TITLE: Screening and Tracking Technologies for Scoliosis in Children: Clinical Effectiveness and Guidelines

DATE: 14 March 2016

RESEARCH QUESTIONS

1. What is the comparative clinical effectiveness for the use of smartphone applications, smartphones with acrylic sleeves, scoliometers, and radiology or x-ray for screening and tracking changes in children with scoliosis?

2. What are the evidence-based guidelines for screening and tracking changes in children with scoliosis?

KEY FINDINGS

One evidence-based guideline was identified regarding the use of radiography to screen for scoliosis in children. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. A guidelines filter was added to question #2 to limit the search by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2011 and March 7, 2016. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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<th>Table 1: Selection Criteria</th>
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<tr>
<td><strong>Population</strong></td>
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<td><strong>Comparator</strong></td>
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<td><strong>Outcomes</strong></td>
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<td><strong>Study Designs</strong></td>
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RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

One evidence-based guideline was identified regarding the use of radiography to screen for scoliosis in children. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or non-randomized studies were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

One guideline\(^1\) was identified regarding EOS 2D/3D imaging system for persons with spinal deformities. This guideline refers to the American College of Radiology Practice Guidelines for the Performance of Radiography for Scoliosis in Children, which recommends posteroanterior and lateral radiography of the spine for screening or initial examination for scoliosis in children.\(^1\)
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies
No literature identified.

Guidelines and Recommendations

   See: 3.9, page 7

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APPENDIX – FURTHER INFORMATION:

Systematic Review – Alternate Outcome


Non-Randomized Studies

Other Comparator


Alternate Outcome - Reliability and Validity


Mannequin Studies


Review Articles


Position Statement