

Scoliosis Screening

Overview

Scoliosis, a lateral spinal curve of 7 degrees or greater, can have adverse effects including the progressive development of poor range of motion, back pain, distortion of the position of the ribs, and impaired function of the heart and lungs. Additionally, unpleasant cosmetic deformities can result causing social and psychological problems, including poor self-image and social isolation. Early detection can prevent scoliosis from progressing and can identify those in need of treatment.

Equipment

- Scoliometer
- A chair positioned 5-8 feet from a horizontal tape marking where the student is to stand.

Setting Up the Area

- Select an area with as much privacy as possible.
- Explain how the procedure will be performed and the correct method of responding.

Screening Procedure

With lightweight clothing on, every child should be screened in each of the following positions:¹

1. Back View: (The screener should be seated 5 to 8 feet from the tape mark on the floor.) The student should stand erect with back to the screener, toes placed on the tape, feet together knees straight and weight evenly distributed on both feet. Arms should be at the sides and relaxed. Students should be encouraged to avoid slouching or standing at “attention”.

NORMAL

- Head centered over mid-buttocks.
- Shoulders level.
- Shoulder blades level with equal prominence.
- Hips level and symmetrical; equal distance between arms and body.

POSSIBLE SCOLIOSIS

- Head alignment to one side of mid-buttocks and one shoulder higher.
- One shoulder blade higher with possible prominence.
- One hip more prominent than the other or waist crease deeper on one side than the other
- Unequal distance between arms and body.

2. Forward Bend Test: The student should stand facing away from the screener. The student should bend forward at the waist 90 degrees, feet 4 inches apart, knees
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straight, and toes even. Palms of the hands are held together or facing each other and arms hang down, and are relaxed. The head is down.

NORMAL

- Both sides of upper and lower back symmetrical.
- Hips level and symmetrical.

POSSIBLE SCOLIOSIS

- One side of rib cage and/or the lower back showing uneven symmetry.
- Curve in the alignment of the spinous processes.
- If prominence is noted, scoliometer measurement should be taken.

3. Right Lateral View: (The screener remains seated.) The student continues to stand erect but is directed to stand first with right side toward the screener.

NORMAL

- Smooth symmetrical even arc of the back.

POSSIBLE KYPHOSIS (Round Back)

- Lack of smooth arc with prominence of shoulders and round back.
- Accentuated prominence of the spine (angular kyphosis of spine).
- Grossly accentuated swayback (when in upright position).

4. Frontal View: Have the student turn and face the screener and repeat the Forward Bend Test.

NORMAL

- Even and symmetrical on both sides of the upper and lower back.

POSSIBLE SCOLIOSIS

- Unequal symmetry of the upper back, lower back, or both.
- If prominence is noted, scoliometer measurement should be taken.

5. Left Lateral View: Have the student turn and stand with his/her left side toward the screener and repeat lateral view test.

Guidelines for Use of Scoliometer: The following are general steps for testing for scoliosis using a scoliometer.

1. Ask student to bend forward slowly, stopping when the shoulders are level with the hips. View the student from the back. For optimal observation, the screener's eyes should be at the same level as the back. Note any rib elevation and/or symmetry in the flank (low back) area.
2. Before measuring with the scoliometer, adjust the height of the person's bending position to the level where the deformity of the spine is most pronounced. This position will vary from one person to another depending upon the location of the curvature. For example, a curve low in the lumbar spine will require that the person bend further forward than one which is present in the thoracic or upper spine.

3. Lay the scoliometer across the deformity at right angles to the body, with the "0" mark over the top of the spinous process. Let the scoliometer rest gently on the skin. Do not push down. Read the number of degrees of rotation.

NOTE: If there is asymmetry in both the upper and lower back, two scoliometer readings will be necessary. The curves will usually go in opposite directions, with the one in the thoracic spine usually to the right and the other in the lumbar spine usually to the left.

The screening examination is considered positive if the reading on the scoliometer is 7 degrees or more at any level of the spine. Lesser degrees of rotation may or may not indicate a mild degree of scoliosis. In such cases re-screening is recommended within three to six months.

Referral and Follow-Up

All children with positive findings should be scheduled for re-screening. In order to avoid the possibility of unnecessary referral, all students with positive findings for any part of the screening should be re-screened at a separate session. In addition, a scoliometer reading should be obtained and recorded.

1. If a positive finding is confirmed, a referral letter is sent to the parents recommending a professional evaluation by their health care provider emphasizing that this is not an emergency.
2. If no parental response within one month, a second referral letter should be sent. A third attempt should be made by a phone call or letter if no information has been received by two months.
3. Notify the principal if significant scoliosis is noted and the parents have not attempted to follow-up on the referral. The Abuse Line may need to be notified.
4. All information concerning a referral, follow-up and outcome is recorded in the student's cumulative health record.