

Case Review:

**Adolescent Idiopathic
Scoliosis with a
Thoracolumbar curve
treated with a short segment
anterior spinal fusion**

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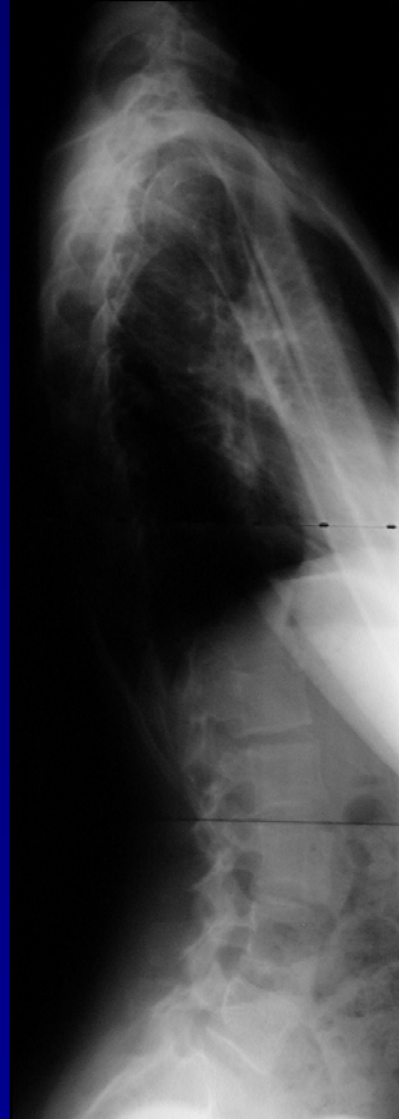
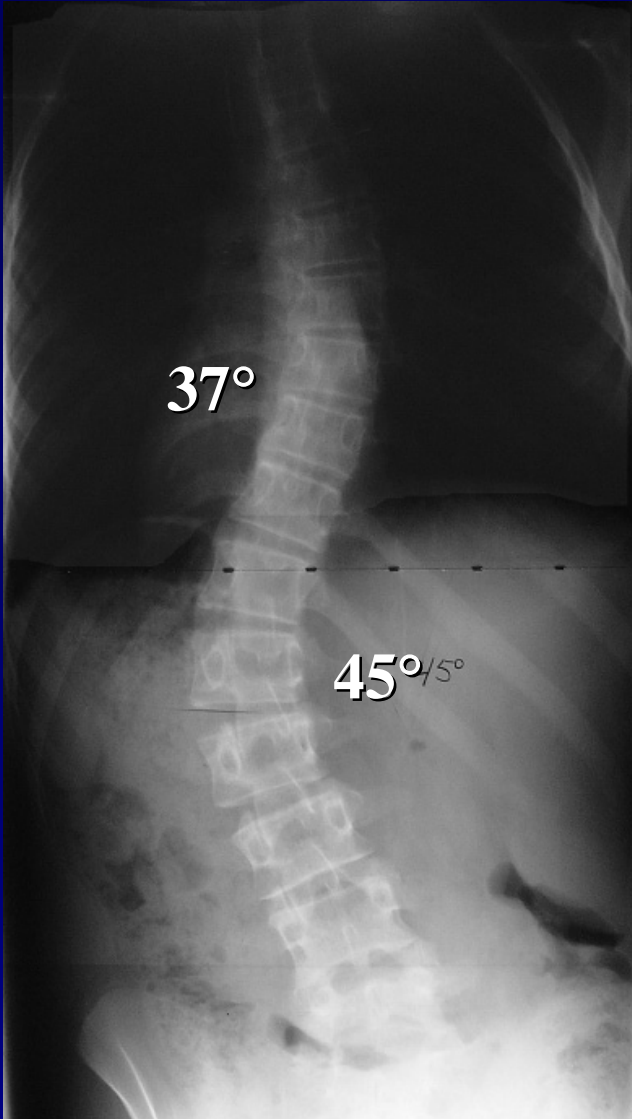
Scoliosis and Spinal Deformity

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Patient history

- Fourteen year old female.
- Diagnosed with progressive idiopathic scoliosis.
- Radiographs show a 45° left T11 to L3 thoracolumbar curve with a compensatory 37° proximal thoracic curve.
- The thoralumbar curve was highly rotated.
- The thoracic curve was minimally rotated.
- The patient had depression of her left shoulder, and she was decompensated at least 2 cm to the left.
- The patient has an open iliac hypophysis and Risser II indicating skeletal immaturity.

Indications for surgery

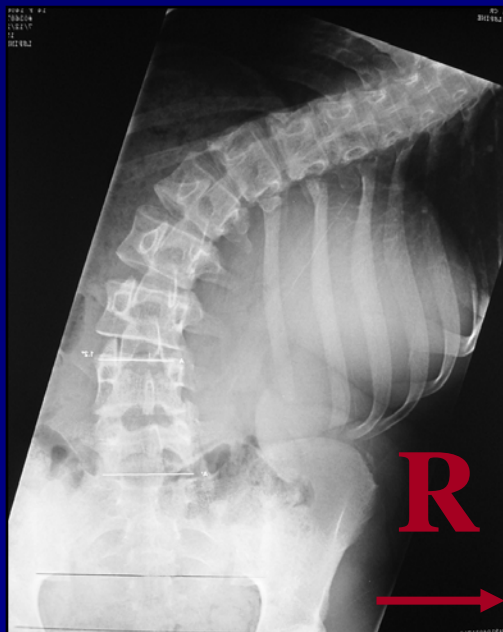
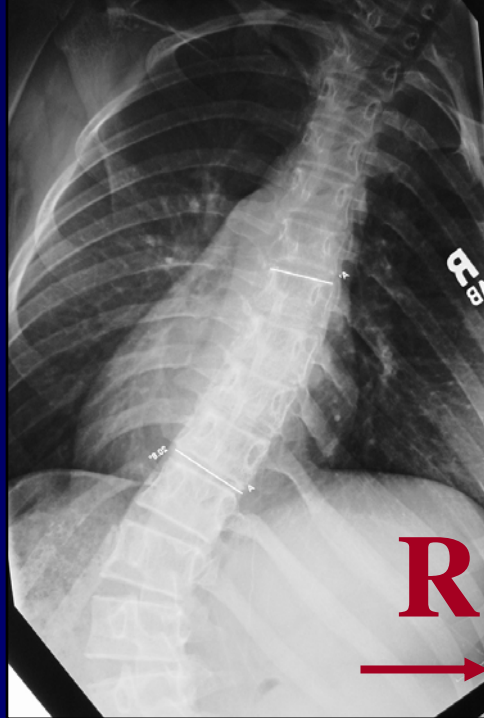
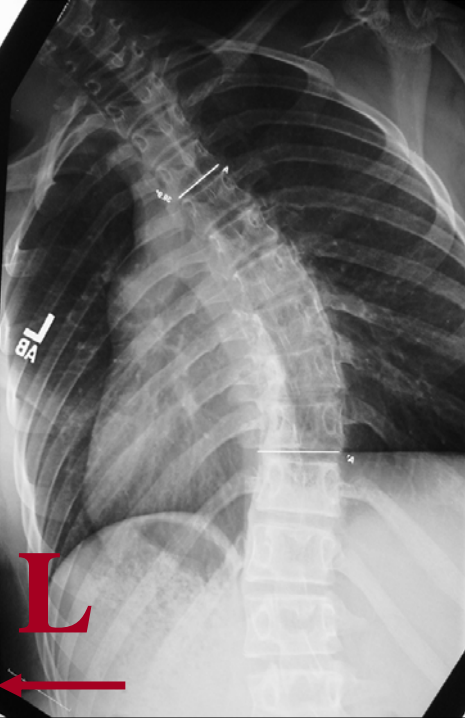


1. Adolescent idiopathic scoliosis, progressive.
2. Failure of conservative therapy (brace).

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.

On right and left side-bending films, it was seen that the patient's curve and vertebrae opened right and left at the T11-12 and right and left at L2-3. On the right side-bending film, the L3 vertebra became horizontal and central over the mid sacrum. Fractional lumbrosacral curve corrects on right side bending.

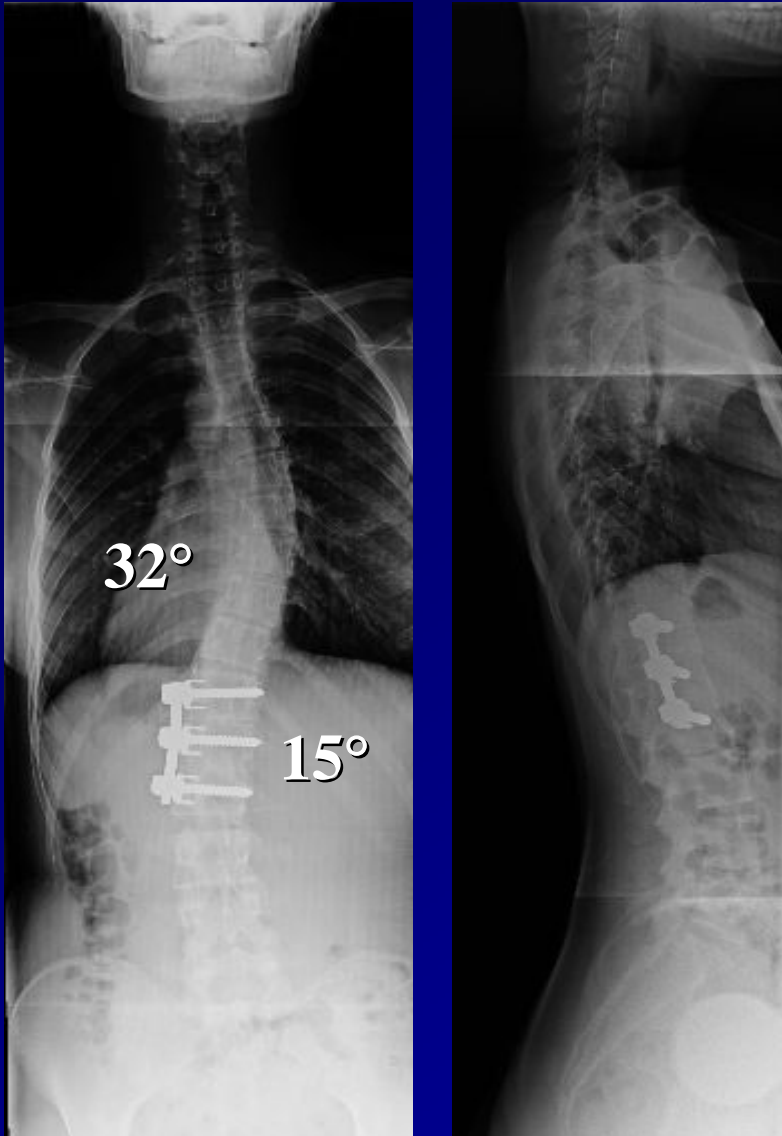


Surgical strategy and procedure

The strategy would be a selective thoracolumbar anterior fusion from T12 to L2 with with an attempt to over-correct the instrumented curve so that the distal lumbrosacral curve would straighten.

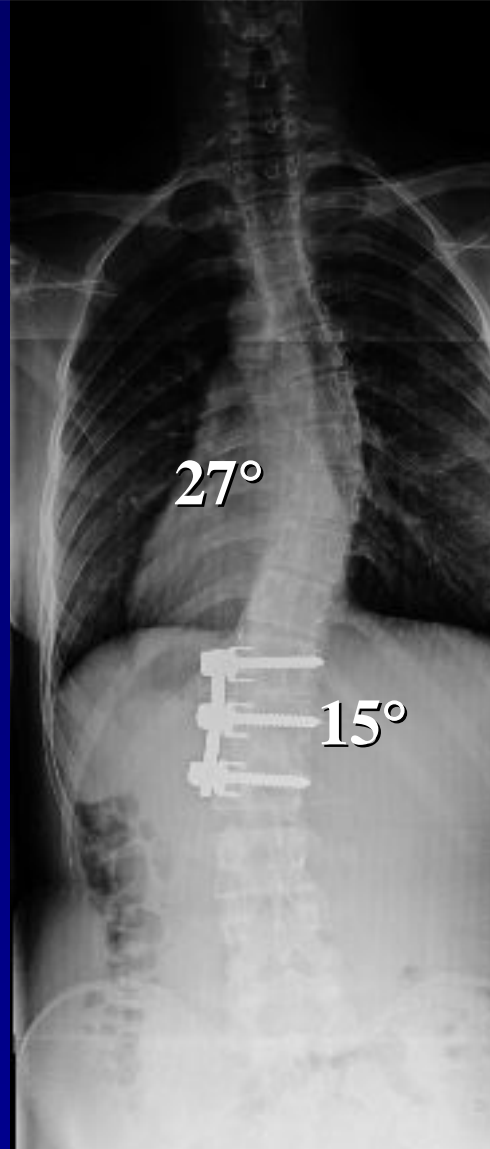
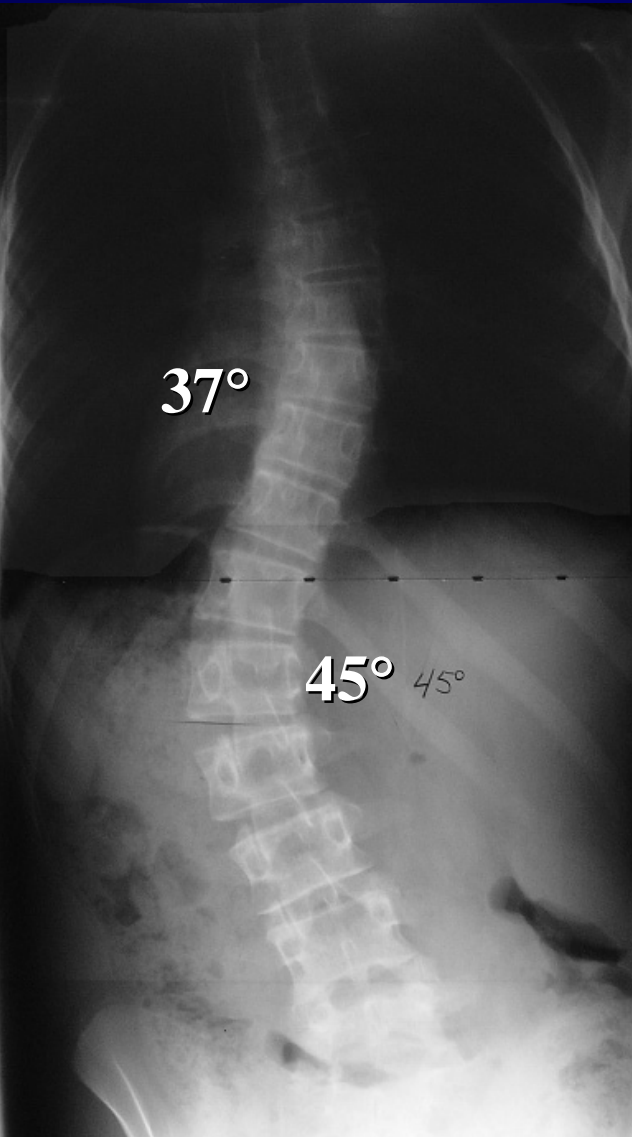
- The vertebra were exposed from T12 to L1 with anterior thoraco-abdominal approval.
- Significant spinal rotation was noticed.
- The discs were removed
- After the disectomy, there was significant mobility to the spine allowing for the planned over correction.

Surgical outcome



- The unfused distal lumbar curve straightened.
- Sagittal balance maintained.
- Minimal vertebra fused.

Pre-Post surgery comparison



Note the 30° (66%) correction. Follow-up shows auto correction of thoracic curve with leveling of shoulders and frontal plane balance.