

Oral presentation

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## Adolescent idiopathic scoliosis – a review of the treatments and evidence-based practice

Deborah Goodall\*<sup>1</sup> and Hans-Rudolf Weiss<sup>2</sup>

Address: <sup>1</sup>Scoliosis UK Limited, 163 Sandringham Road, Watford, UK and <sup>2</sup>Asklepios Katharina Schroth Spinal Deformities Rehabilitation Centre, Korczakstr. 2, Bad Sobernheim, Germany

\* Corresponding author

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### Background

Treatment options for Adolescent Idiopathic Scoliosis include: exercises; in-patient rehabilitation; braces and surgery. The indications for various treatment options are based on developmental and epidemiological aspects. The predicted outcomes are based on observational data and knowledge of the natural history of scoliosis. The goal of this review is to provide a synopsis of all treatments in relation to evidence-based practice.

### Methods

A systematic review was performed to determine an outcome parameter for "rate of progression". Only prospective, controlled studies that considered the treatment versus the natural history were included. The search strategy included the terms; 'Adolescent Idiopathic Scoliosis'; 'Idiopathic Scoliosis'; 'natural history'; 'observation'; 'physiotherapy'; 'physical therapy'; 'rehabilitation'; 'bracing'; 'orthotics' and 'surgery'.

### Results

Review of the retrospective studies support out-patient physiotherapy. One prospective controlled study supports treatment with the Scoliosis In-patient Rehabilitation (SIR). One prospective multi-centre study, one long-term prospective controlled study, and one meta-analysis study support bracing. There was no controlled study which supported surgery.

### Conclusion

There is evidence supporting the conservative treatment for Adolescent Idiopathic Scoliosis, but it is weak. No substantial evidence is found to support surgical intervention. In order to develop substantial evidence-based recommendations for the use of any interventions, more controlled studies are necessary. This need is especially true for recommendations for invasive surgery.

### References

1. Weiss HR, Goodall D: **Rate of complications in scoliosis surgery – a systematic review of the Pub Med literature.** *Scoliosis* **3**:9. 2008 Aug 5;