

Zhou C, Liu L, Song Y, et al. Two-stage vertebral column resection for severe and rigid scoliosis in patients with low body weight. The Spine Journal 2013;13(5):481-486

Many osteopaths treat patients with scoliosis in clinical practice. This paper describes the management for a particular subgroup of patients who have the combination of severe and rigid scoliosis in combination with low body weight. The authors describe current management which involves anterior release with posterior correction and instrumentation; they go on to describe their own case series involving a modified approach involving a two-stage vertebral column resection to try and optimise correction of the spinal curve while minimising the known complications for the procedure.

This study involved sixteen patients (nine women and seven men) referred from the orthopaedics department of a Chinese hospital. Clinical analysis involved a range of considerations including:

- Rib hump;
- Lumbar hump;
- Cobb angle of coronal curves;
- Apical vertebral translation;
- Coronal balance;
- Sagittal balance;
- Thoracic kyphosis;
- Lumbar lordosis.

These measures were performed before and after surgery to assess the effectiveness of the procedure. Additional data were collected including patient's weight, the mean operating time, mean blood loss, and postoperative complications including those associated with the procedure, and with the instrumentation.

Data relating to the procedure demonstrated a range of changes. Rib hump and lumbar hump had correction rates of 77% and 85%; coronal plane correction of the major curve averaged 70.7%; apical vertebral translation of the curve was corrected by 73.2%; pre-operative thoracic kyphosis of 50.1° was corrected to 28.9°; and preoperative lumbar lordosis was corrected from -57.9° to -49.0°.

Complications were identified in two patients one of whom required ventilator support for 12 hours, and malposition of a pedicle screw was found in another patient. The authors concluded that this approach offers a good form of correction to scoliosis in this subgroup of patients without serious complications being encountered.