INTRASPINE INTERLAMINAR DEVICE

a personal experience

GUALTIERO INNOCENZI

NEUROSURGERY
IRCCS NEUROMED Pozzilli(IS)

WHEN and WHY INTRASPINE?

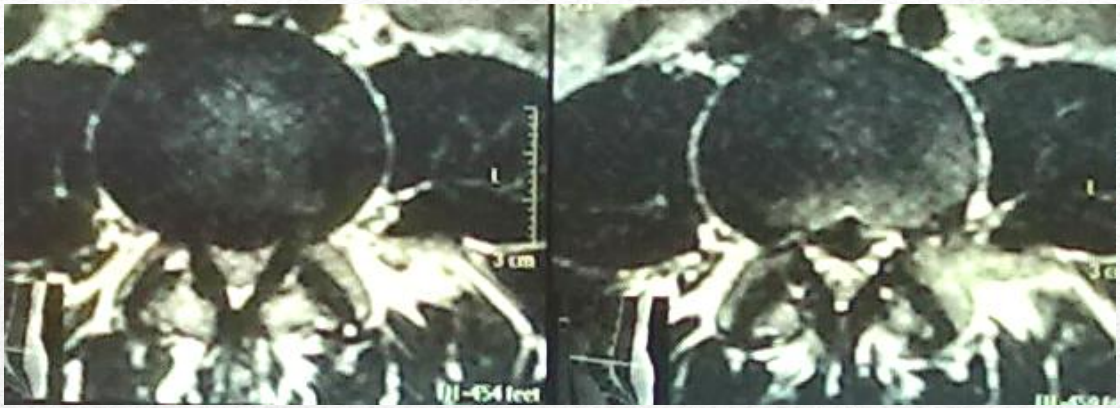
- SOFT STENOSIS
- FACETS SYNDROME
- BLACK DISC
- DISC HERNIATION (in some cases)

personal indications

SOFT STENOSIS

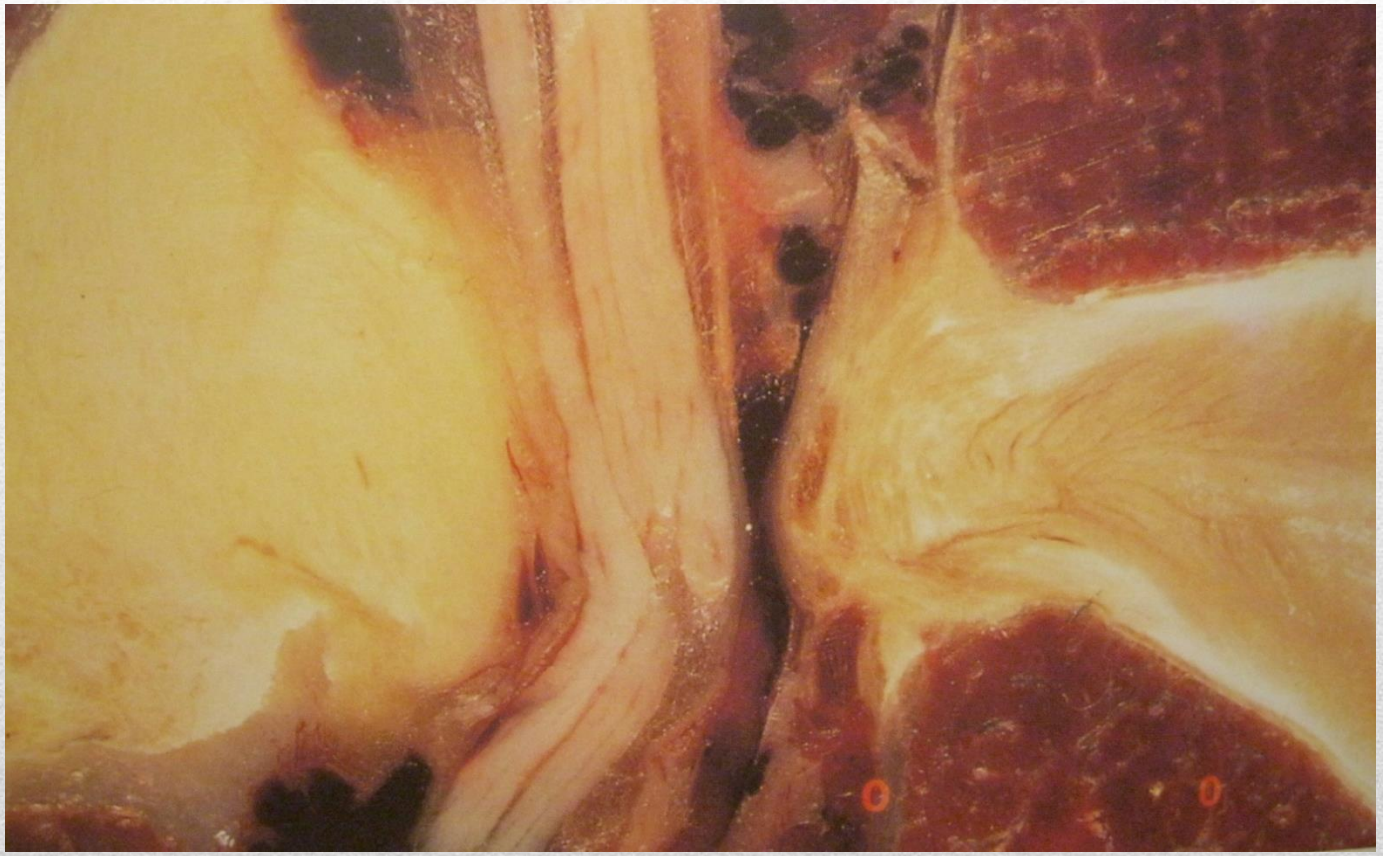
FACETS SYNDROME

BLACK DISC



DISC HERNIATION

SOFT STENOSIS



Taken from «The Lumbar Stenosis». Postacchini,1989

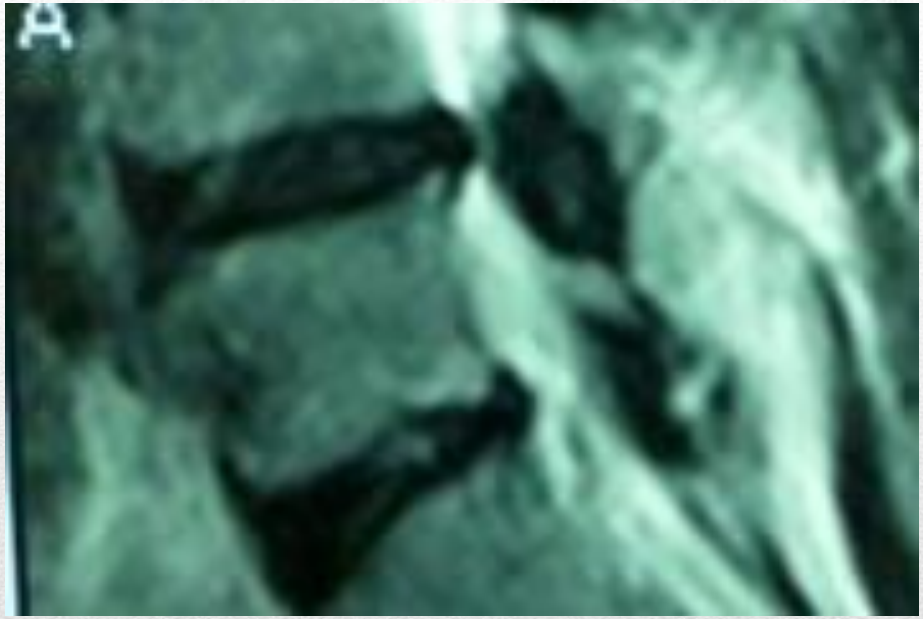
BACK PAIN

Increased by:

Standing

Walking

Extension

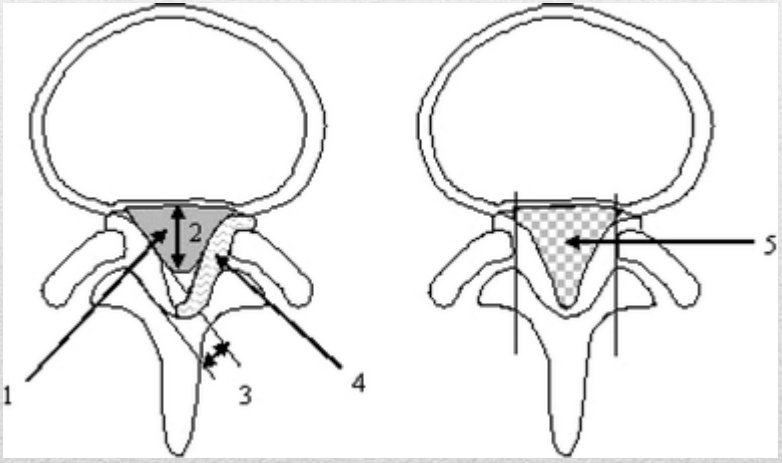


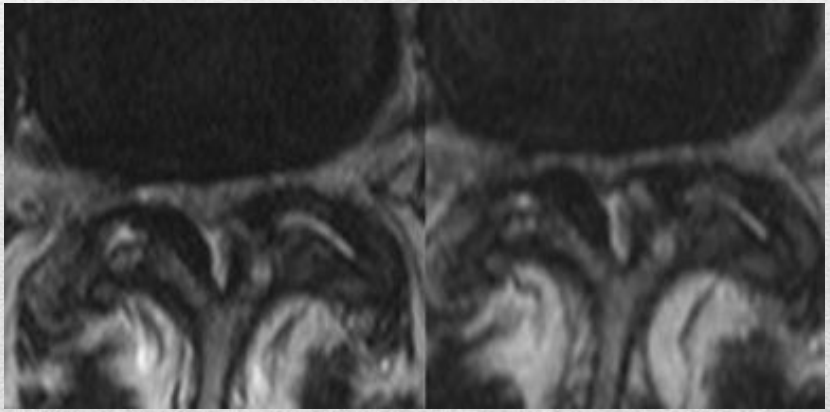
DISC HEIGHT DECREASE

RELAXATION AND THICKENING OF THE YELLOW LIGAMENT

THE ROLE OF THE YELLOW LIGAMENT IN SOFT STENOSIS

- THICKNESS AND CROSS SECTIONAL AREA OF FLAVUM
- NARROWING OF LUMBAR CANAL DURING LOADED MRI



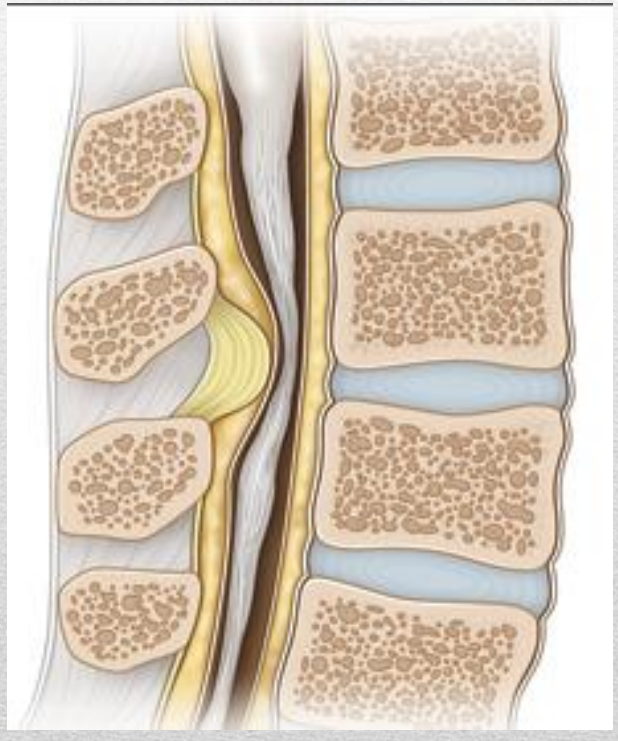


Hansson et al,Eur Spine J, 2009

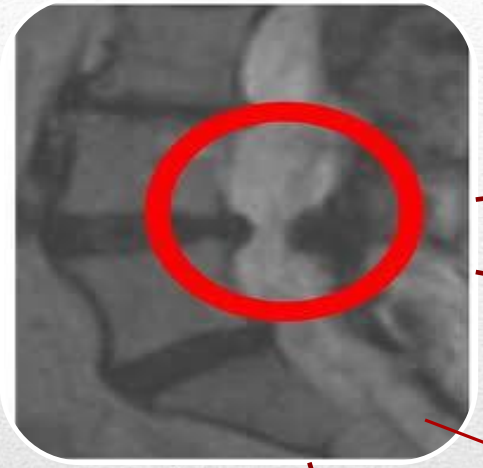
SURGICAL TREATMENT

THE ROLE OF THE YELLOW LIGAMENT

THE SURGICAL PLANNING OF SOFT STENOSIS MUST CONSIDER THE MAIN ROLE PLAYED BY YELLOW LIGAMENT IN THE NARROWING OF LUMBAR CANAL UNDER LOAD



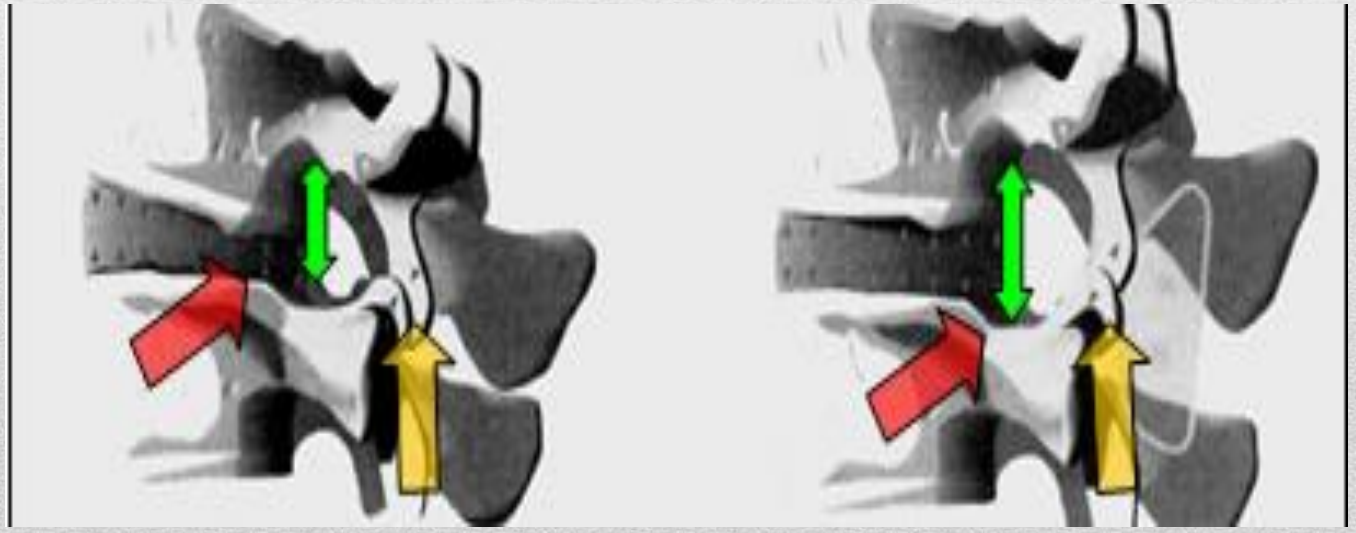
SURGICAL TREATMENT

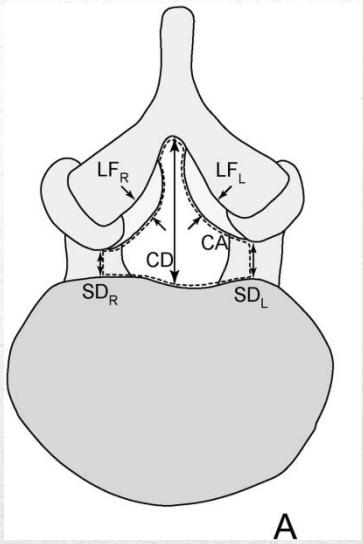


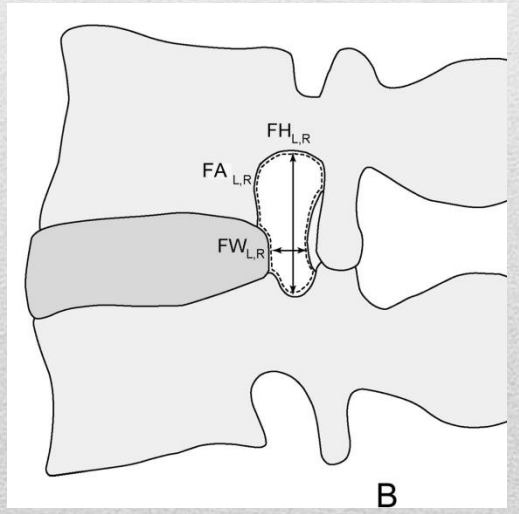
- FLAVECTOMY
- FLAVUM STRETCHING
- LIMITATION OF EXTENSION
- INCREASING DISC HEIGHT AND FORAMINAL AREA

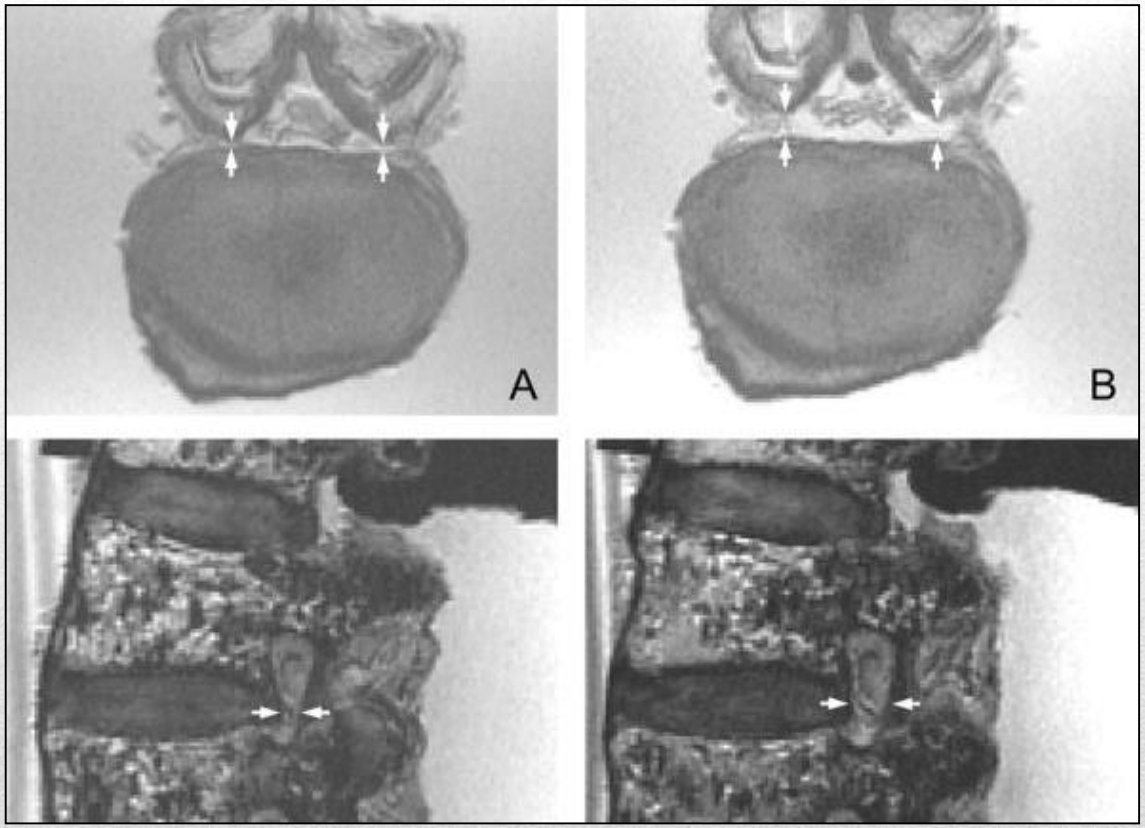
INTERSPINOUS/INTERLAMINAR DEVICES REDUCE INTRADISCAL PRESSURE AND POSTERIOR ANULUS PRESSURE BY 20% AND 38%

(SWANSON, SPINE, 2003)









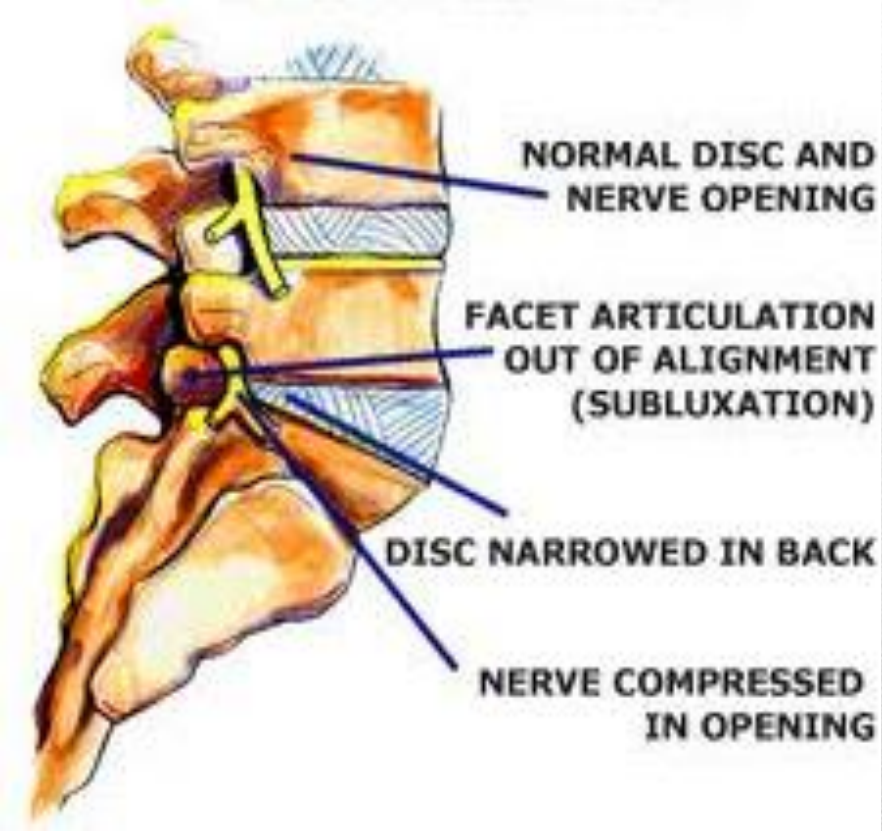
CHANGES AFTER INTERSPINOUS DEVICE IMPLANT

Richards et al: Spine, 2005

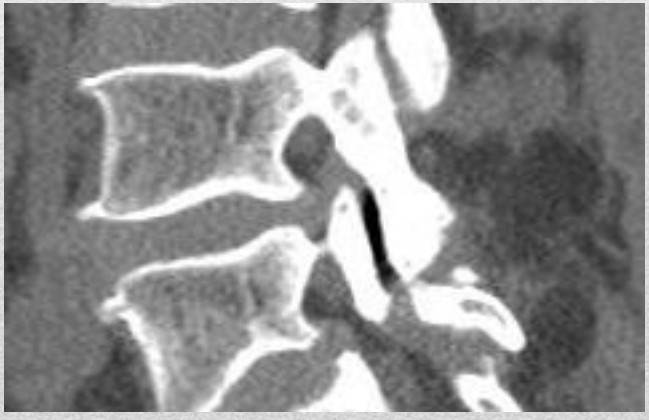
DEVICES REDUCE ROM OF ABOUT 35% AND INCREASE THE STIFFNESS OF FSU OF ABOUT 150%
(Swanson, 2003; Floman, 2006)

DEVICES INCREASE CROSS SECTIONAL AREA OF LUMBAR CANAL UP TO 23% AND NEUROFORAMINAL AREA BY 25-37% (Dhruve, 2009)

EFFECTS OF IMPLANT



FACETS SYNDROME



WHY DO I PREFER INTERLAMINAR DEVICES TO INTERSPINOUS ONES?

THE SPINOUS PROCESSES ARE NOT FIT FOR BEARING LOAD

TOO RIGID DEVICES CAN DAMAGE SPINOUS PROCESSES

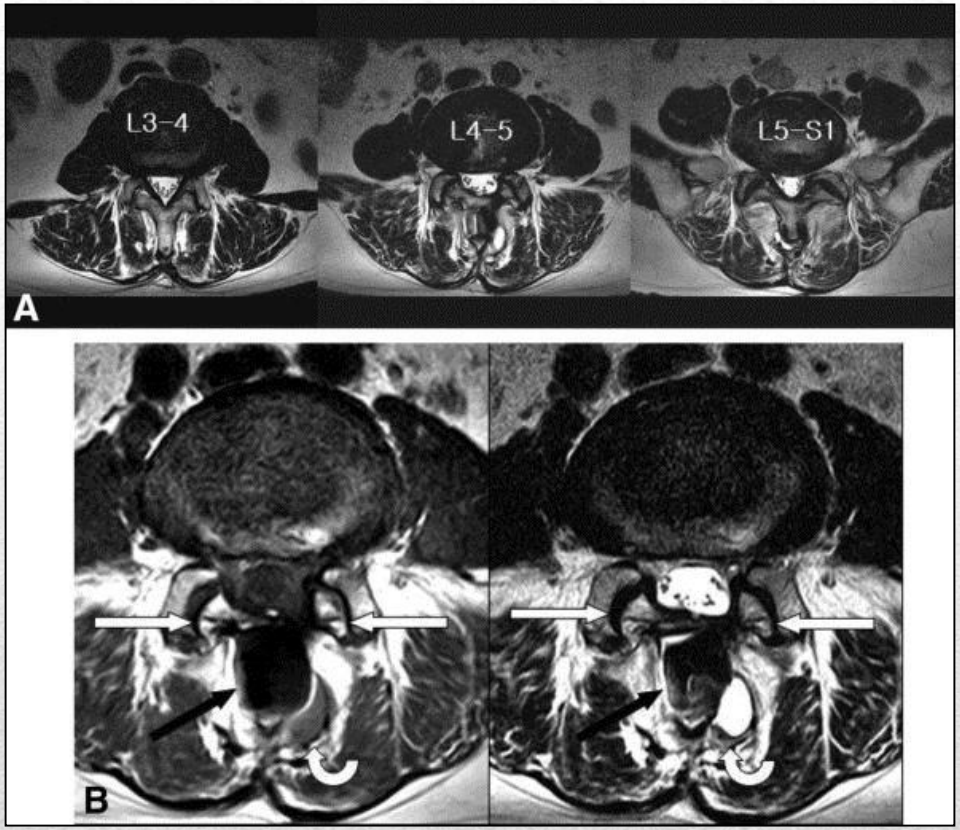
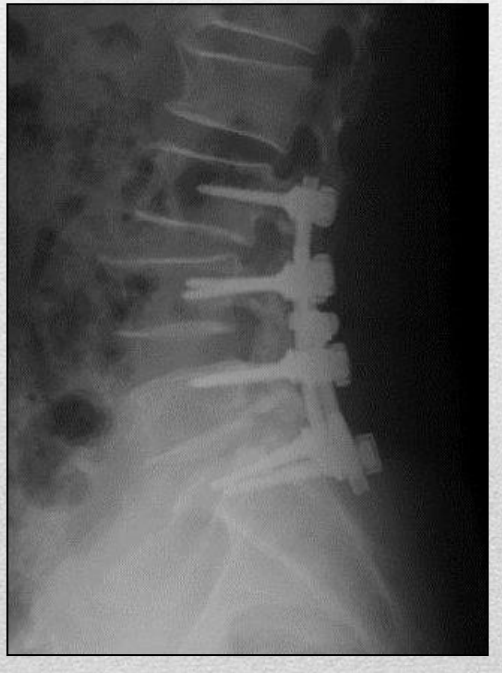


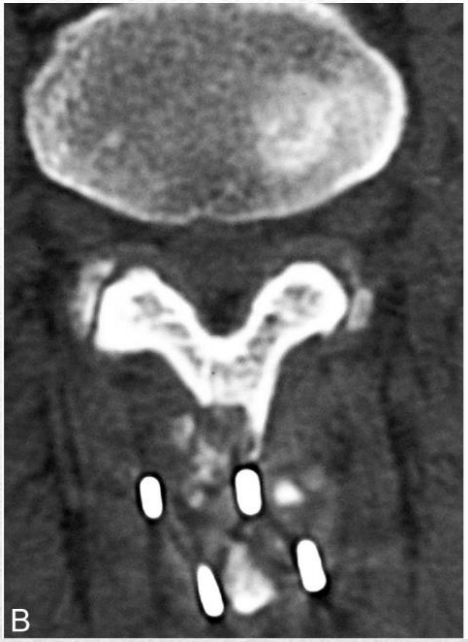
Figure 2 . A, Spinal stenosis was found from L3 to S1 on sagittal and axial images. B, Linear low signal suggesting fractures of bilateral inferior articular processes of L4 are seen on axial scans of T1-weighted image and T2-weighted image (white arrows). There is interspinous device showing metalic artifact (black arrow) and adjacent fluid collection (white curved arrow).

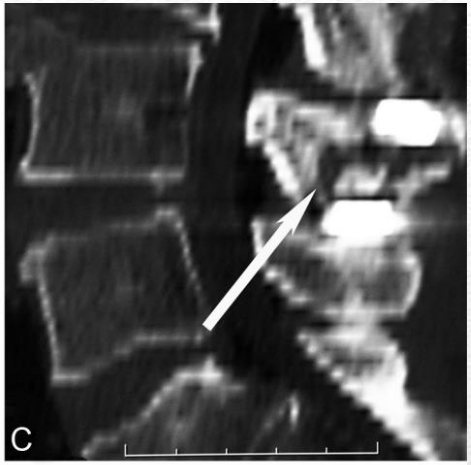
Stress Fracture of Bilateral Posterior Facet After Insertion of Interspinous Implant.

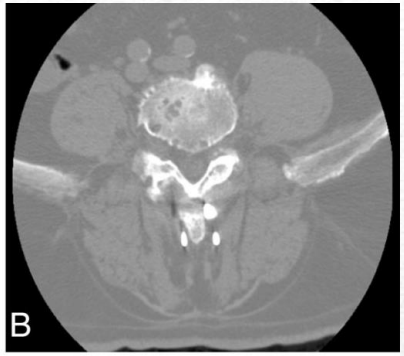
Chung, Kook; Jin MD, PhD; Hwang, Yoon; Koh, Sung

Spine. 34(10):E380-E383, May 1, 2009.
DOI: 10.1097/BRS.0b013e31819fd3a0









SPINE Volume 35, Number 3, pp E96–E100

The "Sandwich Phenomenon": A Rare Complication in Adjacent, Double-Level X-Stop Surgery

Report of Three Cases and Review of the Literature

Giuseppe M. V. Barbagallo, MD,* Leonardo A. Corbino, MD,* Giuseppe Olindo, MD,*
Pietro Foti, MD,† Vincenzo Albanese, MD,* and Francesco Signorelli, MD‡

- 44 pts
- Age: 18 – 70 (mean: 42.2)
- 24 male, 20 female

- Preoperative Oswestry: 30.3% (range: 23-37.4%)
- Preoperative VAS: 6 (range: 4-8)

PRESENT SERIES: april 2008 – april 2011

- SOFT STENOSIS 20 (45.5%)
- DISCOPATHY 11 (25.0%)
- DISC HERNIATION 10 (22.8%)
- FACET SYNDROME 3 (6.8%)

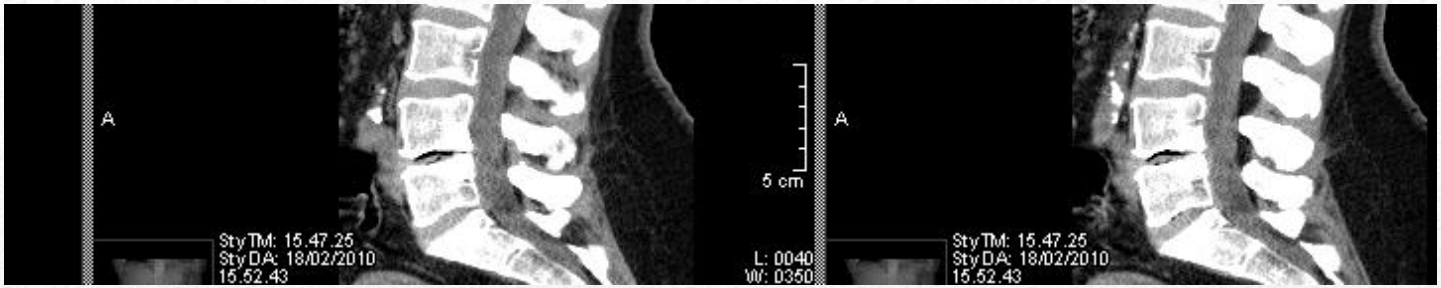
Levels: 37 cases (84.1%): L5-S1 /L4-L5

One level: 2/3 **Double level: 1/3**

Flavectomy: 23 pts

- Postoperative Oswestry: 15%
- Postoperative Vas: 2
- Complications: 2 cases of displacement due to technical mistakes needed revision

No patient needed other more radical surgeries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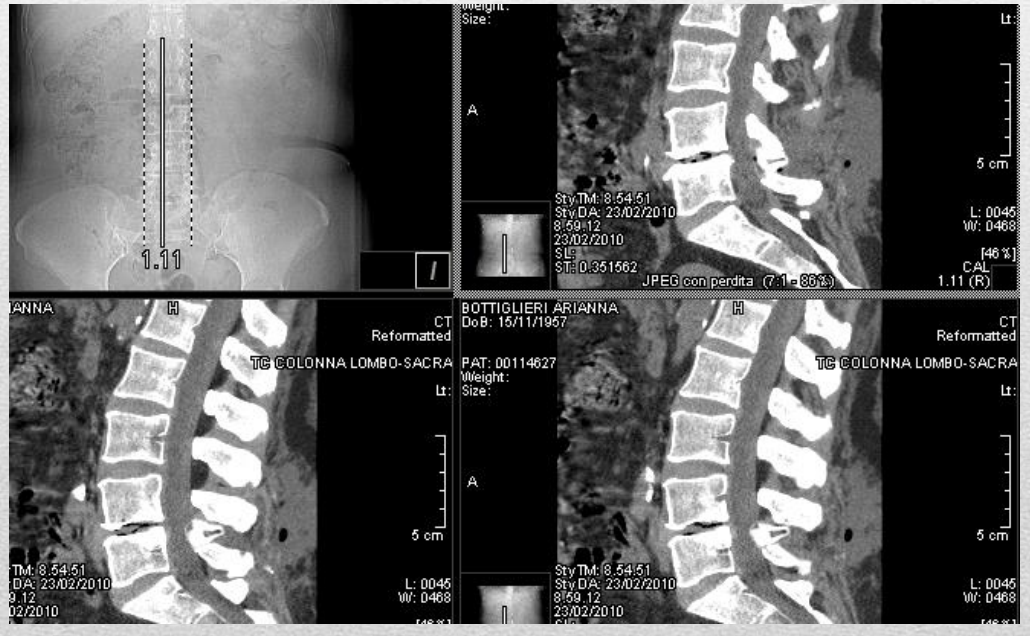
StyTM: 15.47.25
StyDA: 18/02/2010
15.52.43
L: 0040
W: 0350
A
StyTM: 15.47.25
StyDA: 18/02/2010
15.52.43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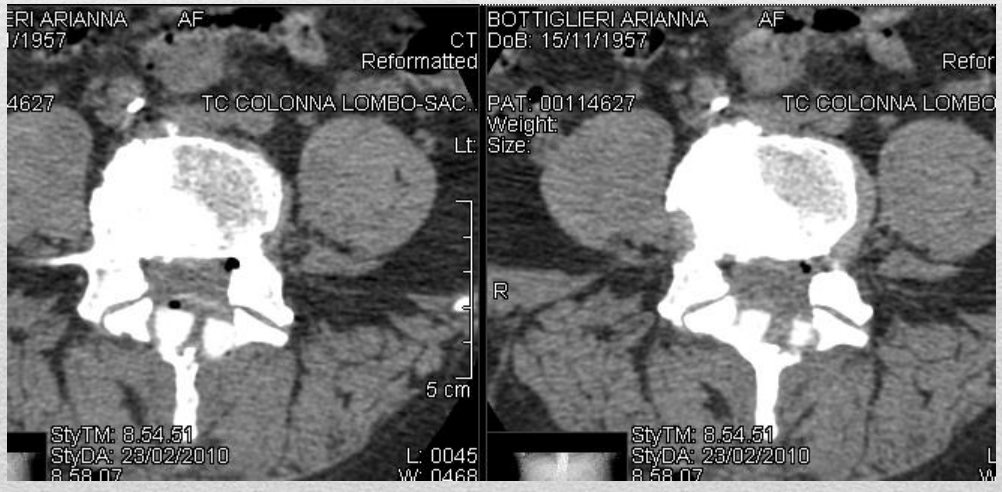
PAT: 00114627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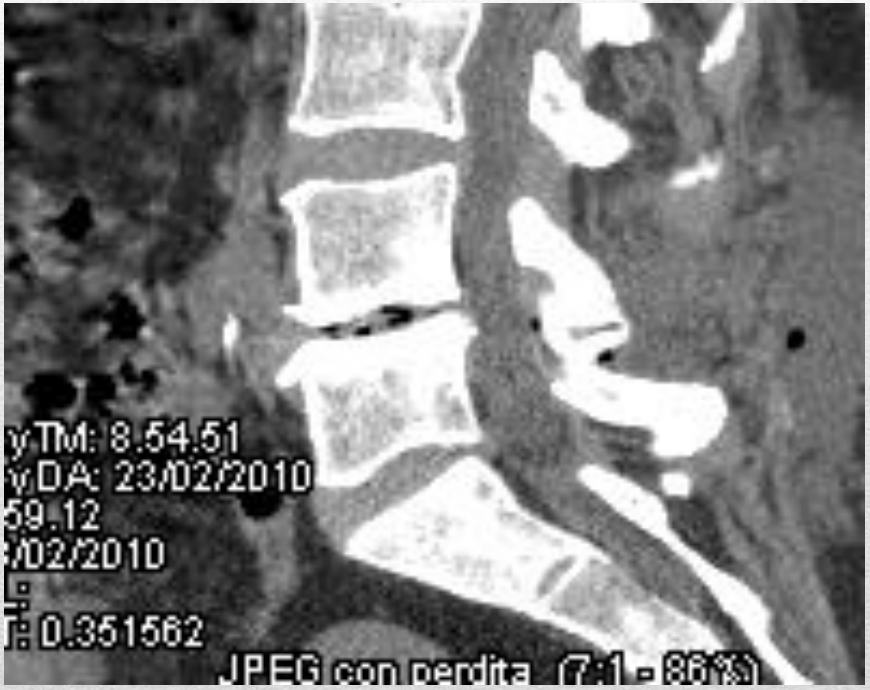
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/02/2010
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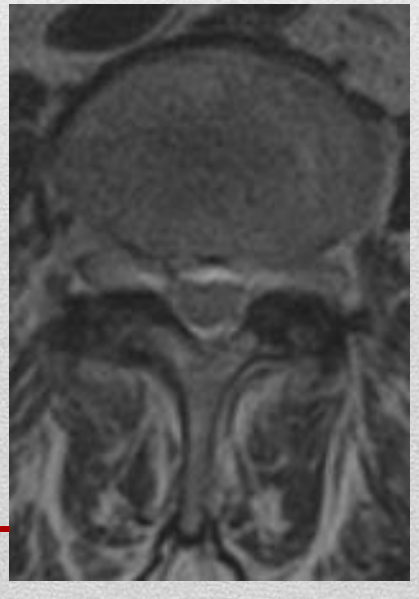
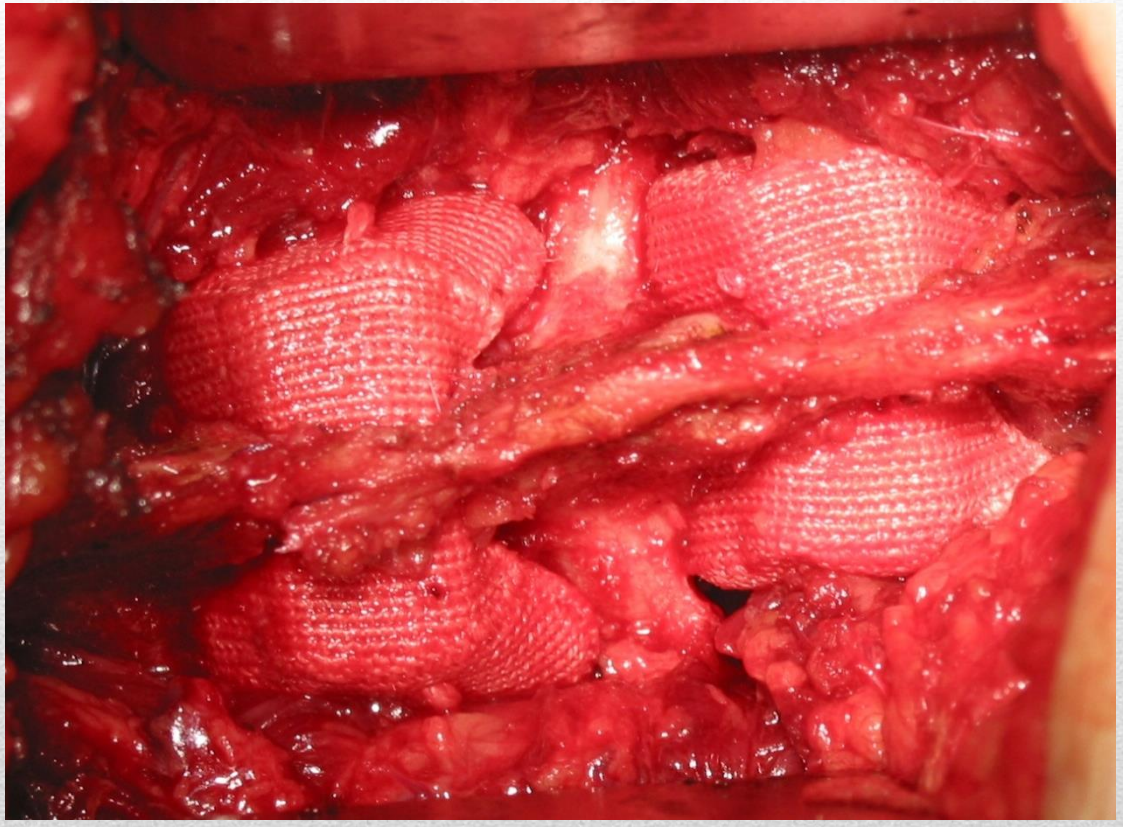
L3-L4

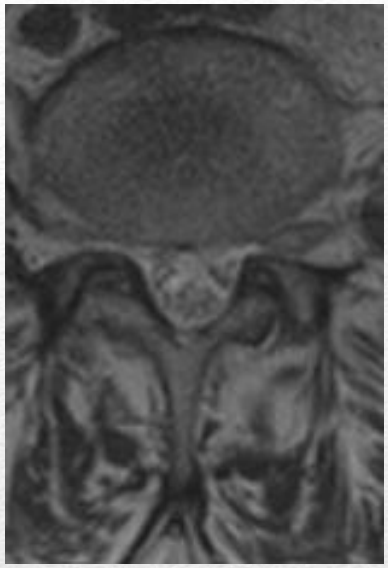
L2-L3

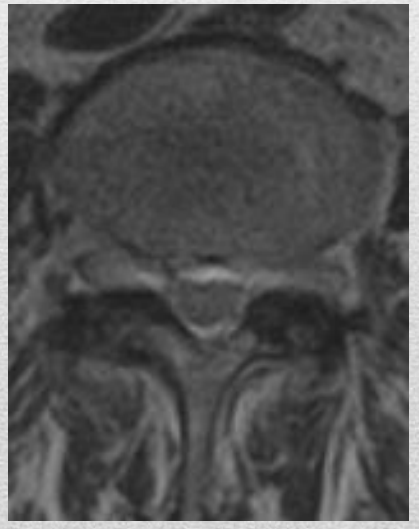
Z.E. 42aa F

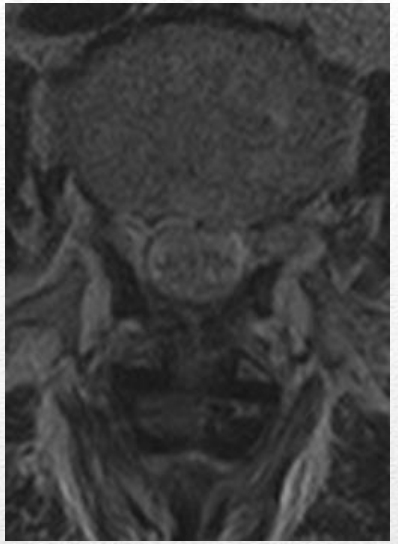
Claudicatio (100m)

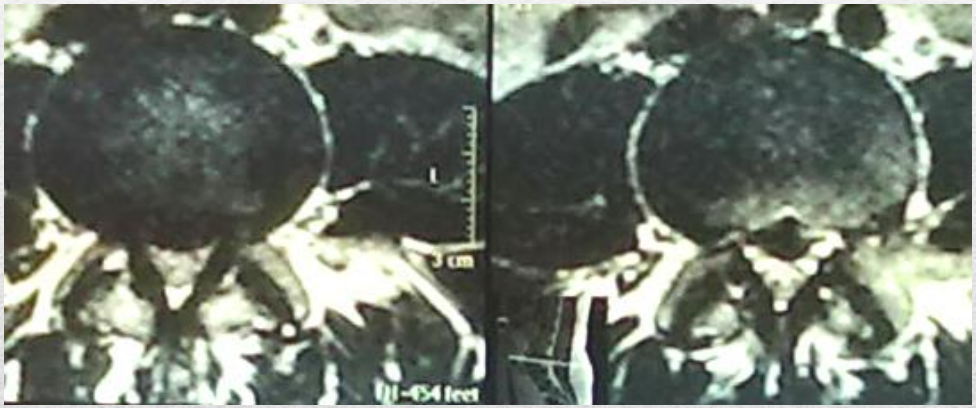


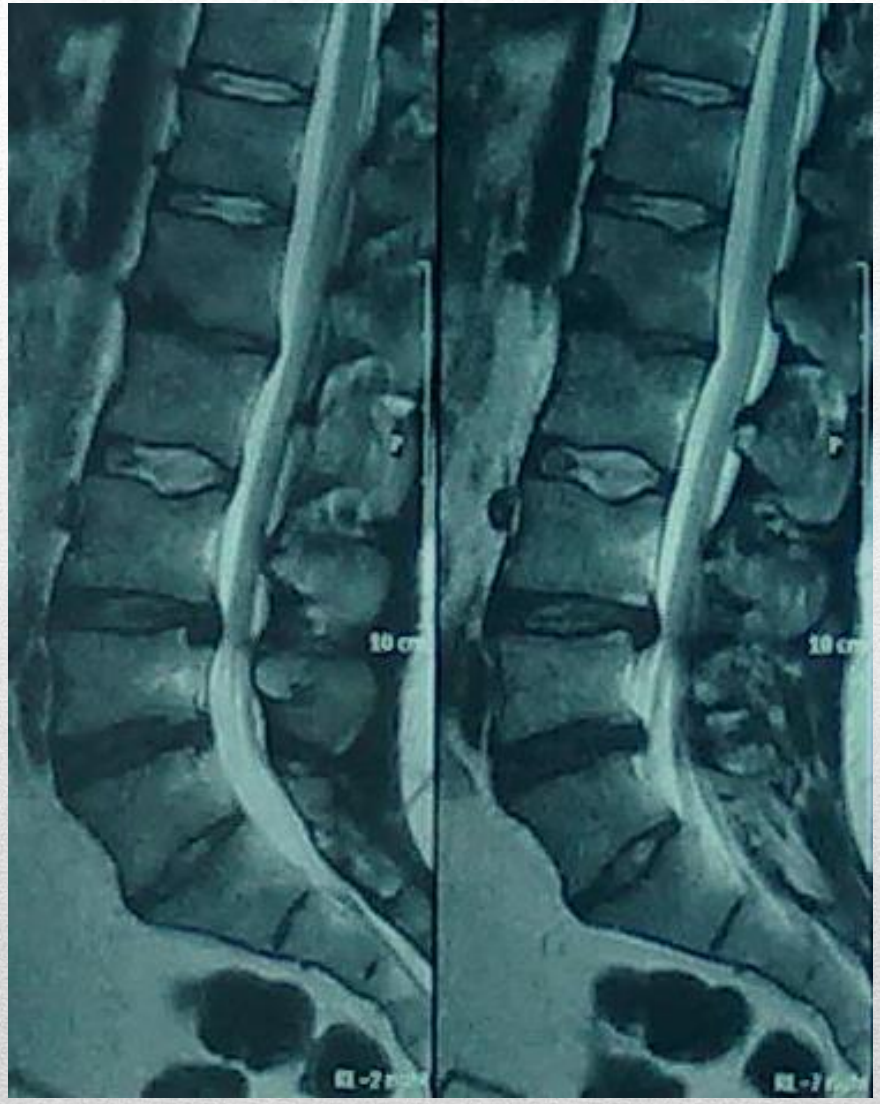


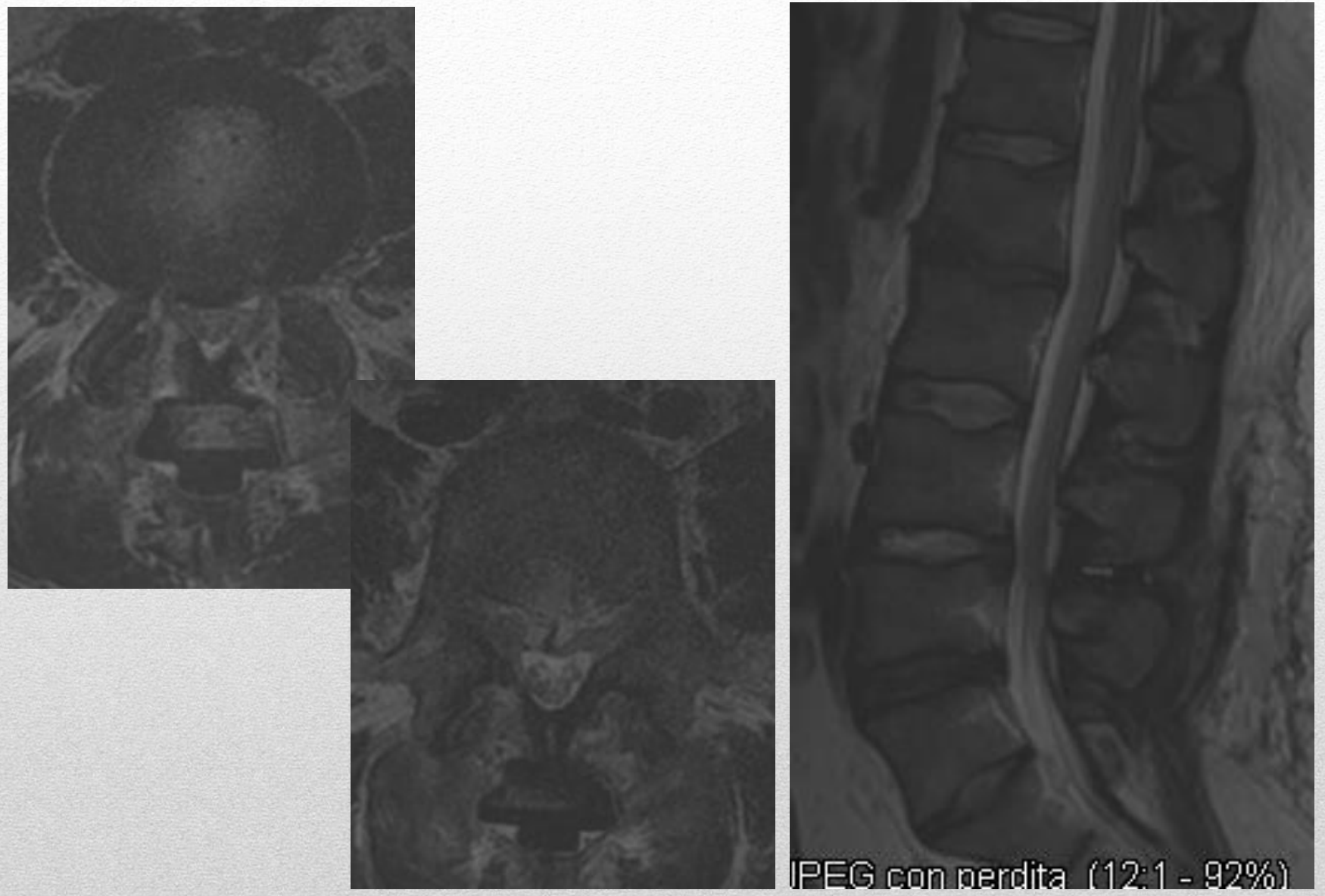


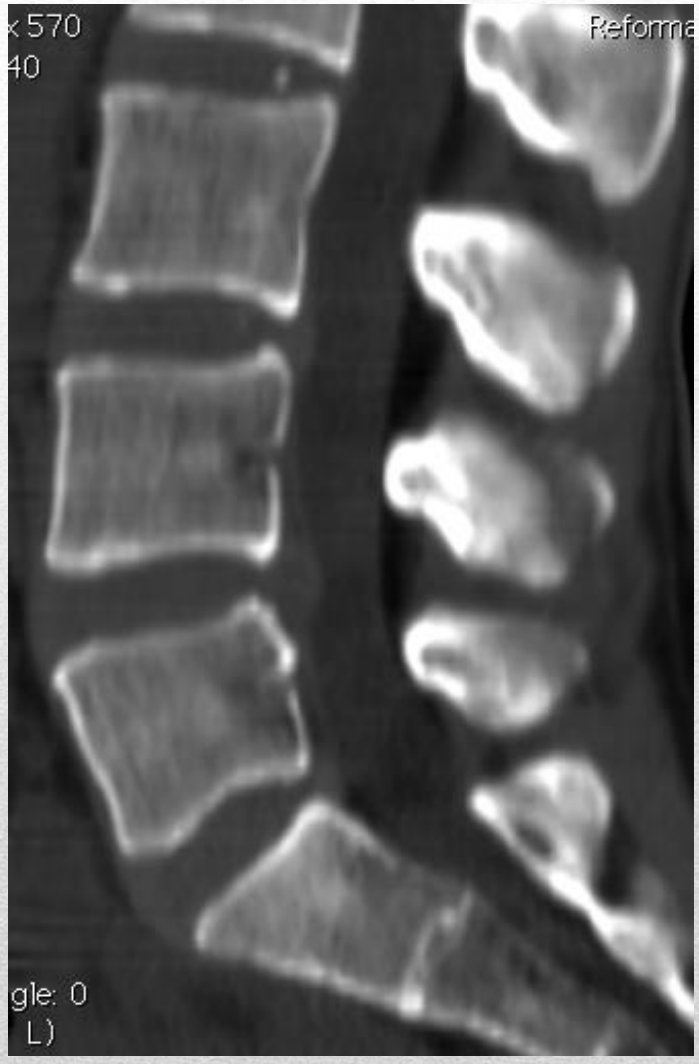









IPEG con perdita (12:1 - 92%)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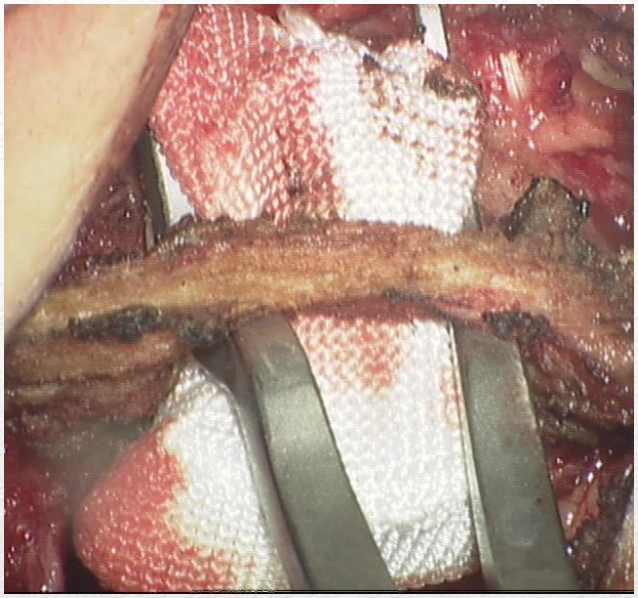

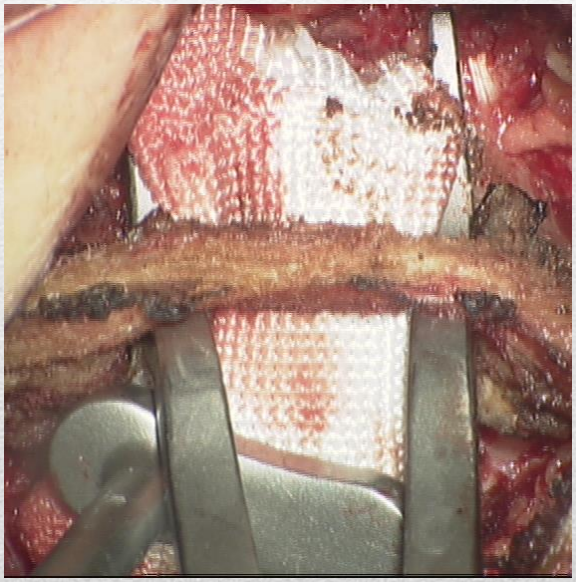

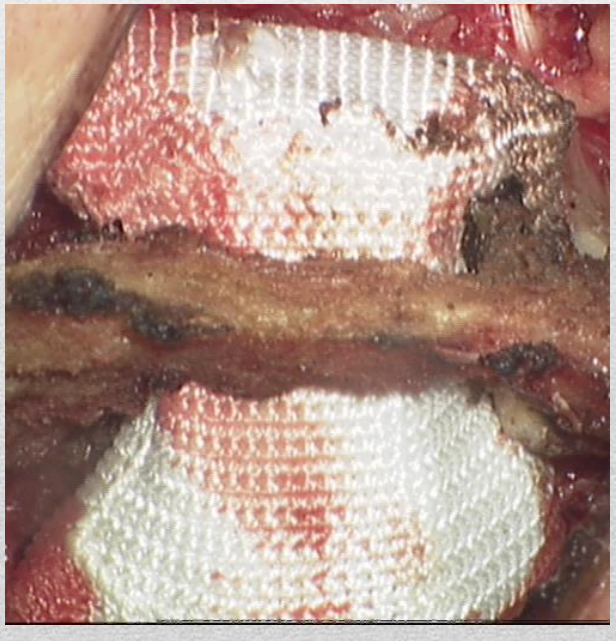

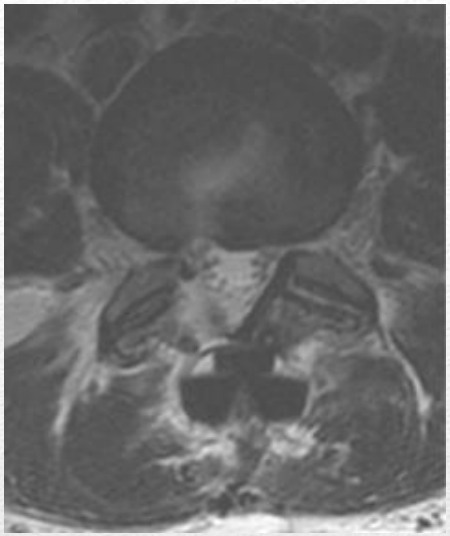

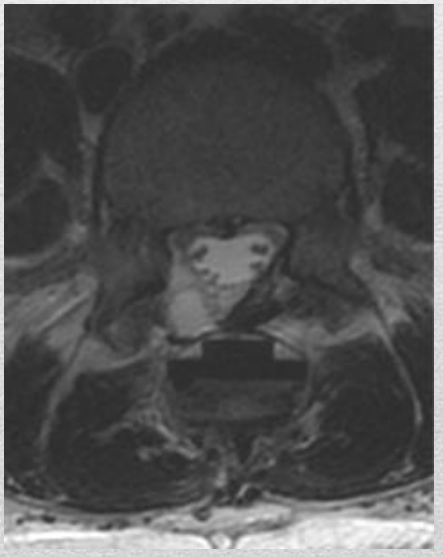

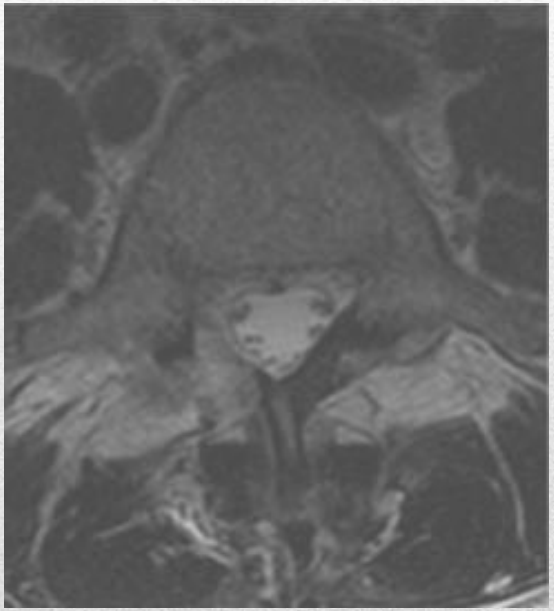

- EASY AND SAFETY TO USE
- MORE PHYSIOLOGICAL LOCATION
- MORE PHYSIOLOGICAL WAY TO WORK
- AS USUAL RESULTS LINKED TO THE RIGHT CHOICE OF THE PATIENTS

CONCLUSIONS