Scoliosis screening for primary care physicians

Anterior view

1. Patient stands facing the physician.
   - With the spine fully visible, instruct the patient to stand erect, look straight ahead and distribute his or her weight evenly over both feet.
   - Ensure the inner malleoli at ankle or hindfoot are aligned.

Check for:
   - Head abnormally tilted or not centered over body
   - Shoulder height asymmetry at the lateral ends of the clavicle
   - Asymmetry of anterior ribcage
   - Breast size difference
   - Unequal distance between the arms and torso
   - Uneven pelvis
   - Hip prominence or asymmetry

2. Patient bends toward the physician.
   - Instruct the patient to place palms together and arms out straight in a dive position.
   - With the knees fully extended, instruct the patient to slowly bend forward at a 90-degree angle from the waist, keeping the head and shoulders aligned, until the back is parallel to the floor.

Check for:
   - Thoracic or lumbar prominence
   - Torso asymmetry

Posterior view

3. Patient stands with back to the physician.
   - With the spine fully visible, instruct the patient to stand erect, look straight ahead and distribute his or her weight evenly over both feet.
   - Ensure the inner malleoli at ankle or hindfoot are aligned.

Check for:
   - Head not centered over body
   - Scapular prominence or asymmetry
   - Asymmetry of posterior ribcage
   - Waist crease asymmetry or no waist crease on one side
   - Spine curved to one side
   - Pelvic imbalance
   - Skin changes

4. Patient bends away from the physician.
   - Instruct the patient to place palms together and arms out straight in a dive position.
   - With the knees fully extended, instruct the patient to slowly bend forward at a 90-degree angle from the waist, keeping the shoulders and head aligned, until the back is parallel to the floor.

Check for:
   - Thoracic or lumbar prominence.
   - Torso asymmetry

(See reverse)
Sagittal view

5. Patient stands laterally to the physician, exposing the sagittal profile.

- Instruct the patient to place palms together and arms out straight in a dive position.
- With the knees fully extended, instruct the patient to slowly bend forward at a 90-degree angle from the waist, keeping the shoulders and head aligned, until the back is parallel to the floor.

Check for:
- Sharp angle/abnormal contour in the lower thoracic area

The next steps

Positive findings may require X-rays to confirm or rule out diagnoses of scoliosis, kyphosis or leg-length discrepancy. The medical management of specific cases is based upon the etiology, curve magnitude and the amount of remaining skeletal growth. As the skeleton matures, the risk of curve progression diminishes as long as the curve magnitude is sufficiently small (< 30 degrees).

The Children's Healthcare of Atlanta Scoliosis Screening Program can coordinate tertiary screenings with X-rays, pediatric orthopaedic surgeon evaluations and other specialized follow-ups.

Visit choa.org/scoliosis or call 404-785-7553 for more information.

Scoliosis Treatment

The protocol for follow-up is based on the patient’s skeletal maturity level and curve degree. As a general guide for patients with an immature skeleton and:

- Curves between 5 and 9 degrees, repeat the X-ray in one year.
- Curves between 10 and 14 degrees, repeat the X-ray in six months.
- Curves 15 degrees or greater, refer the patient to a pediatric orthopaedic surgeon for curve monitoring until skeletal maturity.

Curves exceeding 20 degrees may be treated with a spinal orthosis if there is significant skeletal growth remaining. Curves exceeding 40 degrees may require surgery.