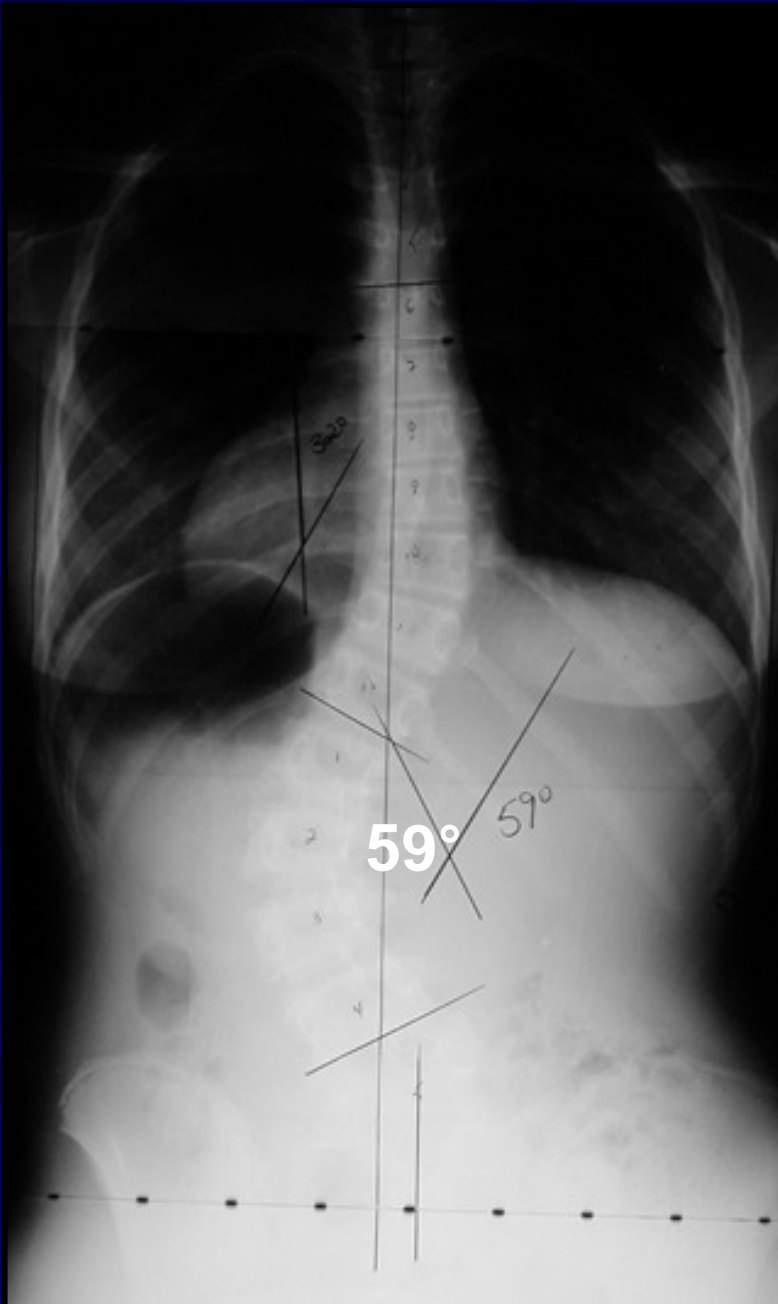


Case Review:

Adolescent Idiopathic Scoliosis
Lumbar curve treated with an
anterior spinal fusion



Robert S Pashman, MD

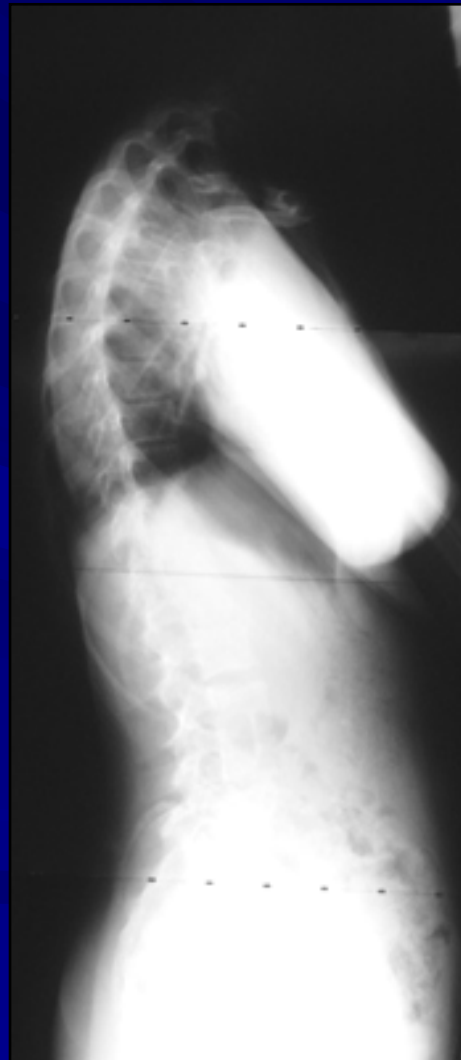
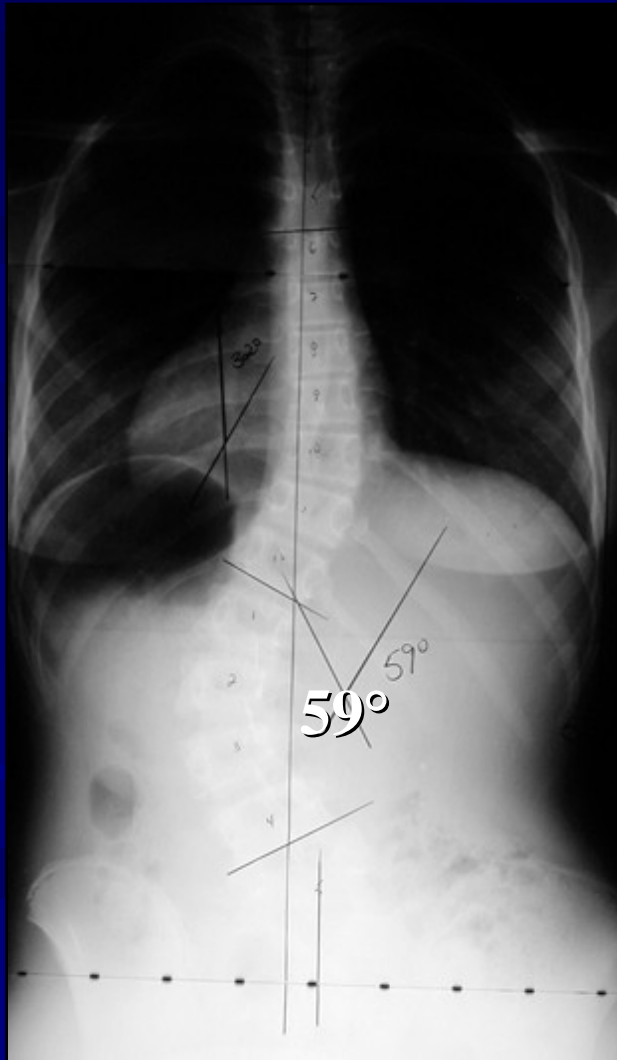
Scoliosis and Spinal Deformity Surgery

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Patient history

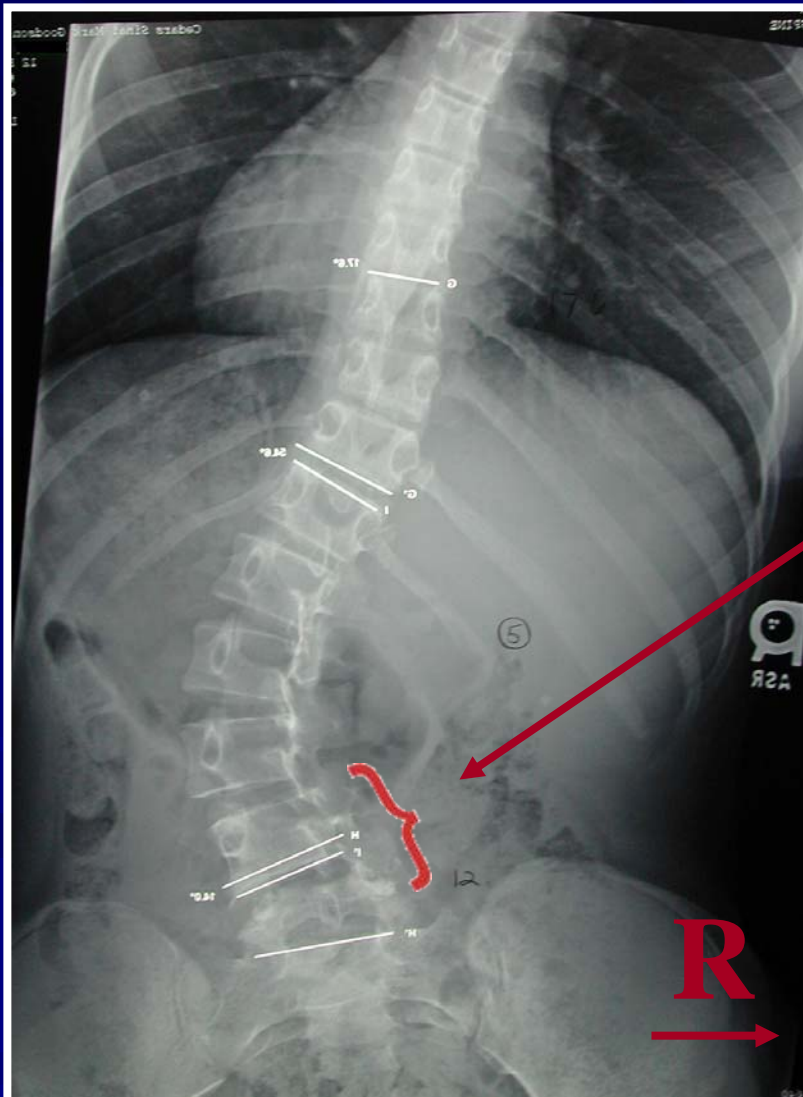
- 13-year-old female
- 59° left lumbar curve with apex L2.
- The patient has a stiff lumbrosacral fractional curve which bends out to approximately 17° preoperatively.
- The thoracic curve is compensatory bending out to 15°. There is a marked rotation of the lumbar spine and decompensation to the left.

Indications for Surgery



- Progressive Adolescent Idiopathic Scoliosis.
- Primary lumbar compensatory thoracic fractional lumbrosacral curve.
- 59° curve
- Left decompensation.

Bending X-rays



Bending x-rays are taken to reveal how flexible the curve is and can give some prediction of the amount of correction that can be obtained with surgery.

Note minimal correction of fractional lumbrosacral curve on right side bending.

Surgical Strategy

The operative strategy was a short segment instrumentation around the apex, L1 to L3 which depended on the intraoperative stretch and bending x-rays. Especially worrisome is the fixed lumbrosacral fraction curve with inability to correct. Therefore, the overall correction will not surpass 17° because of the fear of decompensating the patient to the left. There was a possibility that repeat instrumentation for decompensation would be required and the family was advised of this pre-op.

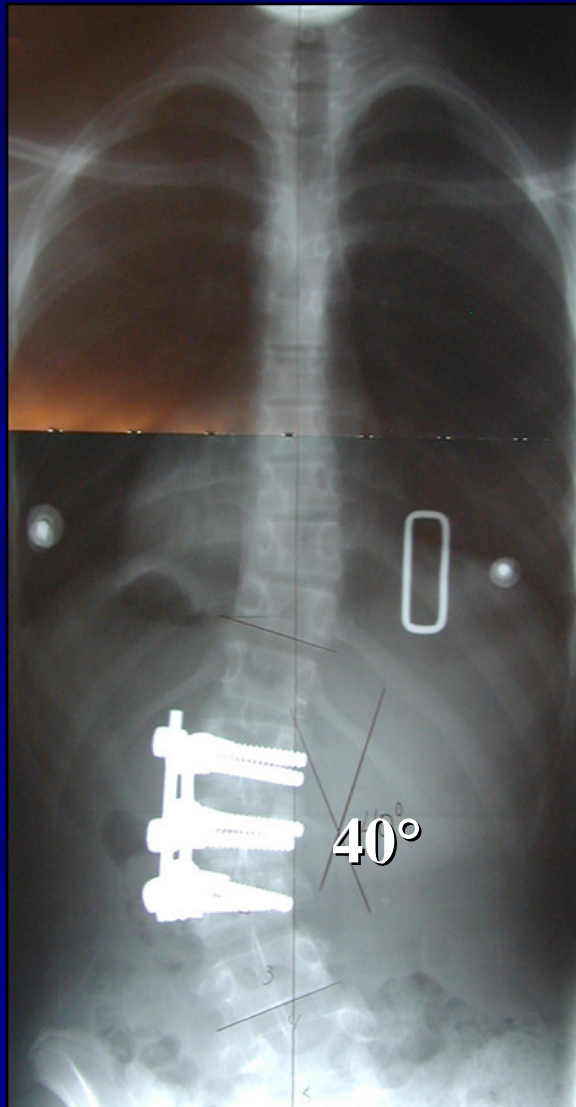
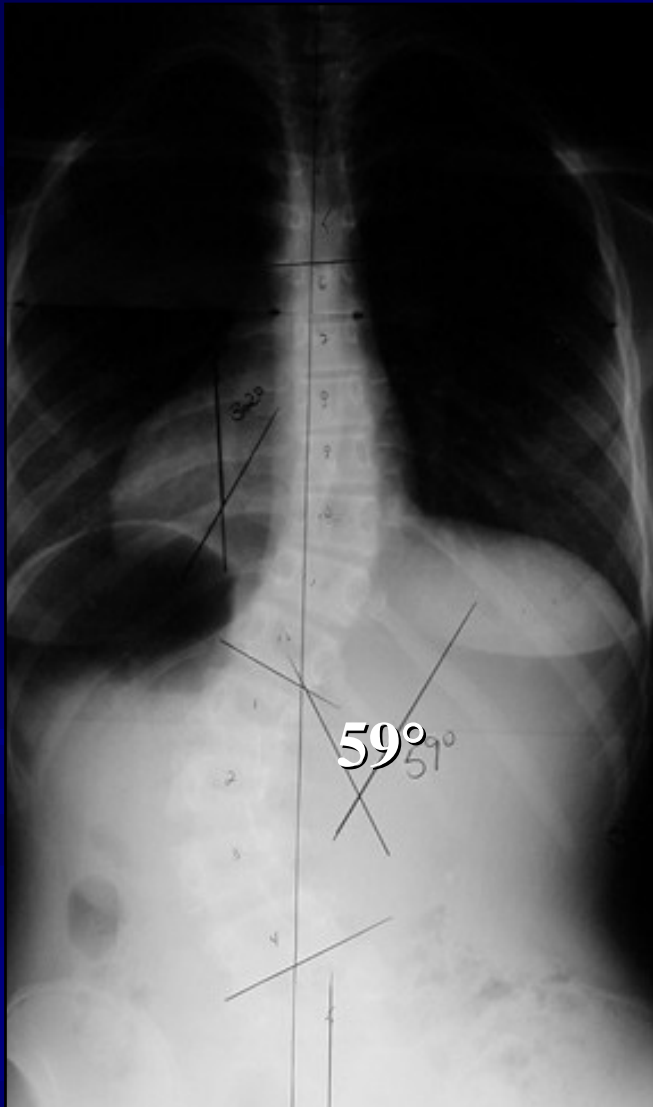
1. T11 retropleural, retroperitoneal thoracabdominal approach to the thoracolumbar spine was utilized
2. Complete discectomy at L1-2 and L2-3.
3. Segmental spinal instrumentation L1 to L3 using the Kass double screw staple rod construct for correction.
4. Anterior interbody fusion, L1-2, L2-3 with autogenous T11 rib bone graft.

Surgical Outcome



1. Short instrumentation
2. Instrumented curve completely corrected, although overall lumbar curve corrected to 40° (47% correction).
3. Over correction avoided to lessen the chances of exacerbating the left decompensation.

Pre-op/Post-op X-ray comparison



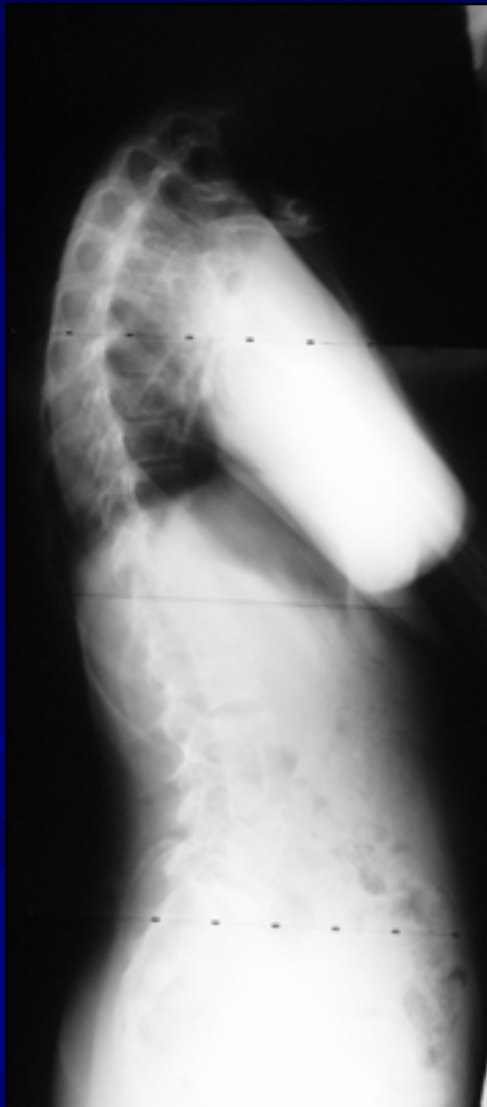
A 19° correction obtained. (32% correction)

Coronal balance improved. (decompensation is less)

Curve stabilized.

Minimal vertebra fused.

Pre-op/Post-op X-ray comparison



Note that there is no loss of lumbar lordosis.