

UK National Screening Committee

Screening for Adolescent Idiopathic Scoliosis

15 June 2016

Aim

1. To ask the UK National Screening Committee (UK NSC) to make a recommendation, based upon the evidence presented in this document, on whether screening for Adolescent Idiopathic Scoliosis (AIS) meets the UK NSC criteria for the introduction of a population screening programme.

This document provides background on screening for AIS.

Current recommendation and background

2. The current recommendation, based on a review in 2012, is that a systematic population screening programme for AIS is not recommended.
3. The last UK NSC review was an update following the first review of screening for AIS in 2006. The 2012 review conclusions highlighted key uncertainties:
 - a. around the accuracy of the test in accurately predicting people with AIS. With a low positive predictive value it is likely to lead to people receiving unnecessary follow-up and X-ray exposure
 - b. though there is some evidence to suggest that screening programmes identify more people with minor curves than who would present outside of screening. There is no high level evidence to suggest that treatment of minor curvatures will prevent progression
 - c. there is low quality evidence for the effectiveness of treatments for scoliosis, and no agreed evidence based recommendations for when treatment is indicated

Current review

4. This condition is being reviewed as part of the UK NSC's three year review cycle. The review was undertaken by Bazian Ltd and focuses on:
 - a. whether there is an agreed cut-off value for the AIS screening test
 - b. the accuracy of the test
 - c. whether there are agreed evidence based policies covering which individuals should be offered treatment and the appropriate treatment to be offered
 - d. whether there is evidence of treatment benefit following screening
 - e. the evidence regarding the acceptability of treatment to patients
5. The conclusion of this current review is that universal screening for adolescent idiopathic scoliosis should not be recommended. The key findings to support the conclusion are:
 - a. There is a candidate screening test to detect AIS, the forward bend test, but there is no single agreed cut-off. It is also not clear what the best age to initiate screening is and whether additional follow-up screening testing (Moiré topography) will be used
 - b. The accuracy of the test, for predicting whether AIS is likely to become more severe and need intervention is poor. This would lead to follow-up testing using X-rays that may cause harm to people who would not need any treatment.
 - c. it is not clear whether there is any added benefit from interventions for AIS following detection by screening compared with interventions following clinical detection. For example evidence on the benefit of bracing, a key element of intervention strategies, is derived from clinically detected rather than screen detected populations.

Consultation

6. A three month consultation was hosted on the UK NSC website between February and May 2016. 6 stakeholder organisations were contacted directly. **Annex A**
7. No responses were received from the consultation

Recommendation

8. The committee is asked to approve the following recommendation:

National population based screening programme for Adolescent idiopathic scoliosis is not recommended

This is because:

a. There is no agreed cut-off for the test and no agreed age at which to screen.

Criterion 6 not met

b. It is not clear that treating people following detection by screening results in additional benefit over detection through current clinical practice. **Criterion 10 not met**

c. Many people would require unnecessary follow-up and X-ray exposure because the current screening test cannot accurately predict those people requiring intervention from those people who do not. **Criterion 11 not met**

Based upon the 22 UK NSC criteria to recommend a population screening programme, screening for AIS did not meet the following primary requisites:

Criteria		Met / Not met
The Test		
6	The distribution of test values in the target population should be known and a suitable cut-off level defined and agreed.	Met 
The Treatment		
10	There should be an effective treatment or intervention for patients identified through early detection, with evidence of early treatment leading to better outcomes than late treatment.	Not met 
11	There should be agreed evidence based policies covering which individuals should be offered treatment and the appropriate treatment to be offered.	Not met 
The Screening Programme		
14	There should be evidence that the complete screening programme (test, diagnostic procedures, treatment/ intervention) is clinically, socially and ethically acceptable to health professionals and the public.	Not met 



*UK National
Screening Committee*

Annex A

List of organisations contacted:

1. British Orthopaedic Association
2. British Scoliosis Society
3. Institute of Child Health
4. Royal College of General Practitioners
5. Royal College of Surgeons
6. Scoliosis Association UK



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