Micro-Endoscopic Discectomy (Destandau-MED)

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Micro-Endoscopic Disc Surgery

What is MED:

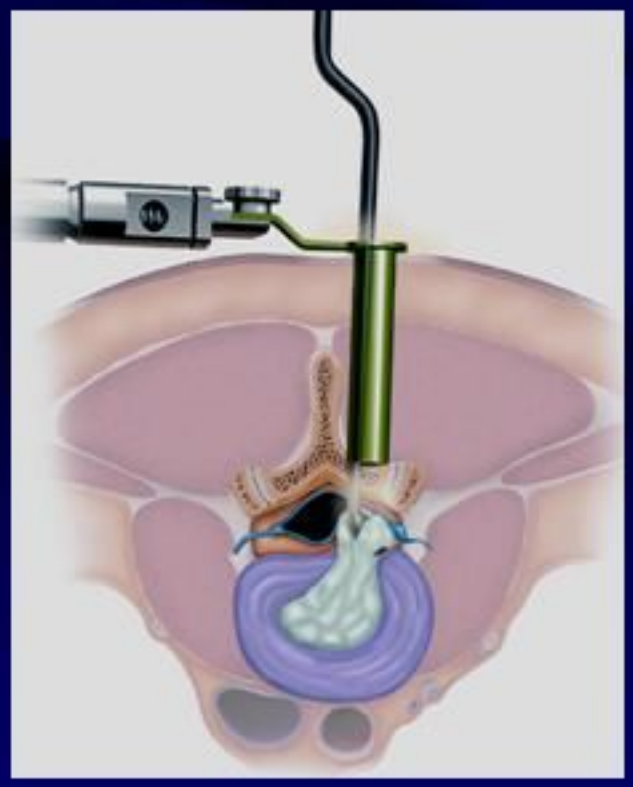
Microdiscectomy under endoscopic vision thru a tube in the back

- Foley & Smith's in 1997 (METRx-Medtronic)
- Destandau's in 1999 (Karl-Storz)

Comparison

Foley & Smith's

- hollow tube
- 3 mm scope
- fixed system
- more working space
- max. area (283 mm^2)
- smaller incision (1.5 cm)
- expensive



Destandau's

- multi-channel tube
- 4 mm scope
- mobile system
- limited space, fixed direction
- larger area (340 mm^2)
- larger incision (2.5 cm)
- economical

Modified tube

- hollow tube
- 4 mm scope
- fixed / mobile
- more working space
- max. area (288 mm2)
- smaller incision (1.5 cm)
- regular instruments
- very economical

(> 200 Discectomies)

Indications of Endoscopic Lumbar Disc Surgery

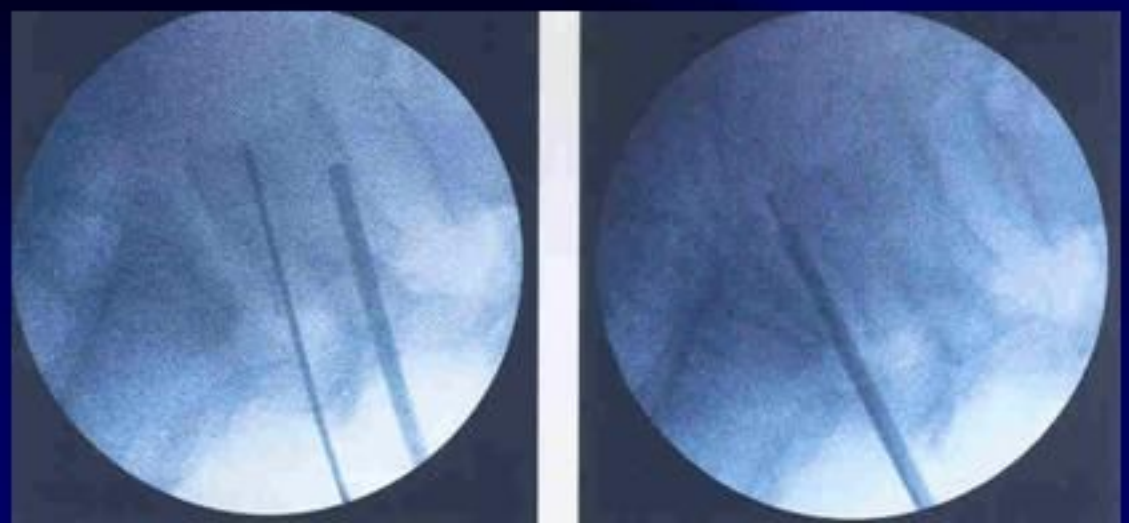
- Extruded / Contained / Migrated disc
- Central / Lateral / Far lateral disc
- Focal Canal stenosis

Indications of Endoscopic Cervical Disc Surgery (Posterior Approach)

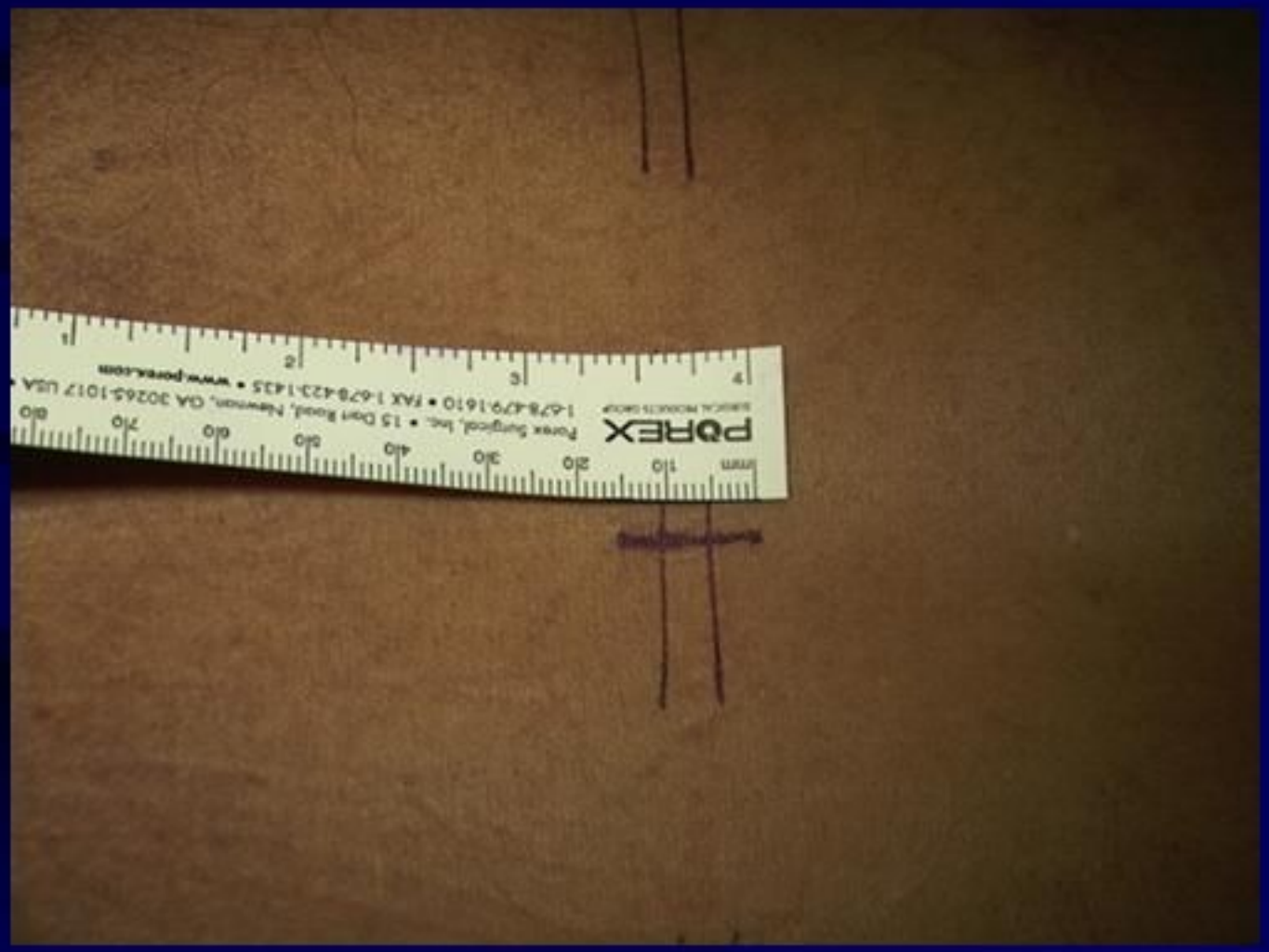
- Postero-Lateral Disc Prolapse with Radiculopathy
- Cervical Foraminal Stenosis

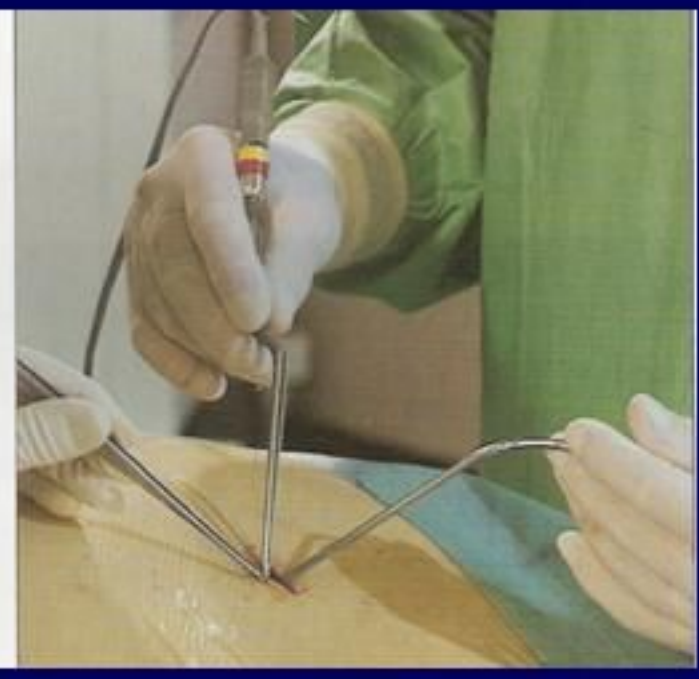
Endoscopic Disc Surgery

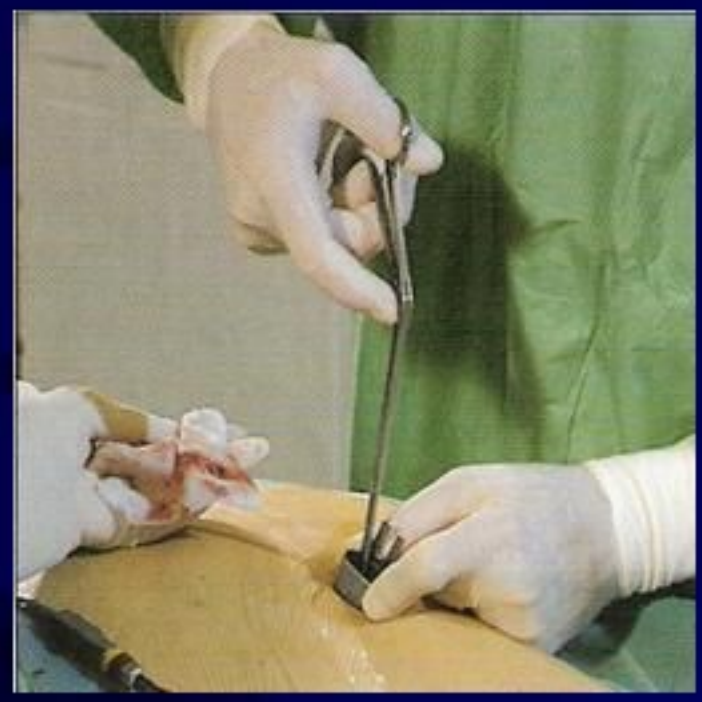
Endoscopic Disc Surgery

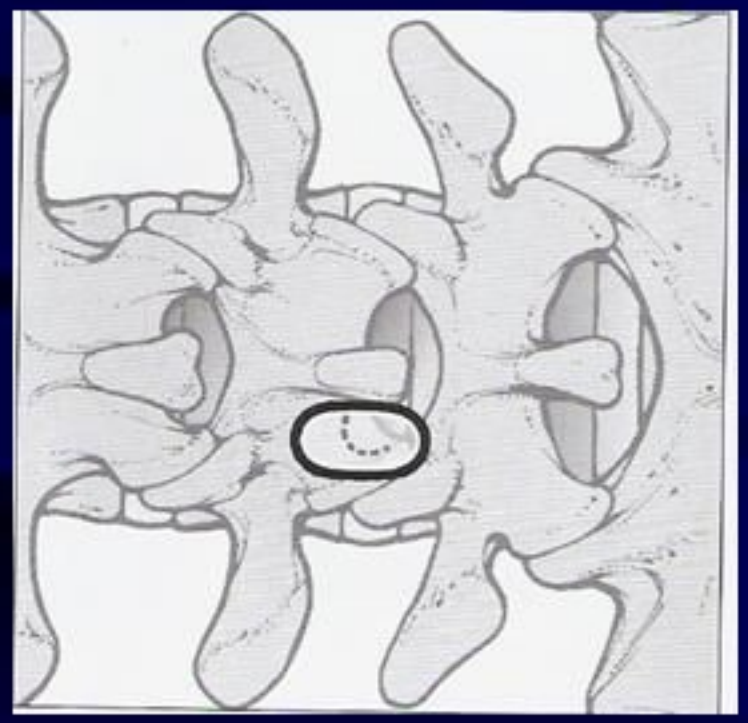


Endoscopic Disc Surgery









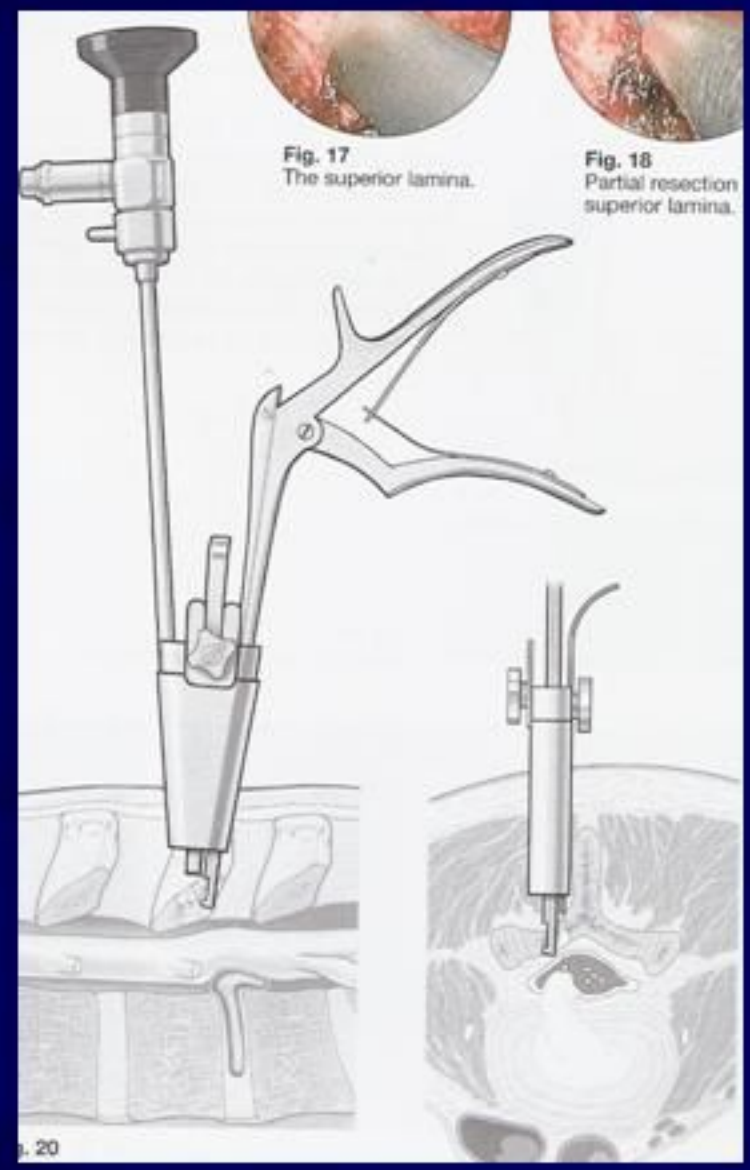


Fig. 17
The superior lamina.

Fig. 18
Partial resection
superior lamina.

. 20

1.8 Closure of the Incision

The ENDOSPINE™ operating tube with its working insert is retracted, allowing hemostasis of the muscle layers under video-endoscopic control. Suture of the aponeurosis. Intracutaneous suture. A water-impermeable dressing is then applied.

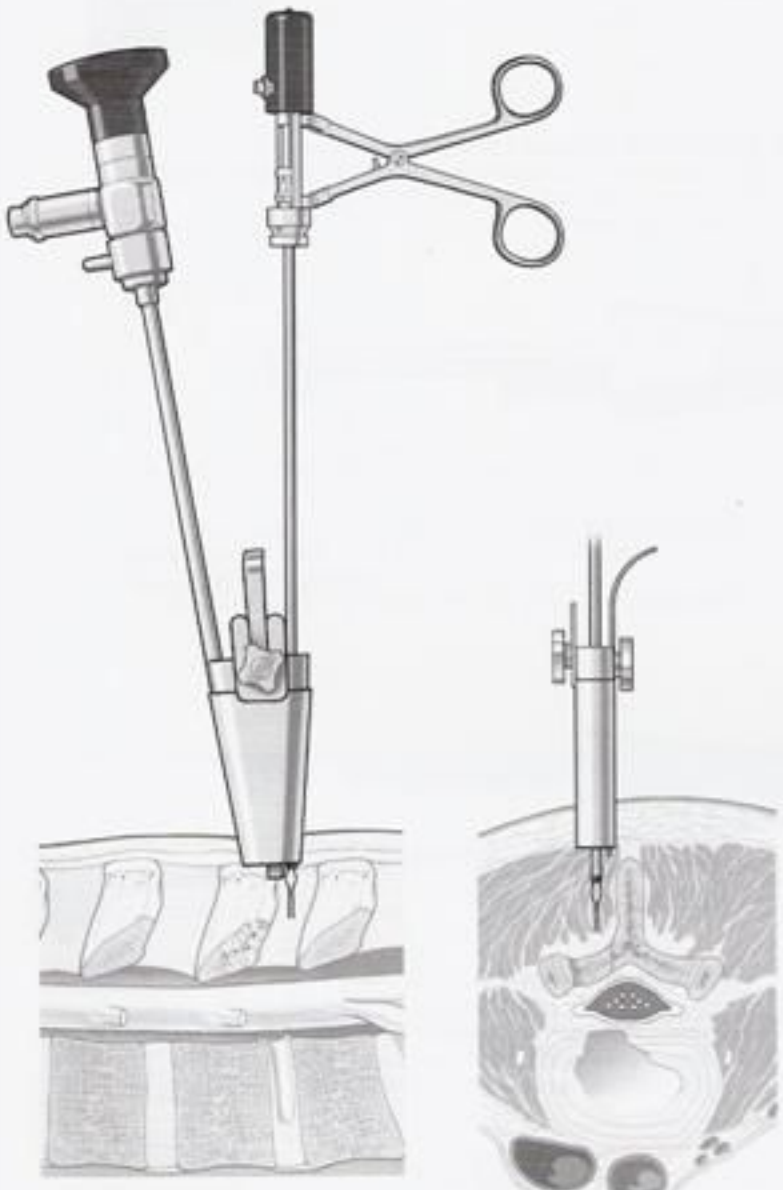


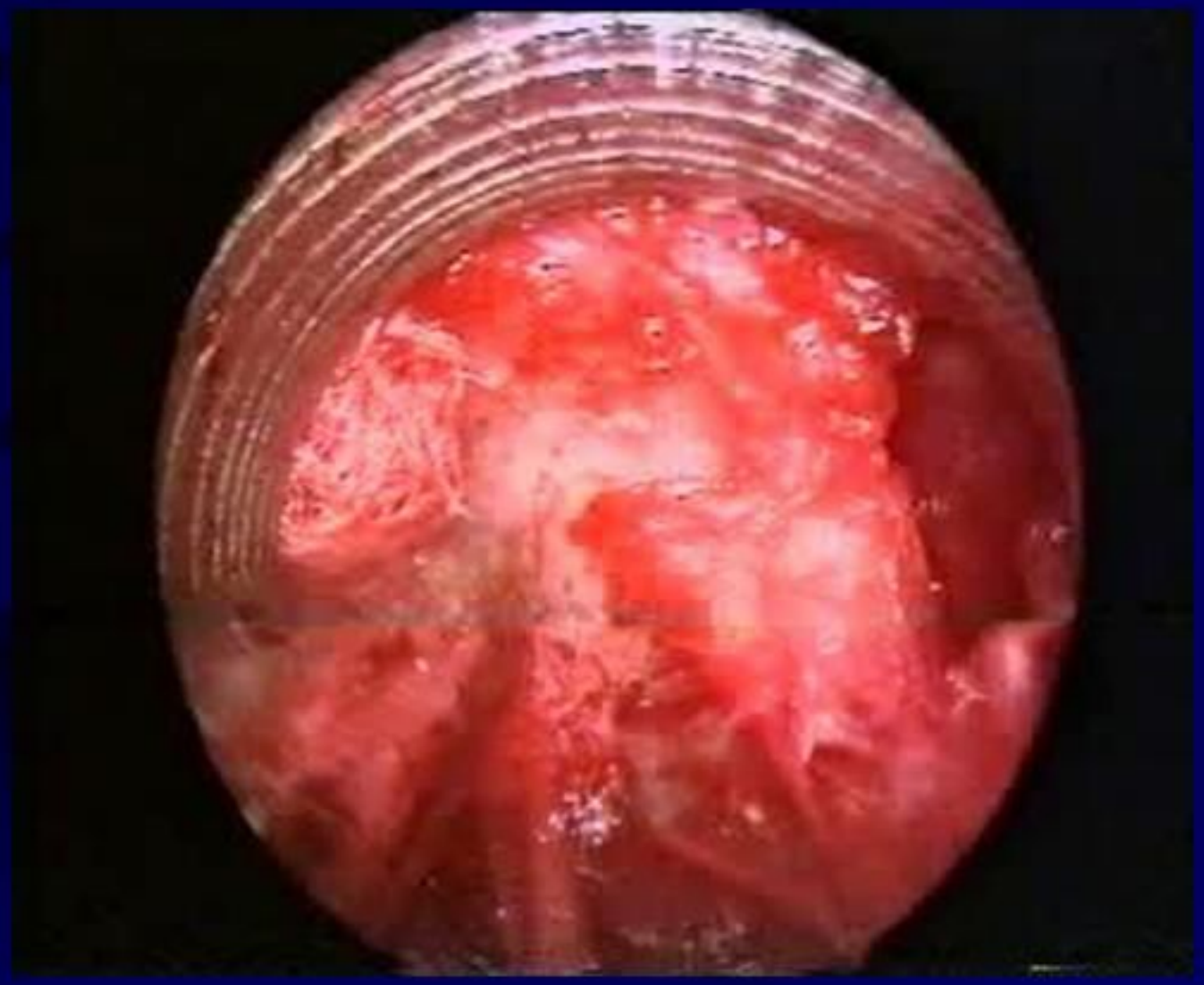
Fig. 30

Endoscopic Disc Surgery

Endoscopic Disc Surgery
L5/S1 left

Medial

Cranial



Caudal

Lateral

Endoscopic Surgery (L5/S1 right)
Contained Lumbar Disc

Medial

Caudal

Cranial

Lateral

Endoscopic Surgery (L5/S1 right)
Sequestrated Lumbar Disc

Medial

Caudal

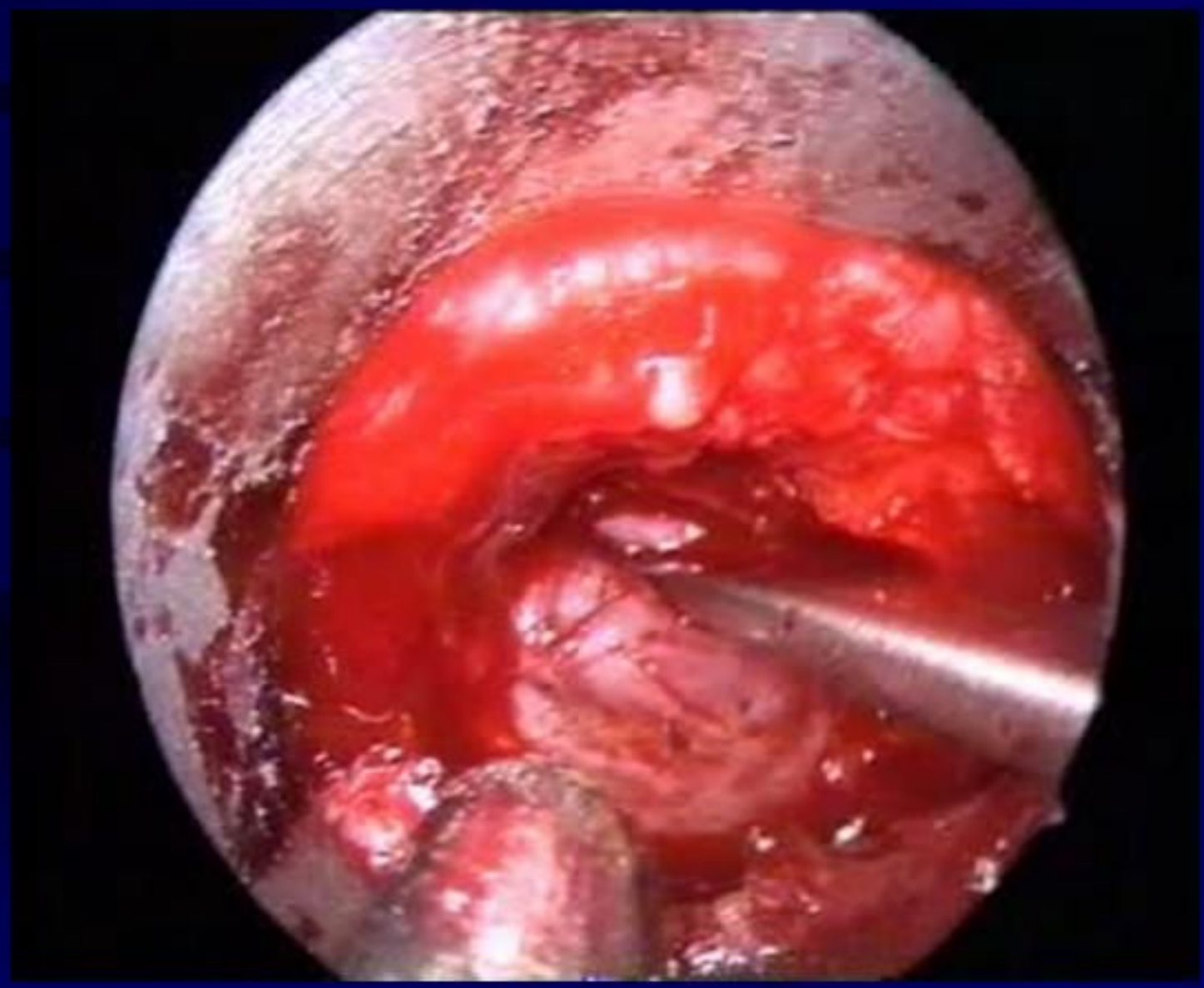
Cranial

Lateral

Endoscopic Surgery (L4/5)
Lumbar Canal Stenosis

Medial

Caudal



Cranial

Lateral

Endoscopic Surgery (C /7 right)
Cervical Discectomy

Medial

Caudal

Cranial

Lateral

Endoscopic Disc Surgery
(August 2003-Nov 2006)

- Total no.: 300
- Male : Female 202 : 98
- Age: 17-82 years
- Weight: 110 Kg
- 2-level: 24

Endoscopic Disc Surgery

- **Level of surgery**

L1 / L2- 2	L2 / L3- 1
L3 / L4- 10	L4 / L5- 154
L5 / S1- 130	Cervical- 3

- **Type of disease**

Extruded disc 96

Contained Disc 161

Lateral Disc 116

Central Disc 44

Far Lateral Disc 1

Synovial cyst 1

Canal Stenosis 42

Experience of Cervical Disc

- Total No.: 3 (M:1, F:2)
- Distribution: C 6/7: 2
  C 4/5: 1
- Symtoms: Severe radicular pain: 2
  Shoulder weakness: 1
- Outcome: Complete recovery in all three

Endoscopic Disc Surgery

Complications:

- No Major Complication
- No Neurological worsening
- Minor Dural Tear : 4 patients
- Recurrence: 2

Endoscopic Disc Surgery

- **Stay in Hospital**

Day-care: 251

> 1 day : 49 (insurance & other reasons)

Endoscopic Disc Surgery

- **Level of surgery**

L1 / L2- 2	L2 / L3- 1
L3 / L4- 15	L4 / L5- 261
L5 / S1- 231	Cervical- 3

- **Type of disease**

Extruded disc 166

Contained Disc 271

Lateral Disc 116

Central Disc 44

Far Lateral Disc 1

Synovial cyst 1

Canal Stenosis 72

Endoscopic Disc Surgery

- Total no.: 510
- Male : Female 352 : 158
- Age: 17-82 years
- Weight: 110 Kg
- 2-level: 24

Endoscopic Disc Surgery

- **Level of surgery**

L1 / L2- 2	L2 / L3- 1
L3 / L4- 15	L4 / L5- 261
L5 / S1- 231	Cervical- 3

- **Type of disease**

Extruded disc 166

Contained Disc 271

Lateral Disc 116

Central Disc 44

Far Lateral Disc 1

Synovial cyst 1

Canal Stenosis 72

Endoscopic Disc Surgery

- **Stay in Hospital**

Day-care: 431

> 1 day : 79 (insurance & other

reasons)

Outcome

(Modified Macnab's Criteria)

- Excellent to Good : 96%
- Fair : 3%
- Poor : 1%

Outcome

Modified Macnab's Criteria

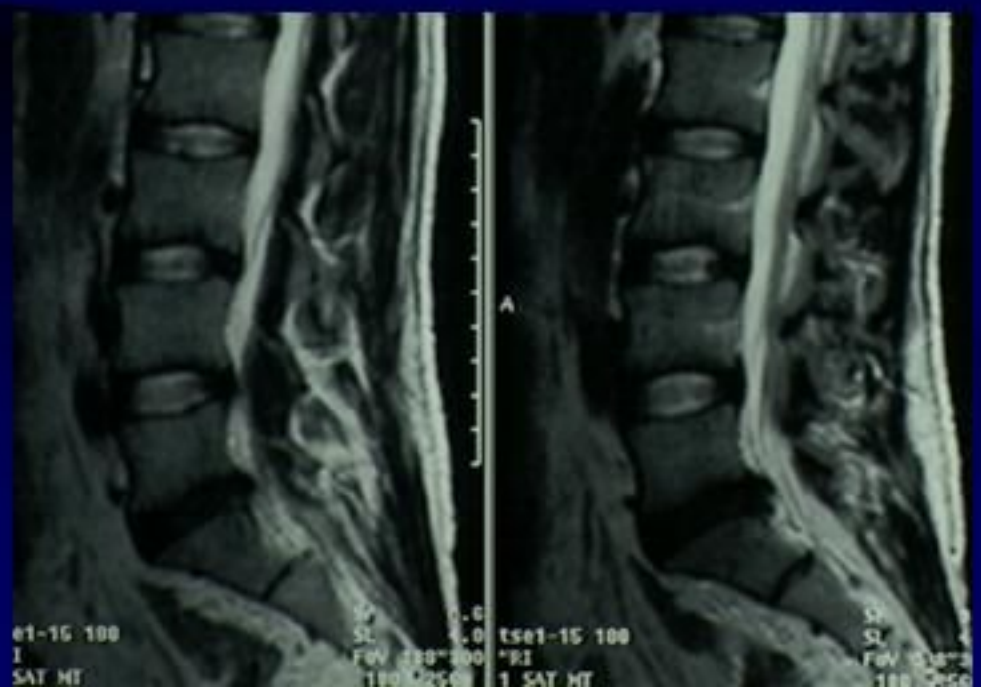
- **Excellent:** No pain; no restriction of mobility
- **Good**: Occasional non radicular pain, relief of presenting symptoms
- **Fair**: Some improved functional capacity; still handicapped &/or unemployed
- **Poor**: Continued objective symptom of nerve root involvement; additional op intervention needed

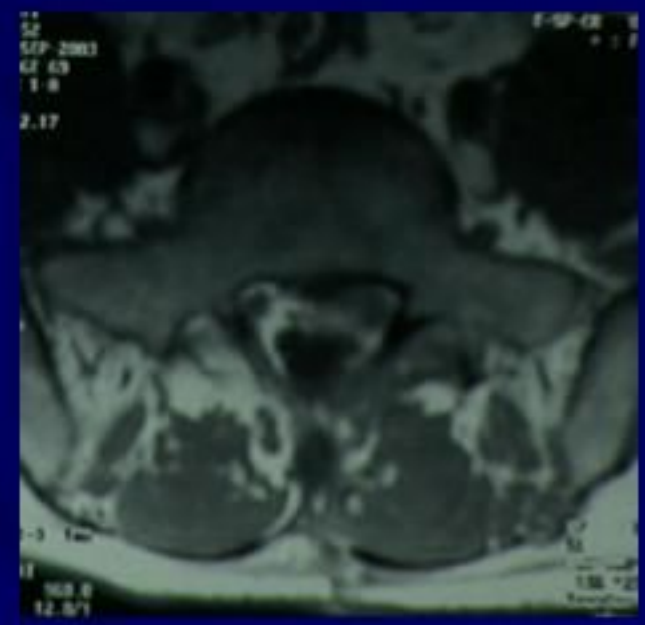
Outcome

(Modified Macnab's Criteria)

- Excellent to Good : 96%
- Fair : 3%
- Poor : 1%

35 yrs male: Severe pain

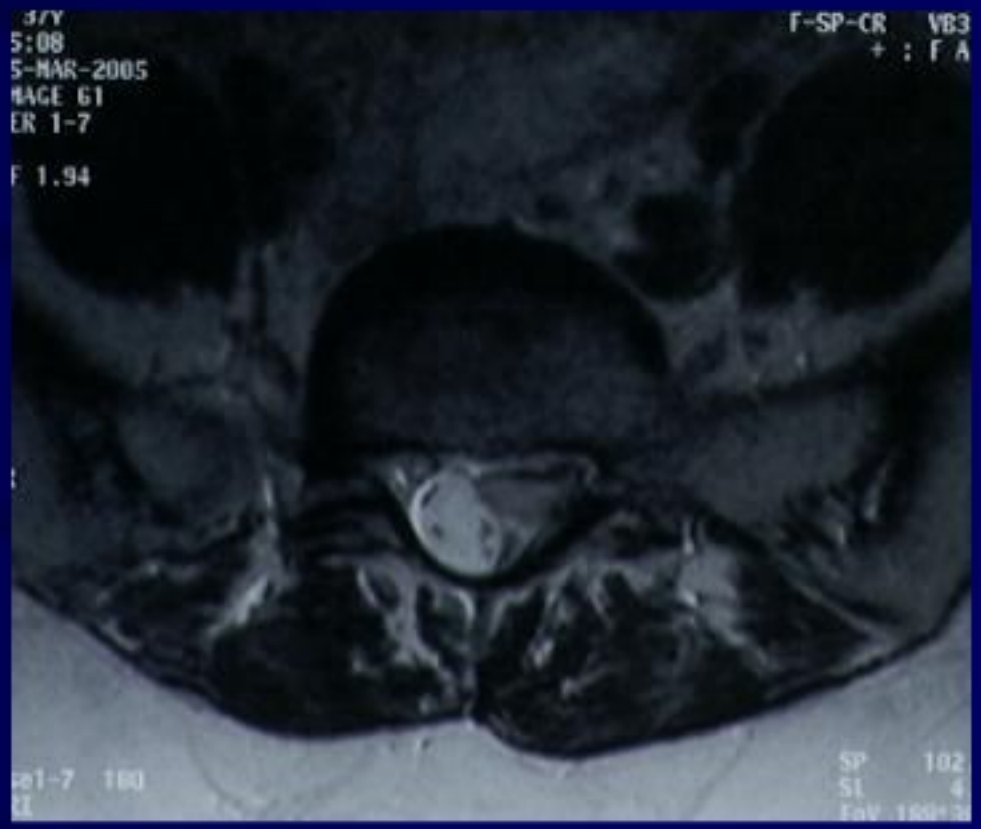




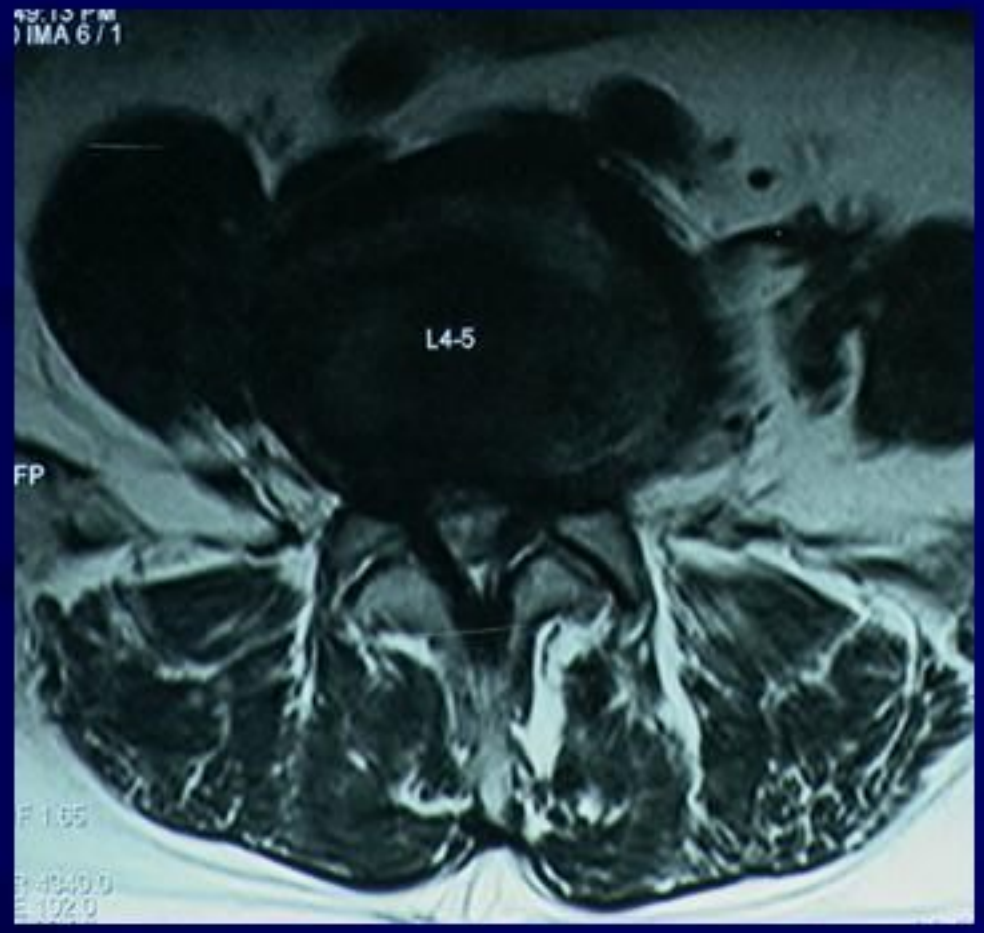
35 yr. Male with Extruded Disc

48 yrs. Female with left leg pain

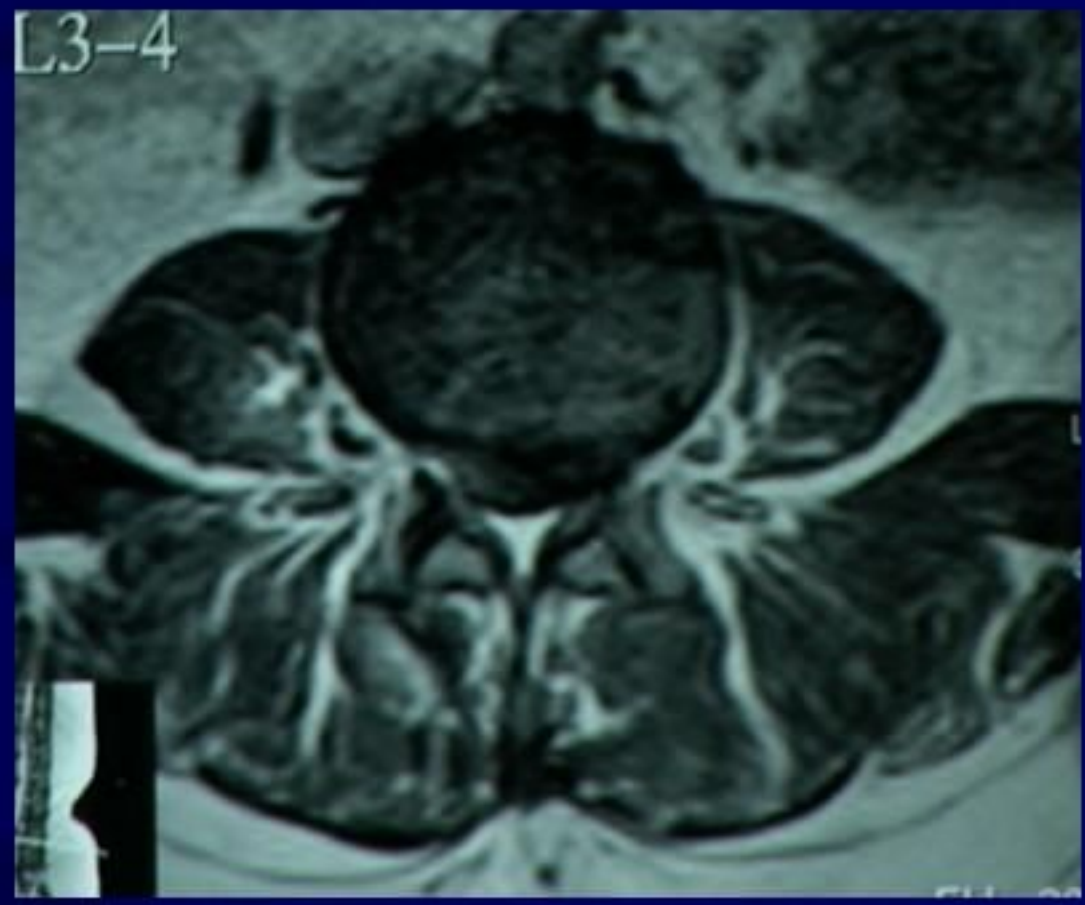
39 yr female with migrated disc



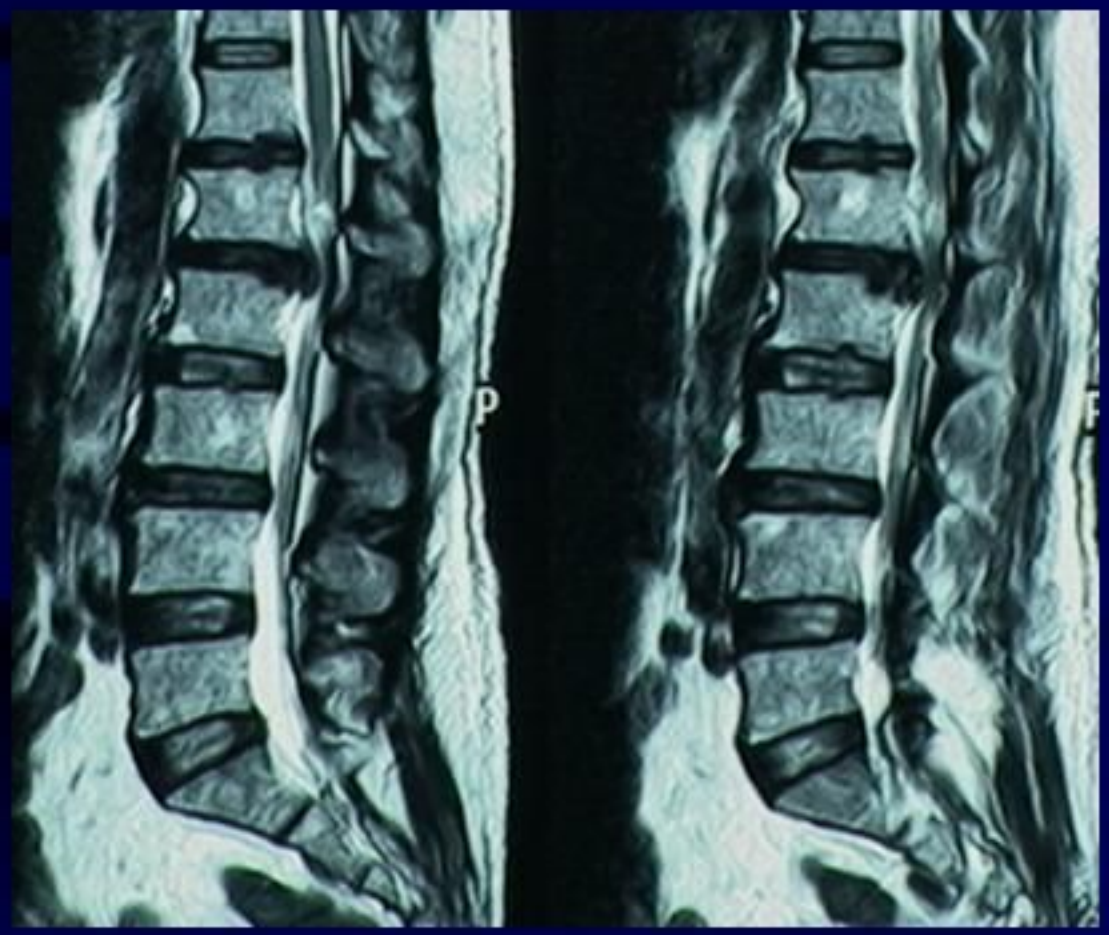
52 yrs. Female: claudication

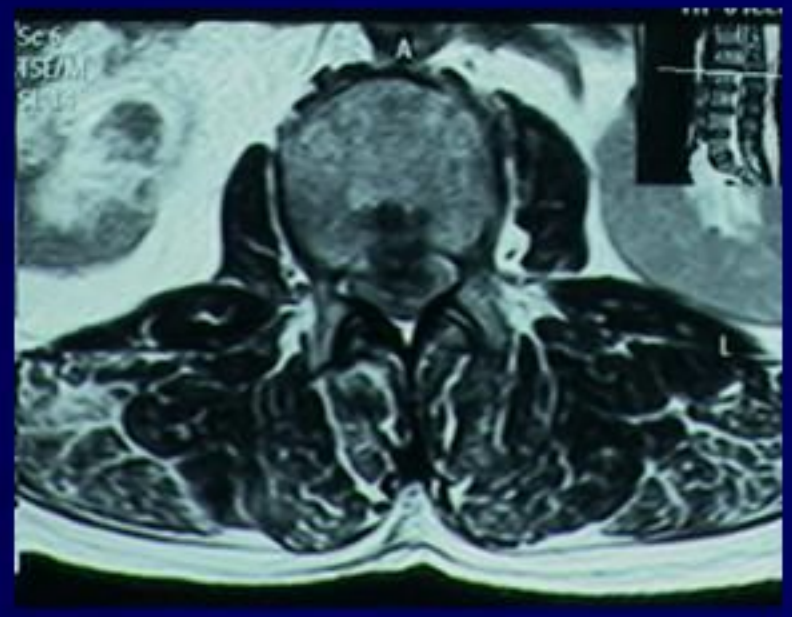


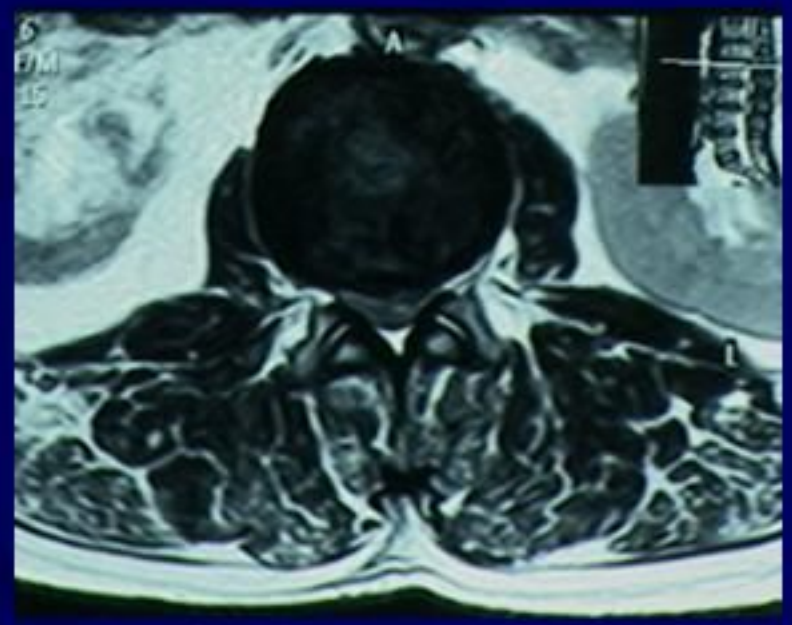
L3/L4 Lateral Disc Prolapse



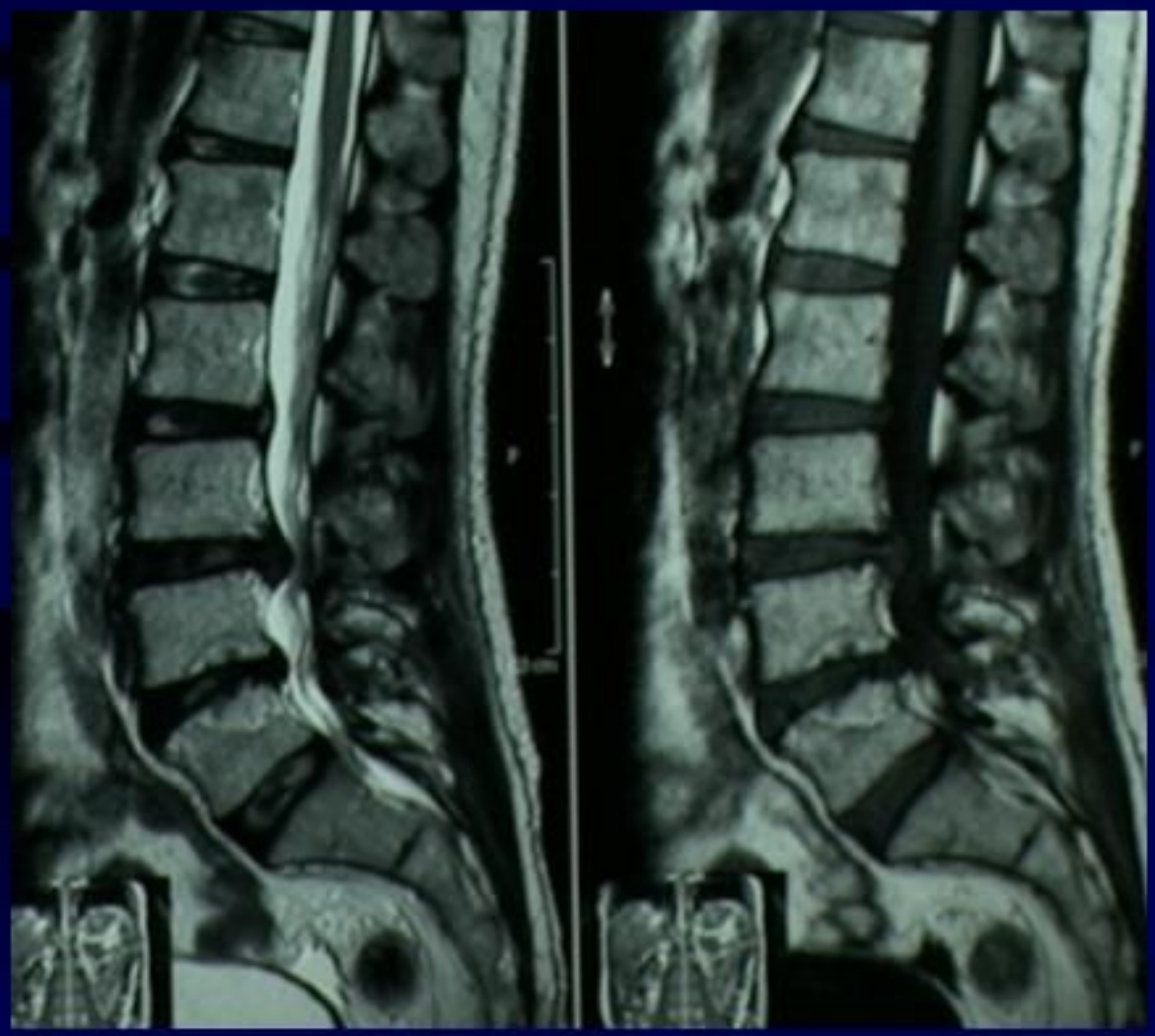
54 yr. Lady with pain and bladder symptoms

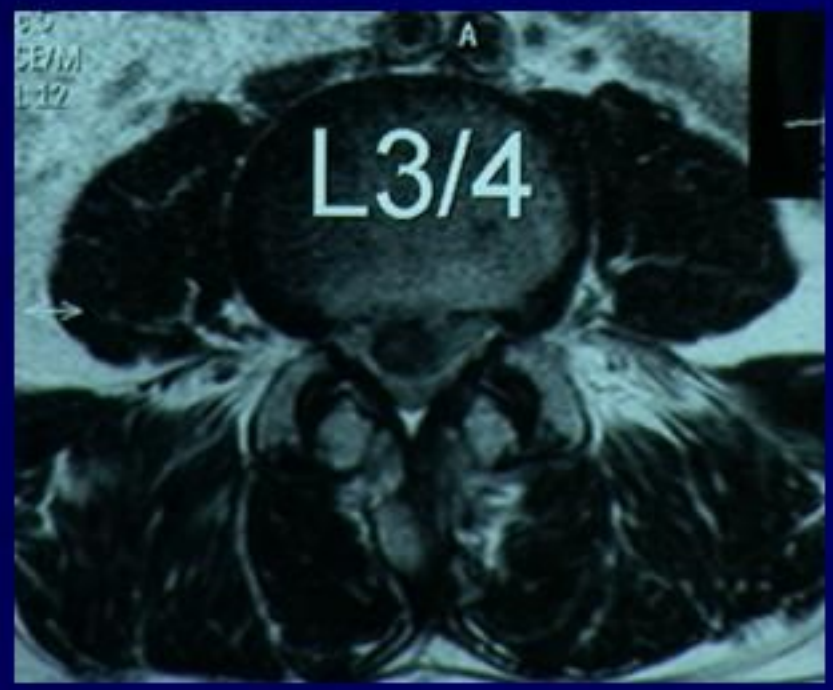






L3/L4 Central Disc Prolapse

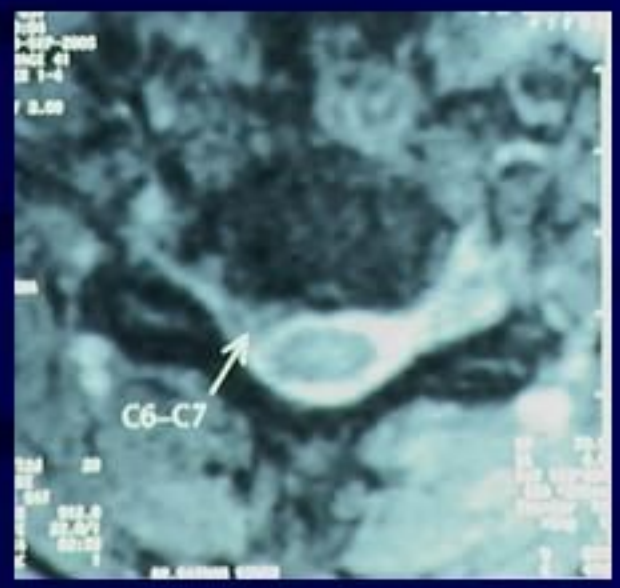


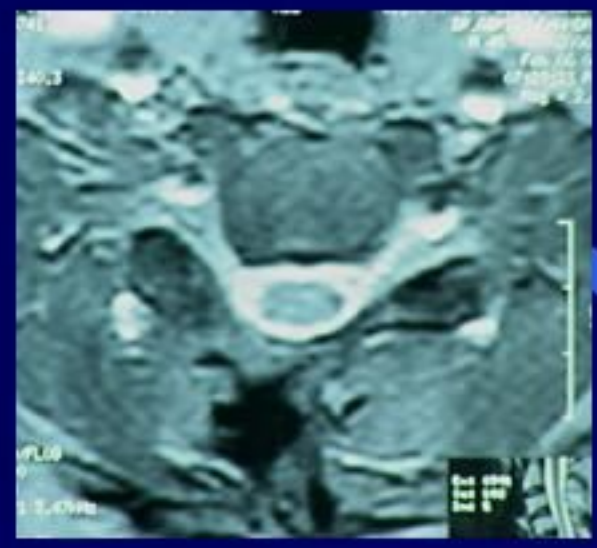


62 yr male with Lumbar Canal Stenosis

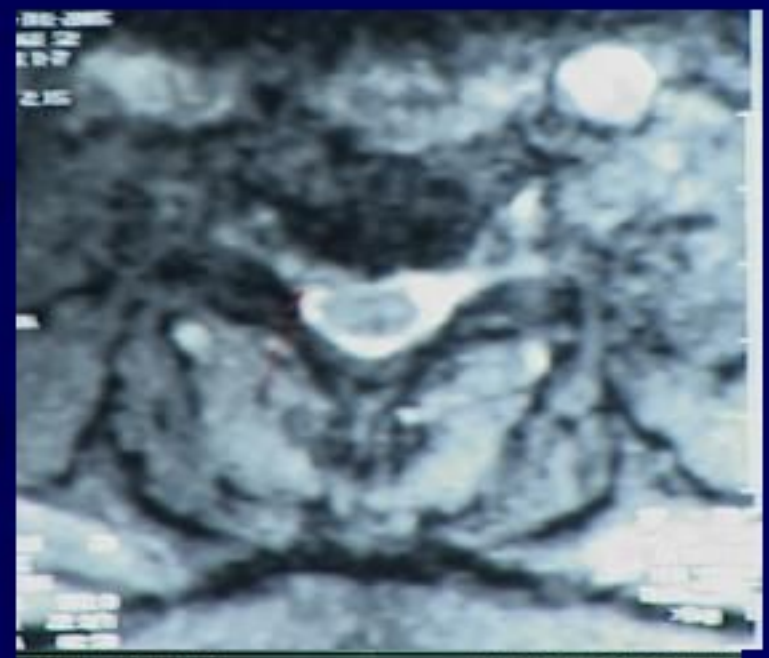
Multiple Lumbar Disc

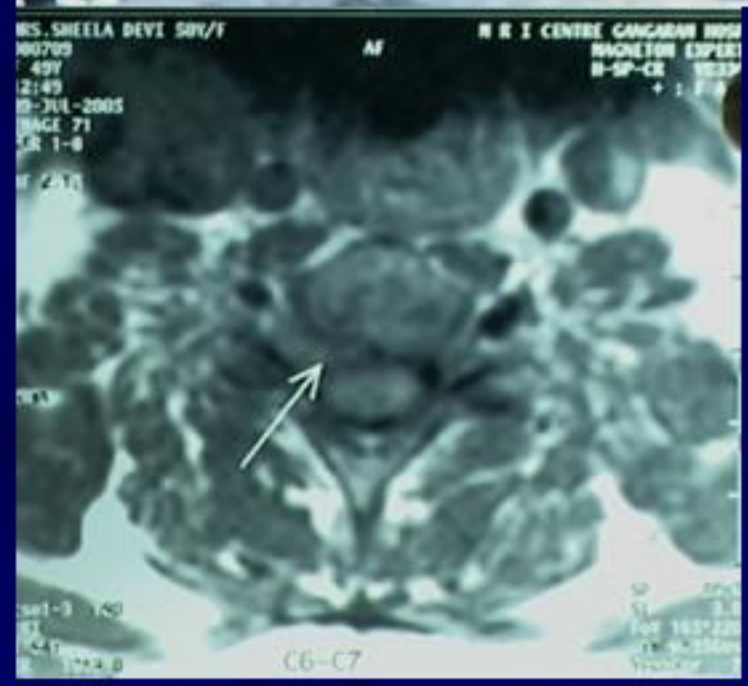
C6/7 Disc prolapse (Right)





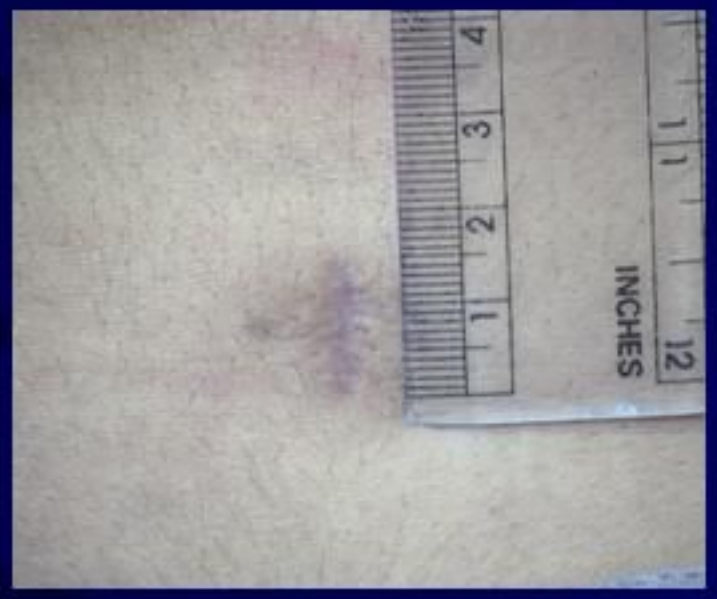
C6/7 Disc prolapse (Right)



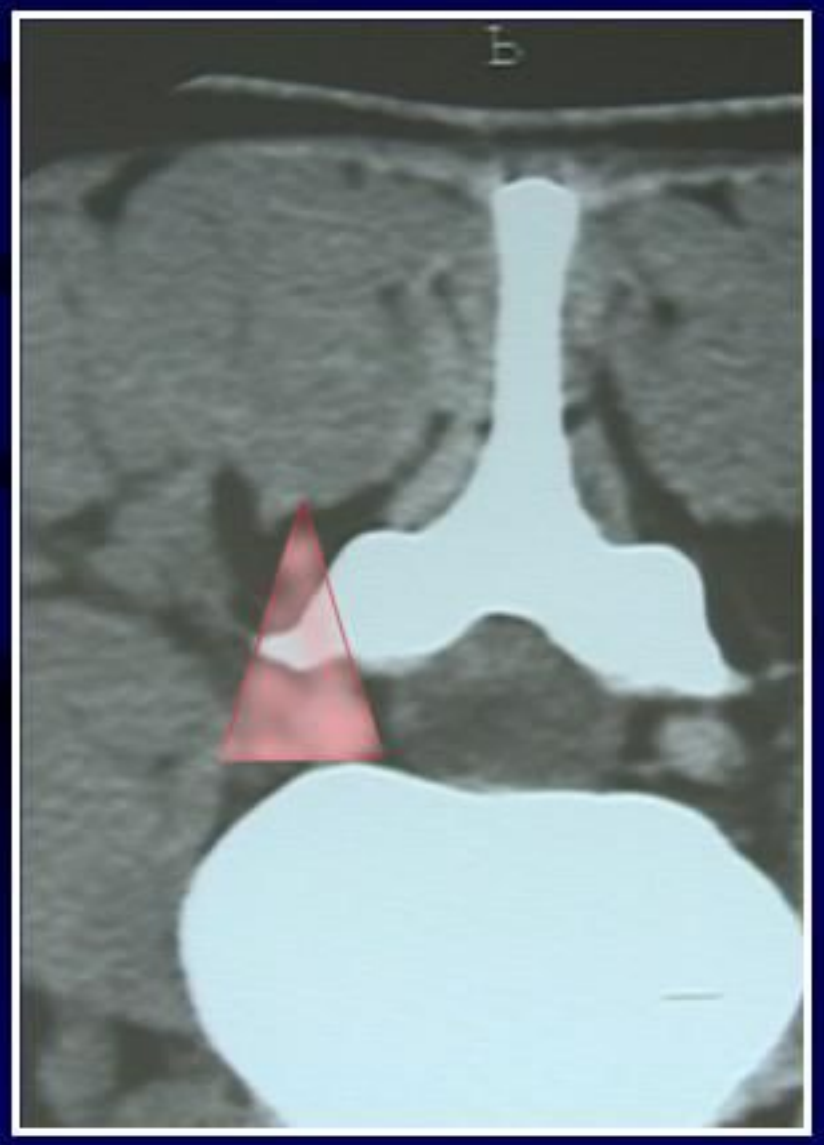


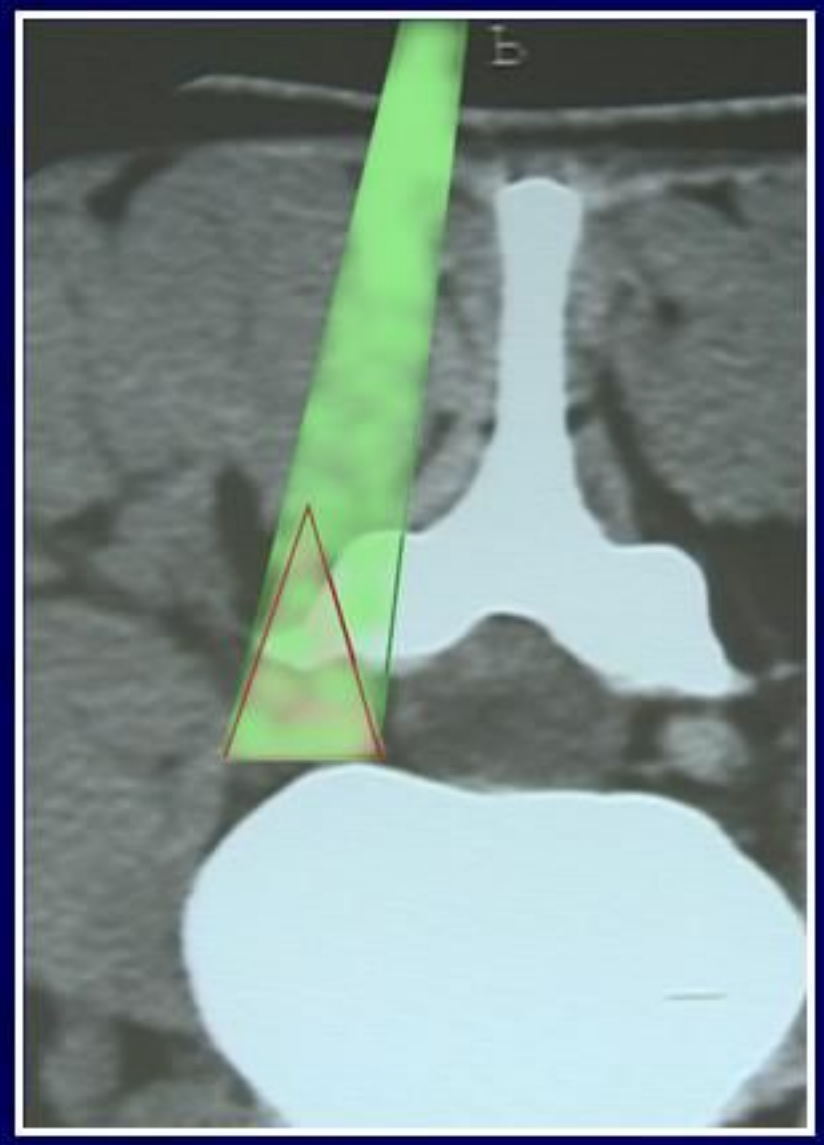
Endoscopic Vs Microscopic

- Incision: 1.5 cms



Endoscopic Vs Microscopic





Endoscopic Vs Microscopic

- Early Mobilisation

Conclusion
Endoscopic Disc Surgery

Advantages

- Minimally invasive
- Smaller incision (About 1.5 cms.)
- Less painful
- Under Regional anaesthesia
- Early discharge (Daycare)
- Quick return to work

Conclusion
Endoscopic Disc Surgery

Disadvantages:

- Steep Learning curve

Sir Ganga Ram Hospital

Accumulating trust for over Fifty Years.

Thank You