Classification

see Scoliosis nomenclature.

Scoliosis is typically classified as:

Congenital scoliosis.

Idiopathic (cause unknown, sub-classified as infantile, juvenile, adolescent, or adult, according to when onset occurred), or secondary to a primary condition.

Recent longitudinal studies reveal that the most common form of the condition, late-onset idiopathic scoliosis, is physiologically harmless and self-limiting even without treatment.

see Chiari related scoliosis

Adolescent idiopathic scoliosis

Early onset scoliosis

Adult degenerative scoliosis

Thoracic scoliosis

Thoracolumbar scoliosis

Lumbar scoliosis.

Neuromuscular scoliosis

A study demonstrates a significant decrease in the rate of scoliosis surgery for Duchenne muscular dystrophy (DMD) from 2001 to 2012. It appears that the decline in surgical treatment could be related to the publication and landmark study demonstrating decreased progression of scoliosis with glucocorticoid treatment [1)].

Severe and rigid scoliosis

A review of the effectiveness in treating severe and rigid scoliosis with posterior only spinal release combined with derotation, translation, segmental correction, and an in situ rod-contouring technique.

Twenty-eight patients with severe and rigid scoliosis (Cobb angle > 70° and flexibility < 30%) were retrospectively enrolled between June 2008 and June 2010. The average age of the patients was 17.1 years old (range 12-22 years old), 18 were female, and 10 were male. Etiological diagnoses were idiopathic in 24 patients, neuromuscular in 2 patients, and Marfan syndrome in 2 patients. All patients underwent posterior spinal release, derotation, translation, segmental correction, and an in situ rod-contouring technique. The scoliosis Cobb angle in the coronal plane, kyphosis Cobb angle, apex vertebral translation, and trunk shift were evaluated preoperatively and postoperatively.

The average operative time was 241.8 ± 32.1 minutes and estimated blood loss was 780.5 ± 132.6 ml. The average scoliosis Cobb angle in the coronal plane was corrected from 85.7° (range 77°-94°) preoperatively to 33.1° (range 21°-52°) postoperatively, with a correction ratio of 61.3%. The average

kyphosis Cobb angle was 64.5° (range 59°-83°) preoperatively, which was decreased to 42.6° (range 34°-58°) postoperatively, with a correction ratio of 33.9%. After an average of 24 months of follow-up (range 13-30 months), no major complications were observed in these patients, except screw pullout of the upper thoracic vertebrae in 2 patients and screw penetration into the apical vertebrae in 1 patient.

Posterior spinal release combined with derotation, translation, segmental correction, and an in situ rod-contouring technique has proved to be a promising new technique for rigid scoliosis, significantly correcting the scoliosis and accompanied by fewer complications [2].

1)
Raudenbush BL, Thirukumaran CP, Li Y, Sanders JO, Rubery PT, Mesfin A. Impact of a Comparative Study on the Management of Scoliosis in Duchenne Muscular Dystrophy: Are Corticosteroids Decreasing the Rate of Scoliosis Surgery in the United States? Spine (Phila Pa 1976). 2016 Sep;41(17):E1030-8. doi: 10.1097/BRS.0000000000001534. PubMed PMID: 26926354.
2)
Shen F, Zhou B, Li Q, Li M, Wang Z, Li Q, Ran B. Posterior-only spinal release combined with derotation, translation, segmental correction, and an in situ rod-contouring technique for treatment of severe and rigid scoliosis. J Neurosurg Spine. 2015 Feb;22(2):194-8. doi: 10.3171/2014.10.SPINE13690. Epub 2014 Dec 12. PubMed PMID: 25495943.