

INTRO. TO SPINAL SURGERIES

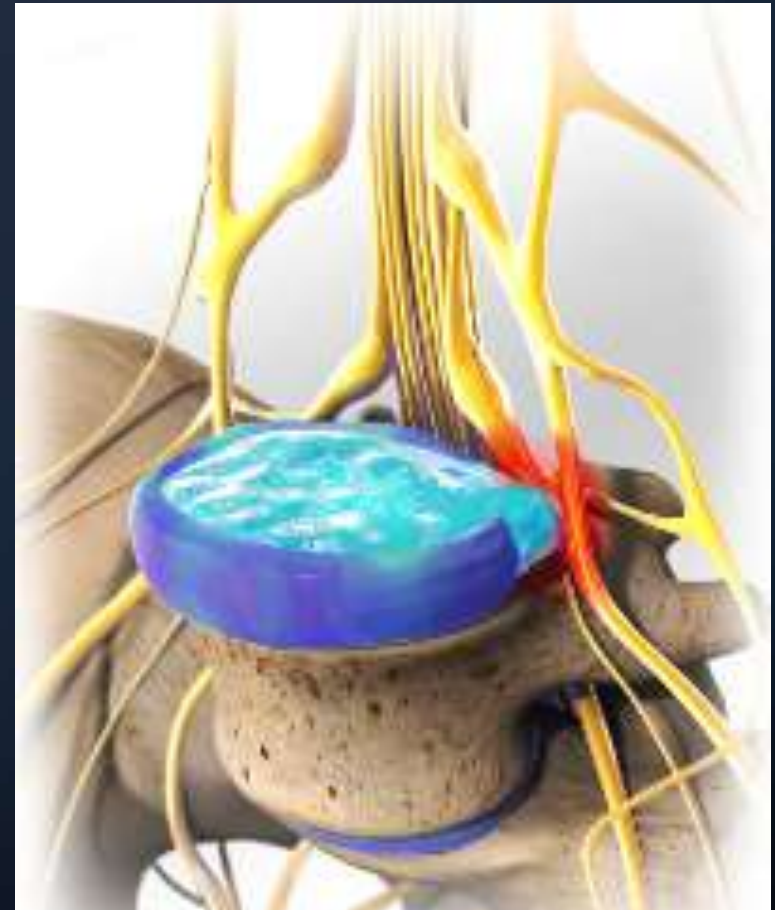
WAYNE CHENG, MD

BONES AND SPINE

OUTLINE

- **Decompression**
 - Spinal stenosis
 - Herniated disc
- **Fusion**
 - Deformity
 - Fractures
 - Degeneration
- **Dynamic Stabilization/Motion preserv.**

HERNIATED DISC



HERNIATED DISK

CLINICAL PRESENTATION

- Young patients
- Radiculopathy (sciatic pain)
 - L4, L5, S1
- Leg pain more than back pain
- Increase with cough or straining
- Positive straight leg raise
- More pain with flexion than extension

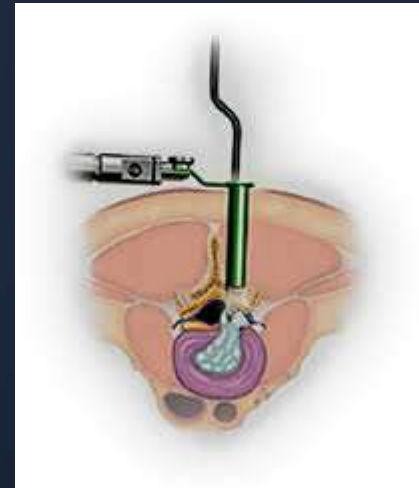
HERNIATED DISC



MRI-HNP



MICRODISCECTOMY



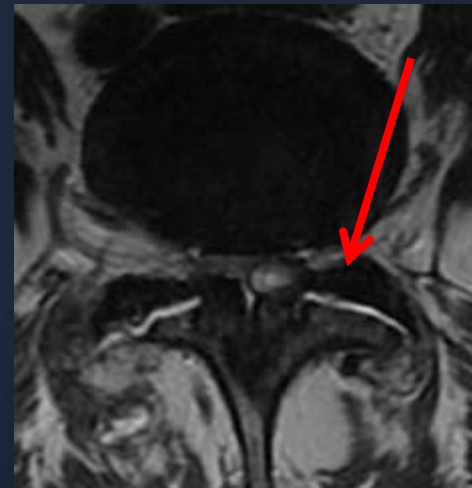
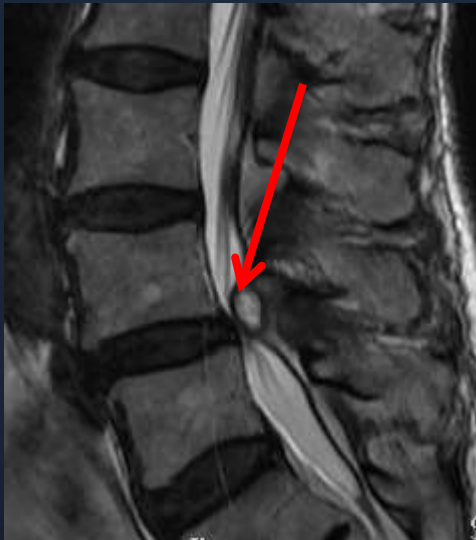
MICRODECOMPRESSION



OUT-PT SURGERY; POST-OP SCAR



SPINAL STENOSIS



MICRO DECOMPRESSION FACET CYST REMOVAL



TREAT PATIENT NOT X-RAY !

- **67 Asymptomatic**
volunteers:

- MRI + Herniated disc
 - <60 yo = 20%
 - >60 yo = 36%
 - >80 yo = 90%

(Boden JBJS 1990)

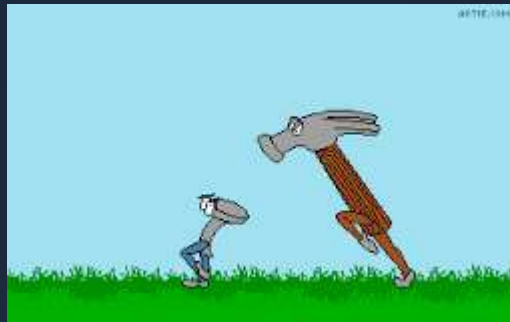
- **98 Asymptomatic vol.**

- 36% had normal disc at all levels

(Jensen NEJM 1994)



FUSION IS FOR INSTABILITY/DEFORMITY



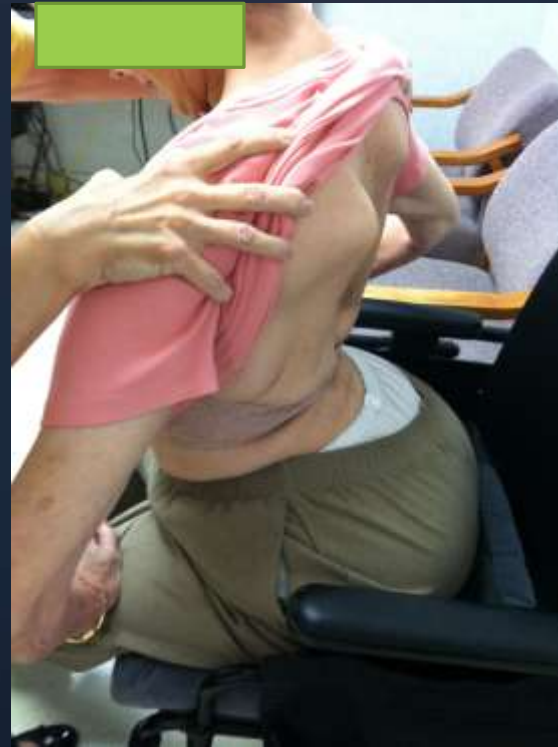
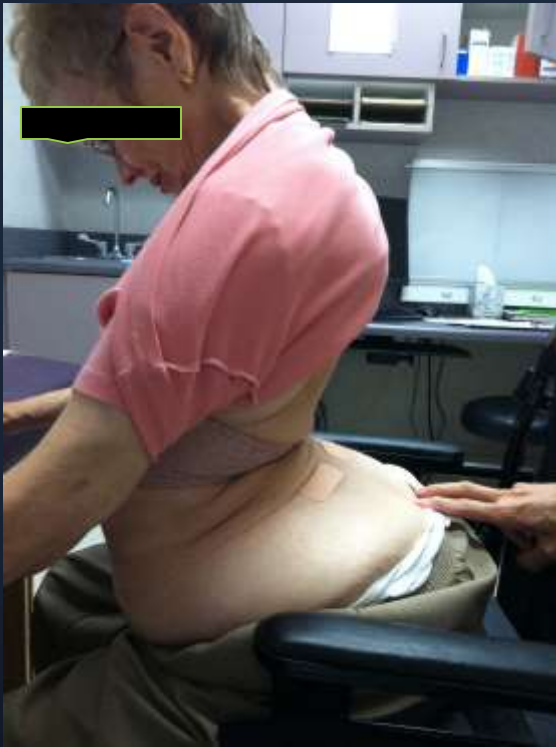
INSTABILITY-SCOLIOSIS



INSTABILITY - KYPHOSCOLIOSIS



INSTABILITY - HYPERLORDOSIS



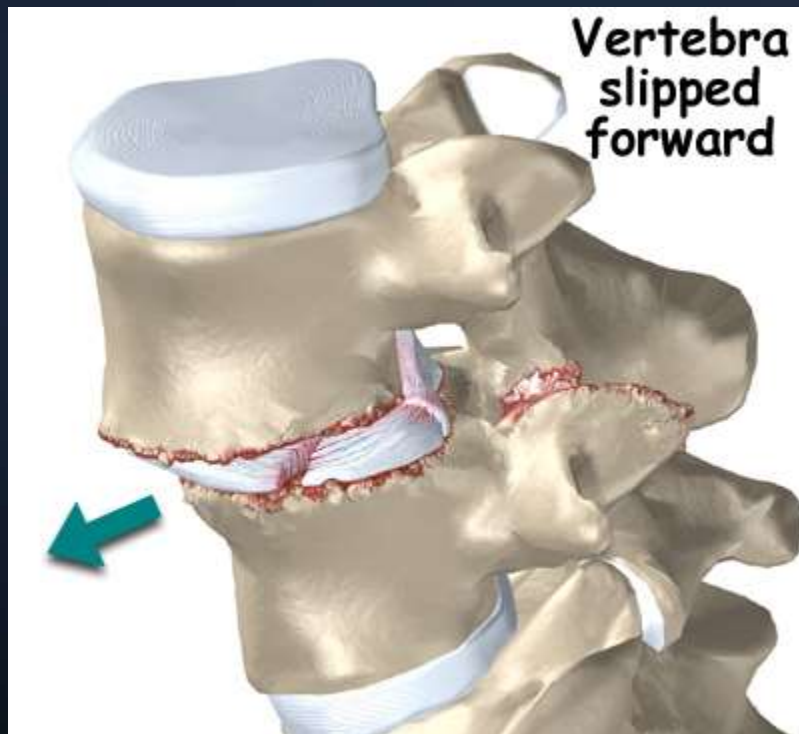
INSTABILITY – CHIN ON CHEST



INSTABILITY - FRACTURES



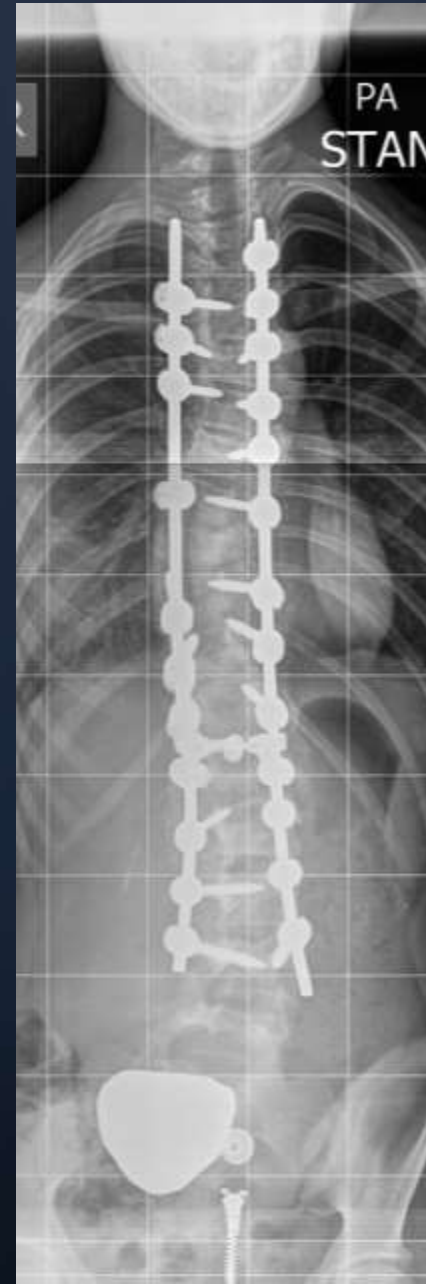
INSTABILITY – DEGENERATIVE SPONDYLOLISTHESIS



SCOLIOSIS – 10 TO 13 YO



SCOLIOSIS





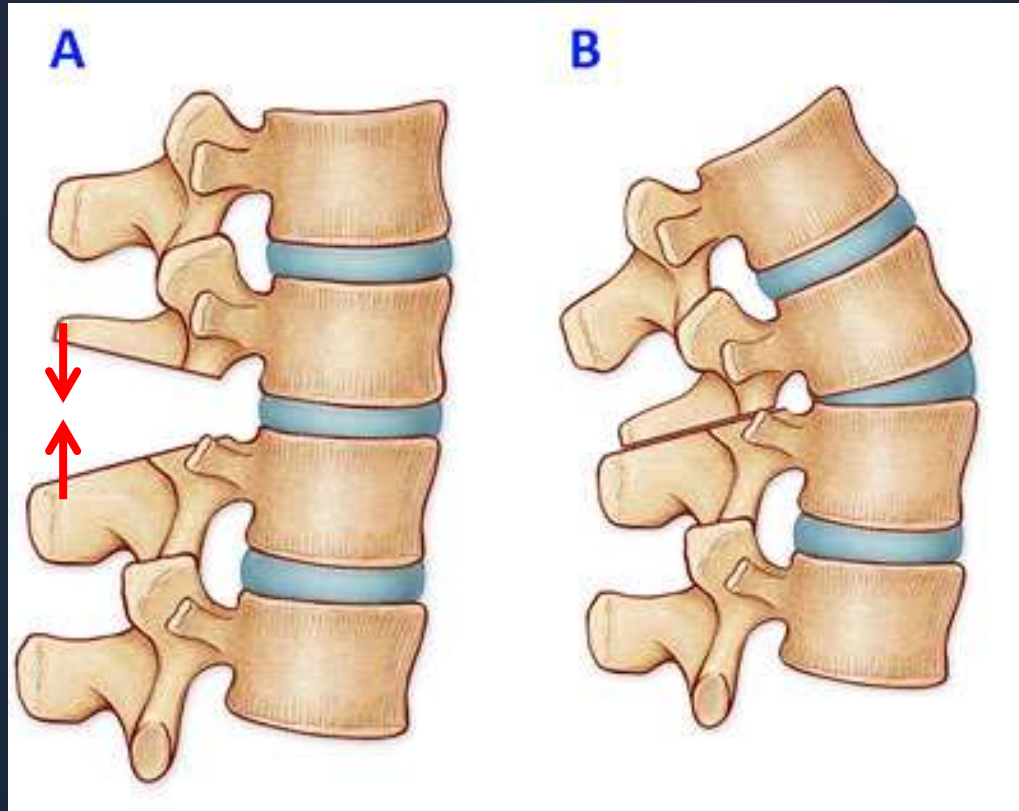
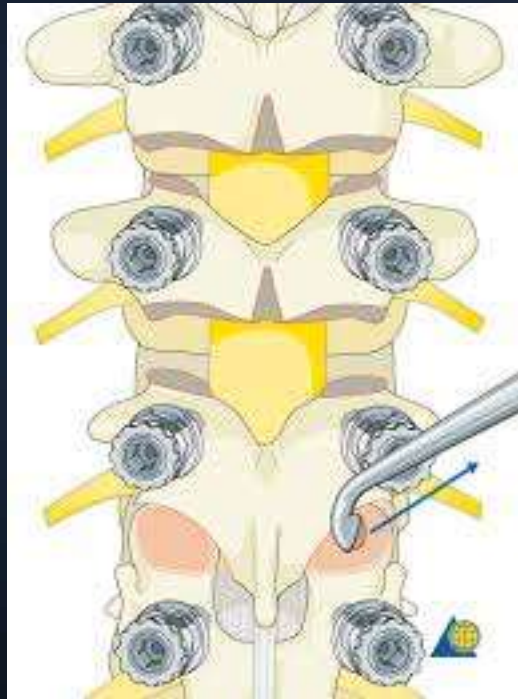


5





POSTERIOR COLUMN OSTEOTOMY SMITH-PETERSEN

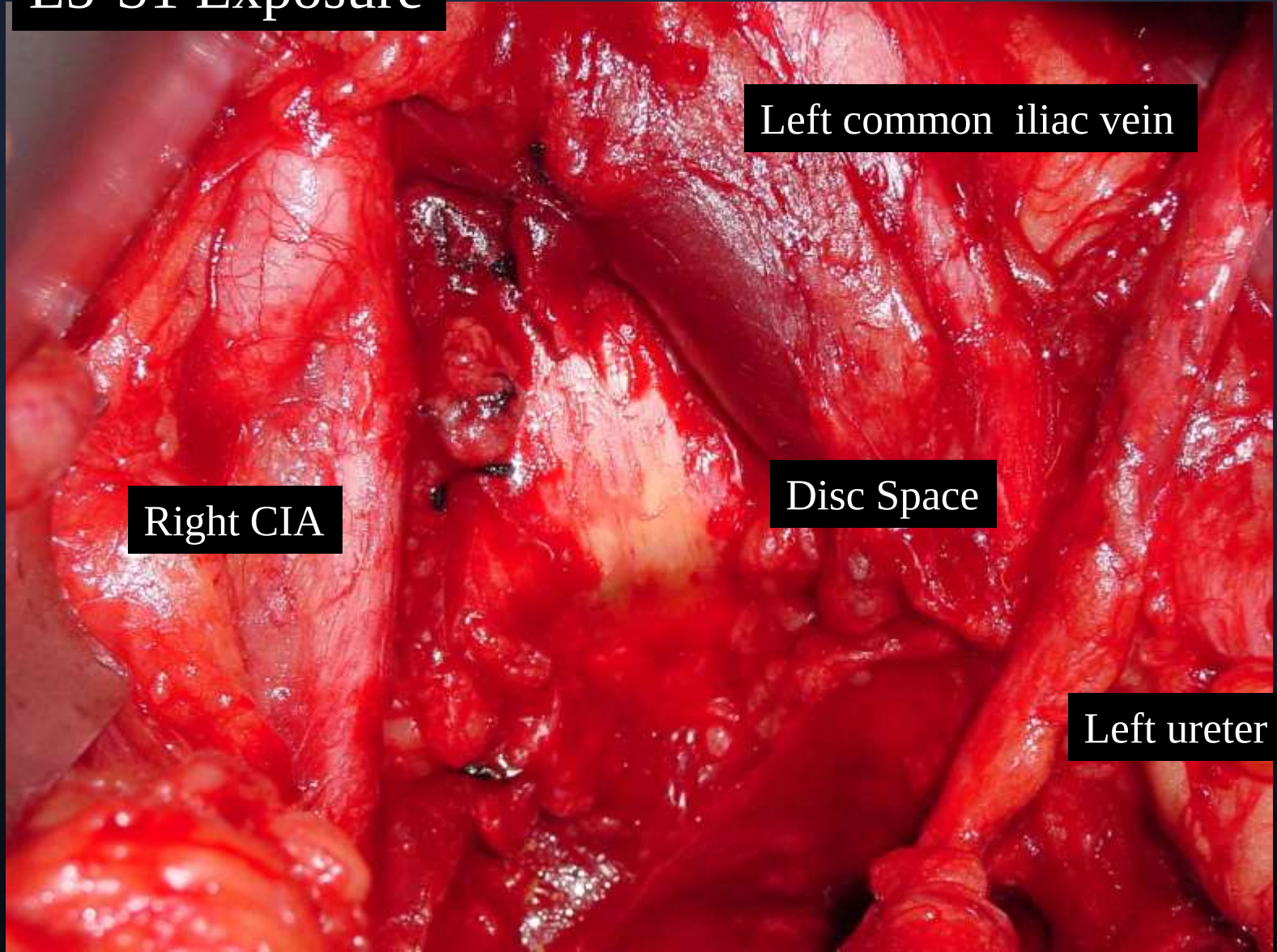


POSTERIOR APPROACH - FUSION DISEASE?

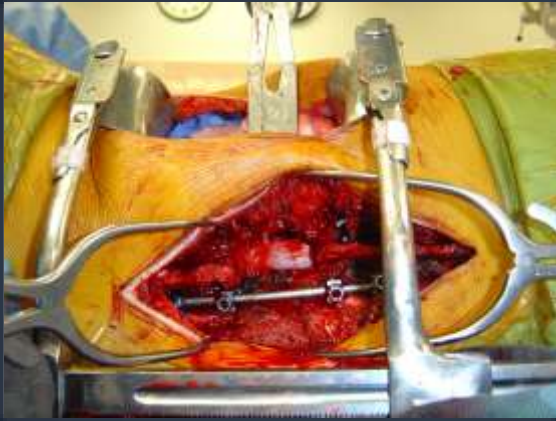


ANTERIOR APPROACH

L5-S1 Exposure



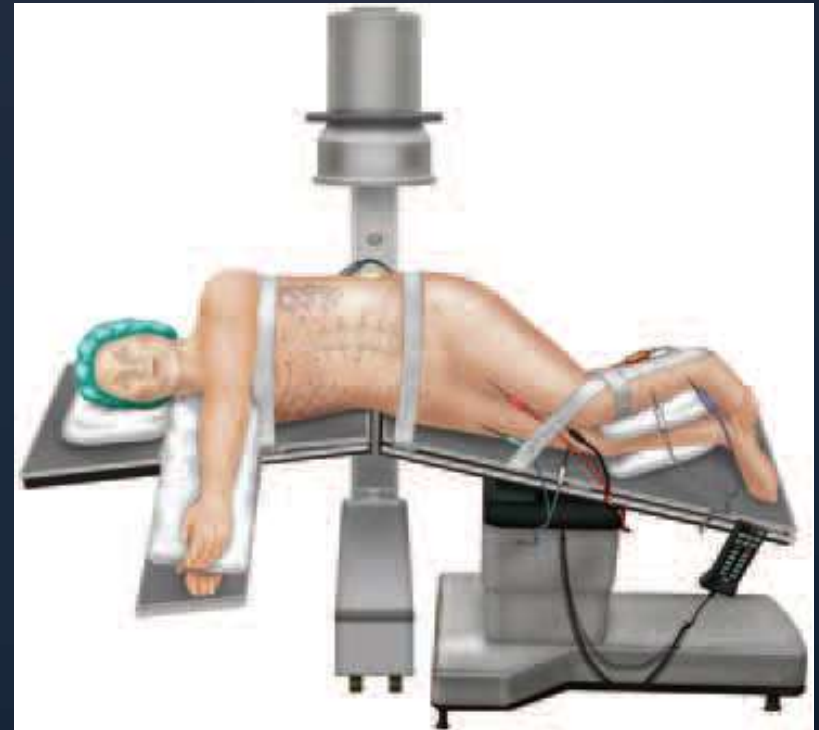
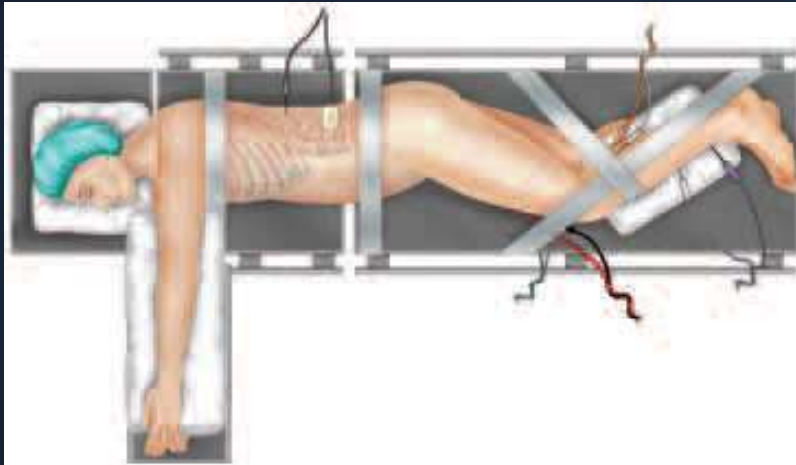
ANTERIOR & POSTERIOR APPROACH



TRANSPSOAS APPROACH

- XLIF = DLIF=OLIF=LIF

POSITIONING



POSITIONING

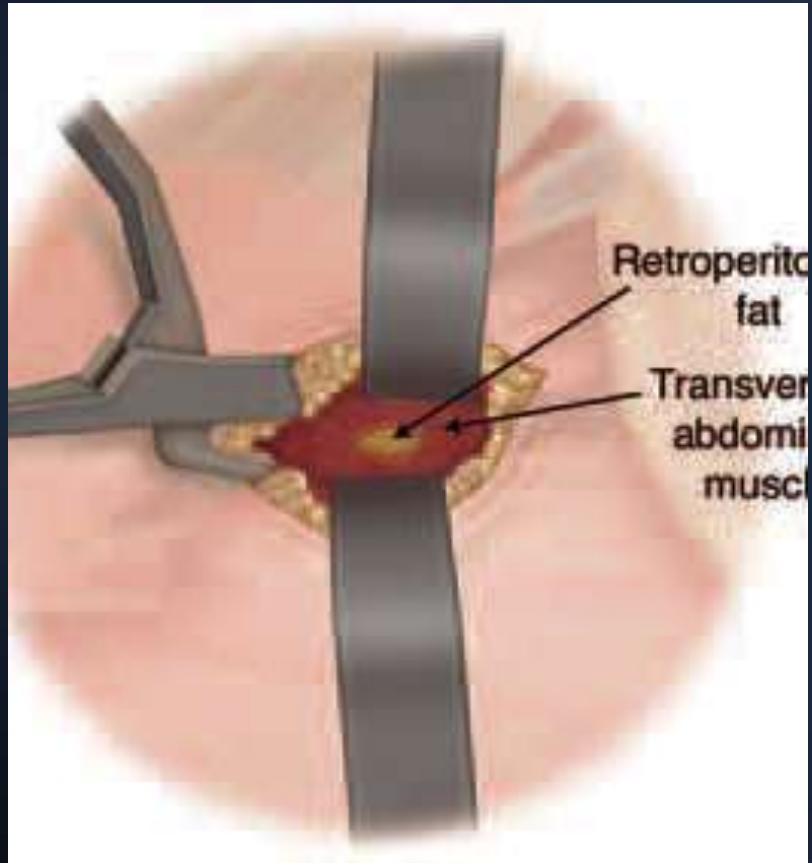


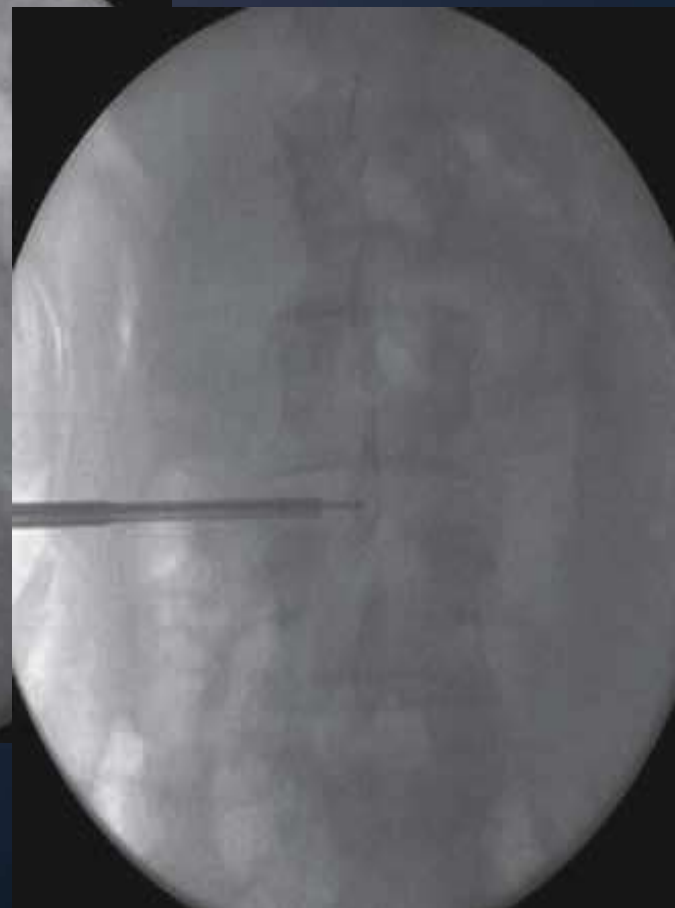
FLUORO POSITIONING

- Cannot overemphasize the importance of good fluoroscopic images

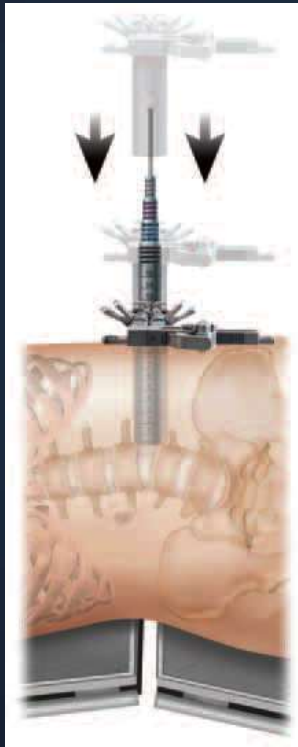


APPROACH





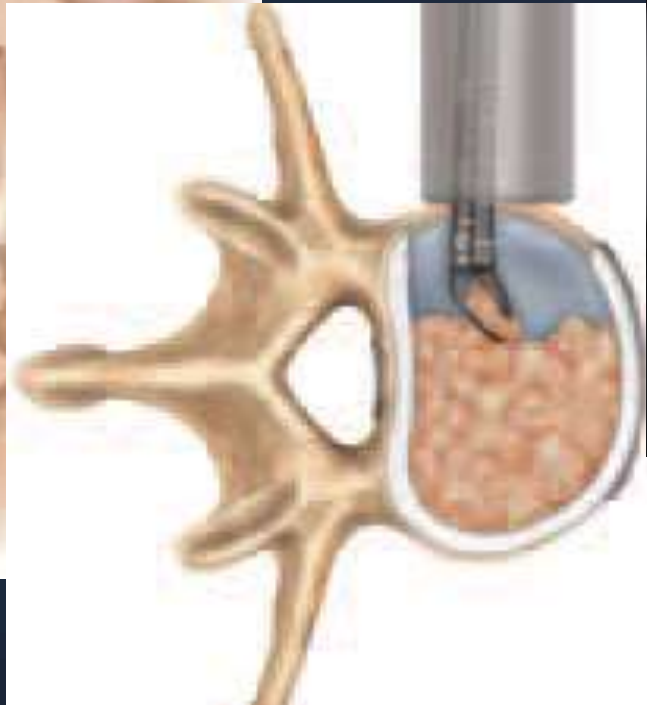
RETRACTOR



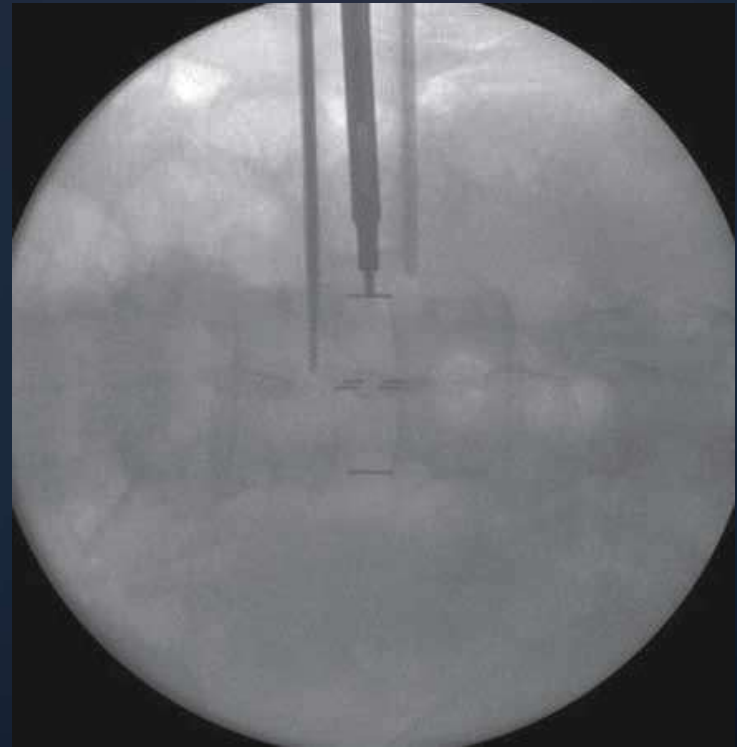
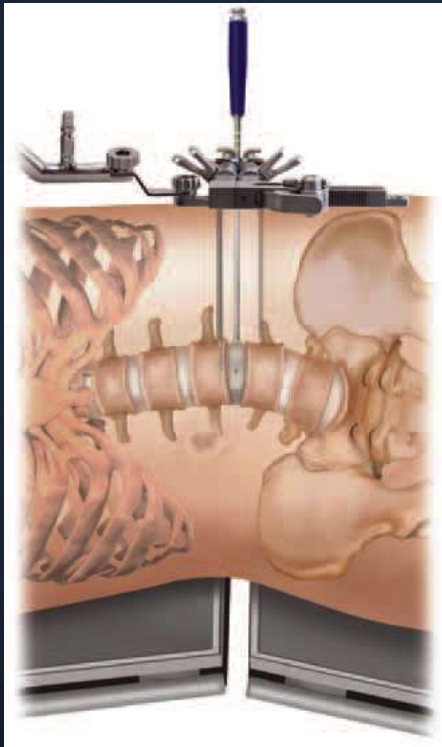
RETRACTOR



ION



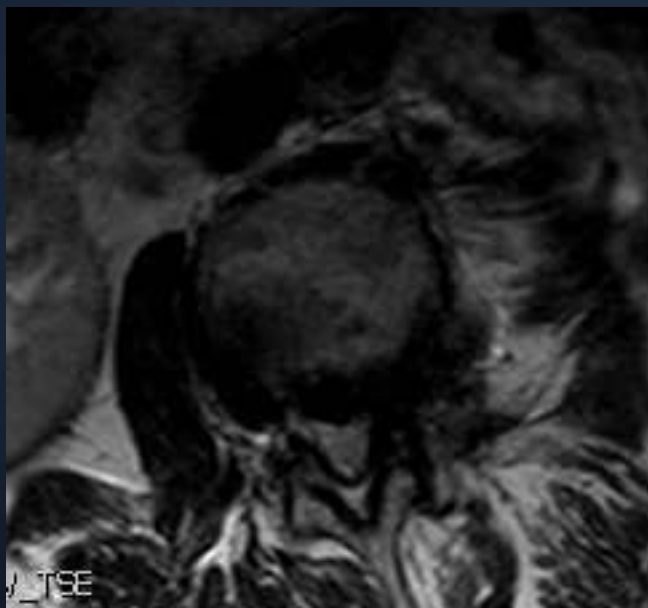
IMPLANT



67 YO FEMALE W BACK PAIN, AND NEUROGENIC CLAUDICATION



PRE OP MRI



INTRA-OP



INTRA OP









INSTABILITY — FRACTURE (31 YO)



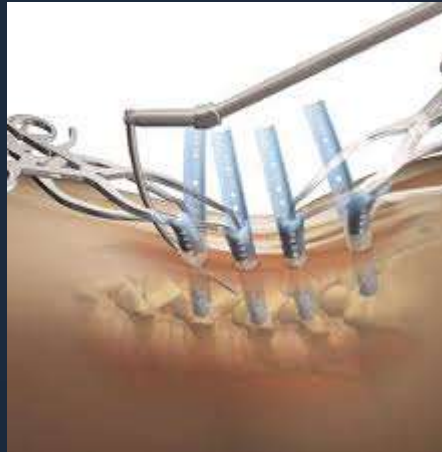
PERC



MIN INVASIVE FUSION



PERC. SCREWS



PERC. INSTRUMENTATION



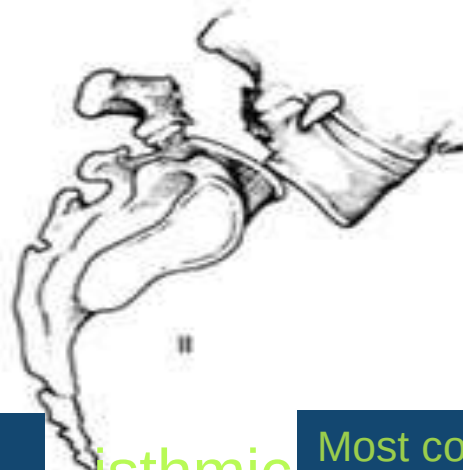
SPONDYLOLISTHESIS

WILTSE, NEWMAN, MCNAB 1976



dysplastic

20%
listhesis
2F : 1 M
Cause
L5-S1



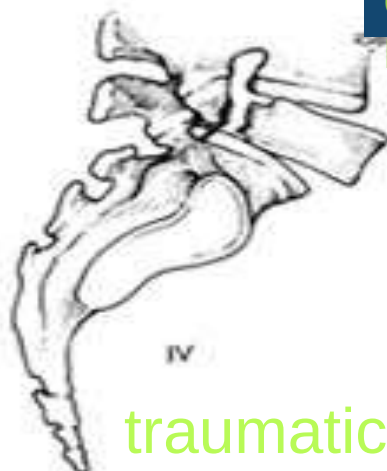
isthmic

Most common
2M : 1F
Cause
L5-S1



degenerative

6F : 1M
Age >40
10%F>60
cause

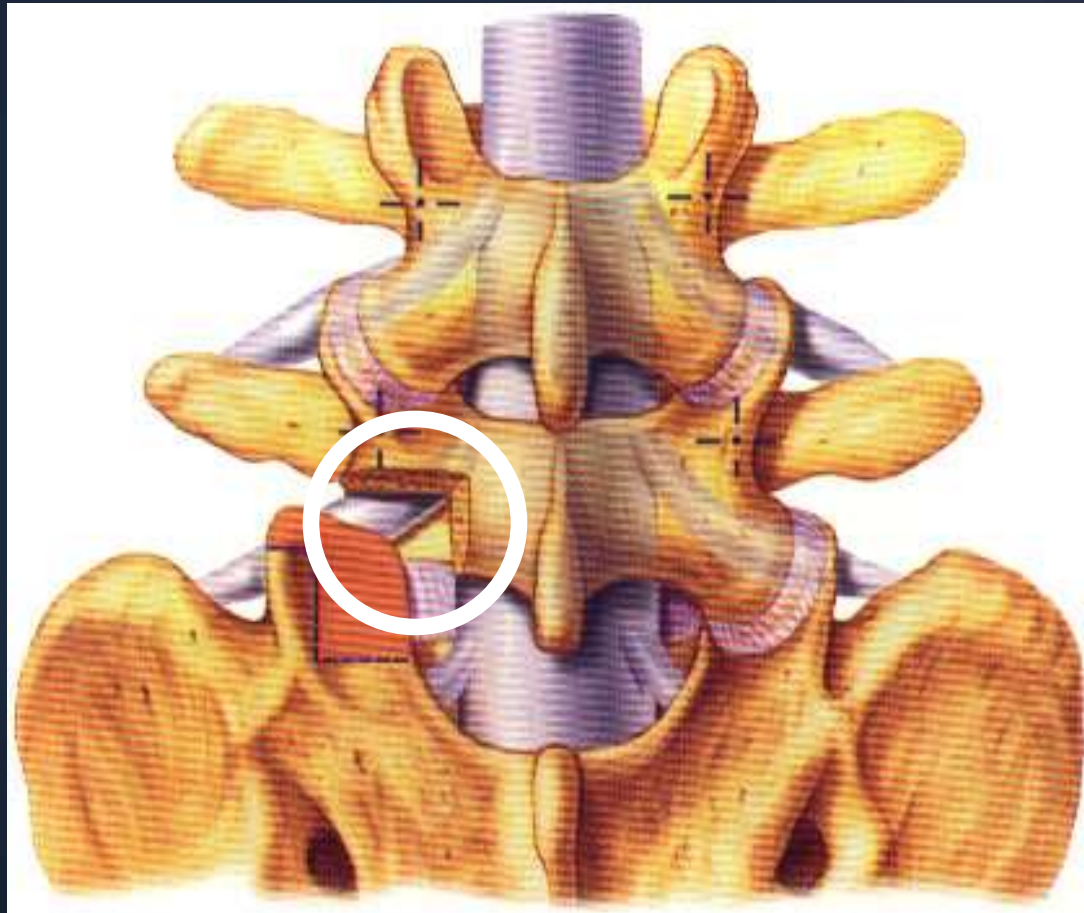


traumatic

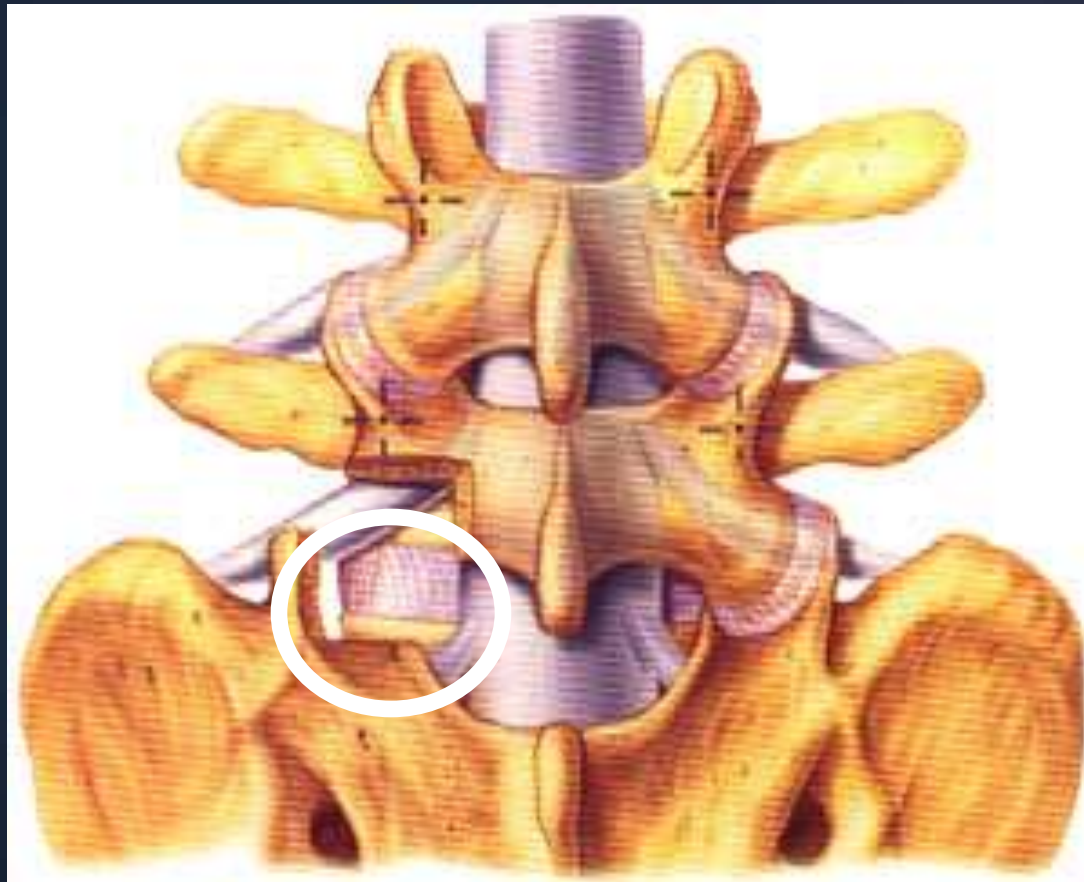


pathologic

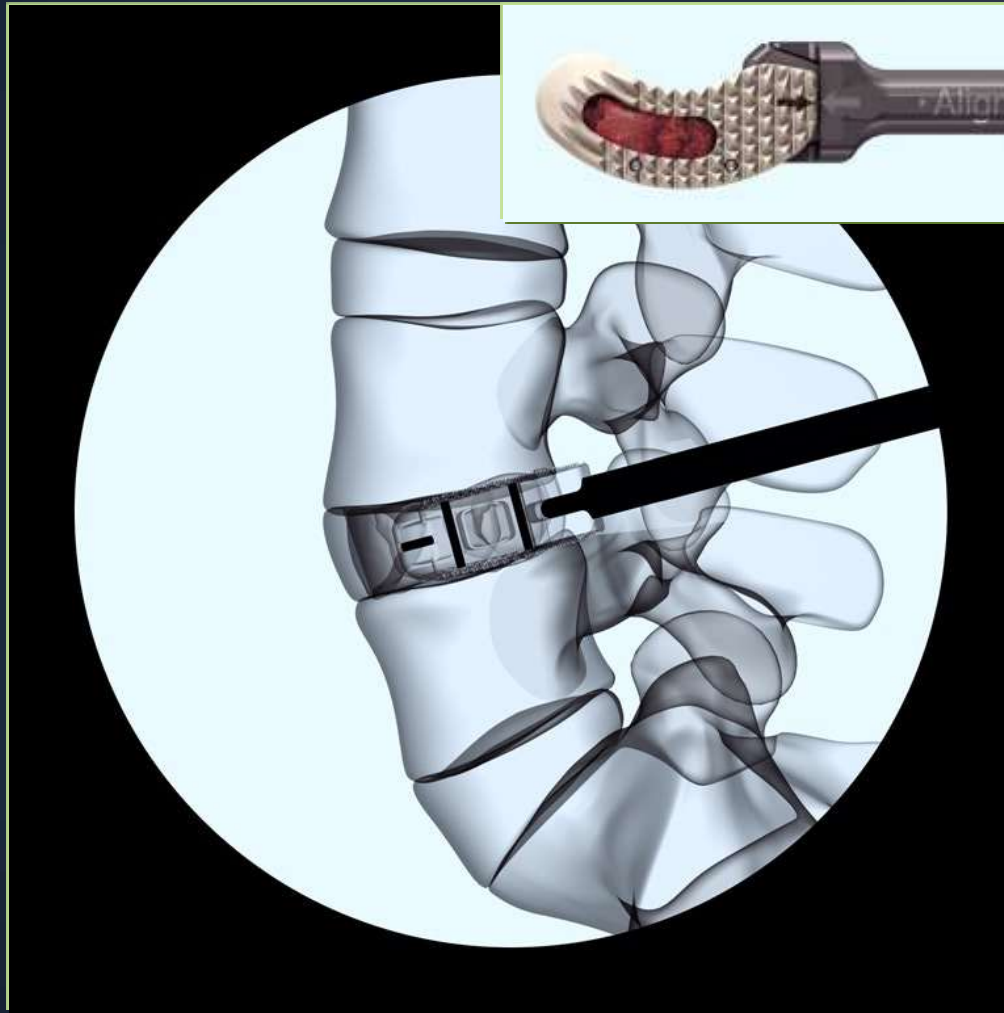
TLIF: REMOVE THE INFERIOR FACET



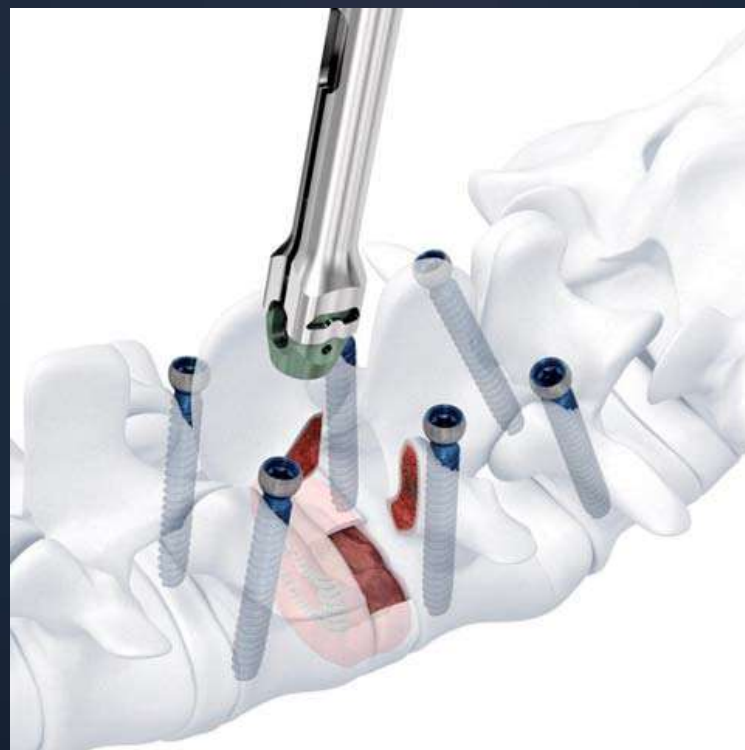
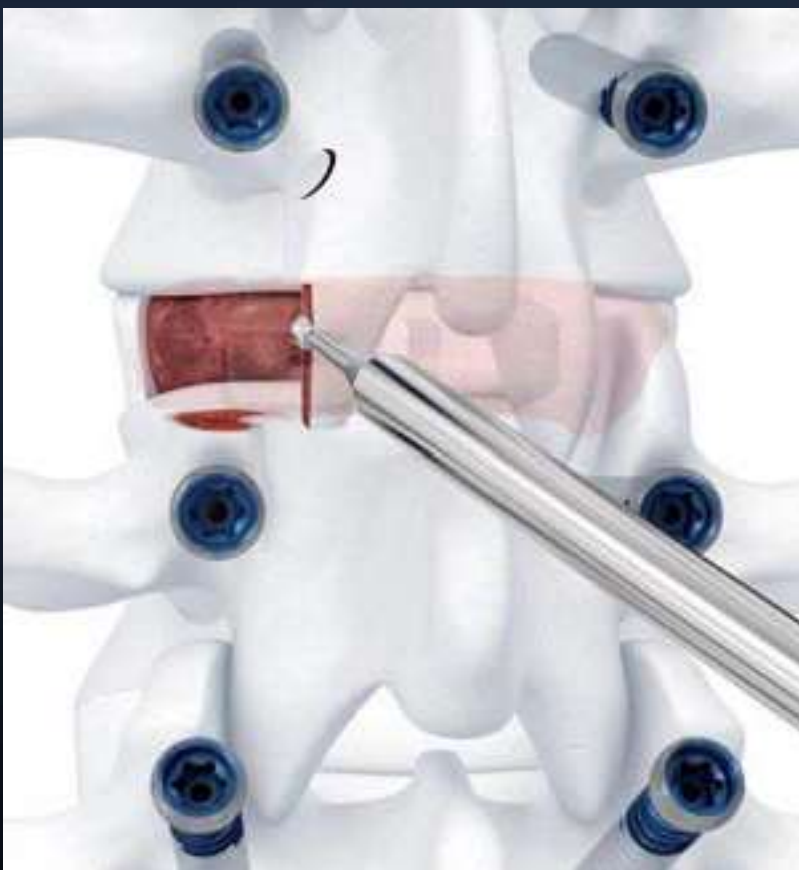
TLIF: REMOVE THE SUPERIOR FACET



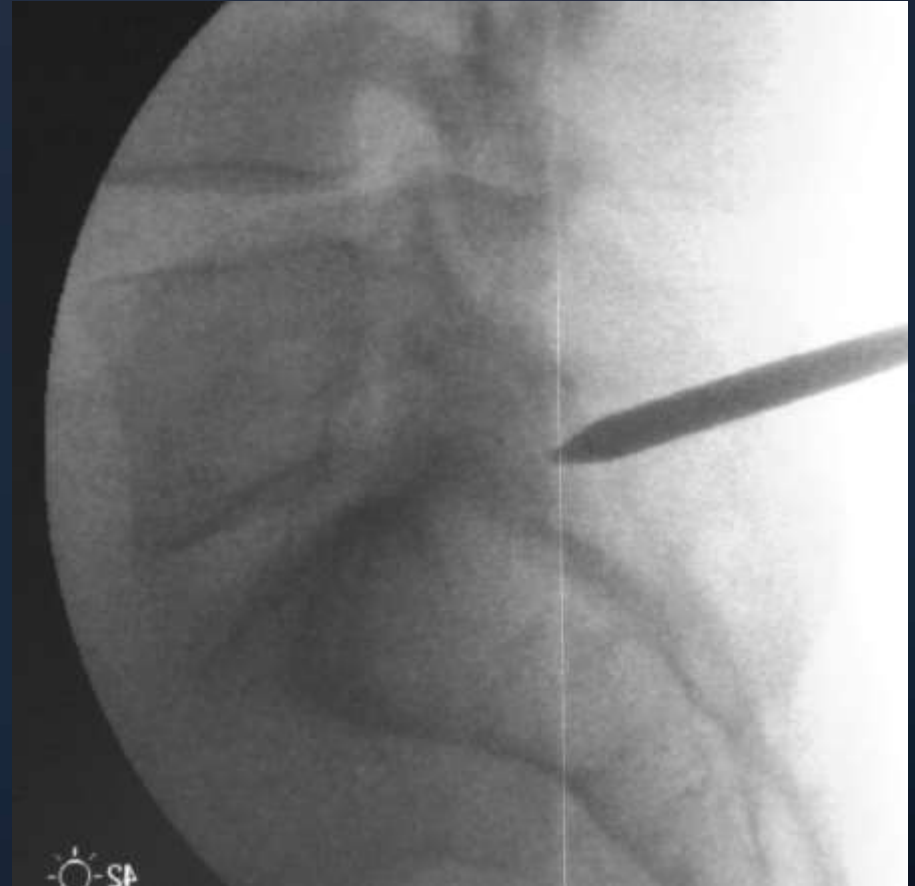
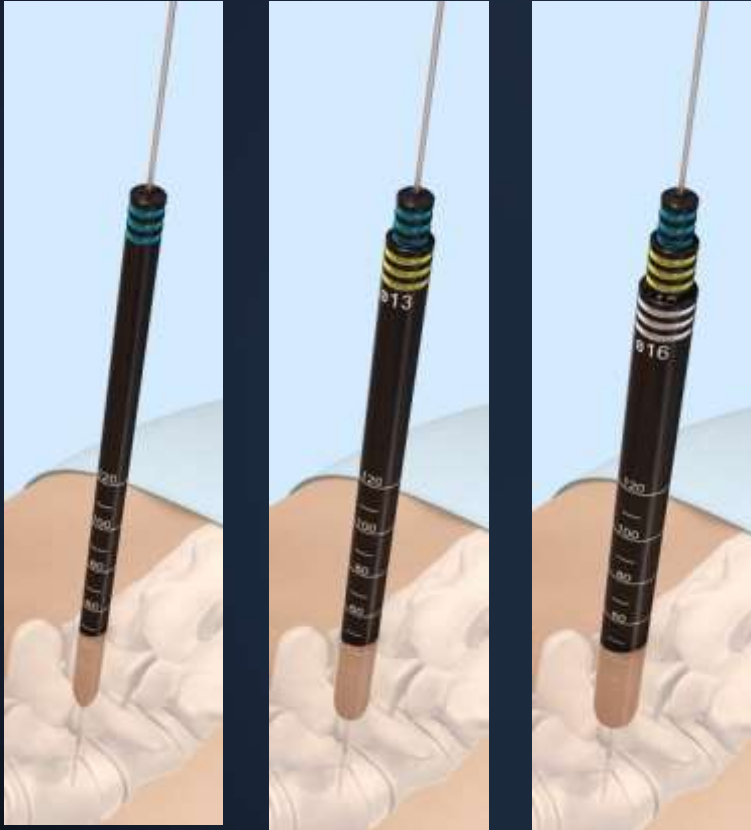
STEP 18: INSERT IMPLANT



TLIF



DILATION/DECOMPRESSION



CURRENT MIS TLIF/PLIF 2 BILATERAL WILTSE



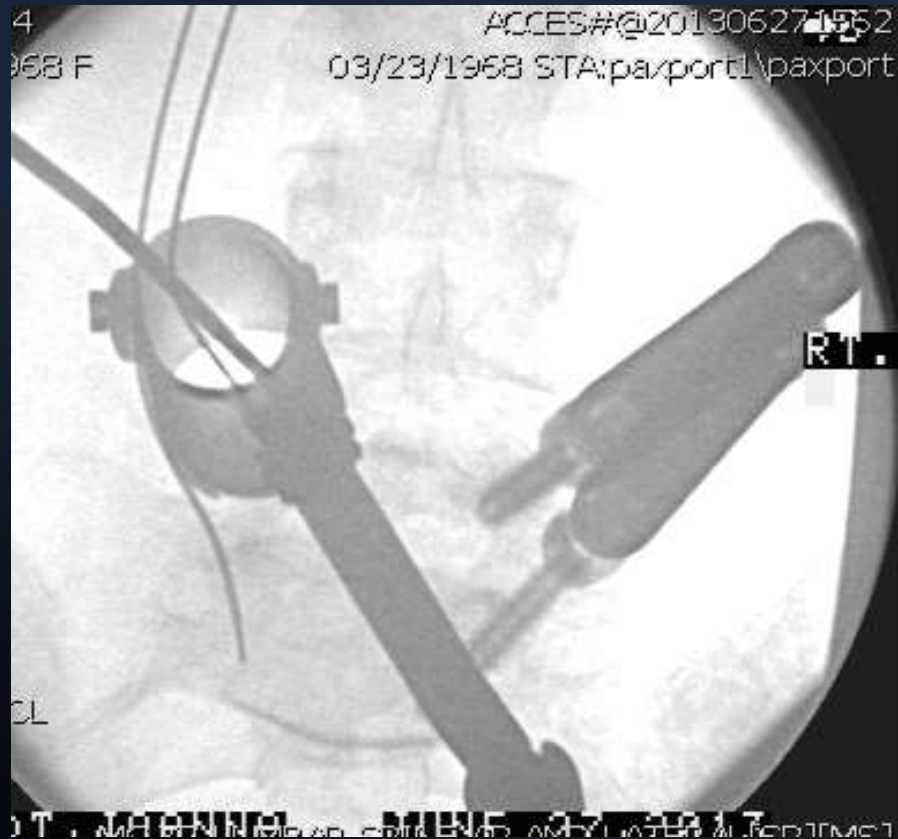
47 YO F, 250#, BACK AND L. LEG PAIN



MIS TLIF- PERC. SCREWS



DILATOR PLACEMENT



CAGE PLACEMENT







CASE 2

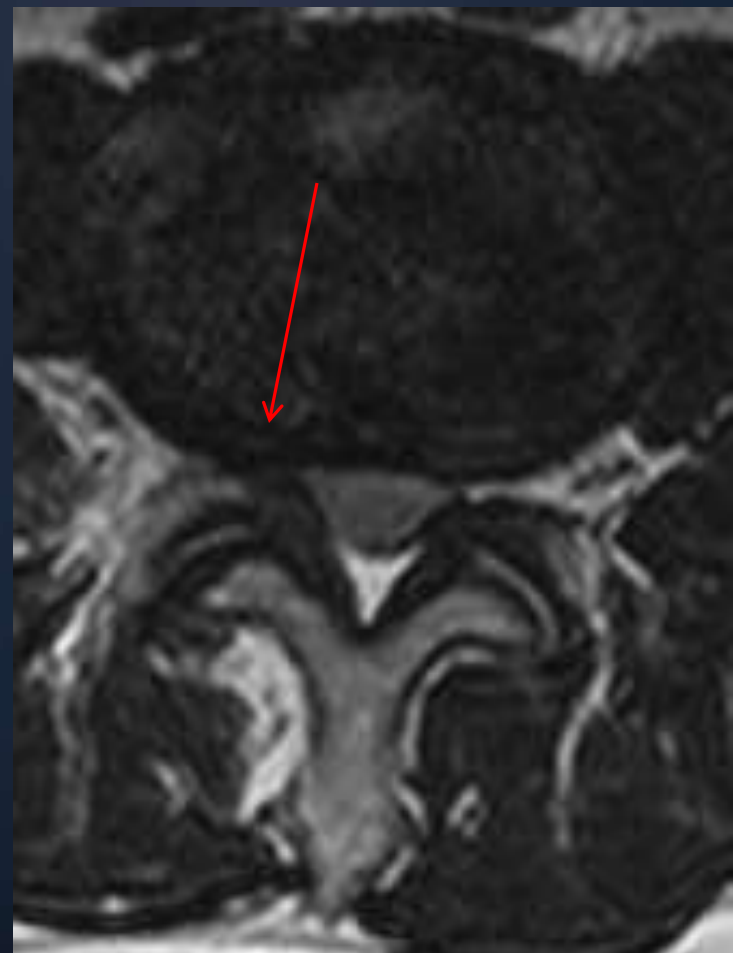
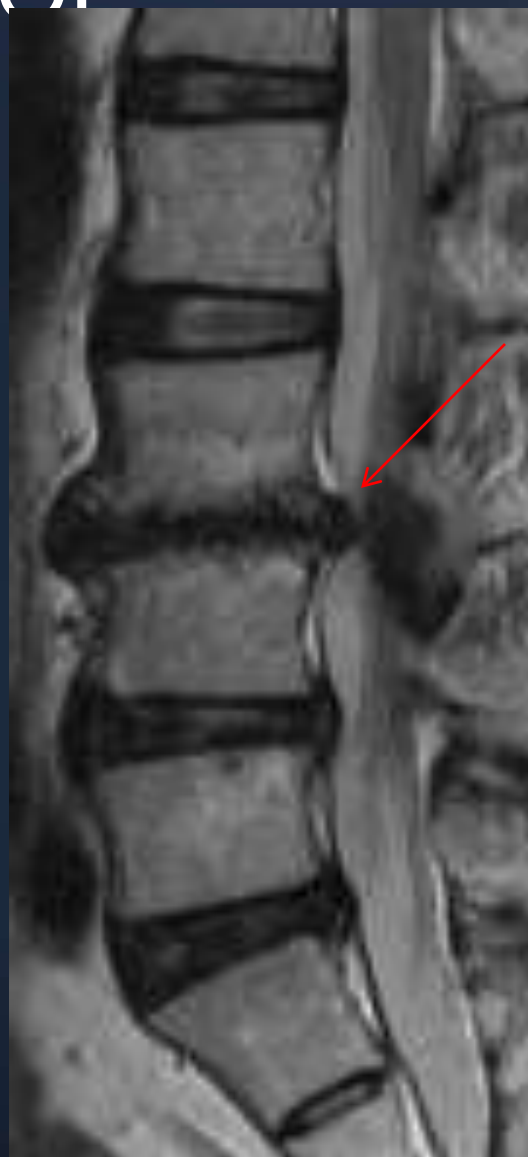
65 yo with lower back pain and right thigh pain



MRI PRE OP



YOUTUBE



CASE 2 - INTRA OP



CASE 2- INTRA OP



CASE 1 INTRA OP

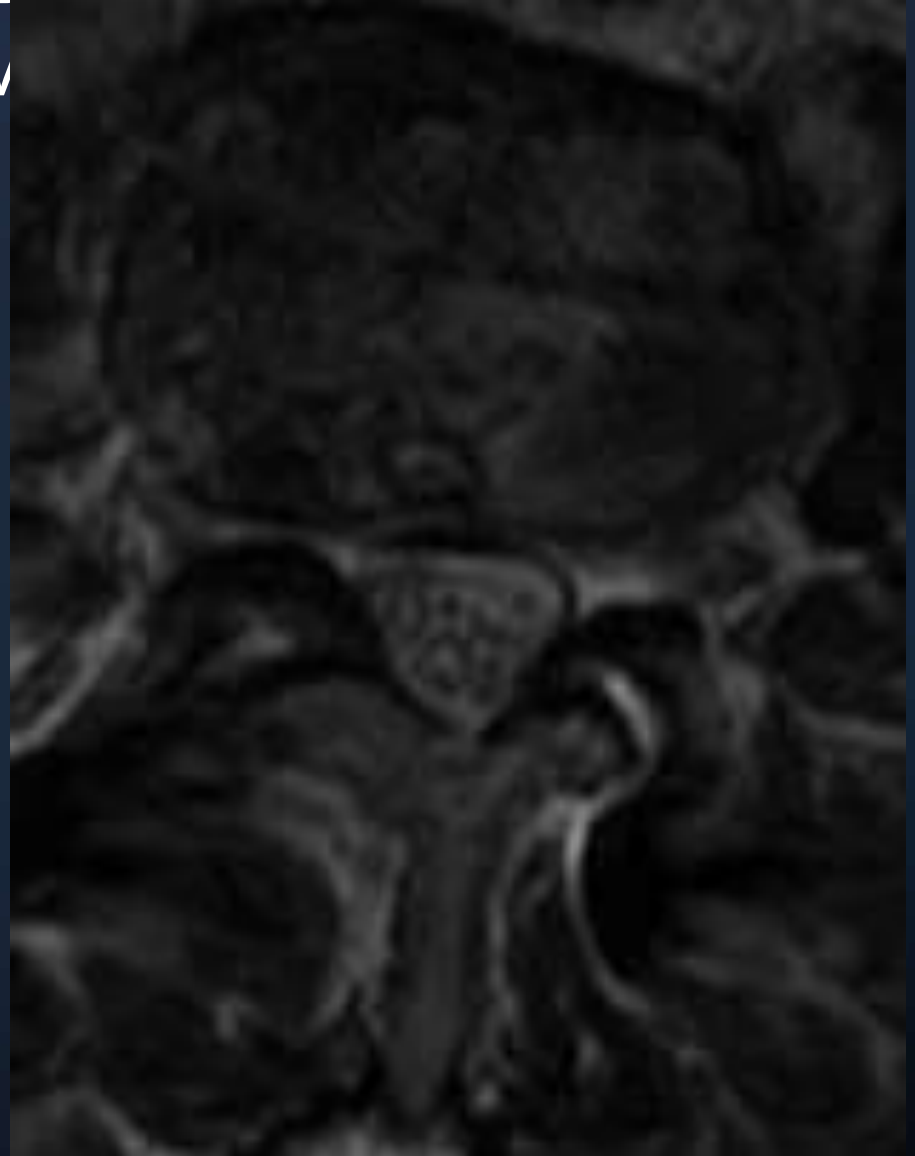
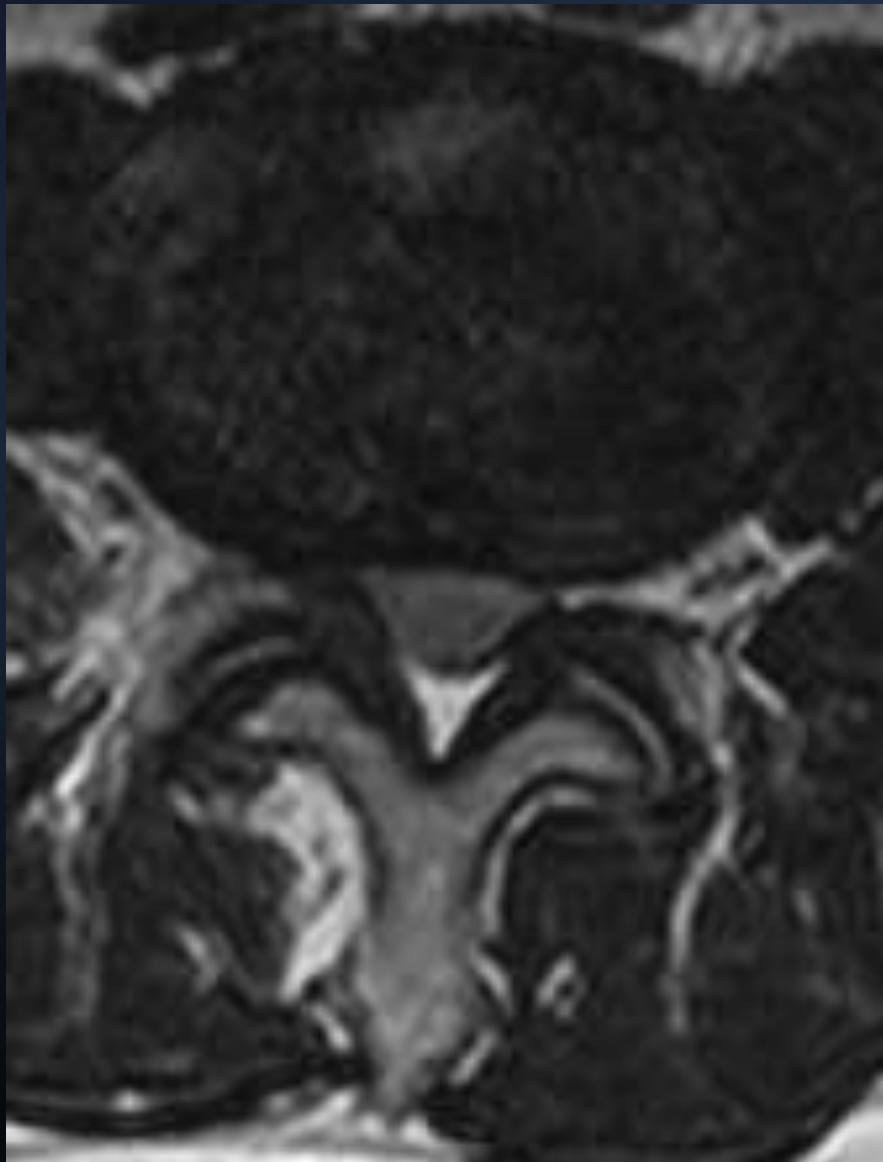


CASE 1 – PRE AND POST OP XRAY



CASE 1 – PRE AND POST OP MRI

M

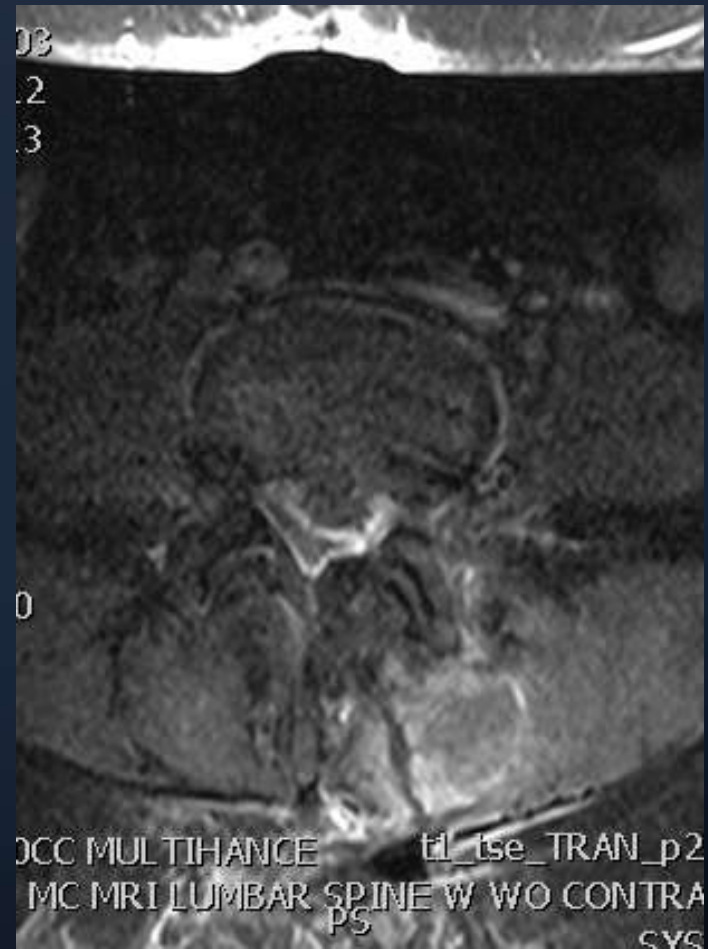


CASE 3

56 YO, 300 LBS, RECURRENT HNP

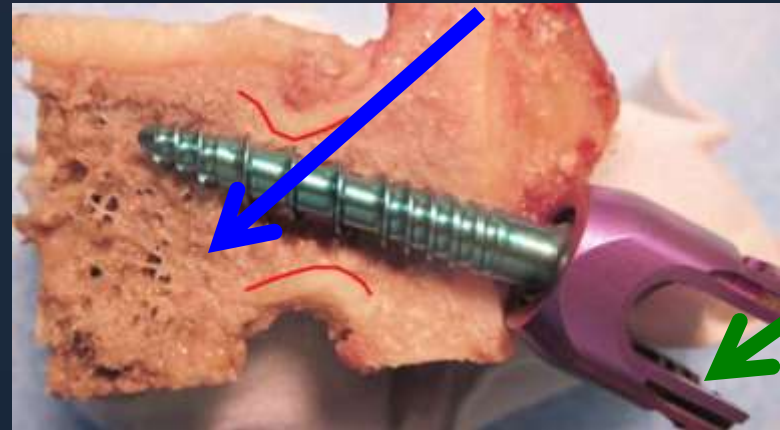
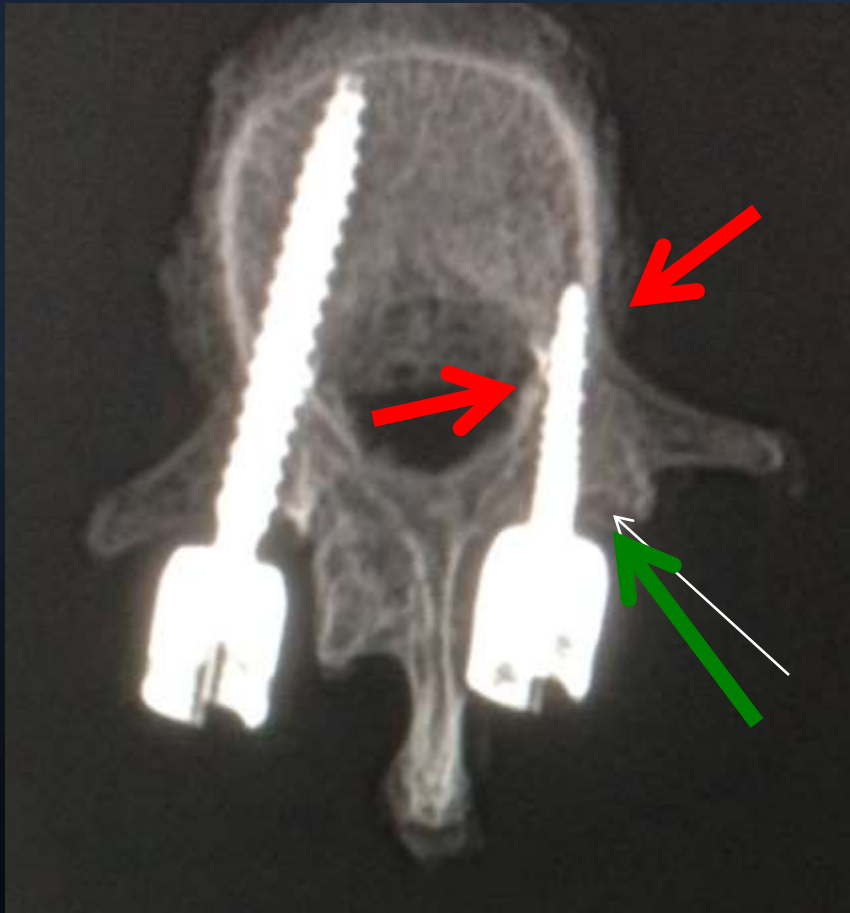


CASE 3 RECURRENT HNP



CORTICAL BONE > CANCELLOUS BONE

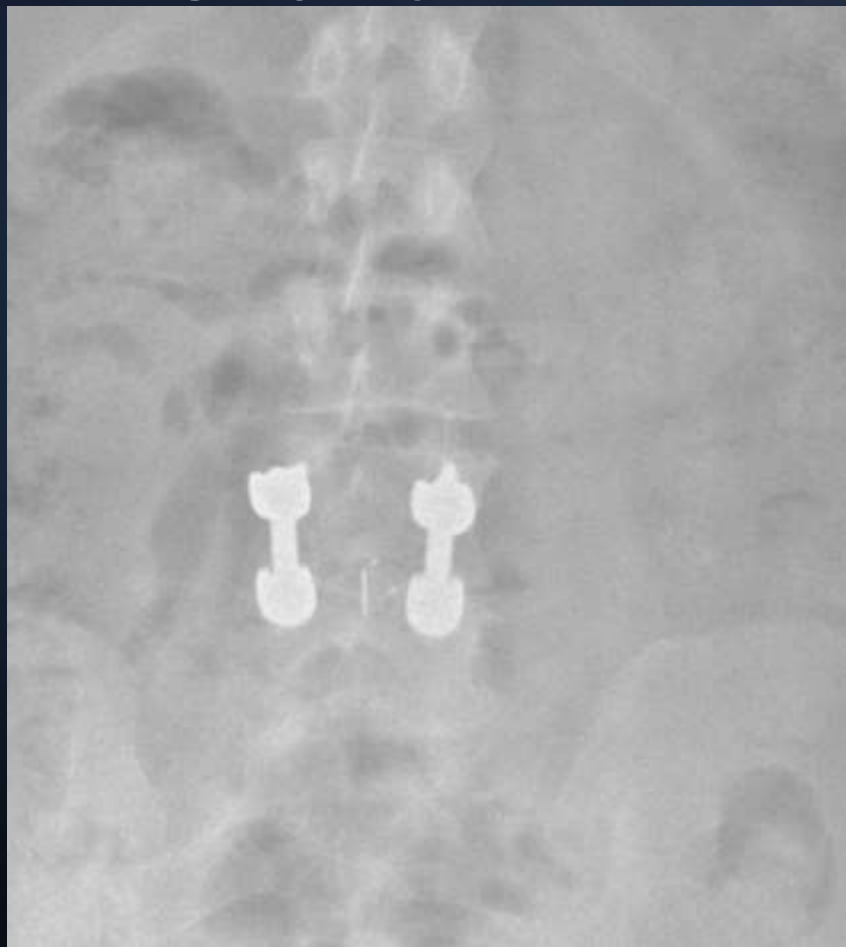
4-POINTS OF FIXATION



CASE 3



CASE 3



MOTION PRESERVATION-ARTIFICIAL DISC FOR PATIENTS W DISC DEGENERATION



Charite' (depuy)



Prodisc (synthes)

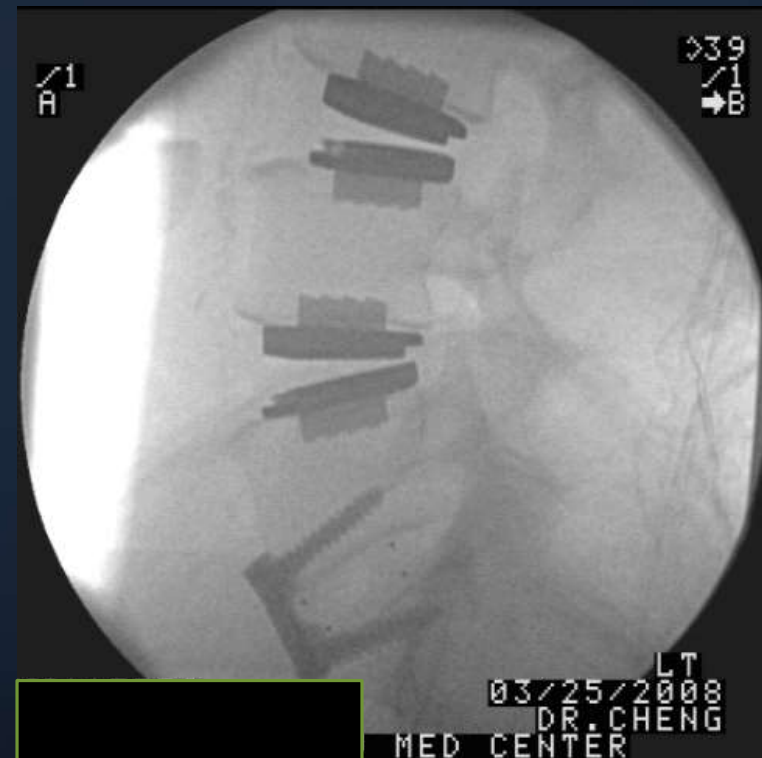


Maverick (Medtronic)



Flexicore (stryker)

ARTIFICIAL DISC AND FUSION



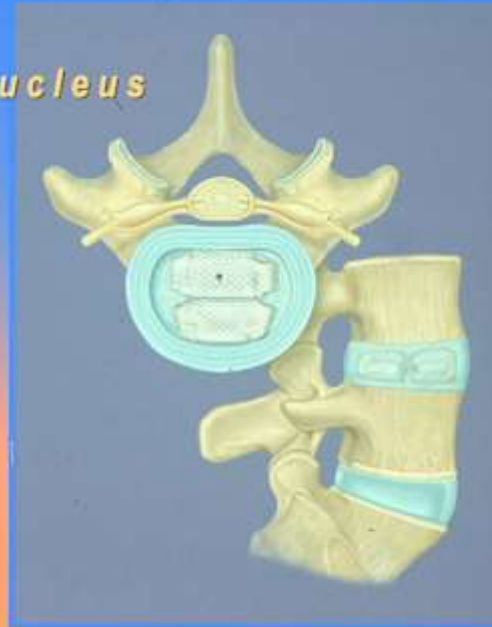
2 LEVEL CERVICAL ARTIFICIAL DISC



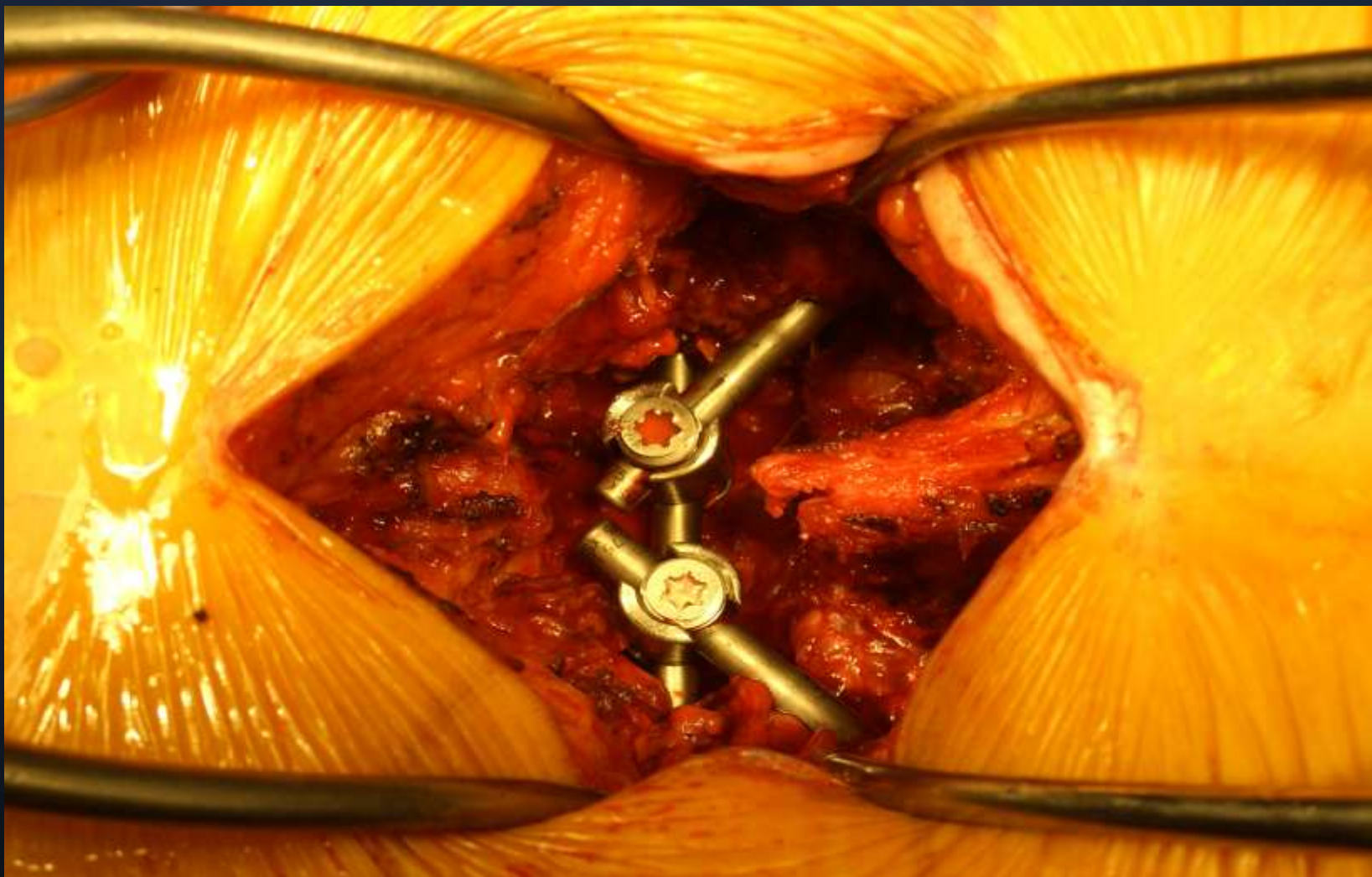
POSTERIOR DYNAMIC STABILIZATION - DIAM



**RayMedica PDN®
Prosthetic Disc Nucleus**



FACET JOINT REPLACEMENT - IDE



FACET JOINT REPLACEMENT



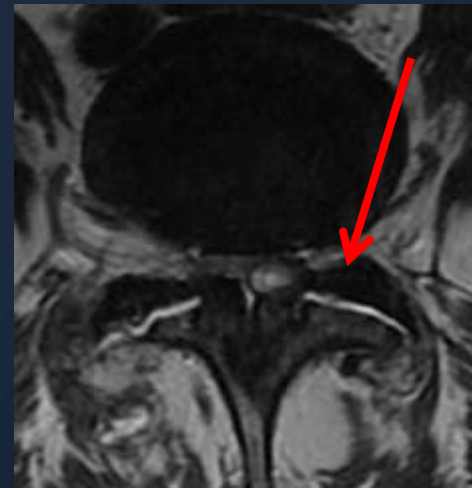
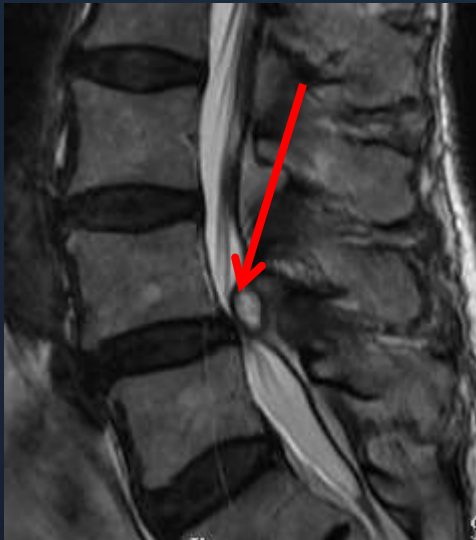


COFLEX



SPINAL STENOSIS

81 YO F, TENNIS PLAYER



DYNAMIC STABILIZATION



THANK YOU

