



Kansas School

Nurse Organization

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Position Statement

Screening for Idiopathic Scoliosis in Schools

SUMMARY

It is the position of the Kansas School Nurse Organization (KSNO) that states should not impose regulations requiring students to be screened for scoliosis until greater consensus has been reached among experts in the field. The U.S. Preventive Services Task Force (USPSTF) is in the process of updating guidelines for screening of idiopathic scoliosis in adolescents. In 2004, the task force did not find good evidence that screening asymptomatic adolescents detects idiopathic scoliosis at an earlier stage than detection without screening. Their guidelines also provided supporting rationale discussing concerns over screening accuracy, lack of followup, treatment effectiveness, and potential for moderate harm as a result of school screening. Since 2004, there has been ongoing research and the USPSTF is planning to issue a new statement, but has yet to do so. It is premature for Kansas to enact regulations, particularly an unfunded regulation, until research has been provided demonstrating the value of screening for idiopathic scoliosis in schools.

HISTORY

School nurses have provided routine health screening of school-age children for many decades. During the 1970's through the 1990's, schools in Kansas routinely screened for idiopathic scoliosis, though there was not a state requirement to do so. Across the nation, only 7 states still require screening according to a data base retrieved from the National Association of State Boards of Education (2013), down from 15 states in 2014 (Jakubowski & Alexy).

In 1996, the USPSTF issued its first statement finding insufficient evidence to recommend for or against routine screening of asymptomatic adolescents for idiopathic scoliosis. Since then, the USPSTF criteria to rate the strength of the evidence changed, and guidance was reissued in 2004. The updated guidance gave school scoliosis screening a "D" grade stating that the USPSTF did not find good evidence that screening asymptomatic adolescents detects idiopathic scoliosis at an earlier stage than detection without screening. Specifically, the explanation to not screen includes the following:

- The accuracy of the most common screening test—the forward bending test with or without a scoliometer—in identifying adolescents with idiopathic scoliosis is variable, and there is

evidence of poor followup of adolescents with idiopathic scoliosis who are identified in community screening programs.

- The USPSTF found fair evidence that treatment of idiopathic scoliosis during adolescence leads to health benefits (decreased pain and disability) in only a small proportion of people. Most cases detected through screening will not progress to a clinically significant form of scoliosis. Scoliosis needing aggressive treatment, such as surgery, is likely to be detected without screening.
- The USPSTF found fair evidence that treatment of adolescents with idiopathic scoliosis detected through screening leads to moderate harms, including unnecessary brace wear and unnecessary referral for specialty care (2004).

As a result, the USPSTF concluded that the harms of screening adolescents for idiopathic scoliosis exceed the potential benefits (2004). A table of their findings is presented below.

Population	Asymptomatic adolescents
Recommendation	Do not screen for idiopathic scoliosis. Grade: D
Screening Tests	There is no evidence that screening asymptomatic adolescents detects idiopathic scoliosis at an earlier stage than detection without screening. Screening for idiopathic scoliosis is usually done by visual inspection of the spine to look for asymmetry of the shoulders, scapulae, and hips. If idiopathic scoliosis is suspected, radiography can be used to confirm the diagnosis and to quantify the degree of curvature.
Timing of Screening	Although routine screening of adolescents for idiopathic scoliosis is not recommended, clinicians should be prepared to evaluate idiopathic scoliosis when it is discovered incidentally or when the adolescent or parent expresses concern about scoliosis.
Interventions	Treatment of idiopathic scoliosis during adolescence leads to health benefits (decreased pain and disability) in only a small proportion of people. Most cases detected through screening will not progress to a clinically significant form of scoliosis.
Balance of Benefits and Harms	Treatment of adolescents with idiopathic scoliosis detected through screening leads to moderate harms, including unnecessary brace wear and unnecessary referral for specialty care. As a result, the harms of screening adolescents for idiopathic scoliosis exceed the potential benefits.

DESCRIPTION OF ISSUE

Scoliosis is a lateral curvature of the spine with rotation and is a result of multiple conditions including idiopathic (unknown origin), neuromuscular, and congenital spinal anomalies (Cruz & Smith, 2010). Idiopathic scoliosis affects 4% of the population and is a lateral curvature of the spine greater than 10 degrees (Hume, 2008). Scoliosis is most often recognized at age 9 years or older and the disorder affects girls 3 to 4 times more often than boys. Physical signs of scoliosis include a back hump when doing a forward bend and arm and waist

discrepancies. Depending on the severity of the curve, treatment might include observations, bracing, and surgery if severe or worsening (Cruz & Smith).

The Adams Forward Bend is the most common method of scoliosis screening in schools, can be highly subjective, and is performed by the screener observing for a hump on one side in the thoracic and lumbar area. Some screeners also use a scoliometer placed across the child's back at the greatest area of curvature to assess the angle of trunk rotation. The screening requires the student's back to be visible (partially undressed), and even when the screener provides strategies to promote privacy, mass school screening may occur in front of peers and lead to embarrassment. More significantly, the main argument against school screening for scoliosis is the over-referral rate for follow-up care among students screened leading and the questioning of findings regarding the effectiveness of treatment and/or the potential for harm for students treated for idiopathic scoliosis.

Since the 2004 statement by the USPSTF recommending against idiopathic scoliosis screening in schools other organizations have expressed varying opinions. In 2015, the Scoliosis Research Society (SRS), the American Academy of Orthopedic Surgeons (AAOS), the Pediatric Orthopedic Society of North America (POSNA), and American Academy of Pediatrics (AAP) published a position statement – Screening for the Early Detection of Idiopathic Scoliosis in Adolescents. In the Position Statement, the AAOS, SRS, POSNA, and AAP state that screening examinations for spine deformity should be part of the medical home preventative services visit for females at age 10 and 12 years, and males once at age 13 or 14 years. This same position statement discusses the available research for screening, diagnosis, and treatment as well as the pros and cons of school screening programs pointing out a need for “effective screening systems as inappropriate false positive screening may lead to unnecessary referrals and radiographs with higher population cost (2015).” The position statement also admits that “although well done population screening may be an effective means to capture all children at risk, many communities may not have sufficient resources to carry out these programs (2015).” Finally, the organizations urge the USPSTF to reconsider their 2004 statement.

RATIONALE

The U.S. Preventive Services Task Force was created in 1984 and is an independent, volunteer panel of national experts in prevention and evidence-based medicine (2016). Their recommendations are based on a rigorous review of existing peer-reviewed evidence. The Task Force assigns each recommendation a letter grade based on the strength of the evidence and the balance of benefits and harms of a preventive service. As mentioned in the opening summary statement, the USPSTF is currently updating its statement on screening of idiopathic scoliosis in adolescents (2015). It is also worthy to mention that Kansas lacks prepared guidelines and procedures for conducting idiopathic scoliosis screening in Kansas schools. Neither are there training

programs in place. With consideration of the discussion presented in this position statement, it is premature to pass legislation requiring school screenings until final guidance from the USPSTF is issued.

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Adopted: July 2017