Adolescent idiopathic scoliosis is a complex, three-dimensional deformity of the spine.

**Posterior correction techniques**
Recent advances in short-segment spinal fixations have enabled improved 3D deformity correction.

**Severe cases**
**Posterior spinal fusion**
- Aimed at
  - Halting deformity progression
  - Optimizing spinal balance
  - Minimizing complications

For successful deformity correction and optimization of long-term outcomes:
- Preoperative planning and assessment of spinal flexibility

For increased mobility of the spine:
- Judicious use of releases and/or spinal osteotomies

For safe application of correction techniques:
- Appreciation of implant design and material properties

No single technique is optimal for all patients, universally applicable, or shows superior outcome; multiple patient, implant, and surgeon factors influence spinal deformity correction.