



Minimally Invasive Techniques for MCD and Laminectomies

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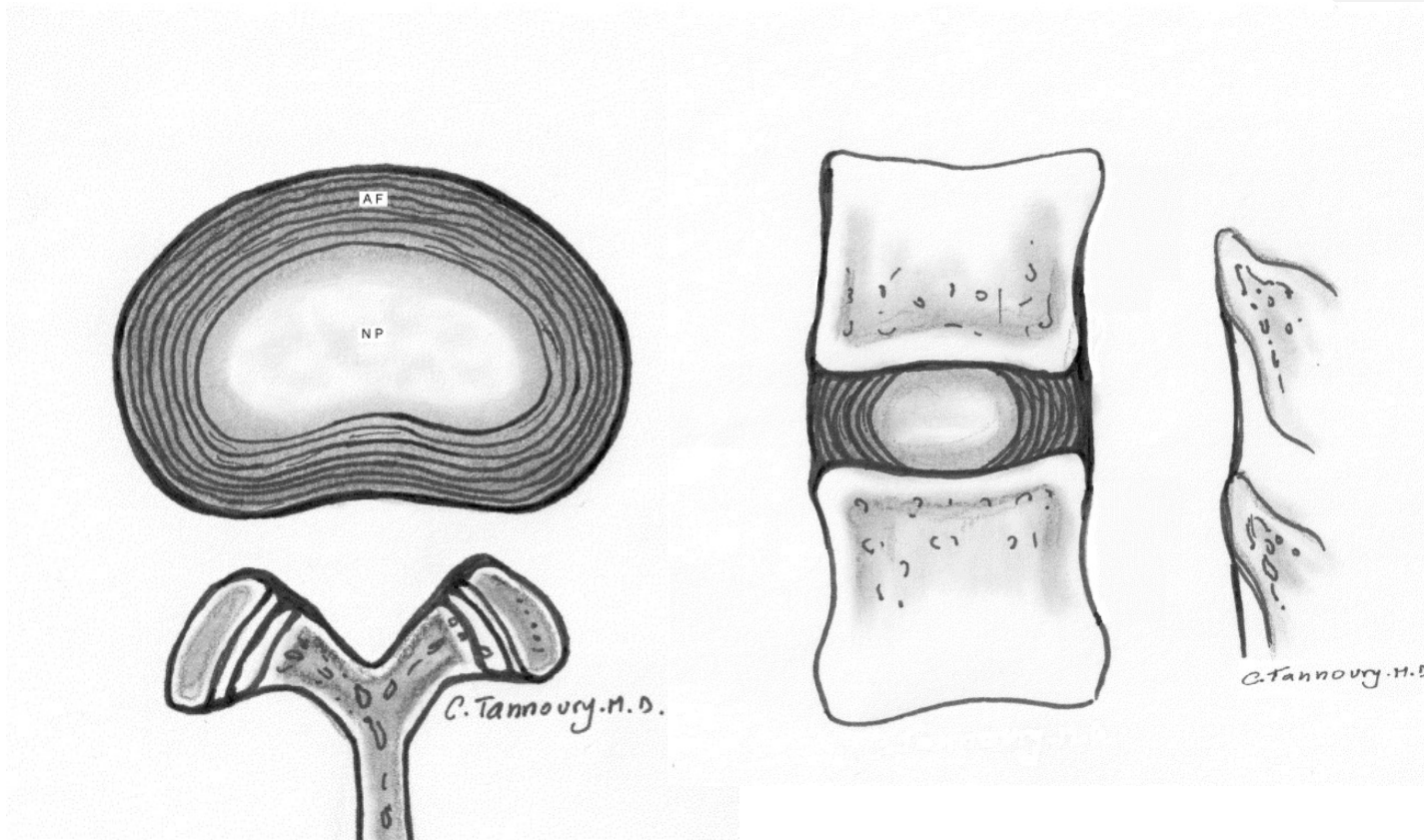


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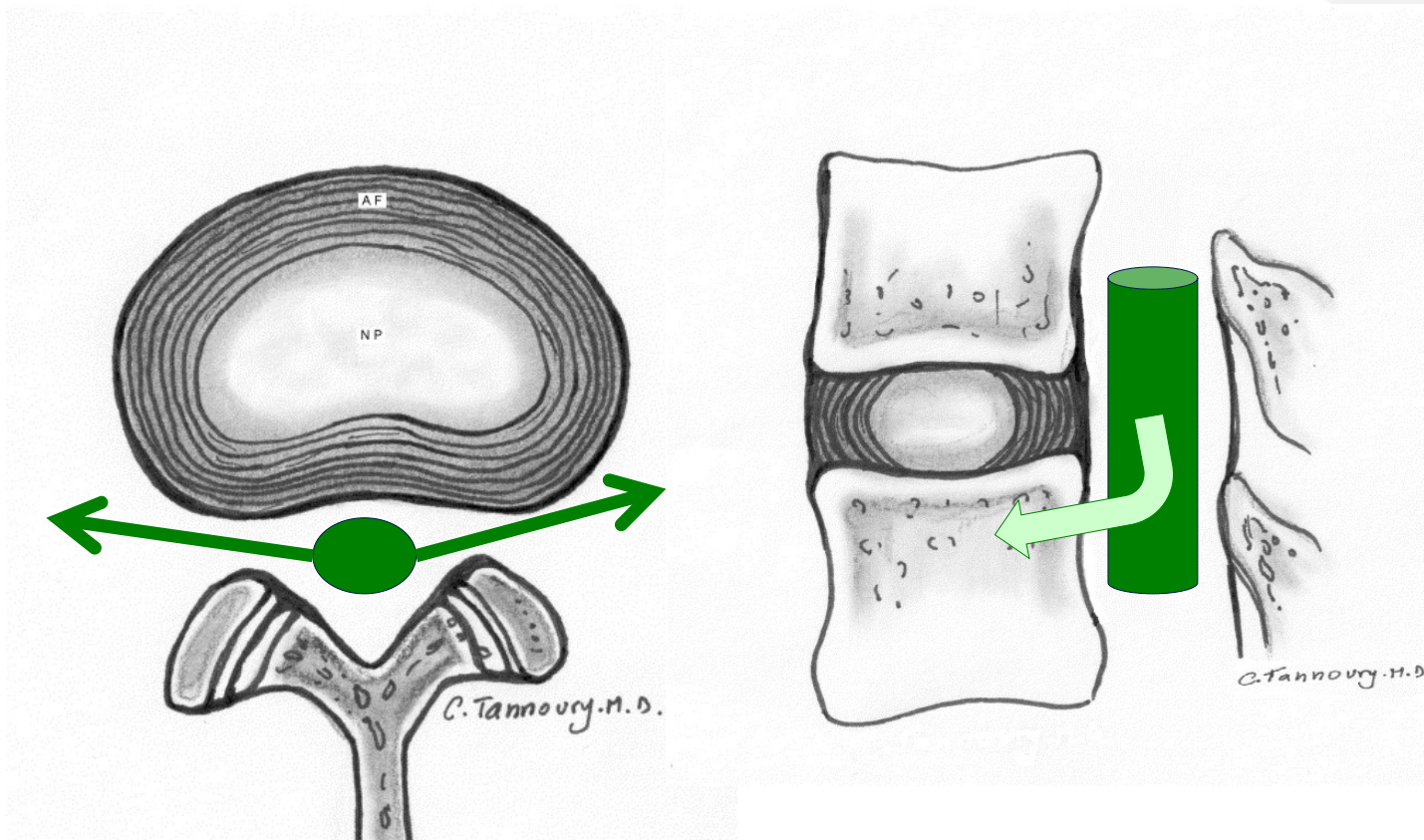
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- I have something to disclose (Disclosures website)
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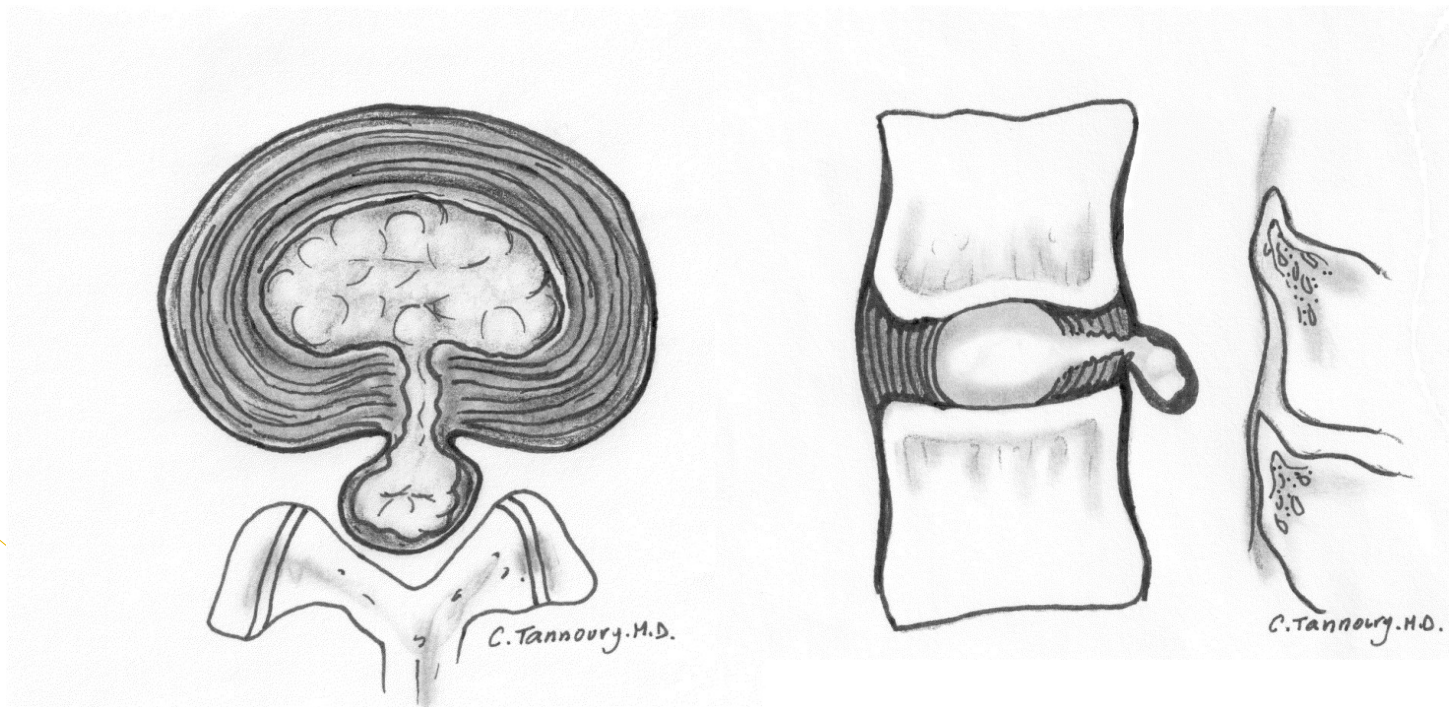
Normal Disc



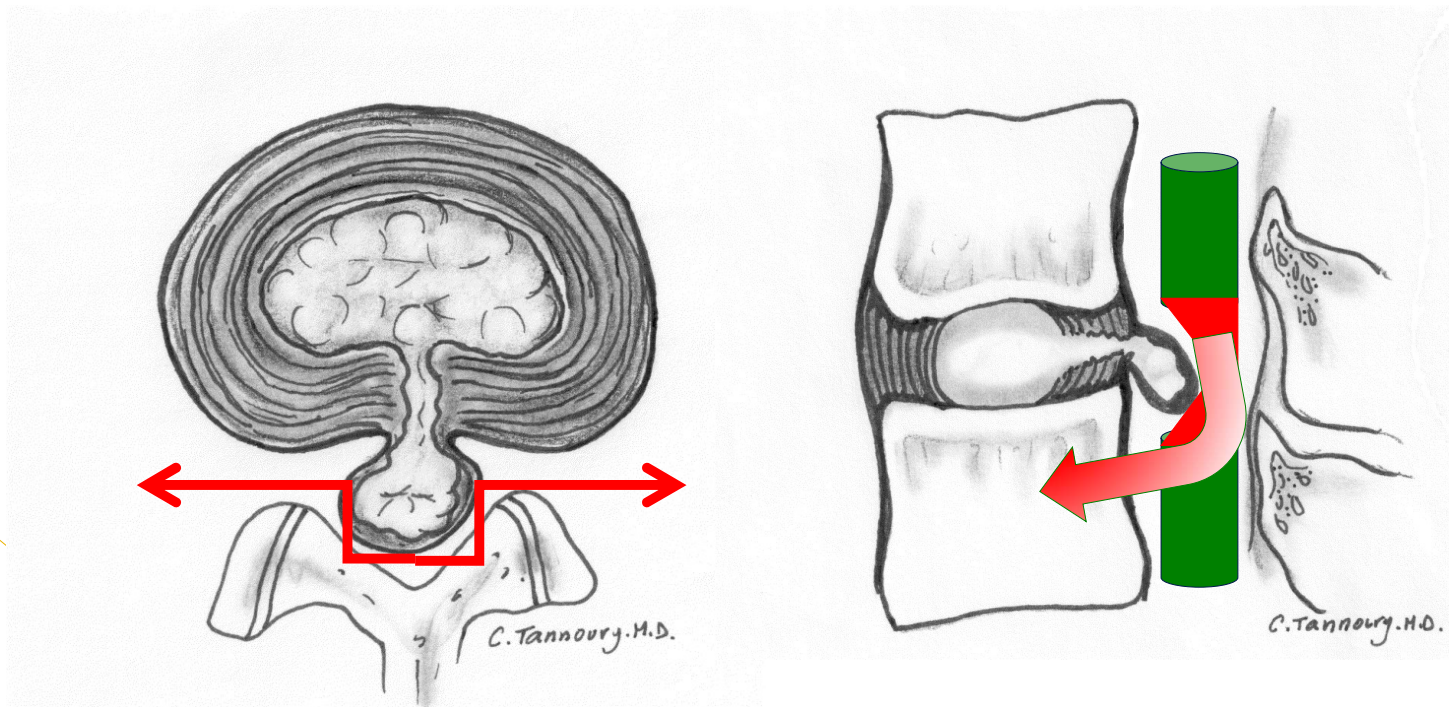
Normal Disc – Neural Elements



What is a disc herniation?

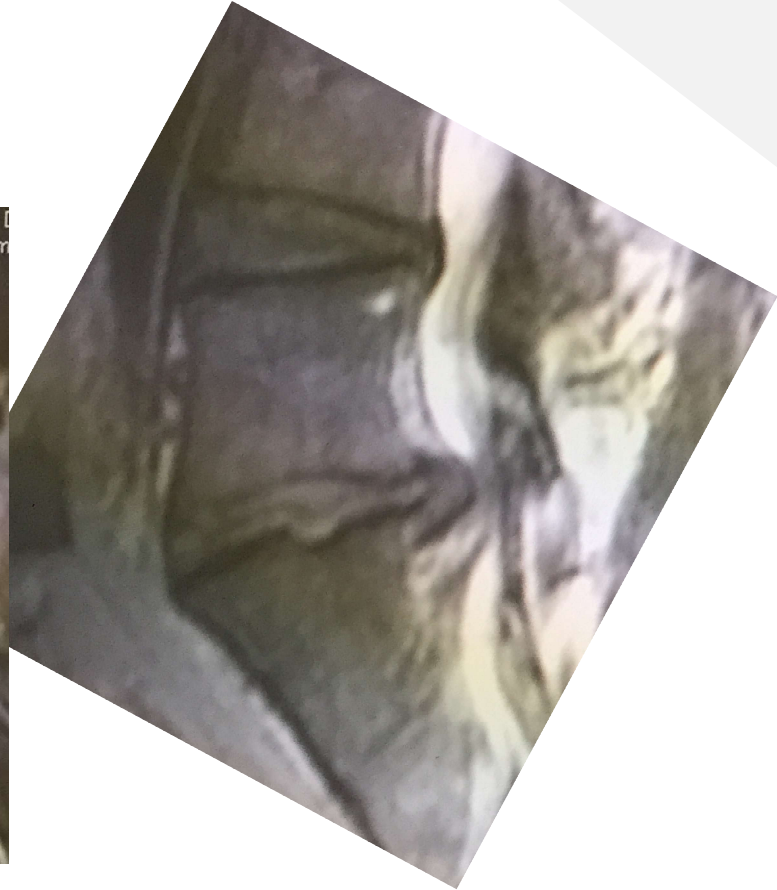
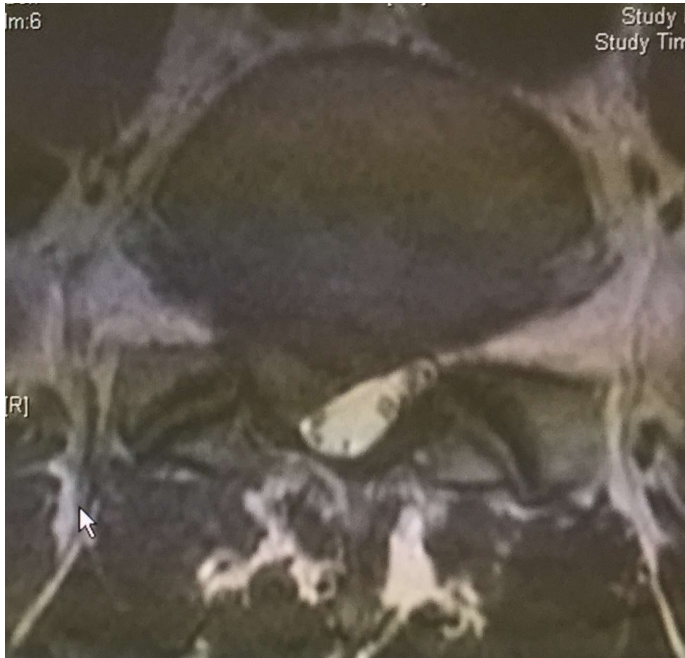


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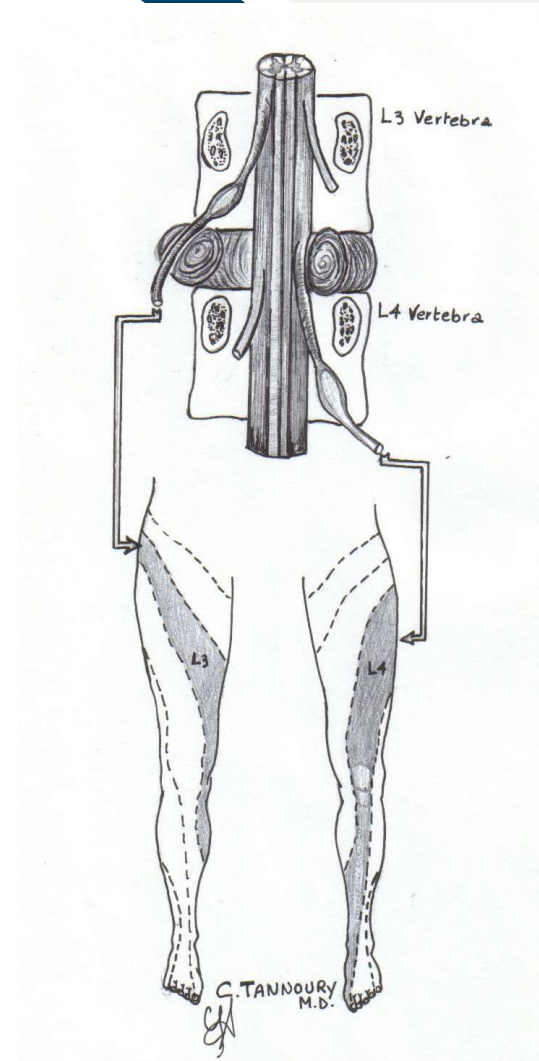
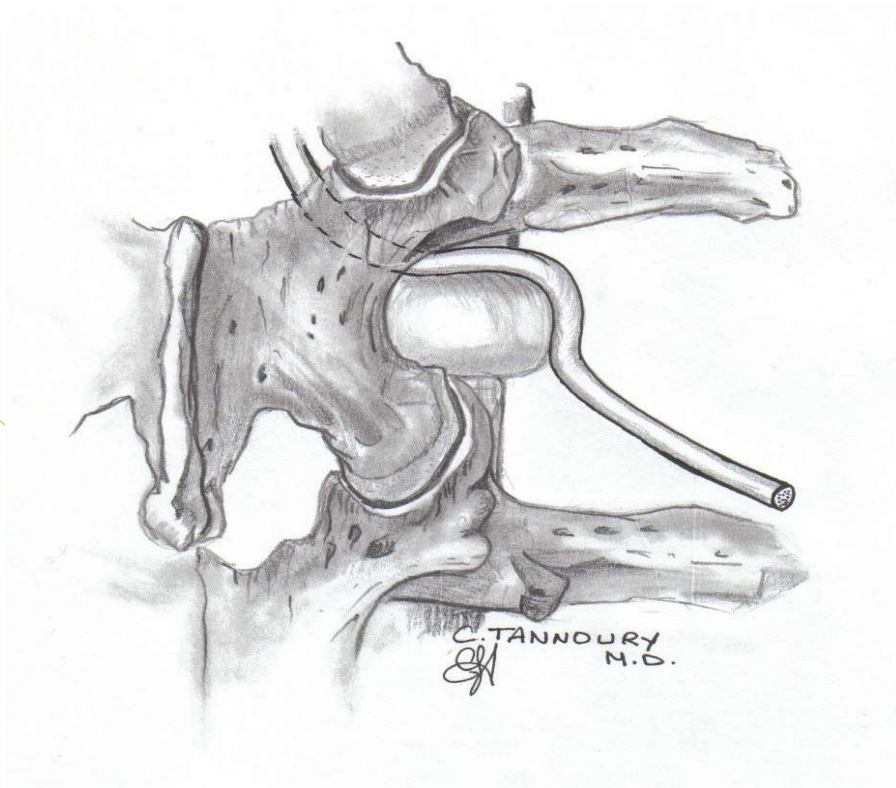
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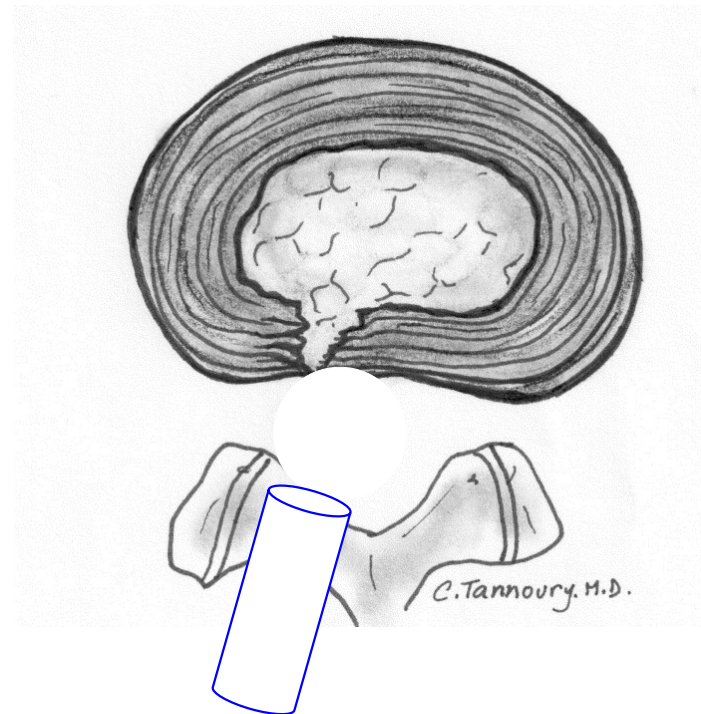
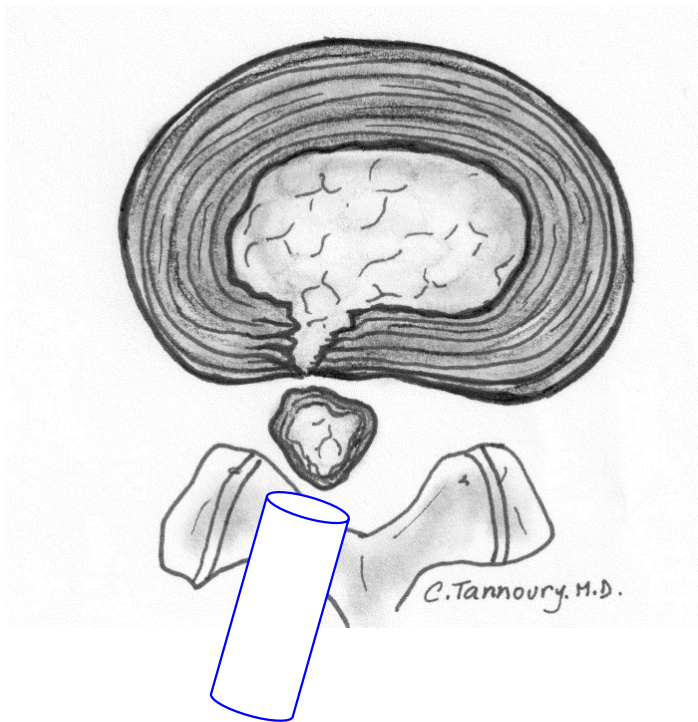
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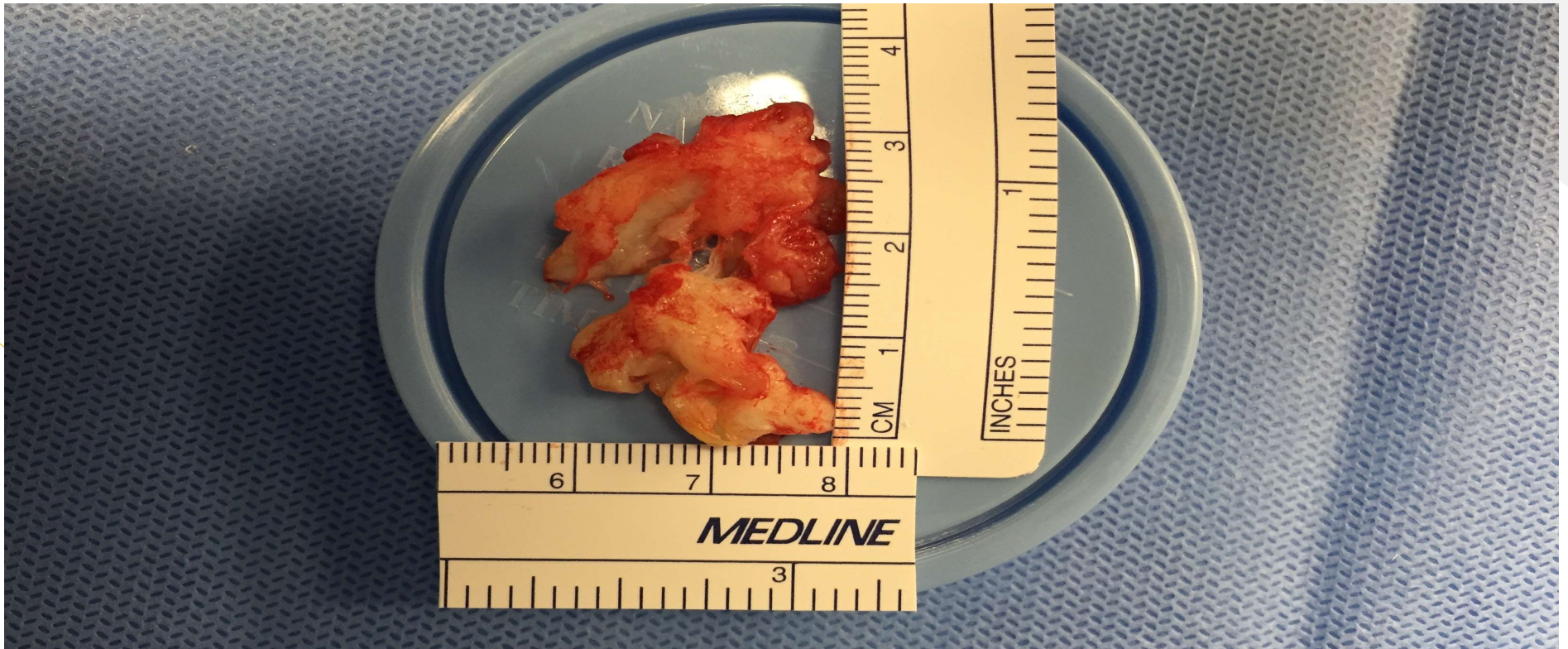
The aim of surgery

- Remove the pressure off the nerve

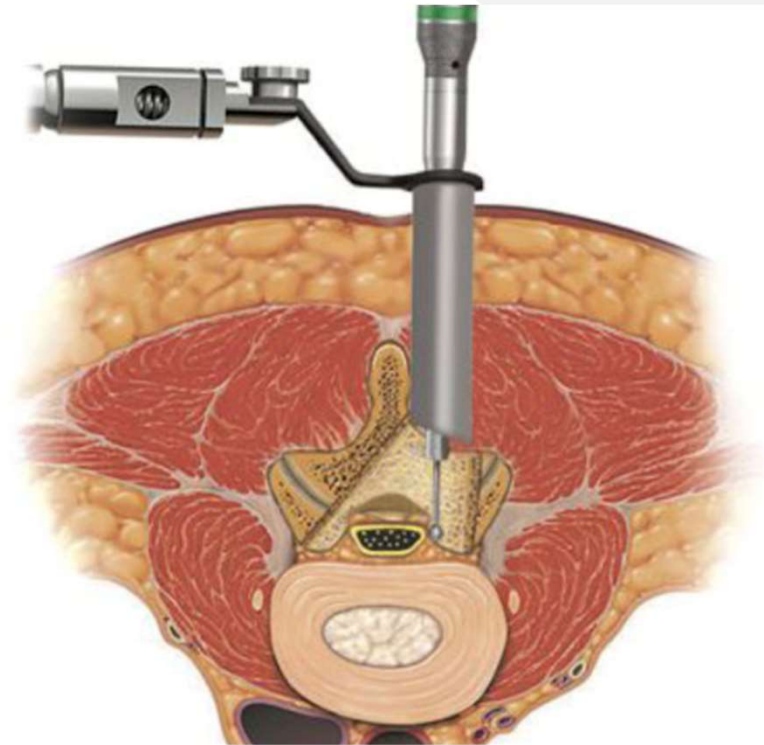
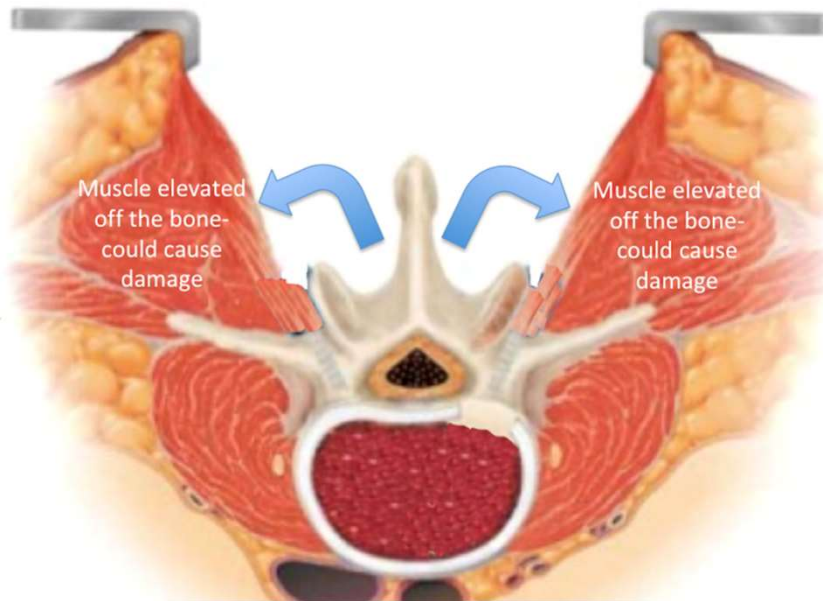


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Traditional vs MISS




Why MISS?

- Virtues:
 - Less collateral damage: Muscles, Nerves, Vx, Lig
 - Faster Recovery
- Proofs:
 - Lower EBL
 - Lower postop Pain
 - Shorter Hosp Stay
 - Quicker return to activities



Jaikumar 2002, Seldomridge 05

Primary Goals - Secondary Goals

- 
- Adequate decompression
 - Remove significant pathology
 - Limited soft tissue disruption
- Smaller incision
 - Avoid collateral damage
 - Reduce Blood Loss
 - Reduce Risk of Infection
 - Reduce Pain
 - Hasten Recovery
 - Time efficiency

MISS - Principles

- Proper skin localization
- Special retractors - dilators
- Magnified visualization: Loupes, Microscopes
- Light source

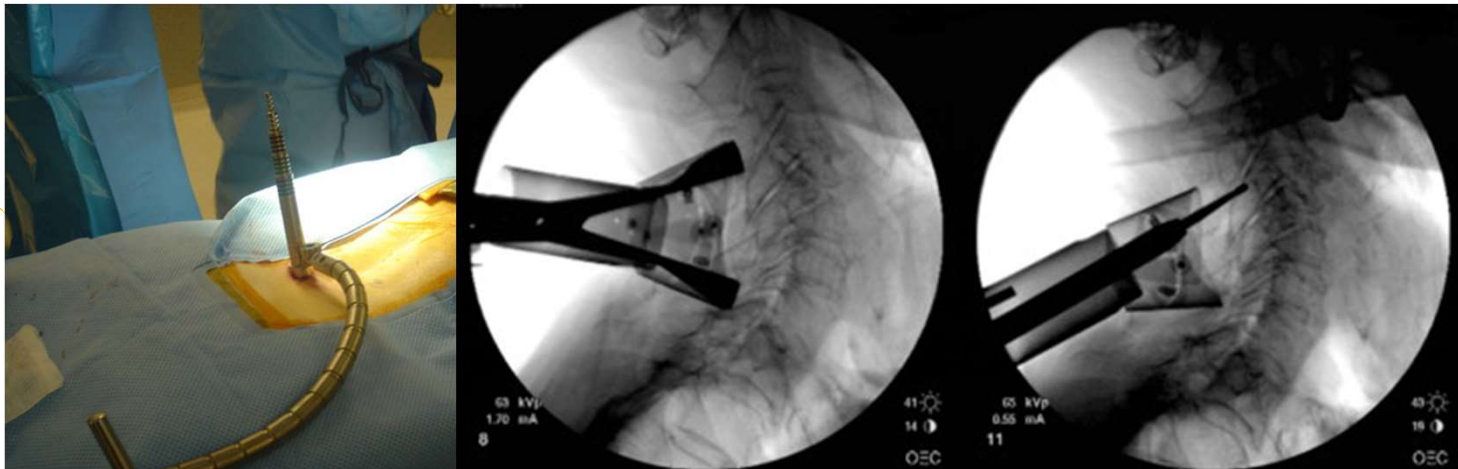
Visualization

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Equipments

- Retractors:
 - Serial tubular dilators
 - Expandable dilators
- Rigid arms



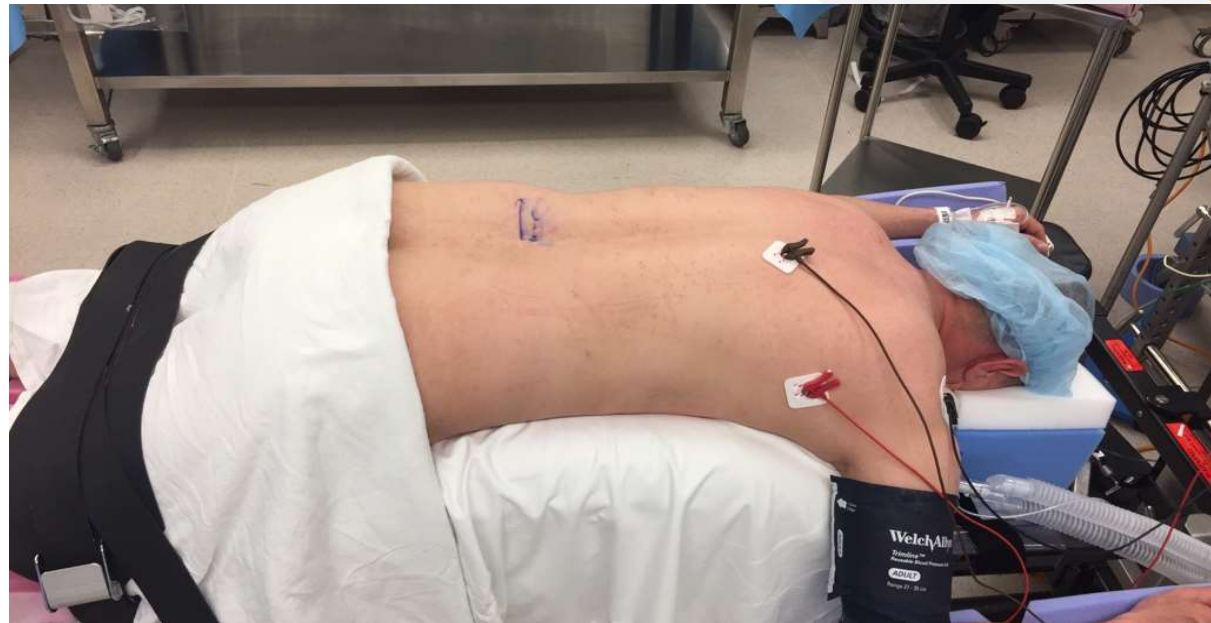
Instruments

- Longer
- Thinner
- Bayoneted



Setup

- Positioning: Prone
- Radiolucent table



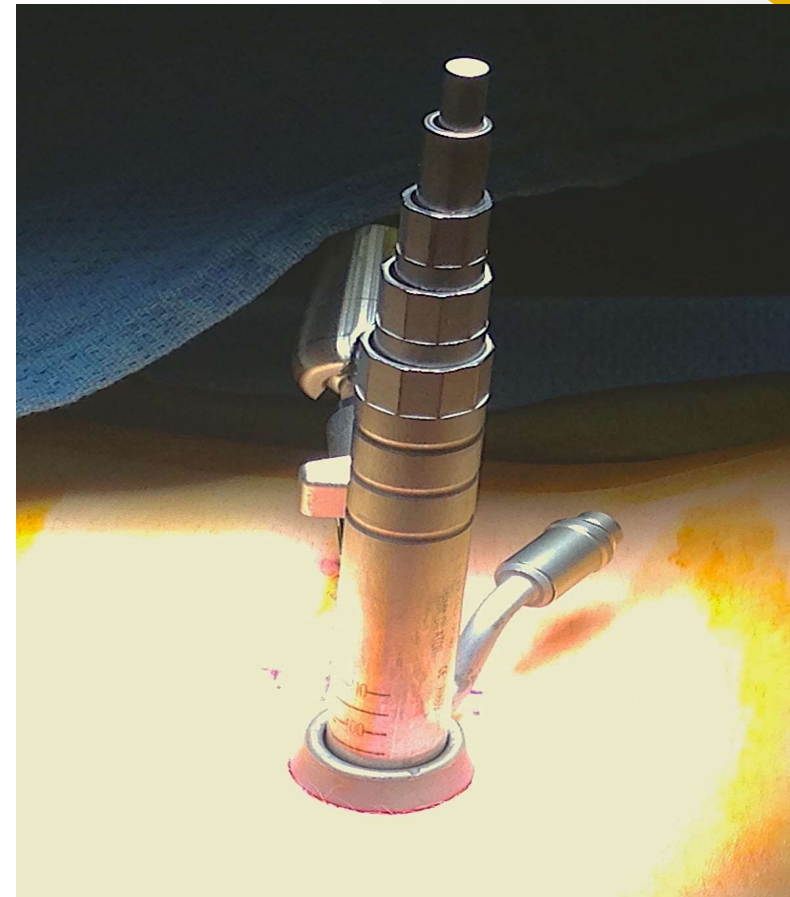
Setup

- Sterile Prep - Draping
- Localization: Fluoro



Incision

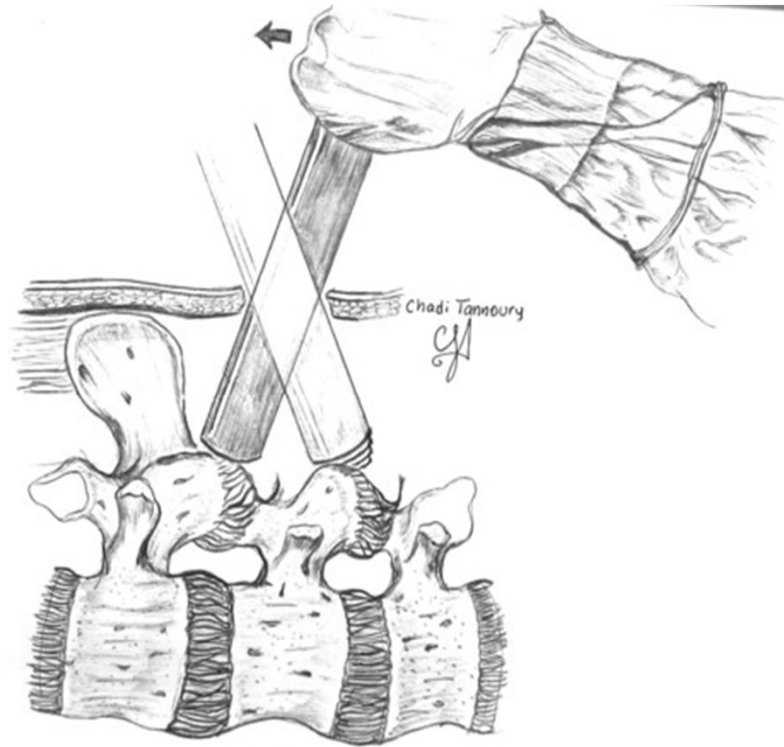
- Skin incision ~ width of retractor 2-3Cm
- Retractor placement



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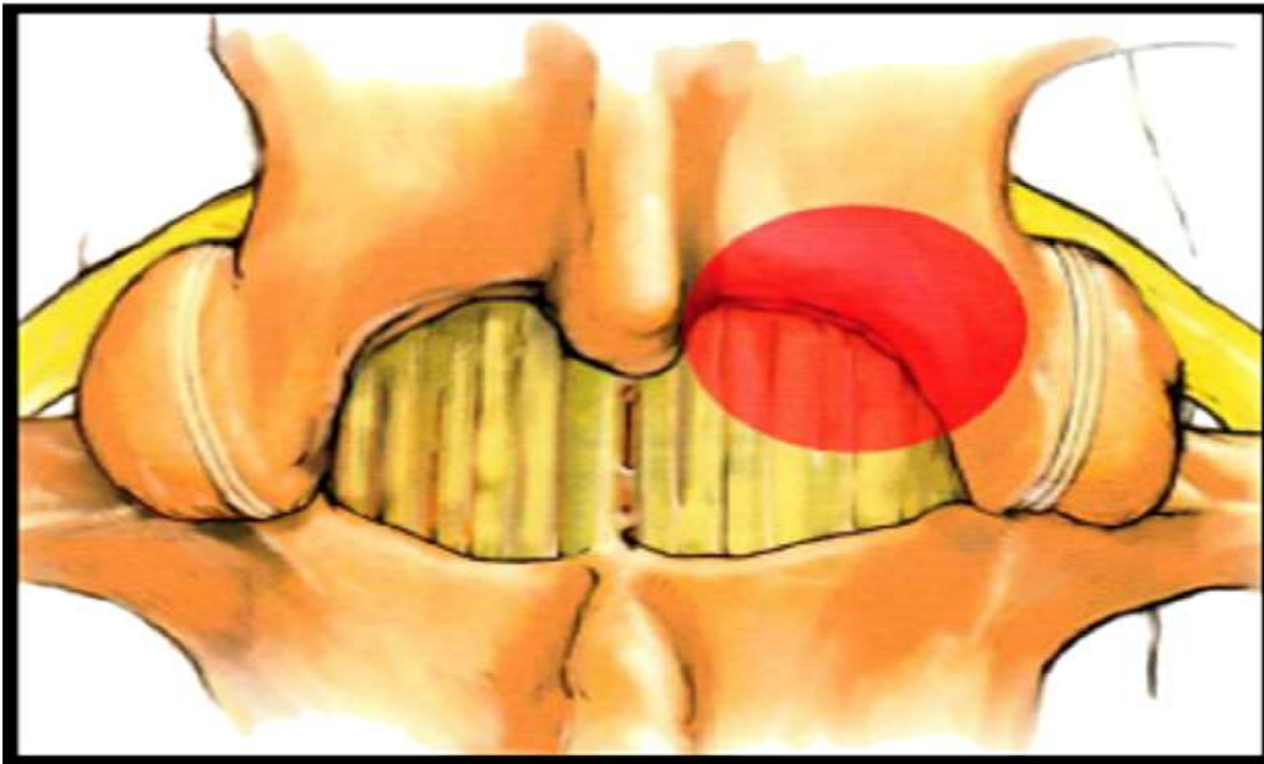
Tubular Retractor



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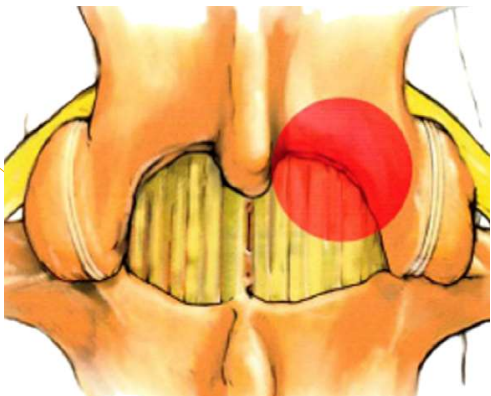
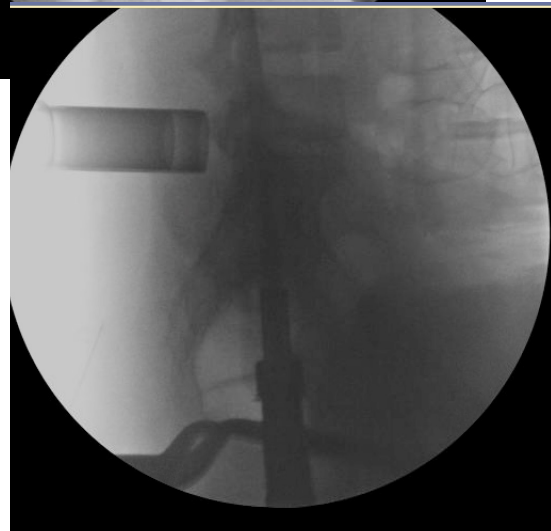
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Diskectomy - HNP



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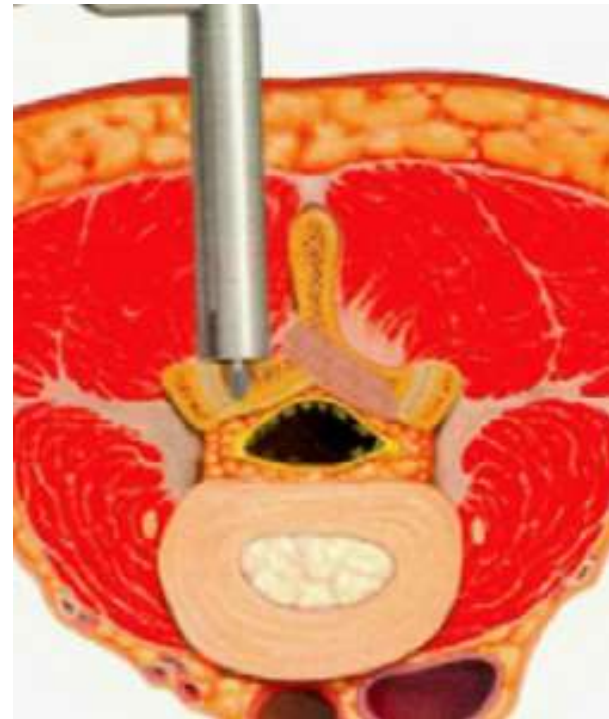
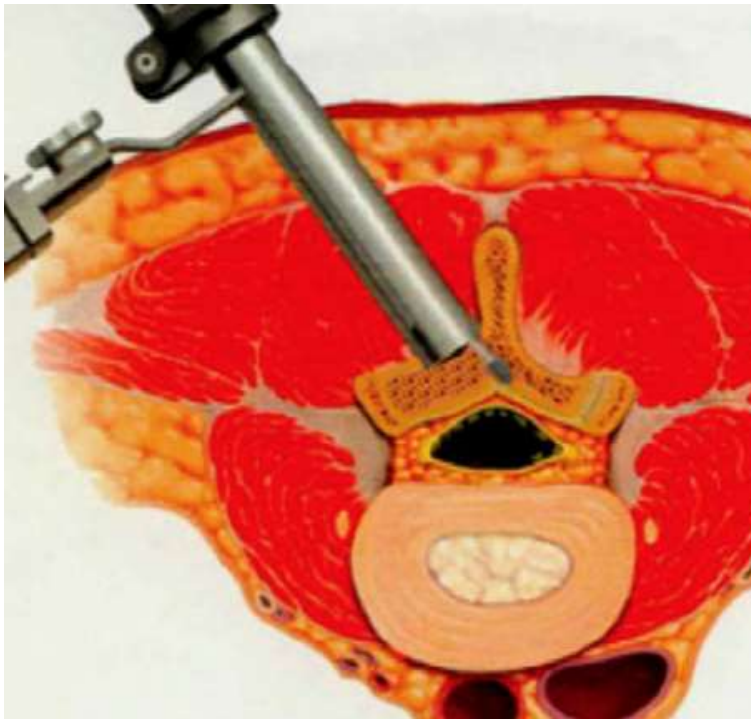
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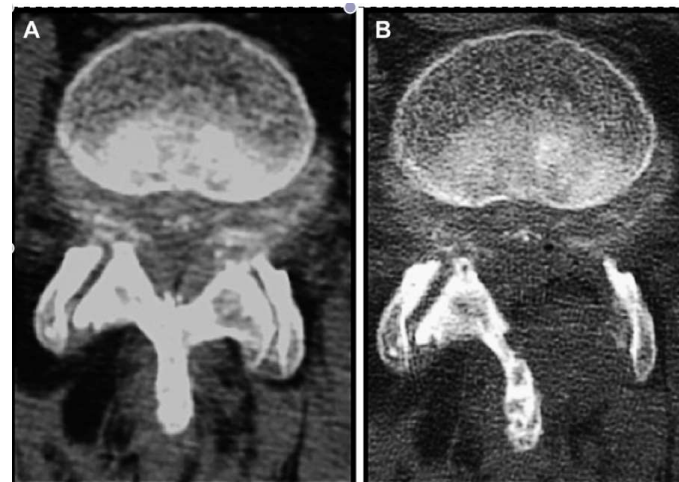
Laminectomy - Stenosis



Disadvantages – MISS Limitations

- Learning Curve:
 - Increase risk complications
- Slower Surgery Initially
- Iatrogenic instability (Pars/Facet)
- Durotomy Repair
- Adjustments:
 - Working through a tube
 - High speed drill
 - Microscope
 - C-arm
- Radiation Exposure

Mannion JSDT'12



MISS Evidences

- Equivalent Outcomes
- Less blood loss
- Decreased Immediate postop pain
- Shorter length of stay
- Faster return to work

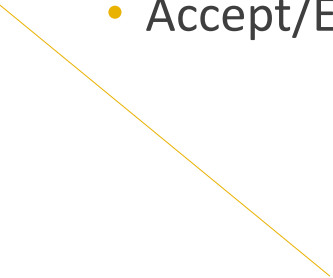
Anderson et al, Spine'11

Arts et al, JAMA'09

Righesso, Neurosurg'07

Ryang et al, Neurosurg'08

Summary

- Respect primary goals of surgery
 - Proper patient selection / Pathology selection
 - Accept/Embrace the learning curve
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Thank You!

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