



Clinical Case Study

NAUTILUS® Fixation System

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Case Report

Patient History:

A young female patient was diagnosed with deformity in the thoracolumbar spine region approximately one year ago. After initial consultation, simple x-rays were taken, confirming the diagnosis of thoracolumbar scoliosis, with thoracic and lumbar curves greater than 40 degrees for each. As a result, the patient was deemed not to be a candidate for treatment with deformity bracing.

Additional clinical diagnostic tools included lateral dynamic radiographs, laboratory studies, echocardiography, and assessment by a cardiologist. Magnetic resonance study was requested, and no anomalies of neurogenic origin were discovered. No contraindications for the surgical procedure were found.

After consultation with the patient, it was decided that a procedure for surgical correction of the deformity would be performed on July 11, 2018.

Figure 1B

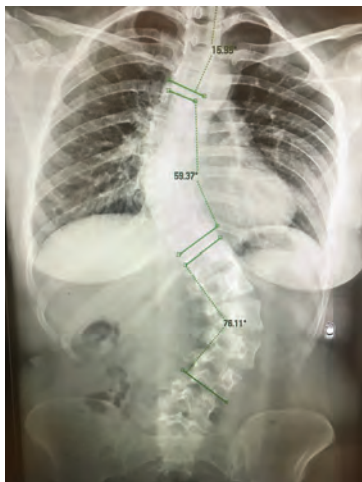


Figure 2A

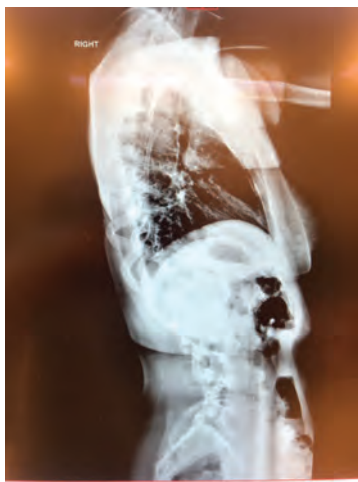


Figure 2B

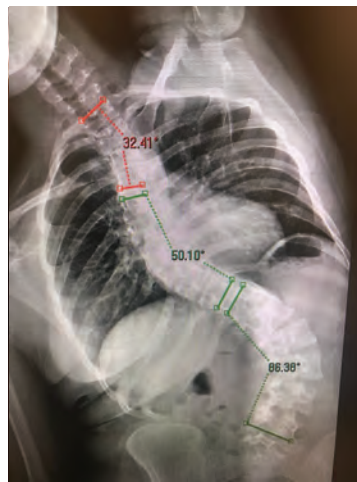
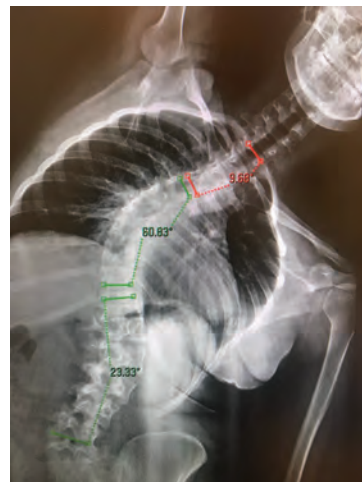


Figure 2C



Operative Treatment:

The patient was positioned on a Jackson table, and trans-operative monitoring was performed with a Cadwell System by a certified neurophysiologist.

The patient was placed prone on the table, and after a standard prep and drape, fluoroscopy was used to plan a midline incision. Deformity correction surgery was planned from T-4 to L-4, with bilateral screws at each vertebral body.

Twenty-six NAUTILUS screws, in configurations of 6.5mm x 35mm; 6.5x40mm; and 6.5x45mm were placed bilaterally into the pedicles from T-4 to L-4 and through the vertebral bodies. One 450mm long, 5.5mm diameter CoCr rod was curved by the surgeon, and a similar titanium rod was inserted contralaterally. Set screws were placed down and fluoroscopy was used to confirm optimal construct placement. The set screws were final tightened.

Surgery time was approximately three hours. Bleeding 800cc autologous graft was used, as well as 60 cc of heterologous graft of demineralized matrix bone chips, along with 1 gram of vancomycin in the graft, and an additional 1 gram in muscle and subcutaneous tissue.

Post-Operation X-ray and Discussion:

No generalized or local adverse reactions were observed post-operatively, and the patient was provided with brace and lifting restrictions. The patient had no complaints of incisional or muscle pain, and the skin incision was observed to be healing normally.

Two Weeks:

Staple removal was performed two weeks after the surgery, and the patient has now returned back to normal activities.

