



## Case Review:

15 year old Male with Adolescent Idiopathic Scoliosis with aspirations to become a professional golfer.

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# Patient History

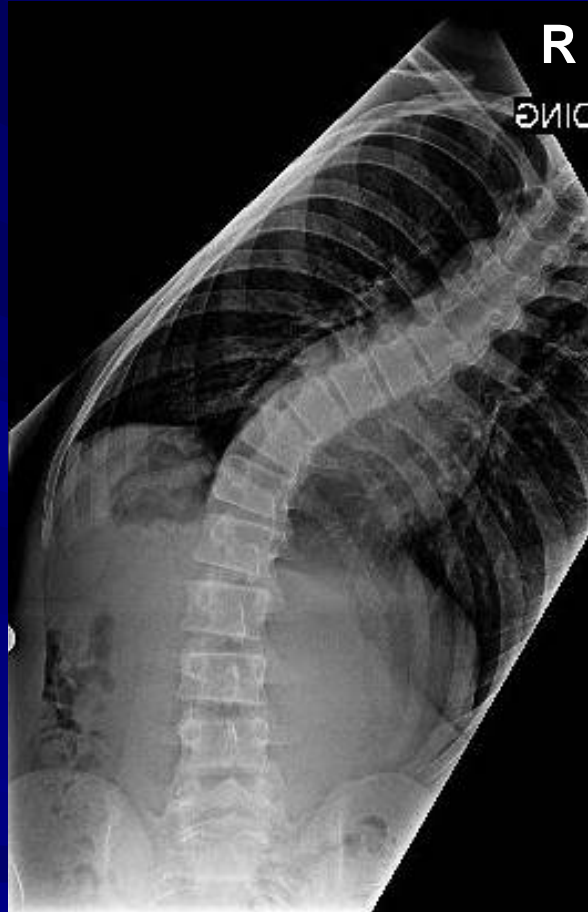
- 15-year-old male
- Diagnosed 4 years ago with Adolescent Idiopathic Scoliosis, which was approximately a 23° thoracolumbar curve at the time
- Status post a significant growth spurt
- Patient is a competitive golfer, index 9.7-10.0, playing JV at school

# Pre-op X-rays



- Progressive 58° thoracolumbar curve
- The shoulders are level.
- He has significant left thoracolumbar fullness, slightly elevated right scapula, and with whole truncal shift to the left, but well-balanced in the coronal and sagittal planes.
- The patient is neurologically intact.

# Bending X-rays



This is a curve with a thoracic component which is mildly structural on right side bending but to less than approximately  $30^\circ$ . The patient has complete non-structurality of the compensatory subcurve lumbar component with almost complete horizontalization and neutralization with right and left-side bending. The Cobb angle approximately T9 to 11 will be used and the strategy will be an anterior spinal fusion.

# Indications for Surgery

- Thoracolumbar progressive Adolescent Idiopathic Scoliosis curve measuring  $58^\circ$ .
- Compensatory thoracic and lumbar component curves with progression.
- Thoracic low back pain due to progressive scoliosis and rotation.
- Failed conservative therapy.

# Surgical Strategy - Options

The patient has expressed a deep desire to continue with competitive golfing.

A posterior spinal fusion would have to go approximately from T4 to L1 or L2 and by nature of the procedure, would displace the posterior rectus speni muscles and paraspinous muscles as well as disrupt the insertion of all the rhomboid, traps and shoulder girdle muscles would necessarily doom him to a noncompetitive golf-playing career.

Therefore, the patient in my estimation would be best served with an anterior thoracoabdominal from T9-L1. This would minimize the fusion levels and might prolong his golf career.

# Surgical Strategy

1. T10 left thoracotomy and thoracolumbar retroperitoneal approach to the thoracolumbar spine.
2. Radical discectomy with epidural decompression T9-10, T10-11, T12-L1.
3. Interbody fusion with PEEK 8x10 mm device with Rh BMP T12-T11.
4. Interbody fusion using morselized autogenous rib graft and Rh BMP T9-T10, T10-11 and T11-12.
5. Segmental spinal instrumentation with laterally based trans vertebral pedicle screw construct using Legacy 6.5 quarter-inch screw staple instrumentation, T9 to L1.
6. Placement of chest tube.
7. Intraoperative SSEP motor evoke potential management.
8. Intraoperative fluoroscopic management.

# Post-Op Films



The patient did very well post-operatively. He is looking forward to returning to his golf game.

# Pre-Op/Post-op Comparison



An excellent correction was obtained, while minimizing the number of levels fused.

The patient is well balanced in the sagittal plane.

# Pre-Op/Post-op Comparison



The patient is well balanced in the coronal plane, and is very happy with his outcome.