

Translation and Subsequent Implementation of SOSORT Consensus Guidelines into Internal Clinical Practice Guidelines on Patient Management and Biomechanical Design Considerations for a National Provider of Scoliosis Bracing

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Introduction: Clinical Practice Guidelines (CPGs) are becoming increasingly common in modern healthcare as a means of ensuring comprehensive, evidence-informed care. These guidelines should be based on the best available evidence. The international, multi-disciplinary nature of SOSORT Guidelines constitute this standard in areas where clinical trials are ill-adept at informing detailed practice standards.

Objectives: Translate existing SOSORT Consensus Guidelines into an internal CPG on patient management principles and biomechanical design considerations for a large national provider of scoliosis TLSOs.

Methods: Existing SOSORT Consensus guidelines were screened for their relevance to the clinical provision of scoliosis orthoses. Relevant SOSORT guidelines were identified and reviewed by a small panel of experienced clinical Orthotists. Relevant evidence statements were identified and synthesized into concise recommendations with additional explanatory narrative, comprising an internal CPG on the orthotic management of Adolescent Idiopathic Scoliosis (AIS).

Results and Discussion: Two relevant SOSORT Consensus Guidelines were identified, encompassing the constructs of patient management standards and TLSO biomechanics. Extracted evidence statements were synthesized into 4 concise recommendations on patient management prin-

ciples and 7 biomechanical design considerations. Patient management recommendations included minimum experience standards, the longitudinal, multidisciplinary care pathway of conservative management and the importance of monitored compliance. A fifth recommendation on emotional stress was later identified through systematic review and added. Biomechanic considerations included the application of three-point pressure systems, shoulder correction, optimal vertical heights for corrective forces, principles of derotation, consideration of the sagittal profile and areas where a lack current consensus suggests patient-specific design elements. Upon completion, the CPG was integrated into all relevant national educational sessions, posted on the organization's intranet and integrated into the organization's national compliance training.

Conclusions and Significance: There is tremendous variation in knowledge and experience relative to scoliosis bracing. A concise CPG begins to ensure minimal standards of understanding and practice management. These CPGs should be based on the highest levels of evidence for a given clinical construct. While most SOSORT guidelines are not immediately directed at clinical Orthotists, a number of relevant evidence statements were identified in within existing SOSORT guidelines. Synthesizing these constructs into a single CPG directed at practicing Orthotists facilitates evidence-based medicine.