Biportal endoscopic lumbar interbody fusion

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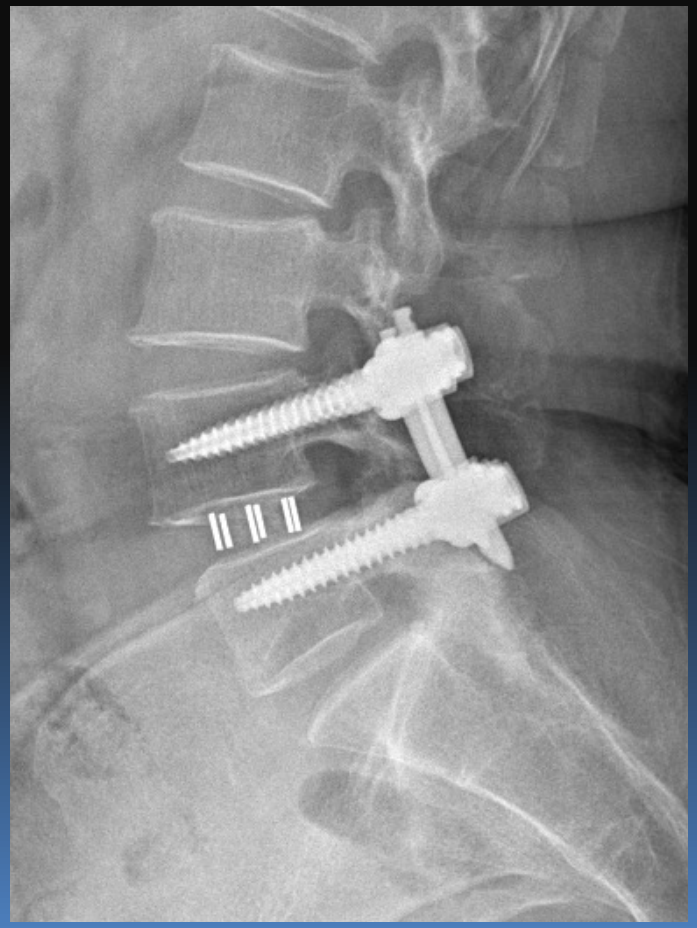
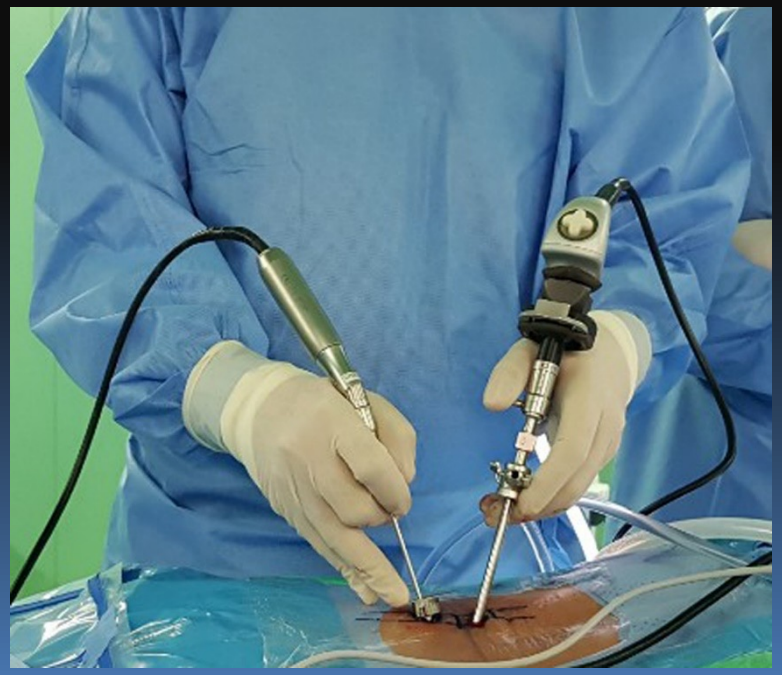
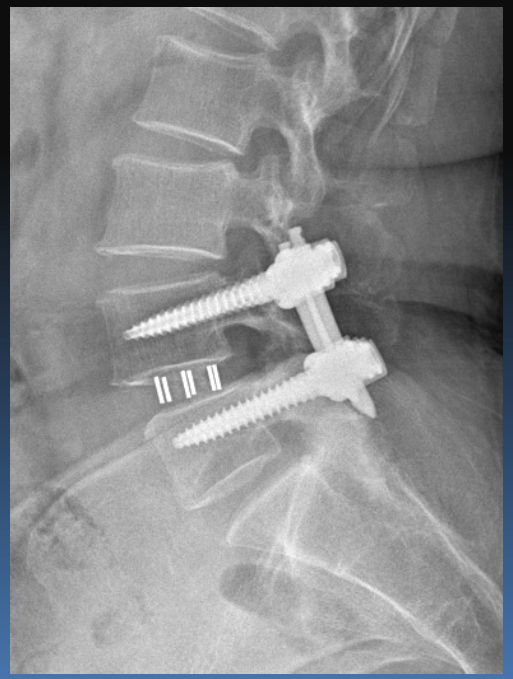
Dual-portal endoscopic lumbar interbody fusion



What are the better points comparing with MIS TLIF or Open TLIF ?

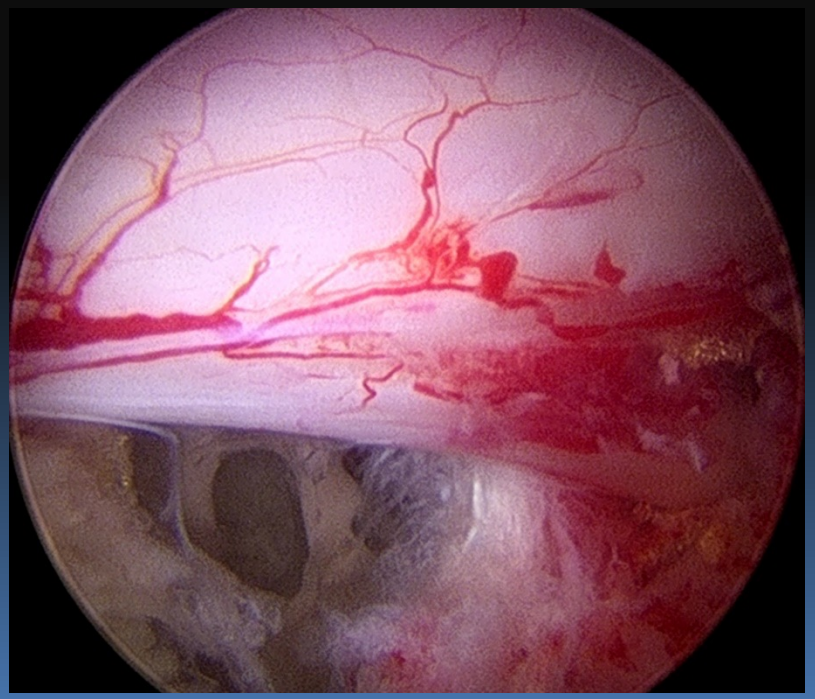


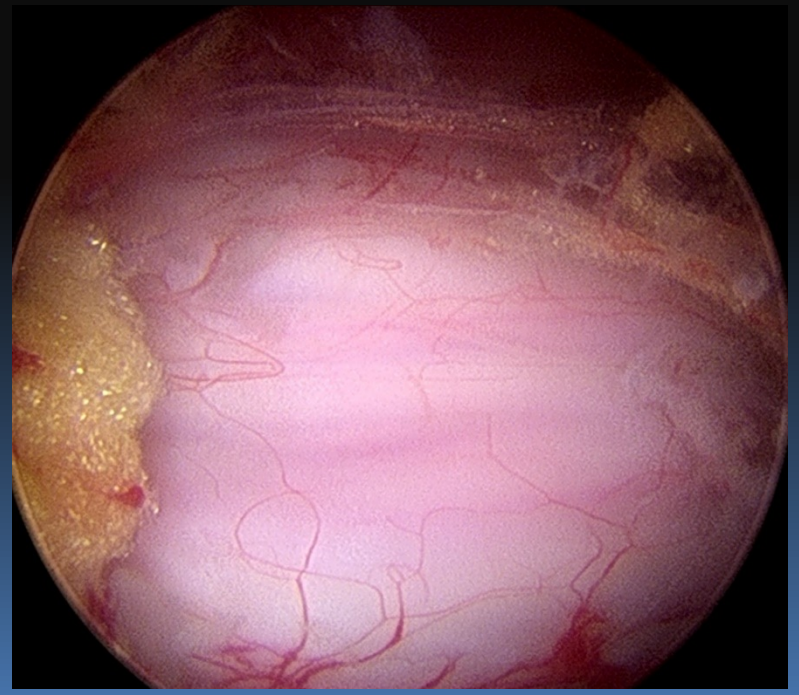


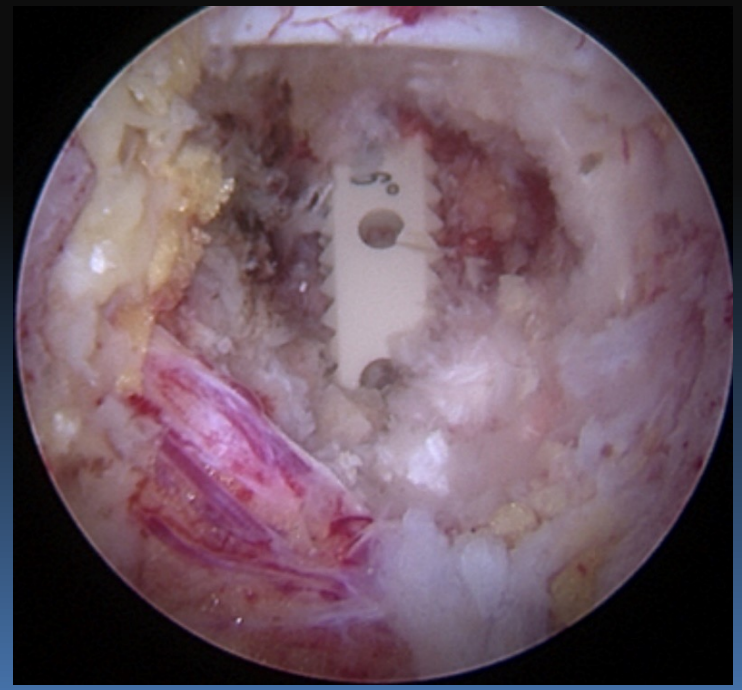
Biportal Endoscopic TLIF, Endoscopic assistant TLIF

@ Advantages

1. Direct decompression of nerve roots and central canal



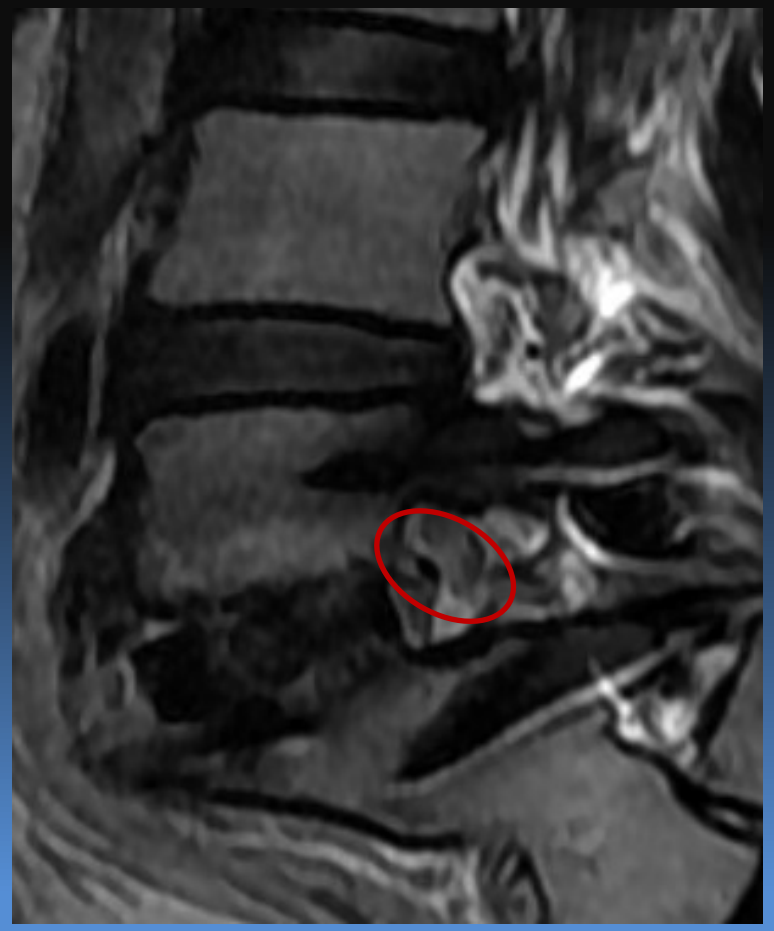




Biportal Endoscopic TLIF, Endoscopic assistant TLIF

@ Advantages

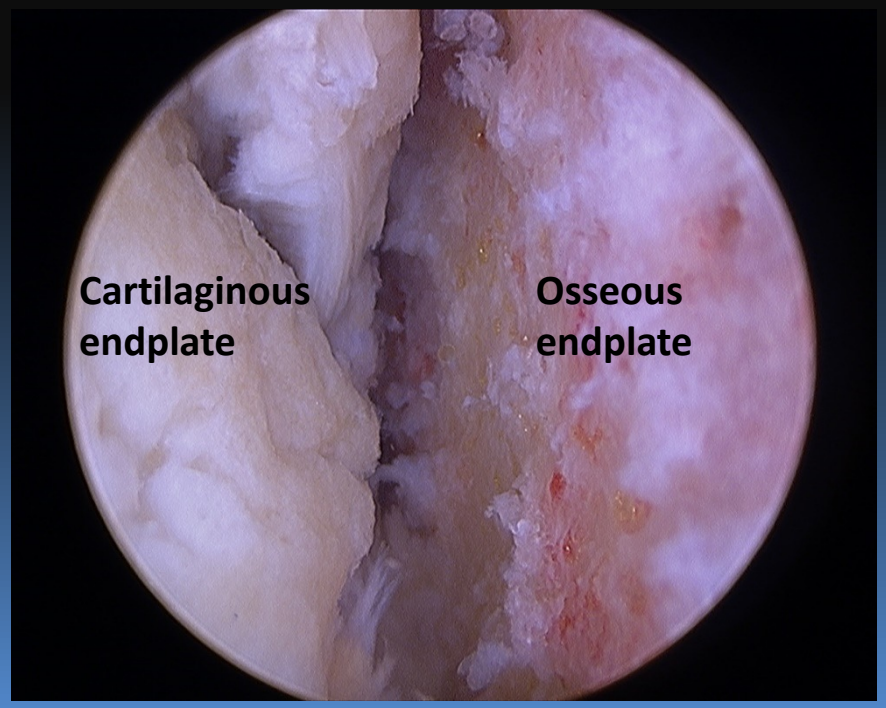
2. Indirect decompression (large size cage) as well as direct decomp



Biportal Endoscopic TLIF, Endoscopic assistant TLIF

@ Advantages

3. Endoscopic endplate preparation



Removal of Only Cartilaginous endplate from osseous endplate

→ complete endplate preparation

→ prevention of subsidence

→ Fusion

@ Anterior annulus and ALL

Biportal Endoscopic TLIF, Endoscopic assistant TLIF

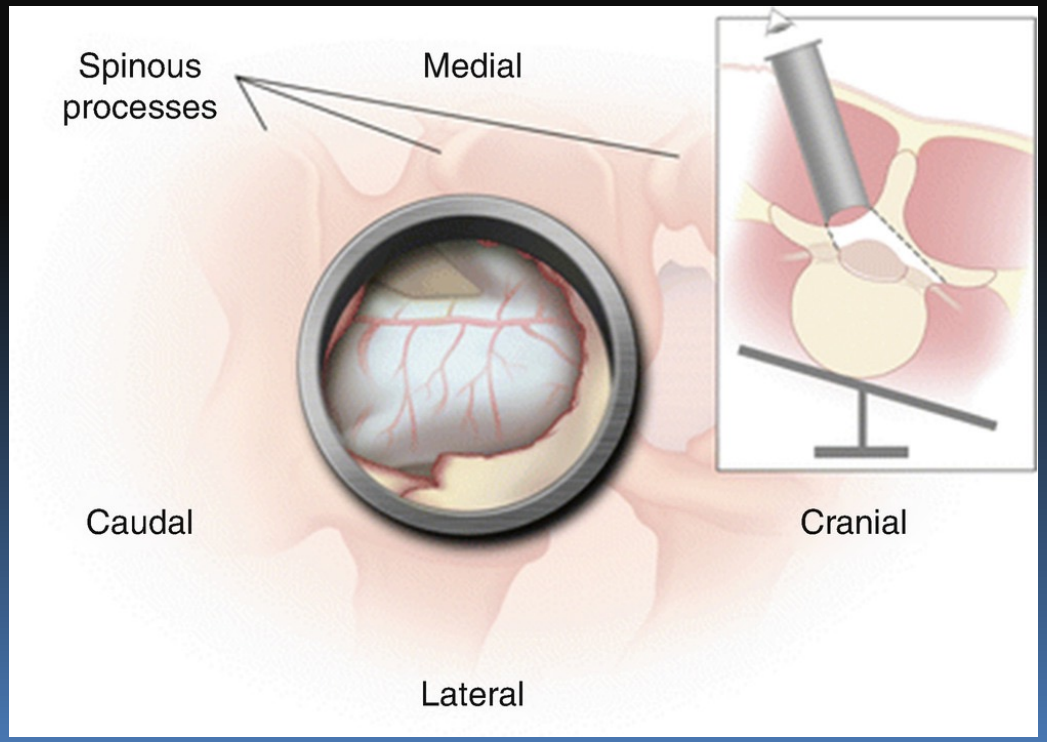
@ Advantages

4. Minimizing traumatization of muscle (Fast recovery)

   Painless surgery. Reduce postoperative pain and complications

Technique of biportal endoscopic TLIF

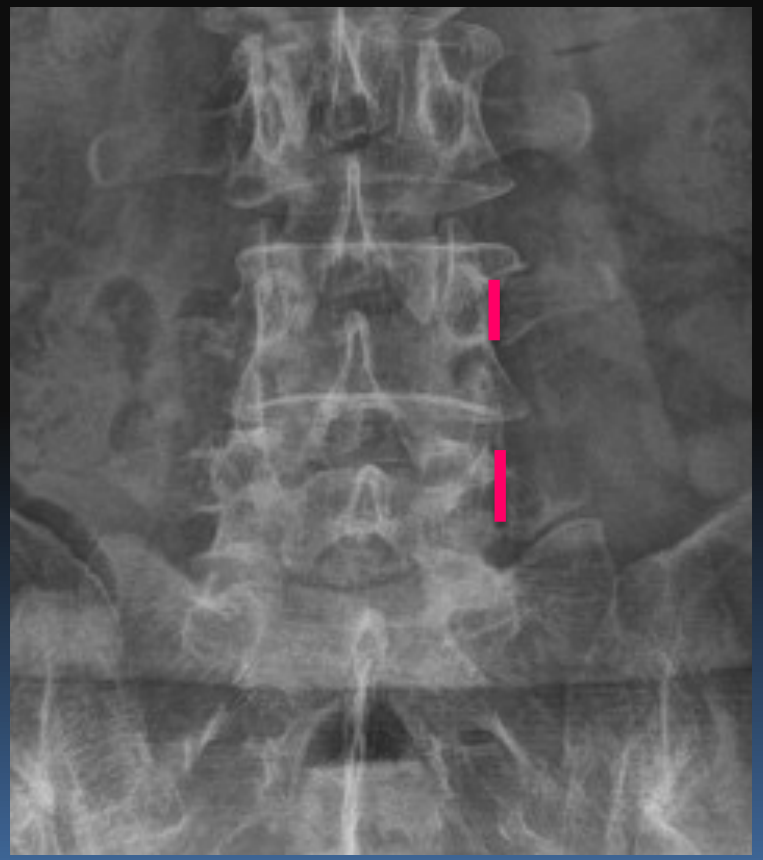
Same as MIS TLIF using Tubular retractor

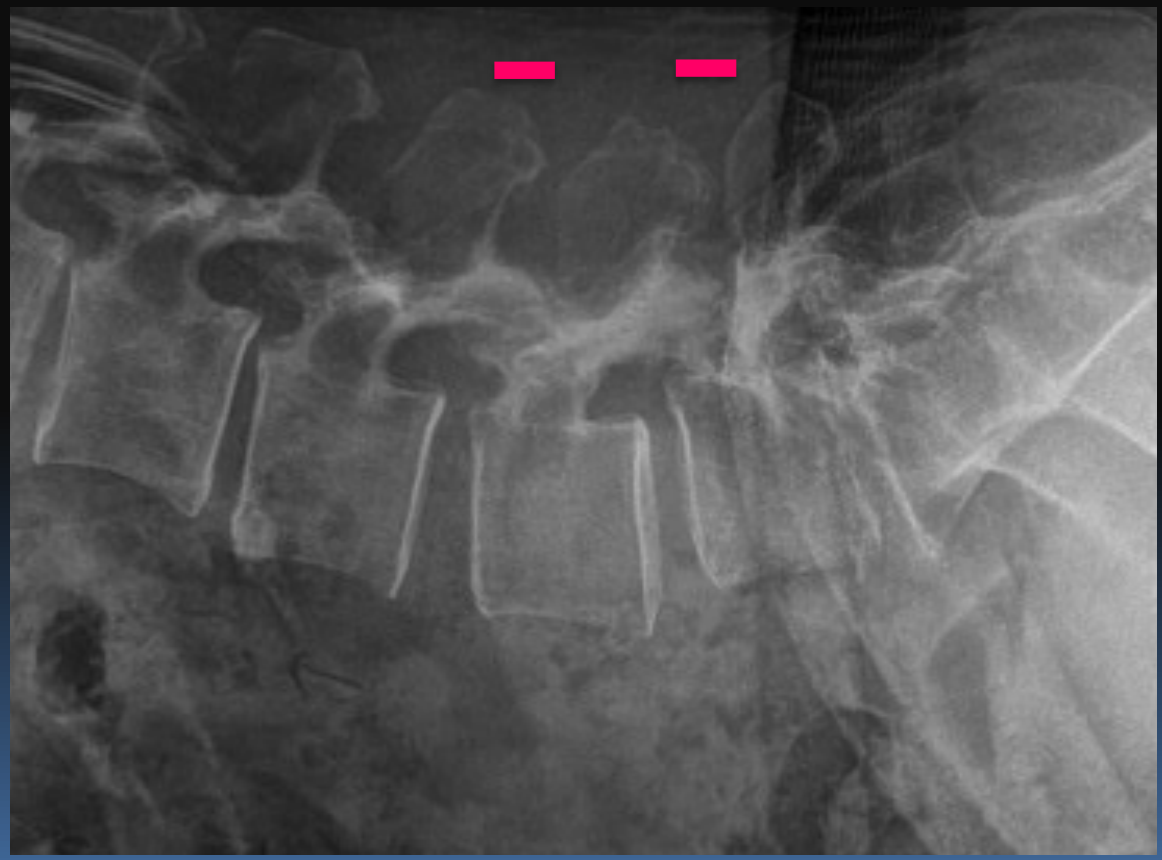


Technique: same as Modified MIS-TLIF

1. Unilateral laminotomy with bilateral decompression
2. Unilateral facetectomy and discectomy
3. Endplate preparation and cage insertion

- Skin incision points for making two portals: over the pedicles





- Surgery: Biportal endoscopic TLIF at L45, Right side approach

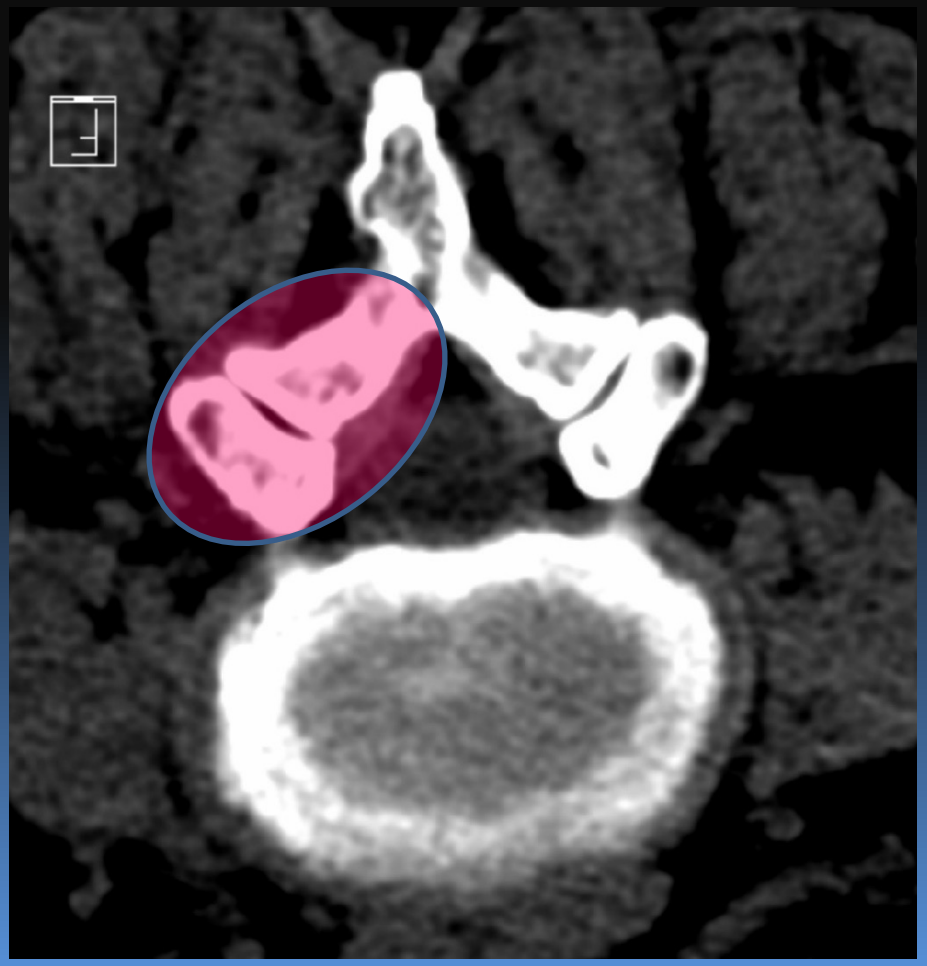
Modified biportal endoscopic TLIF

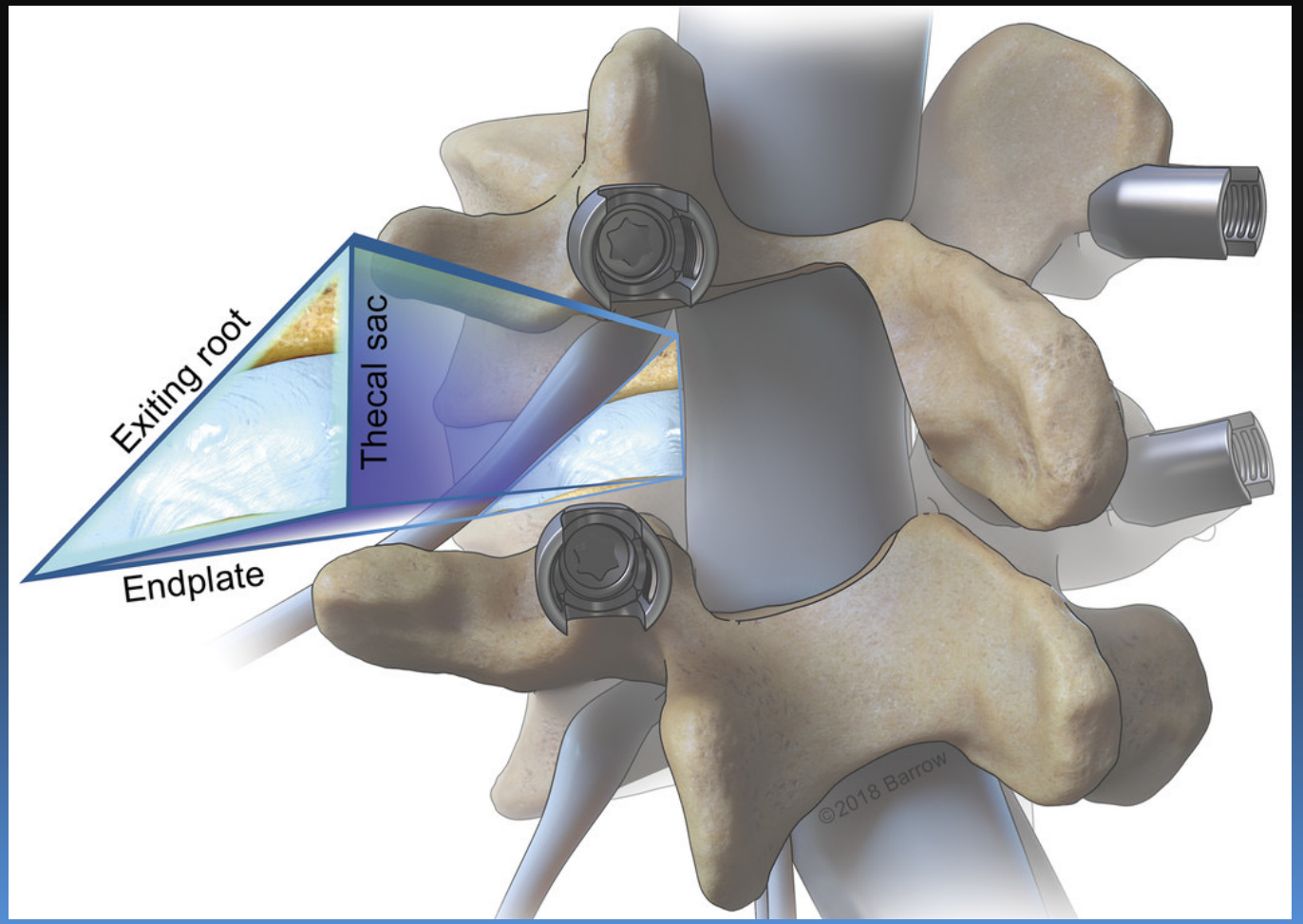
- Large spacer
- Large cage
- OLIF cage > Ex TLIF cage> TLIF cage > PLIF cage

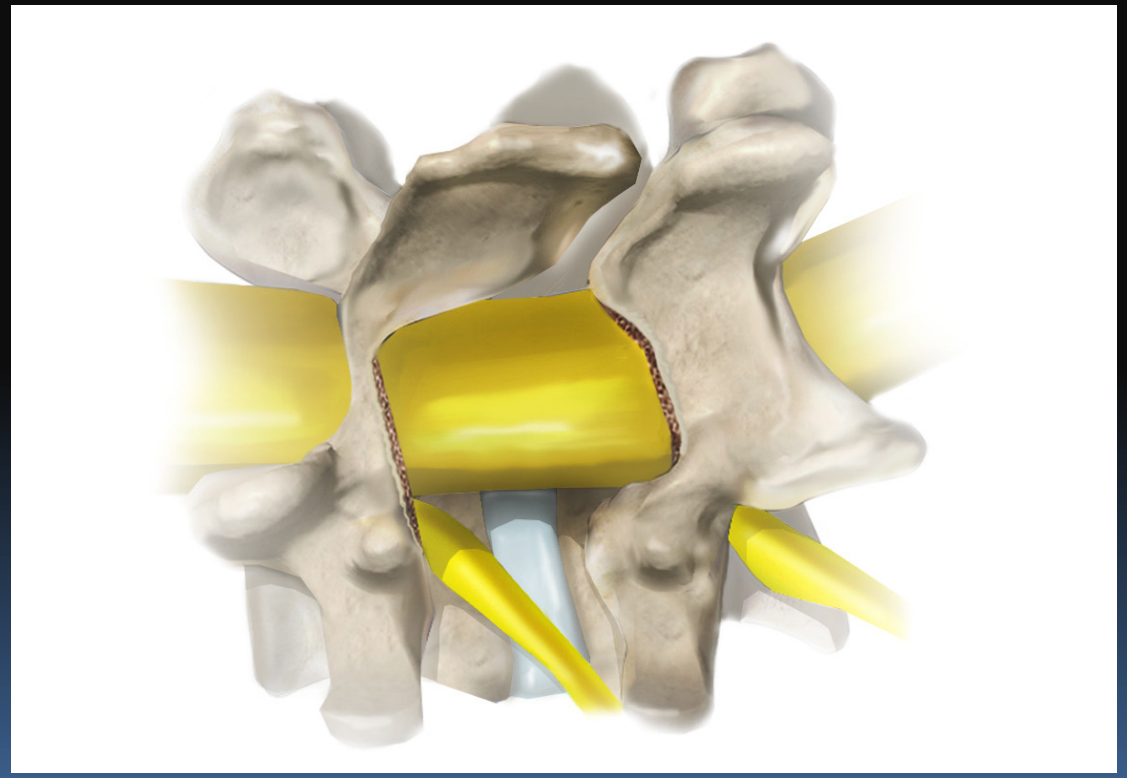
Expansion of Kambin’s trangle

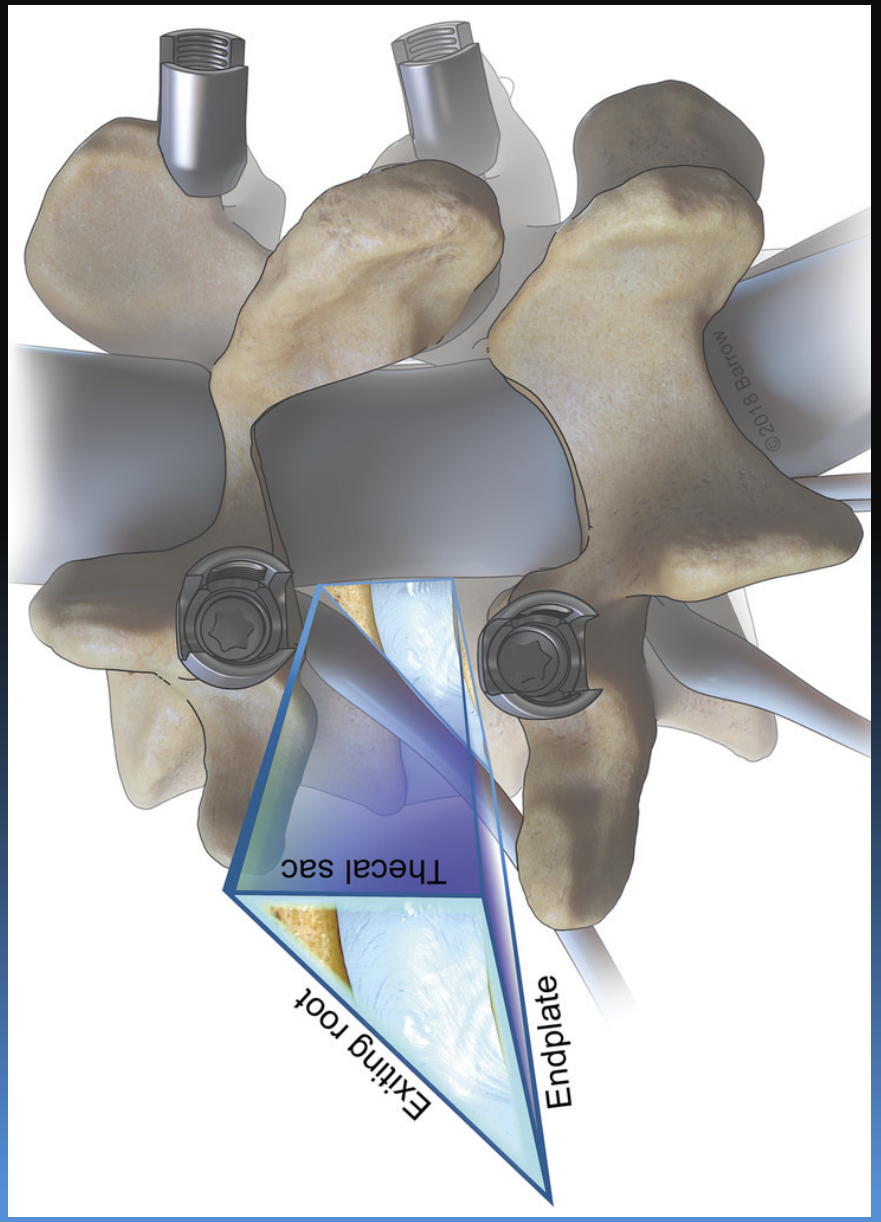
Unilateral laminotomy with total facetectomy

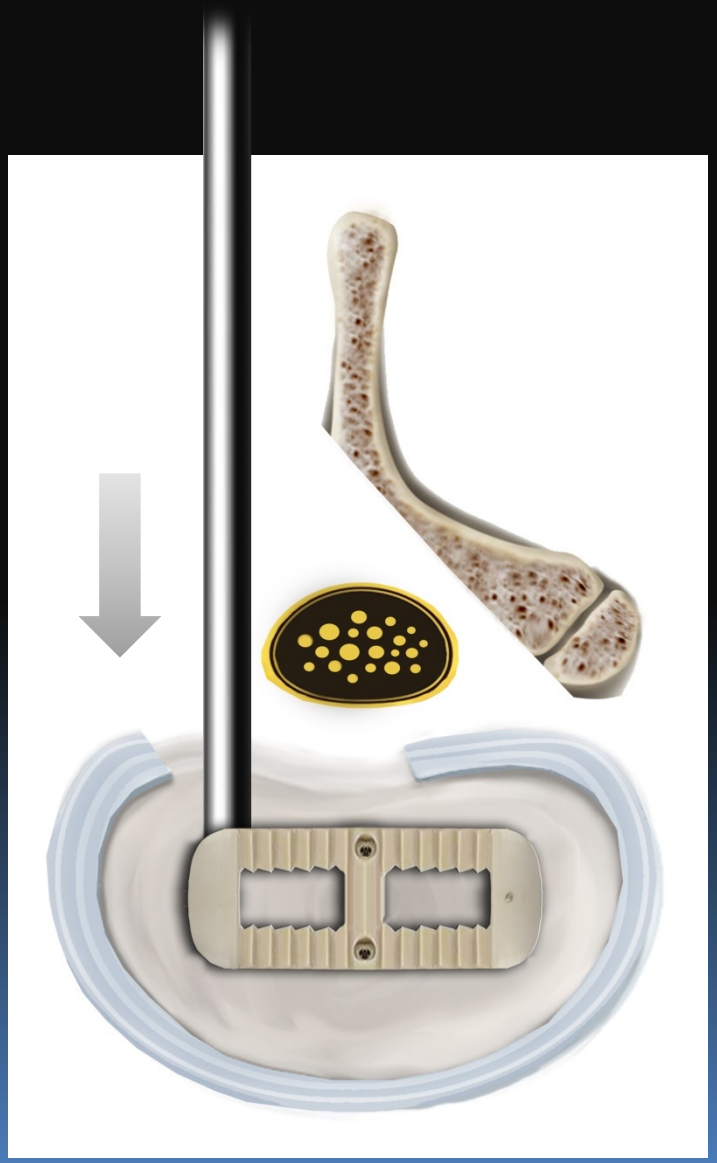
Make enough space for large cage insertion



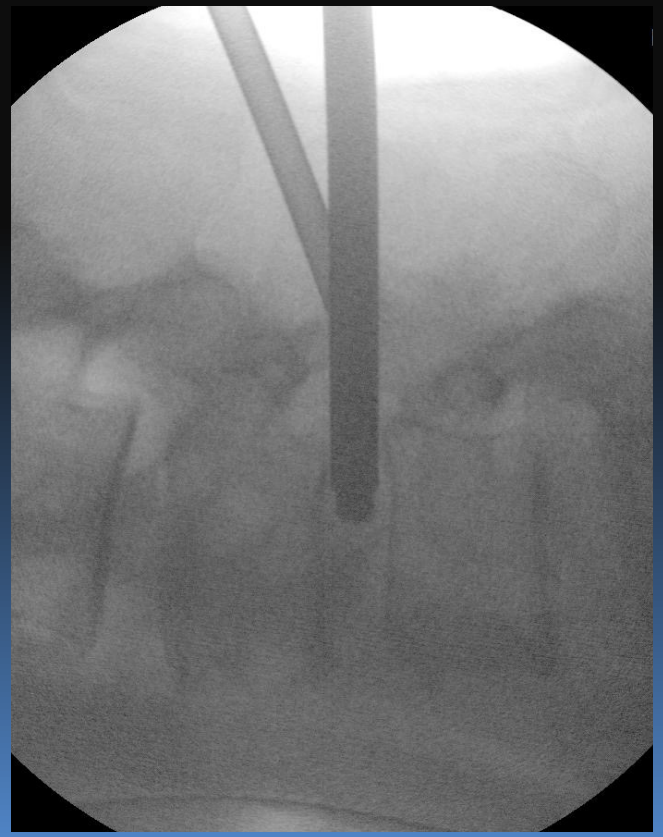


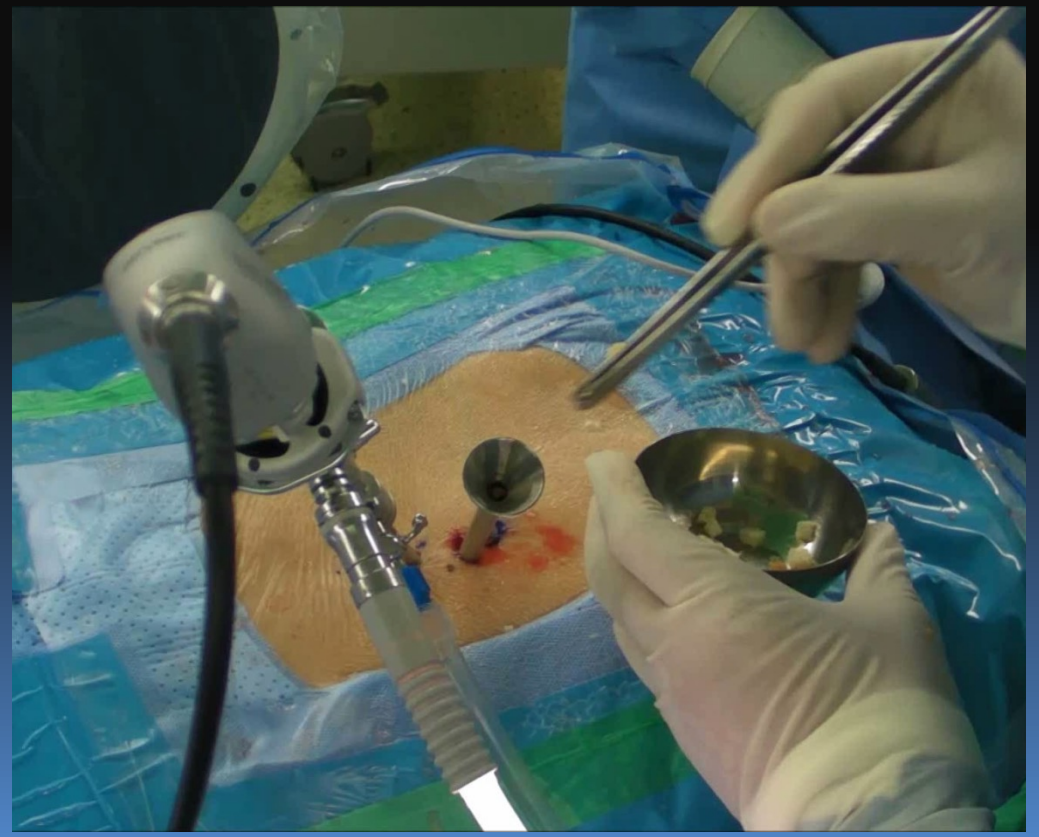



Thecal sac
Exiting root
Endplate
©2018 Barrow



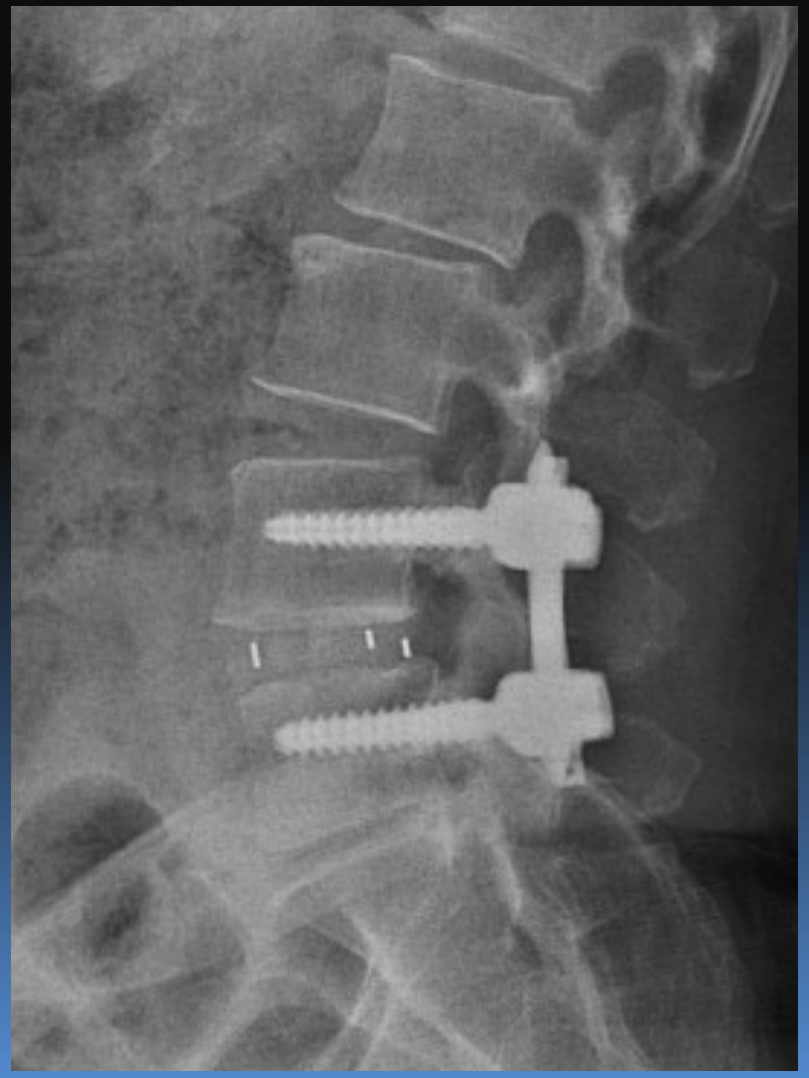
Insertion a lot of fusion material into interbody space before a cage insertion





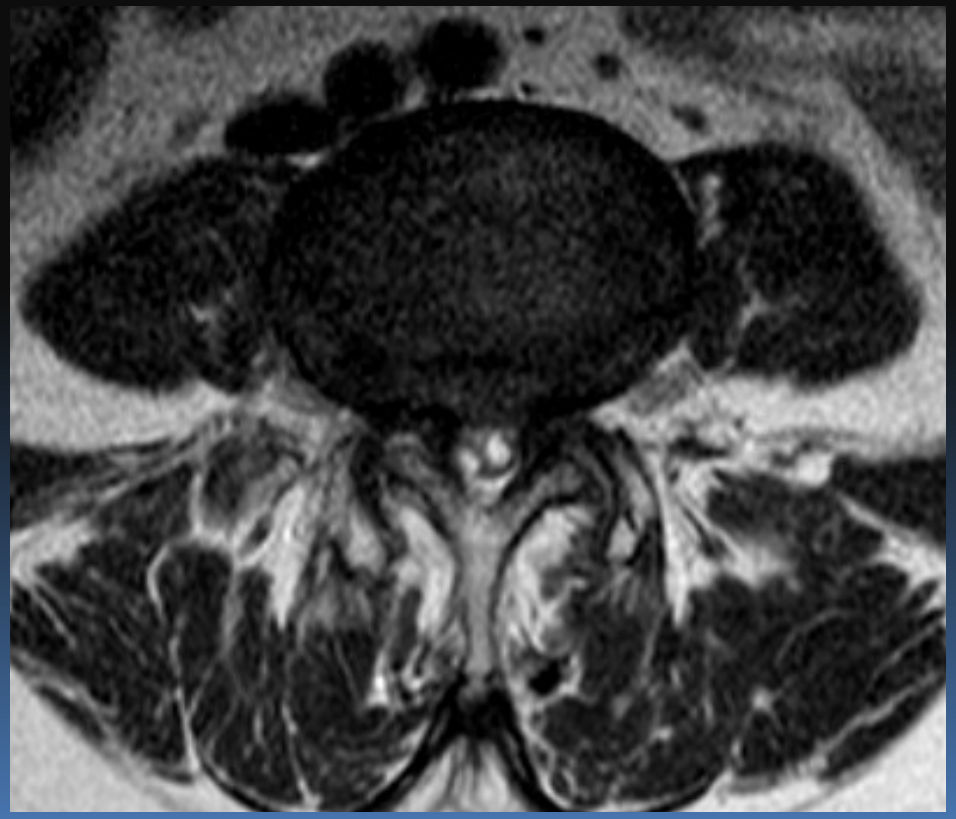
Right sided approach

- **Postoperative X ray image**

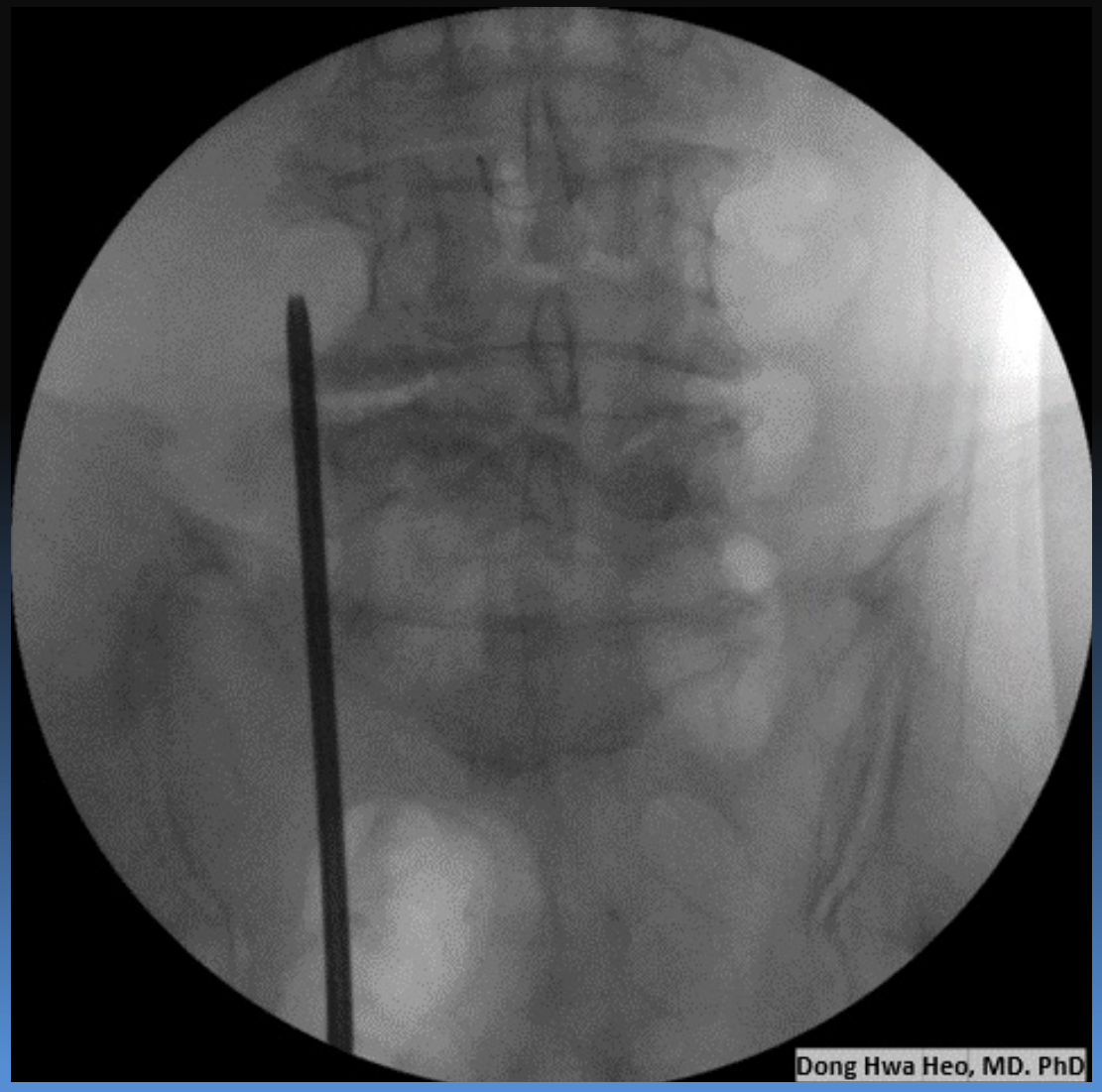


- **Postoperative MRI image**

- **Postoperative MRI image**



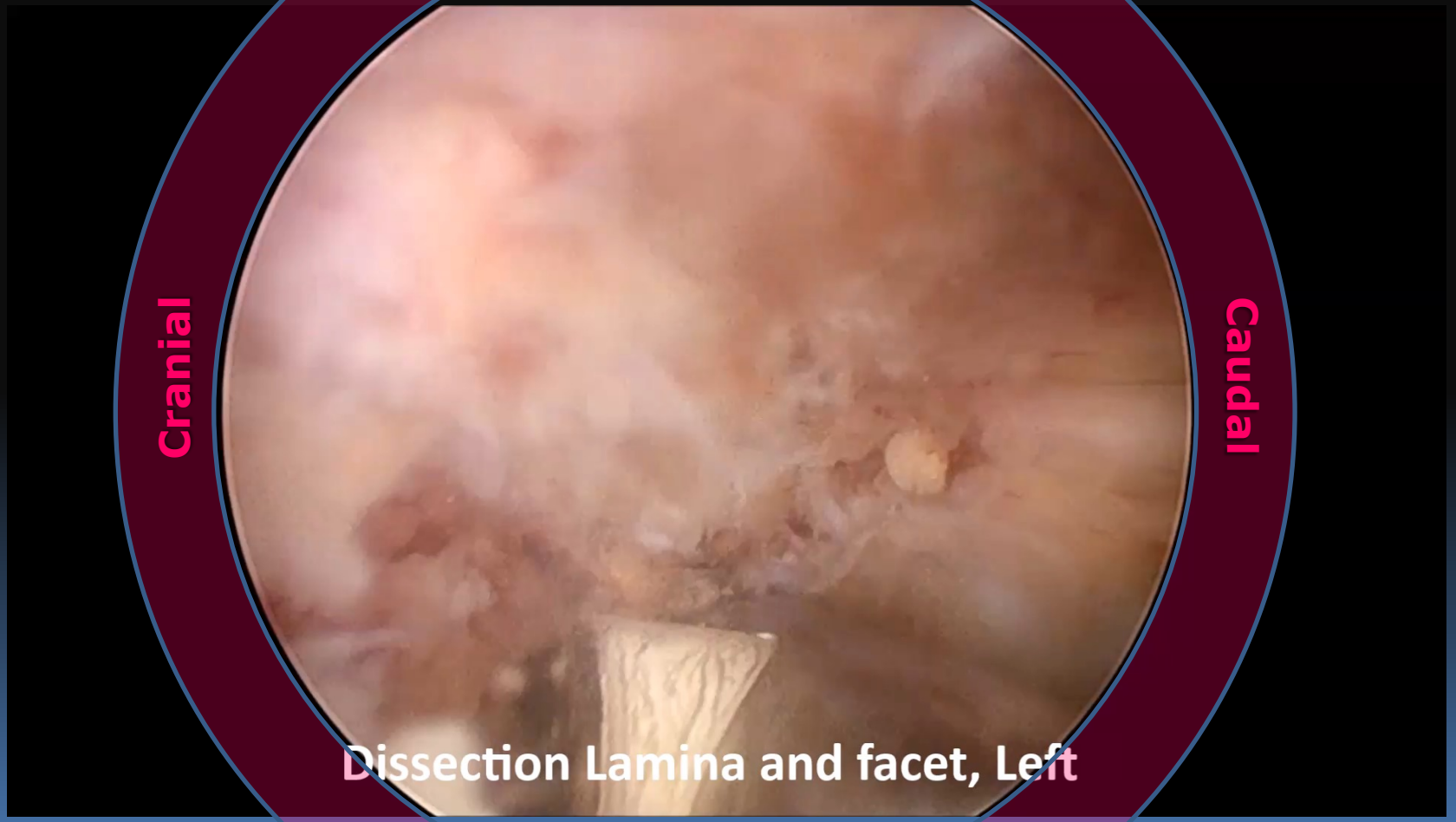
Biportal endoscopicTLIF



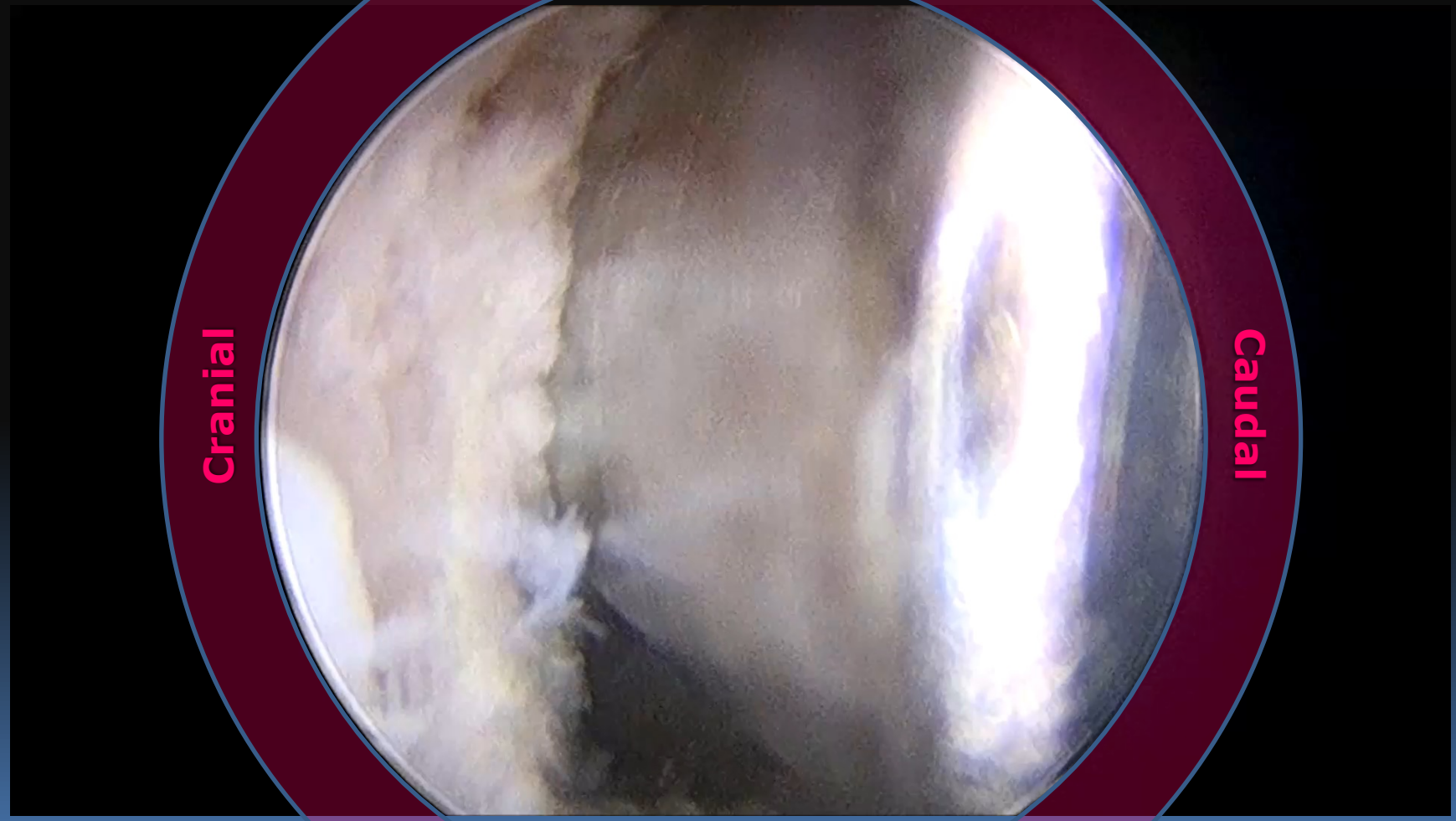
61/F back pain with both legs pain, claudication

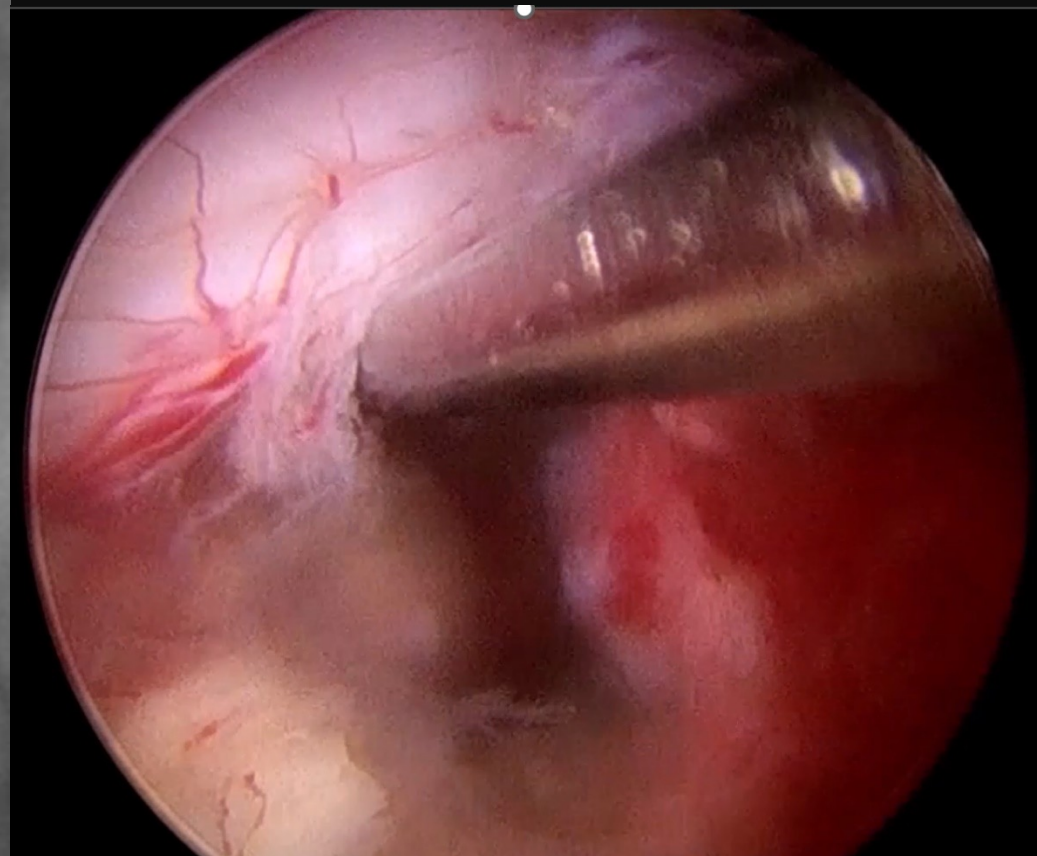


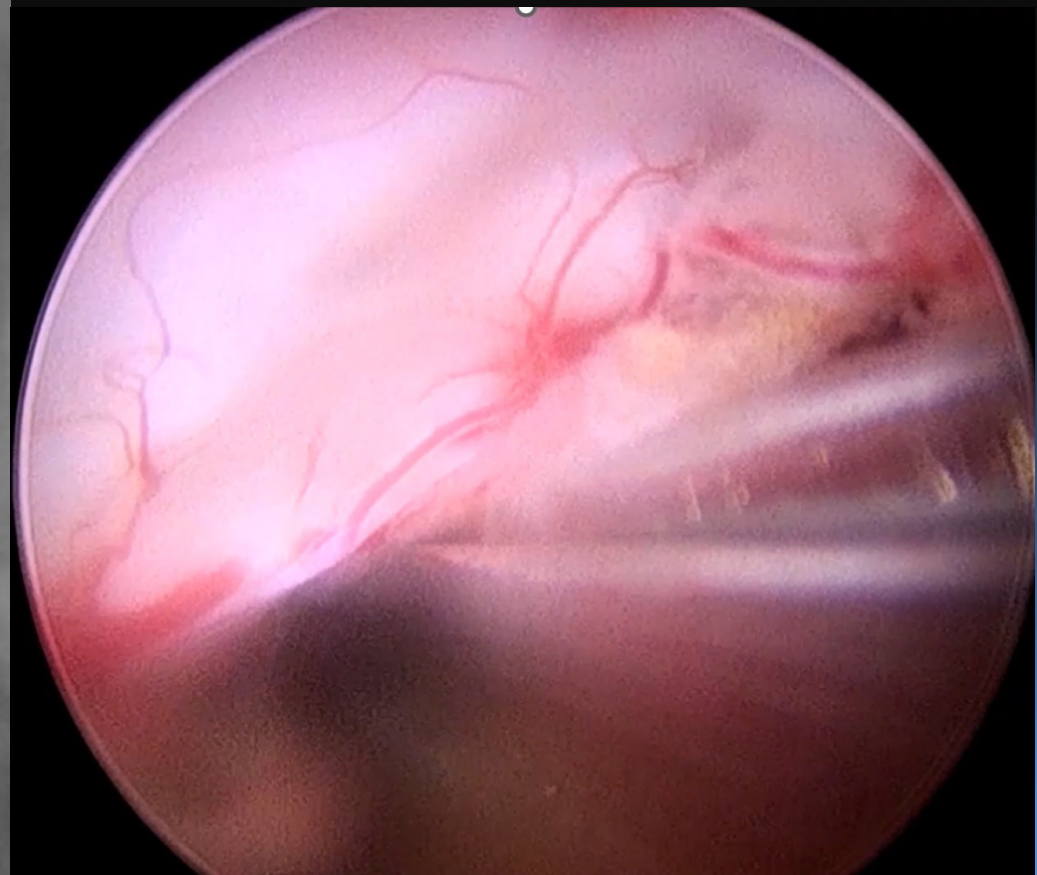

large cage,
Left approach

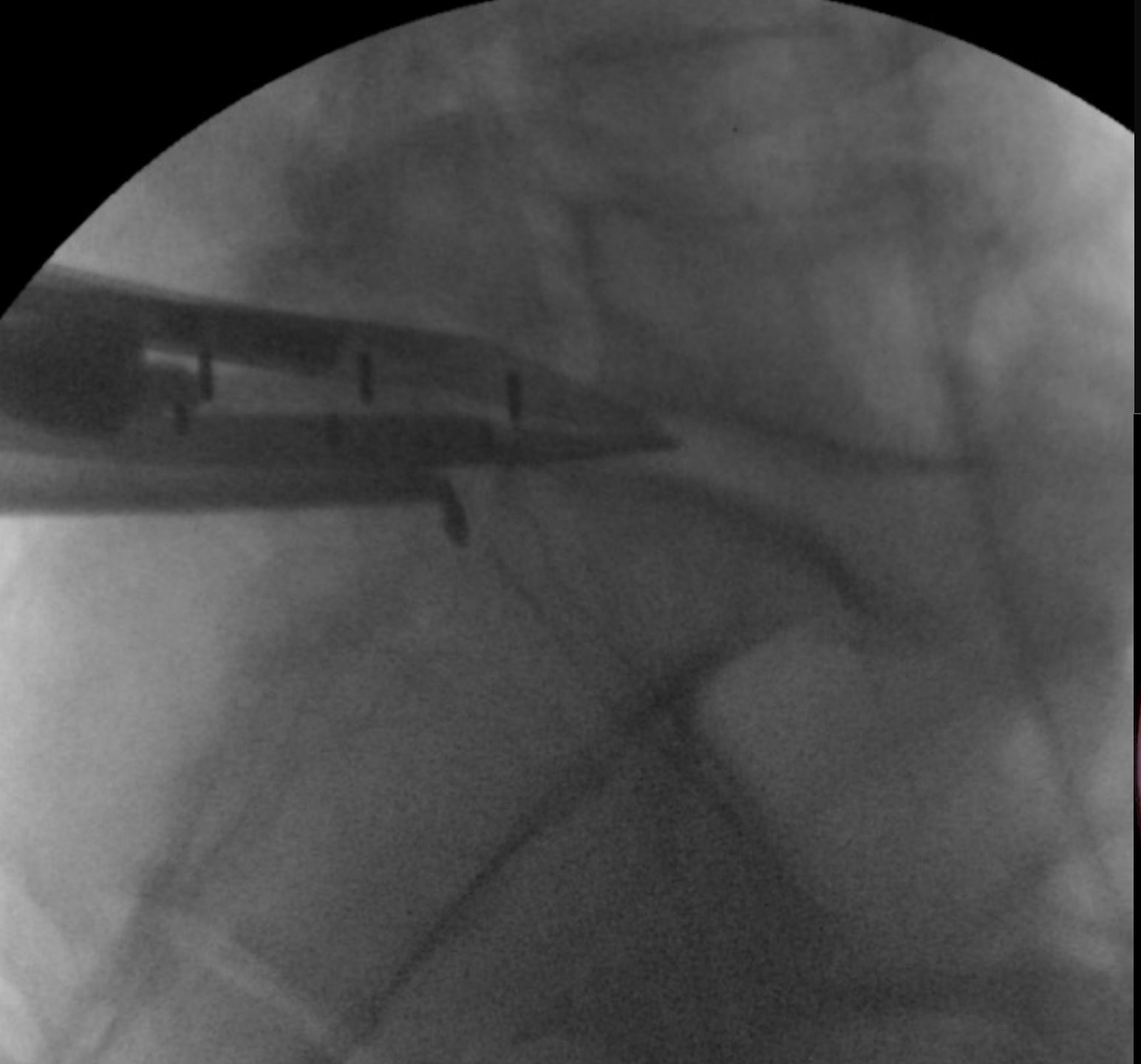


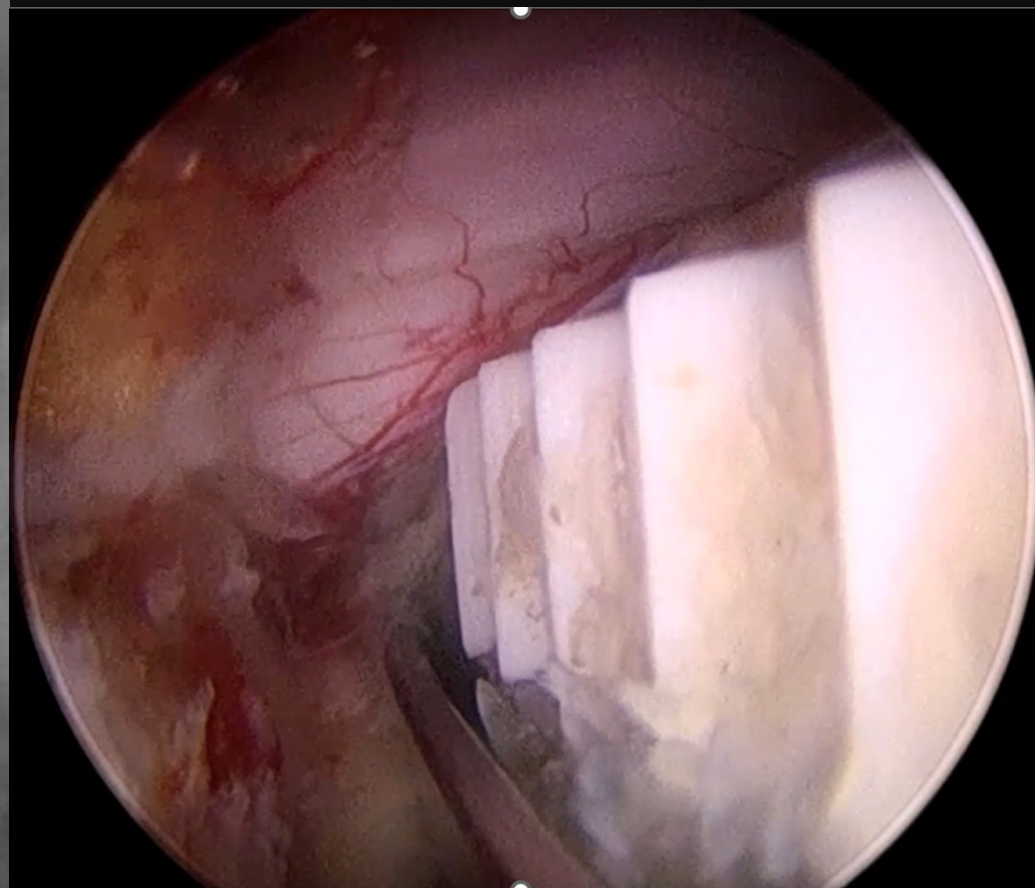


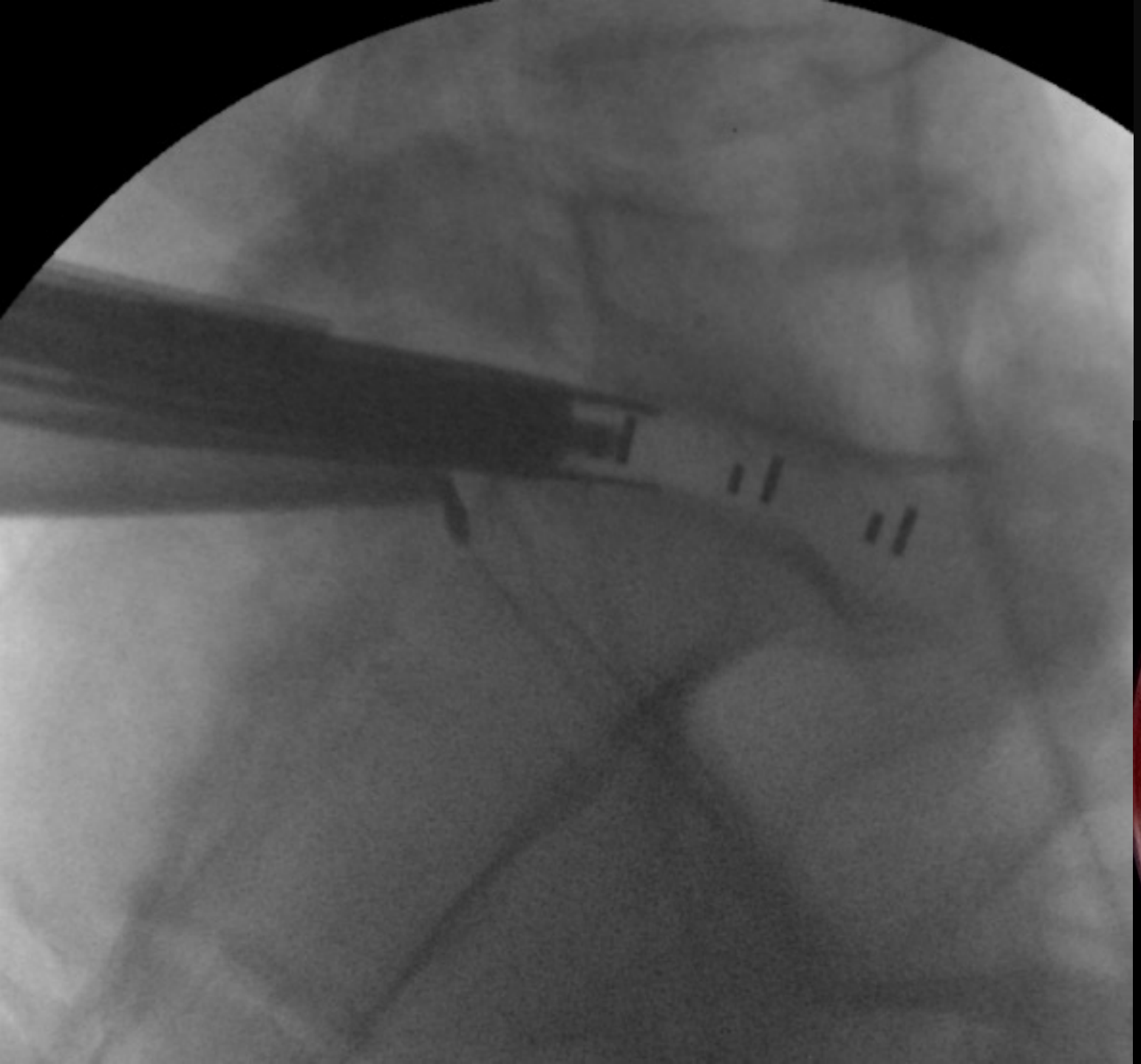

Medial
Cranial
Caudal
Lateral

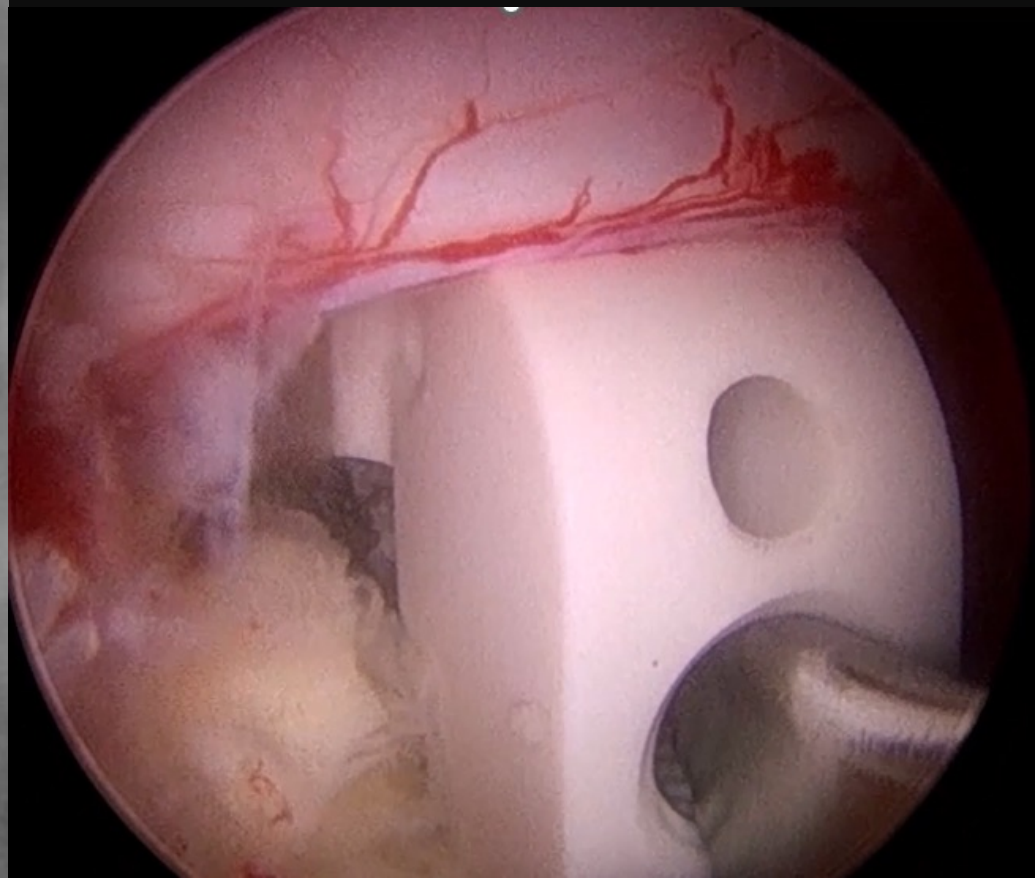


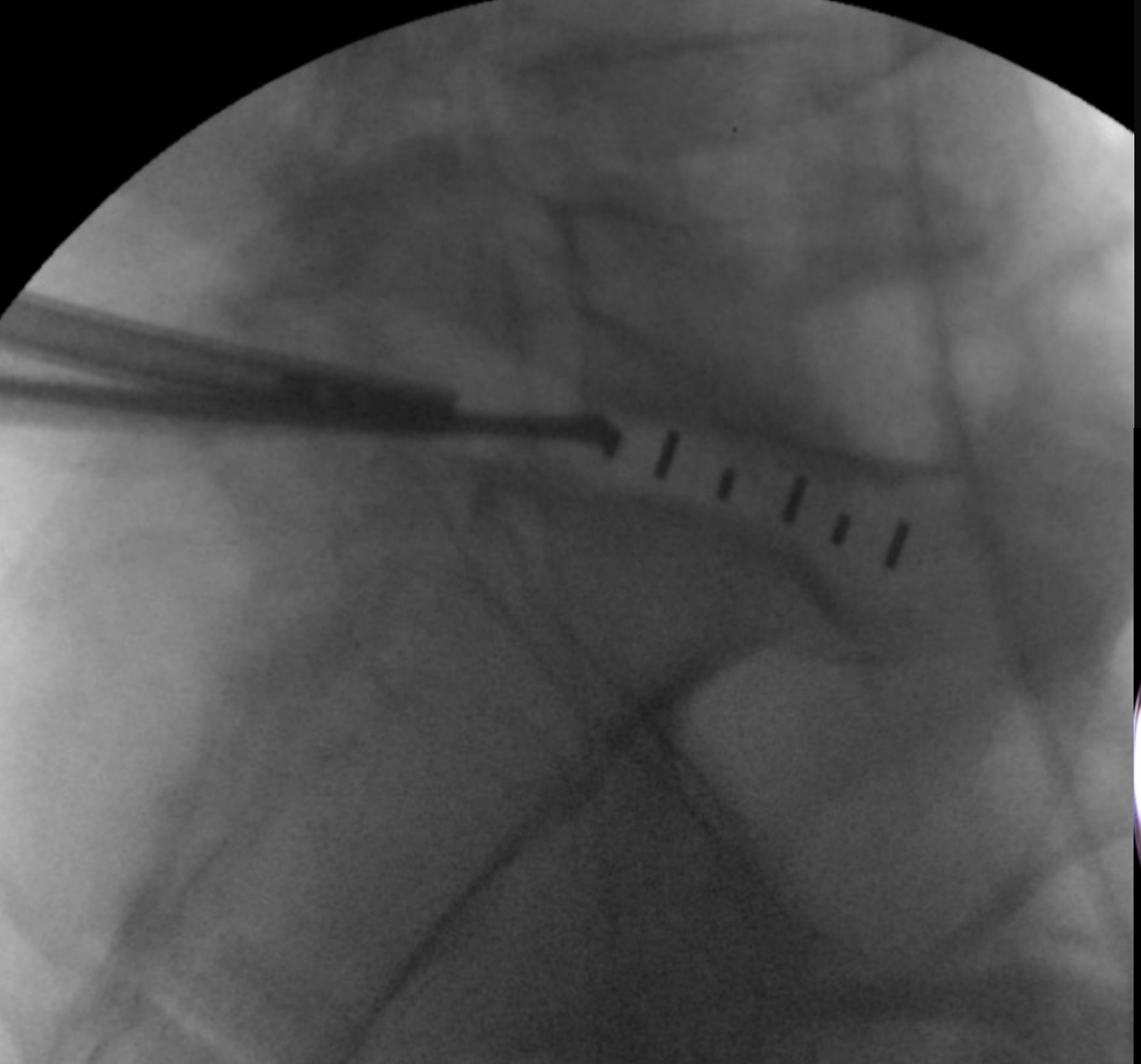


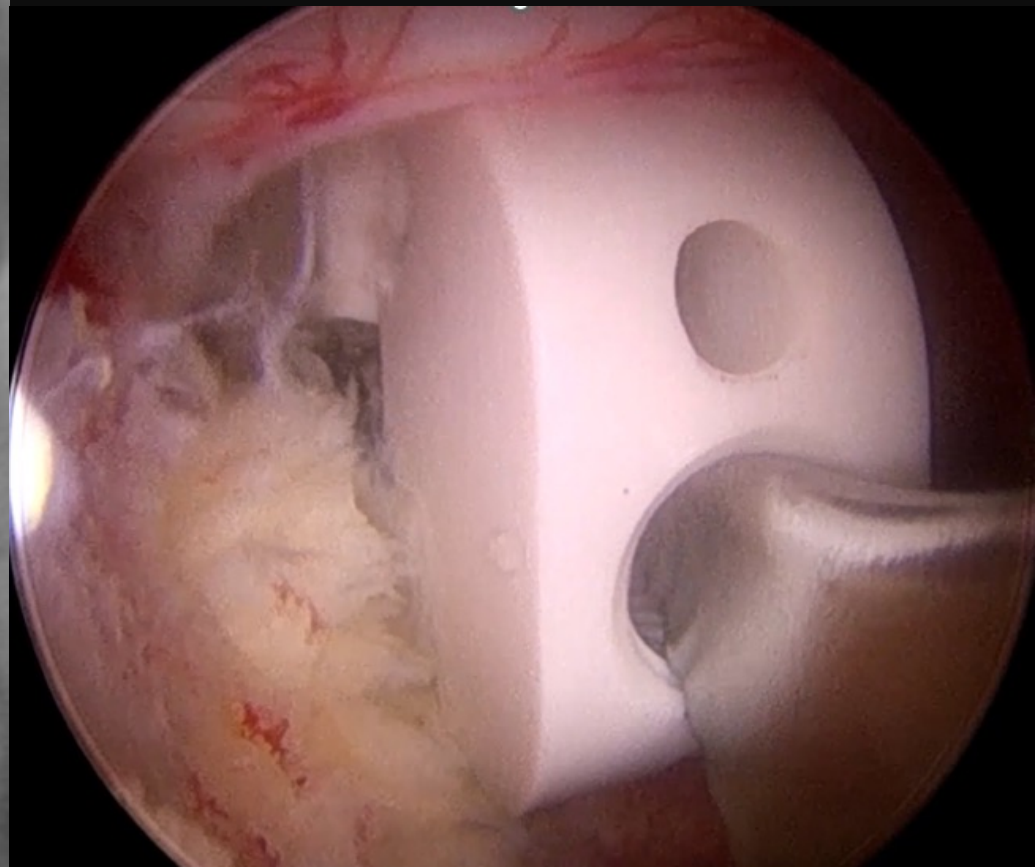


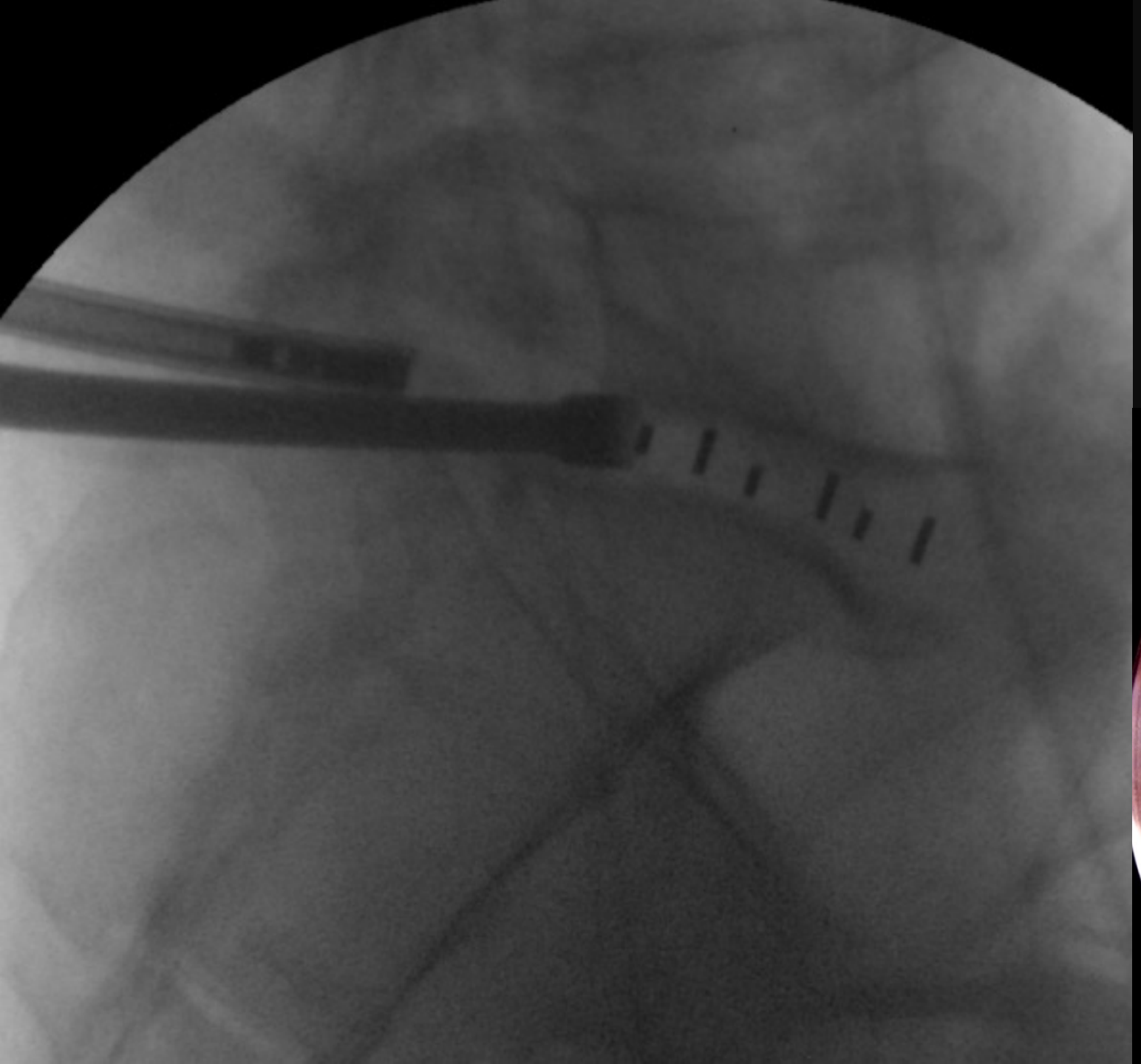


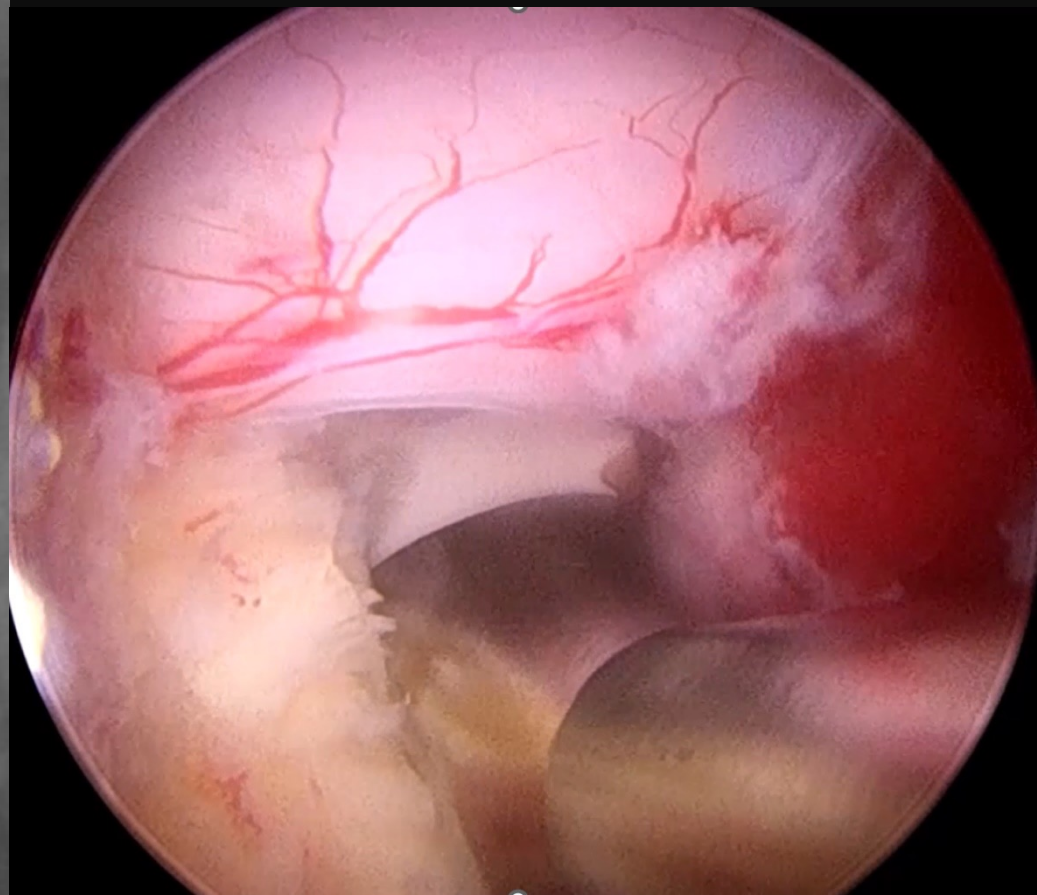


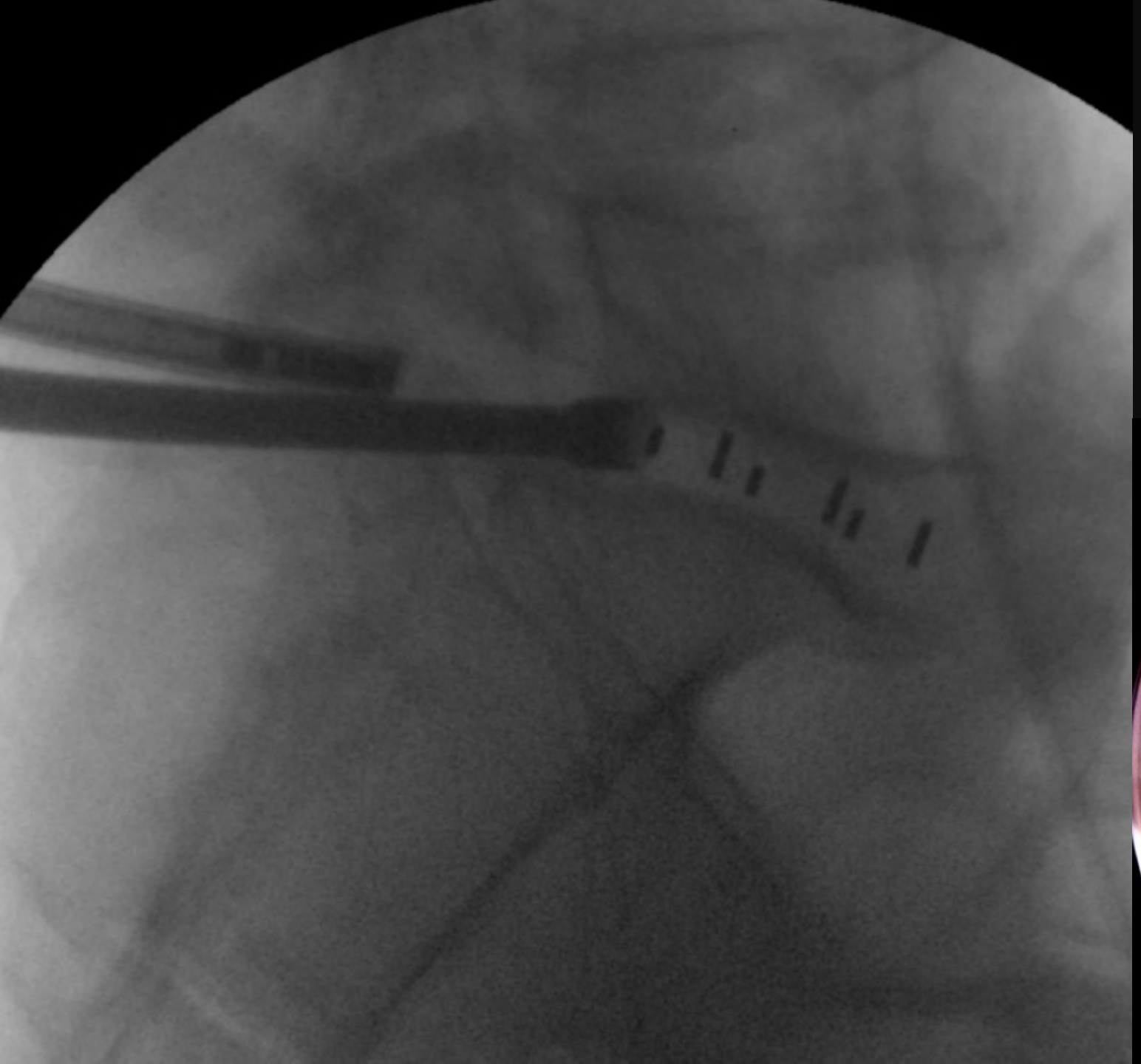


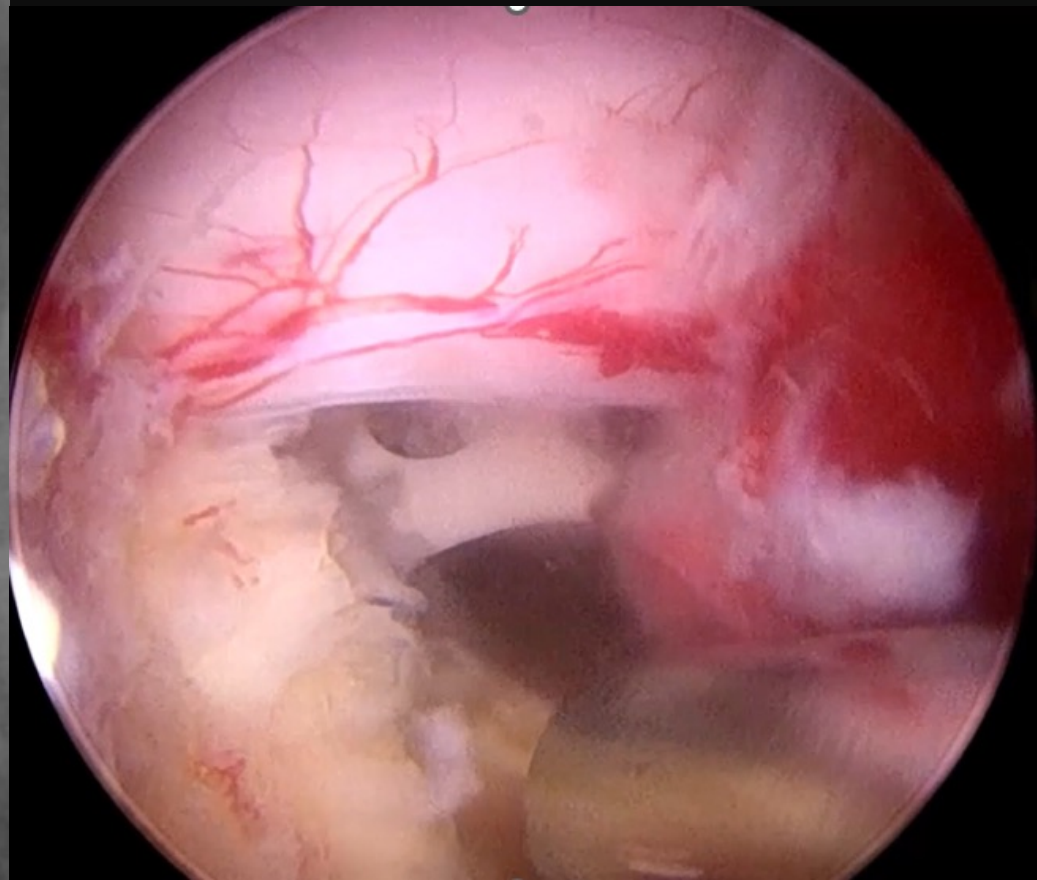


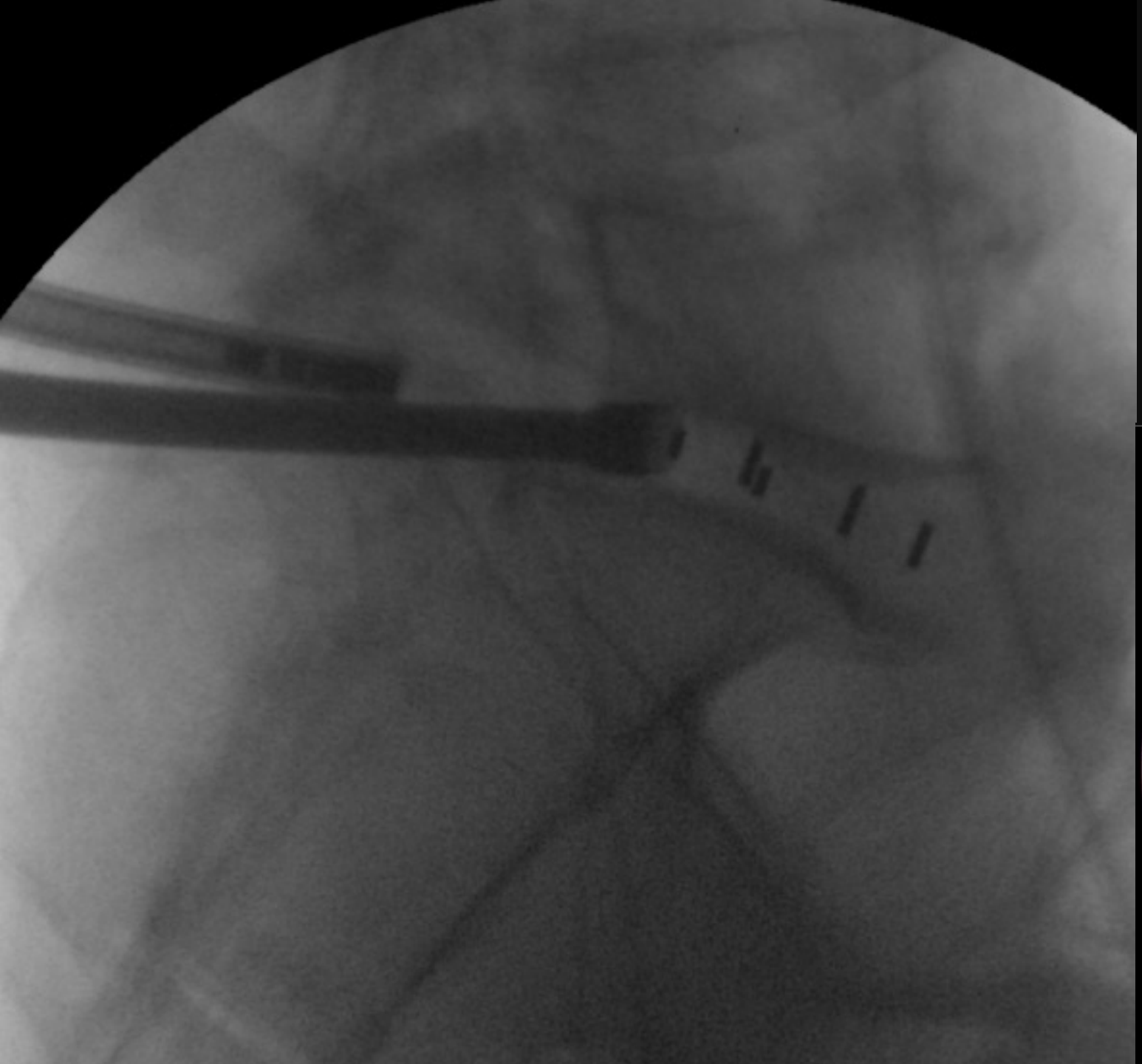


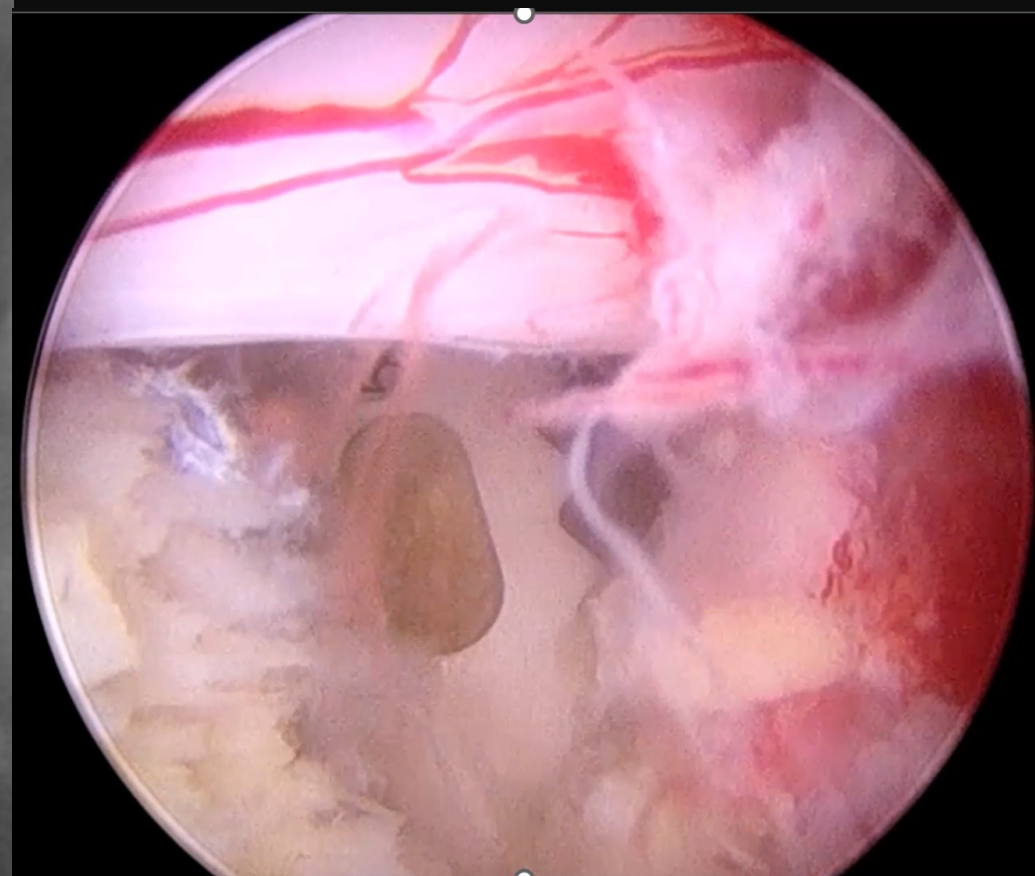












39/M back pain with both legs pain, claudication

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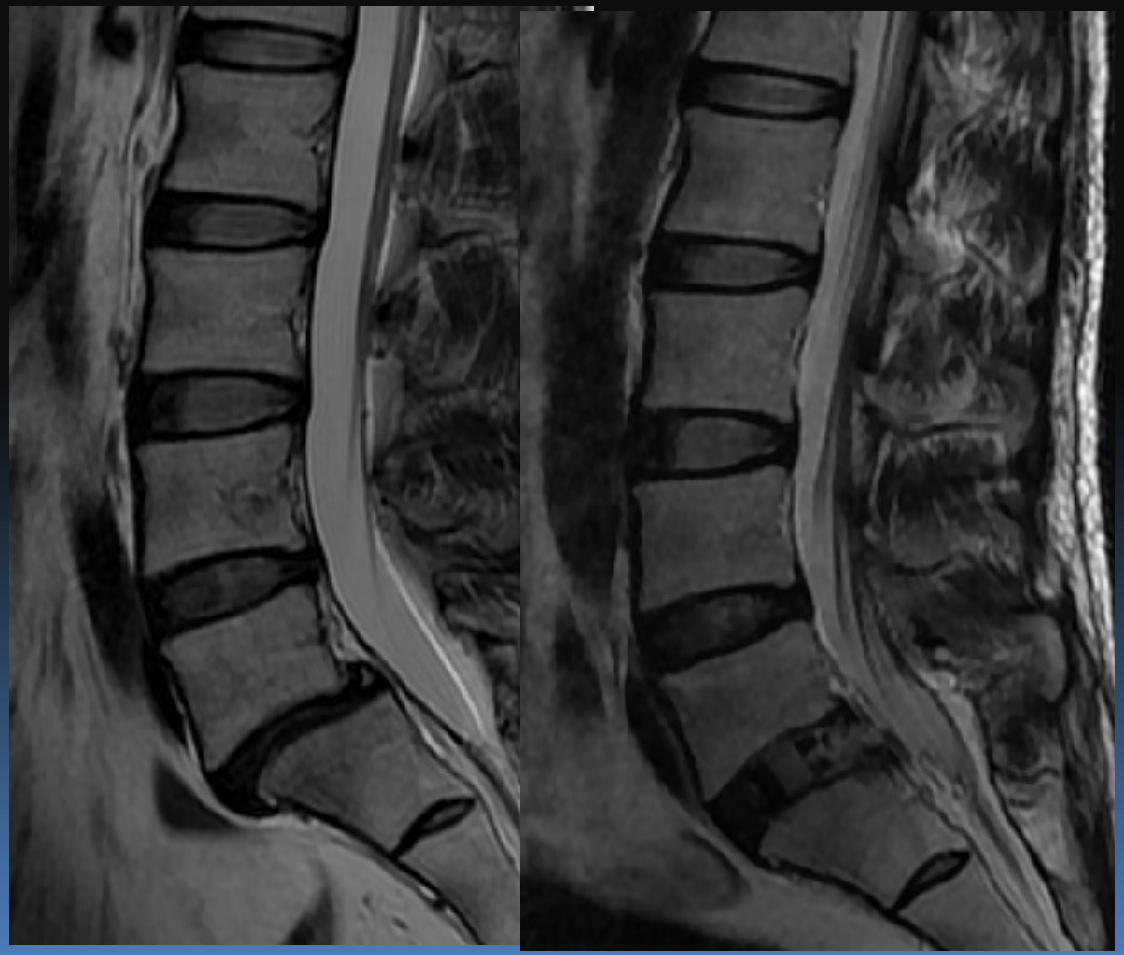

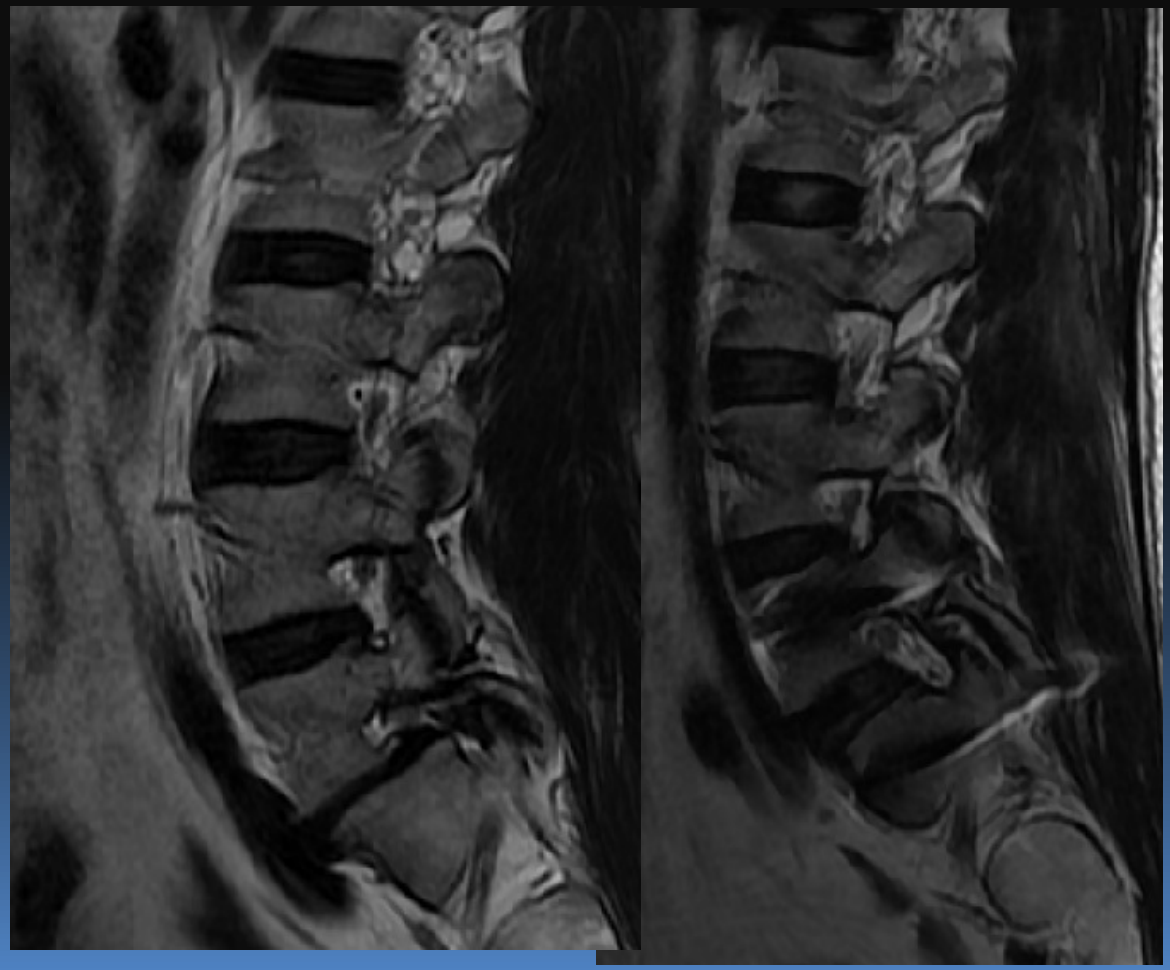

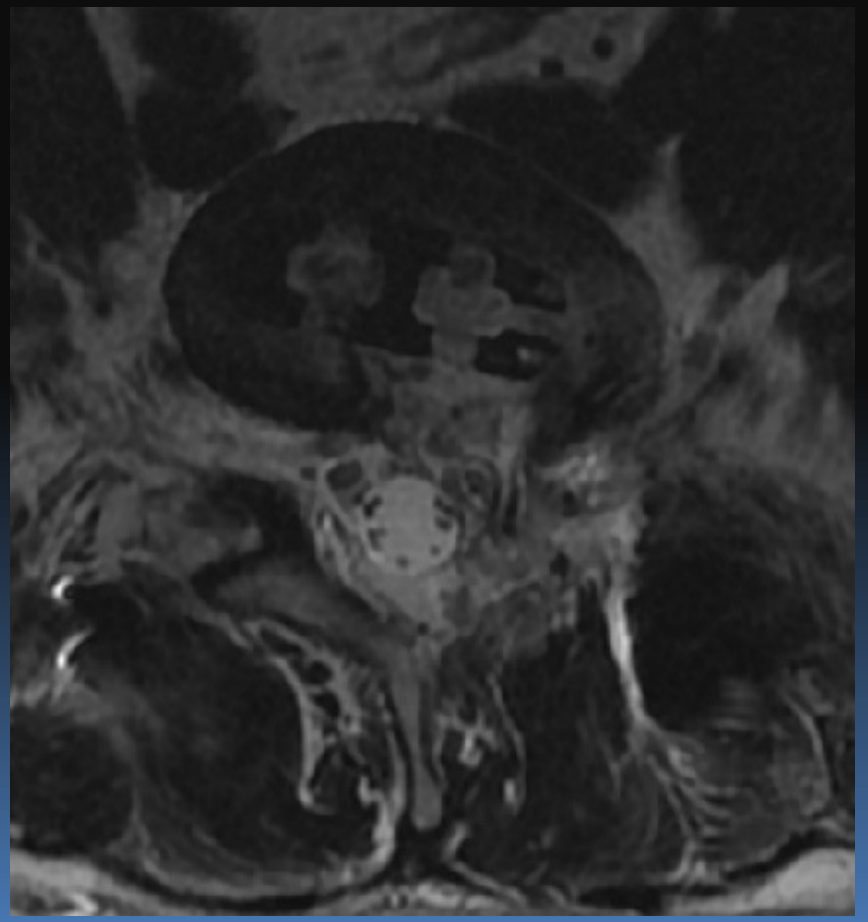

58/F NIC. Back pain

Evidences, Meta-analysis

J Korean Neurosurg Soc. 2022 Jul;65(4):539-548. doi: 10.3340/jkns.2021.0168. Epub 2022 Jun 29.

Full-Endoscopic versus Minimally Invasive Lumbar Interbody Fusion for Lumbar Degenerative Diseases : A Systematic Review and Meta-Analysis

Seong Son [1], Byung Rhae Yoo [1], Sang Gu Lee [1], Woo Kyung Kim [1], Jong Myung Jung [1]

Meta-Analysis Pain Physician. 2021 Sep;24(6):441-452.

Comparison of Clinical Outcomes and Complications Between Percutaneous Endoscopic and Minimally Invasive Transforaminal Lumbar Interbody Fusion for Degenerative Lumbar Disease: A Systematic Review and Meta-Analysis

Lei Zhu [1], Tongchuan Cai [2], Yuzhou Shan [1], Wenjie Zhang [3], Liang Zhang [1], Xinmin Feng [1]

Meta-Analysis Sci Rep. 2022 Feb 8;12(1):2101. doi: 10.1038/s41598-022-05988-0.

Clinical outcomes, complications and fusion rates in endoscopic assisted intraforaminal lumbar interbody fusion (iLIF) versus minimally invasive transforaminal lumbar interbody fusion (MI-TLIF): systematic review and meta-analysis

José Miguel Sousa [1 2], Hugo Ribeiro [3], João Luís Silva [3], Paulo Nogueira [4], José Guimarães Consciência [3 5]

Minimize postoperative pain, Lower complications,

Short hospital stay

Fusion rate

Endoscopic lumbar interbody fusion

@ Advantages

Direct decompression

Complete endplate preparation under endoscopic view

Large size cage insertion

Fast recovery after surgery. Minimize postoperative pain

Endoscopic lumbar interbody fusion

@ Disadvantages

Technically difficult.

Need large experiences of Endoscopic surgery and microsurgery

Thank you so much