



Case Review:

59 year old female with
Progressive Adult Idiopathic
Scoliosis and Spondylolisthesis

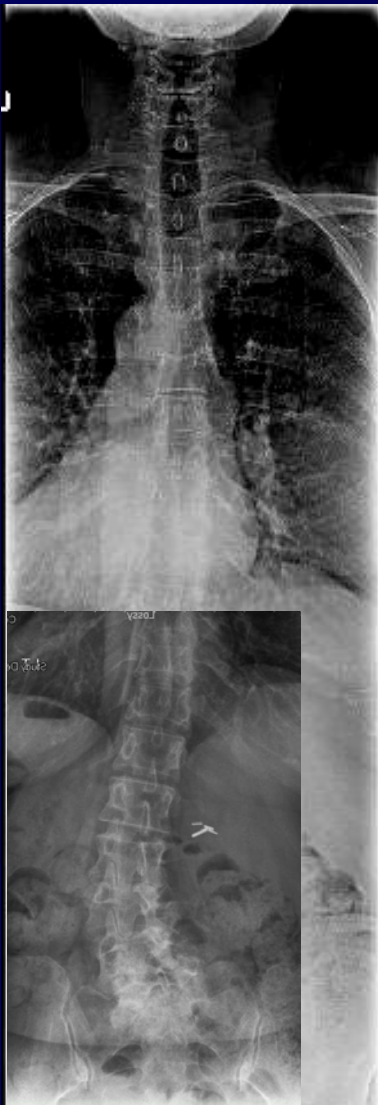
Robert S Pashman, MD

Scoliosis and Spinal Deformity Surgery
www.eSpine.com

Patient History

- 59-year-old female
- Kim/SRP type II curve adult idiopathic progressive scoliosis
- Significant forward decompensation
- Spondylolisthesis
- Flat back Syndrome induced by critical spinal stenosis of the lumbar spine.
- The patient has failed conservative therapy.

Pre-op X-rays



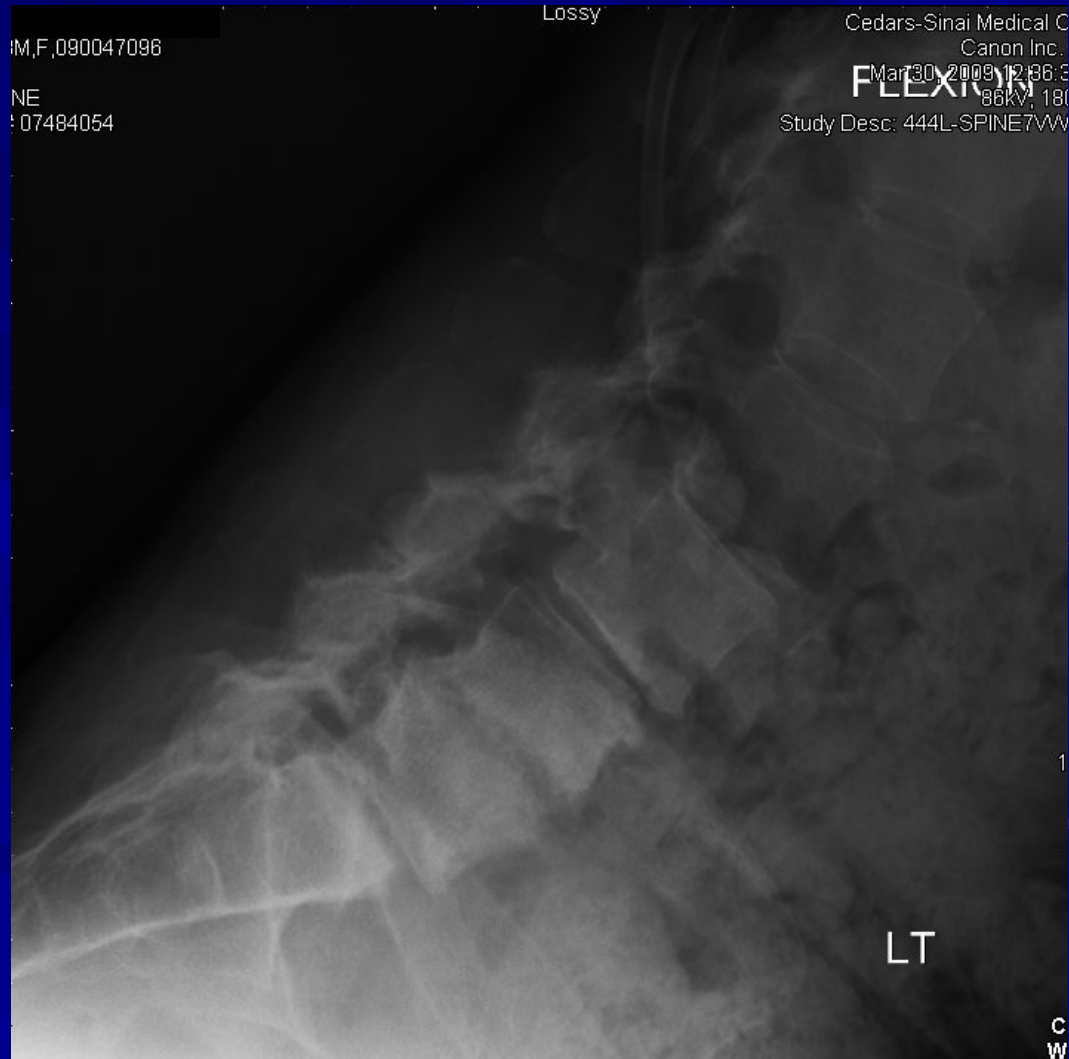
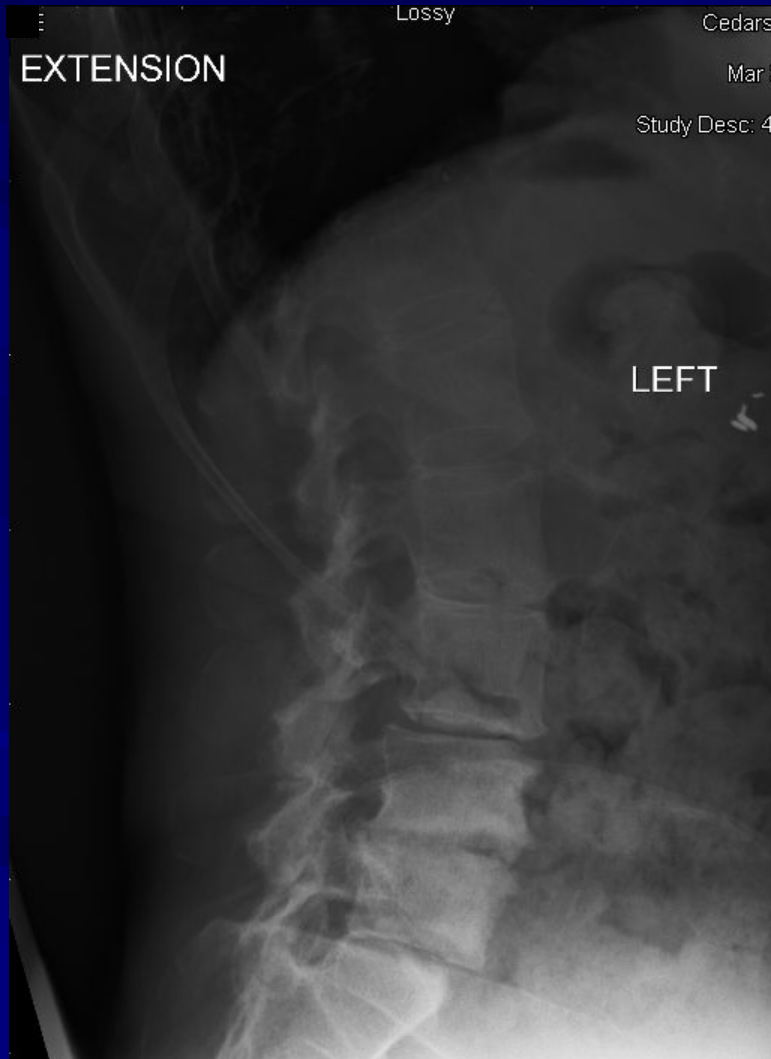
The patient has critical spinal stenosis at approximately L3-L4, L4-L5, maybe L5-S1; spondylolisthesis at L3-L4, possible spondylolisthesis at L5-S1 and what appears to be total lack of lumbar lordosis, resulting in a significant sagittal plane displacement of greater than 10 cm, C7 plumbline anterior to S1.

Moreover, the patient has significant adult idiopathic scoliosis and therefore, the combination of loss of lumbar lordosis, spondylolisthesis at two levels, critical spinal stenosis and adult idiopathic scoliosis warrant major reconstruction of the lumbar spine, if any surgical solution is to be applied.

Bending X-rays



Flexion/Extension Films



Indications for Surgery

1. KIM/SRP type 2 Adult Idiopathic Scoliosis.
2. Spondylolisthesis L3-4, L4-5.
3. Critical spinal stenosis L3-4, L4-5.
4. Significant lumbosacral obliquity.
5. Multiple co-morbidities
6. Failed conservative therapy.
7. Status post abdominal retroperitoneal approach in an anterior interbody fusion L4-5, L5-S1

Surgical Strategy – Stage 1

- Abdominal retroperitoneal approach to the lumbosacral spine.
- Radical discectomy at L4-5 and L5-S1.
- Interbody fusion at L4-5 and L5-S1 using Alphatec PEEK device with rh-BMP centrally.
- Spondylolisthesis reduction at L4-5.
- Anterior screw fixation of the lumbar spine with fully threaded screw over a washer.
- Intraoperative somatosensory evoked potentials.
- Intraoperative fluoroscopy management.

Surgical Strategy – Stage 2

- T10 to sacropelvic segmental spinal instrumentation using pedicle screw/rod instrumentation.
- Posterior spinal fusion T10 to sacral pelvis using locally harvested autogenous bone and recombinant human bone morphogenetic protein.
- Radical laminectomy L2-L4 under loop magnification high intensity with bilateral interlaminar laminotomy and lateral recess decompression.
- Neural foraminotomy L2-3, L3-4, L4-5 for removal of severe spinal stenosis.
- Intraoperative spinal osteotomy L1-2, L2-3, L3-4, L4-5 for induction of sagittal plane correction from kyphosis to lordosis. These are Smith-Petersen osteotomies.
- Exposure iliac crest through separate incision for placement of pelvic instrumentation and local autogenous bone graft harvesting, left pelvis.
- Intraoperative O-Arm Stealth Navigation management with intraoperative C-arm and fluoro navigation.
- Intraoperative somatosensory and motor evoked potential management.

Post-Op Films

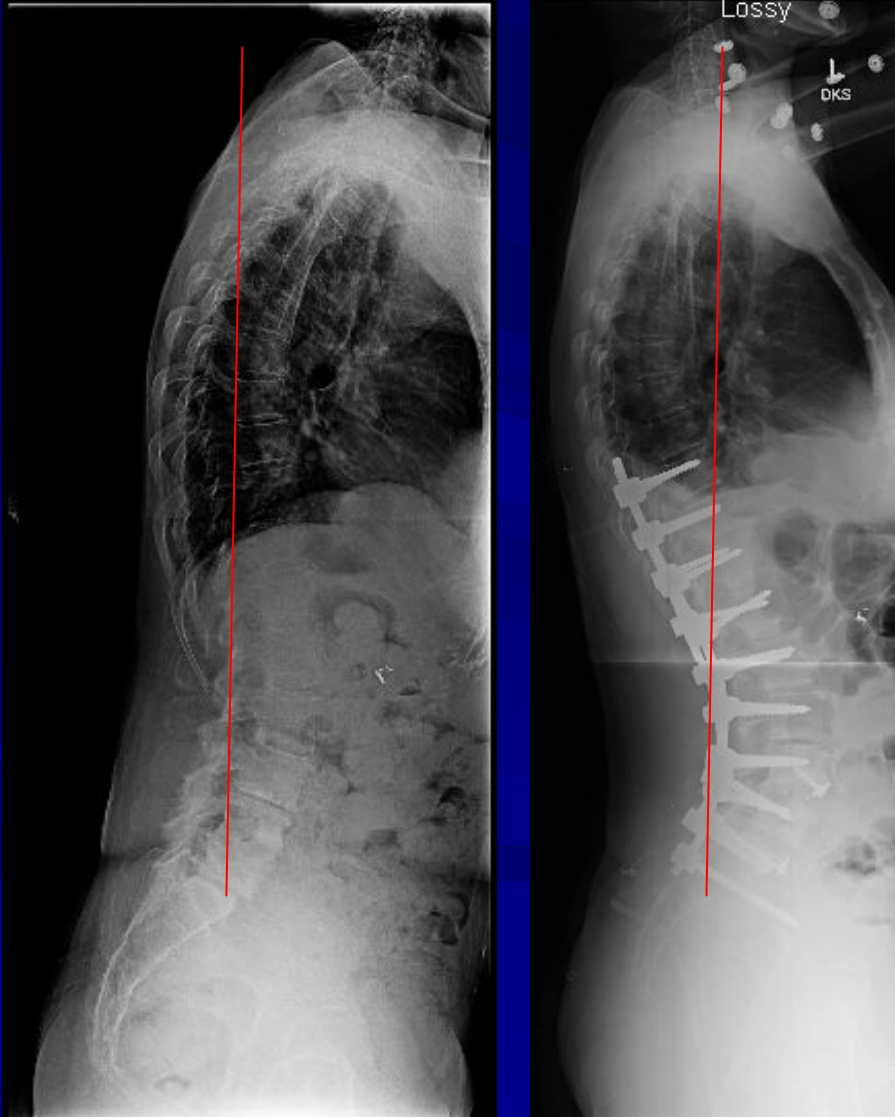


The patient did well post-operatively, and is happy with her outcome.

Pre-Op/Post-op Comparison



Pre-Op/Post-op Comparison



The patient is in sagittal balance, and her head is now balanced over her hips.