



The University of Jordan

School of Medicine

Lectures in Pictures

Degenerative Spine



Dr. Tareq Kanaan
Director of Neurosurgery Dept.

Trephination dates back to 10 000 BC.

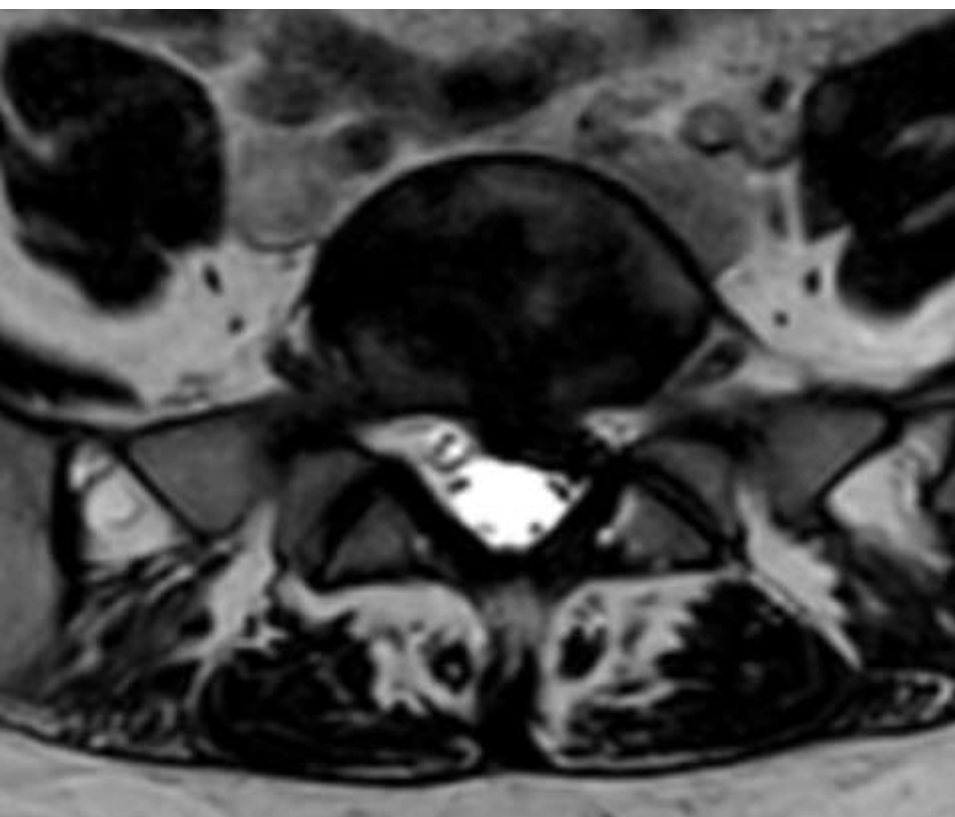
Lumbar Disc Prolapse

What syndrome do you expect this huge disc prolapse to cause?

Conus Medullaris S.

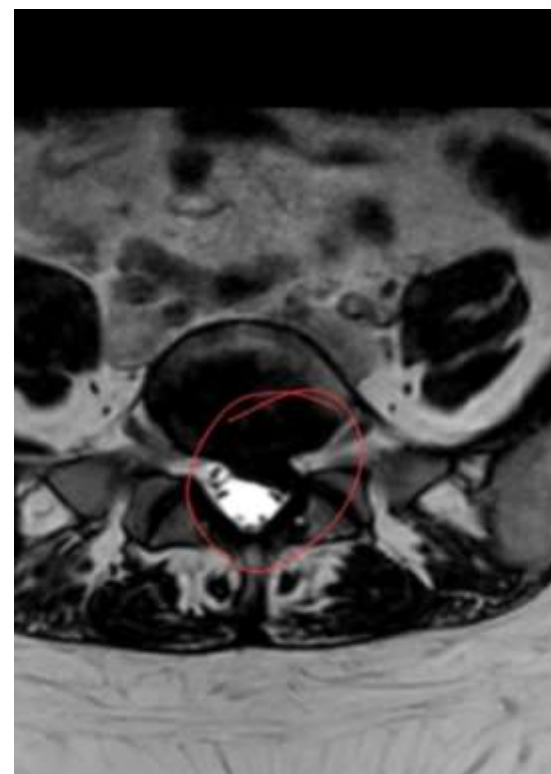
- It starts with bladder dysfunction in the form of Overflow incontinence and usually this is the presenting symptom in comparison to Cauda equina S which starts with sciatica.
- Here the disc prolapse should always be at L1-2 level where the conus is.
- Cauda equina can be at any level between L2-S1 .

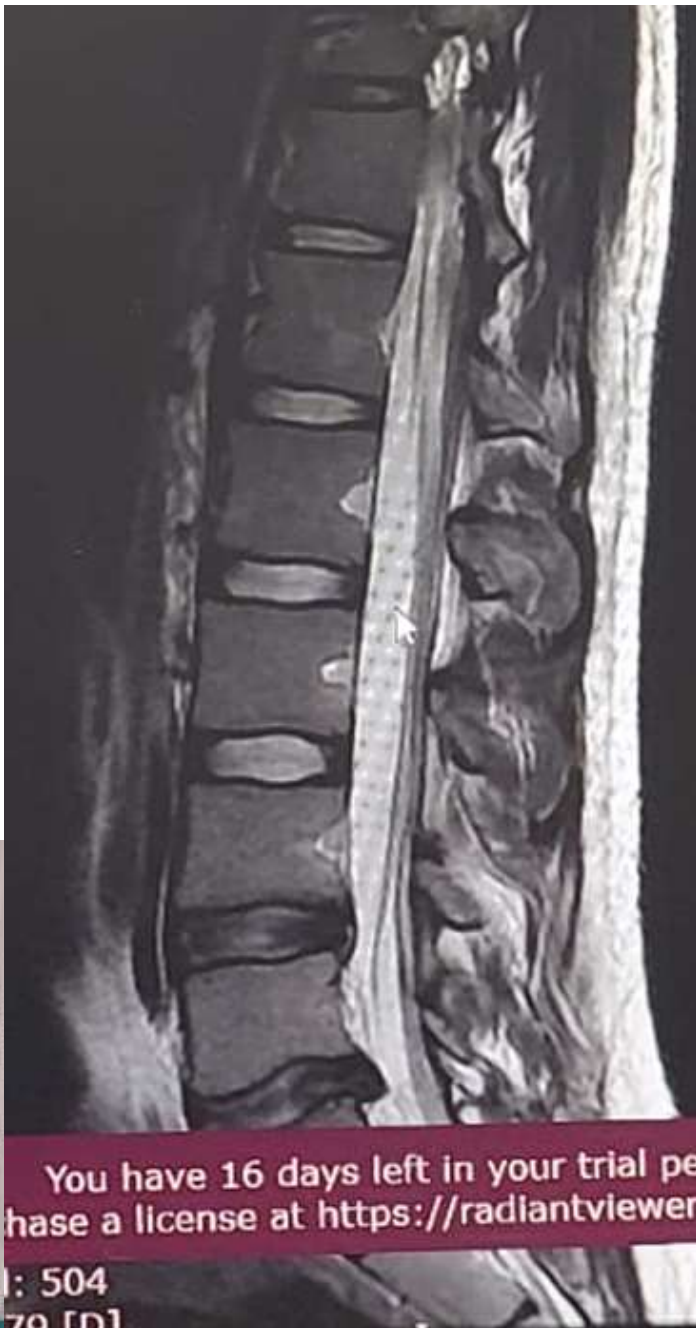






A rare L1-2 acute Rt posterolateral DP





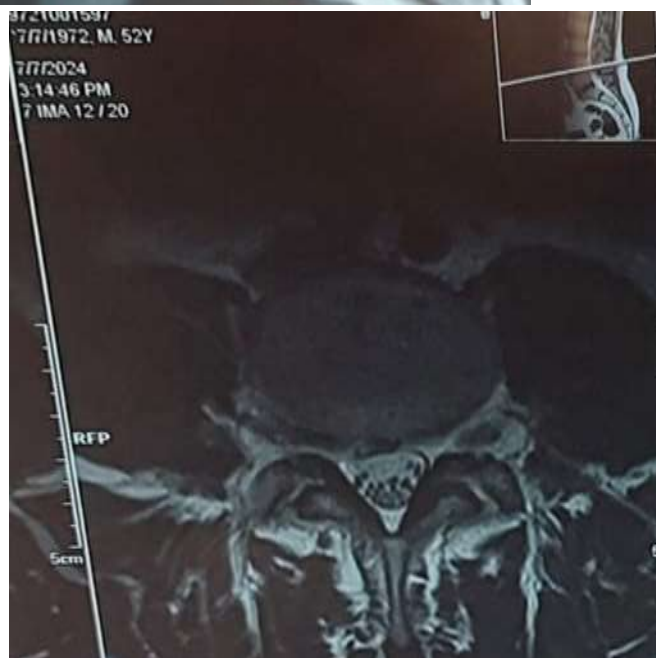
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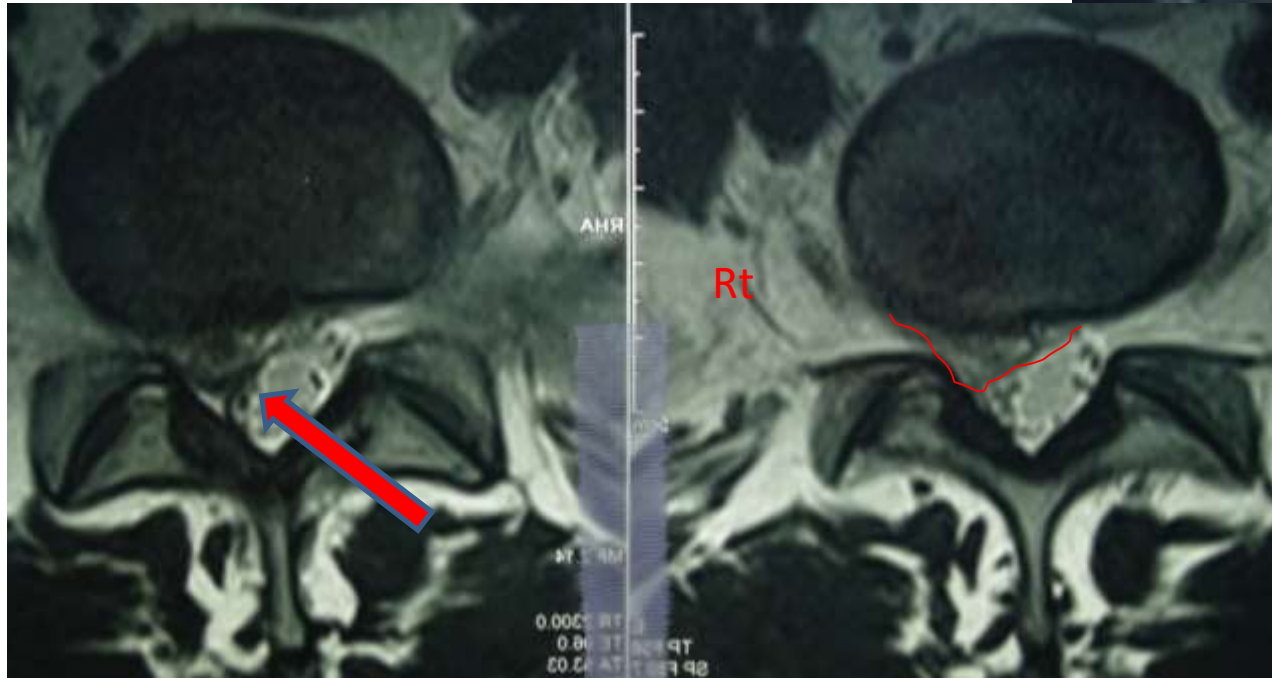
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Lumbar Disc Prolapse



- The m.c in spine , 79%
- M.c. Level L4-5 & L5-S1 (95% together of all Lumbar DP).
- Mostly para central , causing radiculopathy or
- Sciatica (pain in sciatic nerve distribution)
=L 4,L5,S1,S2,S3



T2 WI sagittal , L5-S1 DP

L5- S1 down migrating disc prolapse

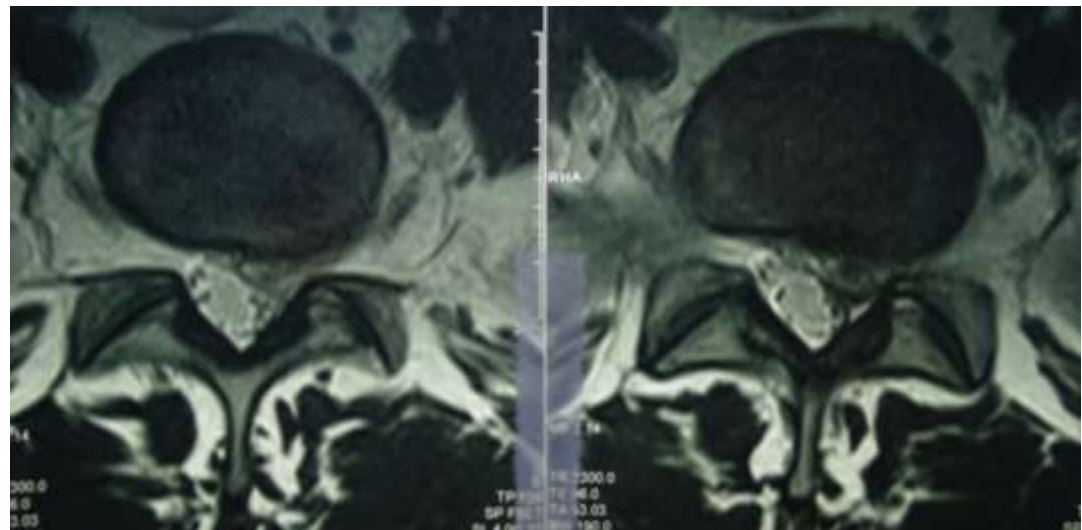
What is the typical presentation of this DP?

- S1 sciatica
- If the patient is C/O L5 sciatica , what would you do?
- L.S XR Ap and lateral bec. I will suspect he has a sacralized L5 and the disc prolapse is really at L4-5 level

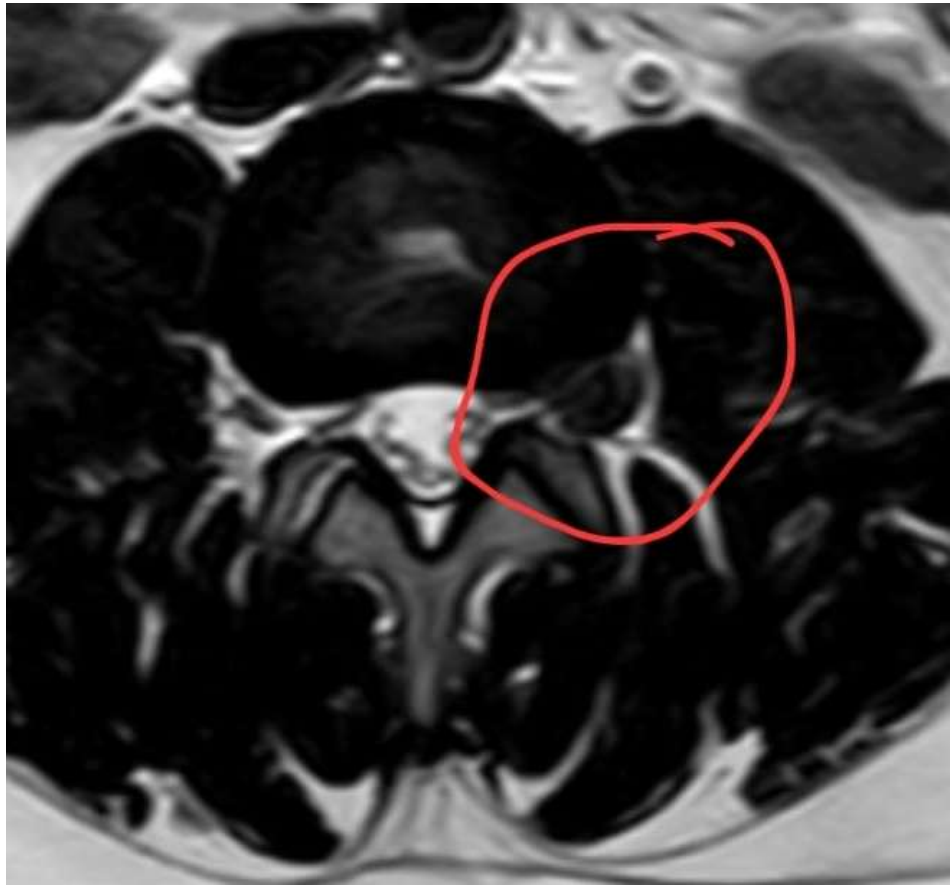
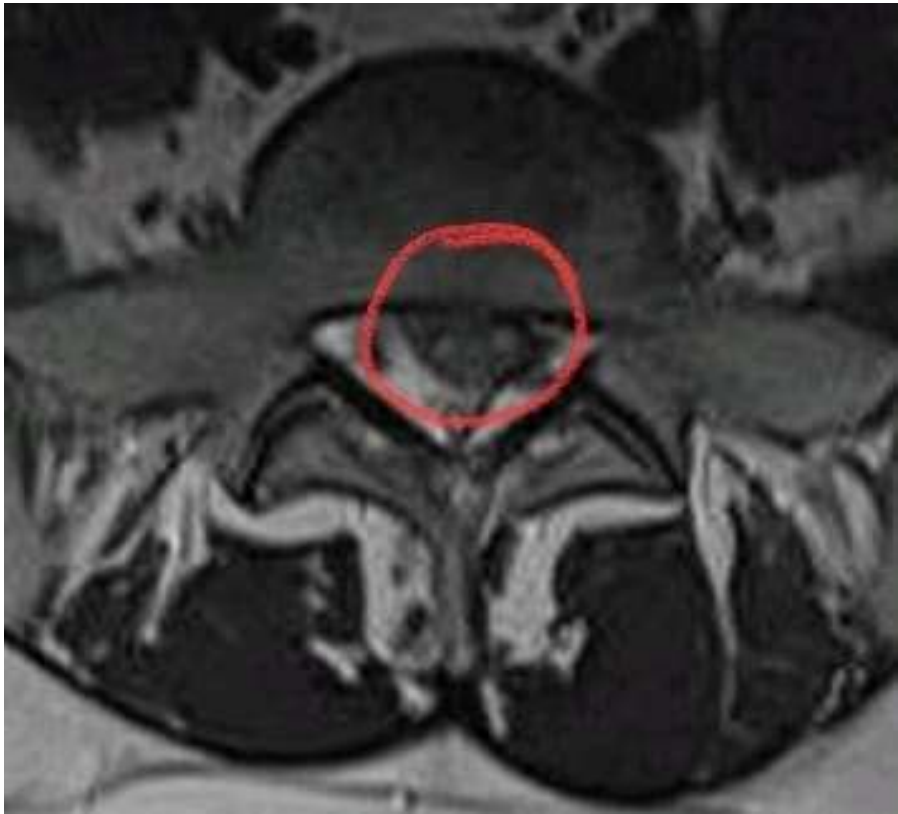


What would this DP cause for a sciatica?

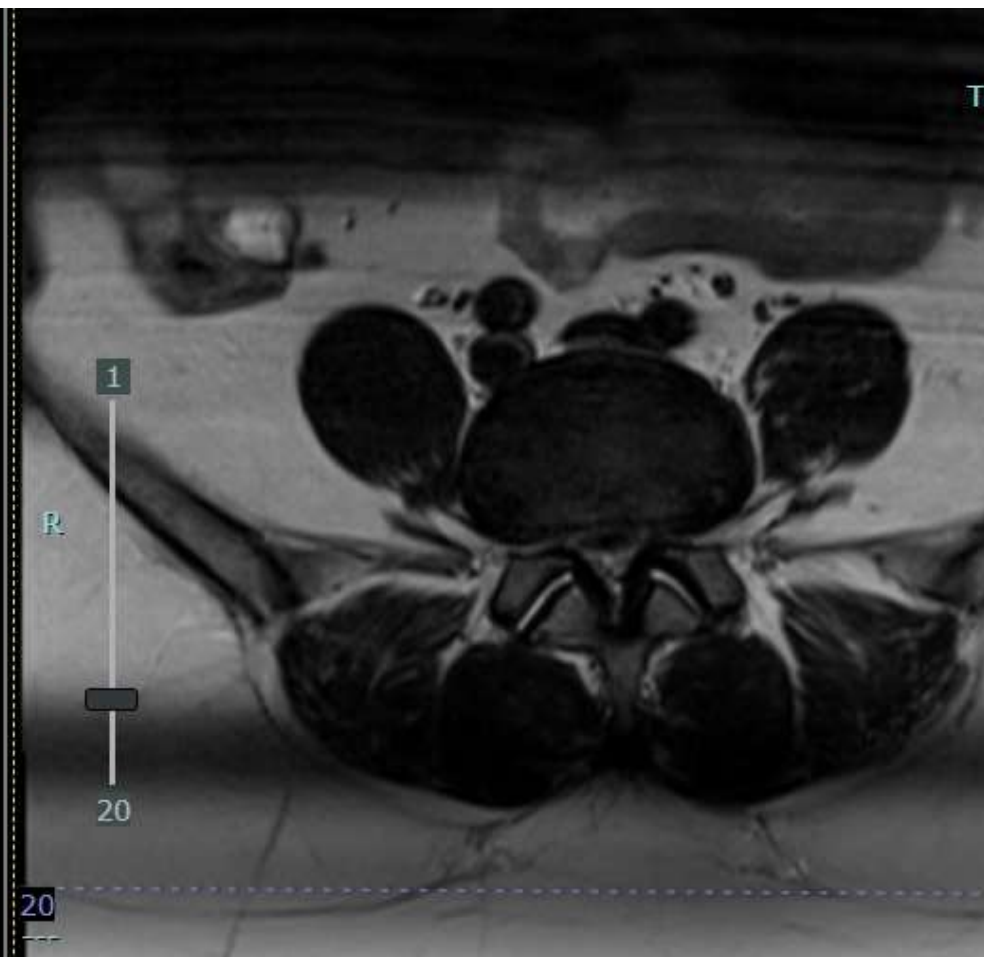
- Left S1 sciatica
- When would it be an emergency?
 - Acute foot weakness (here planter flexion)
 - Bladder incontinence (overflow incontinence) i.e cauda equina Synd. Usually retention proceeds incontinence











STAGES TO A DISC HERNIATION



Normal



Degeneration



Prolapse



Extrusion



Sequestration

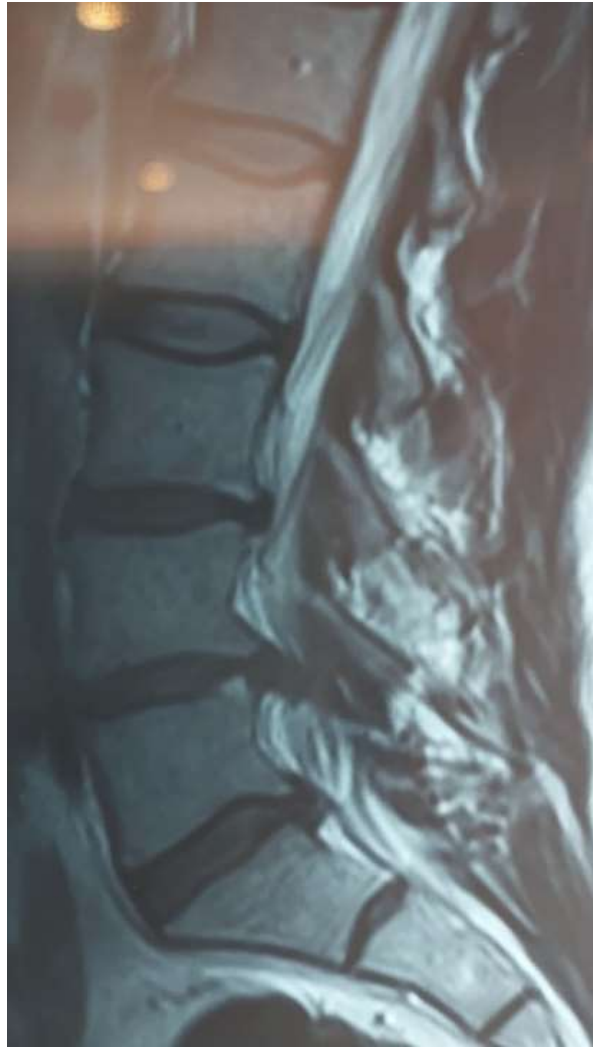


Extrusion

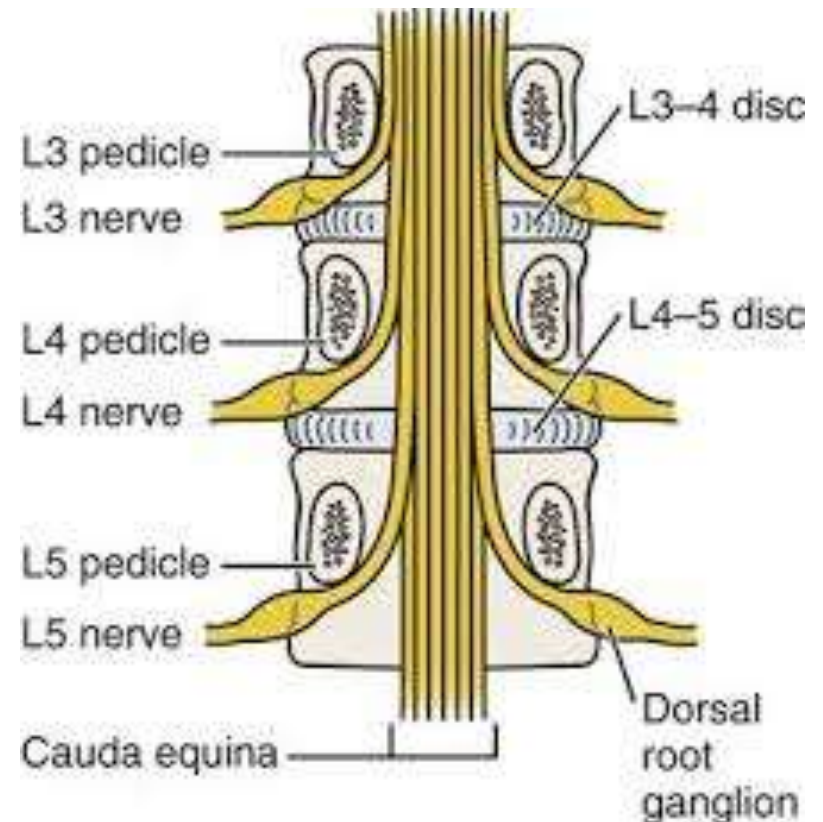
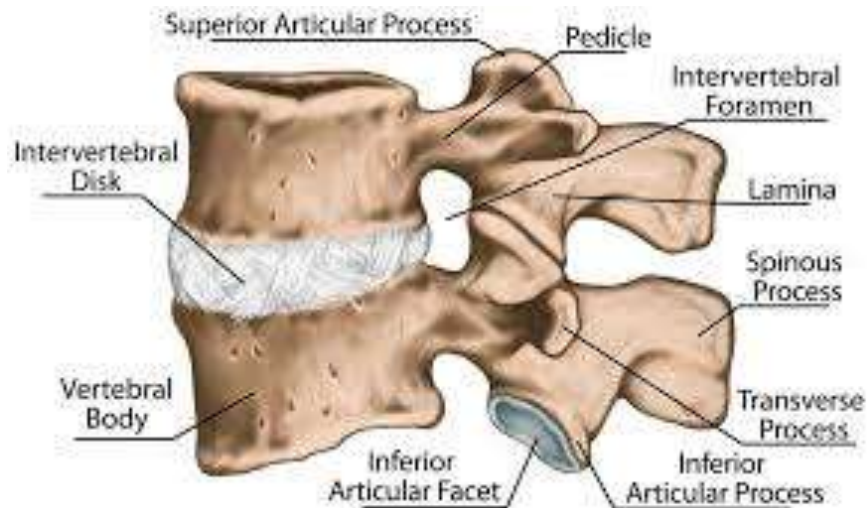


Sequestration

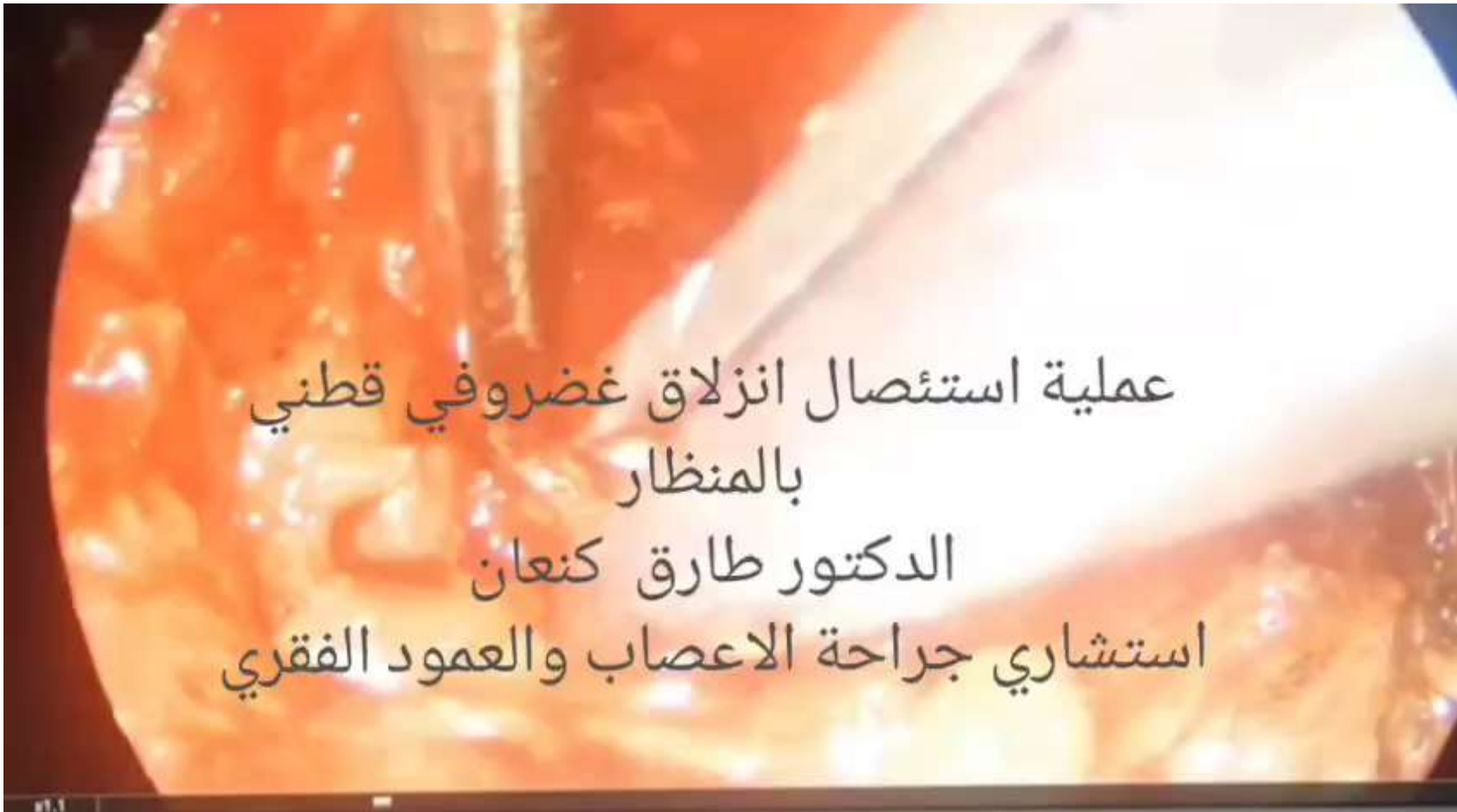








Concept of **exciting** nerve root
and **traversing** nerve root

An endoscopic surgical view showing a reddish, moist tissue surface. A surgical instrument is visible on the right side of the frame. Overlaid on the image is Arabic text in black, which reads: 'عملية استئصال انزلاق غضروفي قطني بالمنظار' (Minimally invasive endoscopic removal of a lumbar disc herniation), 'الدكتور طارق كنعان' (Dr. Tarek Kanaan), and 'استشاري جراحة الاعصاب والعمود الفقري' (Consultant in Neurosurgery and Spinal Surgery).

عملية استئصال انزلاق غضروفي قطني
بالمنظار
الدكتور طارق كنعان
استشاري جراحة الاعصاب والعمود الفقري

What is currently the standard surgery for lumbar disc prolapse?

Microscopic or Endoscopic :
Interlaminar fenestration and
sequestrectomy

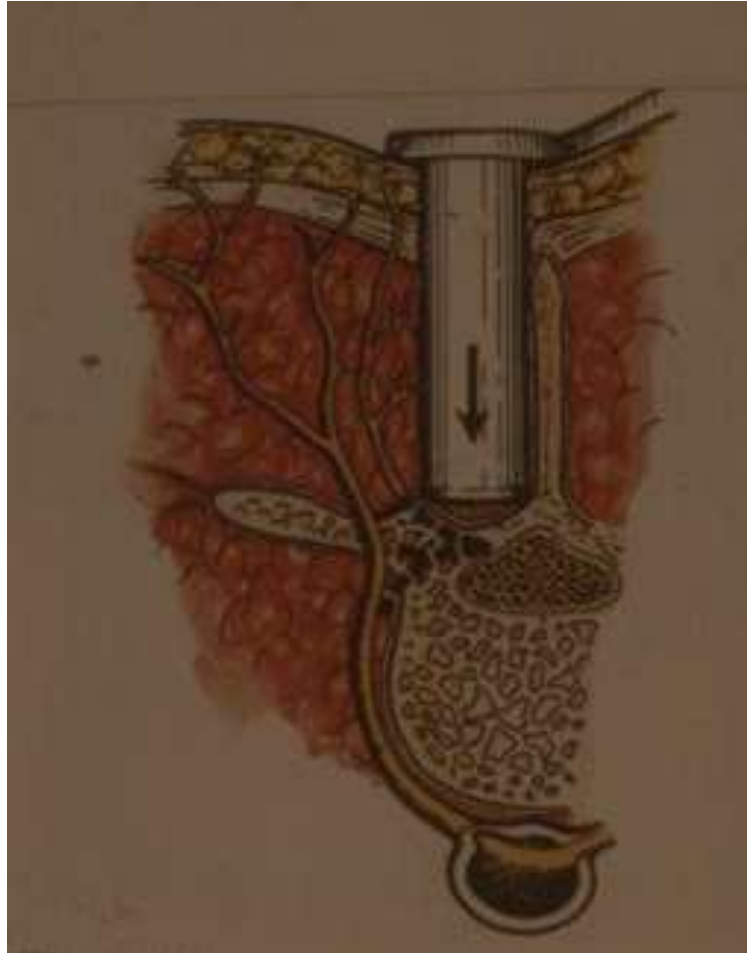
(you can use discectomy instead but
it is not really a discectomy , we
remove the sequestered disc)



Old disc surgery scar

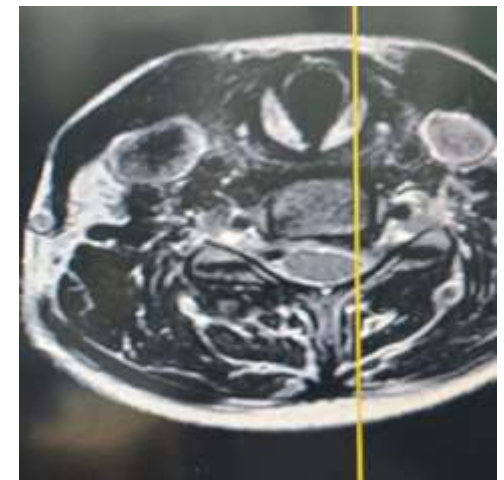
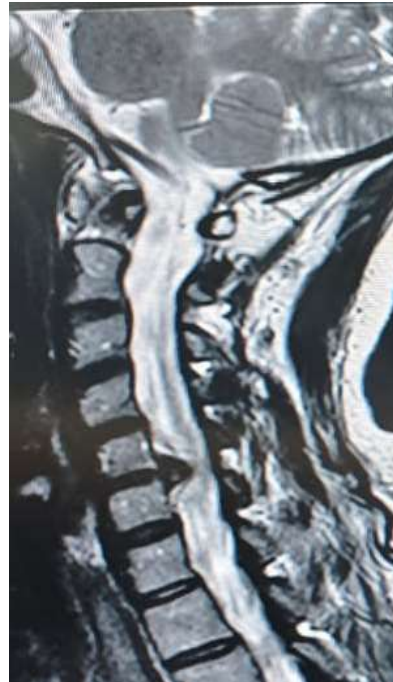
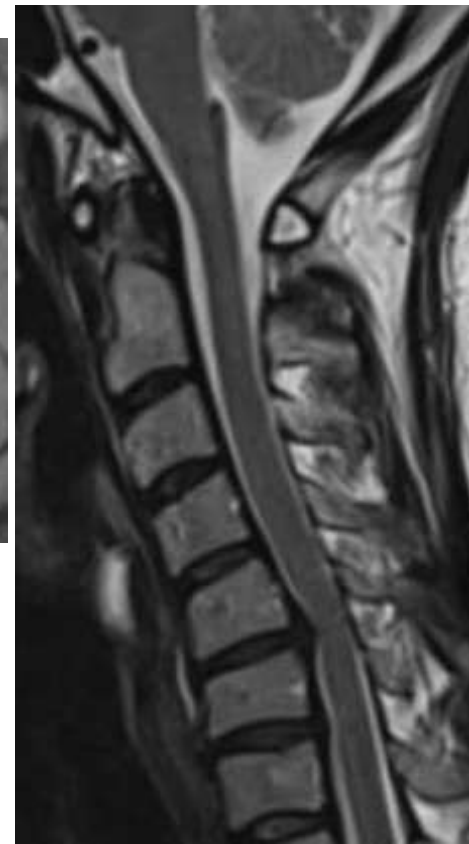
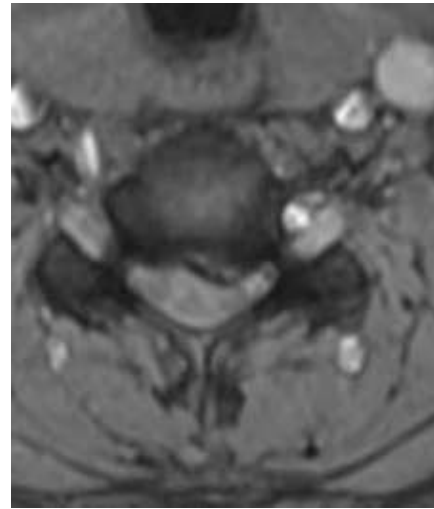






Cervical disc prolapse

- Comprises **19 %** of all prolapsed discs in spine
- (only next to lumbar **79%** , leaving only 2% in thoracic).
- M.c. Level **C5-6** .
- If it is central it will compress the spinal cord causing **Myelopathy**.
- But mostly it is mediolateral , Rt or Lt ,compressing the nerve root -as in this case- and causing **Radiculopathy** : pain in the distribution of a particular nerve root or **Brachialgia** : UL in particular.





Cervical disc prolapse

- Golden standard diagnostic image :
cervical MRI.

- Surgery:

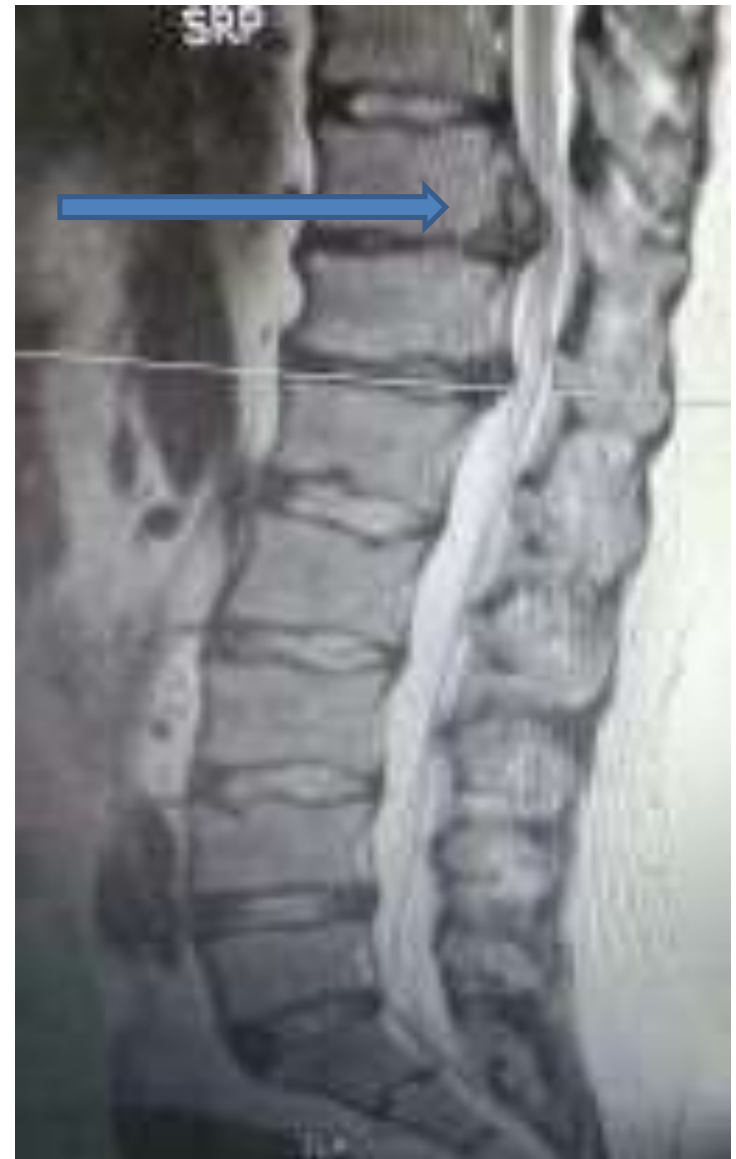
Anterior Cervical Discectomy and Fusion
=ACDF.



This is
a post-operative XR
showing the
implanted cage in
place

Thoracic (Dorsal) Disc Prolapse

- very rare , 2% of aal DP of the spine
- Usually will compress the spinal cord centrally causing myelopathy signs .
- Comression of the nerve root at thoracic levels will rarely cause significant symptoms .
- Treatment :
 - Mostly conservative
 - Decompression
 - Endoscopic(thoracoscopic)discectomy



Sagittal T2 WI MRI showing D11-12 DP