

3. Report of Visiting at Bordeaux university hospital & Istituto Orthopedico Galeazzi, Milan

K. Kumano, M.D. JPSTSS board member

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Travel schedule

2013.1.27 Flight from Haneda to Paris to Bordeaux

2013.1.28 Bordeaux university hospital

Case 1. Congenital scoliosis 15 y.o. boy Op. time: 3hrs.

Case 2. Post traumatic kyphoscoliosis 52 y.o. man No neurological symptom Op: 4 hrs.

2013.1.29 Bordeaux university hospital

Case 3. ACF at two level for cervical canal stenosis Op: 60 min.

Flight from Bordeaux to Paris to Milan

2013.1.30 Istituto Orthopedico Galeazzi Dr. Pedro Berjano

Case 1. SCS at L4/5 with spondylolisthesis XLIF with unilateral PS Posterior decompression
Op time: 70 min.

Case 2. Lumbar discopathy with tilting spine XLIF with unilateral PS Posterior decompression
Op time: 75 min.

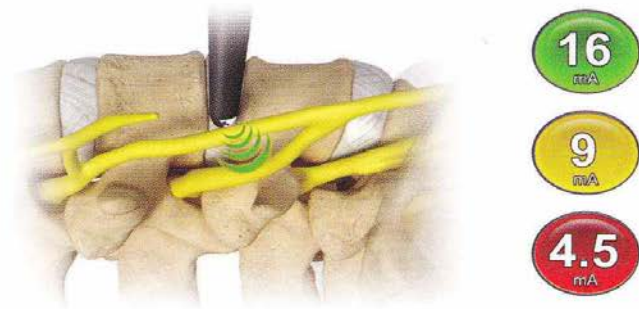
Flight from Milan to Paris

Institute Orthopedico Galeazzi の手術見学報告を理解するには XLIF 手術についての知識がないと難しい。
 図-1 は neuromonitoring の原理を示すもので 4.5 mA の赤色では神経そのものと接触していることを示す信号表示をしめす。緑色の16mA以上では安全に神経から離れていることを示す。Psoas 筋の中で椎間板隙の真ん中に dilator を置くに当たって神経への障害を起こさないのかが分る。

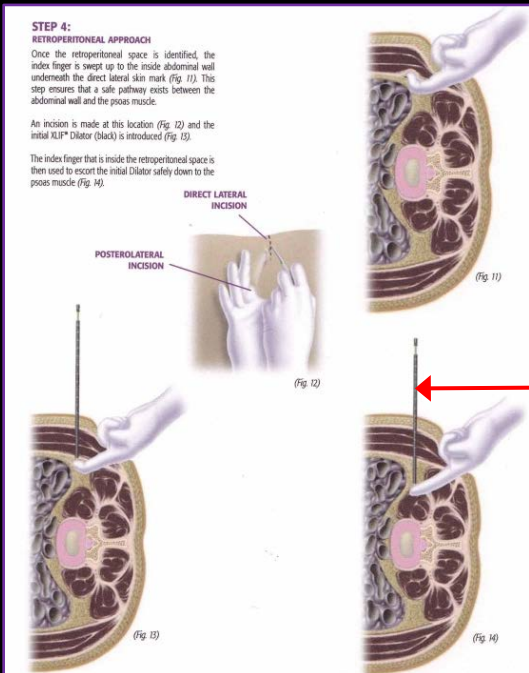
図-1

SAFE AND REPRODUCIBLE NEUROMONITORING

- NVJJB™/M5® is the only clinically validated neuromonitoring system for a safe and reproducible lateral approach to the spine⁴
- Automated system with discrete threshold feedback provides the fastest response to determine direction and relative proximity of the nerves
- Result – Most efficient nerve avoidance solution, delivering less trauma to the psoas muscle
- Critical to safely traverse the psoas in patients with less predictable neuroanatomy due to axial rotation and coronal imbalance

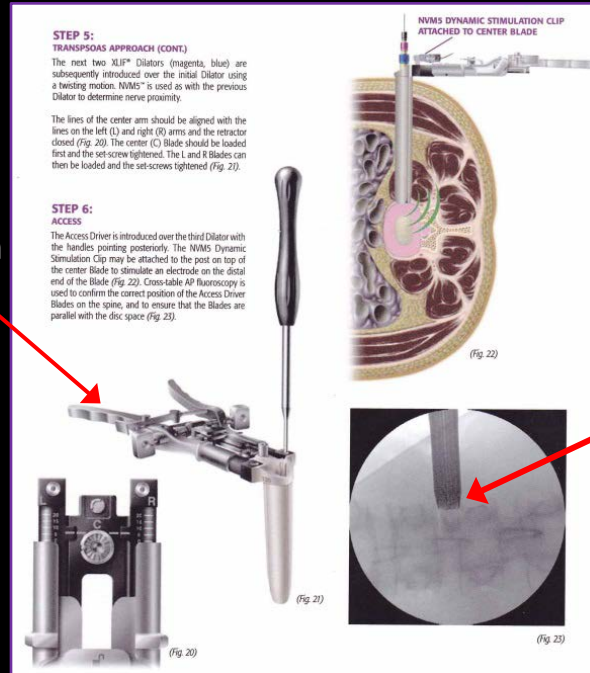


このアプローチはretroperitoneal approach であり図-2に示すような手順でdilatorをpsoas muscle上に導き更に椎間板隙へと導く。



Access system

dilator



Center blade

図-2

一度 access system が椎間板隙にセットされれば局所の展開はbladeによってコントロールされて椎間板内の組織終板の切除は容易である。Standard 又は lordotic PEEK cage を挿入する。

GaleazziのDr.Berjanoは創閉鎖の後そのpositioningでMISによるunilateral pedicle screwing の固定術を行っている。

- ① **MaXcess®**
Provides safe and reproducible customizable access with integrated neuromonitoring.



Access system

- ② **CoRoent® XL-CT (Coronal Tapered)**
Creates parallel foundation through correction of trapezoidal vertebral bodies.



- ③ **CoRoent XL and XL-Wide**
Span the ring apophysis to provide maximum anterior column correction and support. Lordotic options enable restoration of sagittal alignment.

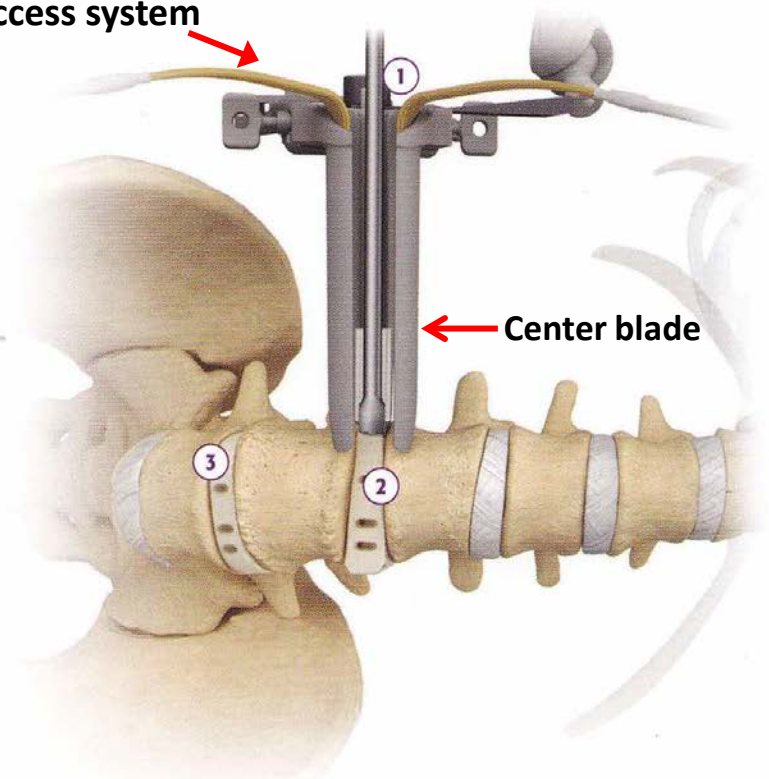


Osteocel® Plus

Advanced allograft cellular bone matrix for complete fusion solution with, osteoinductive, osteoconductive, and osteogenic properties.



CoRoent VBR applications only.



Visiting at Istituto Orthopedico Galeazzi, Milan

Surgeon Dr.Pedro Berjano

Case1. SCS at L4/5 with spondylolisthesis

Case2. Lumbar discopathy with tilting spine

Istituto Orthopedico Galeazzi

Surgeon : Dr.Pedro Berjano

Visiting at Istituto Orthopedico Galeazzi, Milan Italy

Surgeon Dr. Pedro Berjano

Case 1. SCS at L4/5 with spondylolisthesis

XLIF with unilateral PS Posterior decompression Op time:75 min.

Comments of this procedure by Dr. P. Berjano

- L4-L5 in low crest: no angled instruments needed
- Docking on low (yellow) neurovision values: ensures a good posterior workspace.
- 85 year old -> bone less than perfect: 22 mm cage gives better support
- No direct decompression (mainly soft tissue stenosis; notice postop increase in posterior disc height)
- Attrax (osteoinductive) to promote fast healing (reduces risk of pseudarthrosis)
- Long unilateral pedicle screws are enough with good cage fit
- All in lateral decubitus
- Surgical time 70'; blood loss less than 50 ml
- Patient standing on 1^o postop day without claudication
- Discharged 3^o day to home ...and looks happy!



Case 1

Female age 84

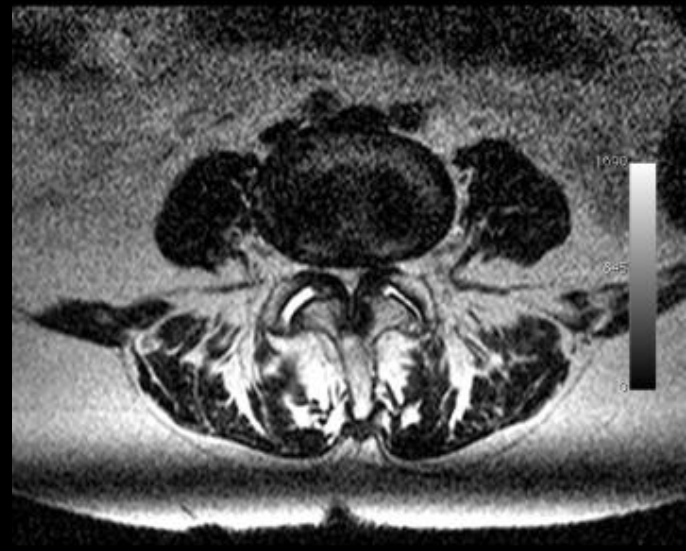
LBP with left sciatica

Weakness of EHL and TA on left

Slight spondylolisthesis at L4/5

narrowed Spinal canal

Osteoporosis

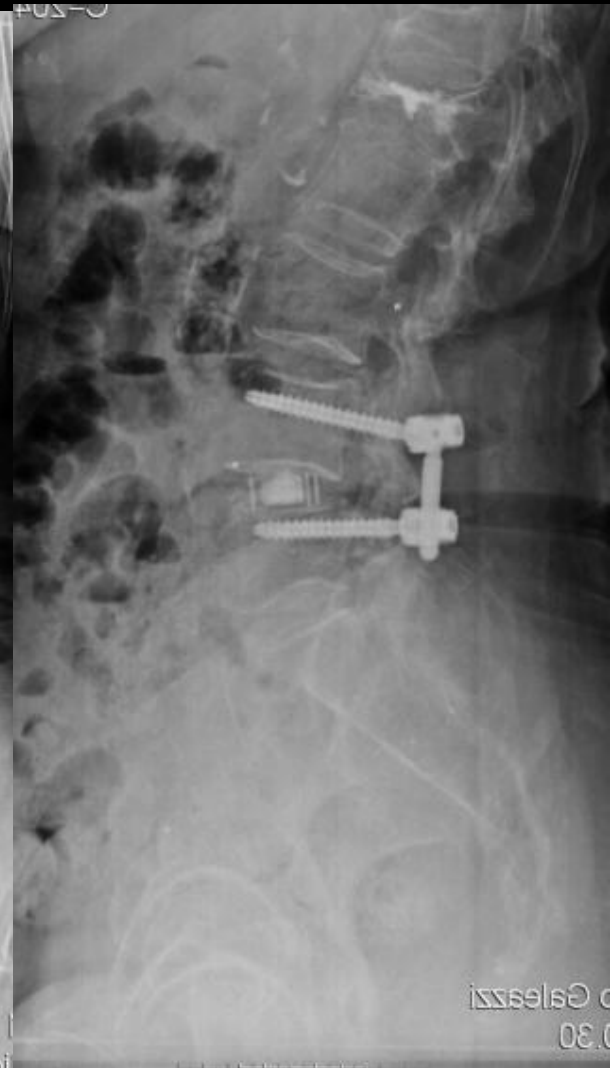
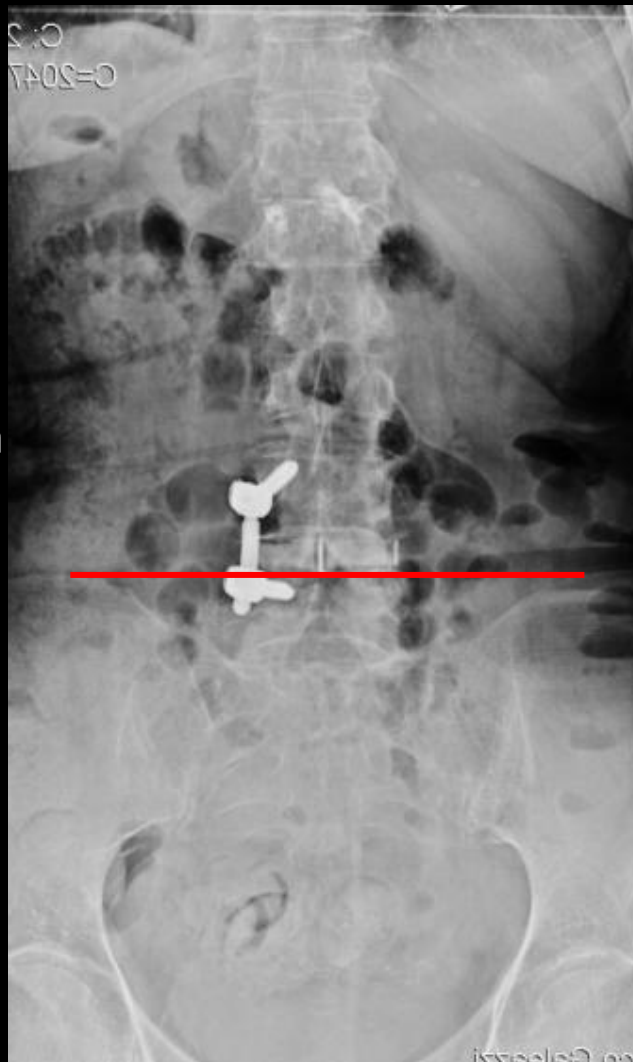


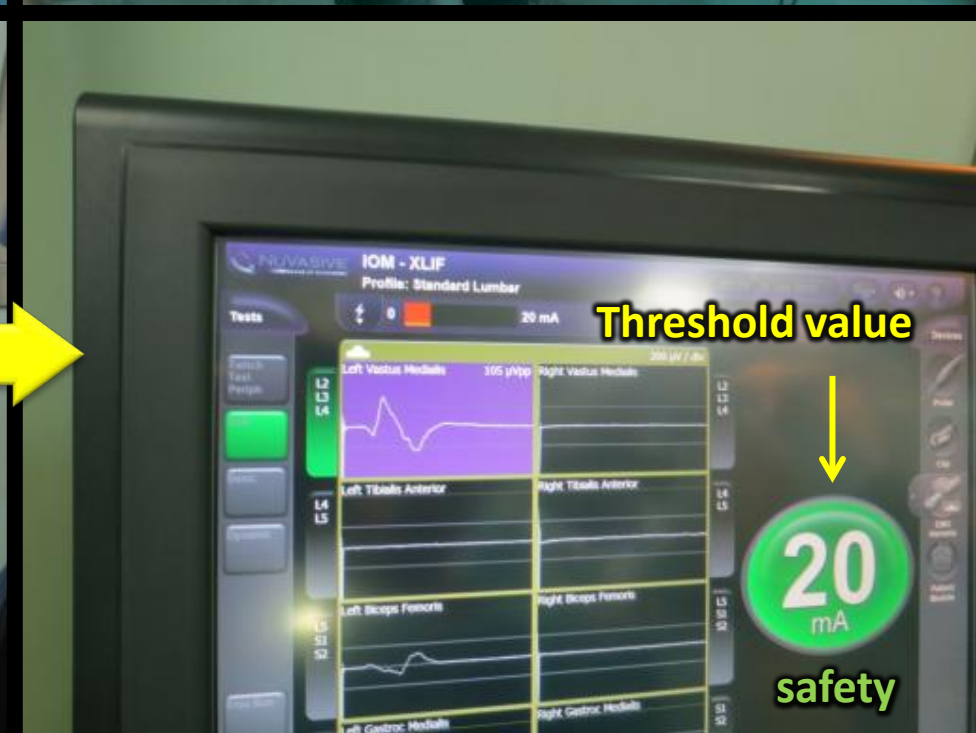
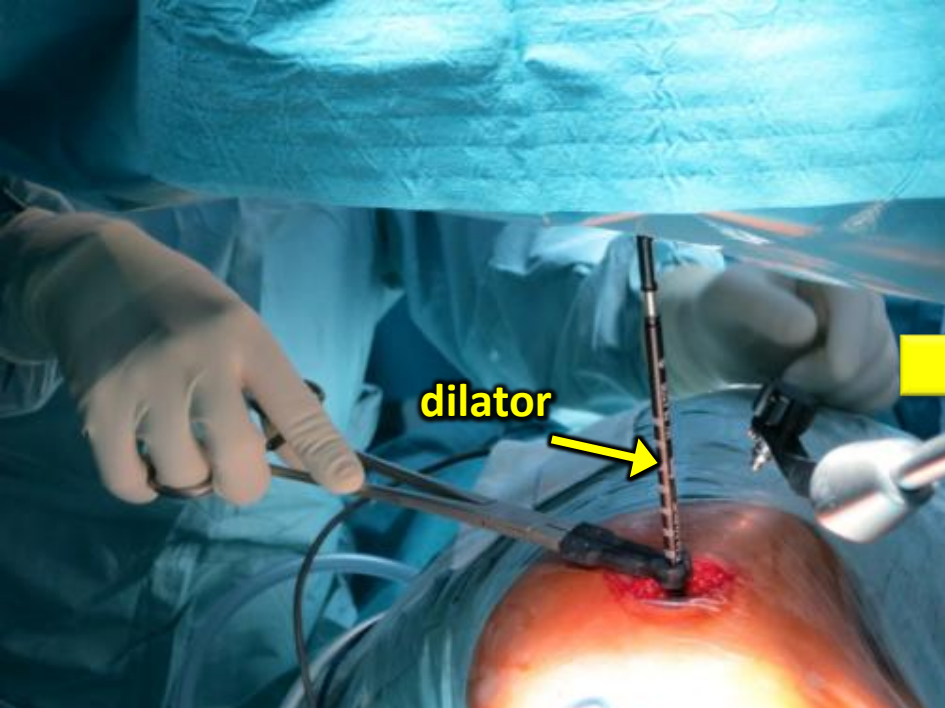
No angled tool in High crest

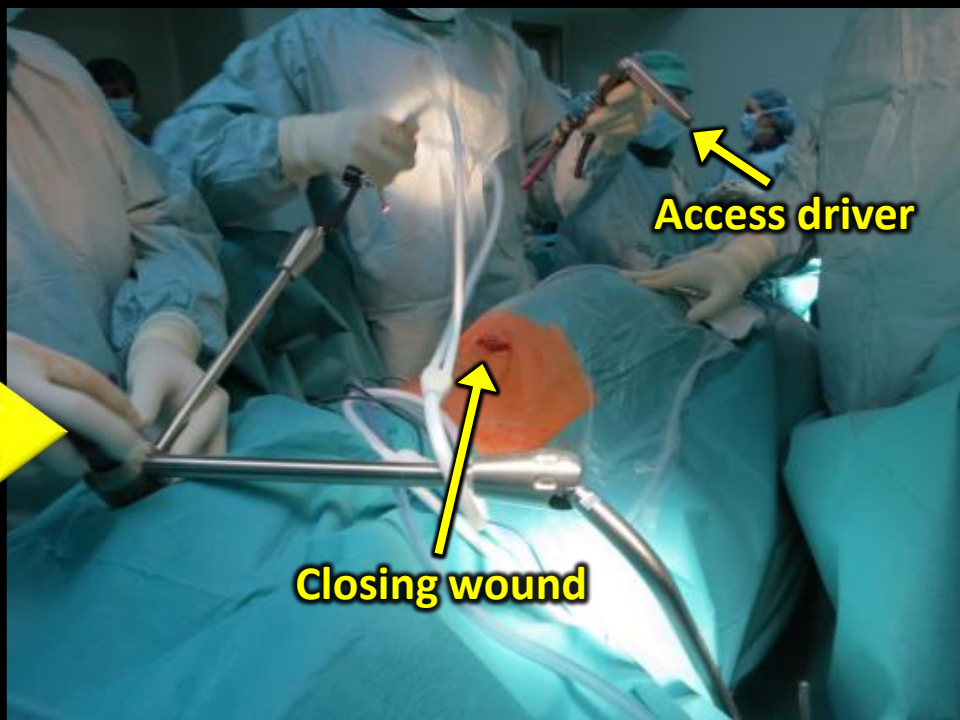
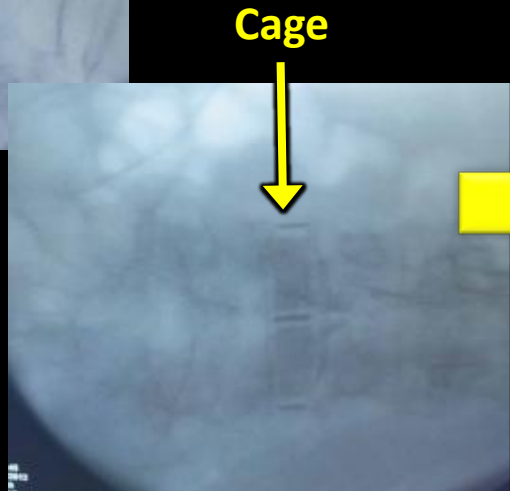
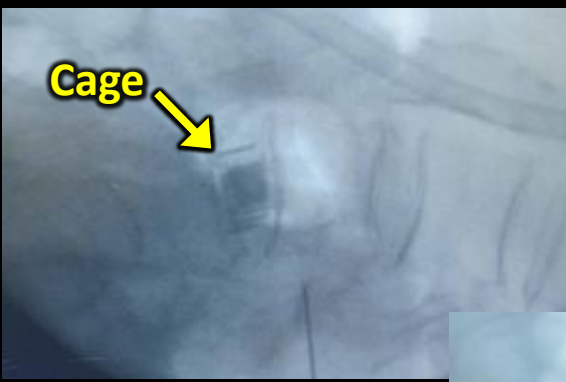
No posterior decompression

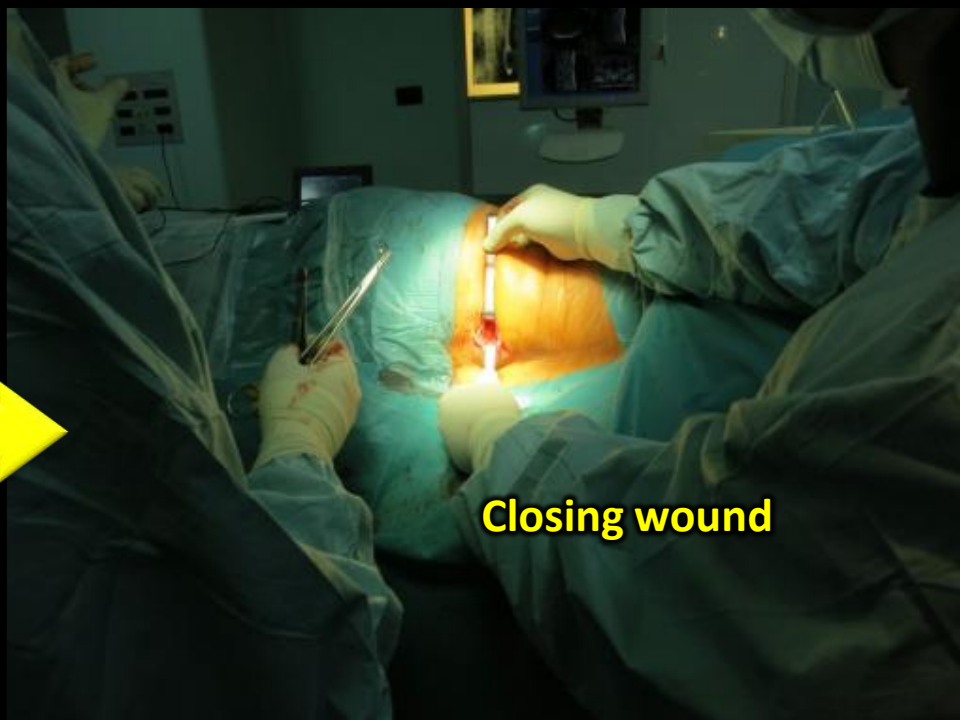
Op time:70 min.

Blood loss : 50ml

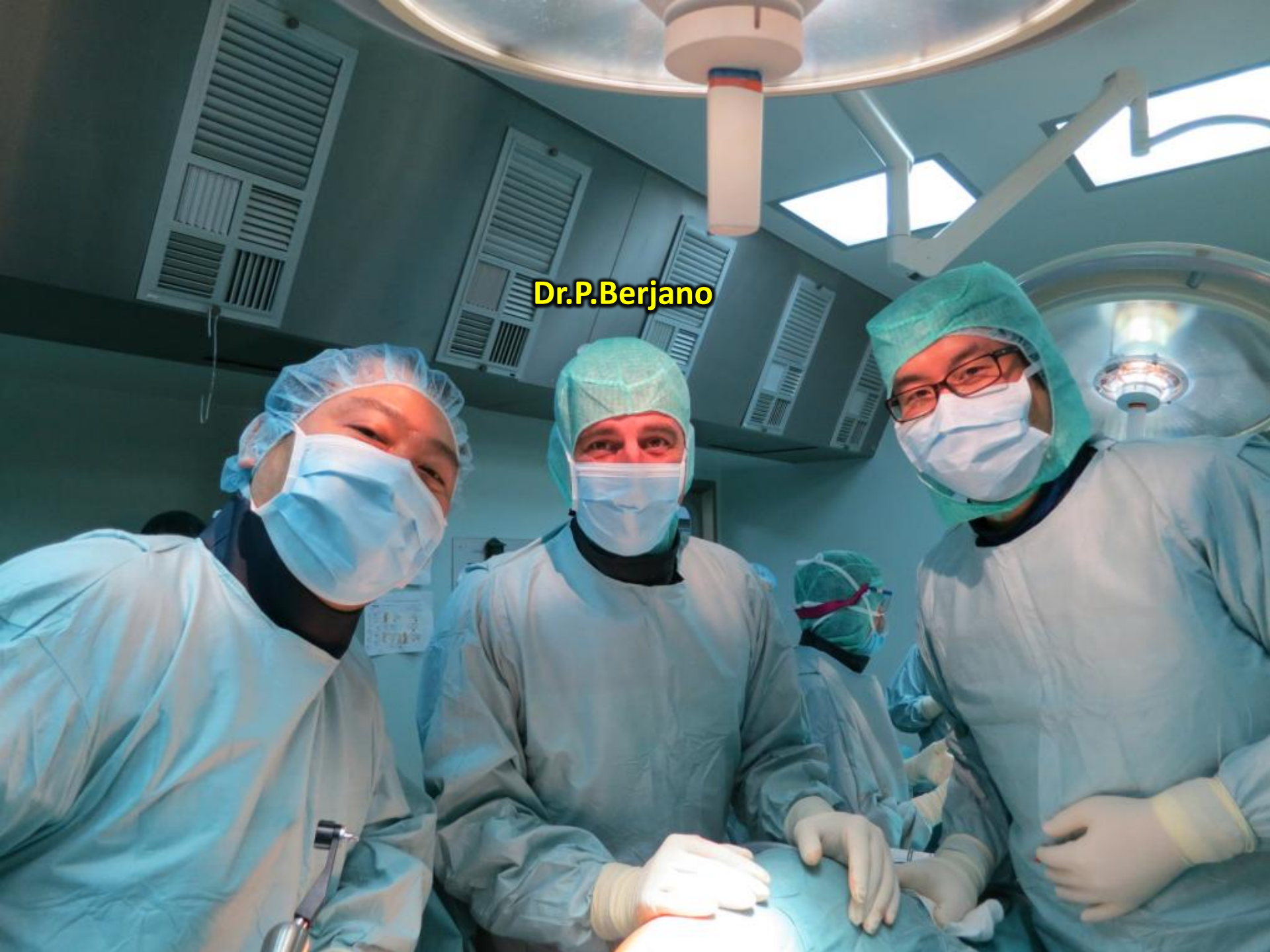








Dr.P.Berjano



Case 2.

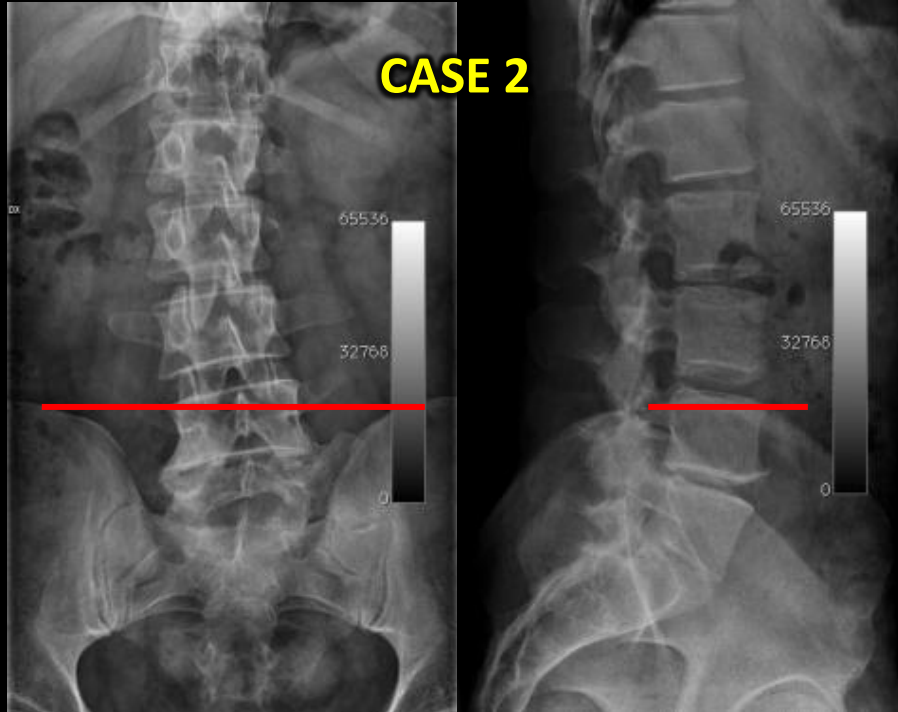
Lumbar discopathy with tilting spine

XLIF with unilateral PS Posterior decompression Op time;75 min.

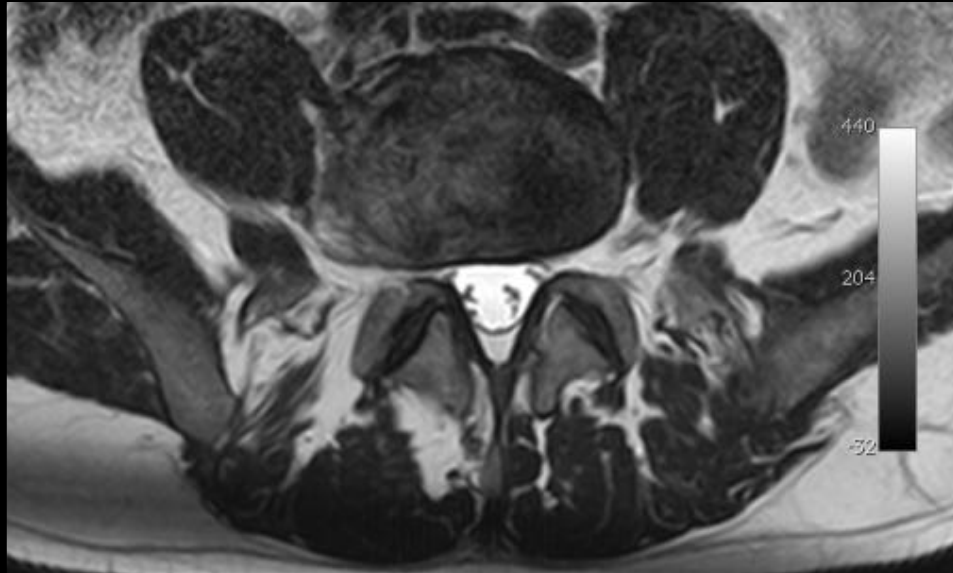
Comments of this procedure by Dr. P. Berjano

- High crest though approached from the most favorable side in tilted disc
- Angled instruments are essential
- Anterior placement of cage improves lordosis
- 22 mm cage is preferred to reduce subsidence risk
- Attrax (osteoinductive) to speed bone fusion
- Unilateral pedicle screws are enough combined with a cage with good dimensions and grip
- All the procedure in lateral decubitus
- 75' surgical time. 20 ml estimated blood loss.
- Patient standing on first postop day
- Discharged to home on third day (lives far from Milan!)
- Type I scoliosis in Berjano&Lamartina Classification. This means that just the DDD needs to be addressed, without any attempt to correct scoliosis.

CASE 2



Case 2
Male age 43
Low back pain for 10 years
Failed conservative treatment
No neurological defect

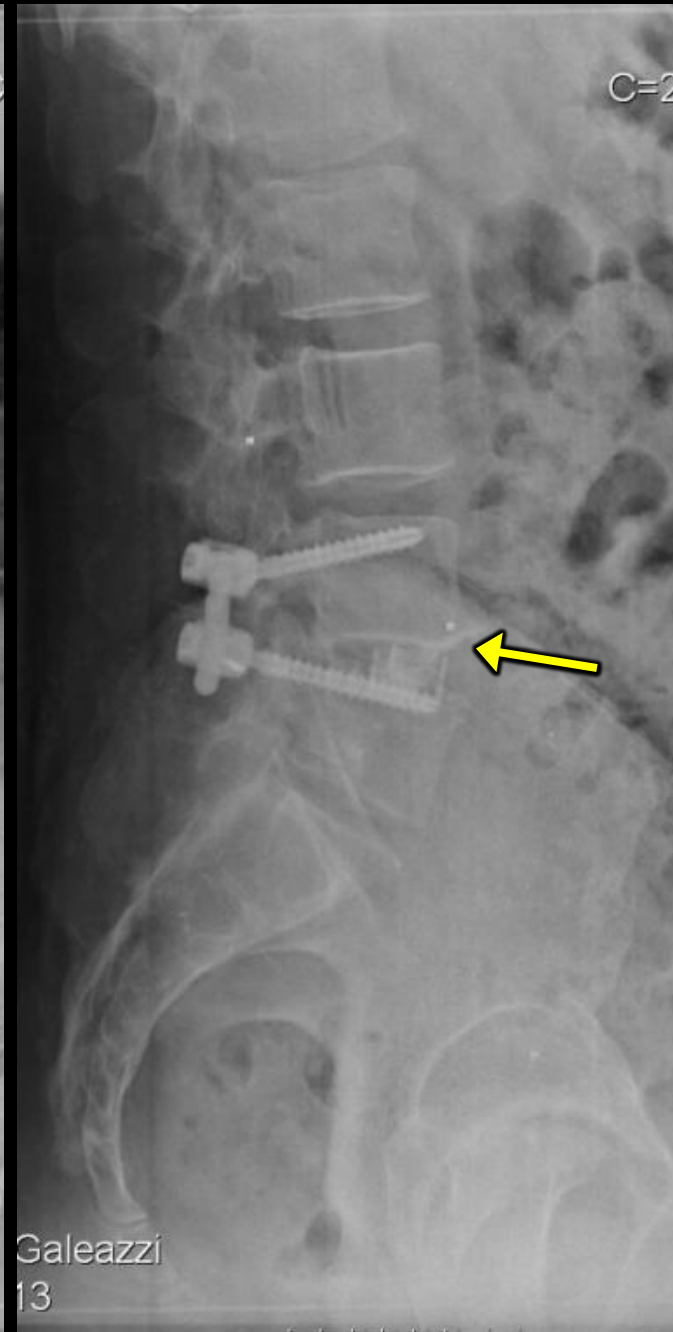
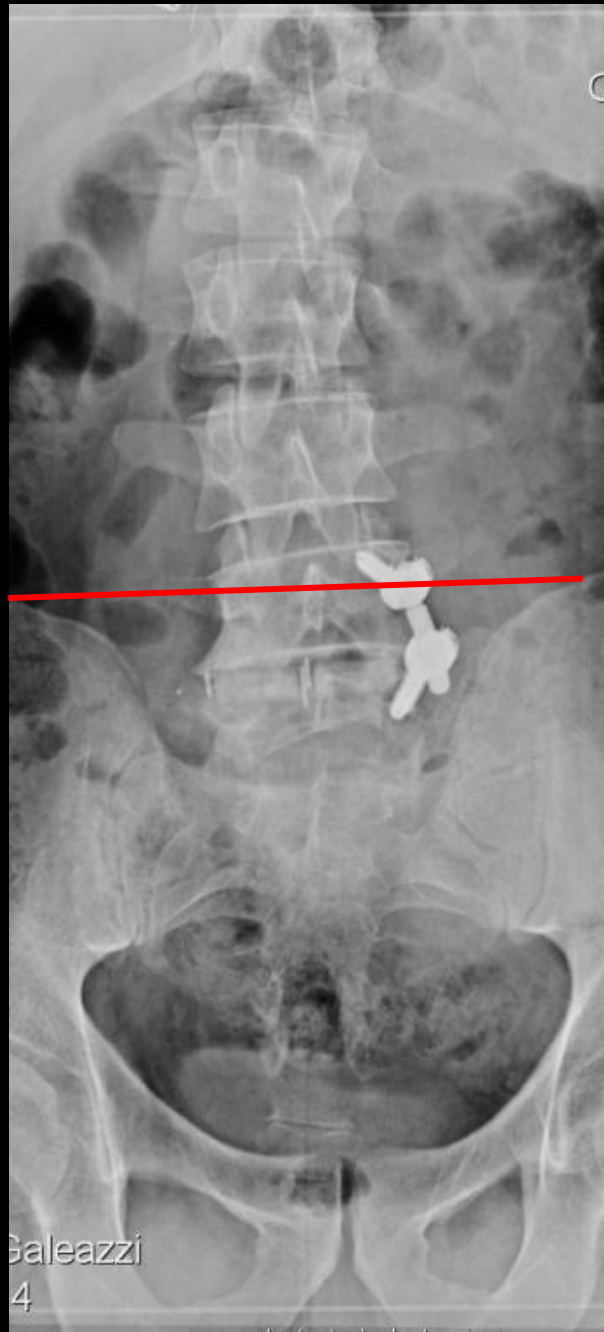


Angled instrument
needed in *High iliac crest*

22mm cage placed at
anterior disc space and
Compression force applied
to PS to get lordosis

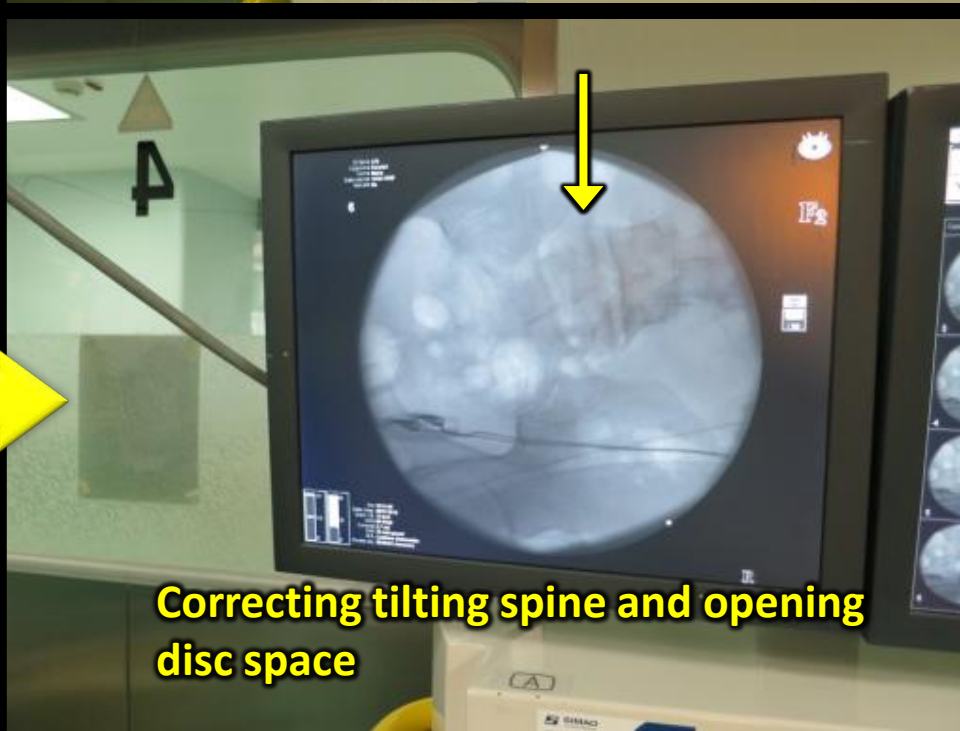
OP time:75min.

Blood loss:20 ml



Positioning



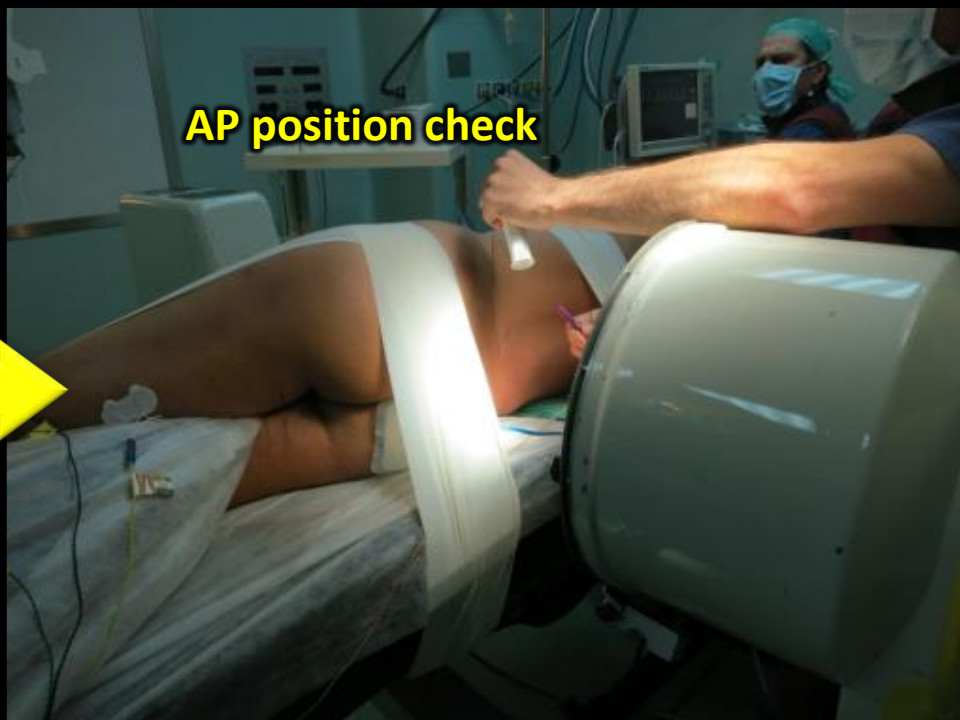




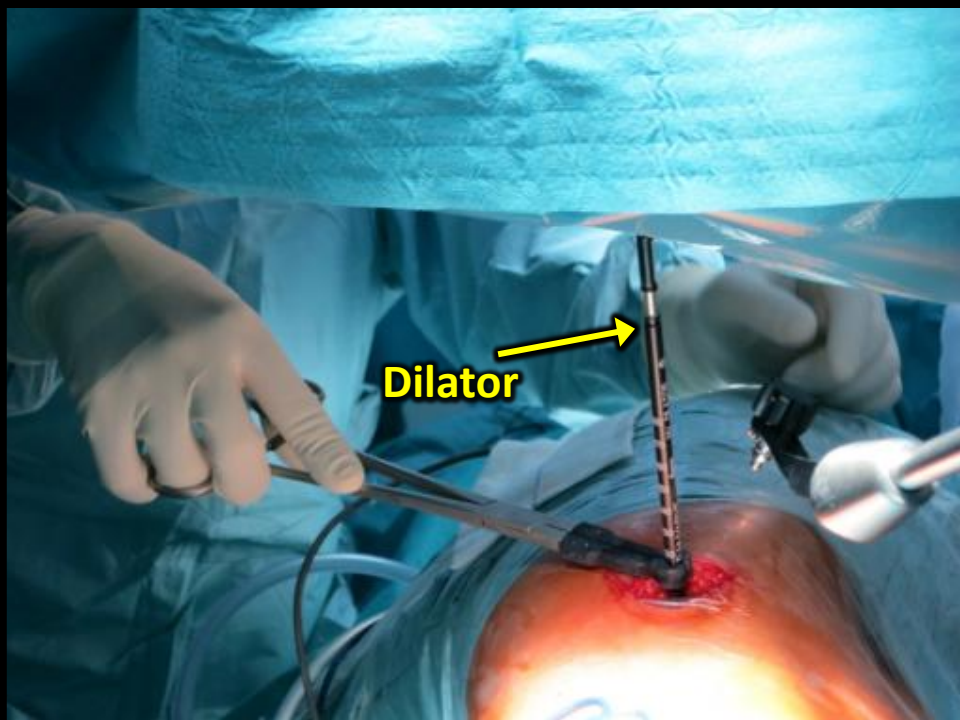
Lateral position check

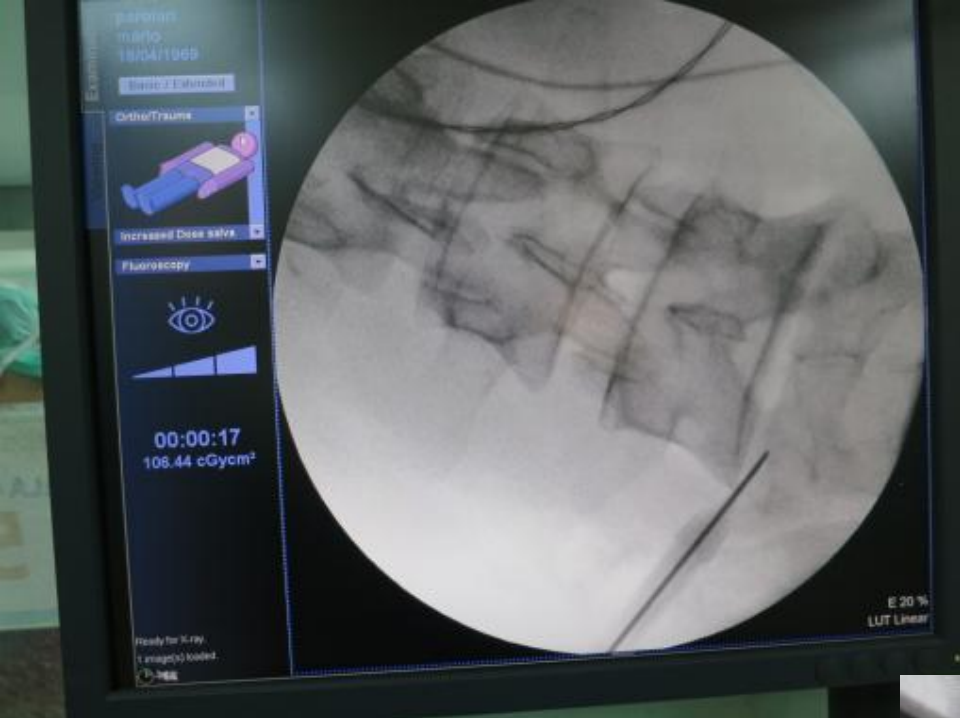


AP position check

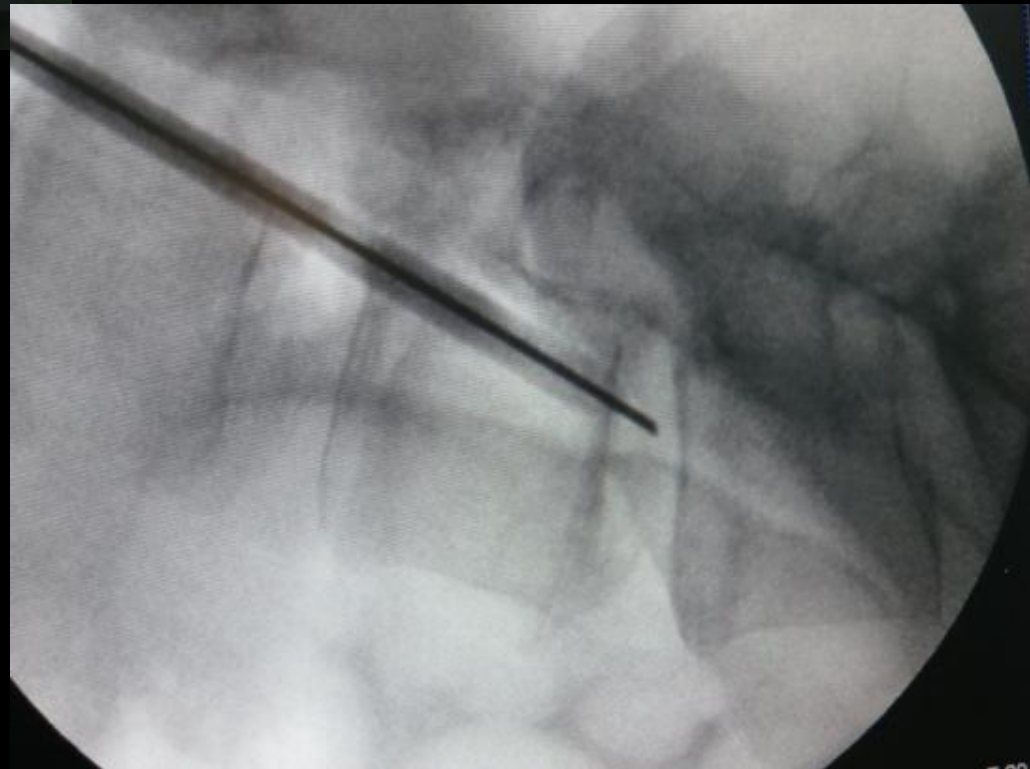


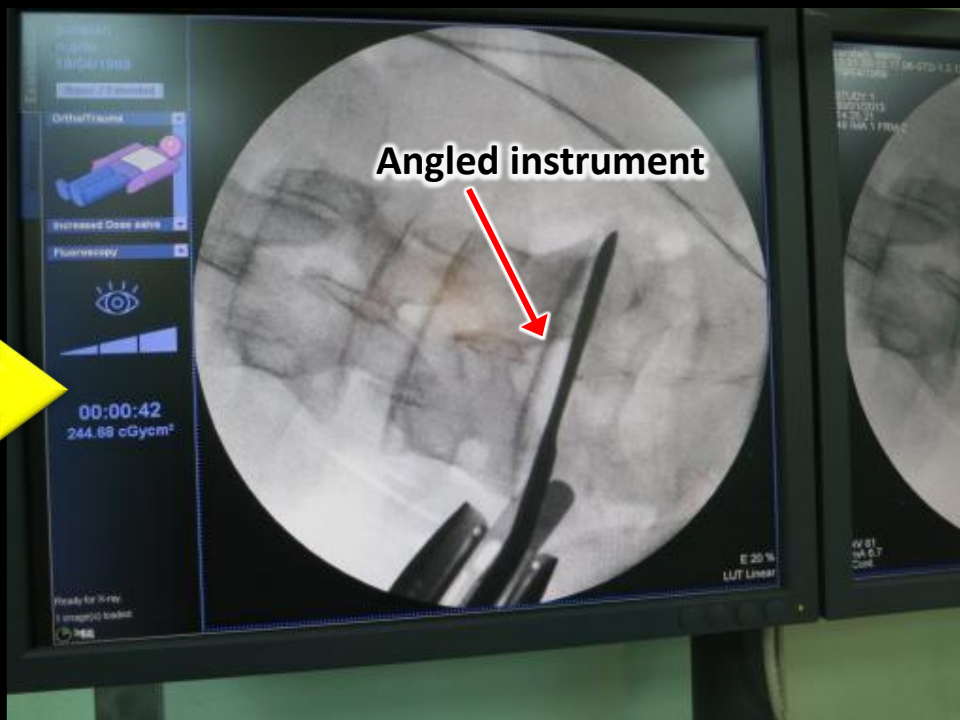
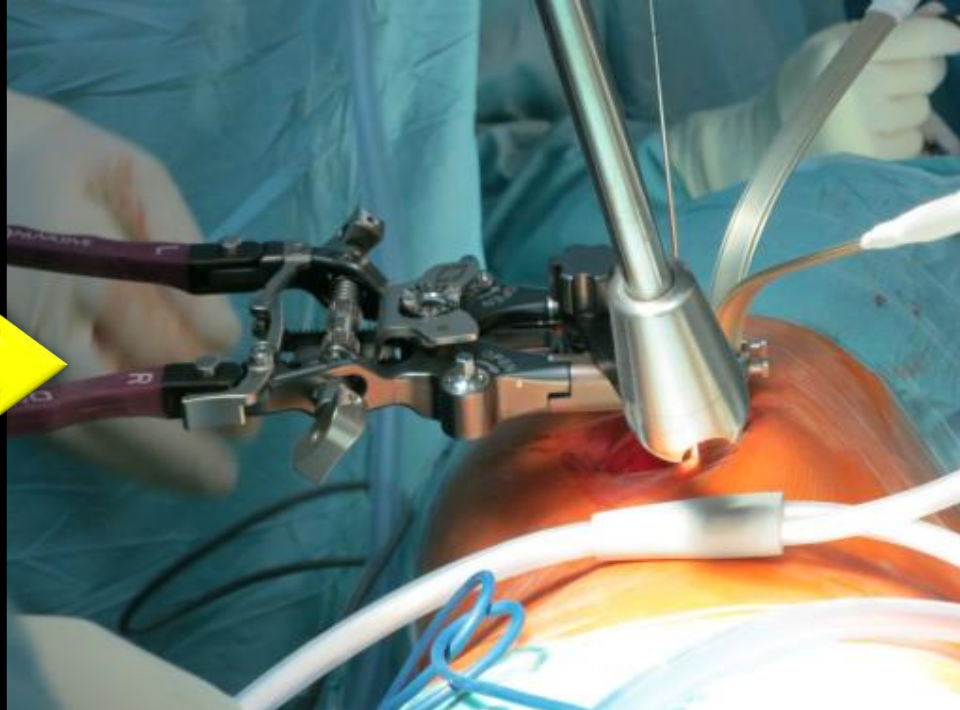
Line for iliac crest

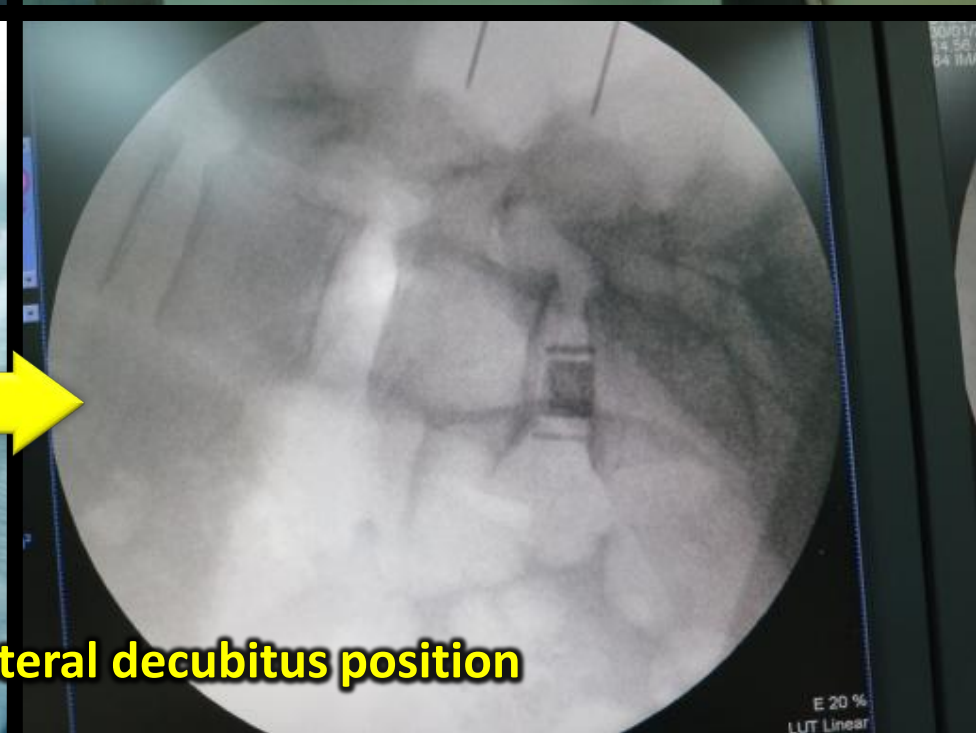
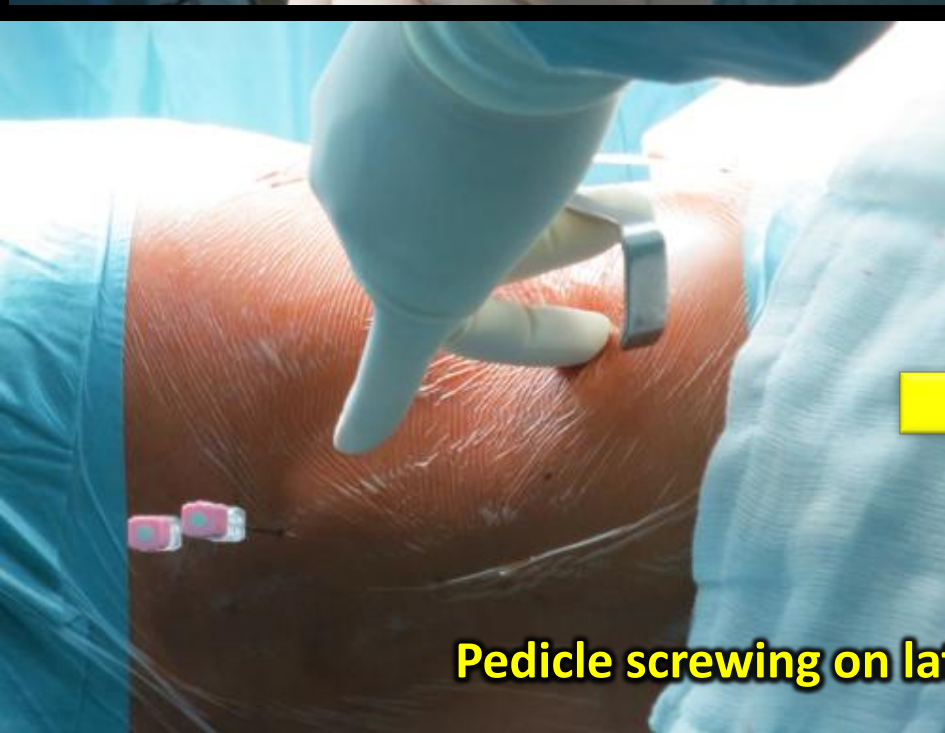
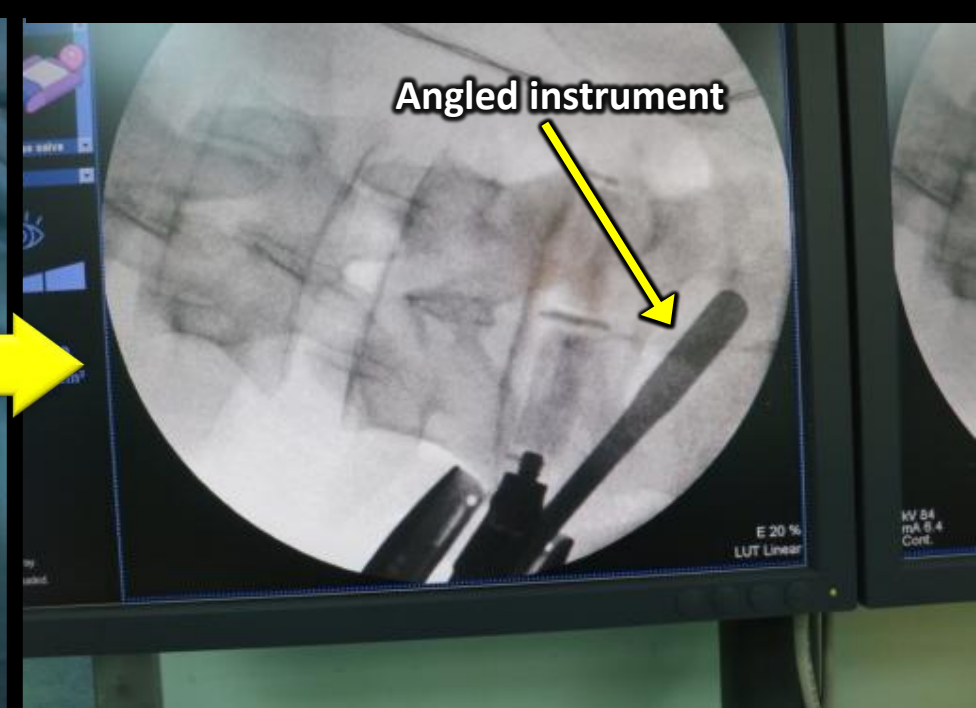




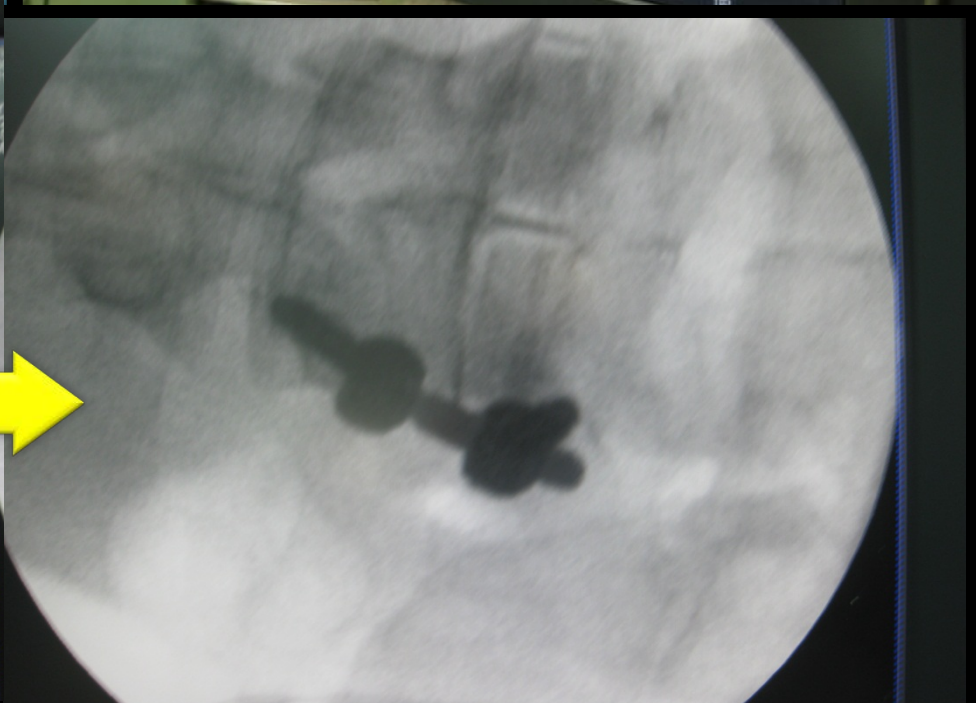
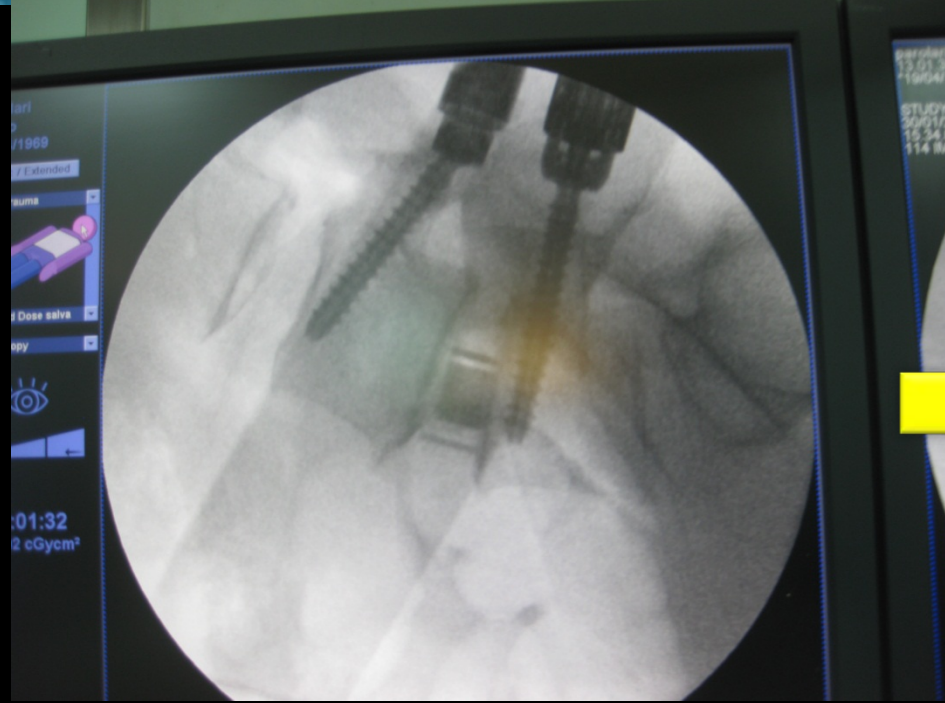
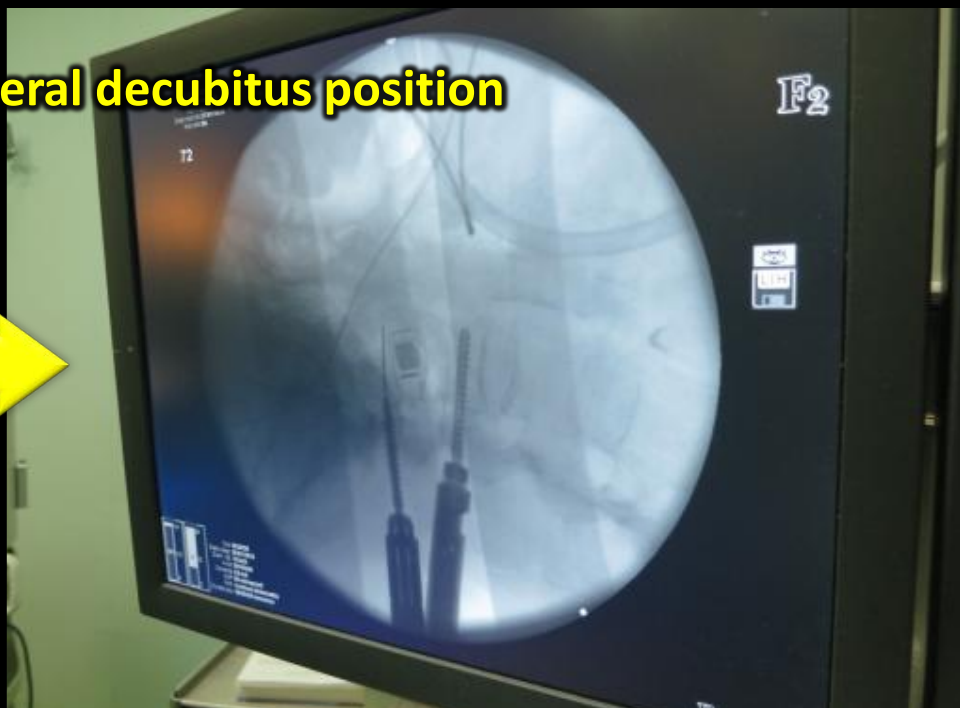
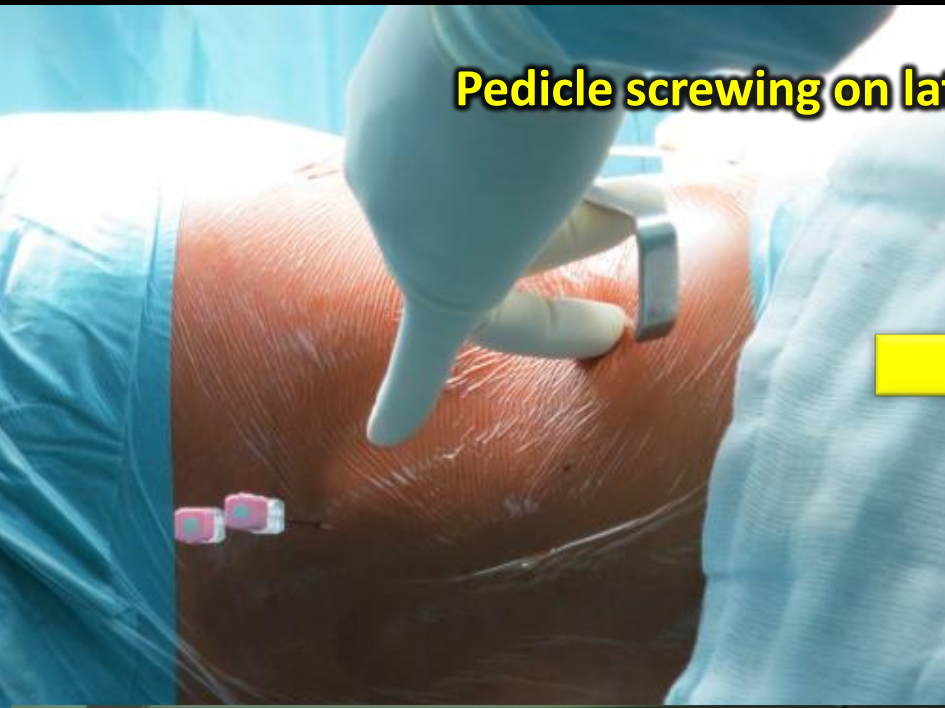
**Confirm tip of dilator
in the disc space**

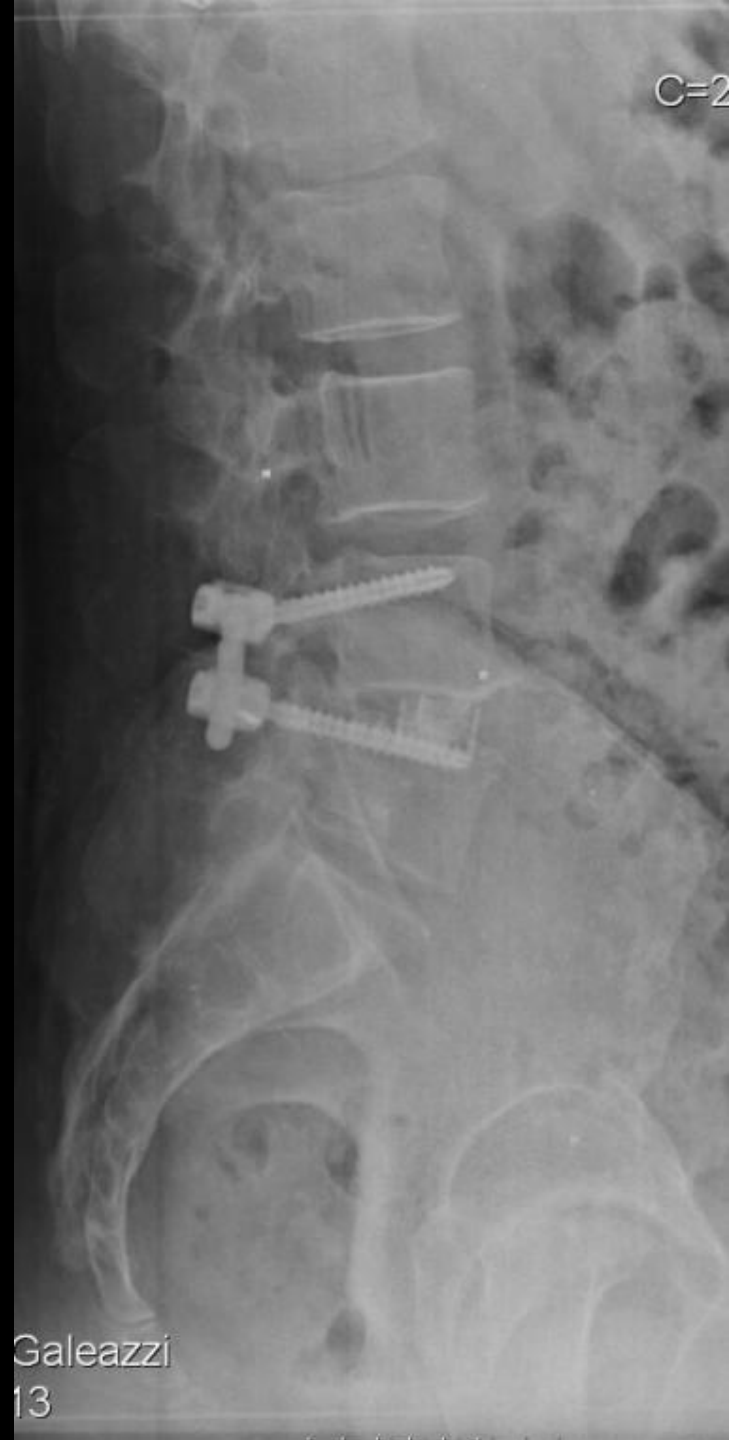




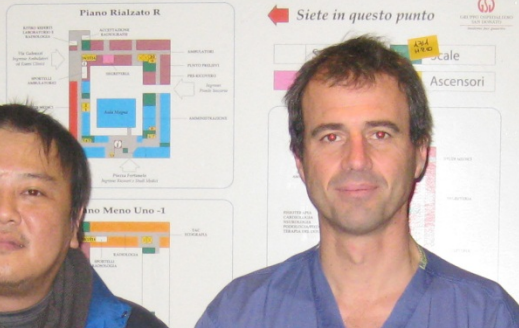


Pedicle screwing on lateral decubitus position





ISTITUTO ORTOPEDICO GALEAZZI



Dr. Pedro Berjano

Segreteria Convegni