**Title:** Screening for Adolescent Idiopathic Scoliosis
**Literature surveillance date:** October 2022

**Recommendation Summary:** In 2018, the Task Force concluded that the evidence is insufficient to assess the balance of benefits and harms of screening for adolescent idiopathic scoliosis (AIS) in children and adolescents aged 10 to 18 years (**Grade: I statement**). This recommendation does not apply to children and adolescents presenting for evaluation of back pain, breathing difficulties, abnormal radiography findings, or obvious deformation in spinal curvature.

**Research Gaps from Previous Task Force Review:** The 2018 recommendation statement was based on an evidence review with a search through October 2016. The Task Force identified important gaps and recommends research on the following:

- The effect of screening on health outcomes;
- The association between reduction in spinal curvature in adolescence and long-term health outcomes in adulthood;
- The effects of treatment with exercise or surgery;
- The association between severity of curvature at skeletal maturity and adult health outcomes; and
- Harms of screening and treatment.

**Summary of New Evidence:** Literature scans in the MEDLINE and Embase databases and the Cochrane Library were limited to English language, core clinical and specialty journals, 2016 to present.

Primary studies

One new study from Italy reports on an annual school screening program evaluating 8,995 children aged 9 – 14 years.[1] A three-step screening method was employed, including 1) clinical examination by the school physician and two specialists; 2) evaluation of cases with a hump >5mm by an orthopedic specialist and followed every six months either clinically or by radiographic examination; and 3) classification of the scoliosis and treatment. Patients were followed for three years. Reported outcomes include sensitivity and specificity and diagnosis of scoliosis and disease severity in the years following the screening program. No new studies address harms associated with screening for AIS.

Five new treatment studies include four evaluating physiotherapy interventions[2-5] and one evaluating pedicle screw surgery.[6] Three of the physiotherapy interventions are RCTs,[3-5] and one is a controlled trial.[2] Study locations include Turkey,[4, 5] Canada,[3] and the US.[2] Study size ranges from 20 – 56, with follow-up times ranging from two months to one year. Specific exercises include isometric yoga-like exercises,[2] Schroth exercises,[3] core stabilization exercises,[4] and basic body awareness therapy.[5] Reported outcomes include severity of spinal curvature,[2, 3, 5] musculoskeletal stability,[2] quality of life,[5] and pulmonary function, respiratory muscle strength, peripheral muscle strength, functional capacity, and perceived appearance.[4] One of these studies addresses treatment harms.[4]

A matched cohort study in Finland compares AIS treatment with pedicle screw surgery versus observation in 55 adolescents. Participants were evaluated five years post-surgery. Severity of spinal curvature, pain, quality of life, and activity restriction are reported.[6]

No new studies evaluate the association between the severity of spinal curvature in adolescence and adult health outcomes.

**References**

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