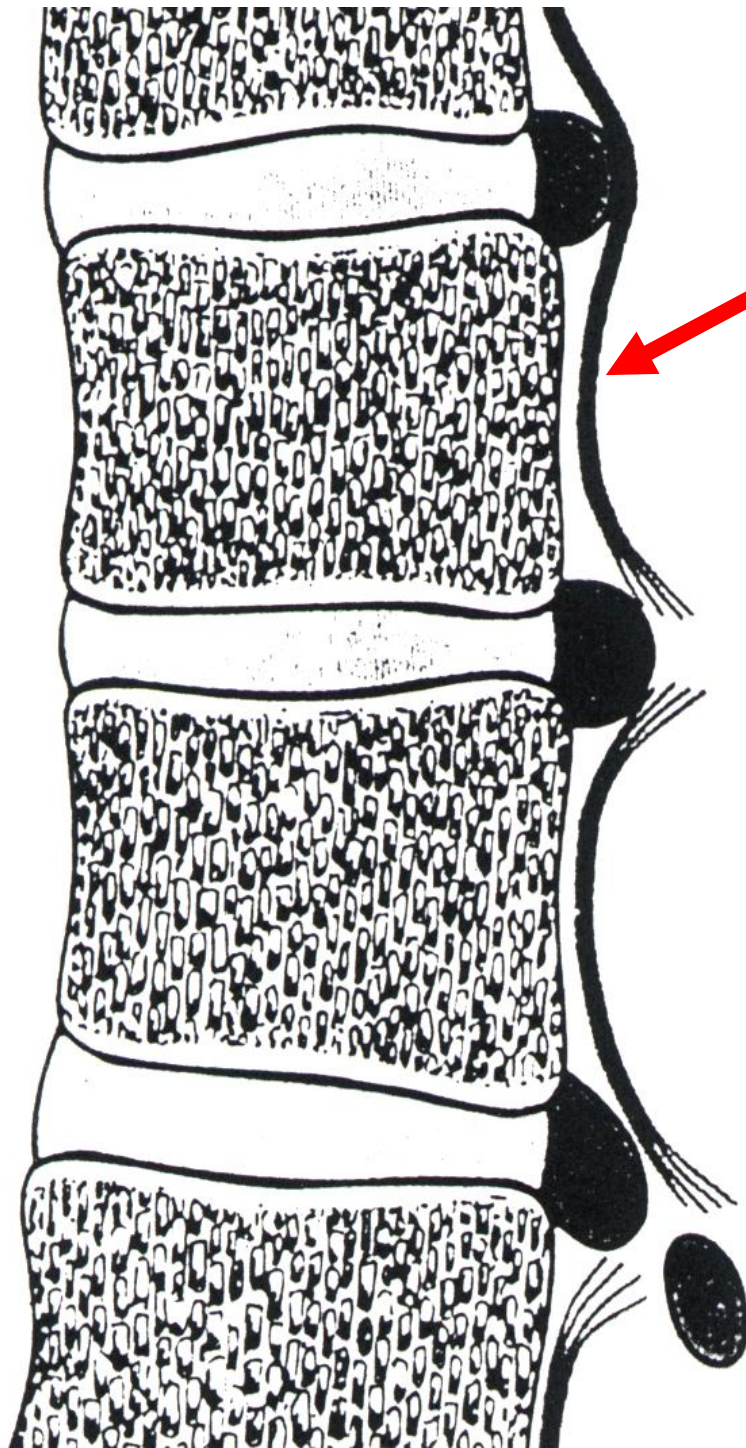




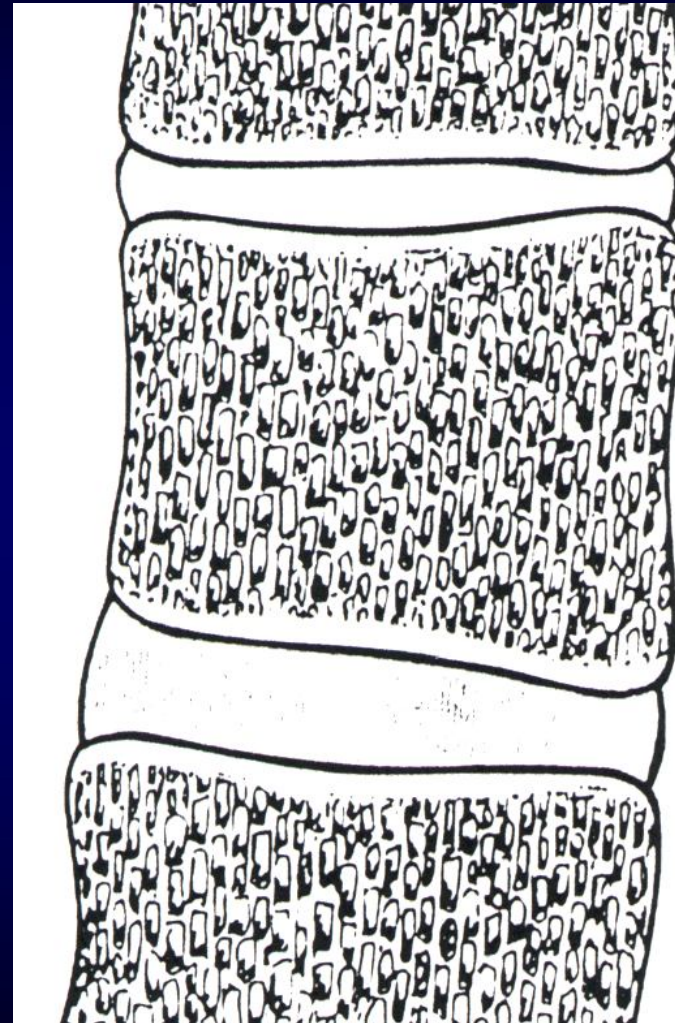
CARTE-IMAGE des H.D.LOMBAIRES

BONNEVILLE(Rachis,1990)





L.L.D.



(-50)

(+50)

FRAGMENT LIBRE

I.R.M.

T1

T2



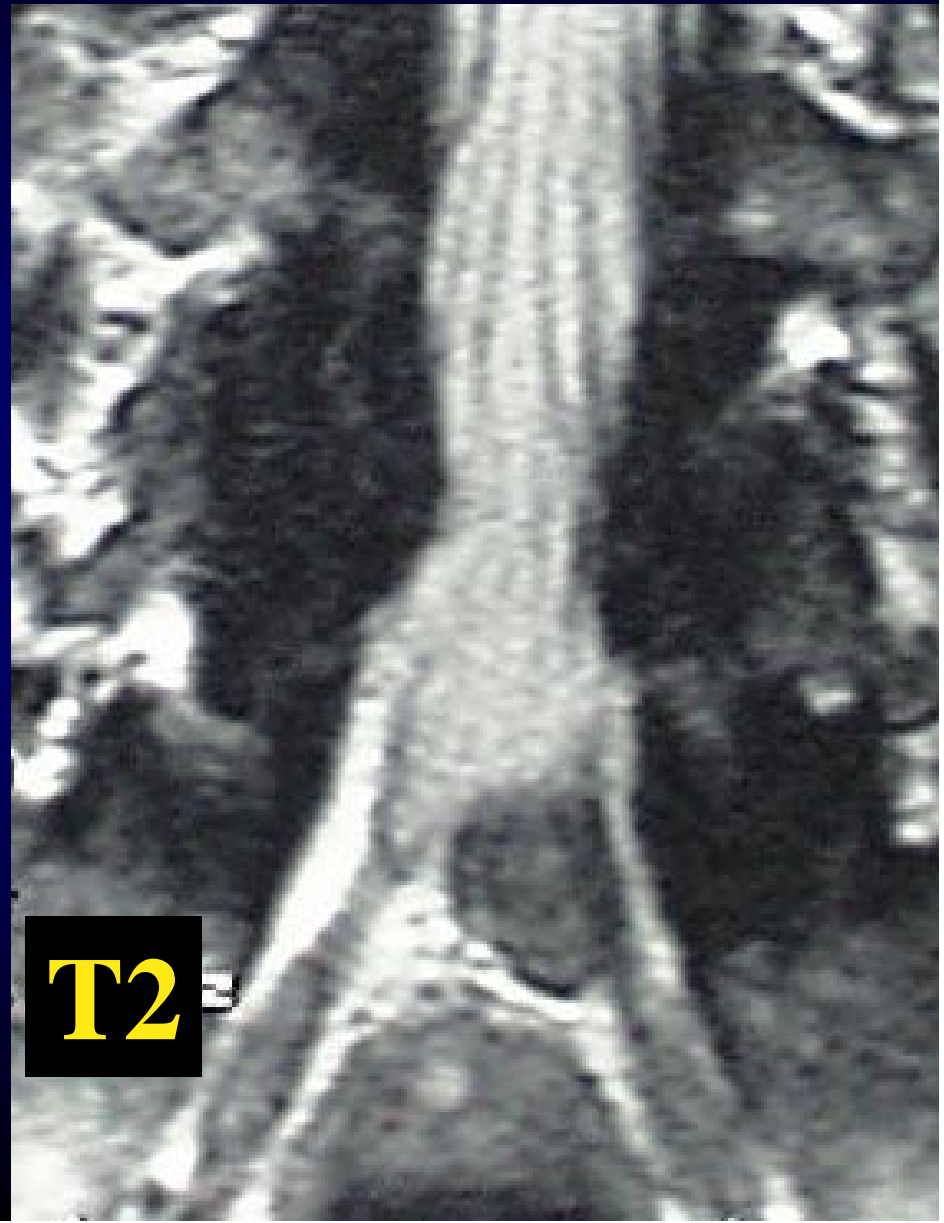
18.0

DOB:

T2

Ext 323
Ses 2
Int 6
Sag L1

T2

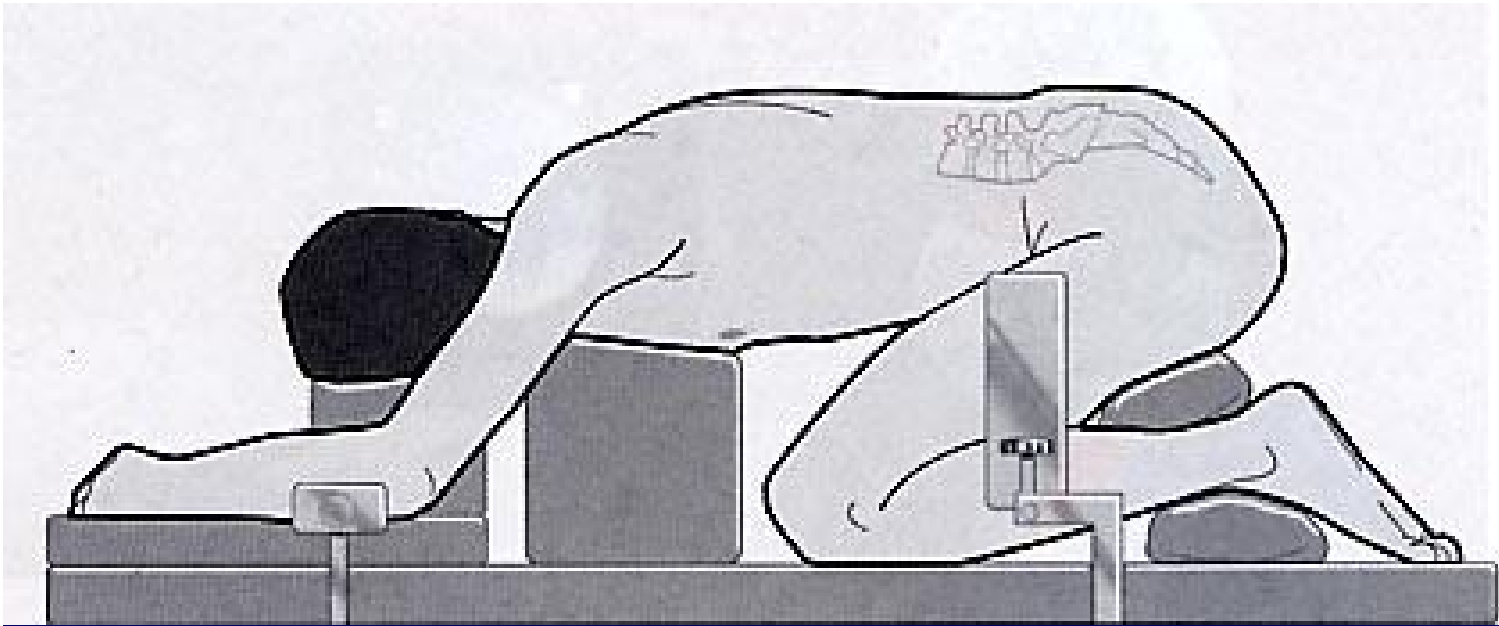


TRAITEMENT CONSERVATEUR

TRAITEMENT PERCUTANE

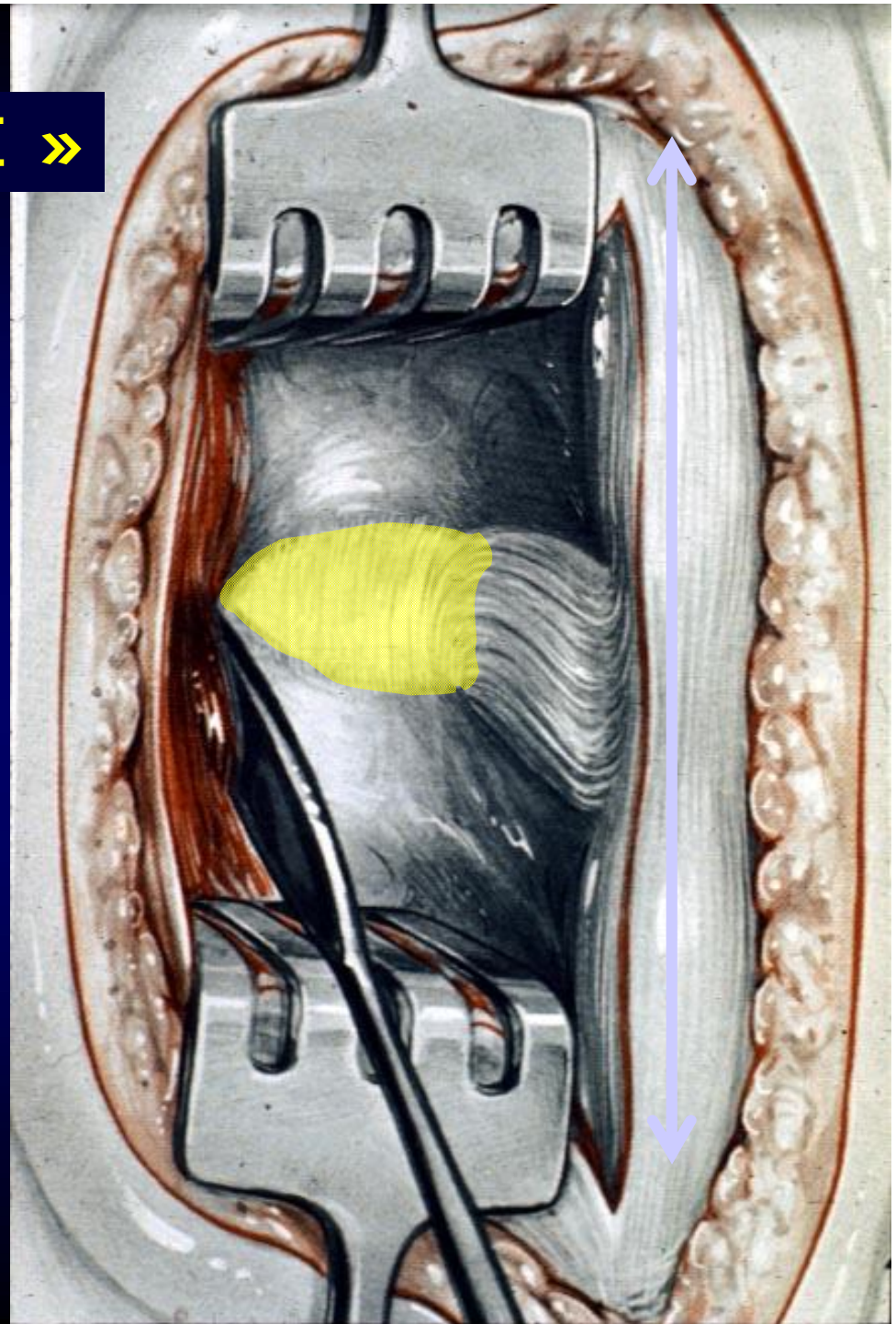
TRAITEMENT CHIRURGICAL

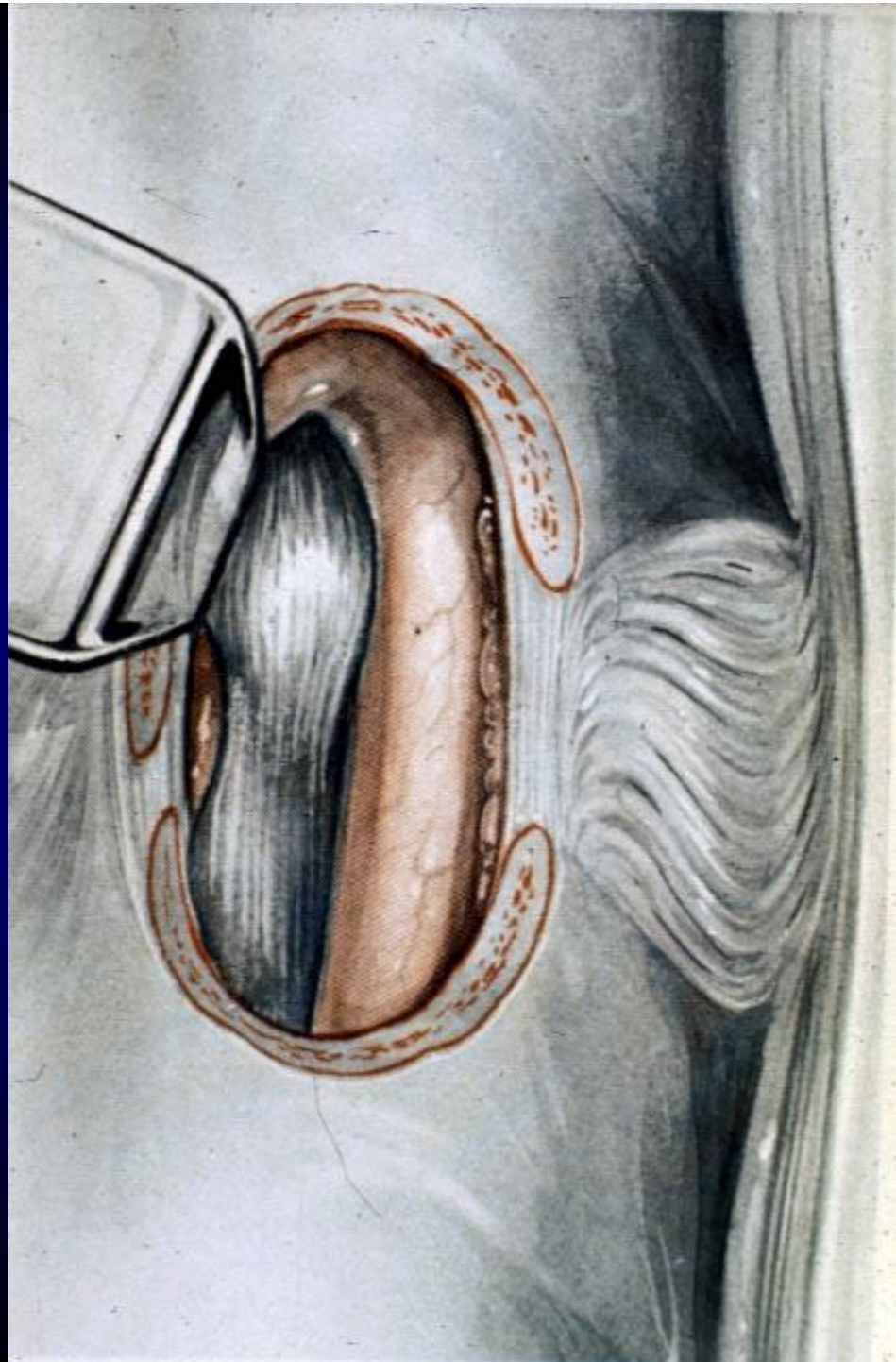


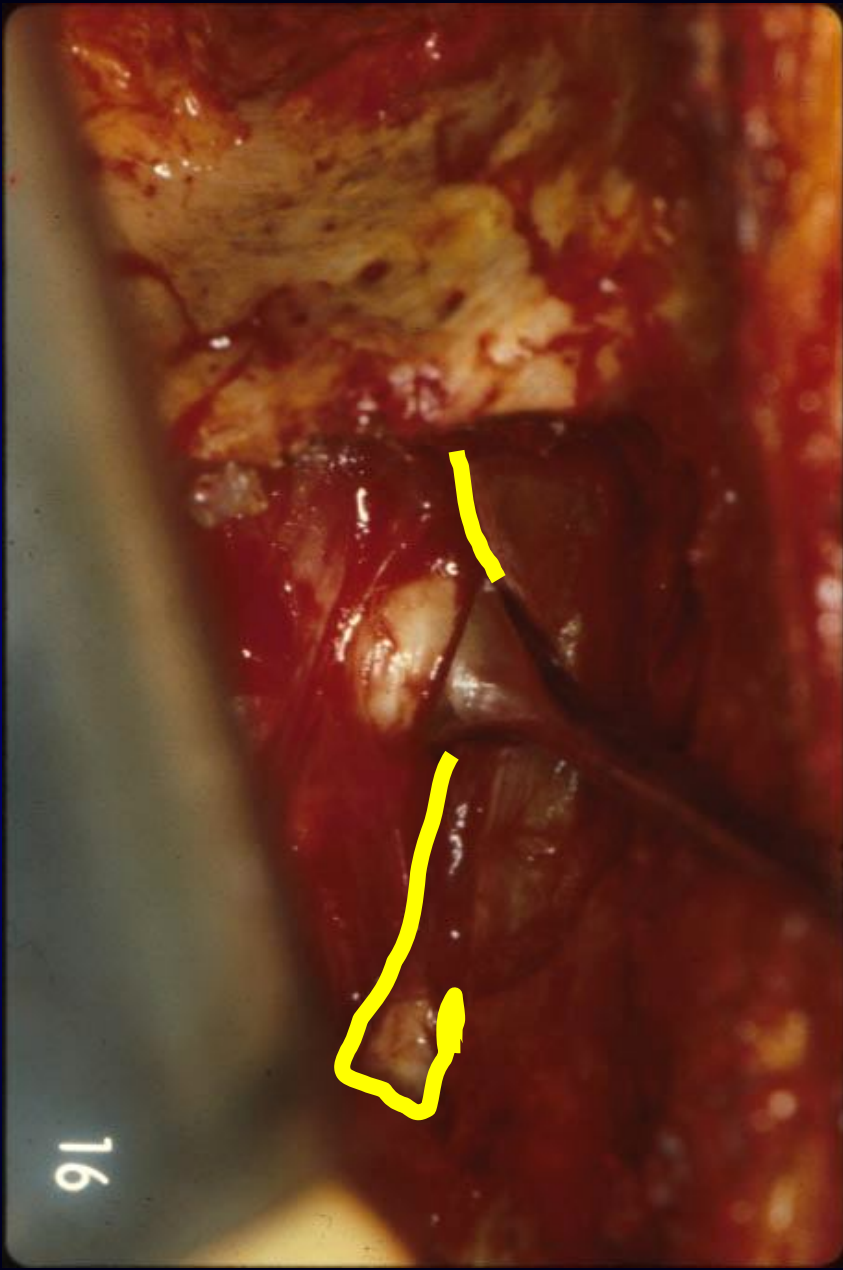


INSTALLATION

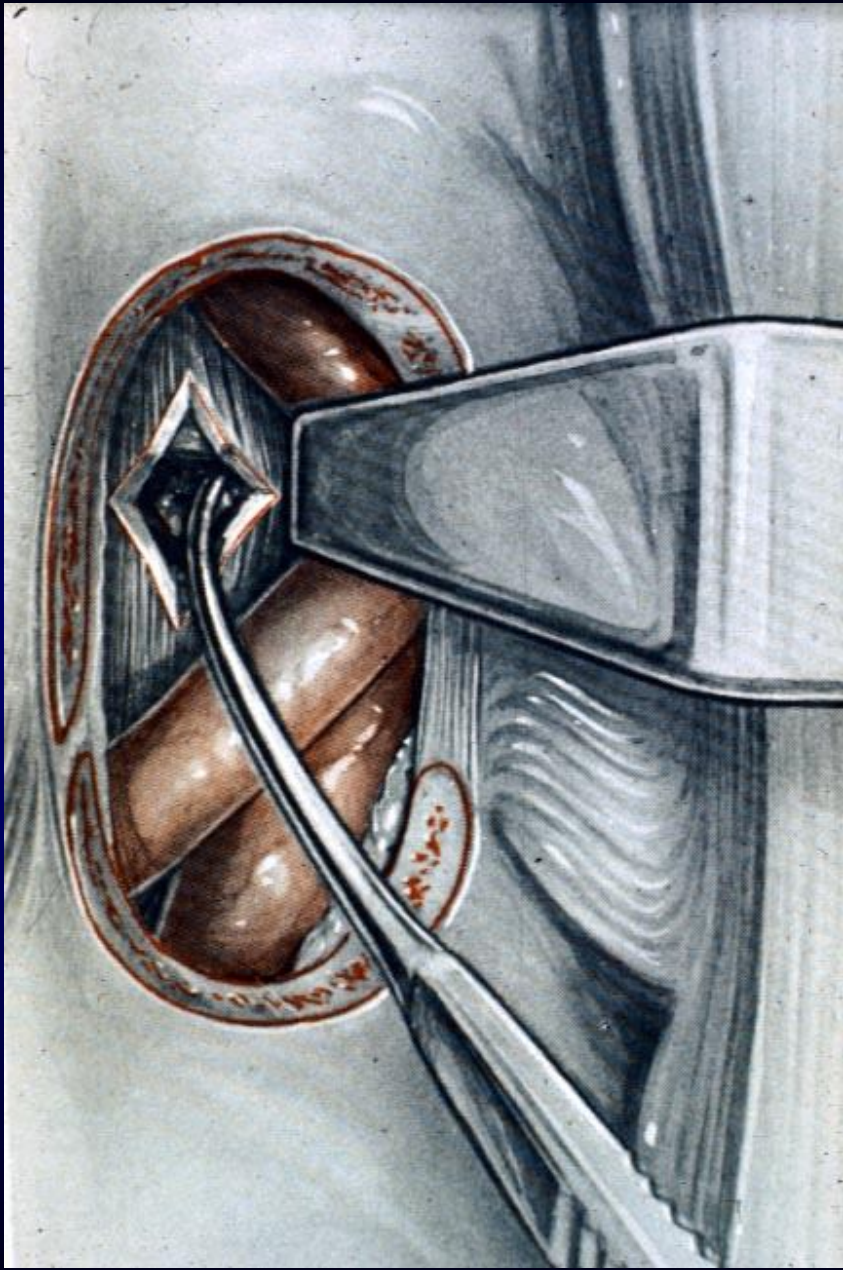
« MICRODISCECTOMIE »

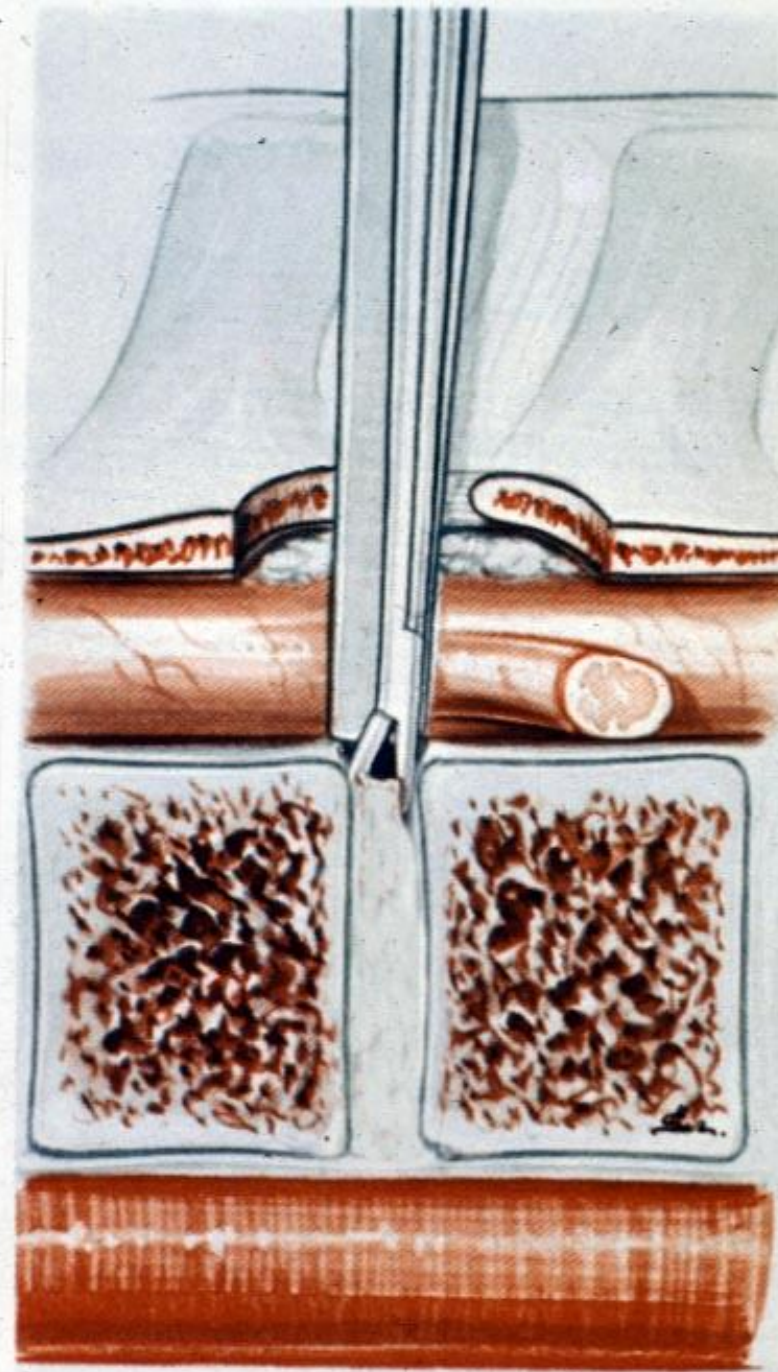






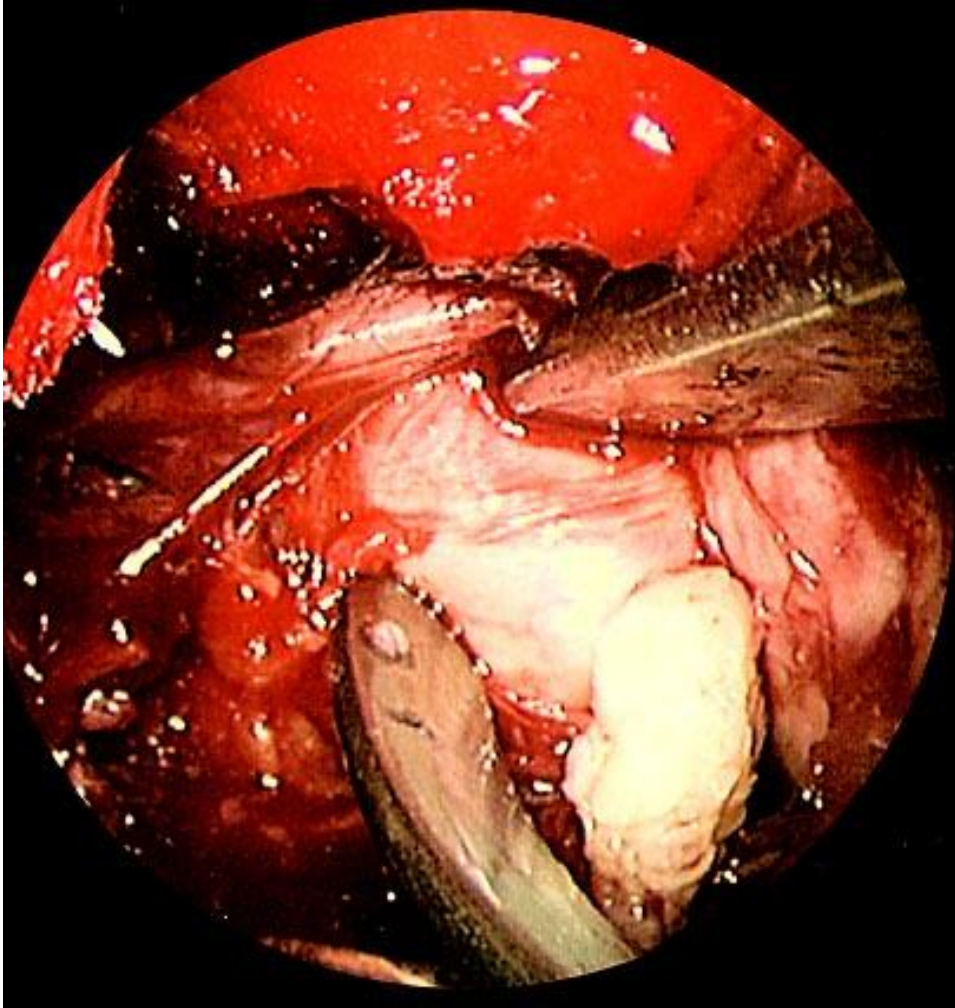
16



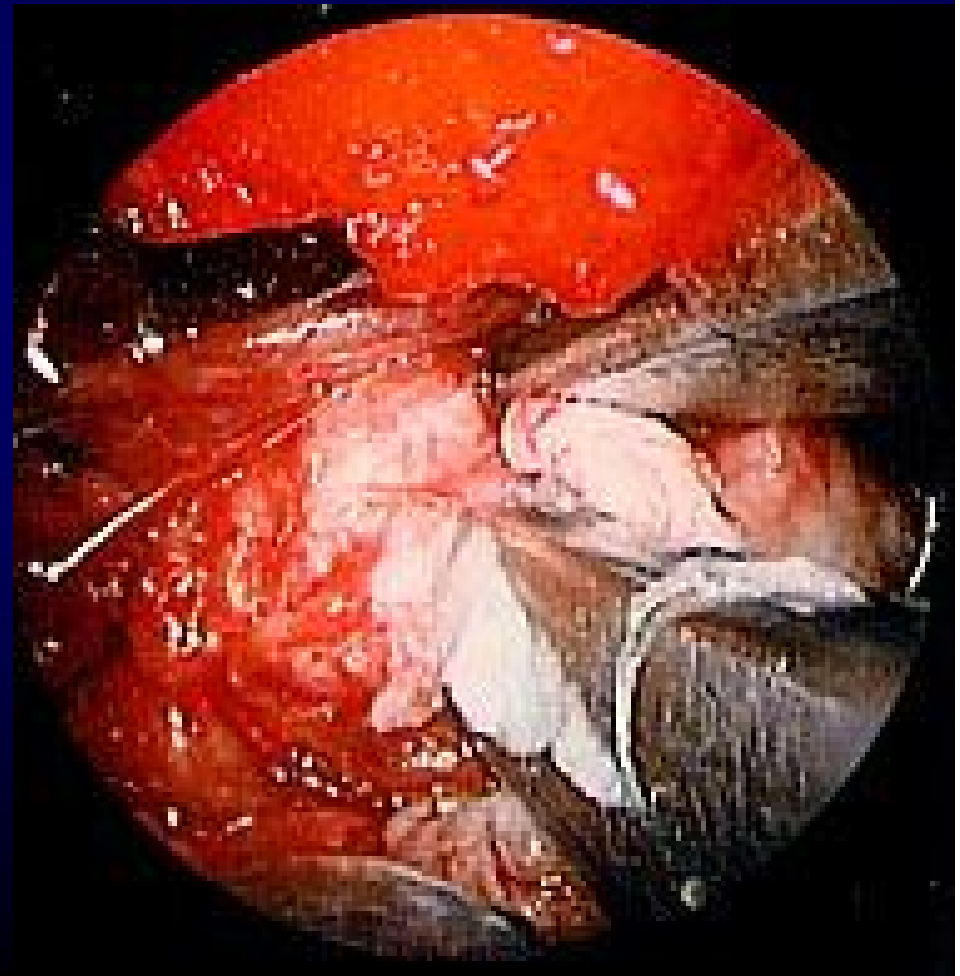


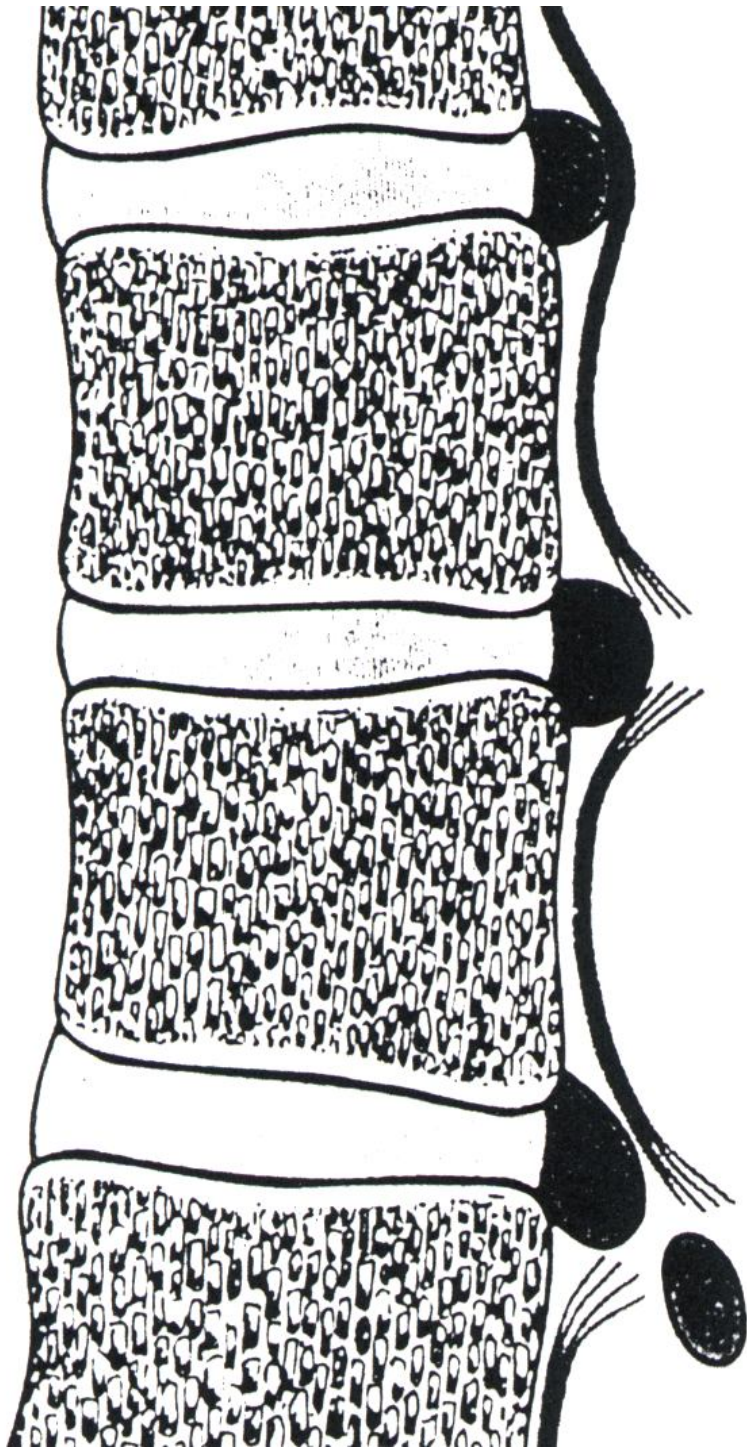
endoscopie





HERNIECTOMIE



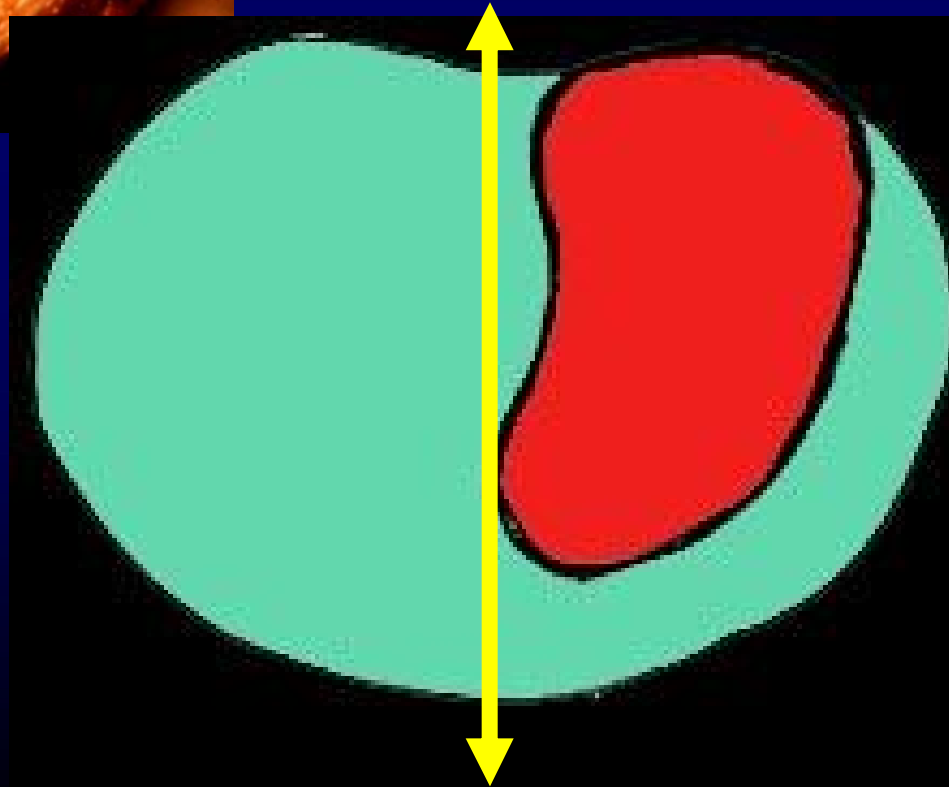
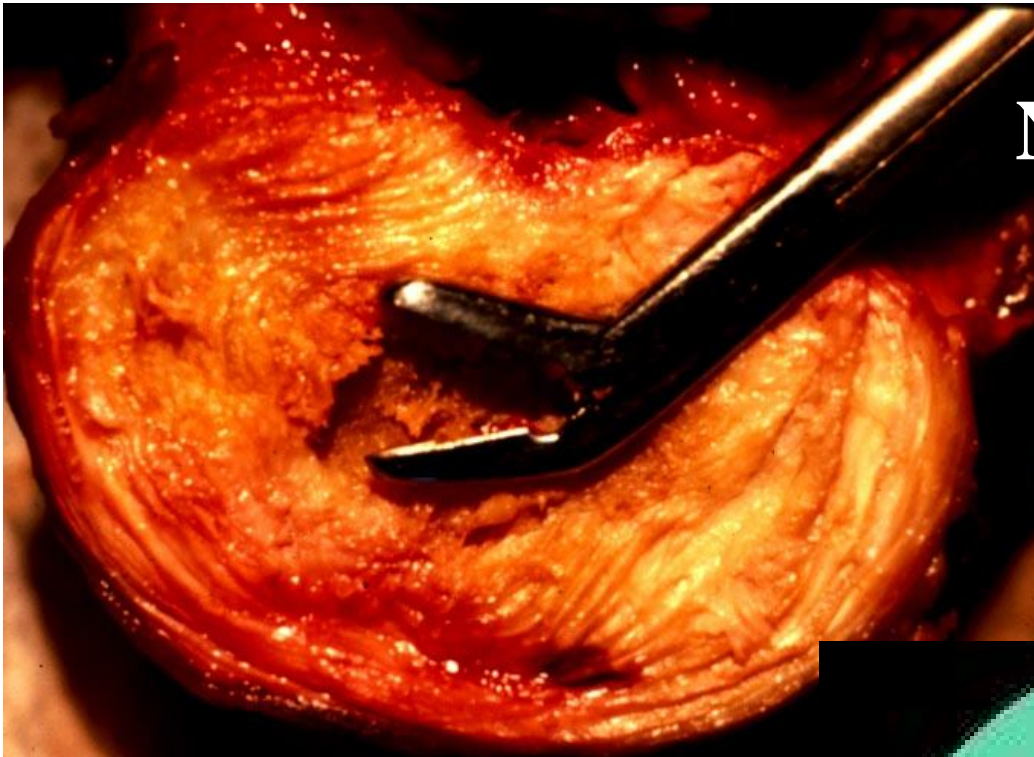


HERNIECTOMIE

+ NETTOYAGE DISCAL

HERNIECTOMIE SEULE

NETTOYAGE DISCAL





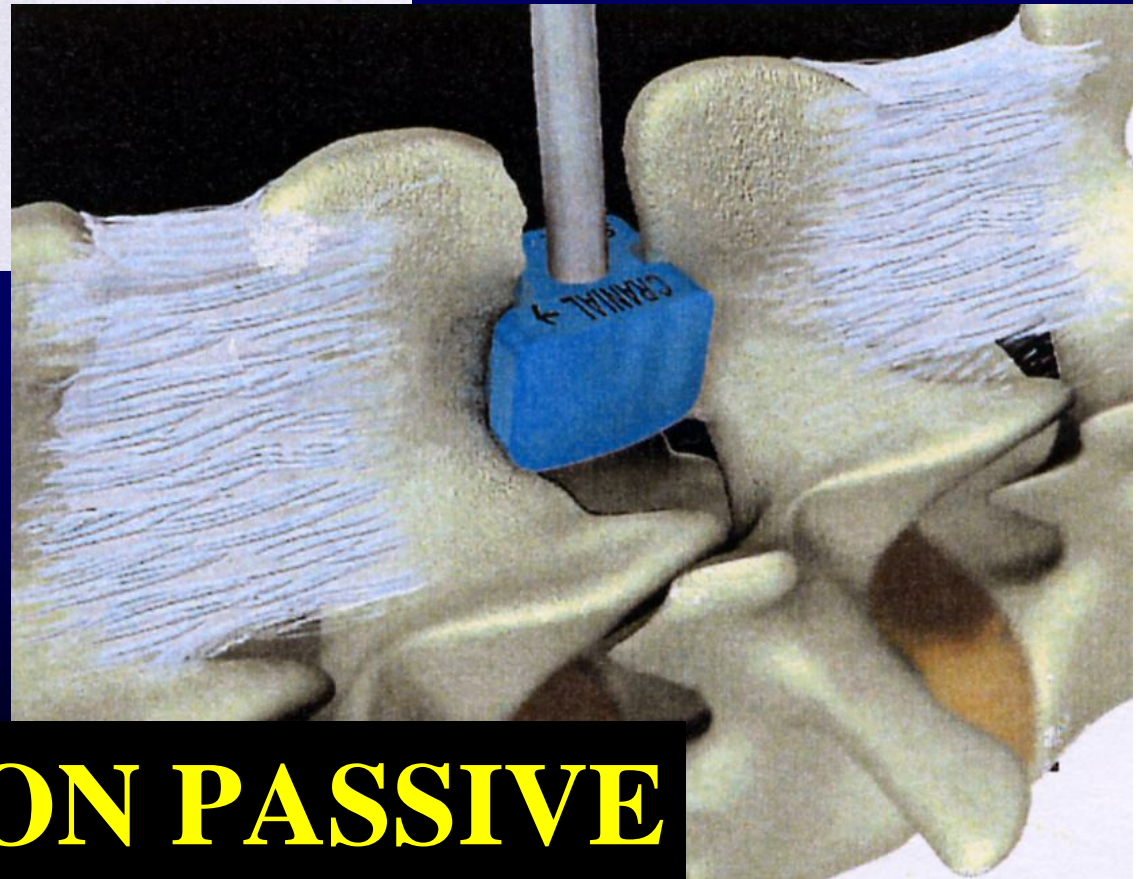
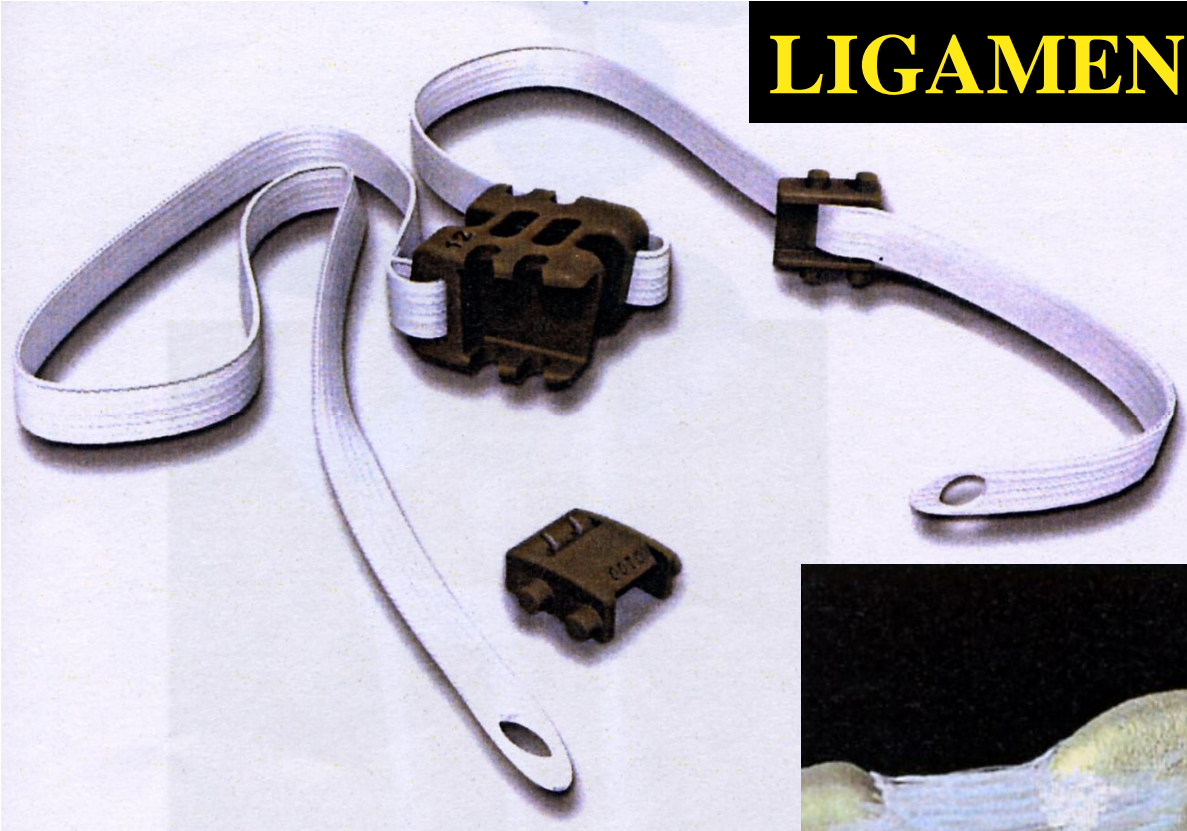
REEDUCATION



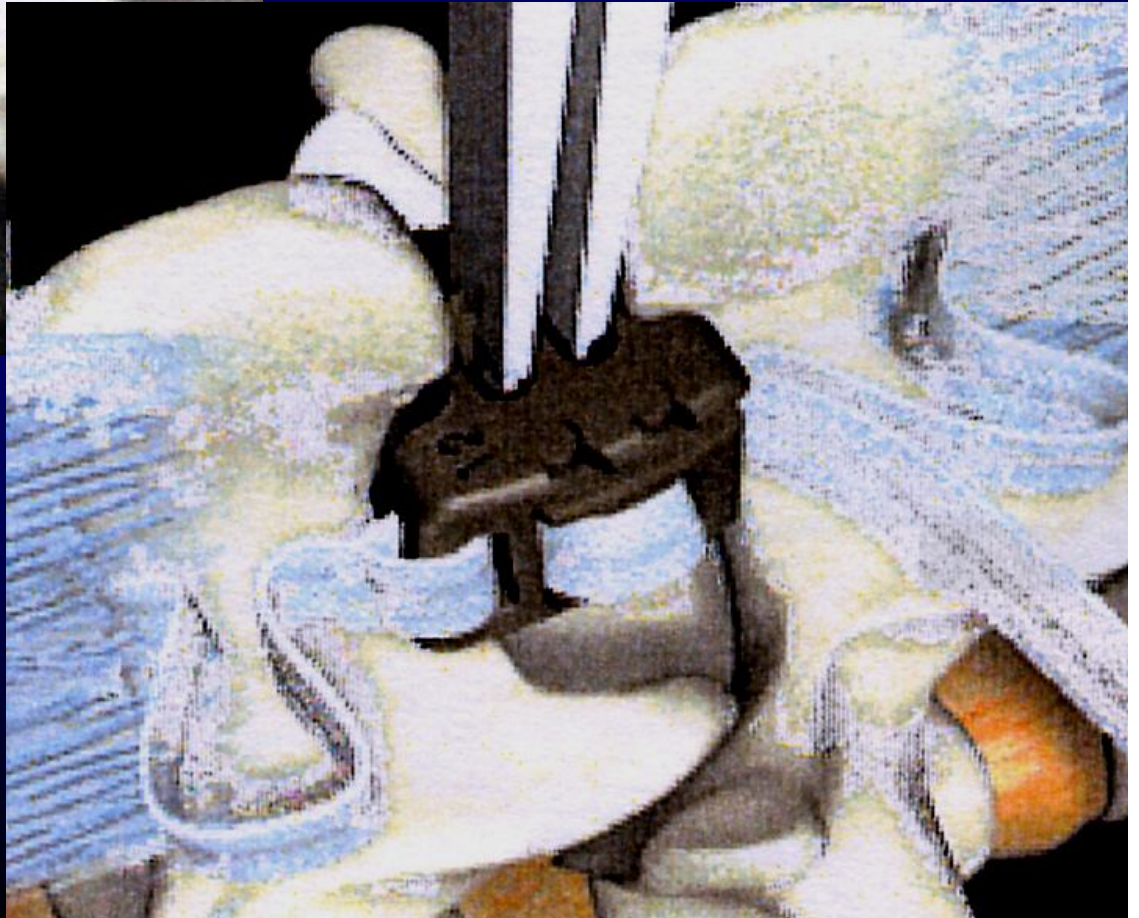
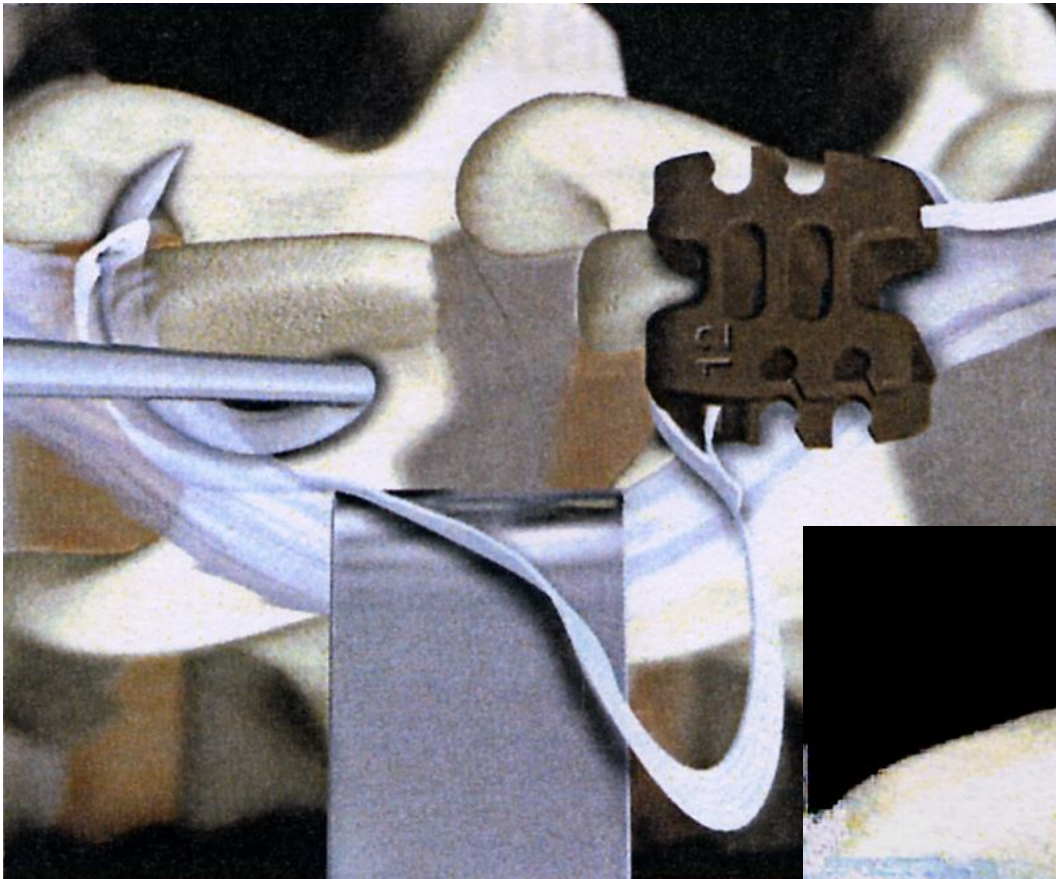
STABILISATION ACTIVE

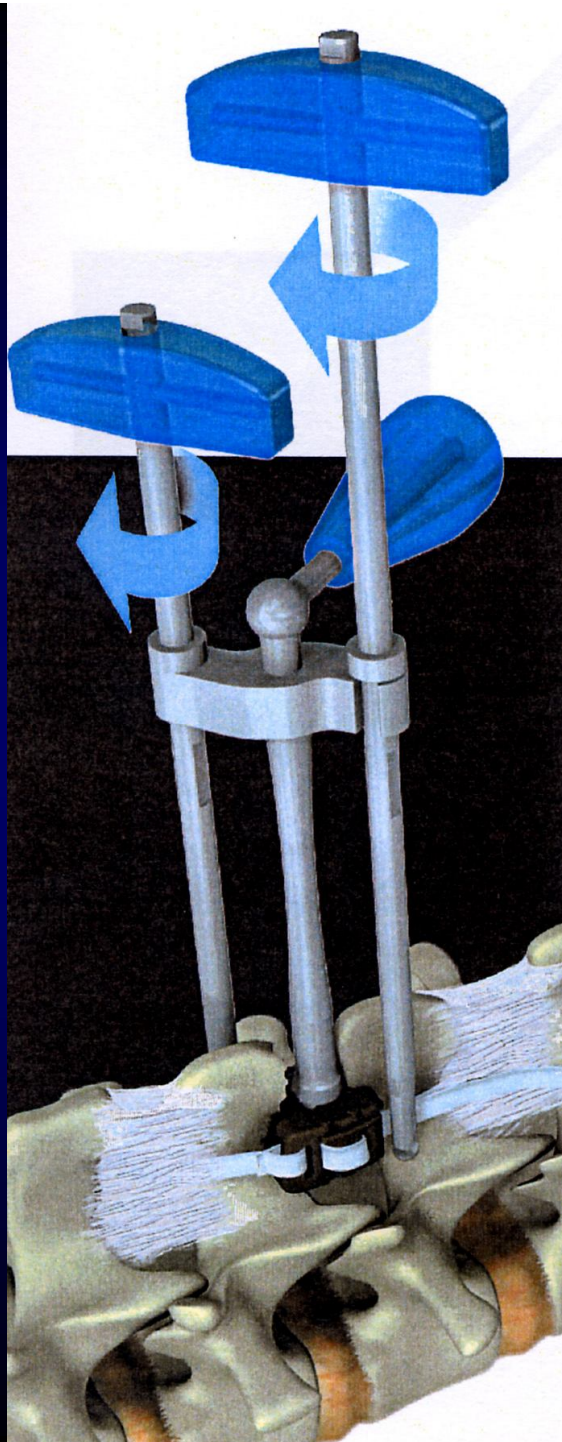
AUTOREEDUCATION

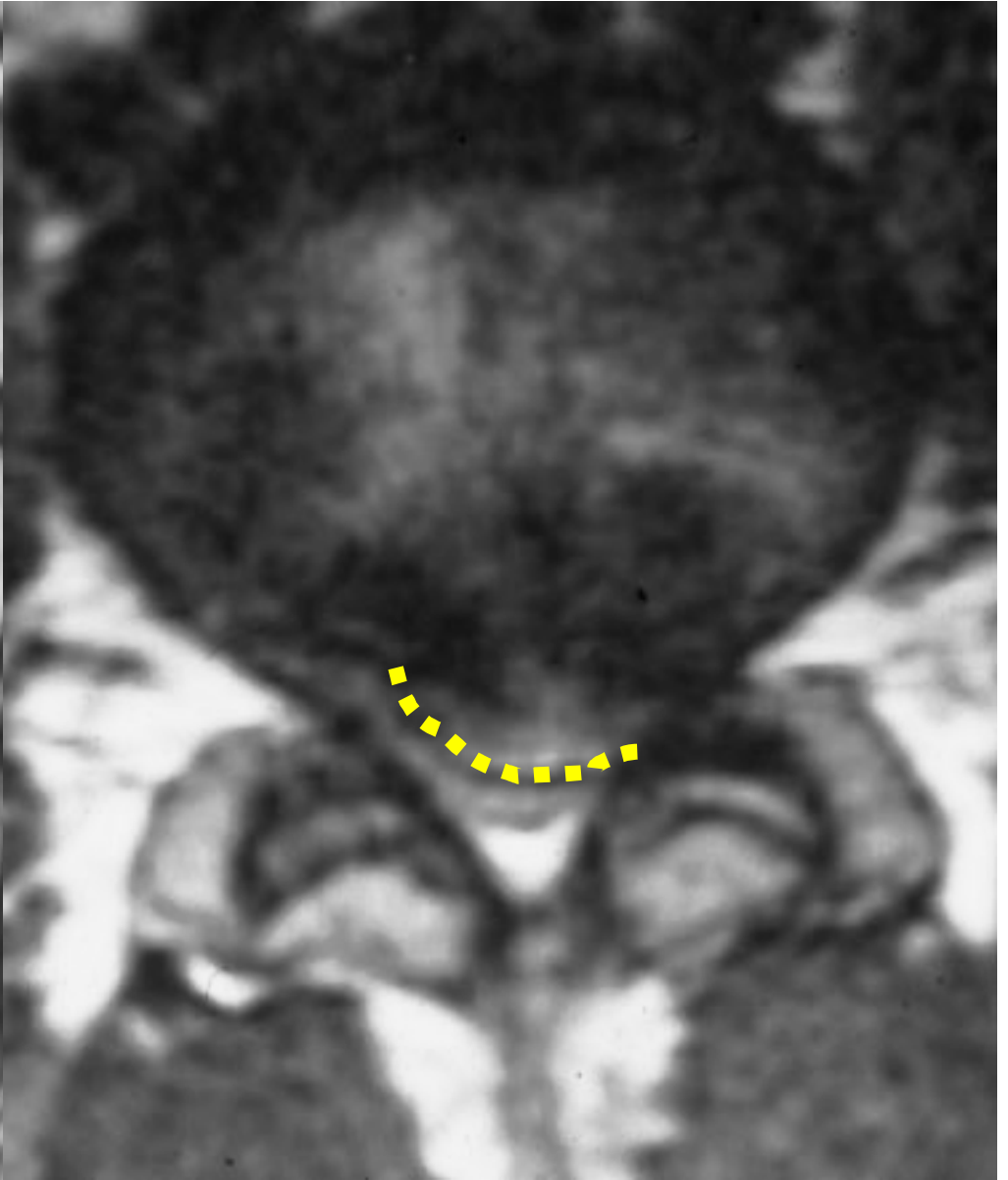
LIGAMENT INTEREPINEUX



STABILISATION PASSIVE







HERNIE STENOSANTE

HERNIATION OVER SACRALIZATION OF L5

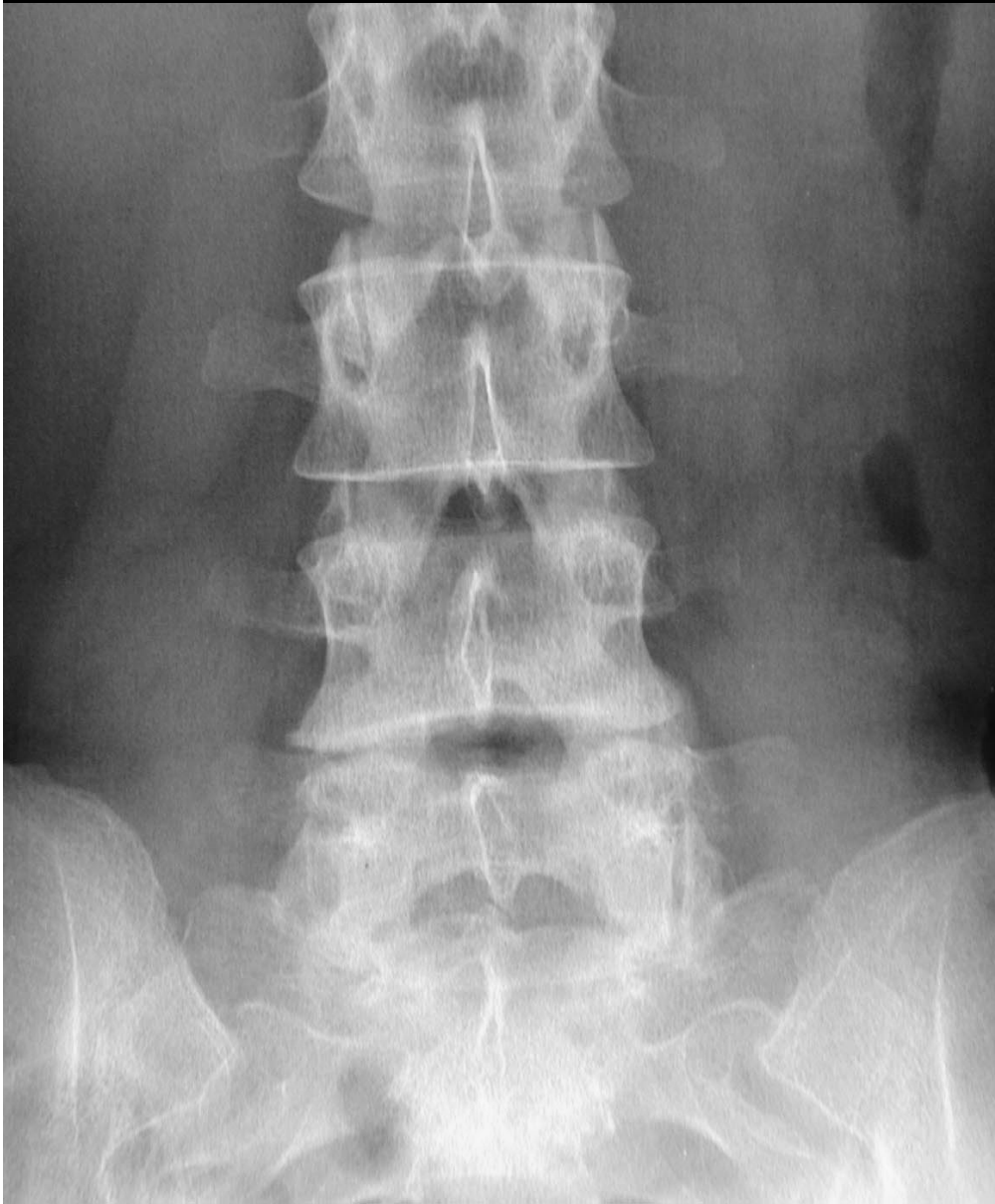


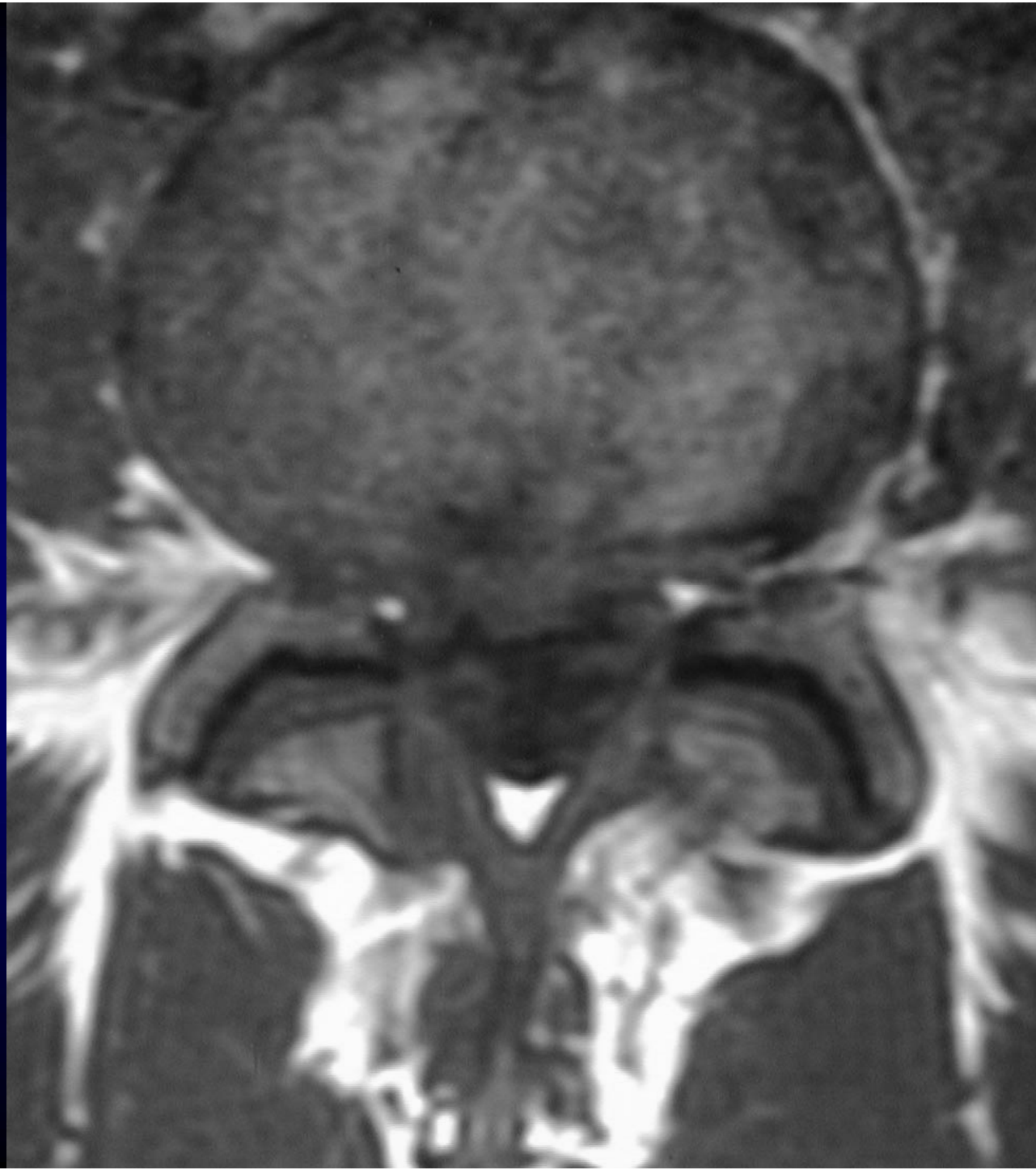
BERTOLOTTI





LOW BACK PAIN + MODIC 1 +/- HERNIATION







T1 PREOP



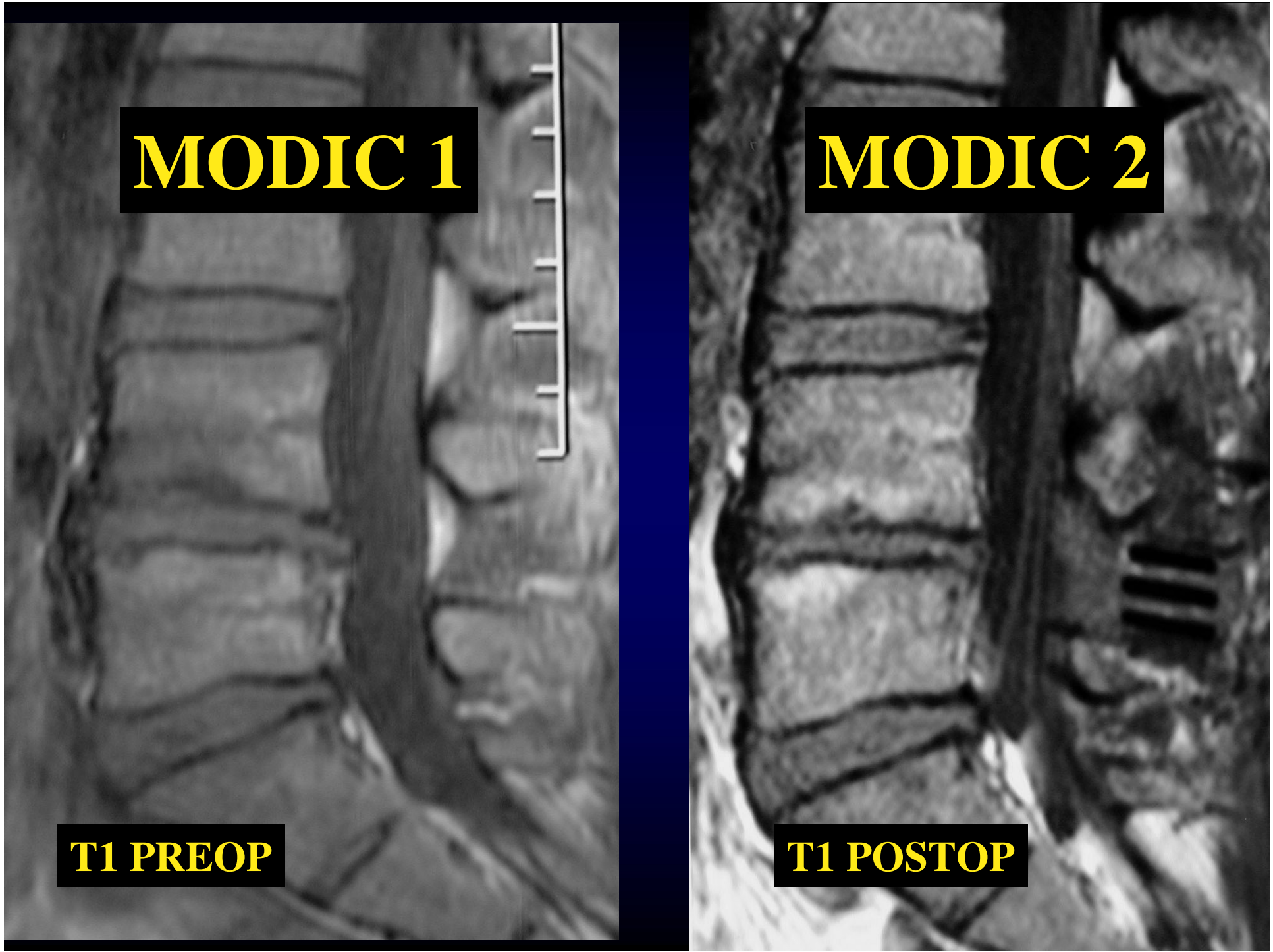
T2 PREOP

MODIC 1

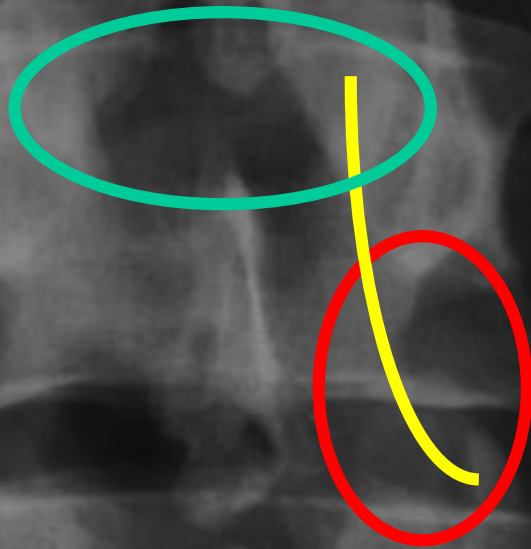
T1 PREOP

MODIC 2

T1 POSTOP



HERNIES FORAMINALES

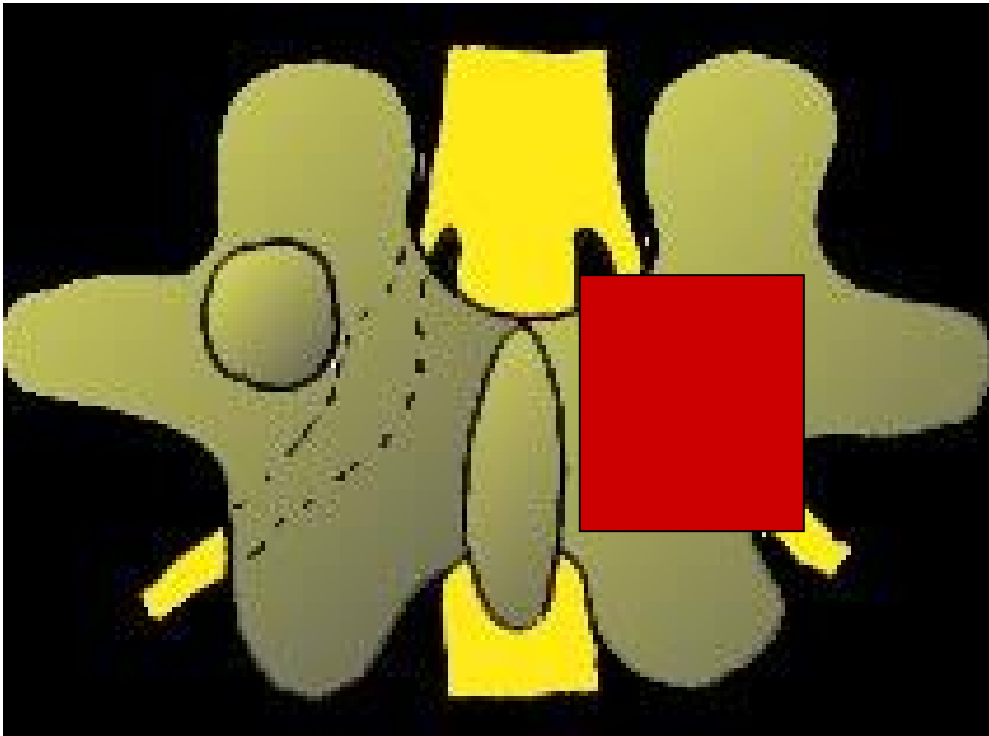


FORAMEN VERTEBRAL

FORAMEN

INTERVERTEBRAL

LOMBAIRE



Zone cachée (MAC NAB)

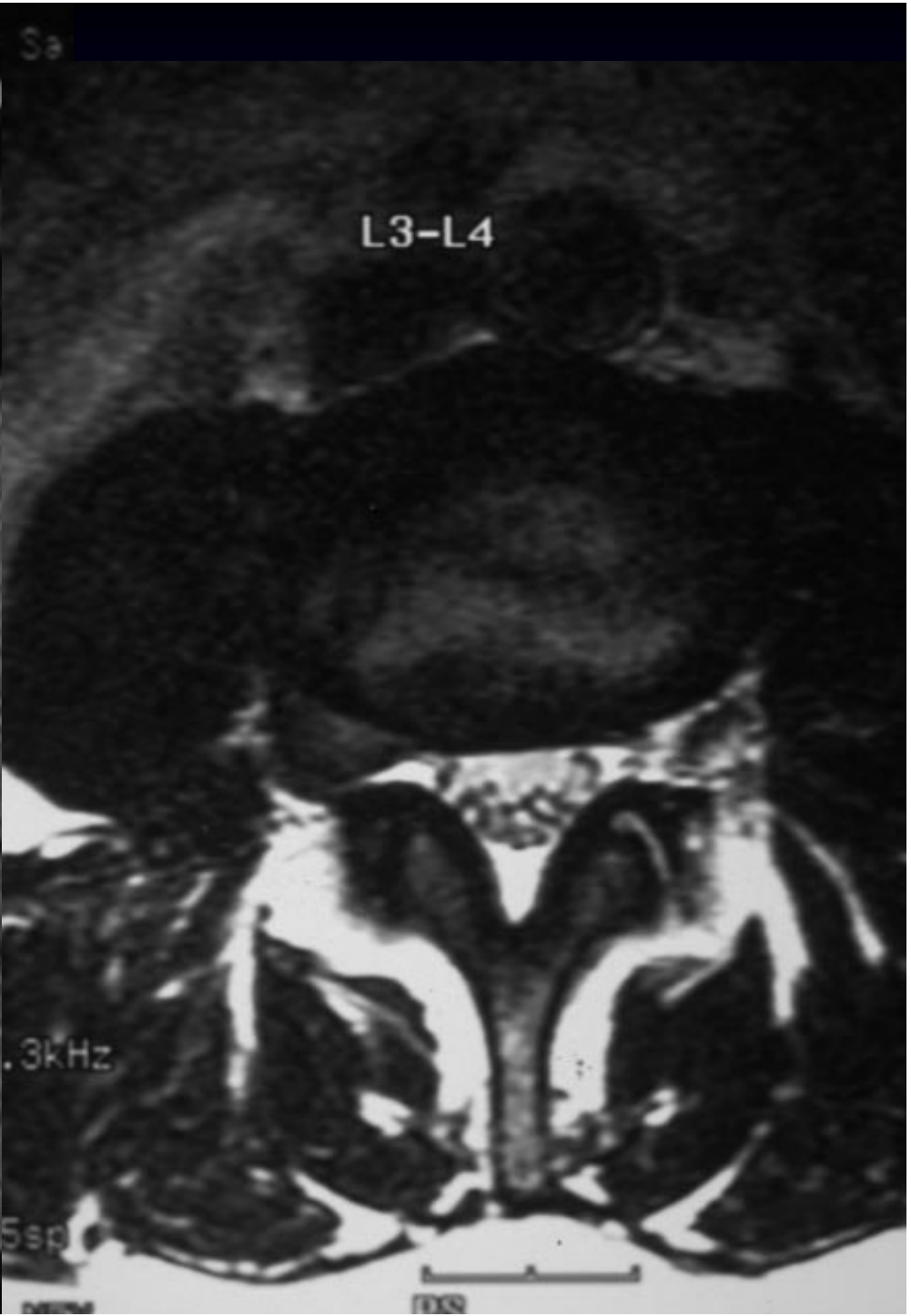


dv SYS#RP12

SATDMR Sa
C0



L3-L4

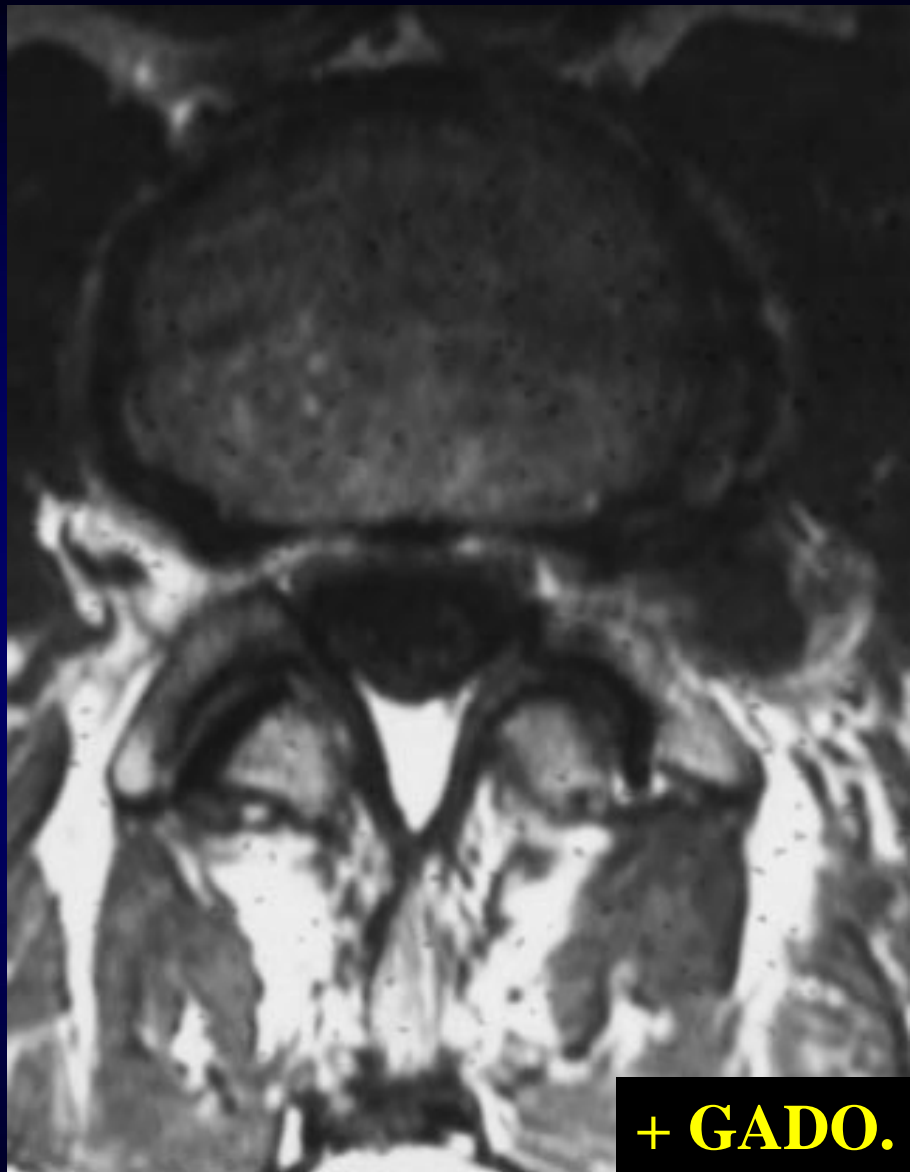


.3kHz

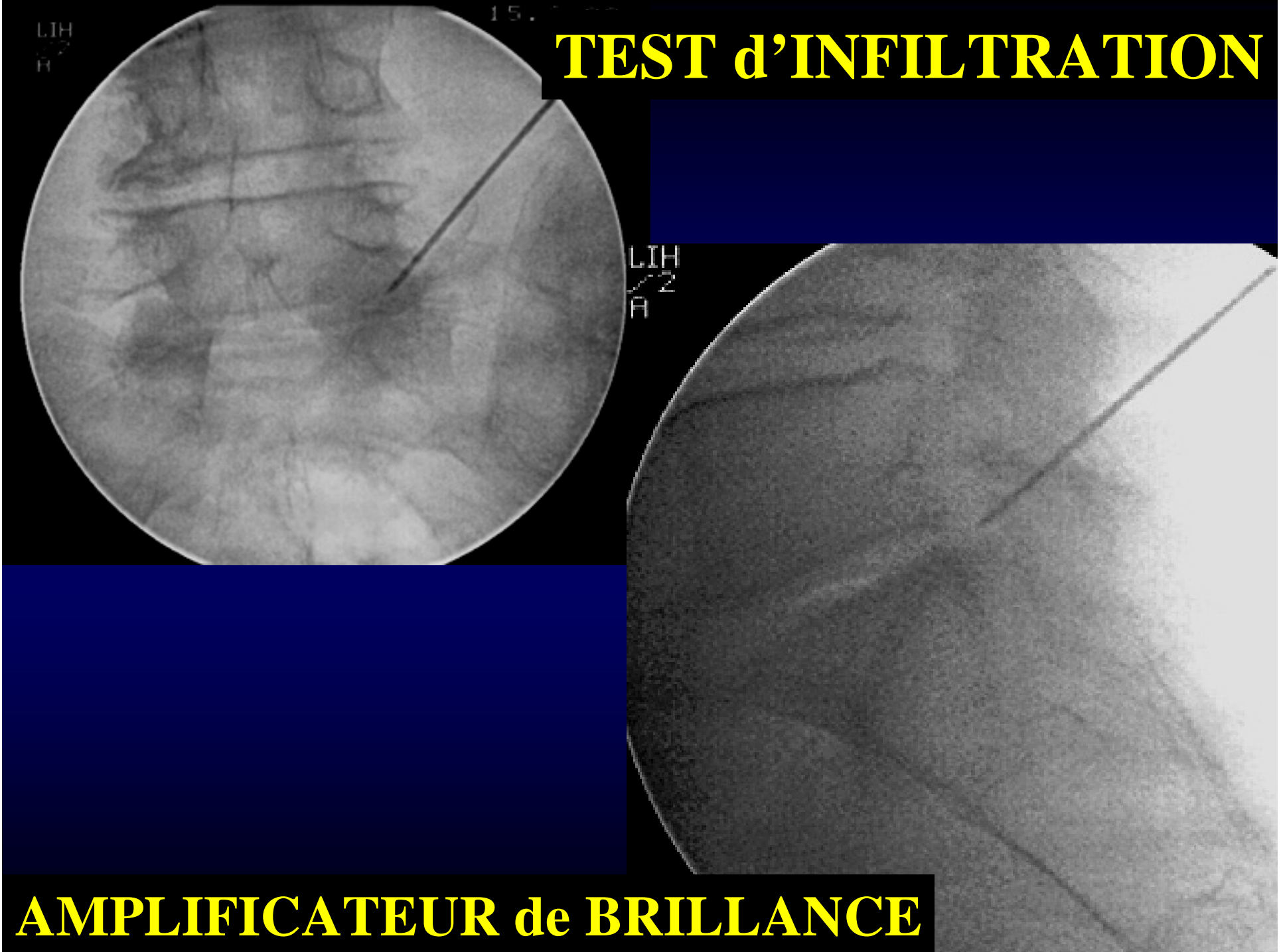
5sp

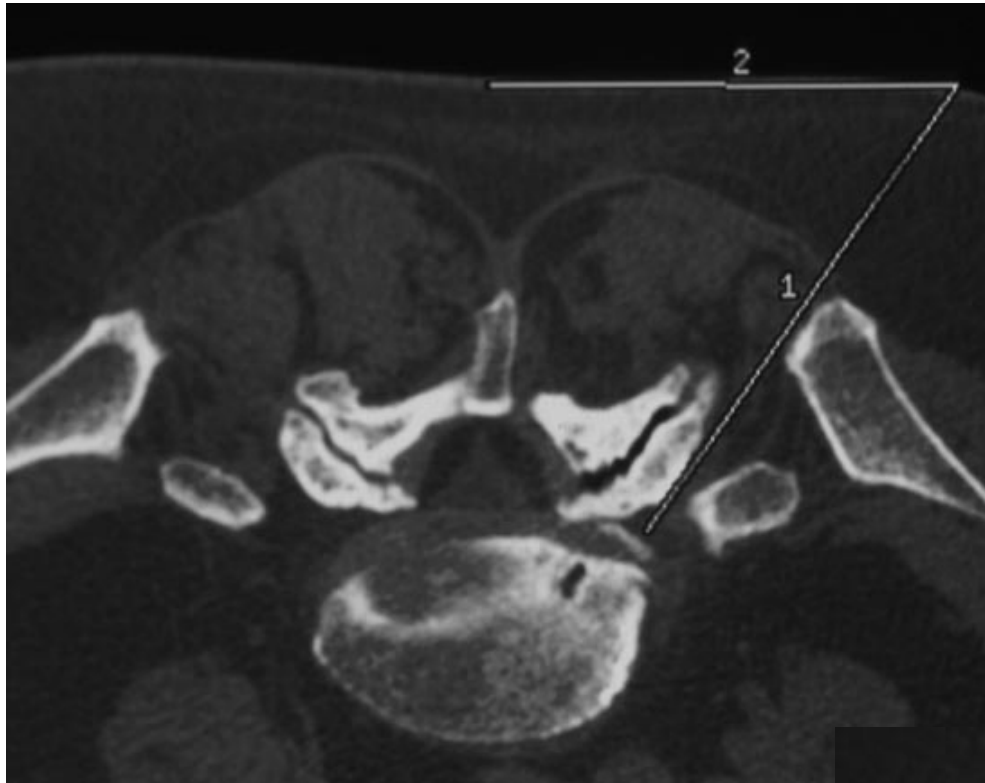






TEST d'INFILTRATION



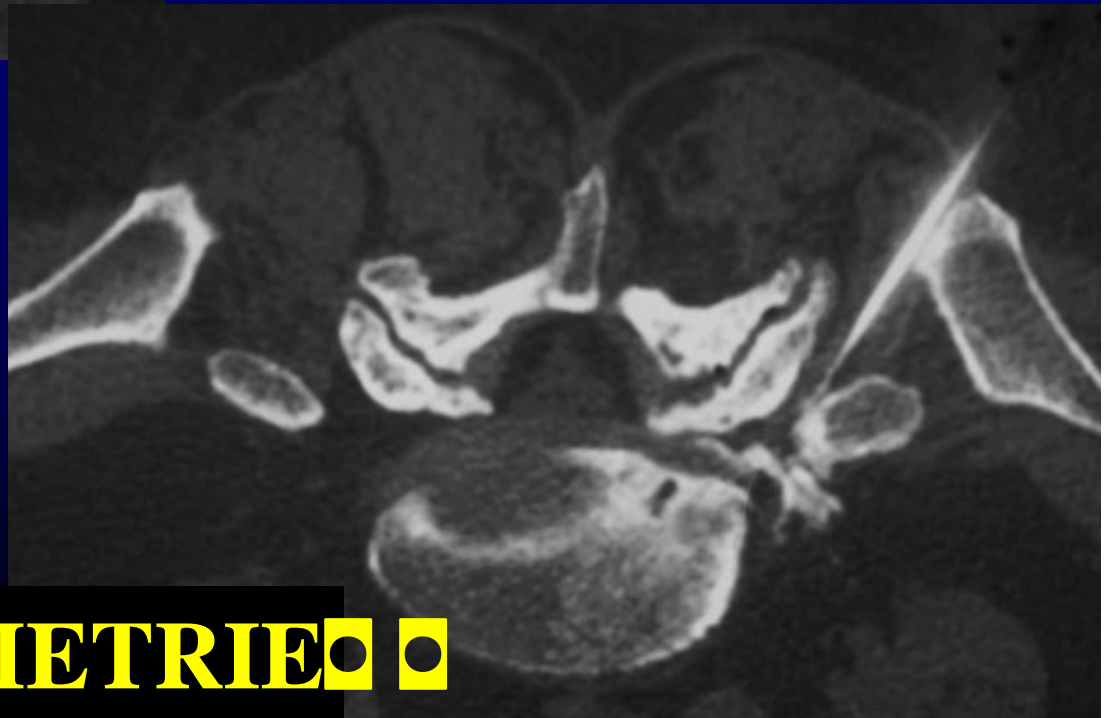


Aiguille 22 g

75 mg d 'hydrocortisone

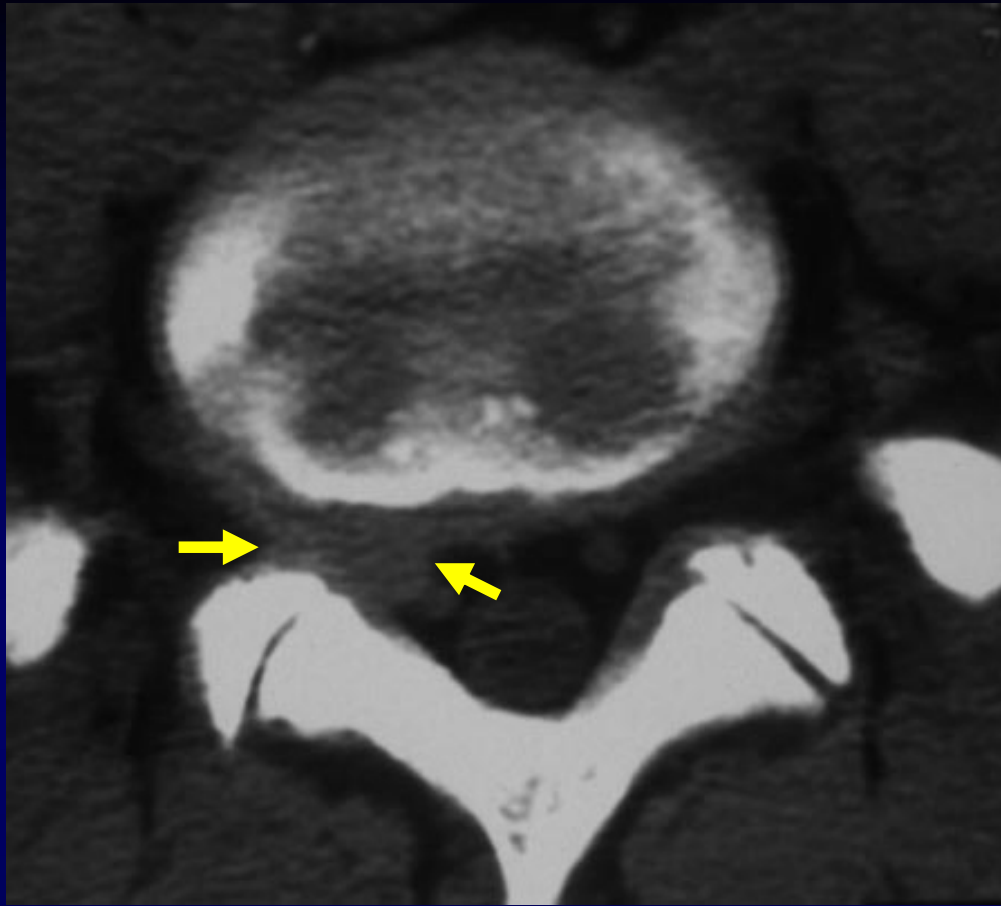
1 ml de lidocaïne

1 ml de produit de contraste



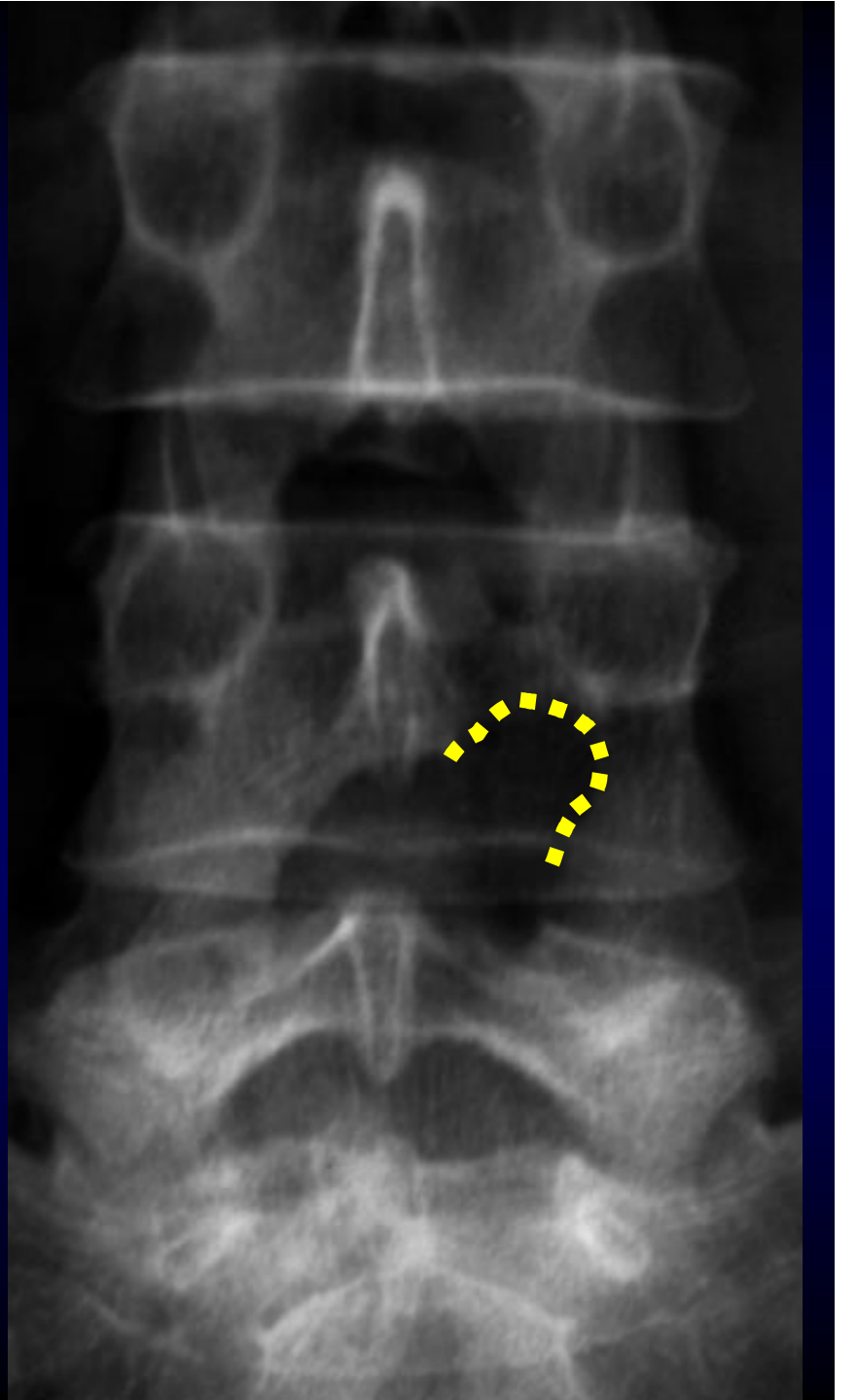
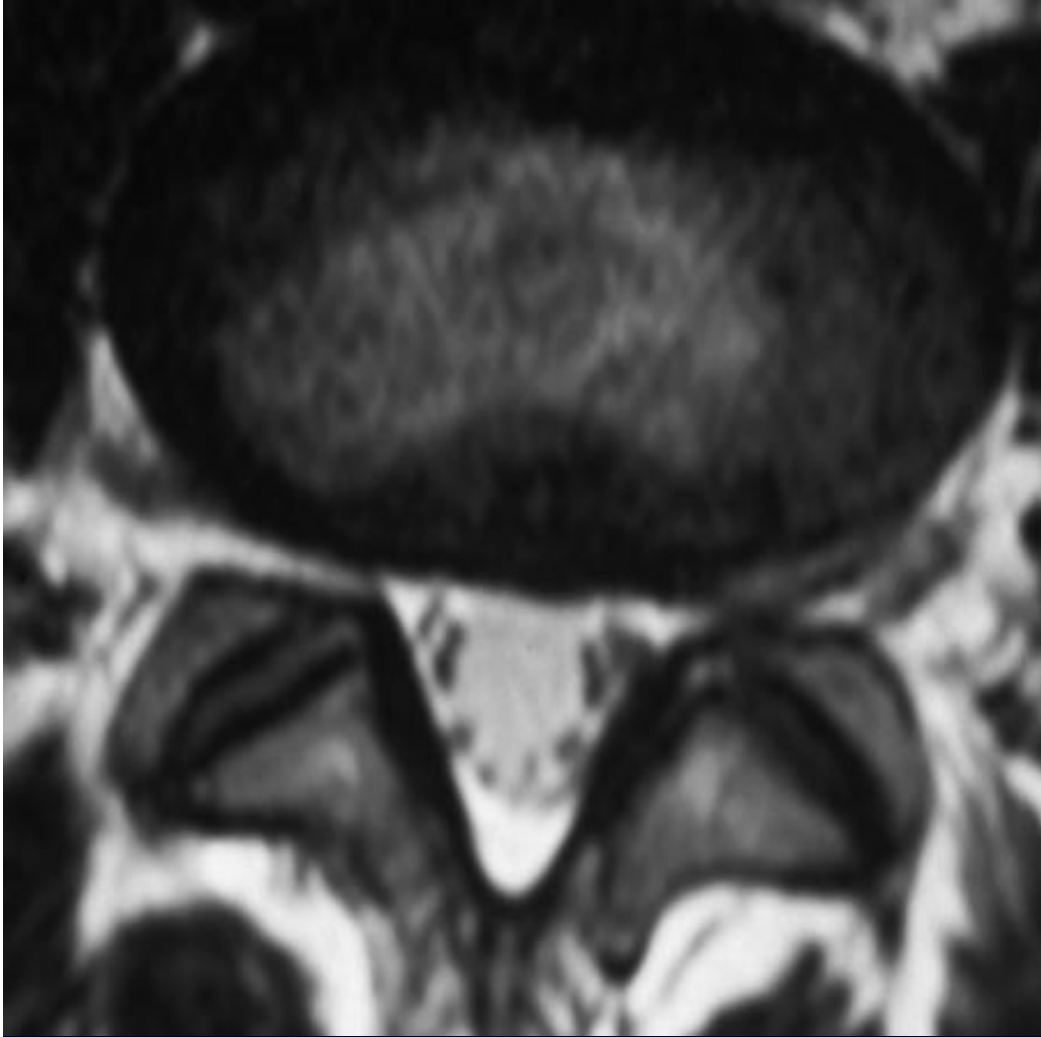
TOMODENSITOMETRIE □ □

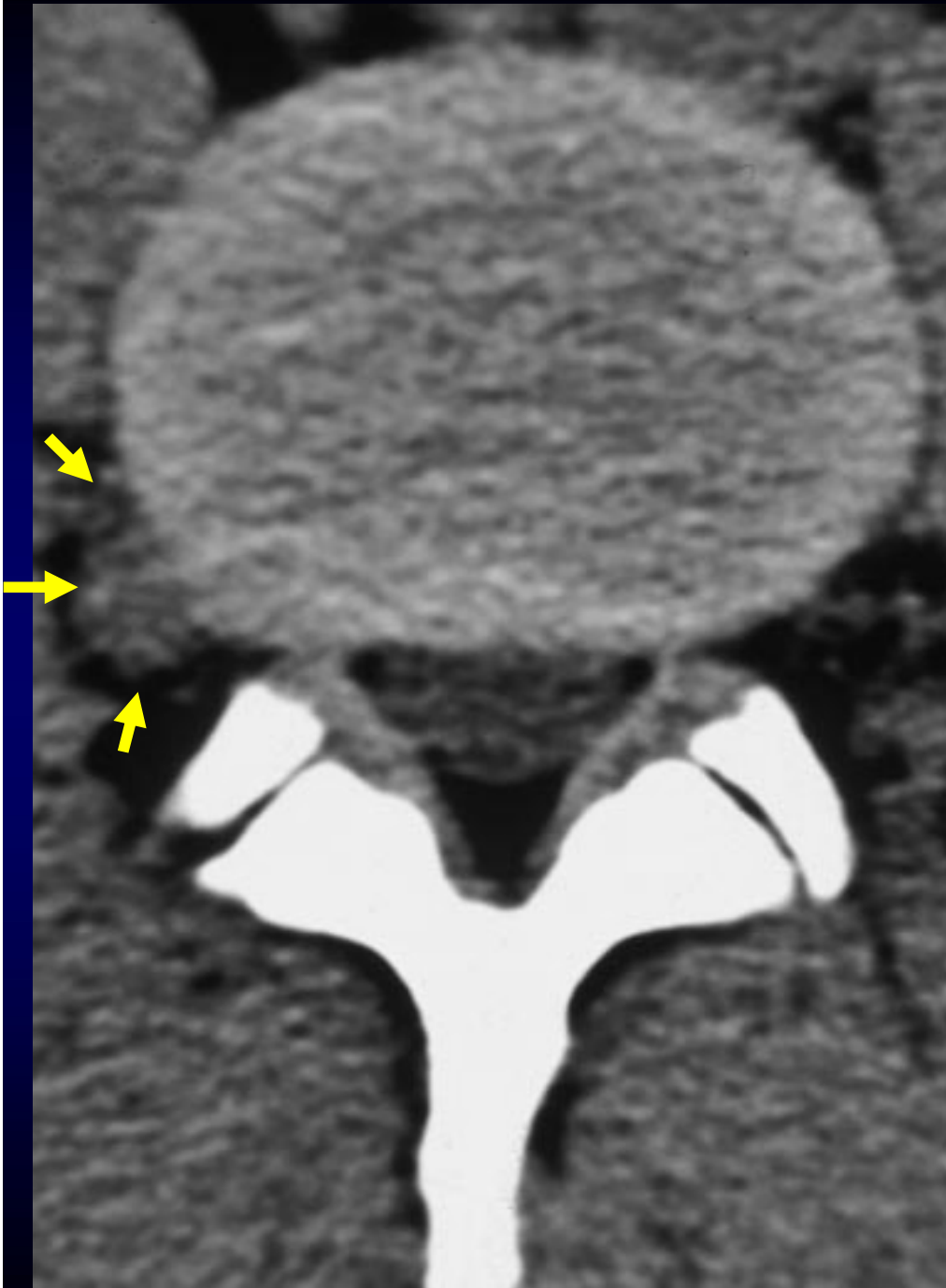




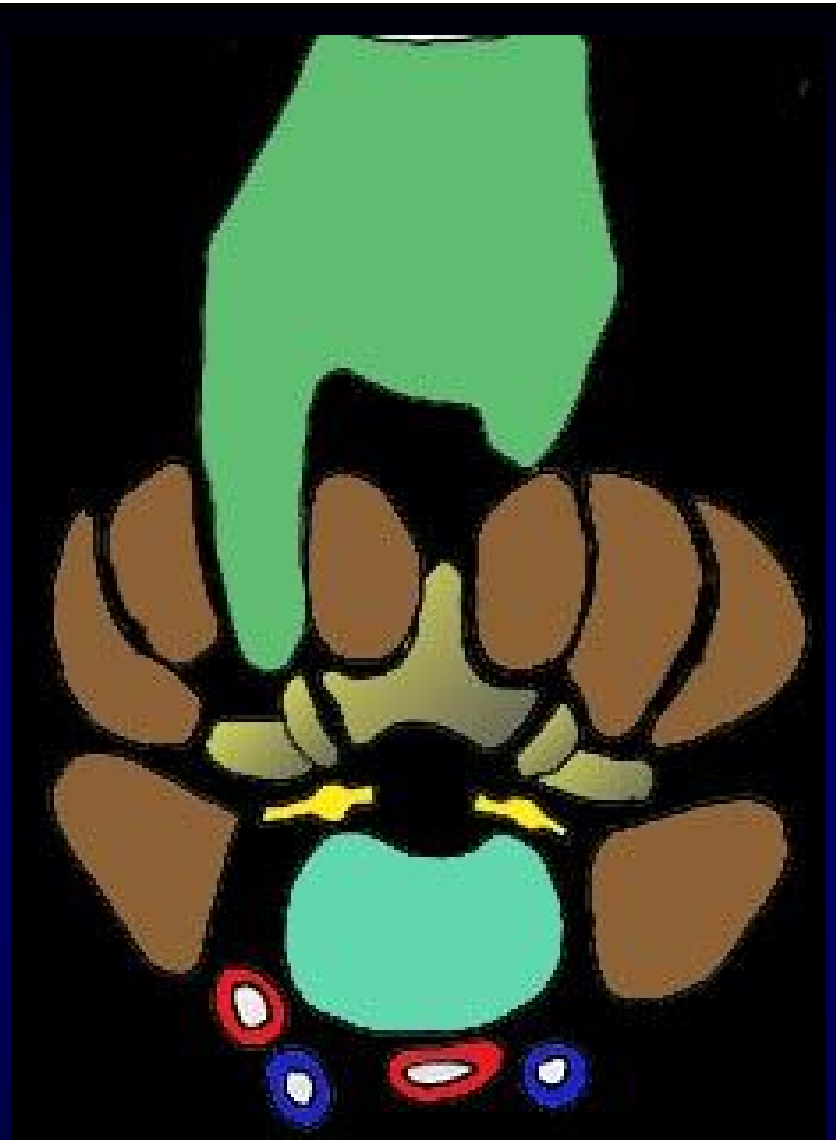
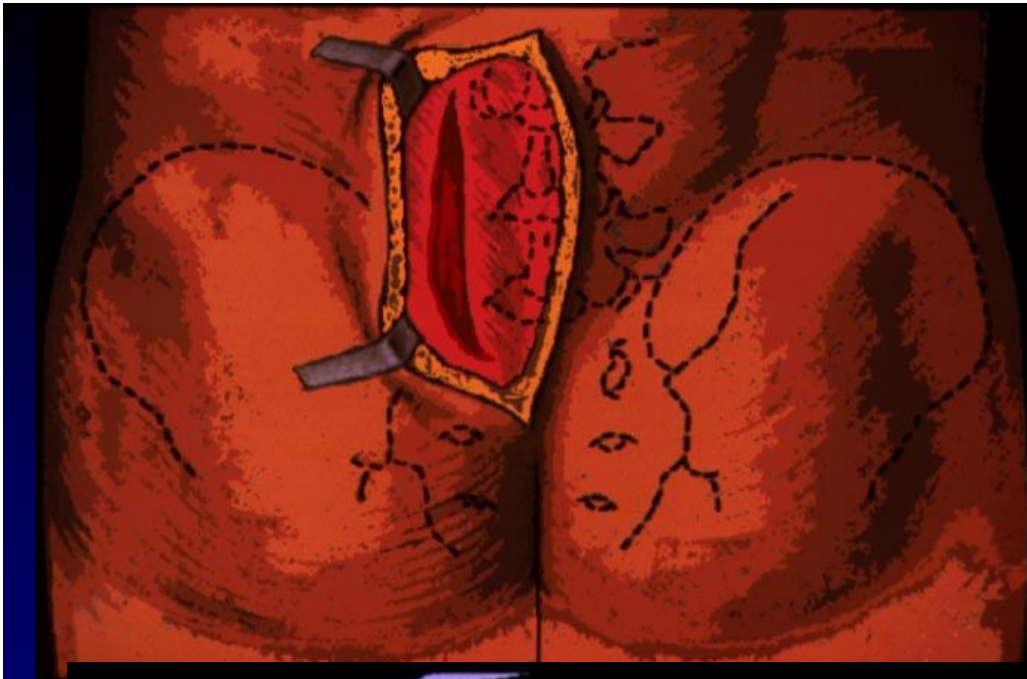
Voie intracanalalaire







Voie extracanalalaire



WILTSE (Spine 1988)

RECIDIVE de HERNIE

**LA VRAIE RECIDIVE
« L'INSUFFISANCE DISCALE »
LA FIBROSE**

RECIDIVE L5 G à 2 ANS

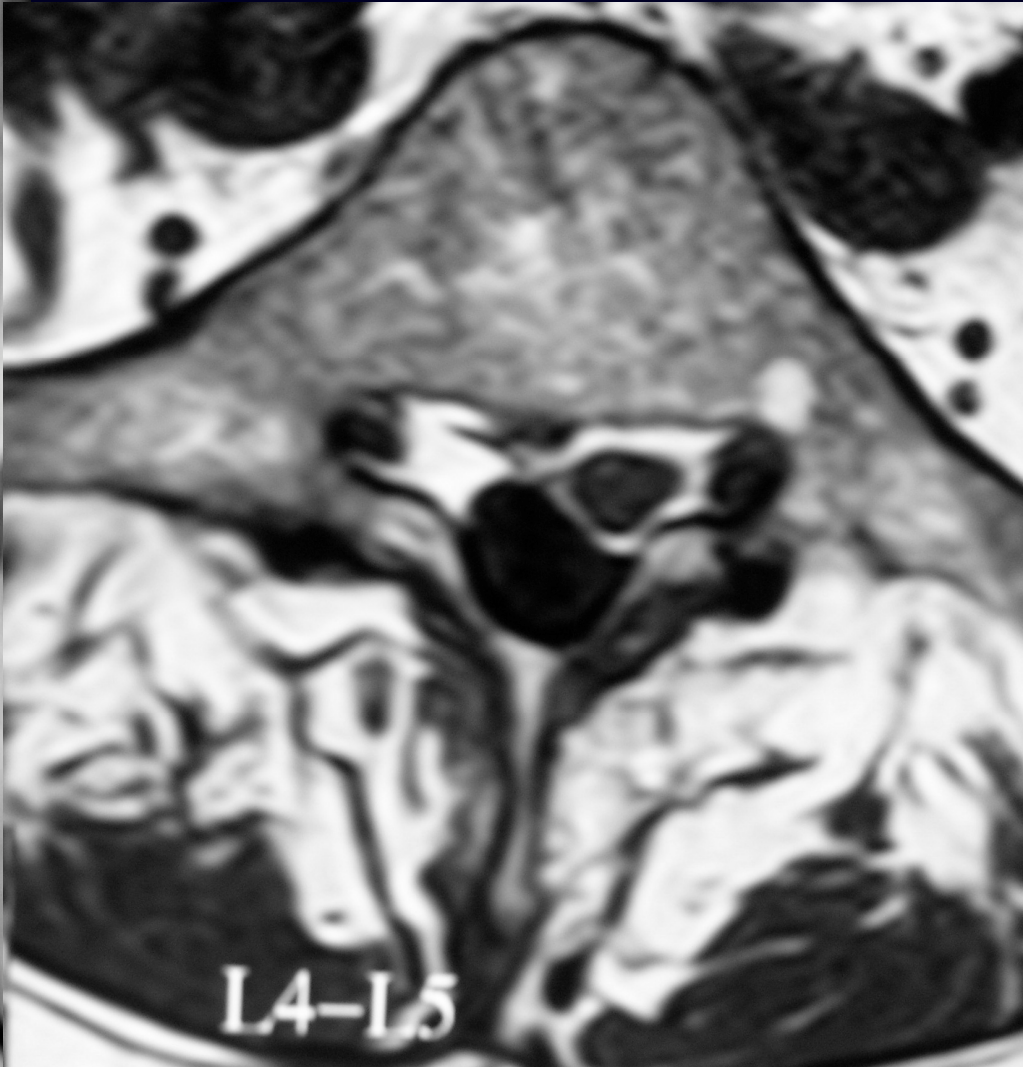
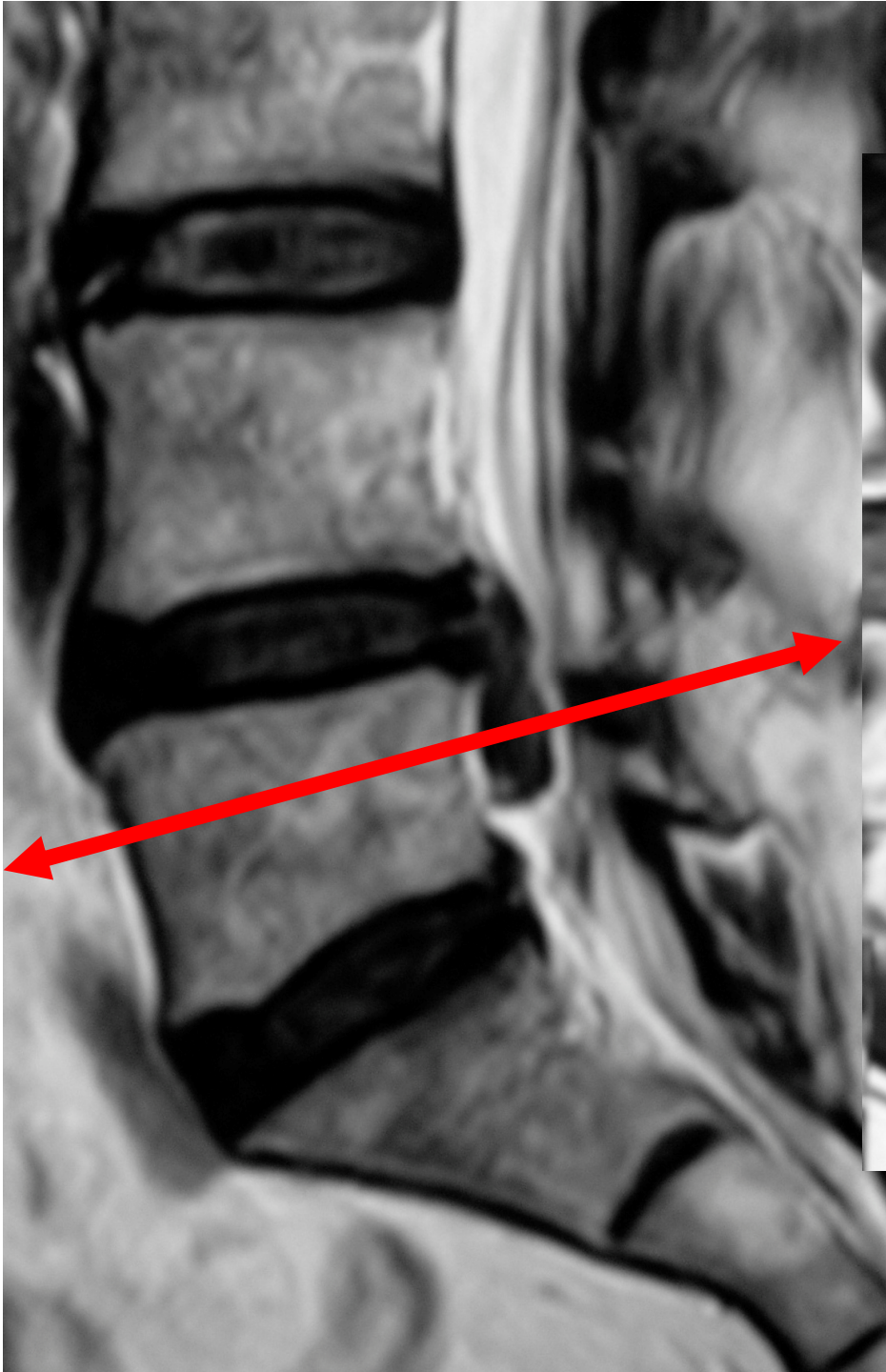


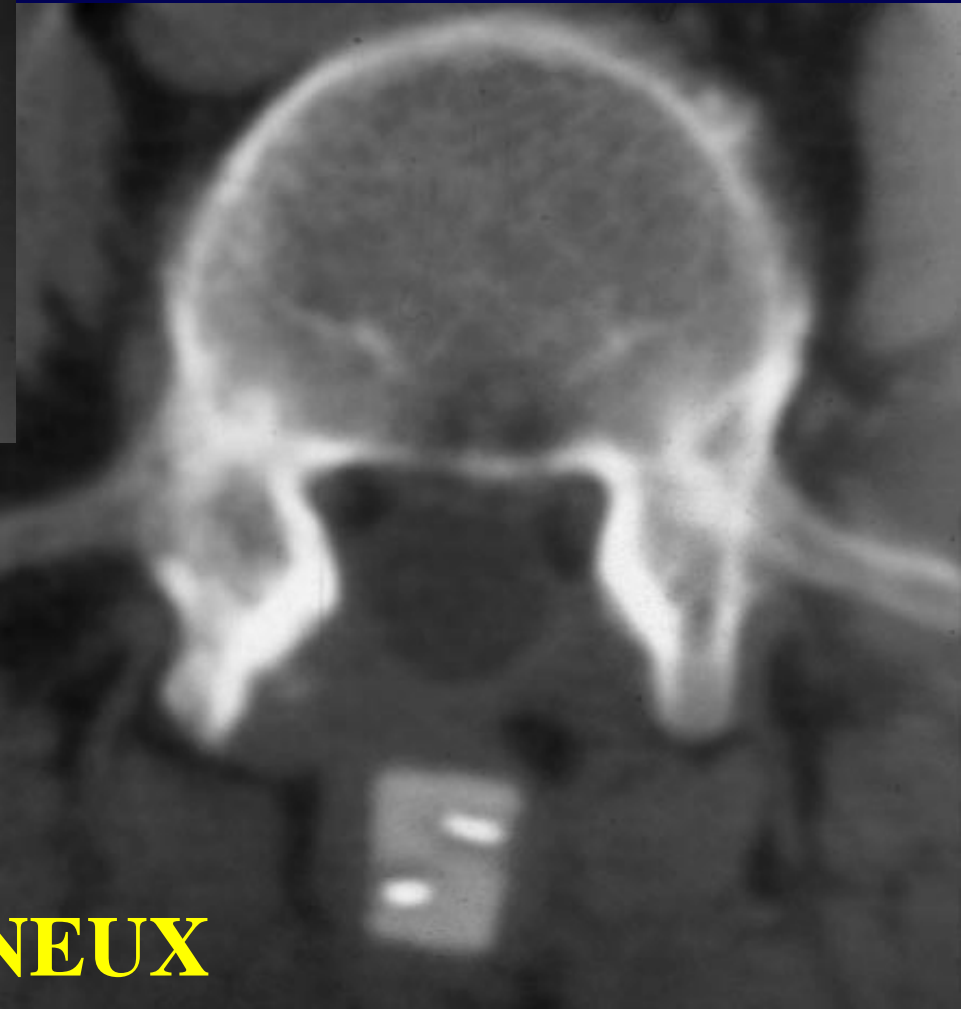
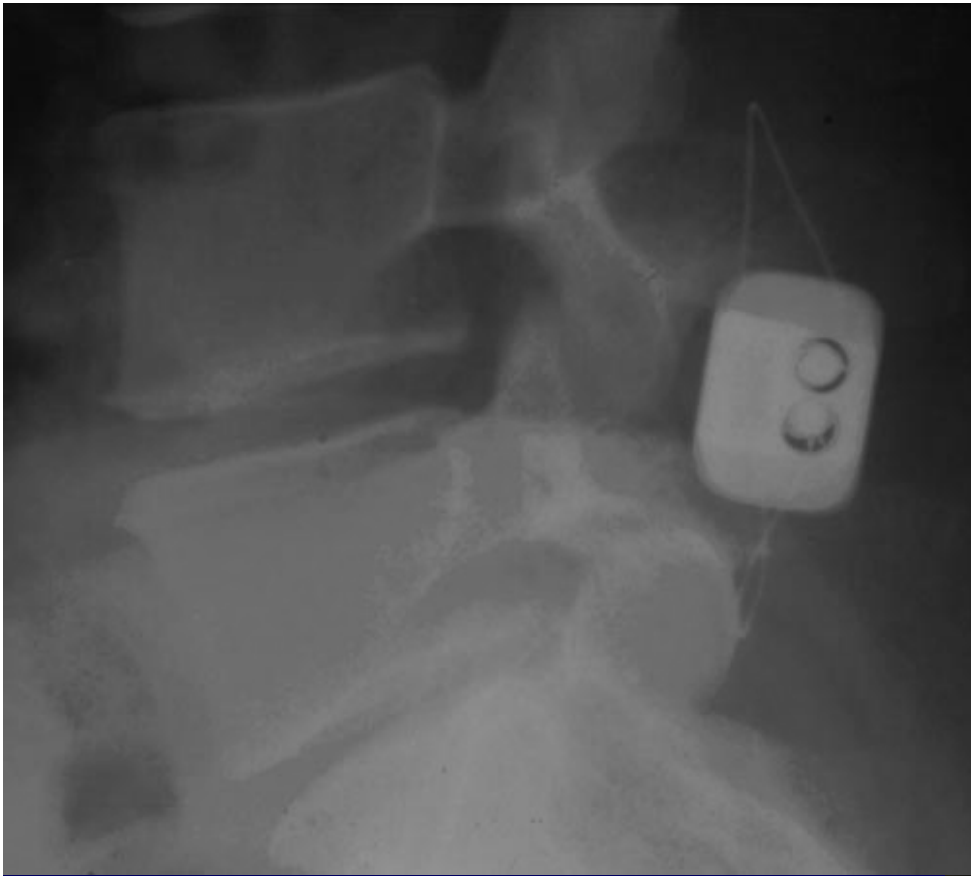
L4-L5

+ GADOLINIUM



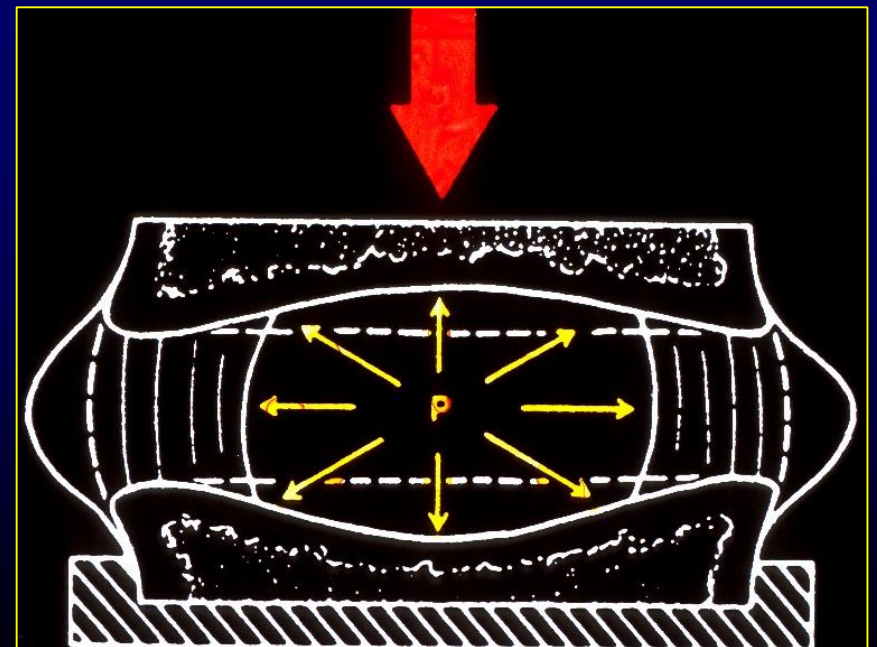
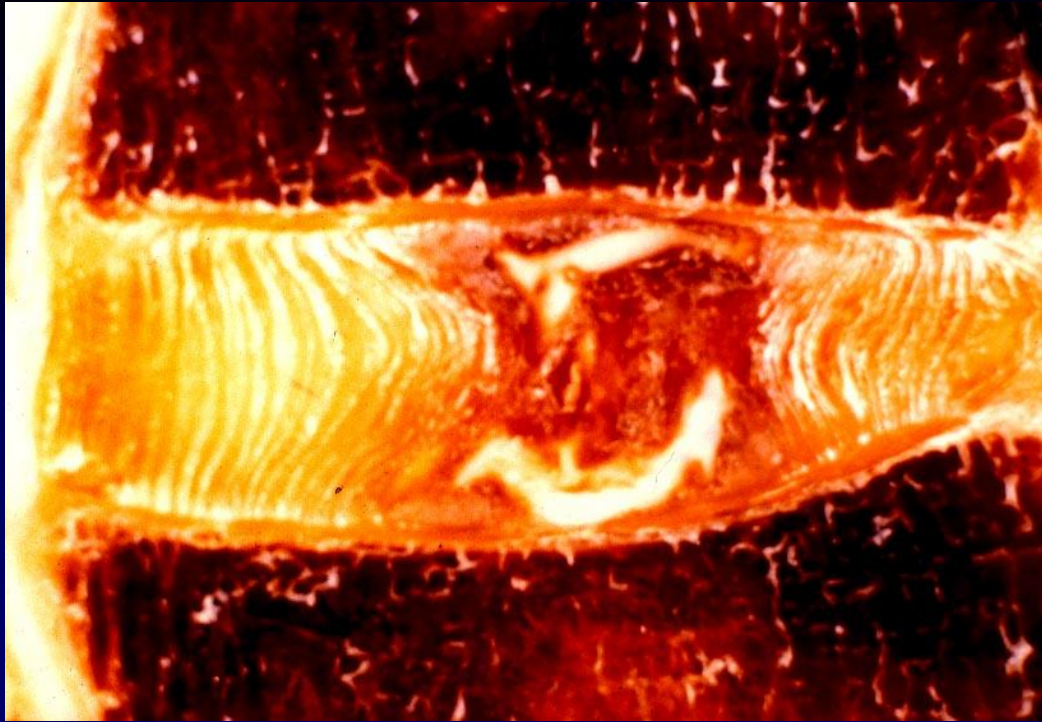
L4-L5



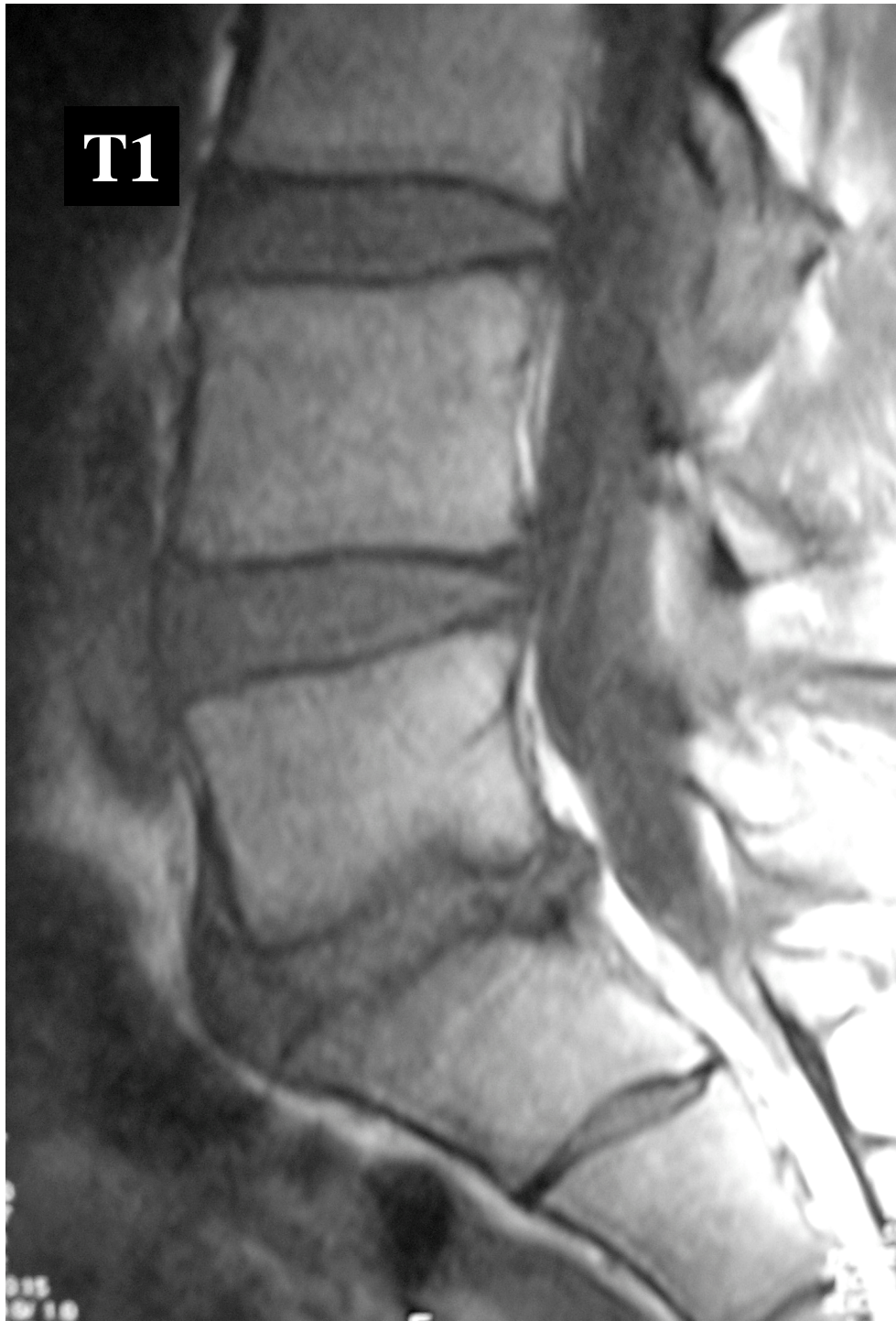


LIGAMENT INTEREPINEUX

COMPLEXE DISCO EPIPHYSAIRE



T1



T2

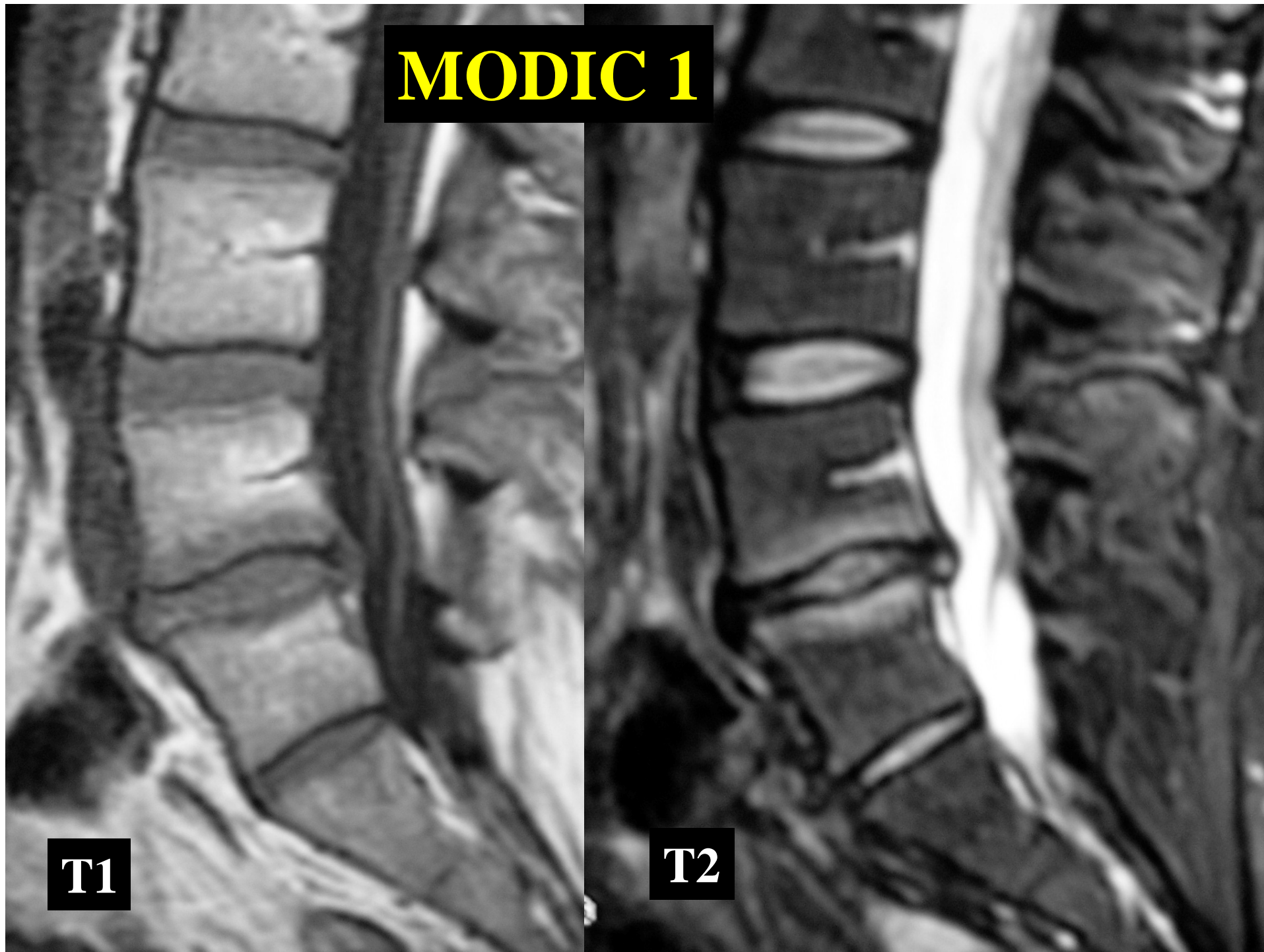


AFFAISSEMENT DISCAL

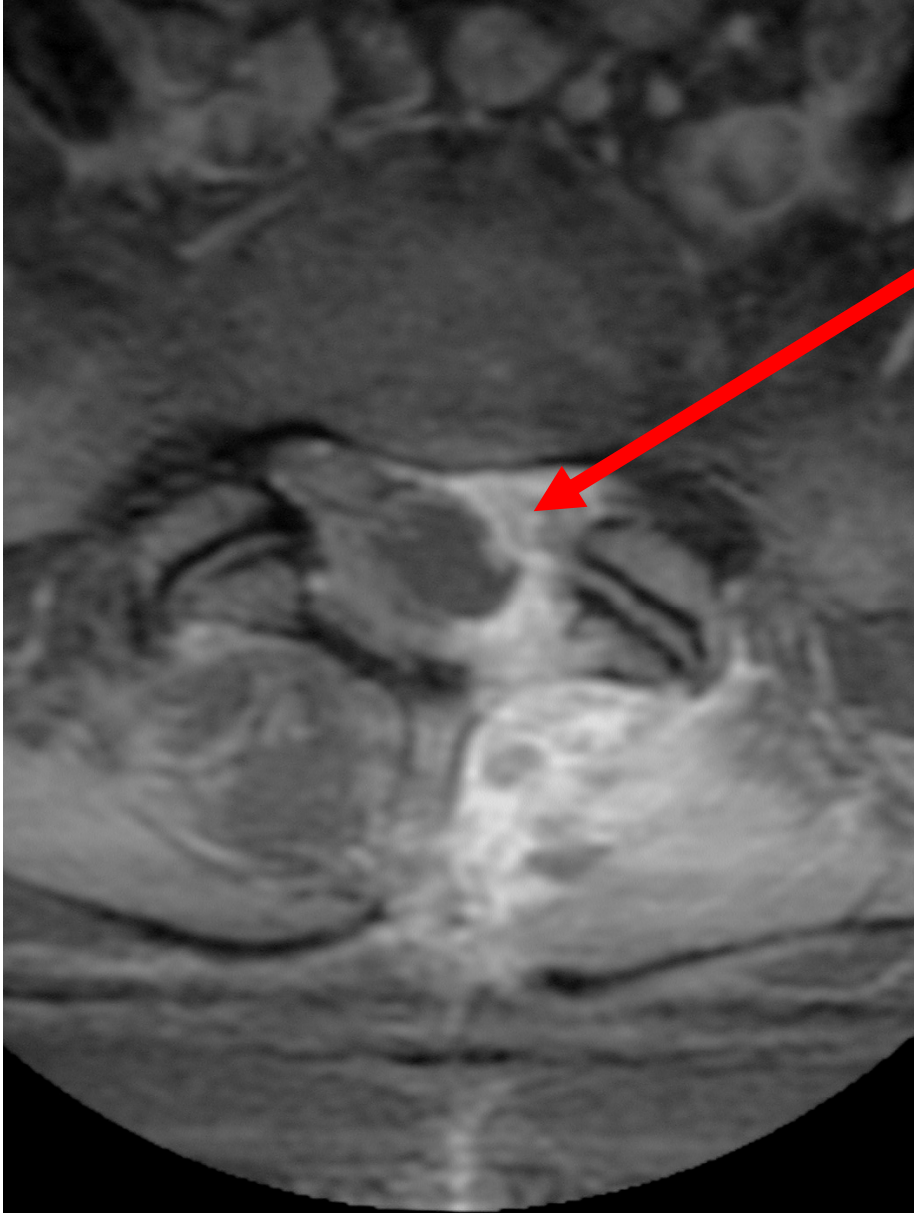
MODIC 1

T1

T2



FIBROSE EPIDURALE

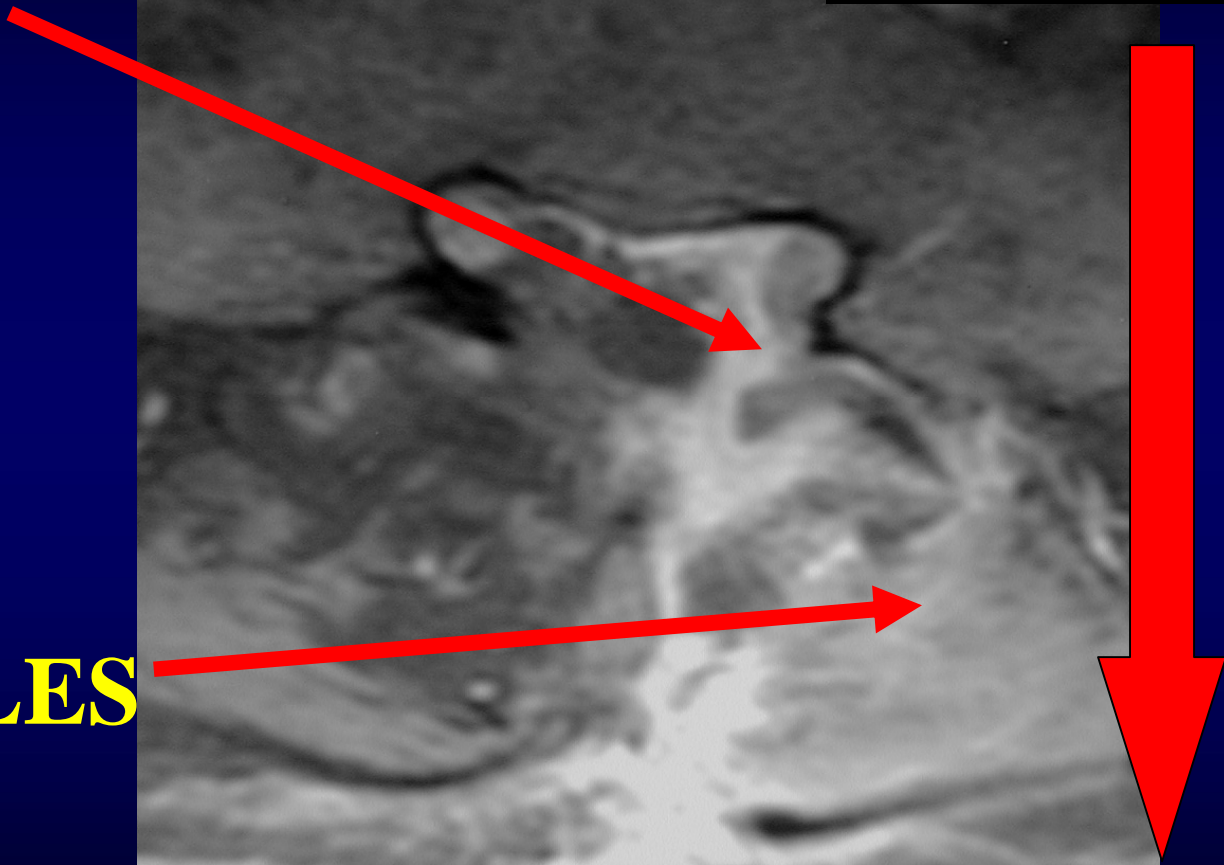


HEMATOME

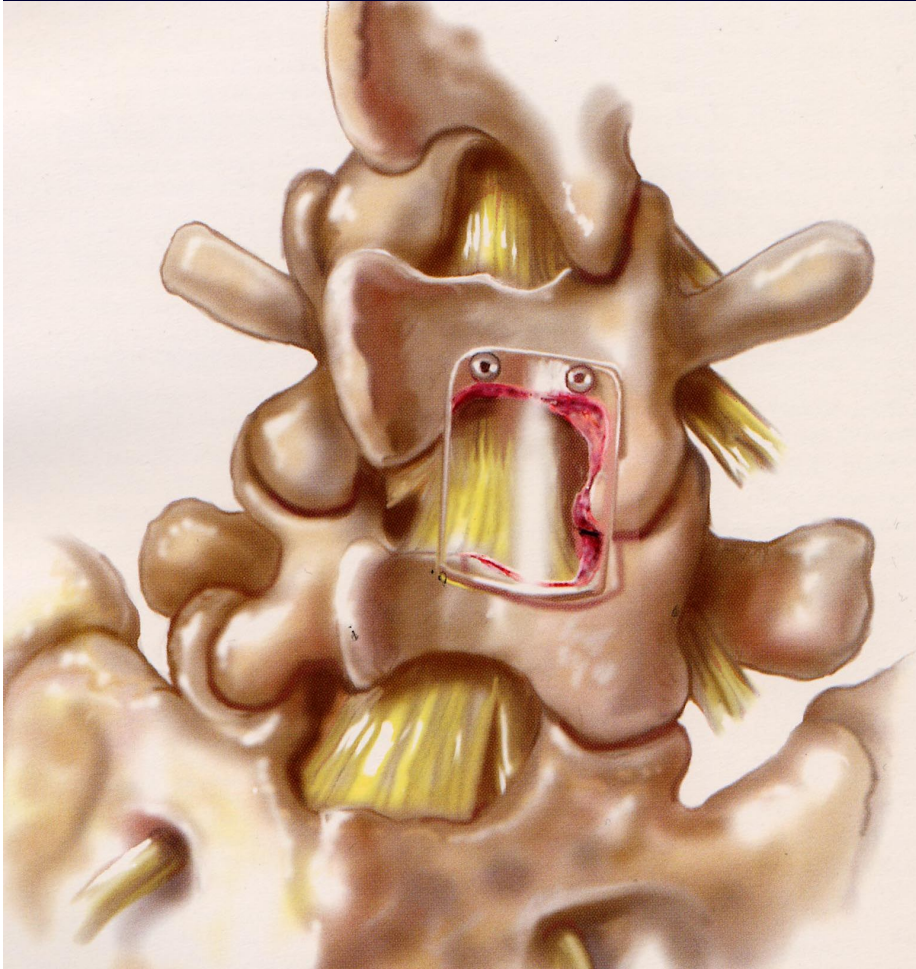
MYOBLASTES

MUSCLES

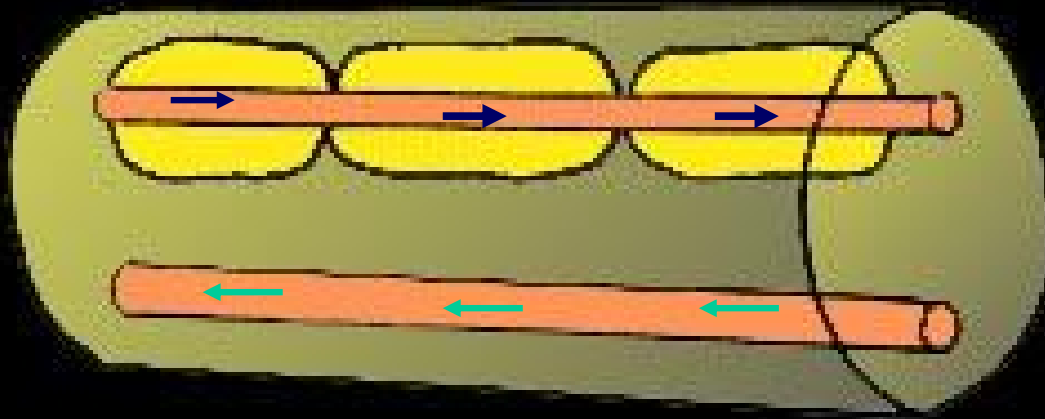
FIBROBLASTES



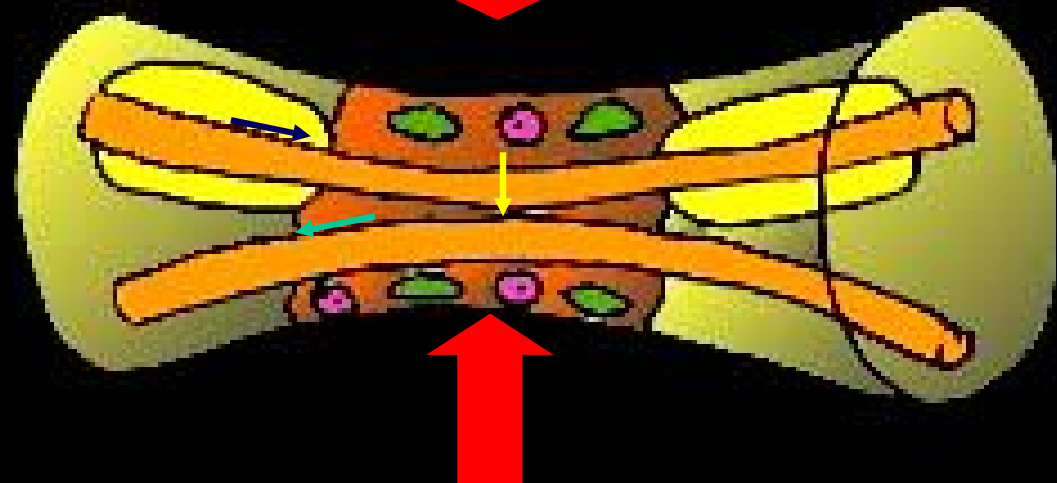
INTERFACE ESPACE EPIDURAL / MUSCLES



MINI-ABORD du CANAL RACHIDIEN

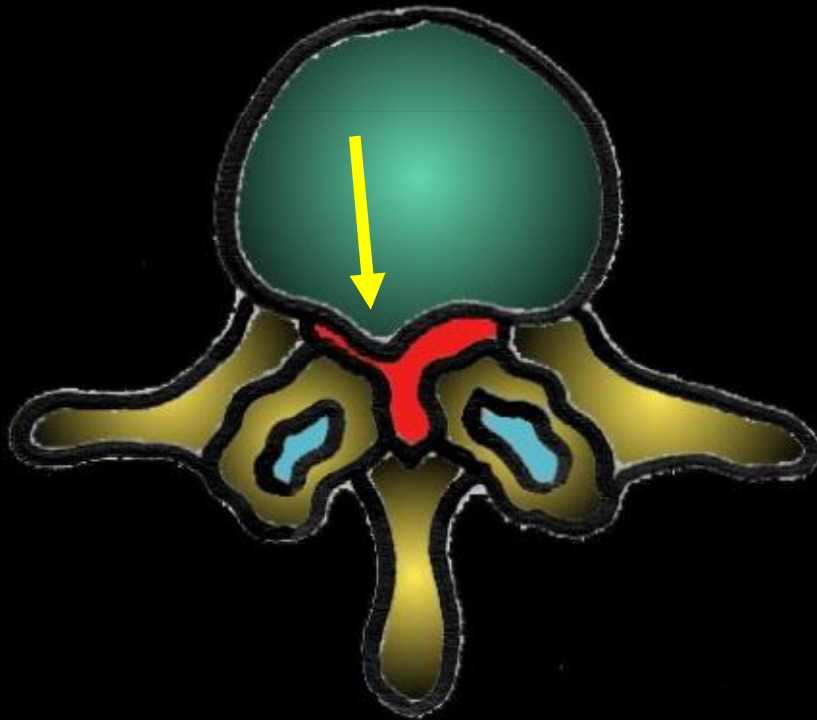
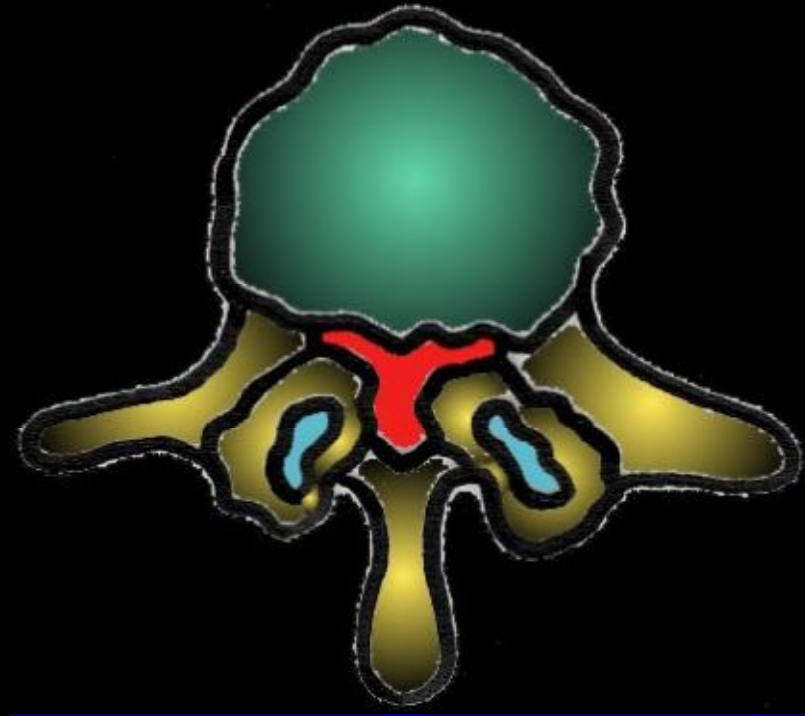
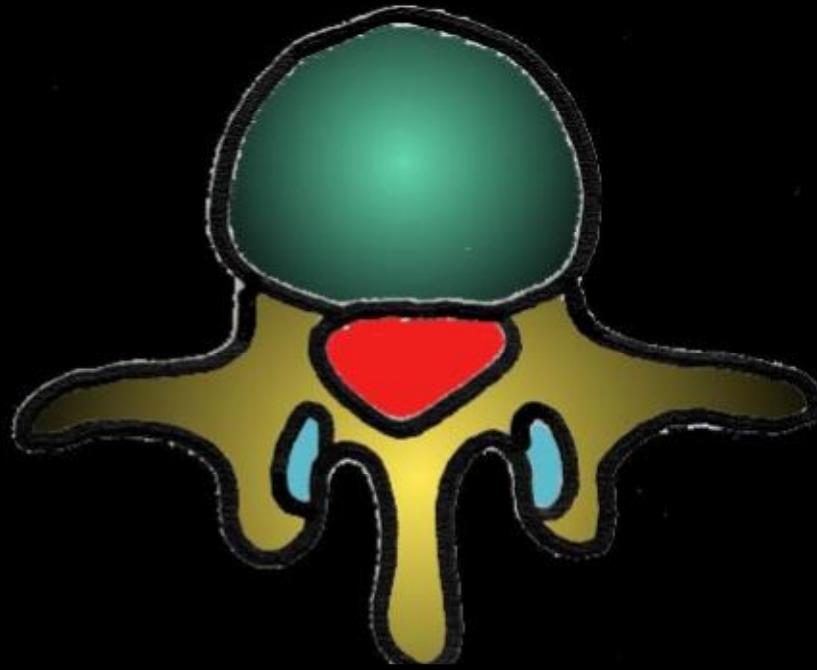


« FIBROSE INTRANEURALE »

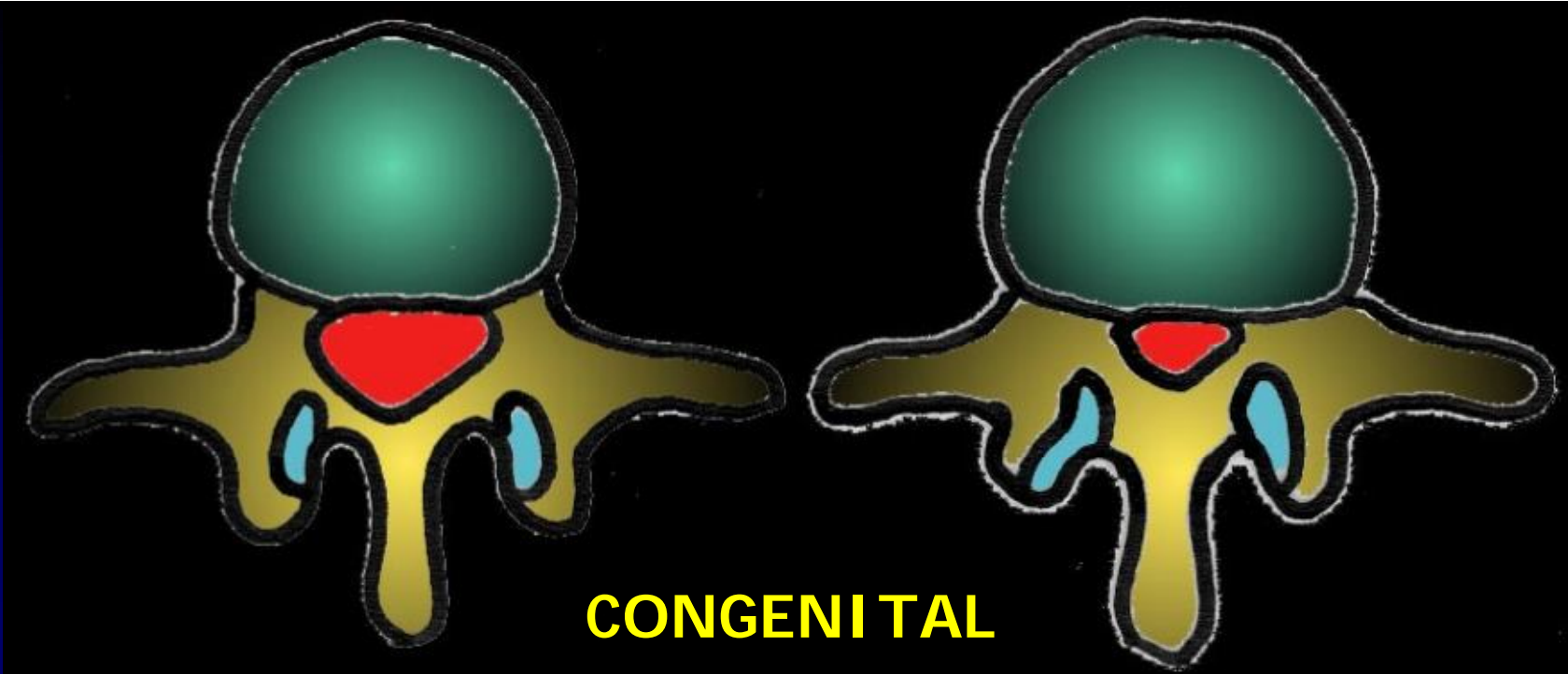


CANAL LOMBAIRE ETROIT





DEGENERATIVE LNC



CONGENITAL

or CONSTITUTIONAL LNC

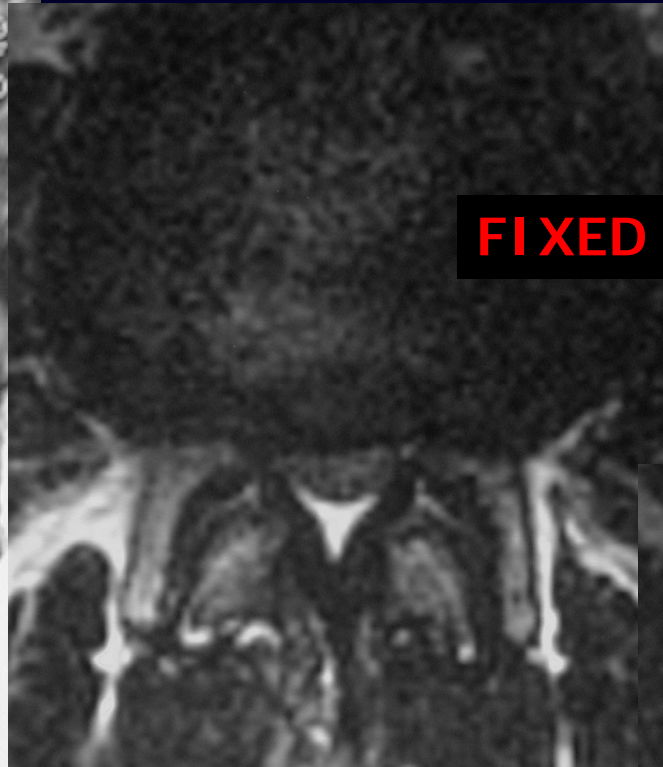
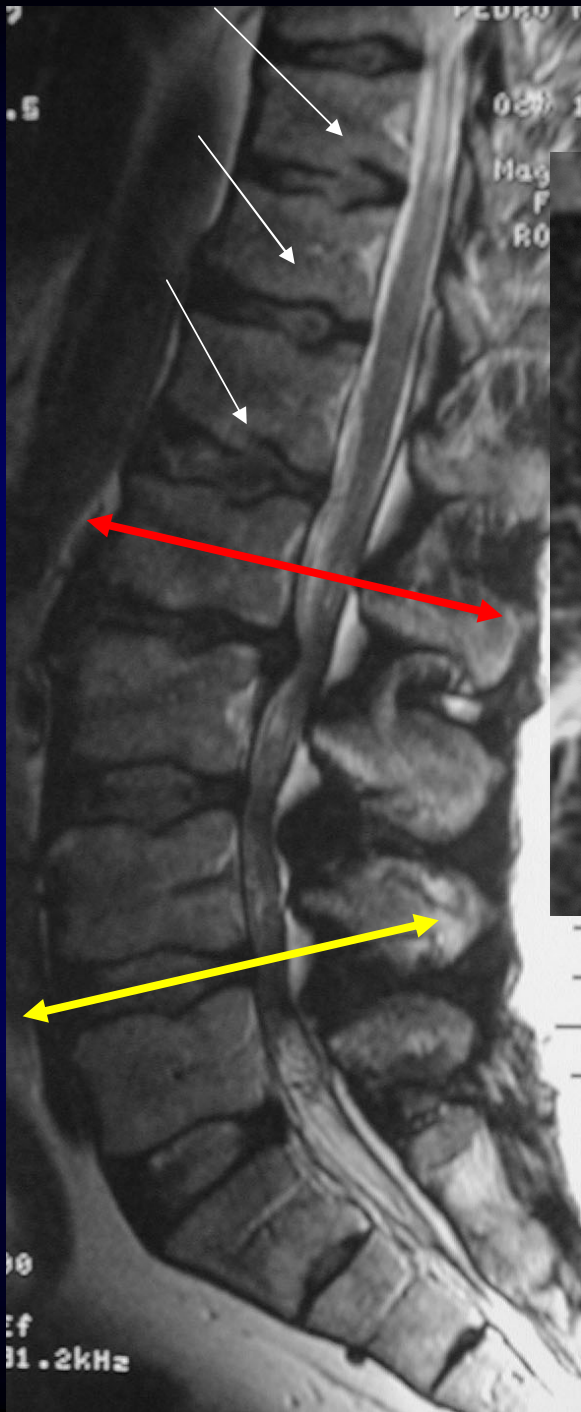


MIXT LNC

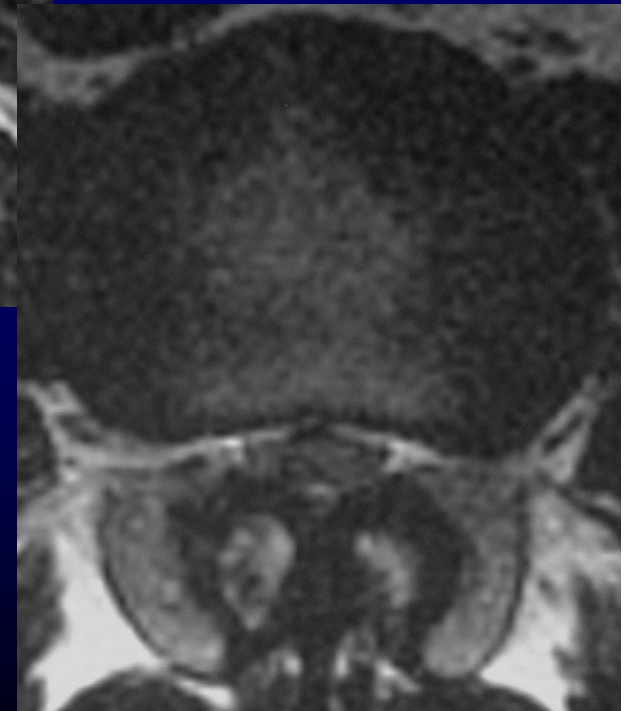


ACHONDROPLASIA

SCHEUERMANN



FIXED SAGITAL MEDIAL D.

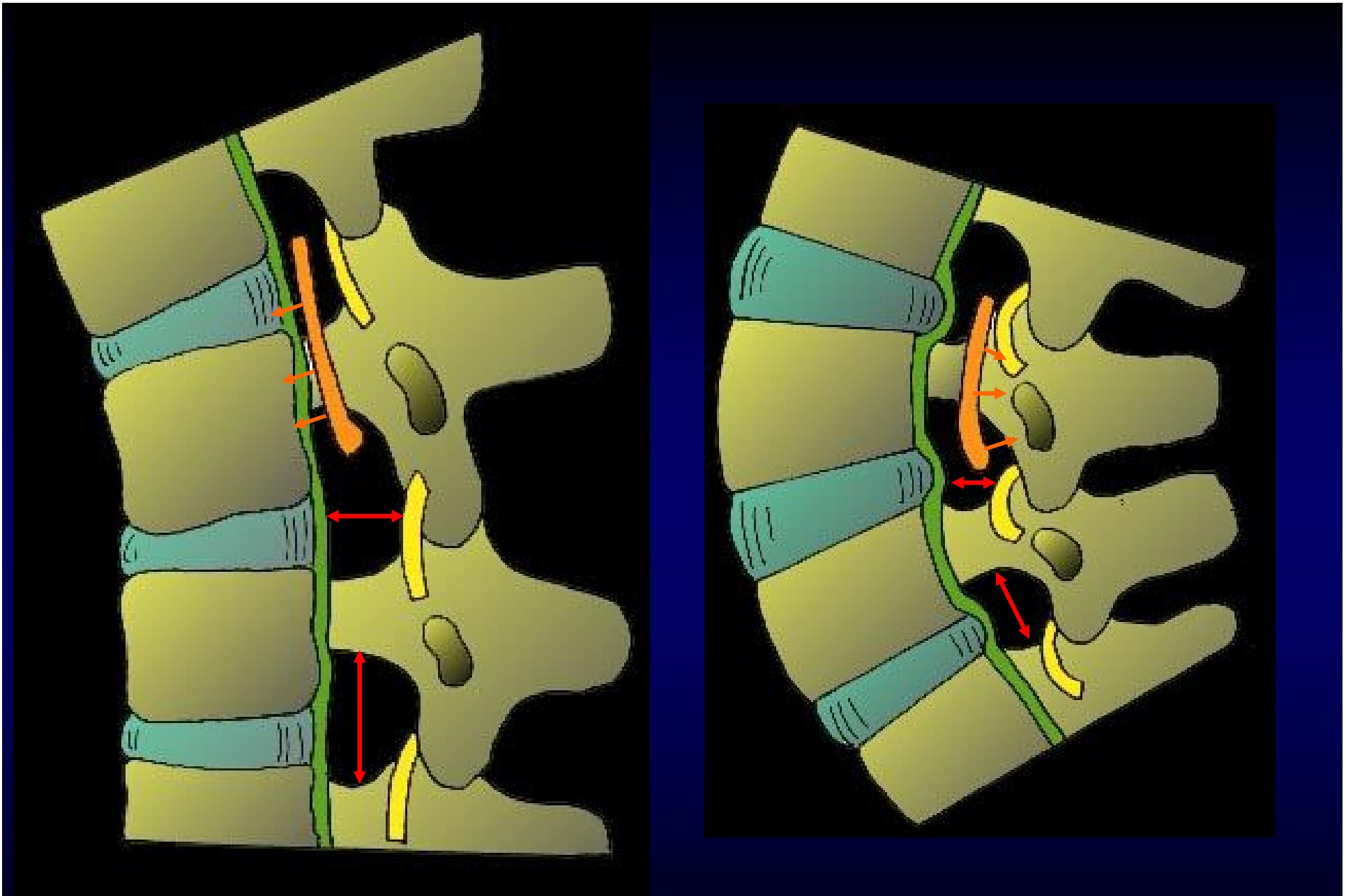


MOBILE SAGITAL MEDIAL D



LIMBUS

EARLY ACQUIRED N.L.C.



DYNAMIC

CENTRAL STENOSIS

QuickTime™ et un
décompresseur Video
sont requis pour visionner cette image.

LATERAL STENOSIS

LATERAL RECESS

QuickTime™ et un
décompresseur Video
sont requis pour visionner cette image.

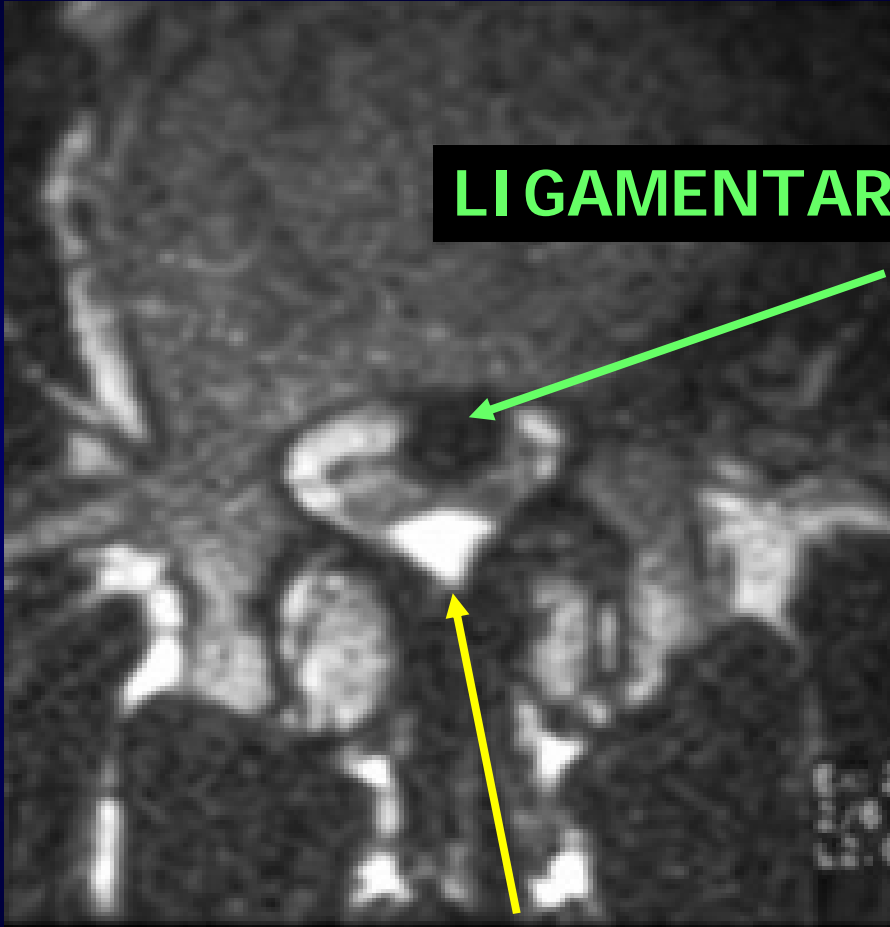
LATERAL STENOSIS INTERVERTEBRAL FORAMEN

QuickTime™ et un
décompresseur Video
sont requis pour visionner cette image.

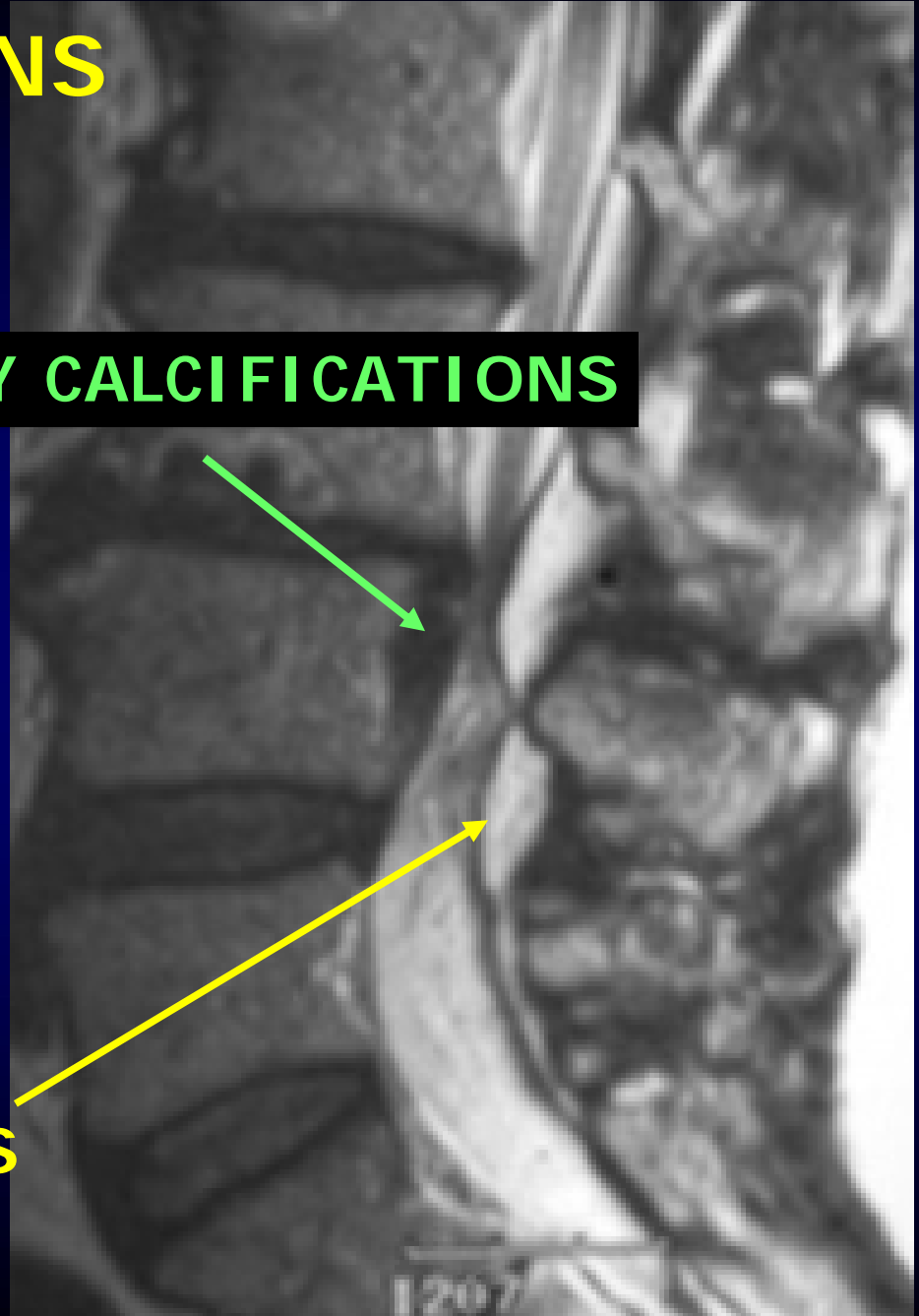
ASYMMETRIC DISCOPATHY

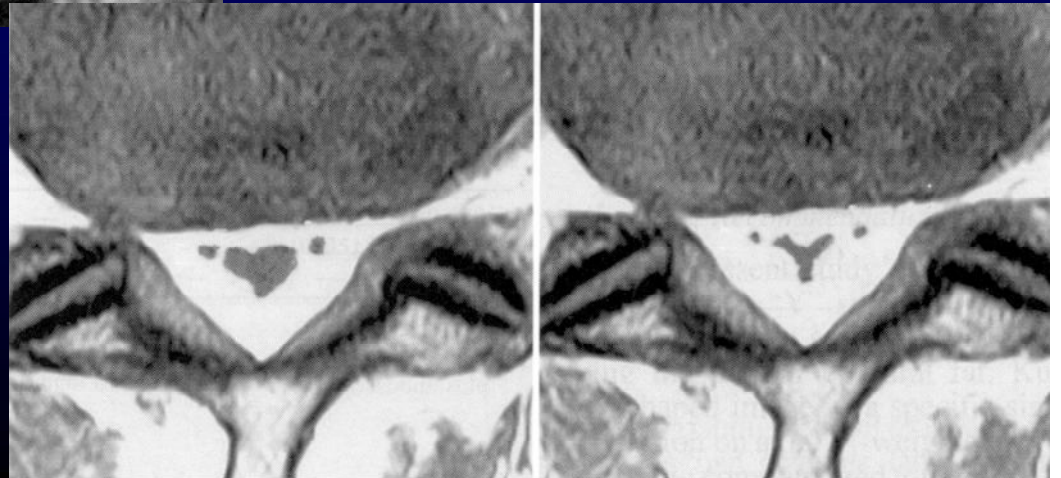
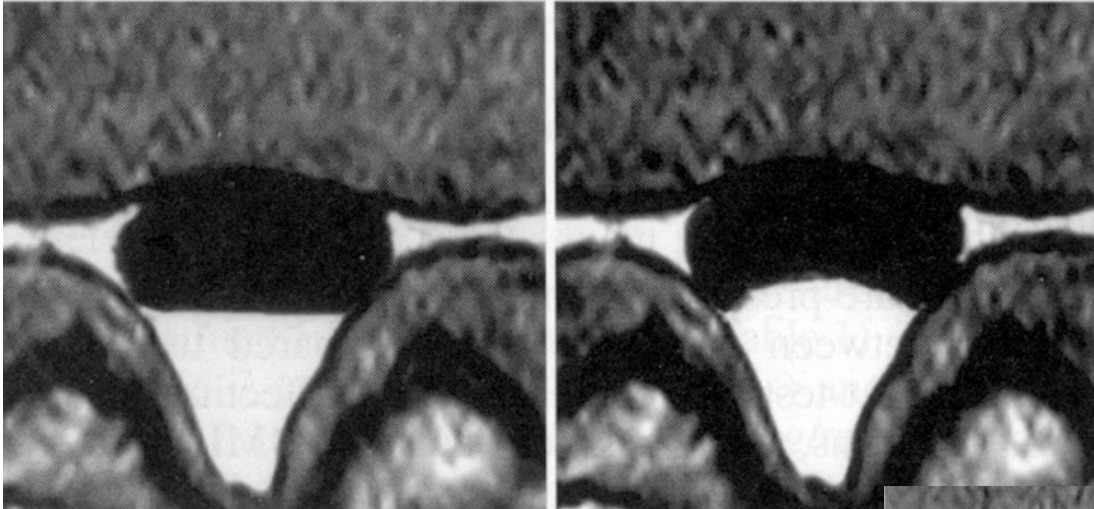
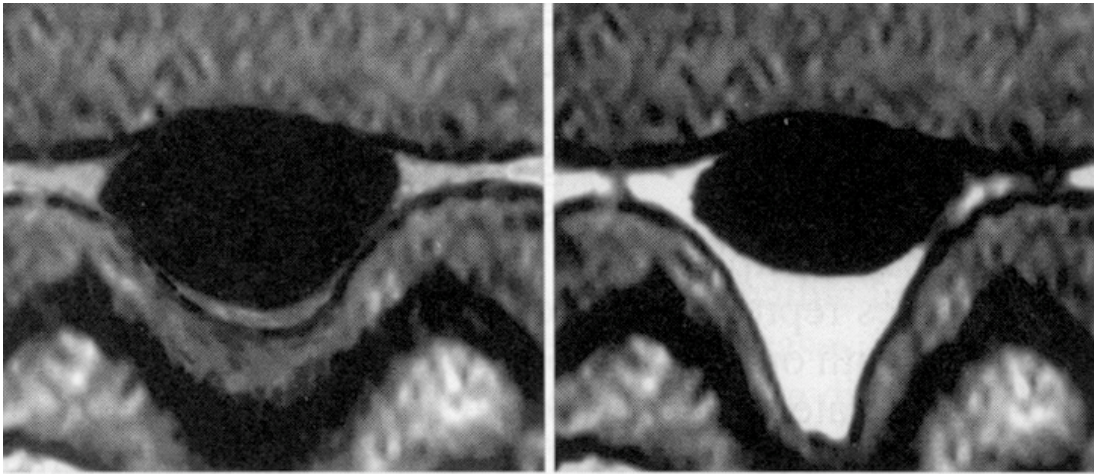
FAT TISSUES LESIONS

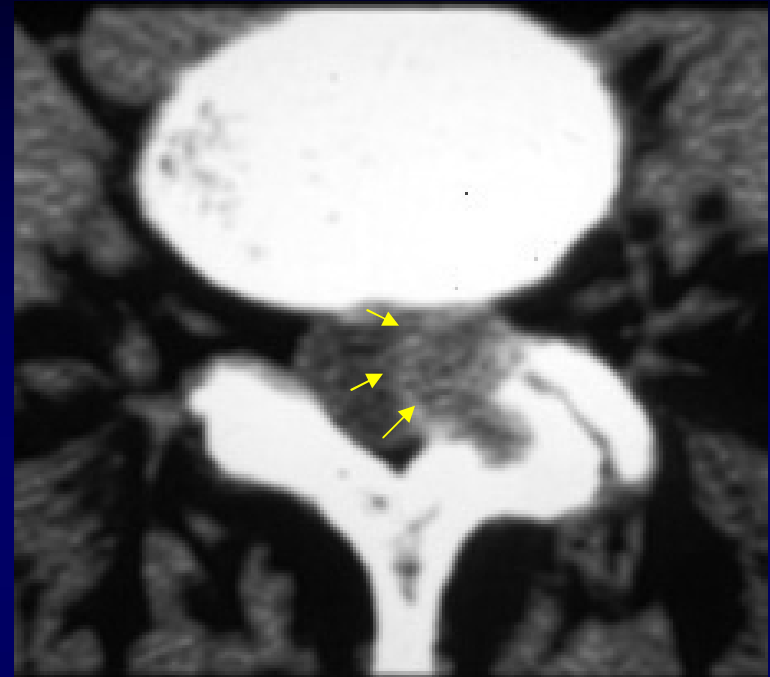
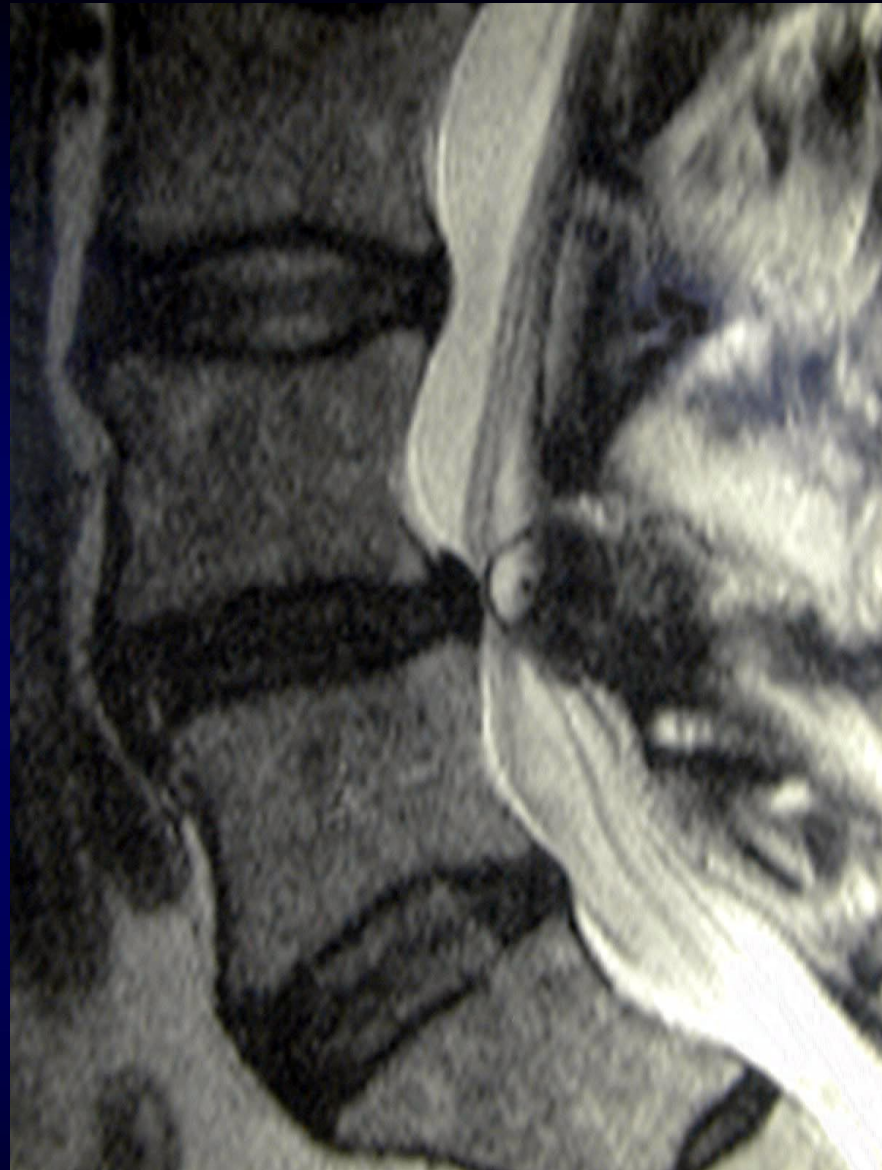
LIGAMENTARY CALCIFICATIONS



LIPOMATOSIS







SYNOVIAL CYST

DEGENERATIVE SPONDYLOLISTHESIS

SPECIFIC EVALUATION SCORES

Beaujon-Lassale Score

JOA Score

Beaujon-Lassale Score /20

CLAUDICATION (walking test)	/3
REST RADICULALGIA	/3
EFFORT RADICULALGIA	/2
LOW BACK PAIN	/3
NEUROLOGIC DEFICIT	/4
MEDICAL TREATMENT	/2
DAILY LIFE	/3

Beaujon-Lassale Score

$$\text{Postoperative relative gain} = \frac{\text{Postop note} - \text{preop note}}{20 - \text{preop note}}$$

Very good = >70%

Average = 11-40%

Good = 41-70%

Bad = 0-10%

J.O.A. Score /17

Subjective Sign

**Lombalgia
Radiculalgia
Walking test**

Clinical Examination

**Lasègue
Sensitive deficit
Motor deficit
Urinary deficit**

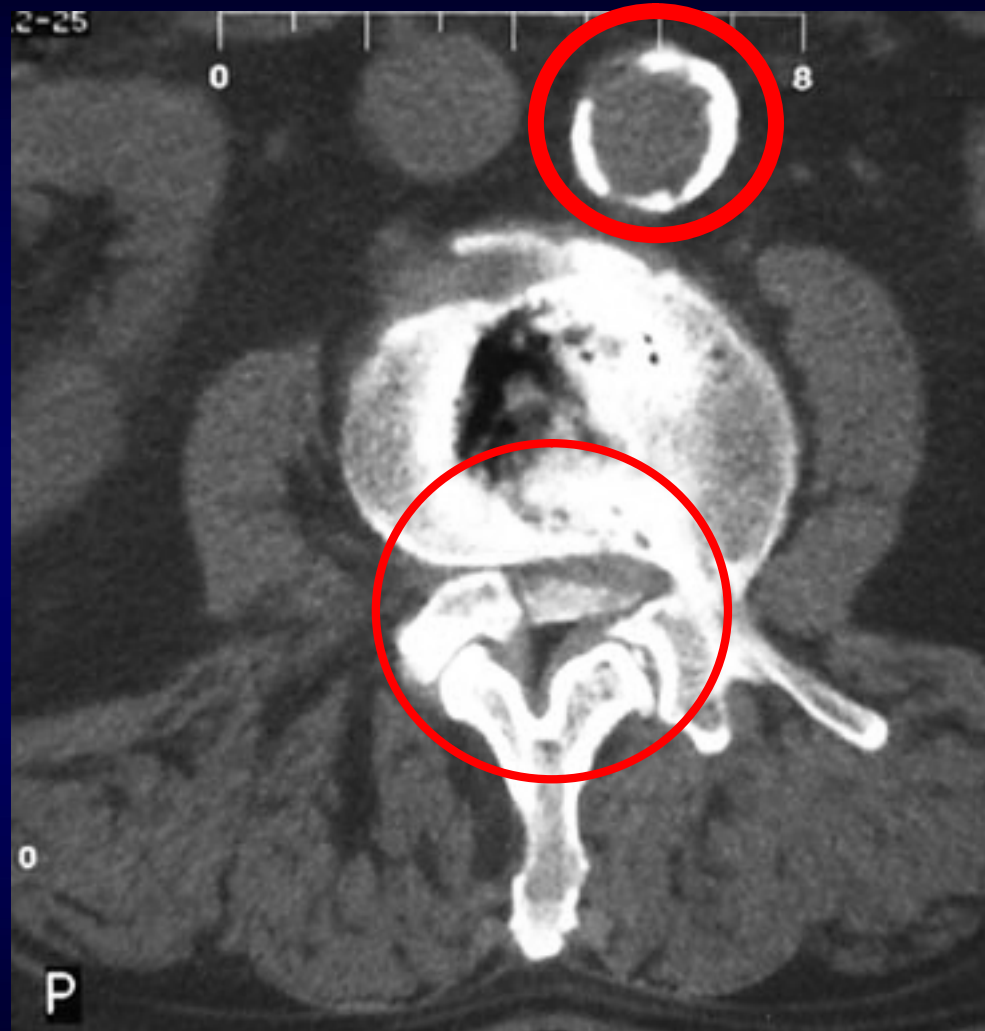
PHYSIOPATHOLOGY

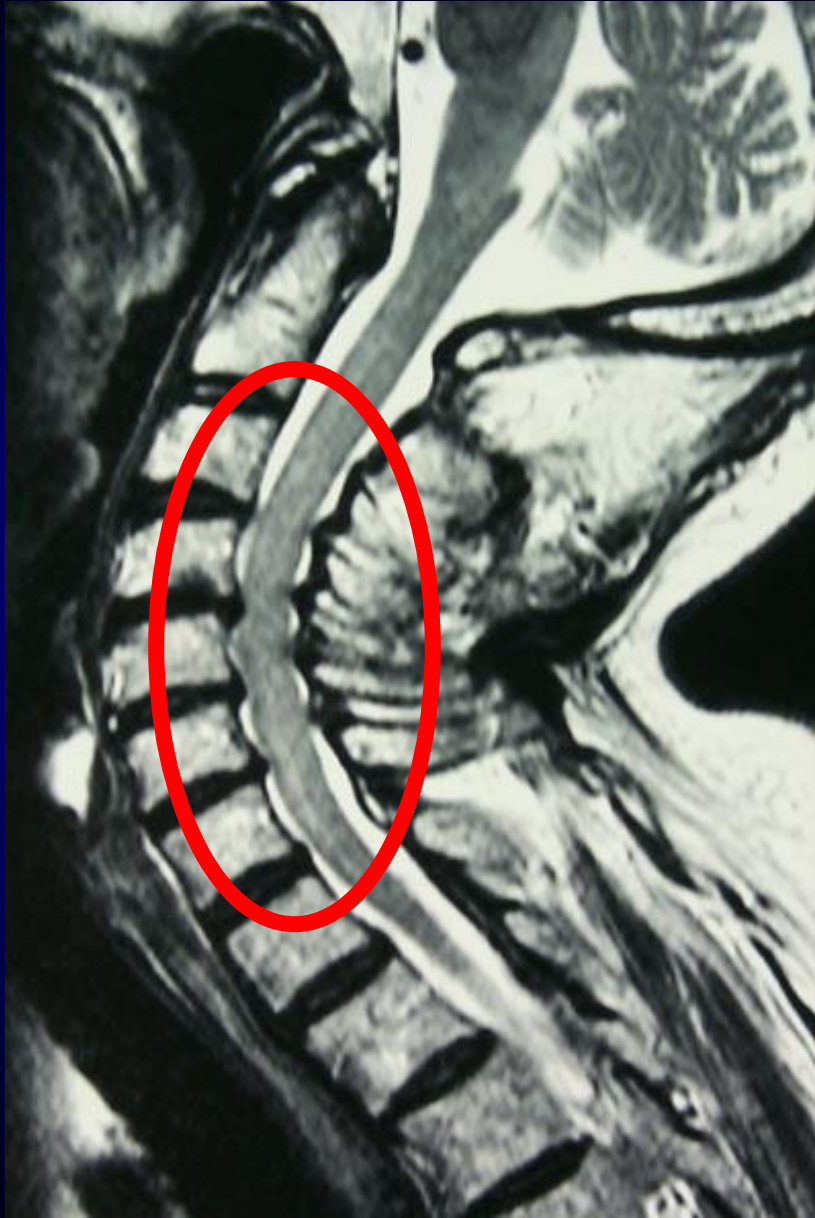
MECHANICAL COMPRESSION

INFLAMMATORY CAUSE

VASCULAR CAUSE

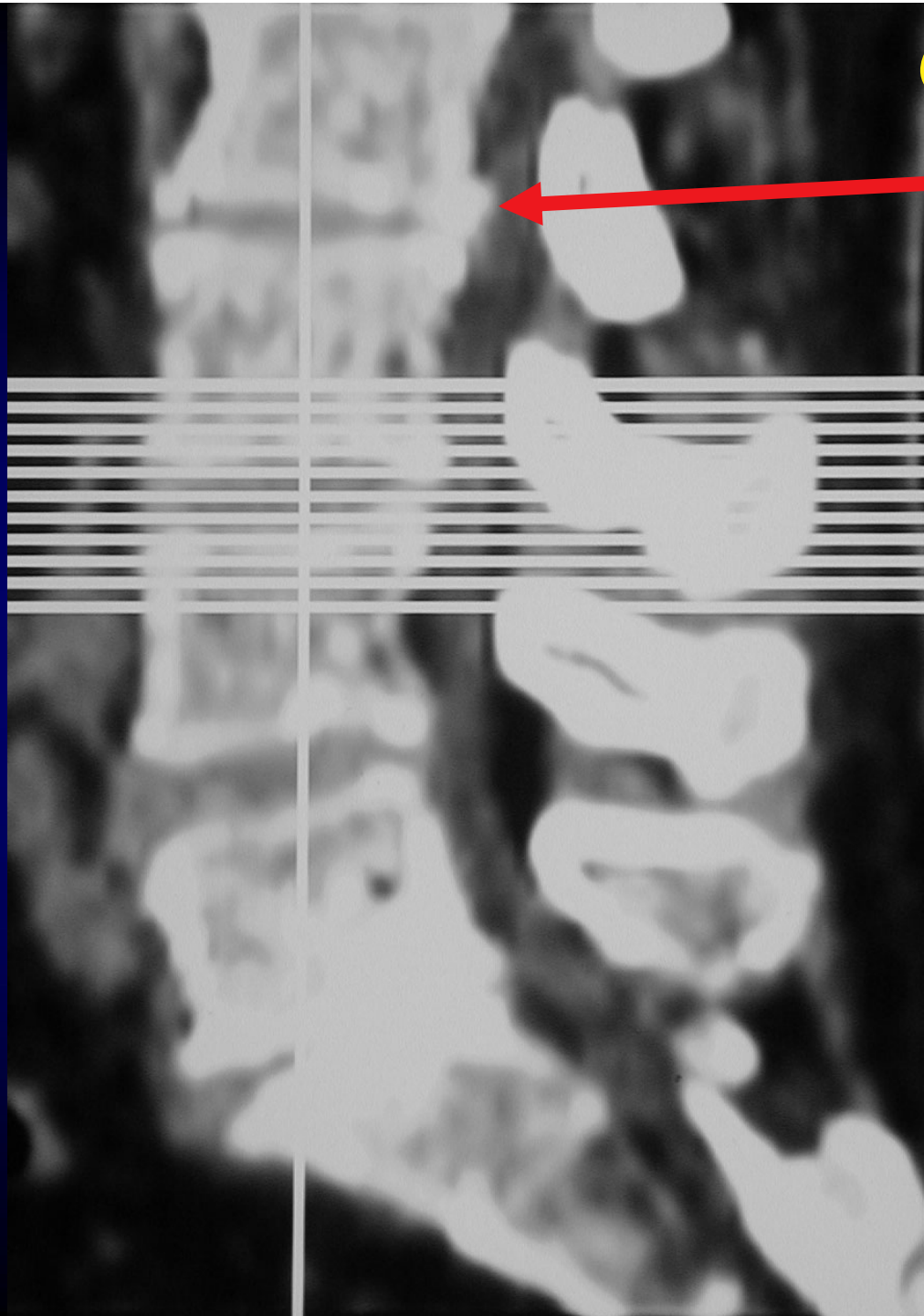
**DIFFERENTIAL DIAGNOSIS
&
ASSOCIATED PATHOLOGIES**





COMPLEMENTARY EXPLORATIONS

CT SCAN



SACCORADIOGRAPHY



DYNAMIC EXPLORATION

L3/L4

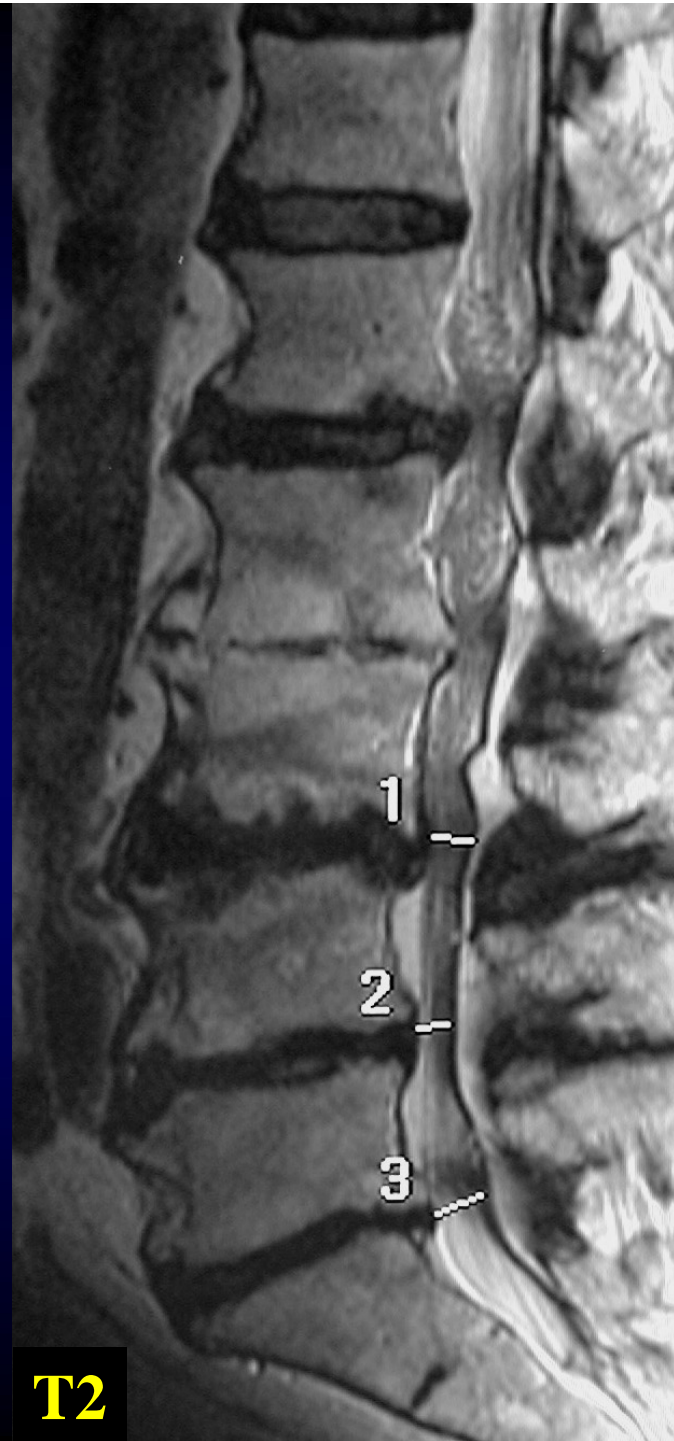


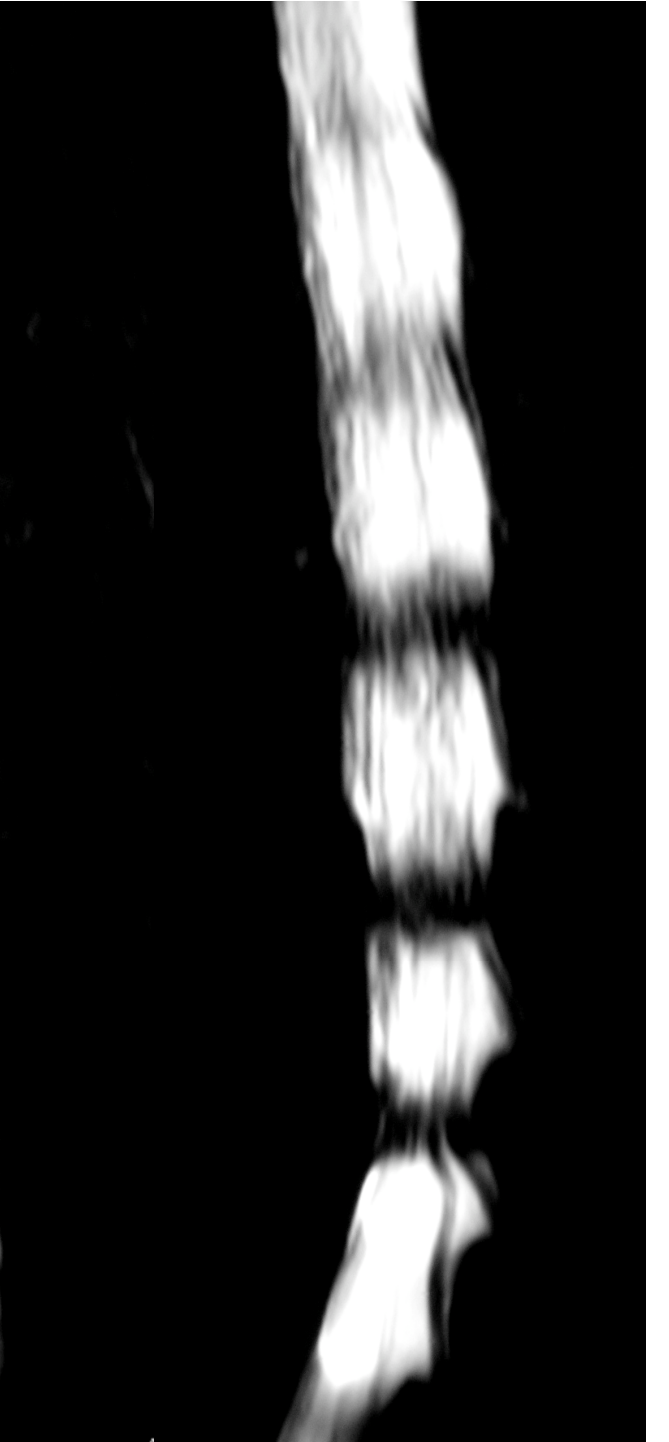
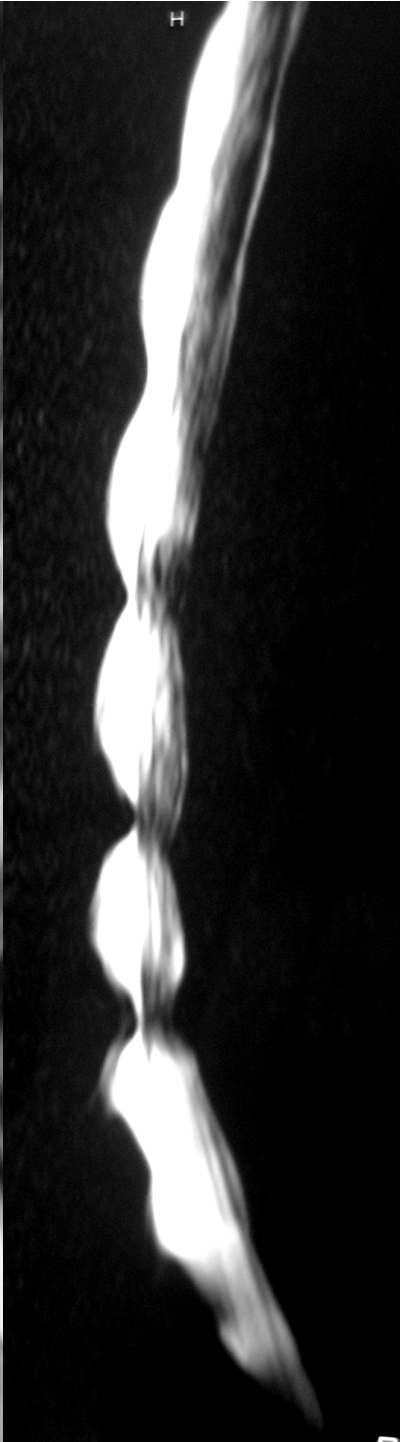
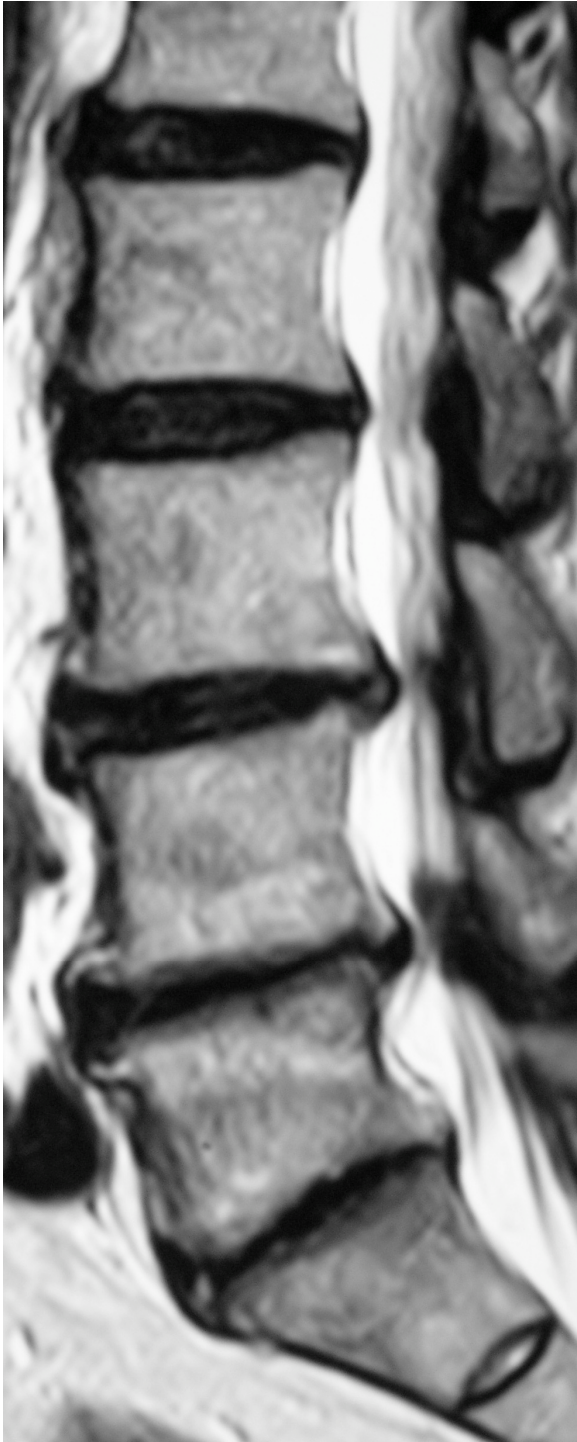
L4/L5



MRI

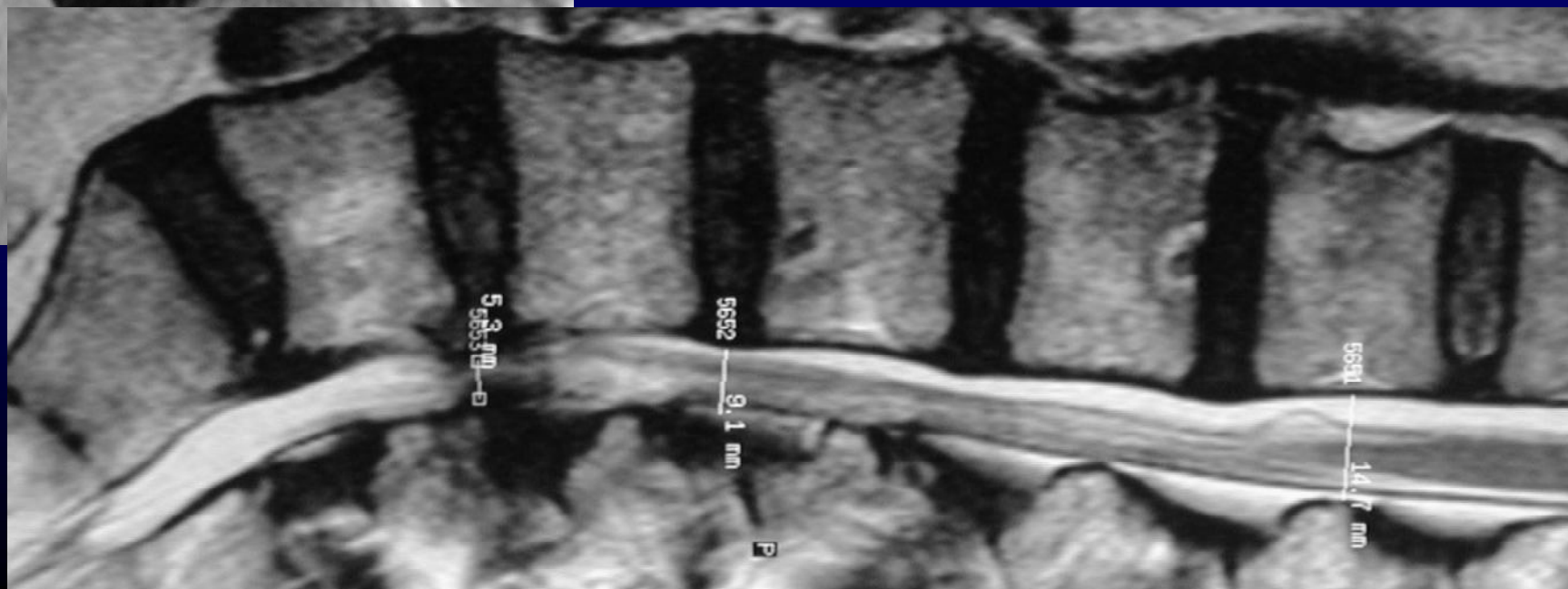
T2 = MYELOGRAPHY





STANDING MRI

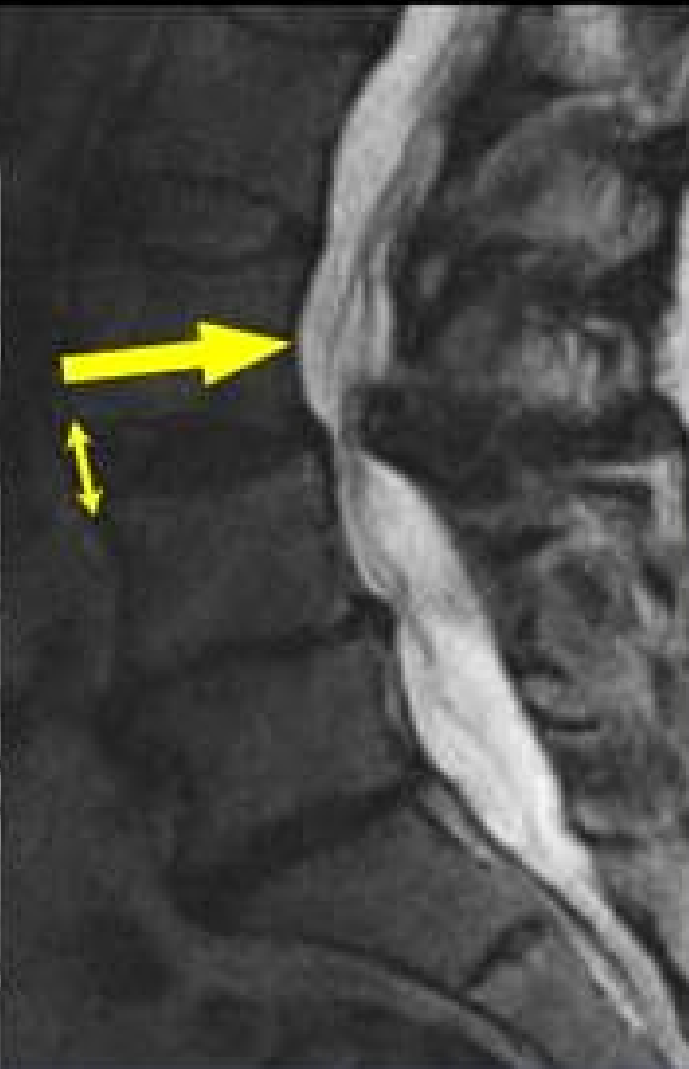
DYNAMIC MRI



Spinal Instability with Dynamic Stenosis



Flexion Sagittal



Extension Sagittal



Flexion Axial



Extension Axial

ELECTROPHYSIOLOGY

EMG (PROGNOSIS INTEREST)

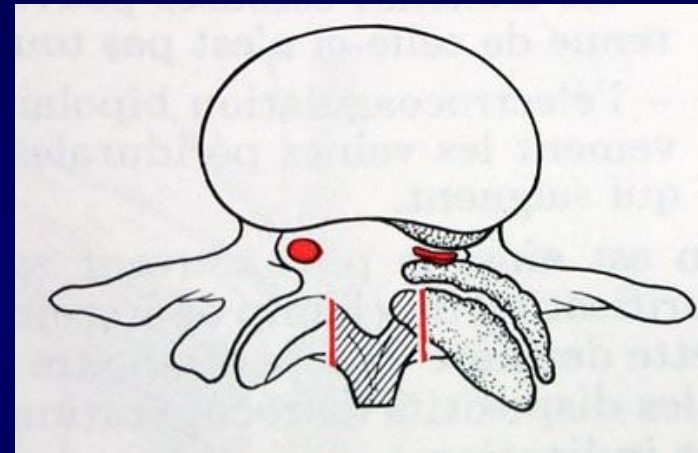
SEP++++(DIAGNOSIS INTEREST)

CONSERVATIVE TREATMENT

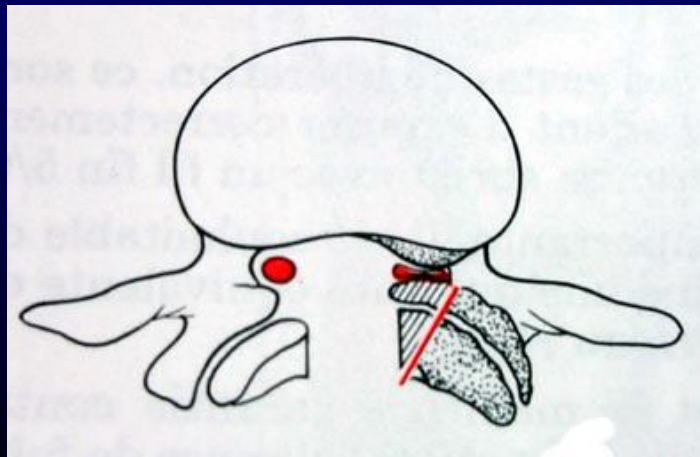


SURGICAL TREATMENT

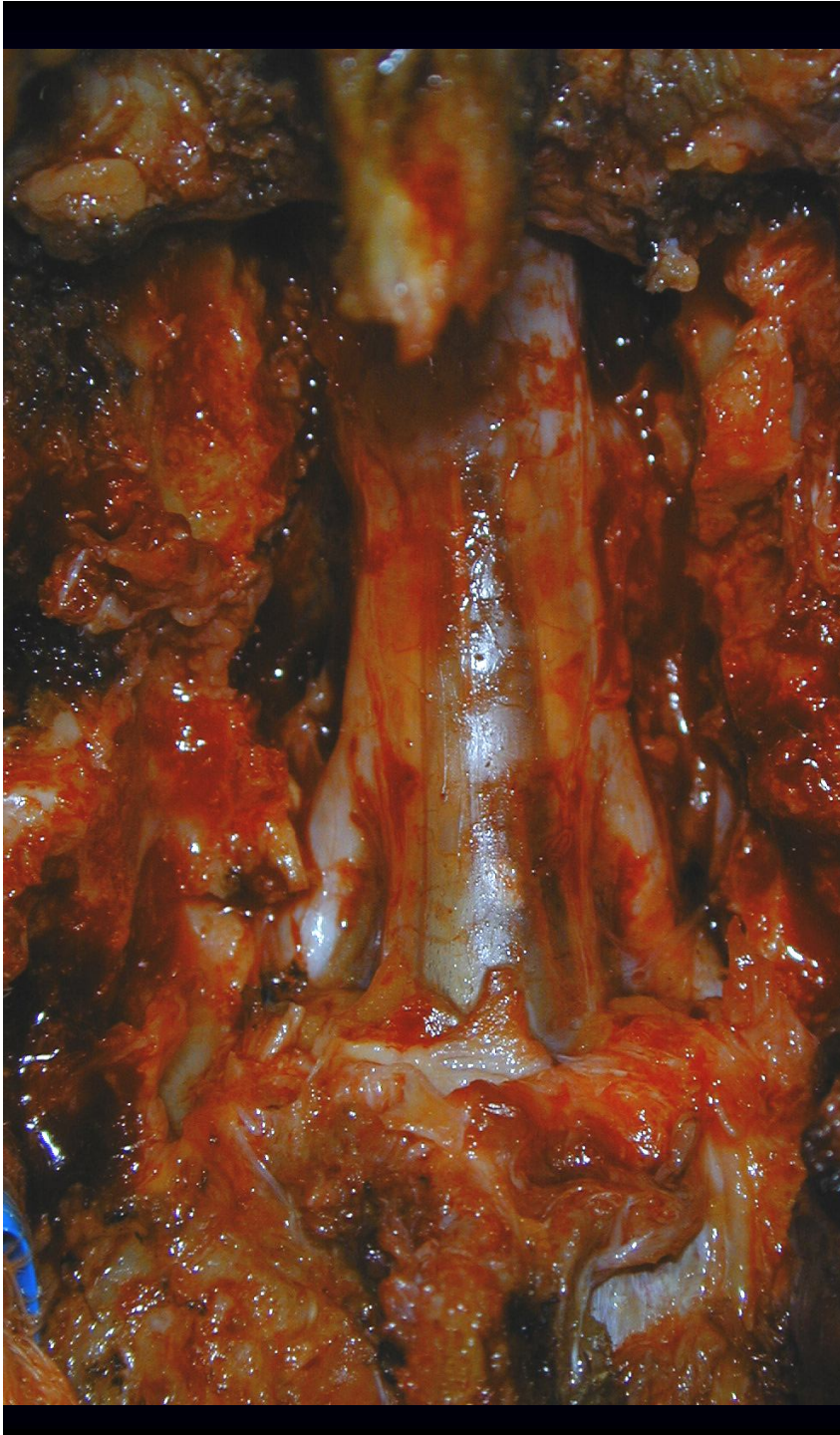
CENTRAL
LATERAL
DECOMPRESSION



LAMINECTOMY



LAMINARTHRECTOMY



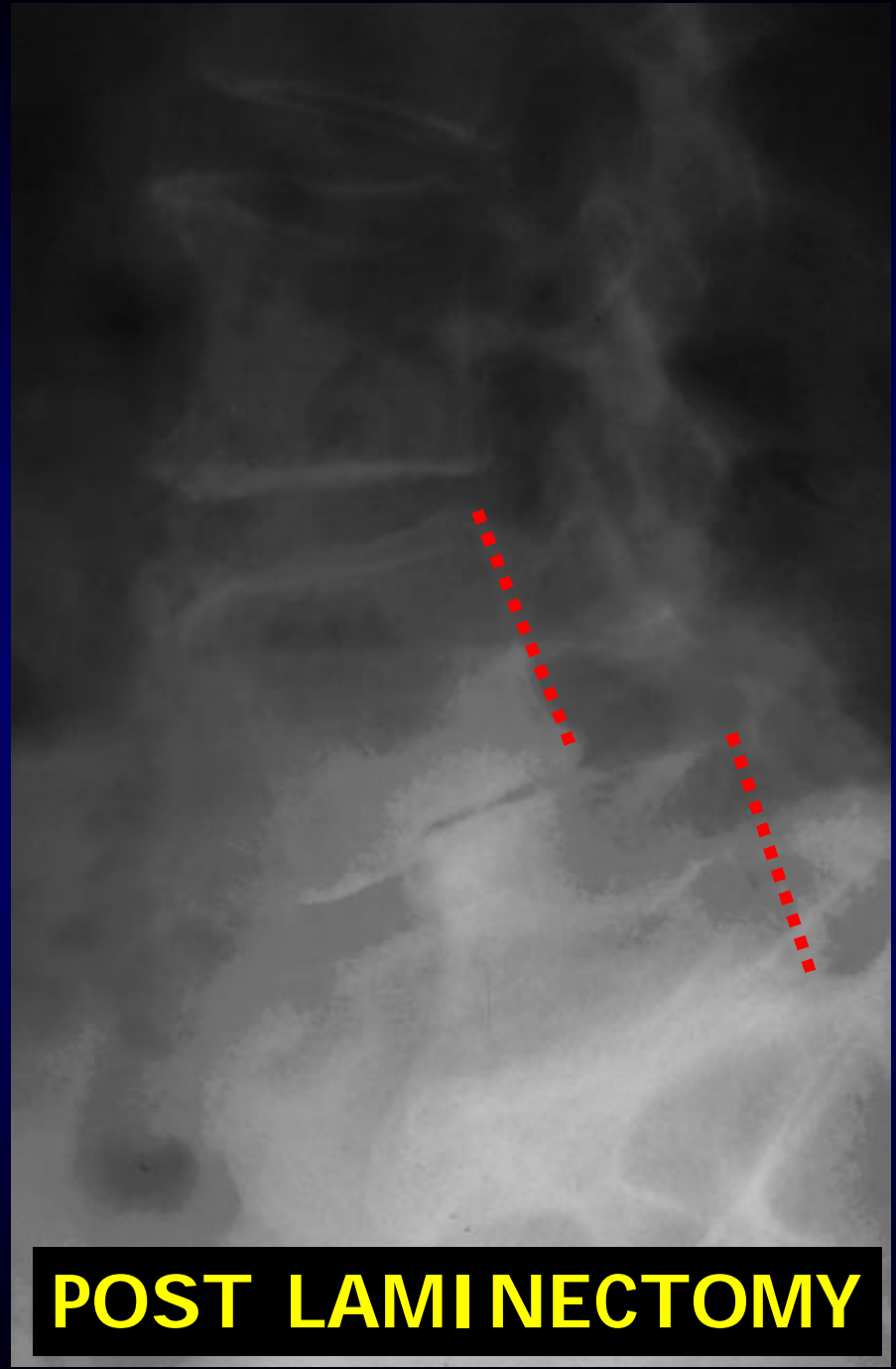
complications



FIBROSIS

DESTABILIZATION: 15%

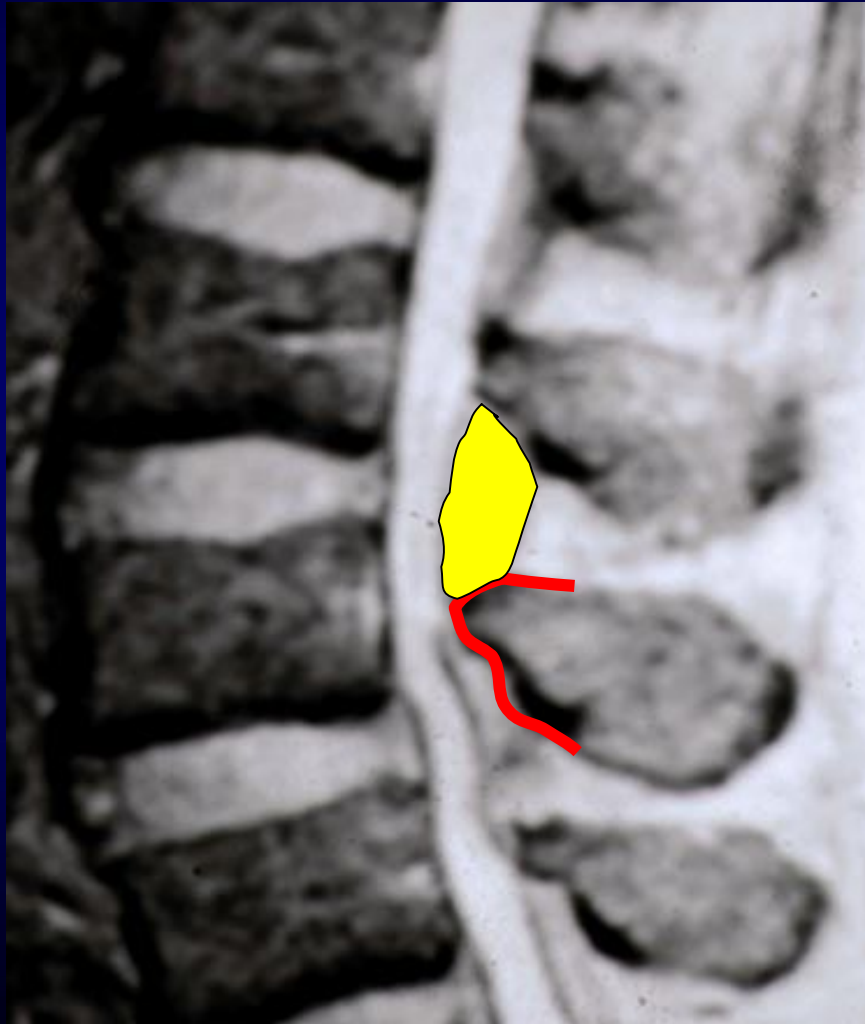


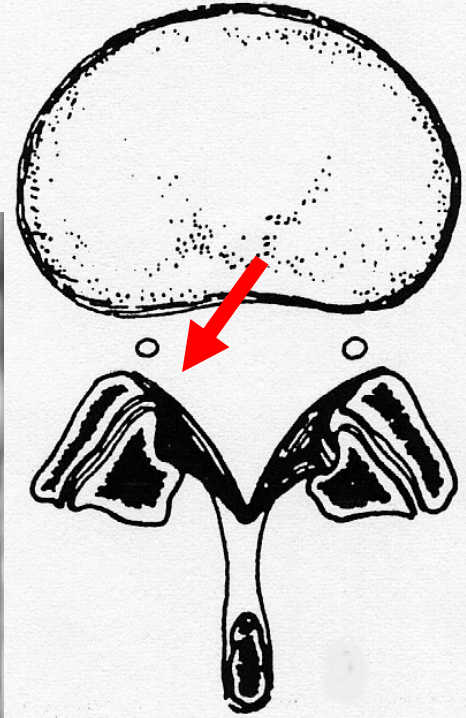
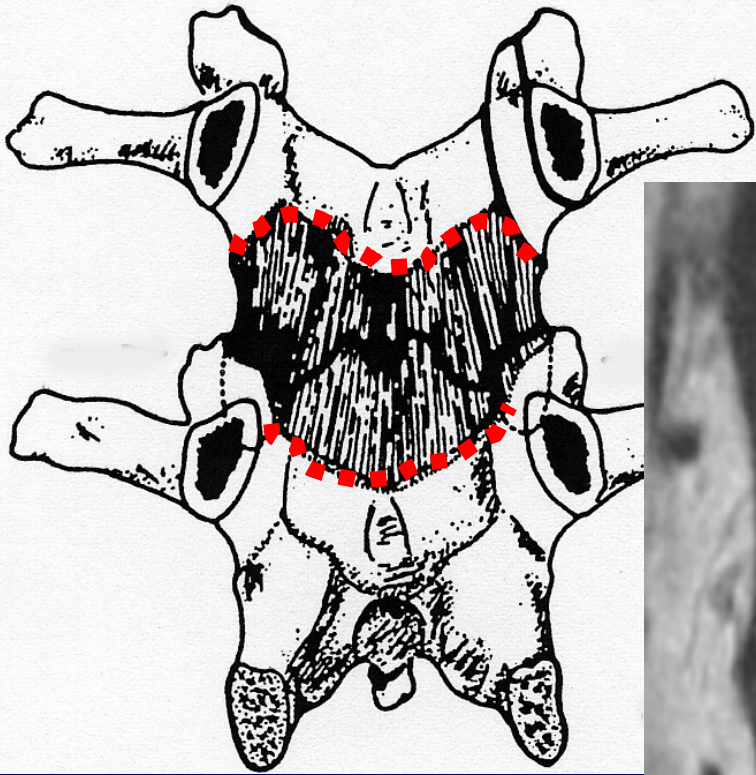


POST LAMINECTOMY

LUMBAR RECALIBRATION

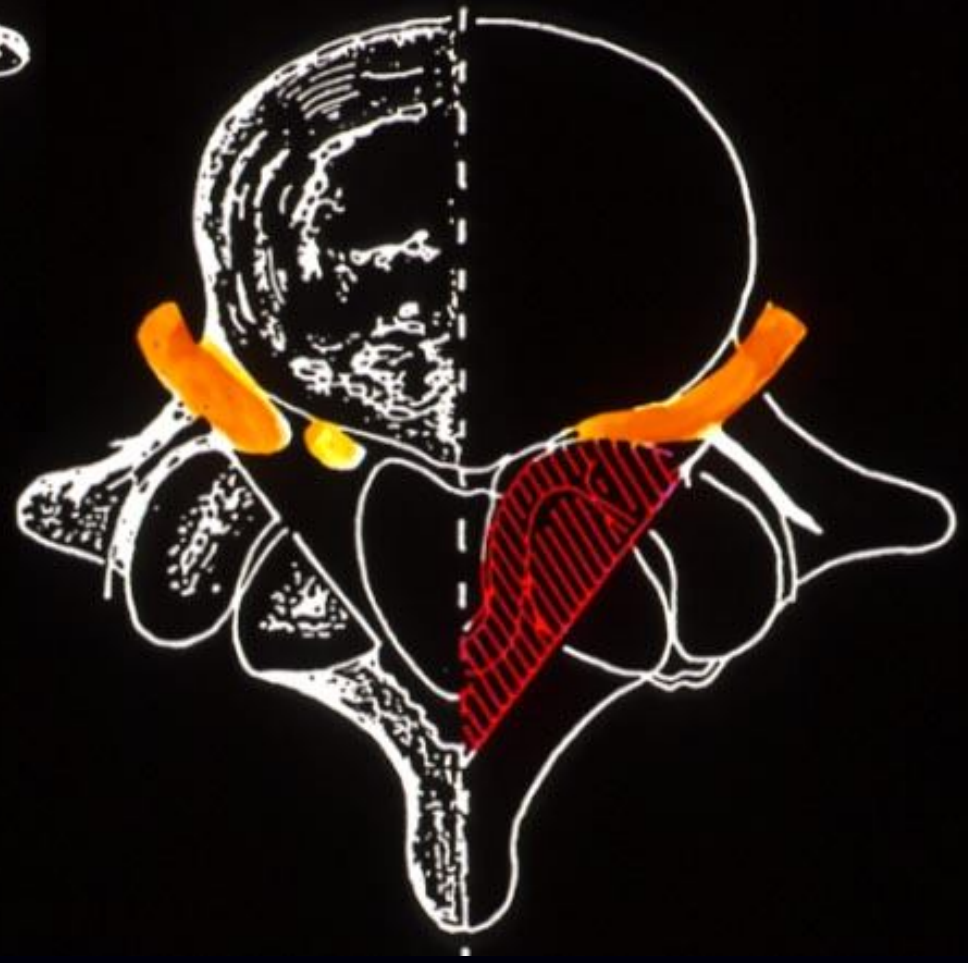
Segmentary, localized decompression

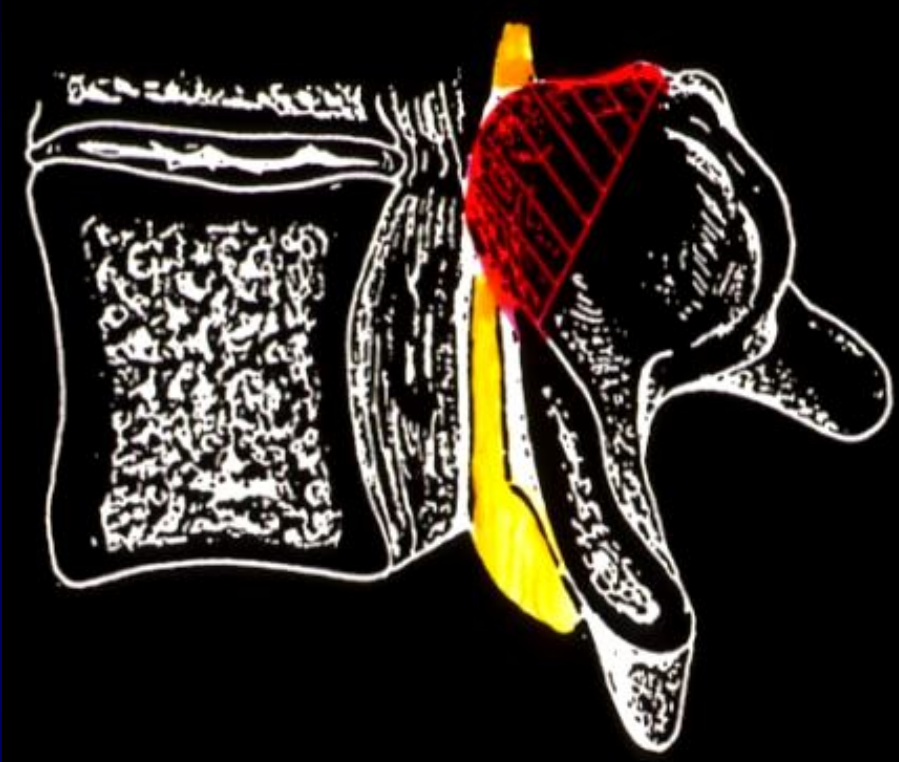




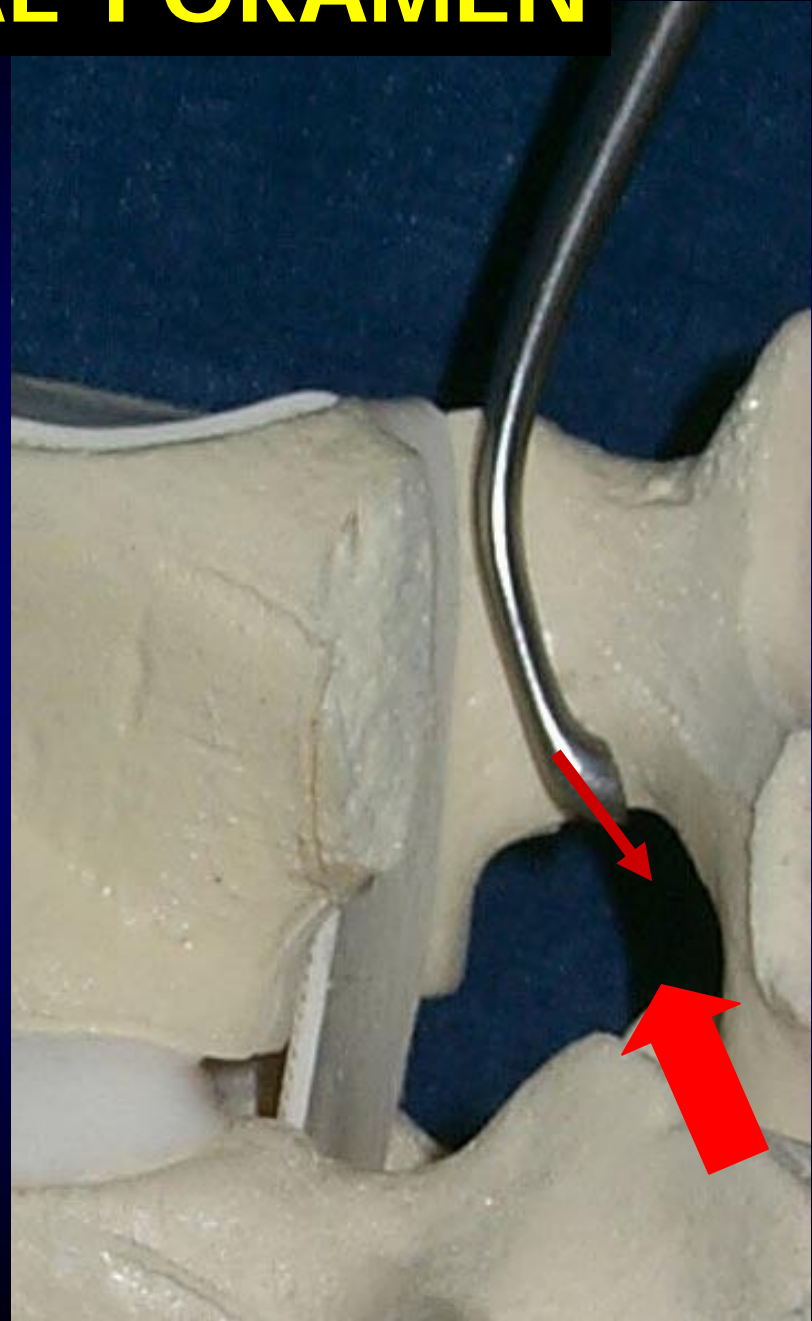
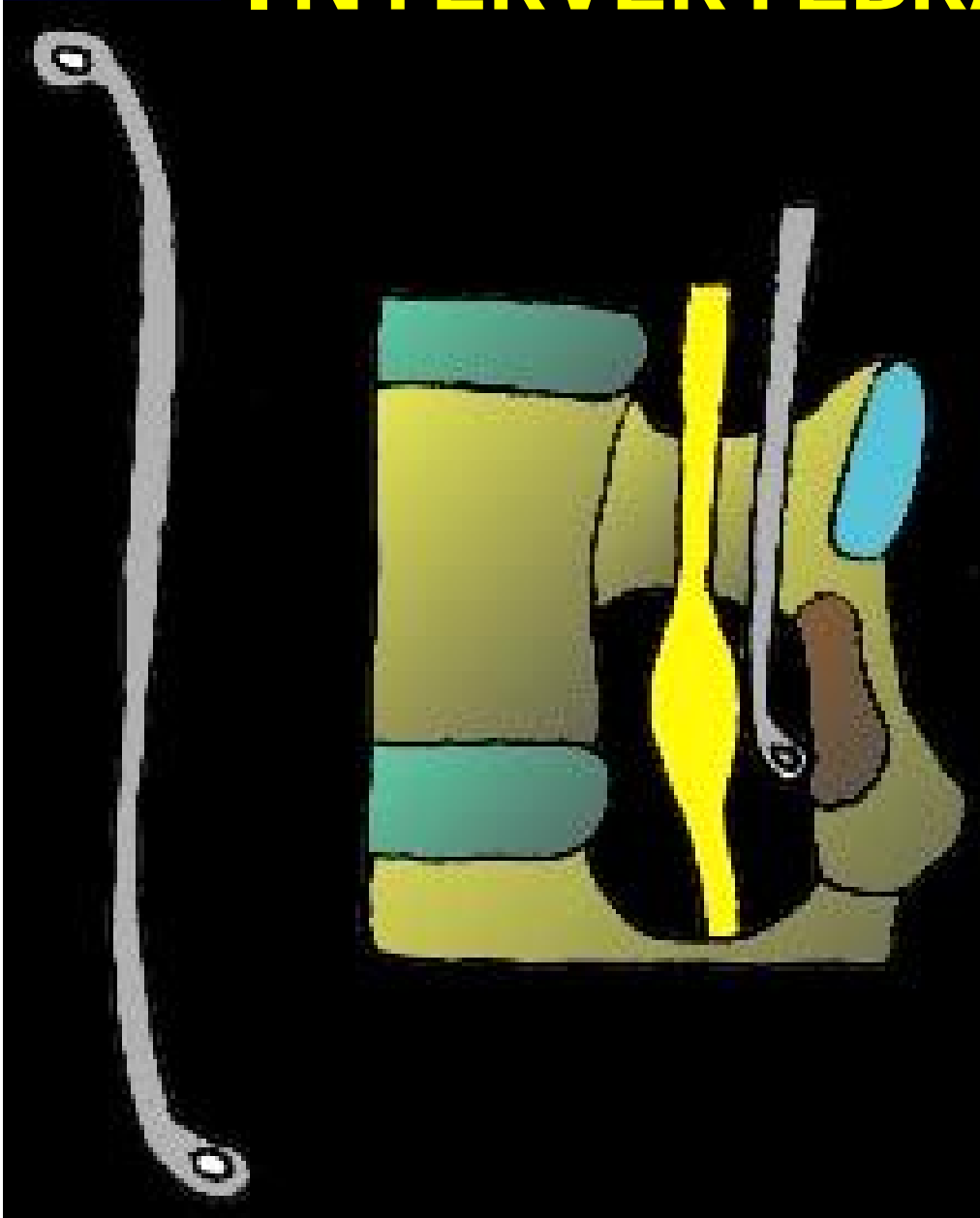
YELLOW LIGAMENT

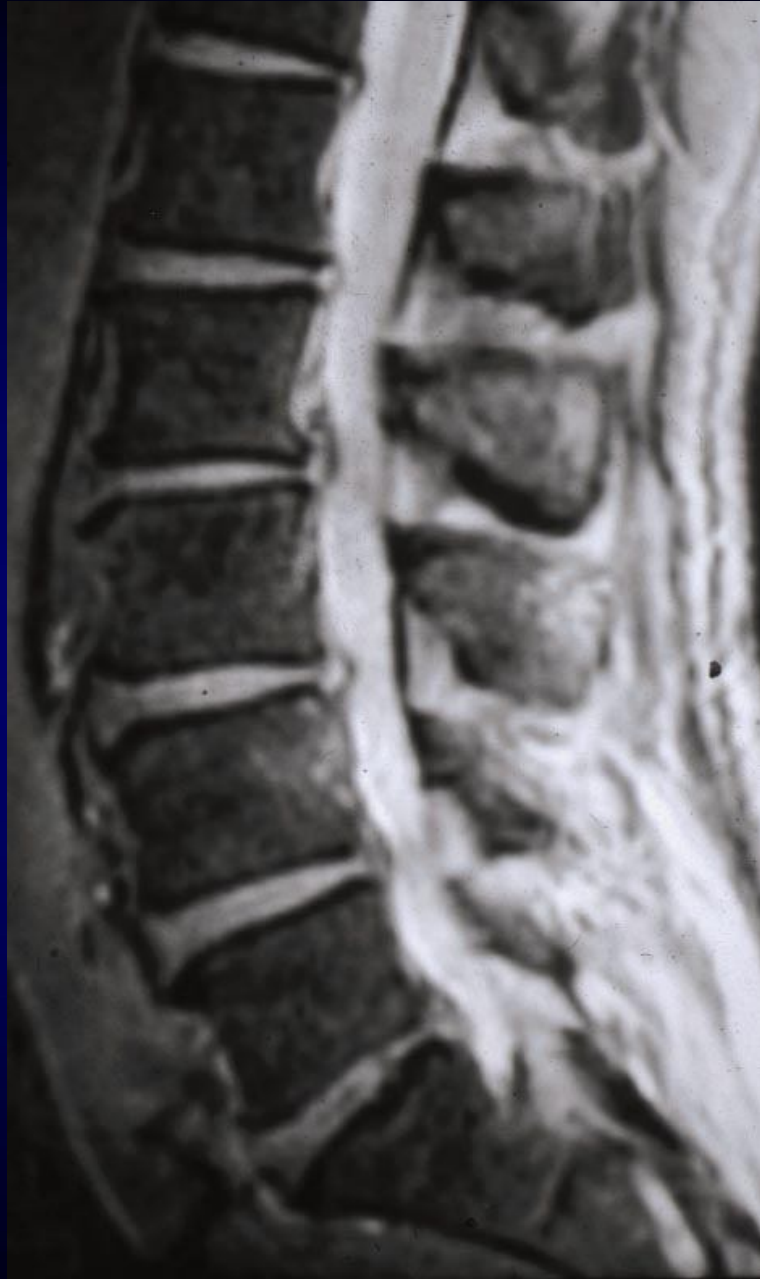






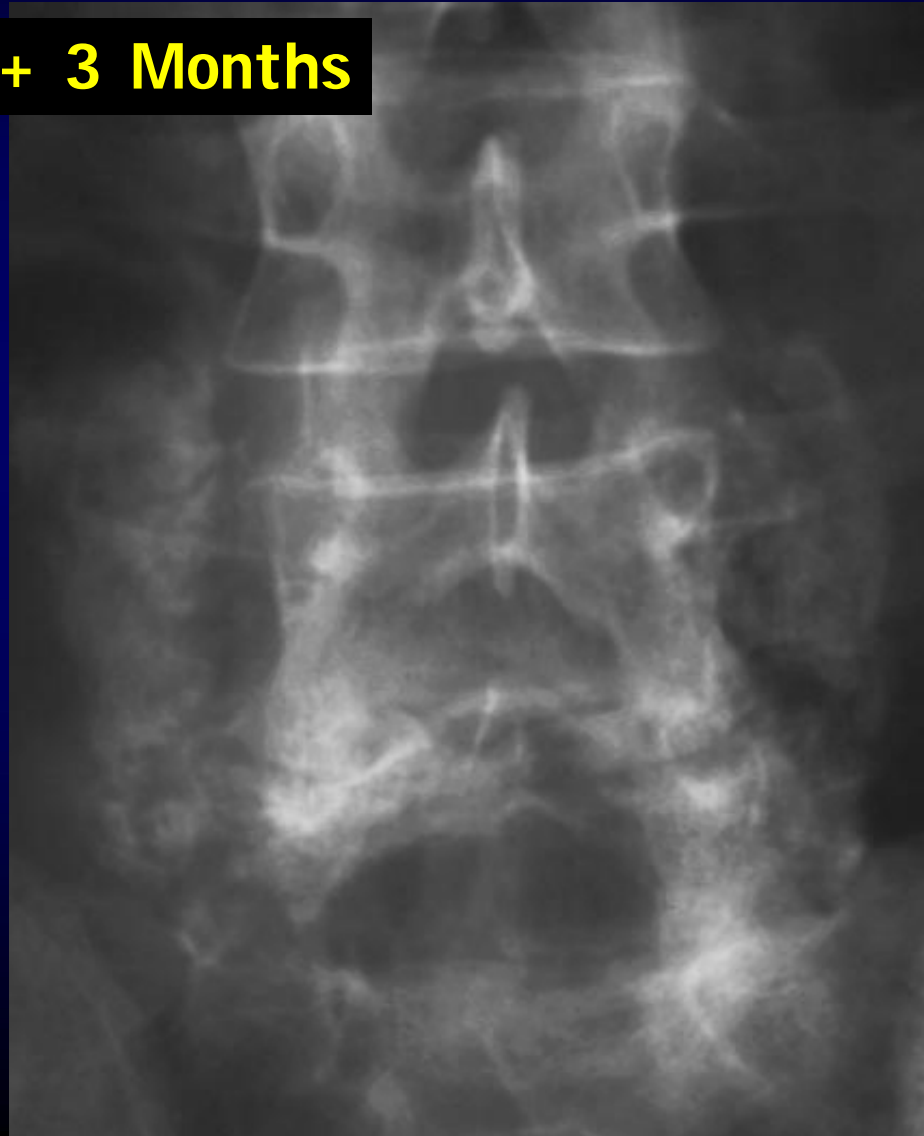
INTERVERTEBRAL FORAMEN





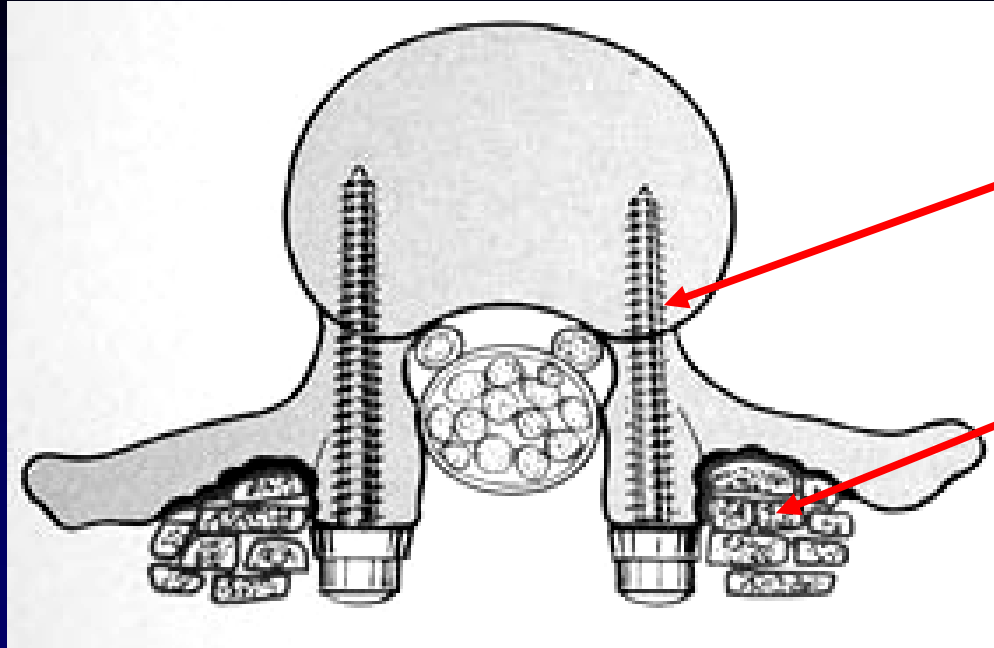
STABILISATION: PLA

+ 3 Months



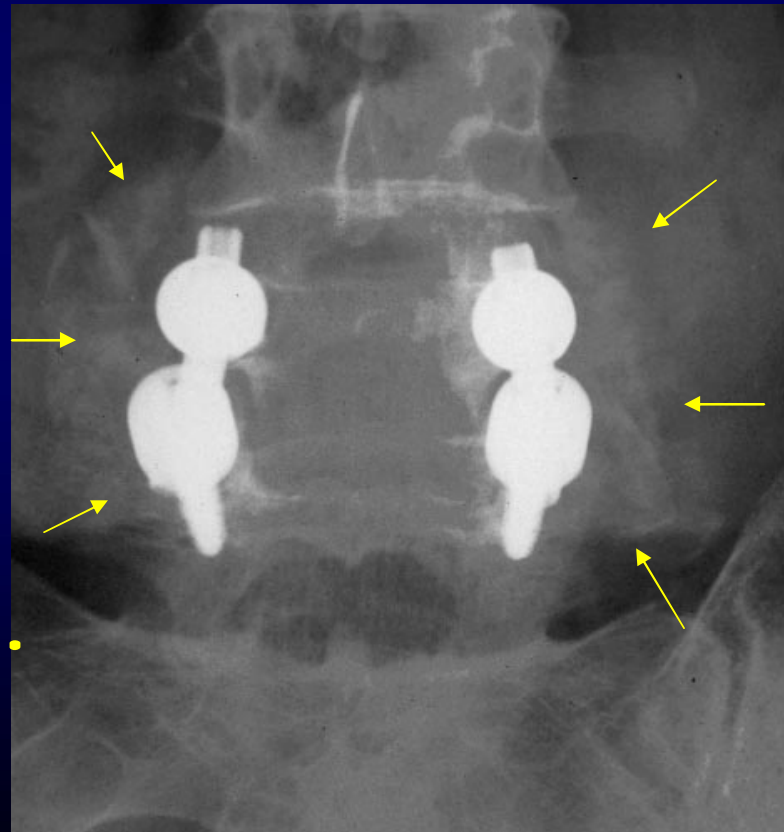
+ 1 Year



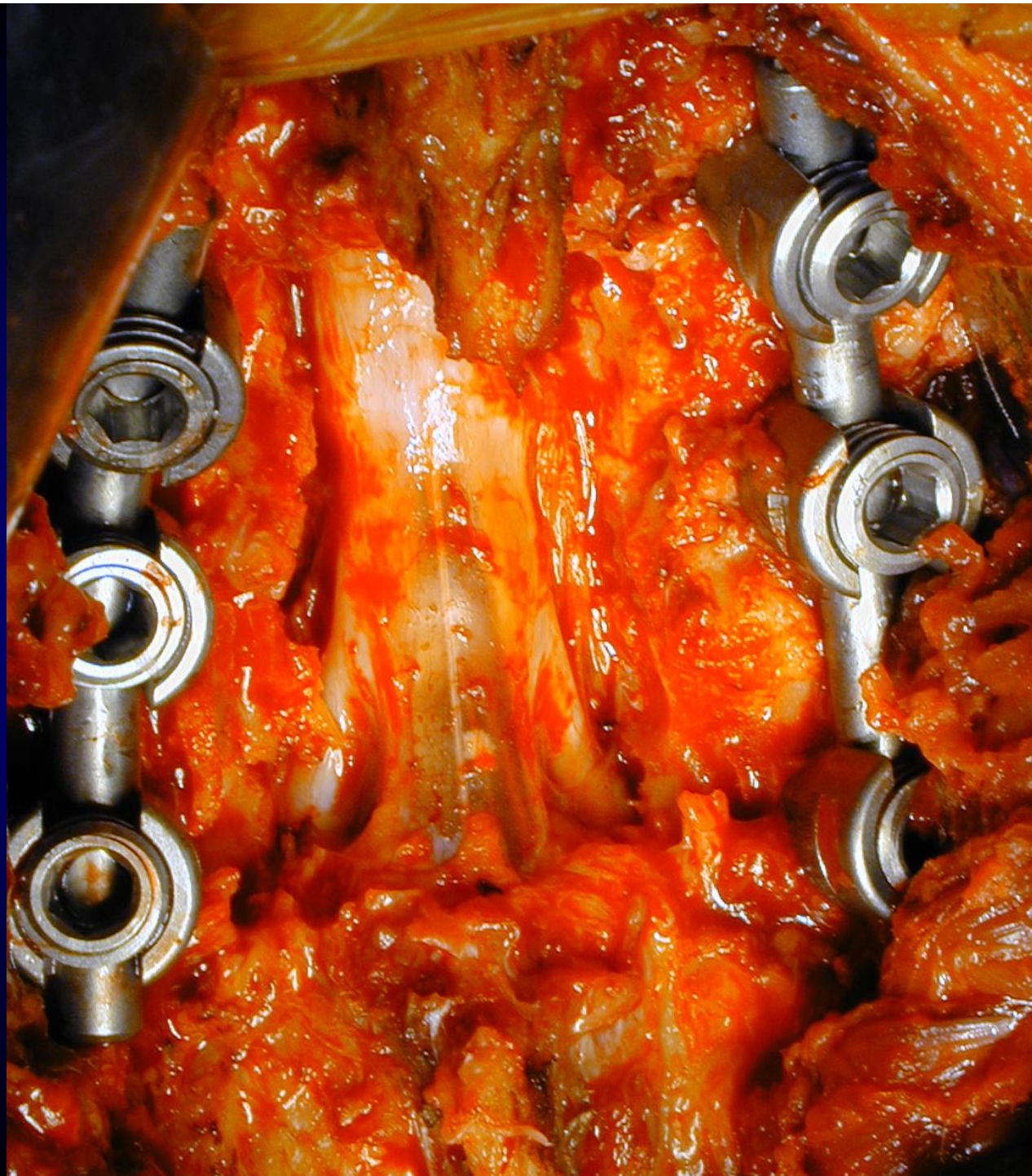


PEDICULAR SCREW

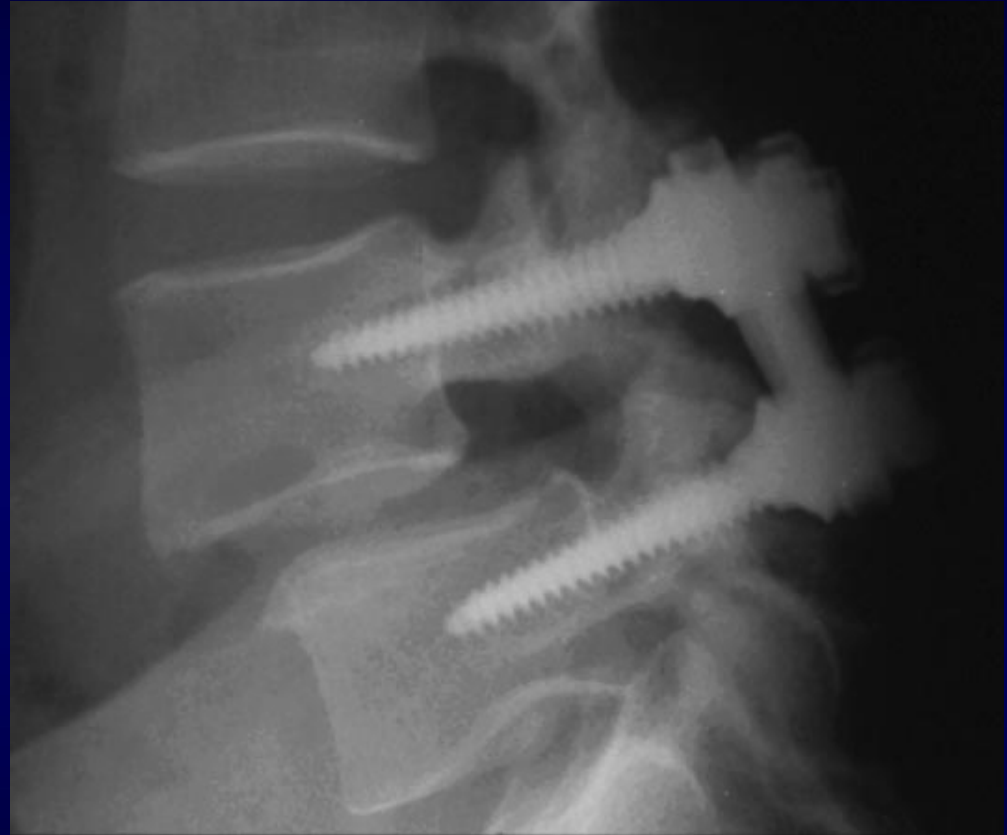
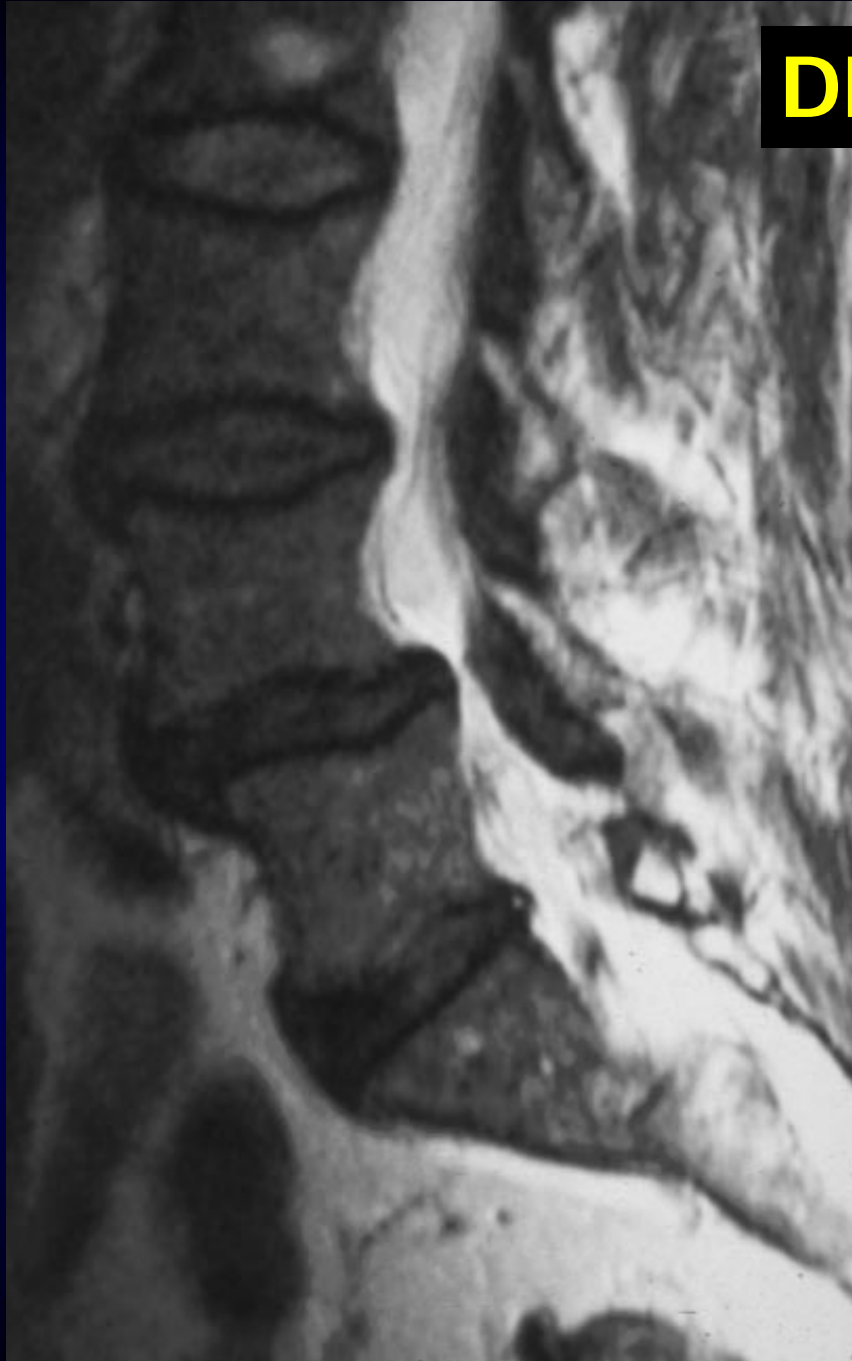
P.L.A.



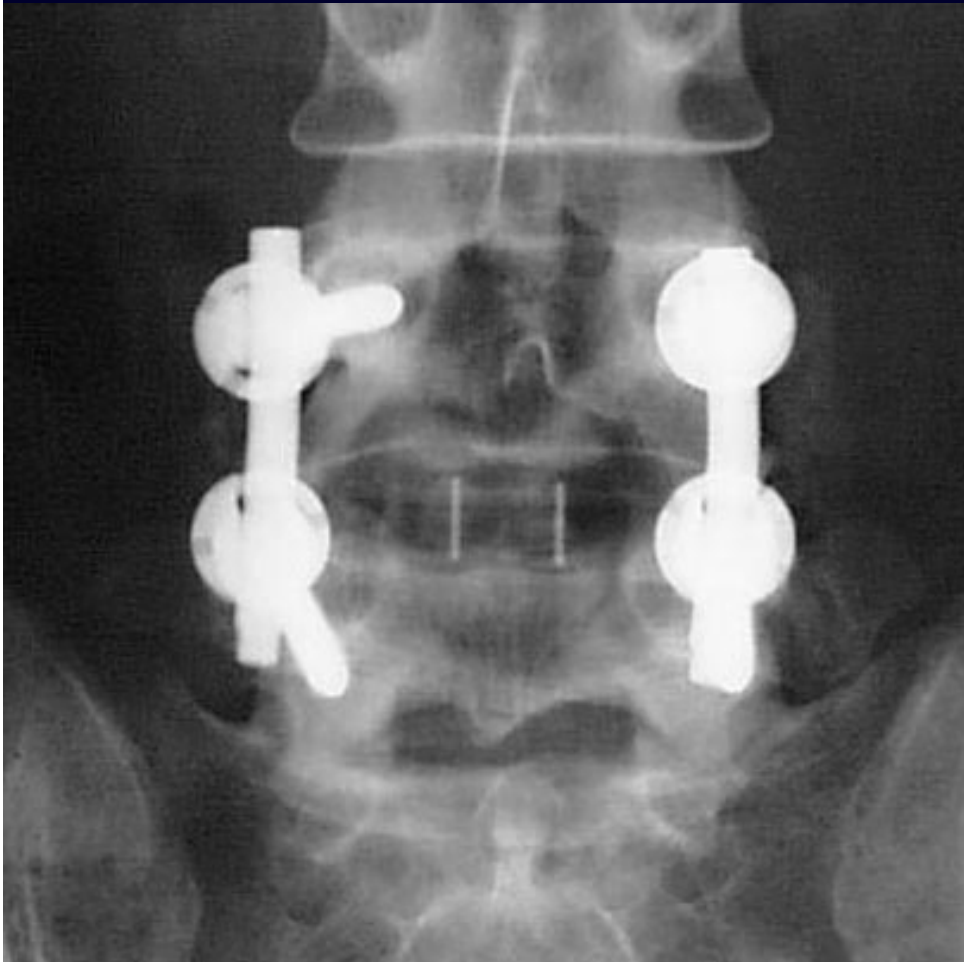
OSTEOSYNTHESIS + P.L.A.



DEGENERATIVE SPL

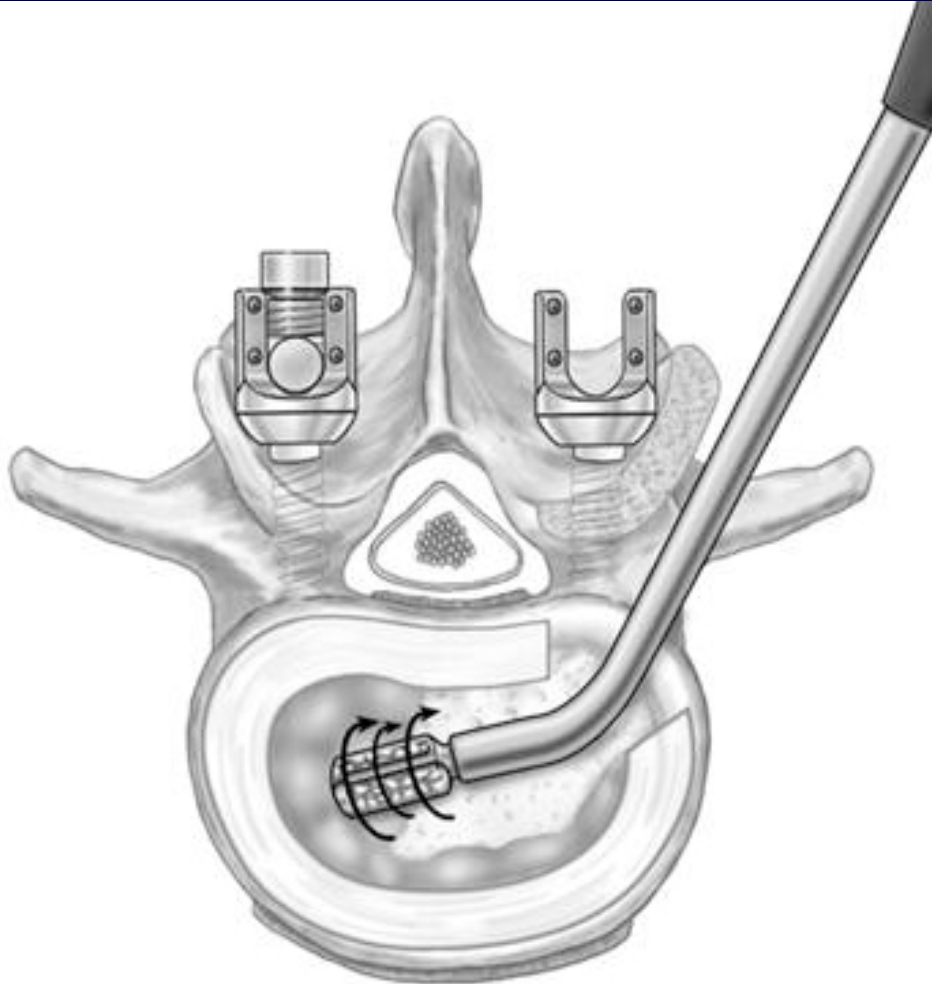


CAGES : 360° FUSION



PLIF X 2

TLIF



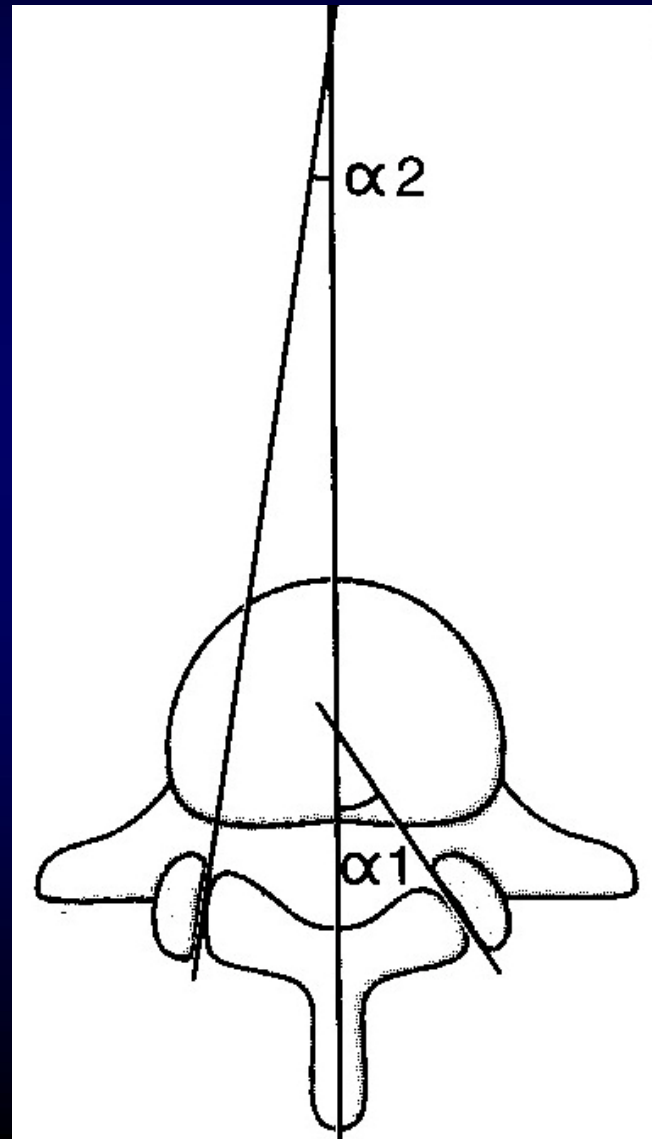
TECHNICAL INDICATIONS

- **RECALIBRATION**
- **LAMINECTOMY**

- **PLA**
- **PEDICLE SCREWING (+PLA)**
- **CAGES (+PLA+PS)**

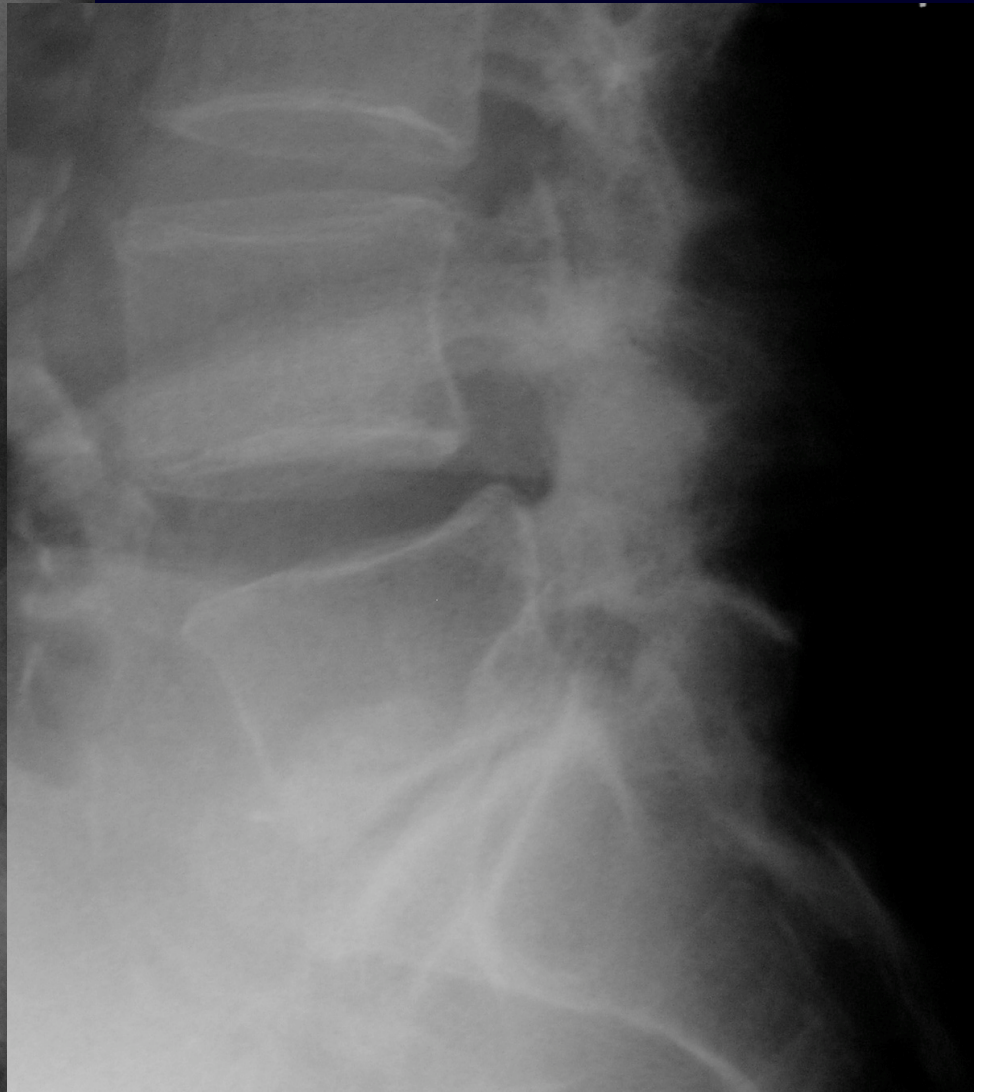
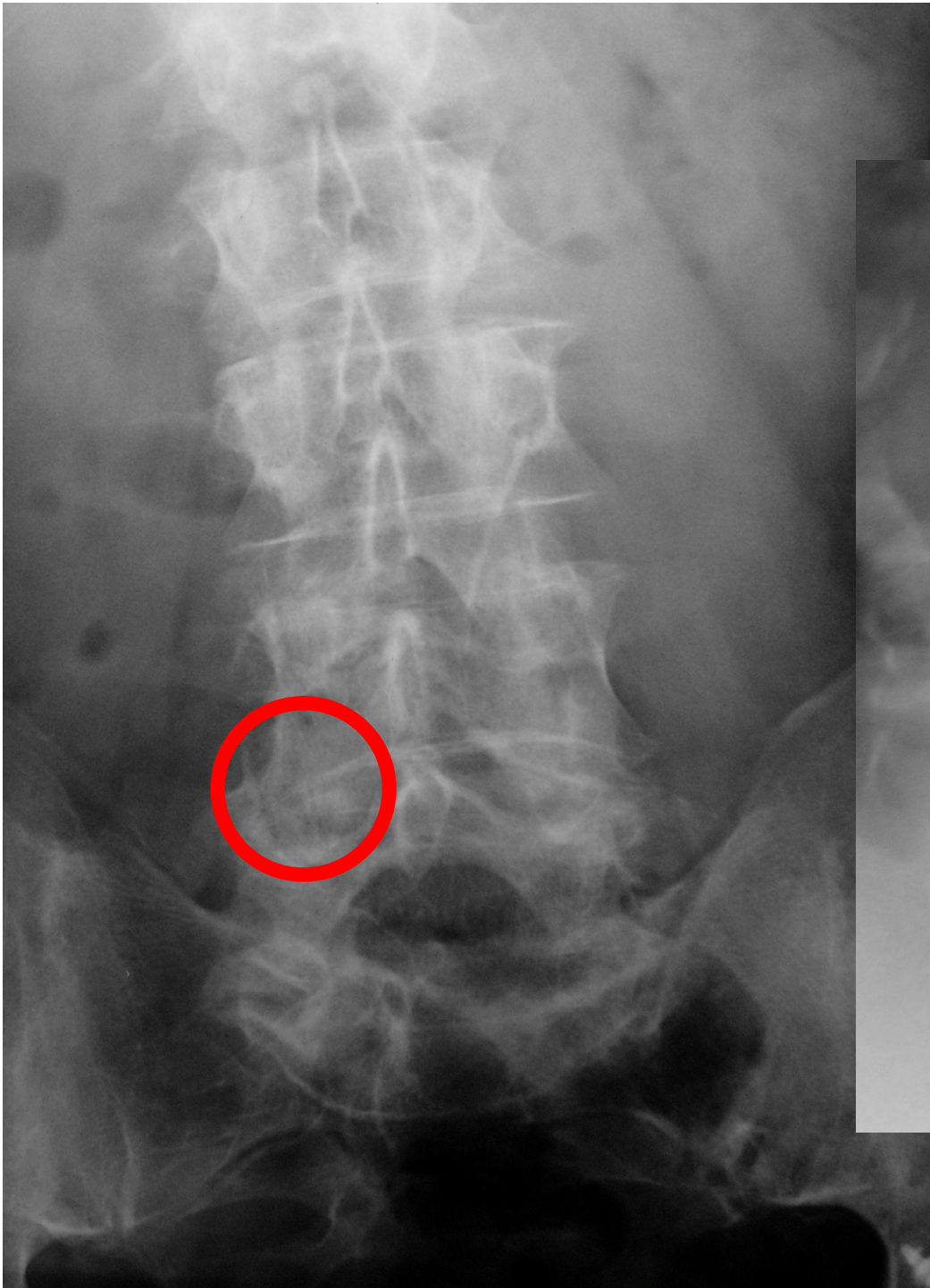
PEDICLE SCREWING

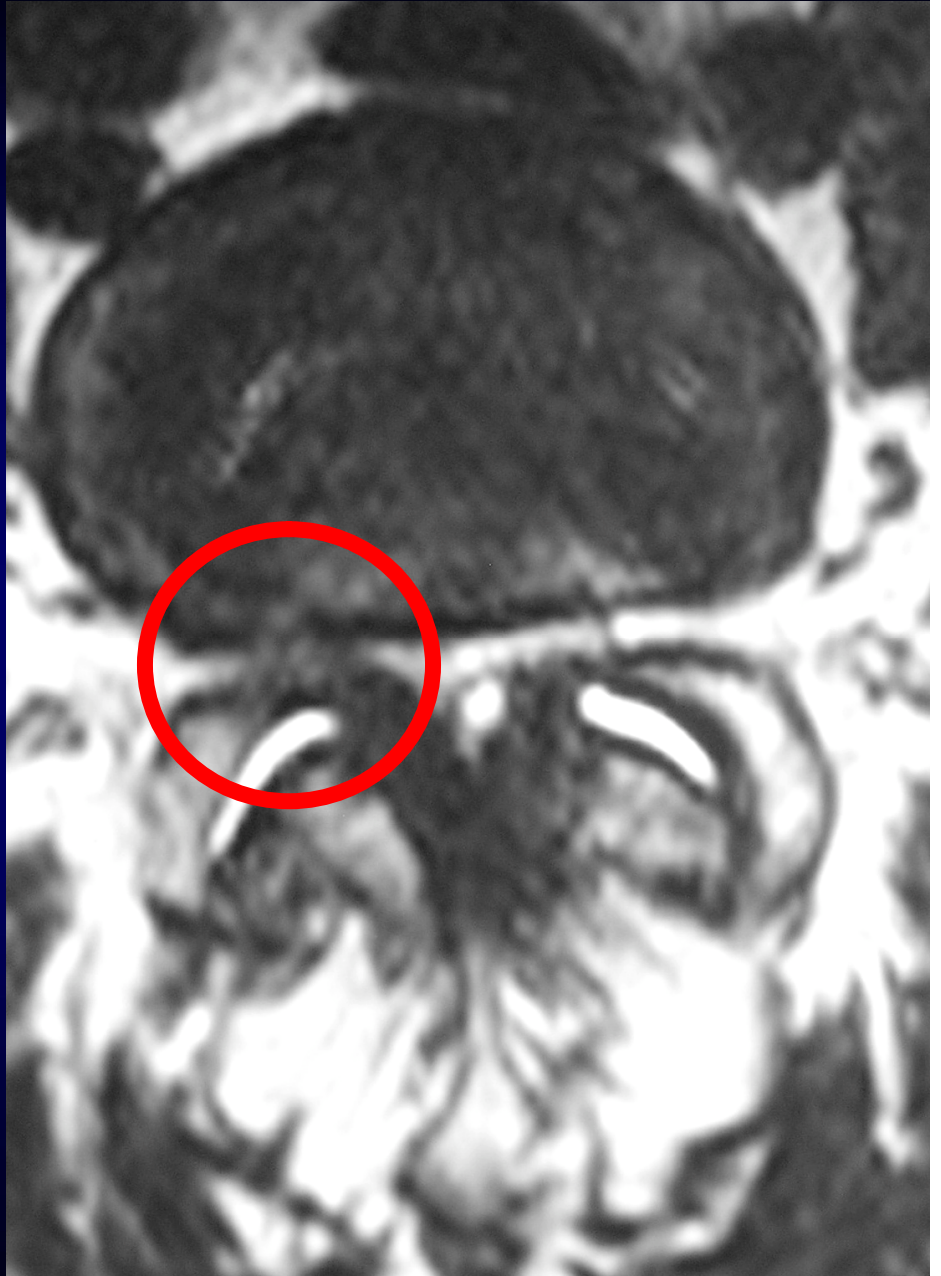
- FACET ANGLE
- DEGENERATIVE SPL
- LOW BACK PAIN
- MODIC 1
- FORAMINAL DECOMPRESSION

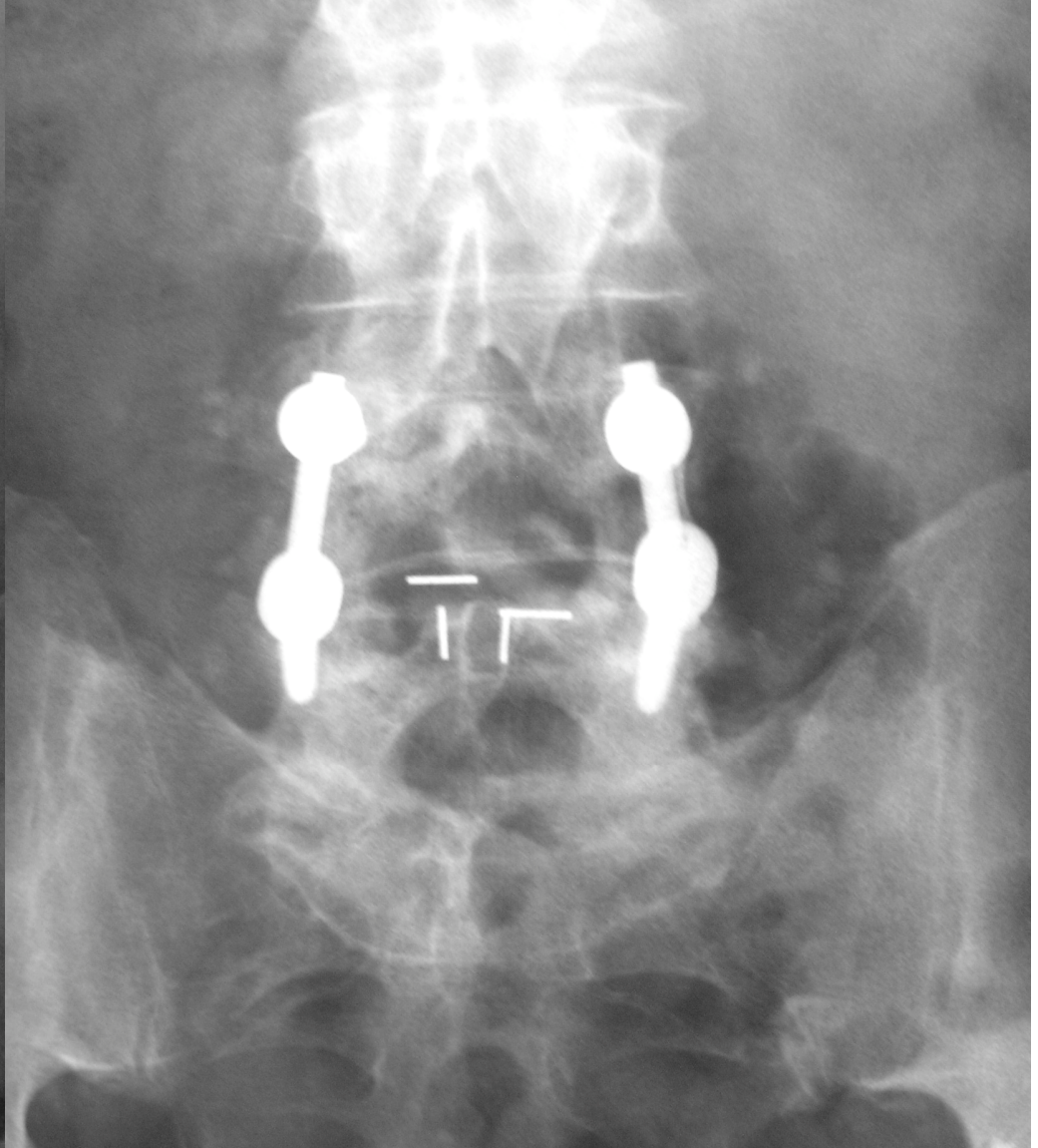


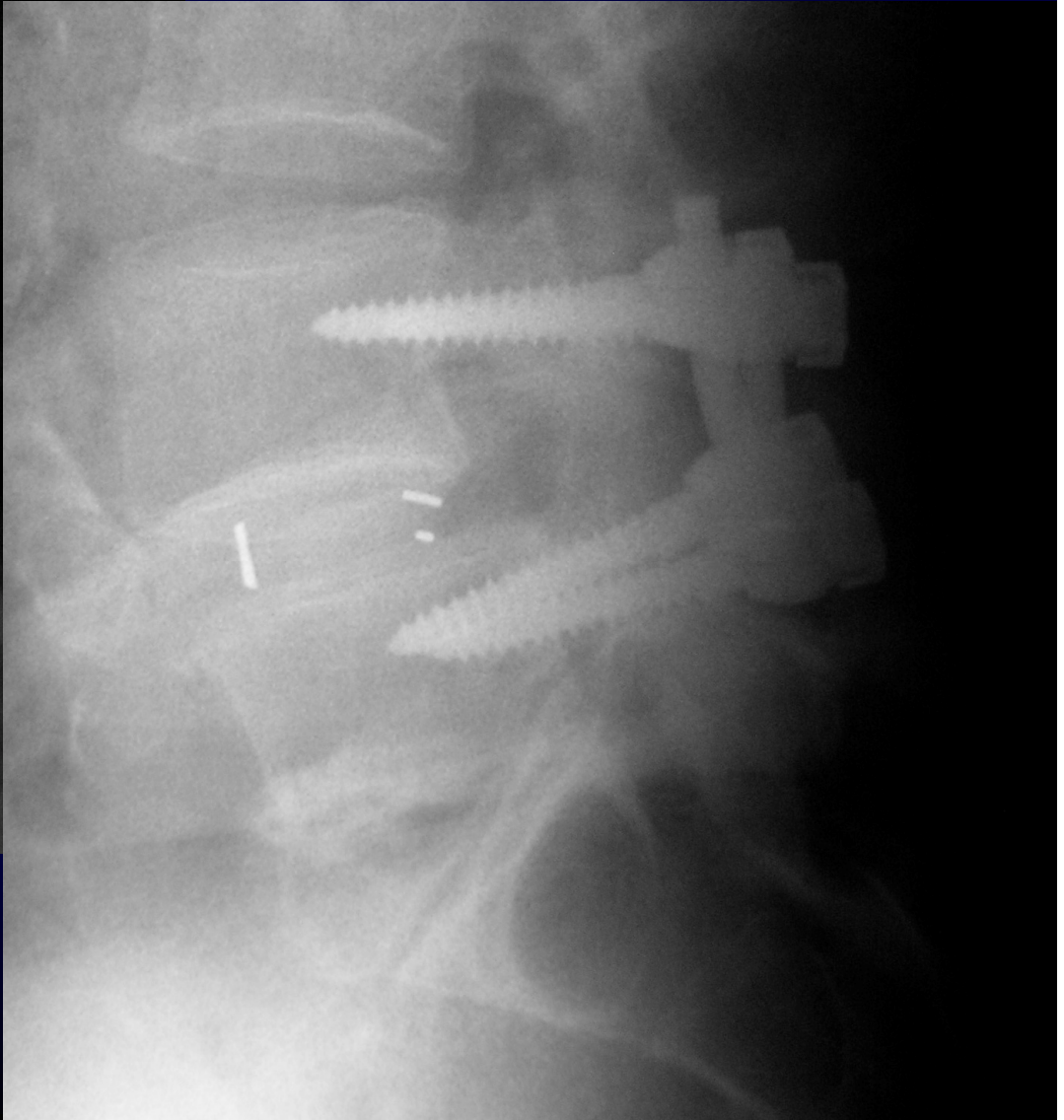
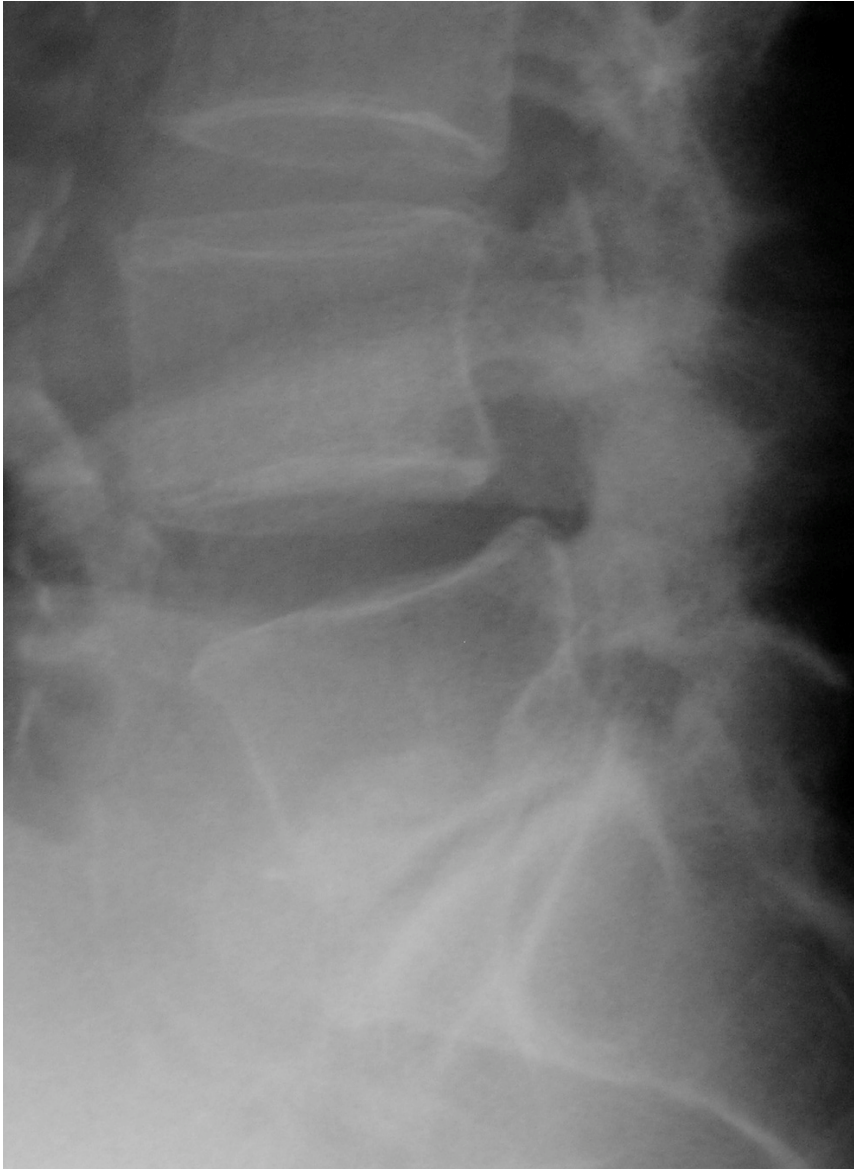
CAGES

- **ASYMMETRIC DISCOPATHY**
- **D. SPL + HIGH DISC**









RECALIBRATION RESULTS

EXCELLENT & GOOD : 85-90%

AVERAGE & BAD :10-15%

With 5 years Follow Up

EXCELLENT & GOOD :57 à 82%

COMPLICATIONS

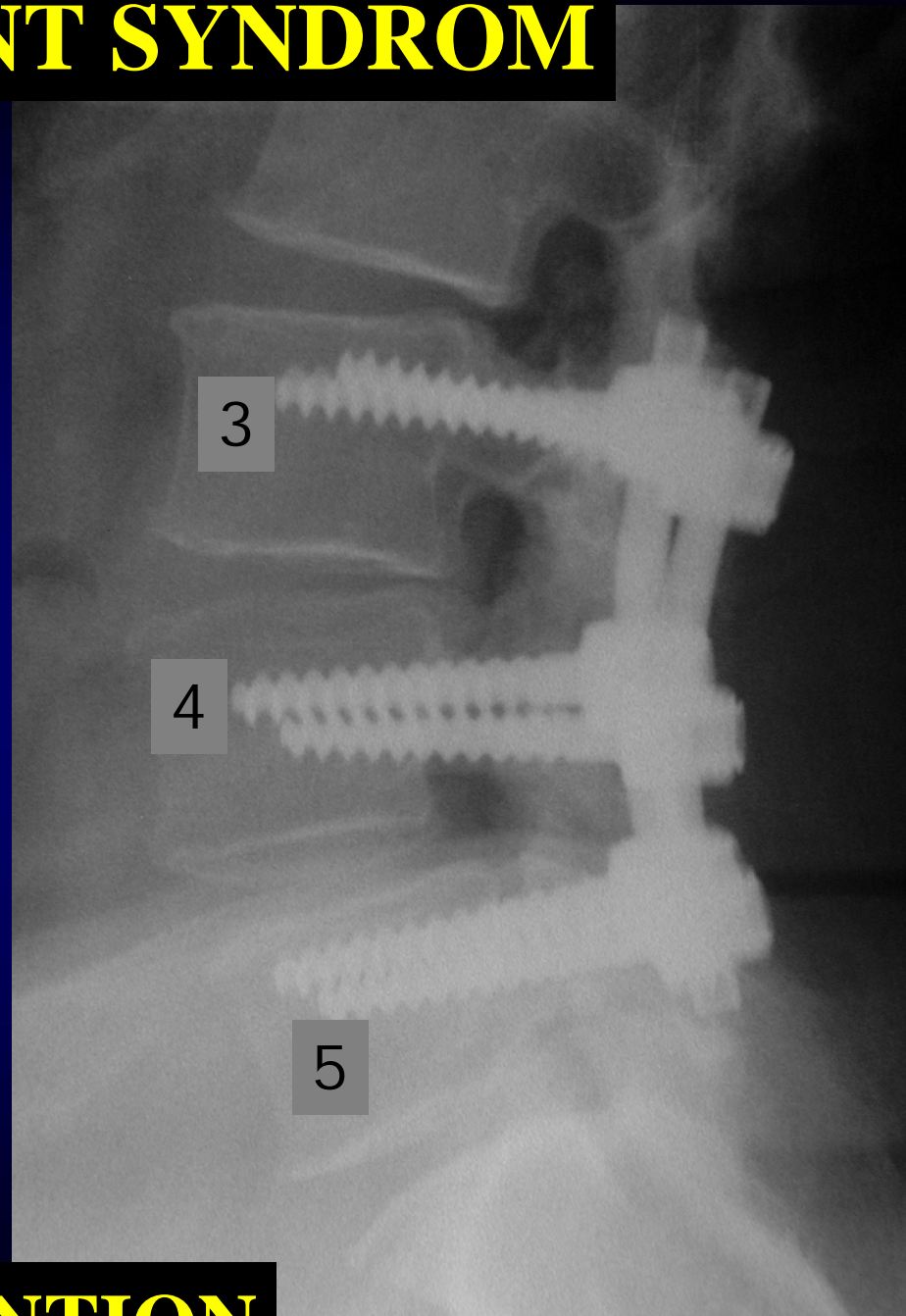
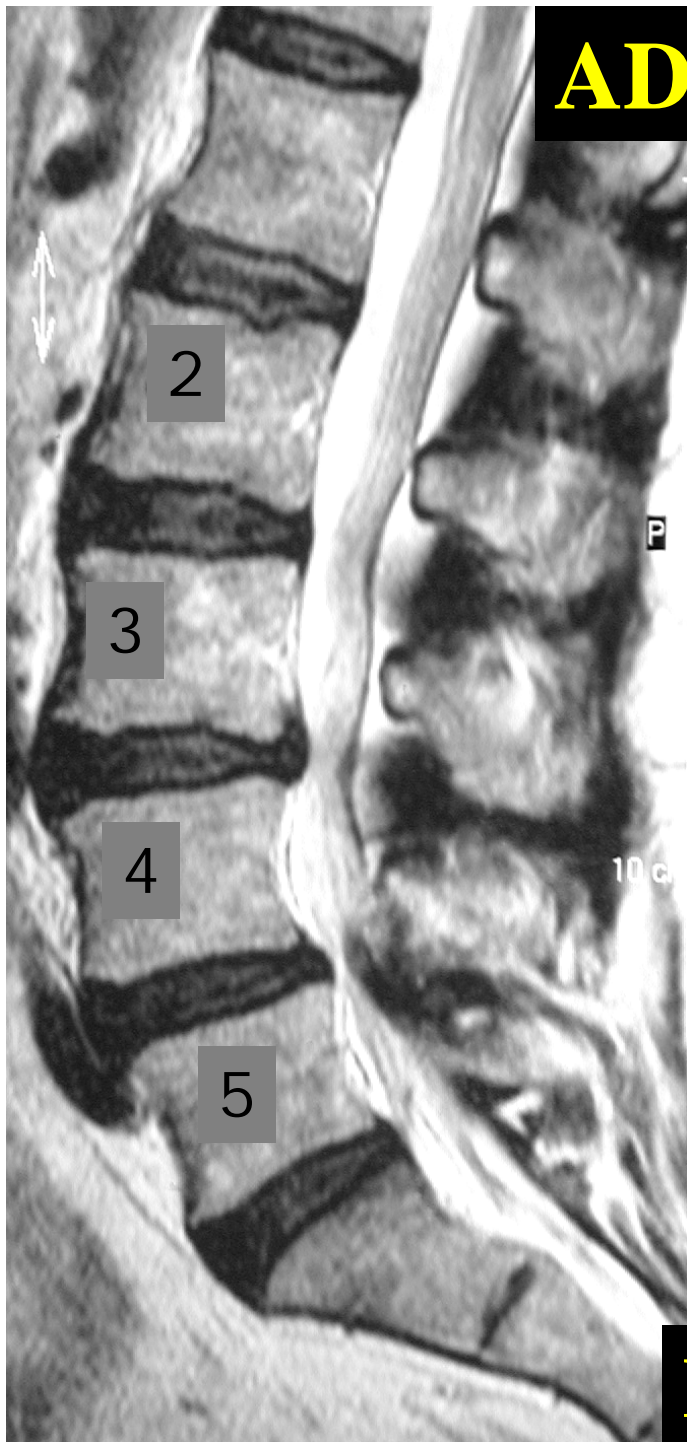
C.S.F. LEAKAGE	12,5%
EPIDURAL HAEMATOMA	3,1%
DEEP INFECTION	3,7%
NEUROLOGIC	
Radiculalgia	3,4%
Motor deficit	1,4%
Sphincteric deficit	1,08%
Paraplegia	0,76%
ADJACENT SYNDROM	15%

Analysis of the risk factors for the development of post-operative spinal epidural haematoma

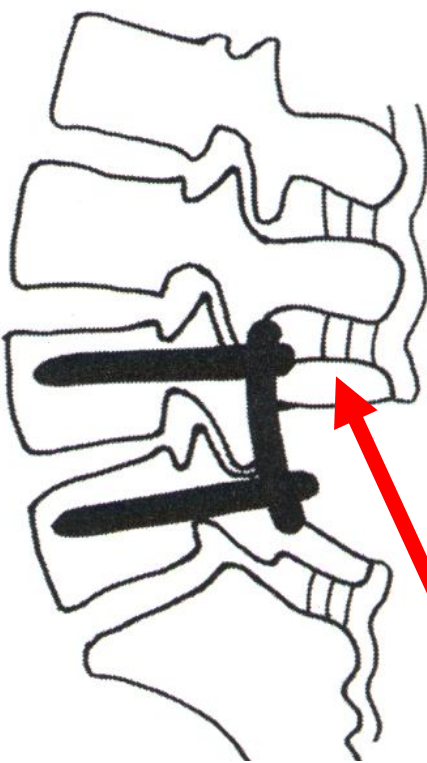
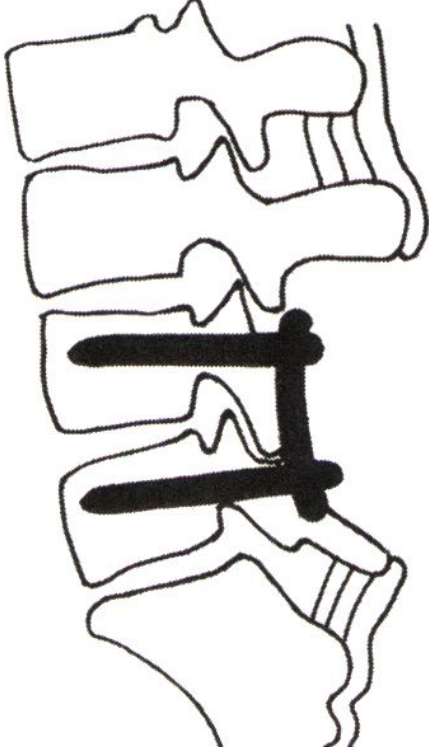
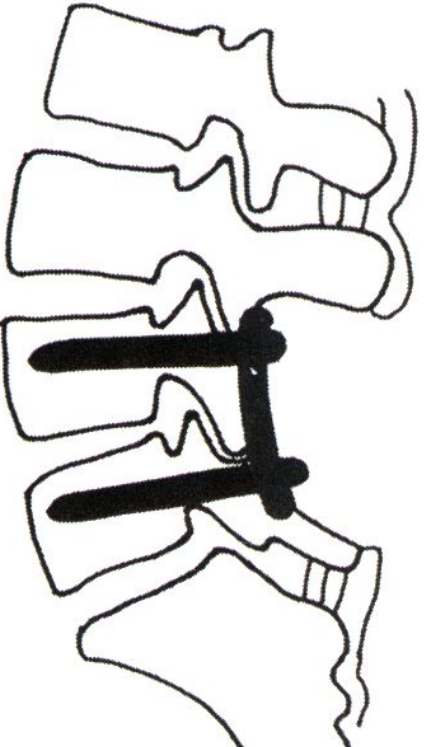
- AWAD J.N. , KOSTUIK J.P.
- Johns Hopkins Hospital , BALTIMORE
- $32/14932 = 0,2\%$

- 
- Age > 60 years
 - Preoperative non-steroidal anti-inflammatories

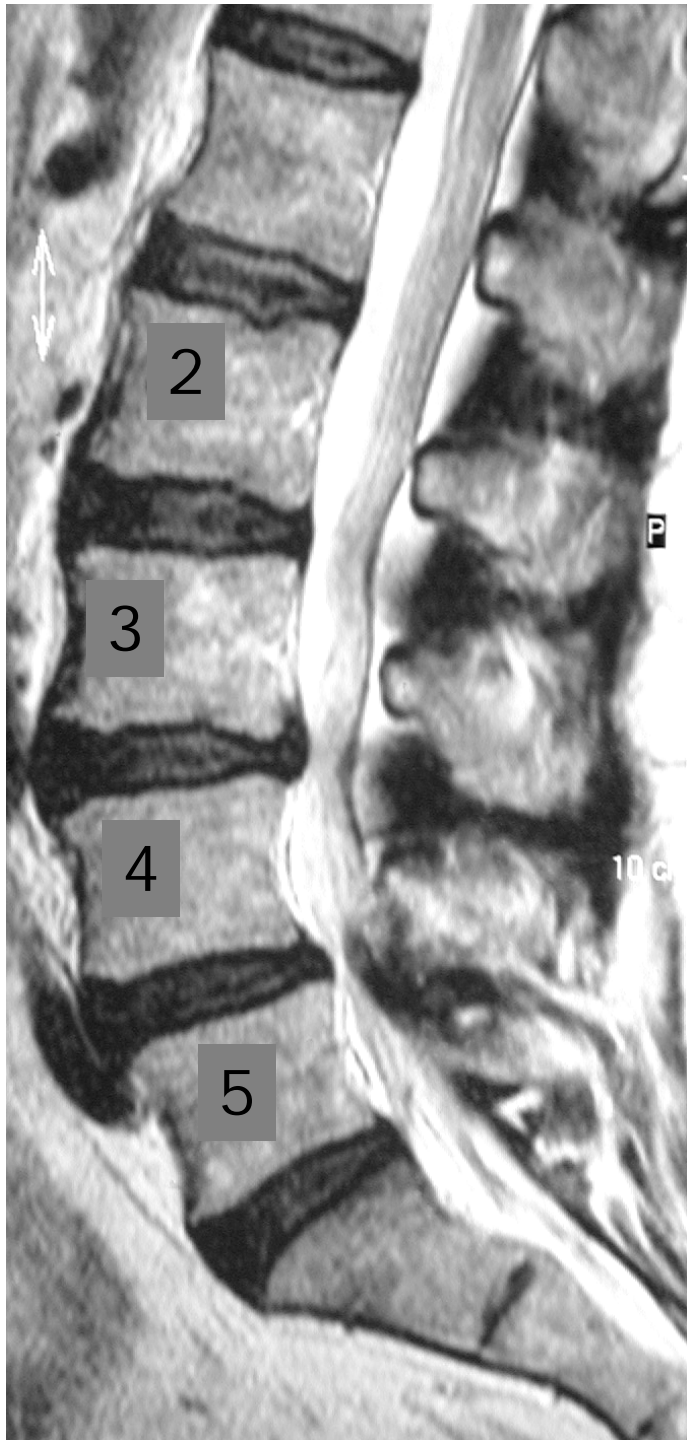
ADJACENT SYNDROM



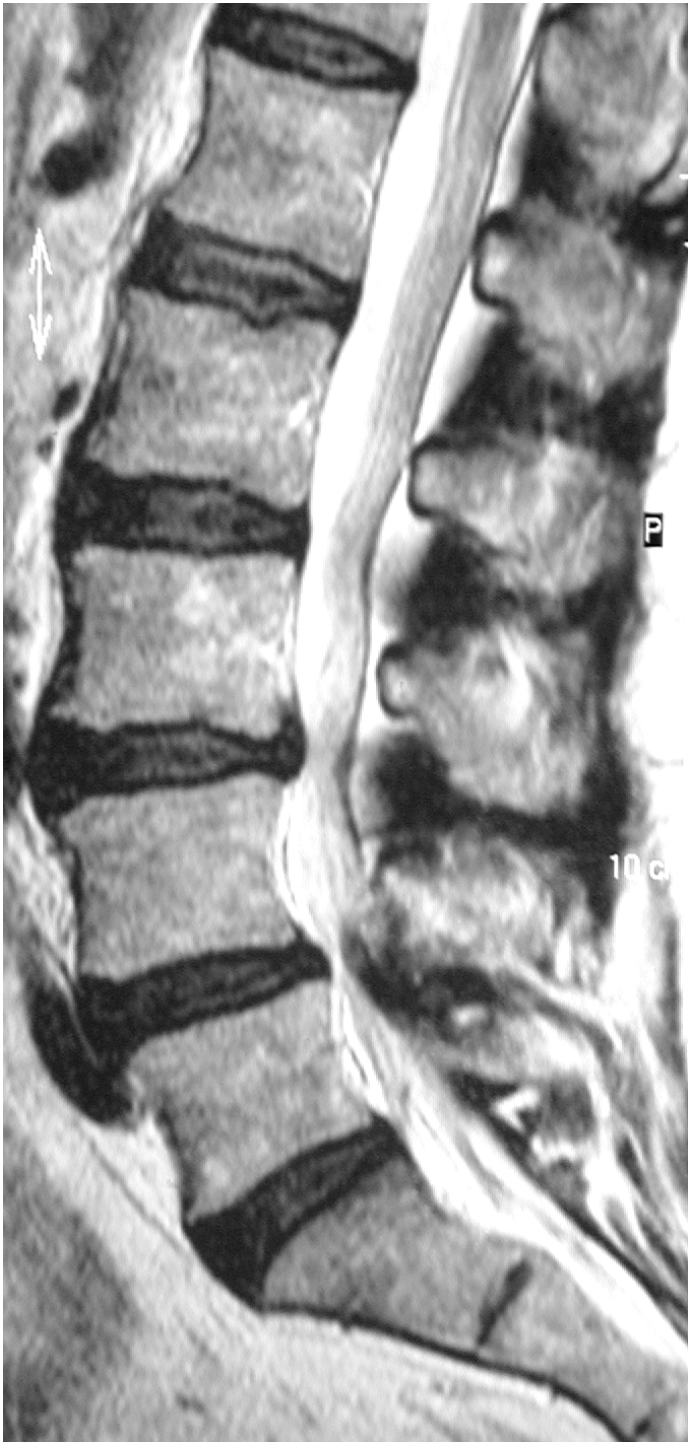
PREVENTION



NATURAL EVOLUTION



+ 4 YEARS



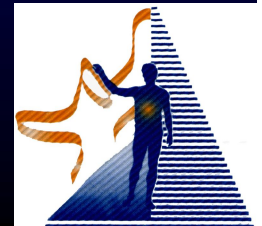
+ 4 YEARS

CONCLUSIONS (L.N.C.)

SEGMENTARY STENOSIS
MOBILE SEGMENT

INCREASING FREQUENCY

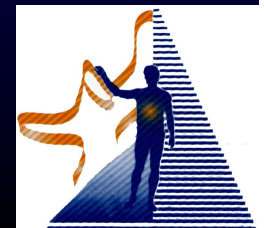
DIFFERENCE BETWEEN AGING &
DISEASE



CONCLUSIONS (L.N.C.)

« POSTURAL » SYNDROM

MRI or MYELO-SCANNER



CONCLUSIONS (L.N.C.)

**SURGICAL DECOMPRESSION
+- STABILISATION
IN CASE OF NEUROLOGIC DEFICIT :
LESS GOOD SURGICAL RESULTS**



