

Case Review: Adolescent Idiopathic Scoliosis treated with an anterior spinal fusion

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Scoliosis and Spinal Deformity Surgery

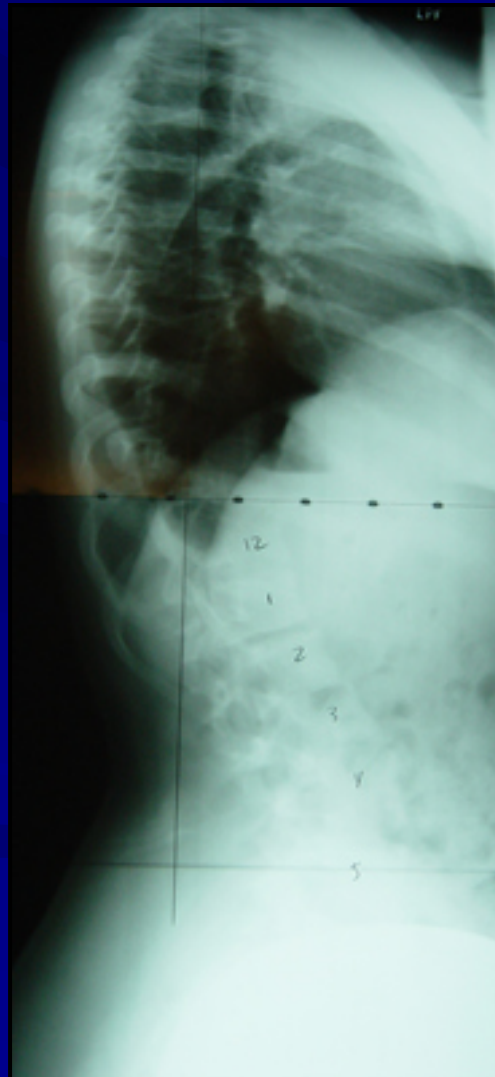
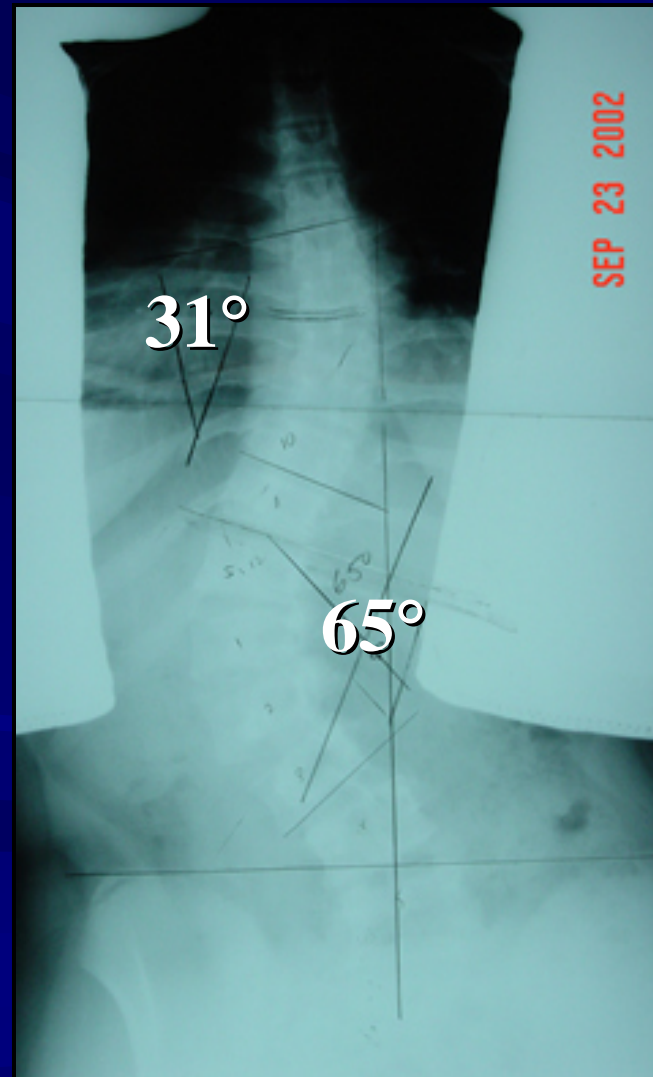
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Patient history

- 12 year-old female from Alaska
- Post menarche
- Progressive Adolescent Idiopathic Scoliosis
- Denies back pain or lower extremity symptoms
- The patient was found to have scoliosis on an x-ray of her thoracolumbar spine during a routine examination of her knee.
- She has had brief growth spurt and no other medical problems.

The patient is decompensated to the left somewhat per gross obesity. She does have a little bit of right thoracic prominence and has a large lumbar fullness. She has a certain amount of kyphosis in the thoracolumbar junction. The leg lengths are almost equal. Motor sensory examination intact. No skin markings, tags are non-idiopathic suggestions for scoliosis.

Pre-op x-rays



The patient's 36 x 14 x-rays reveal a 65° left lumbar curvature. She has significant tilting of L4, L5 but on the right side bending corrects to the midsacral line up to L4.

L3 is still left of the midsacral line. The patient's upper thoracic region does not indicate significant rotation or scoliosis, although she does have a right rib hump.

Bending x-rays



Bending x-rays are taken to: Predict flexibility of all curves. Less flexible curves are termed structural and need to be fused. More flexible curves are termed compensatory.

Indications for surgery

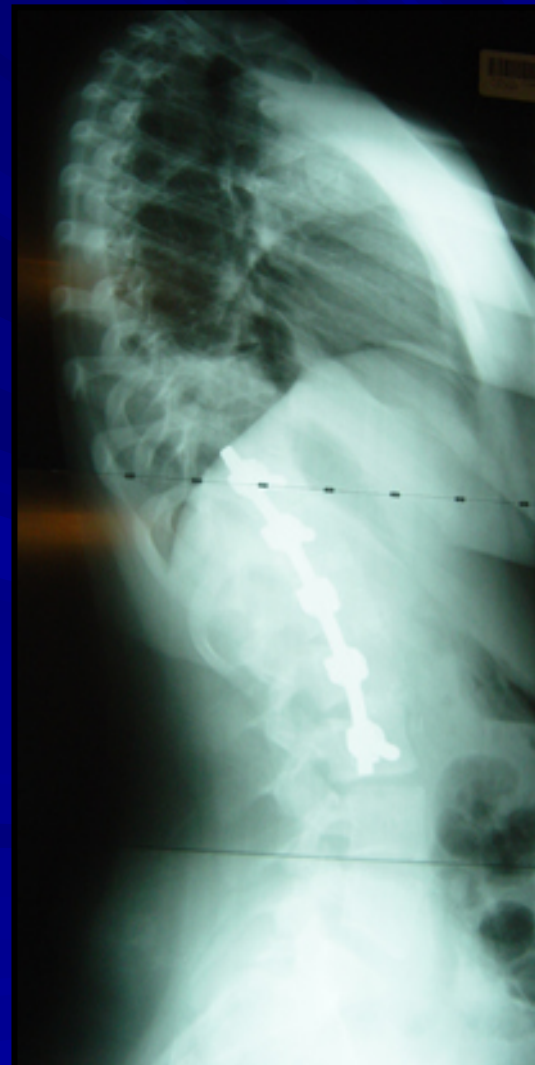
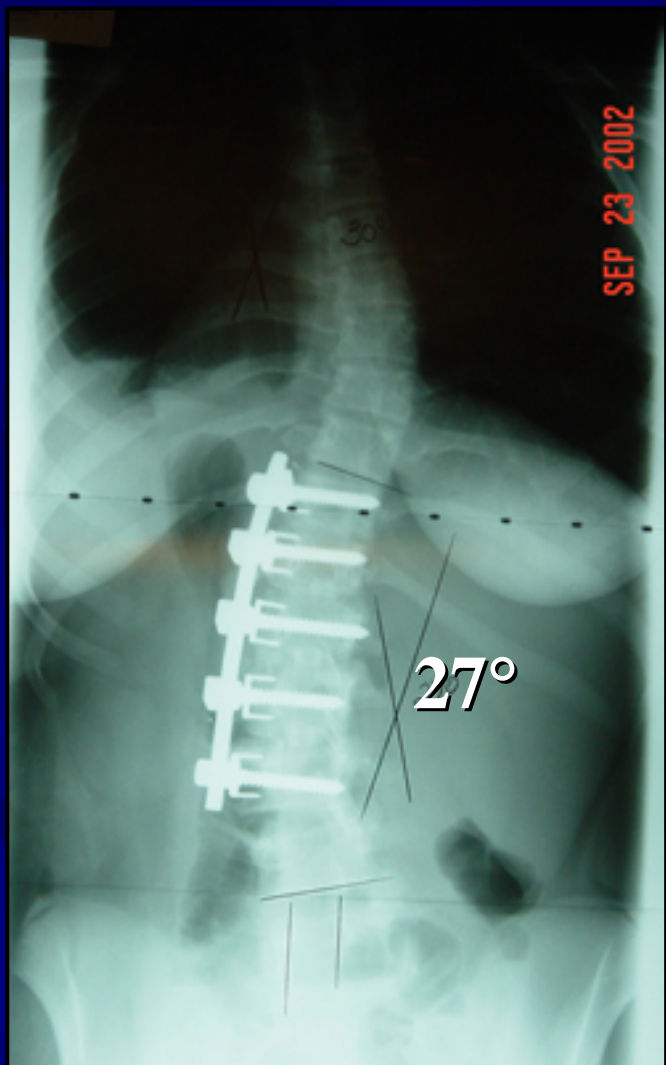
1. Progressive Lumbar Adolescent Idiopathic Scoliosis, with curvature 65+ degrees
2. Low Back Pain
3. Thoracolumbar Kyphosis

Surgical strategy and procedure

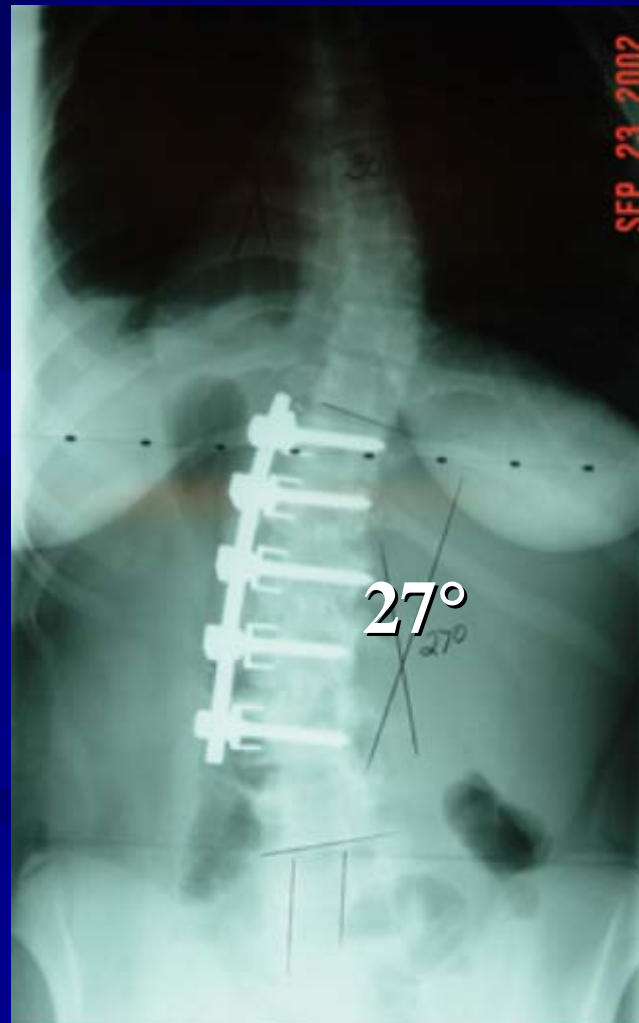
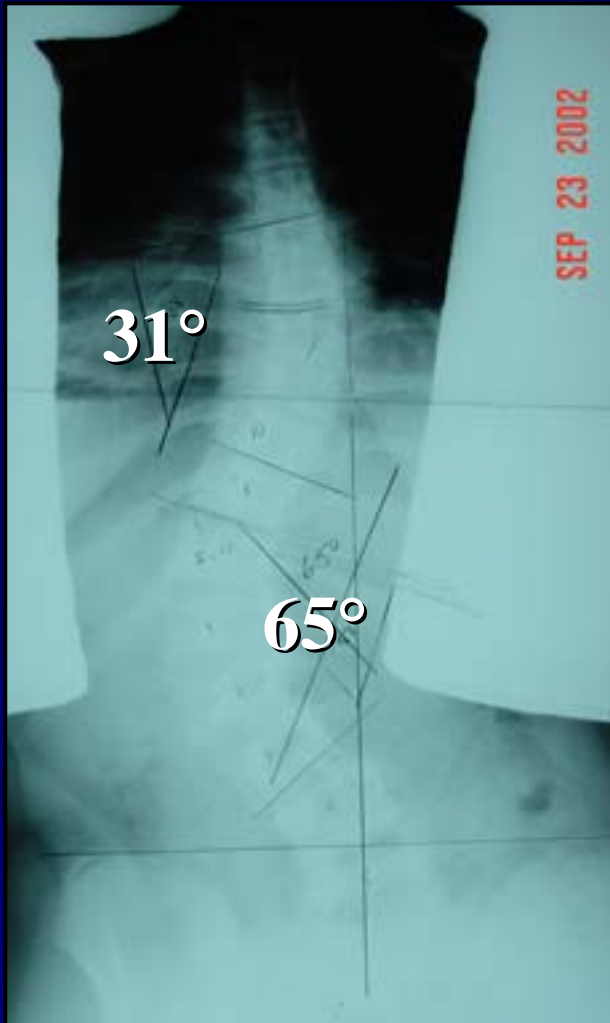
1. Left T11 transthoracic retroperitoneal exposure of thoracolumbar spine.
2. Complete discectomy, T11-12, T12-L1, L1-L2 and L2-L3.
3. Anterior interbody fusion, T11-12, T12-L1, L1-L2 and L2-L3.
4. Segmental spinal instrumentation, T11 to L3, with transvertebral Isola stainless steel rod and staple construct.
5. Intraoperative somatosensory evoked potential monitoring.

I did warn them that the possibility of decompensation or non-correction of the fractional lumbar curve would require further surgery but I think it is in the best interest of the patient to preserve the L3-4, L4-5 motion segments.

Surgical outcome



Pre-Post surgery X-Ray comparison



38° correction was obtained. The patient did very well post-operatively, and returned to Alaska two weeks after surgery.

Pre-Post surgery X-ray comparison

