Spinal Imaging

Post-operative spir

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Patient Preparation

Technique

Supine position
Scanogram [frontal, lateral]
Scan intervals

Fasting 4-6 hours
- Contrast material
  [Urographin, Telebrix, ..] 1-2 ml/kg
- Anesthesia
  Children, Uncooperative patients
Contrast administration

Yes

Post-operative lumbar spine
Inflammatory and neoplastic lesions

No

Any other pathology [disc lesions, spinal trauma, congenital anomalies]
Closed Magnet
Extremity Magnet
Dynamic MRI

The bed rotates from Upright to Recumbent, stopping at any angle in between.
Patient with Low Back Pain *After* Surgery

Dynamic MRI

Does a Lie-Down-Only Scanner see the patient’s problem? **NO!**

Case courtesy of M. Rose, MD, Rose Radiology Centers
Dynamic MRI
A focal posterior disc herniation at L5/S1 (arrow) and associated spinal instability (retrolisthesis) is visible *only* with the patient upright.
Contrast administration [CT/MRI]

- Site of operation
- Degree of thecal decompression
- Post operative complications

To differentiate between postoperative scar tissue / residual or recurrent disc lesions
- Spinolaminectomy
- Hemilaminectomy
- Laminar fenestration
- Minimally invasive
Spinolaminectomy
Hemilaminectomy
Recurrent disc herniation
Laminar fenestration
Post operative Complications

- **Scar tissue/ disc lesions** [scar tissue enhances after contrast injection]
- **Disc space infection**
- **Arachnoiditis** [adhesion between the quada equina nerve roots]
Epidural & Perineural scaring
Perineural scaring
Epidural scaring
Epidural & Perineural scaring
Epidural & Perineural scaring
Recurrent disc herniation
Recurrent disc herniation
Recurrent disc herniation
Recurrent disc herniation
Recurrent disc herniation
Arachnoiditis
Pseudo-cord sign

ARACHNOIDITIS
Arachnoiditis
Arachnoiditis  Annular fissures
Disc space infection
Disc space infection
Type I: degenerative marrow edema

Disc space infection
Disc space infection
DISCITIS
Healed disc space infection
Q. CT or MRI [ T1 or T2 ]

- The lesion(s)

MRI T1, T1+C Axial

Perineural scarring
Q. • CT or MRI [ T1 or T2 ]
• The lesion (s)

Disc and scar tissue
ARACHNIODITIS
Recurrent disc and scar tissue
Disc space infection
• X-ray
• CT
• MRI [axial, sagittal] [T1, T2,..]
• Diagnosis........
- X-ray
- CT
- MRI [axial, sagittal] [T1, T2,..]
- Diagnosis...
- X-ray
- CT
- MRI [axial, sagittal] [T1, T2,..]
- Diagnosis....
THANK YOU
Case 1

- X-ray
- CT
- MRI [axial, sagittal] [T1, T2,..]
- Diagnosis......
Case 2

- X-ray
- CT
- MRI [axial, sagittal] [T1, T2,..]
- Diagnosis.......

Contrast
Case 5

• X-ray
• CT
• MRI [axial, sagittal] [T1, T2,..]
• Diagnosis.......
Case 8

• X-ray
• CT
• MRI [ axial, sagittal] [ T1, T2,..]
• Diagnosis.......

A  
B  
C  
D  
E
Recurrent disc herniation
Post operative spine
Epidural & Perineural scaring
Epidural & Perineural scaring