

## **POST OPERATIVE SPINE WITH CONTRAST**

### **CLINICAL INDICATION:**

Low back pain, Patient is post operative status for L4/5 diskectomy

### **TECHNIQUE:**

MRI of the lumbosacral spine was performed with multiplanar imaging and multi-weighted sequences. The following sequences were obtained: Sagittal T2, sagittal T1, axial T1 and axial T2. Post gadolinium scans were also taken. Flexion and extension views of the lumbosacral spine were obtained with sagittal T2-weighted sequences.

3D imaging reformation was obtained. The 3D color imaging reformation was reviewed in a different high resolution setting.

The study is interpreted, assuming that there are five vertebral bodies with lumbar characteristics. If any intervention is planned, x-ray films of the lumbar spine need to be obtained, in order to evaluate different variations of the lumbar spine.

### **FINDINGS:**

In the sagittal projection, there is rectification of the normal lordotic curvature of the lumbosacral spine. There is no evidence of hyperlordosis. No evidence of spondylolisthesis is identified.

The height, configuration, and signal intensity of the lumbar vertebral bodies are normal.

At the level of L4-L5 and L5-S1 intervertebral spaces, there is evidence of moderate osteoarthritis characterized by subchondral sclerosis and hypertrophic spurring. At the same levels, there is evidence of moderate to advanced desiccation/degeneration of the intervertebral disc, characterized by flattening, with loss in height, with prominence of the central cleft and diminished signal intensity. At the level of L4-L5 and L5-S1 there is evidence of ventral indentations of the thecal sac.

There is some clumping of the cauda equine nerve roots along with minimal enhancement of the roots on post gadolinium scans. The signal intensity of the conus terminalis and of the thecal sac is otherwise, normal.

In the axial plane projection, the following findings were encountered:

At the level of L4-L5 patient is post orthopedic surgery following L4/5 diskectomy, reveals minimal disc bulge along with enhancing central scar tissue at this level with flattening of the ventral aspect of the thecal sac. Neural canals are patent. There is evidence of osteo-spondyloarthritis of the facet joint posteriorly, along with ligamentum flavum hypertrophy. Without significant spinal canal stenosis.

At the level of L5-S1 there is evidence of a left paracentral and foraminal disc extrusion/herniation with concave deformity of the ventral aspect of the thecal sac. The disc extends laterally, with narrowing of the left lateral recess and neural foramina, there is evidence of significant impingement of the left traversing (S1) and exiting (L5) root and

moderate impingement of the right exiting nerve root. There is some caudal migration of the extruded disc. There is evidence of osteo-spondyloarthrosis of the facet joint posteriorly, along with ligamentum flavum hypertrophy.

#### **MRI OF THE LUMBAR SPINE - BACKWARD EXTENSION POSITION:**

Sagittal T2 FSE images were obtained at the end range of backward extension while seated. Arch of motion of the lumbosacral spine in extension is considered to be normal. During extension, there is evidence of some increase to the ventral indentation identified to the level of the L4-L5 and L5-S1. There is no evidence of spondylolisthesis.

#### **MRI OF THE LUMBAR SPINE - FORWARD FLEXION POSITION:**

Sagittal T2 FSE images were obtained at the end range of flexion while seated. The previously identified indentations in the extension projection at L4-5 and L5-S1 show only minimal relief. There is no evidence of spondylolisthesis. Arch of motion of the lumbosacral spine in flexion is considered to be normal.

#### **IMPRESSION:**

1. In the sagittal projection, there is rectification of the normal lateral curvature of the lumbosacral spine.
2. At the level of L4-L5 and L5-S1 intervertebral spaces, there is evidence of osteoarthritis and moderate desiccation/degeneration of the intervertebral discs.
3. There is some clumping of the cauda equine nerve roots along with minimal enhancement of the roots on post gadolinium scans. This may indicate an element of associated doubtful arachnoiditis. However, it requires clinical correlation. The signal intensity of the conus terminalis and of the thecal sac is otherwise, normal.
4. At the level of L4-L5 patient is post orthopedic surgery following L4/5 discectomy, reveals minimal disc bulge along with enhancing central scar tissue at this level with flattening of the ventral aspect of the thecal sac. Neural canals are patent. There is evidence of osteo-spondyloarthrosis of the facet joint posteriorly, along with ligamentum flavum hypertrophy
5. At the level of L5-S1 there is evidence of a left paracentral and foraminal disc extrusion/herniation with concave deformity of the ventral aspect of the thecal sac. The disc extends laterally, with narrowing of the left lateral recess and neural foramina, there is evidence of significant impingement of the left traversing (S1) and exiting (L5) root and moderate impingement of the right exiting nerve root. There is some caudal migration of the extruded disc. There is evidence of osteo-spondyloarthrosis of the facet joint posteriorly, along with ligamentum flavum hypertrophy. No evidence of significant spinal canal stenosis.
6. During extension, there is evidence of increase to the ventral indentation identified to the level of the L4-L5 and L5-S1 with partial relief on flexion.





