

CLINICAL STUDY SUMMARY

A Novel Posterior Rod-Link-Reducer System Provides Safer, Easier, and Better Correction of Severe Scoliosis

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Preoperative
14 year old girl with Lenke 1A curve



Post-operative
2 year follow-up

OBJECTIVE: To compare the Cobb $>75^\circ$ scoliosis correction using a novel Rod-Link-Reducer (RLR) system versus traditional corrective techniques (TCT) in patients with severe adolescent idiopathic scoliosis (AIS).

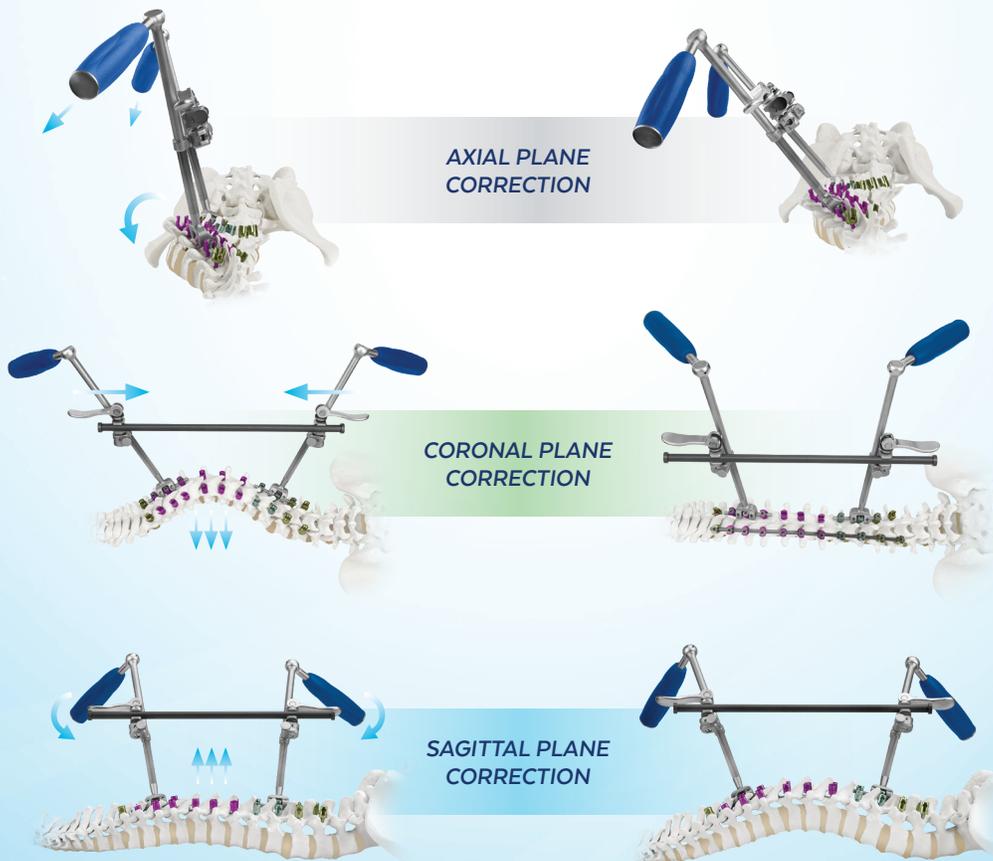
METHOD: A retrospective analysis was performed to compare 36 patients (18 RLR, 18 TCT) with a curvature of $>75^\circ$ and a diagnosis of AIS with respect to radiographic outcomes, operative time, intraoperative blood loss, complications, and SRS-30 scores. All patients had at least 2 year follow-up.

The data sets were similar for age, gender, coronal Cobb, curve flexibility, and follow-up period. Using the RLR, two provisional rods were placed on the convex side of the scoliosis, proximally and distally to the three to four apical vertebrae, and linked to an external reduction device.

RESULTS: Compared with the TCT group, the RLR group exhibited greater coronal Cobb correction, shorter operative time, and a lower incidence of critical neuromonitoring changes.

| | TCT | RLR | p VALUE |
|--|-------------|------------|---------|
| Mean preoperative Cobb (°) | 91.8±9.3 | 91.7±13.3 | 0.988 |
| Mean coronal Cobb correction rate (%) | 56.6±8.8 | 73.1±10.3 | <0.0001 |
| Mean operative time (minutes) | 391.4±119.3 | 316.6±73.6 | 0.030 |
| Mean postoperative SRS-30 pain score | 3.8±1.0 | 4.6±0.5 | 0.049 |
| Mean postoperative SRS-30 function score | 3.8±0.6 | 4.4±0.2 | 0.023 |
| Infections (late developing) | 2 | 0 | 0.02 |
| Intraoperative neuromonitoring changes | 3 | 0 | 0.02 |

CONCLUSION: In this matched 36-patient cohort, the Rod-Link-Reducer provided safer and improved correction for severe curves without adding surgical risk compared to traditional corrective techniques.



Correction in all 3 planes