Scoliosis Screening

The overall incidence of scoliosis or curvature of the spine in the general population for kids greater than 14 years of age is about 1.5 percent. This figure refers to curves that measure greater than 10 degrees. Severe curves of greater than 30 degrees occur in about 0.2 percent of the general population. A closer look at the population at risk indicates that the greatest risk of developing scoliosis occurs in adolescent females, who are five times more likely to have a curve that needs treatment than their male counterparts.

The significant incidence of scoliosis in the adolescent population has prompted the creation of school screening programs in all 50 states. The role of school screening is to detect the disease at a stage where early detection will influence positively the outcome of the problem (i.e., avoid surgery). To be effective, the test should be both sensitive (always detect the presence of scoliosis versus a normal back) and specific (find scoliosis as opposed to other problems) and have a low false negative rate (doesn't miss kids that need treatment). The test has to be easy to perform by multiple examiners with minimal training. Ideally, the outcome of screening programs should confirm that early detection has influenced positively the incidence of kids needing surgery. There is some controversy about the current method of school screening actually meeting these goals. For example, only one-fourth of children referred for evaluation of suspected scoliosis actually need treatment! This "over-referral" raises the question of the cost-effectiveness of screening programs.

The test for scoliosis screening is simple. Most parents are capable of doing the screening test with a high degree of accuracy. The standard test for scoliosis is termed the Adam's
**Forward Bend Test.** Kids are asked to bend over at the waist as if they were touching their toes. The examiner gets their eyes level with the back and looks for one side being higher than the other, or any asymmetry of the back. Even parents with no medical training can detect relatively small curves if they look carefully.

If scoliosis screening is so easy, then why do kids show up with large curves on their first visits to the orthopedic surgeon? The simple answer is that most of the kids at risk are at a stage of their development where they have become modest, private people. It is surprisingly difficult to detect scoliosis under the standard loose clothing that teenagers wear currently. We encourage all parents to look at their adolescent children's backs periodically during their growth spurts, in a setting where they are comfortable. If you suspect scoliosis, then we would recommend further evaluation by your physician.

The initial evaluation by your physician will begin with a simple physical exam. If scoliosis is suspected, it is confirmed by taking an x-ray. Make sure that the x-ray that is taken is adequate for initial evaluation of scoliosis. This should be an x-ray that includes the entire spine and the top of the pelvis, taken in the standing position. Once the x-ray is taken, it is important to ask your physician the following questions:

1. Do I have scoliosis?
2. What does my curve measure?
3. Can you tell if I still have growth to go?
4. Do I need to see a specialist about this or is it safe to wait a while?

**Commonly Asked Questions about Scoliosis Screening:**

1. **Will I have to get undressed in front of other kids?**
   No. The examiner will need to look at your back. This does involve pulling up your shirt from behind and bending over, but not completely undressing. Most examiners will be sensitive to your modesty. Boys are usually screened in a different location from girls for privacy reasons.

2. **Does it hurt?**
   No. This is a painless test.

3. **How will I know if my test is "positive"?**
   If the examiner thinks that you have a curvature of the spine, he or she will give you a form to take home to your parents. This form usually includes a recommendation to see your doctor for a closer examination of your back. The examiner will give you a form to take to your doctor for him or her to sign and return to school to document that you had an examination.

4. **If I have a "positive" test for school screening, does it mean that I will have to wear a brace or have surgery?**
   Not necessarily. Only one-fourth of kids with a positive school screening test end up needing treatment of any kind, so the news that you get from your doctor is usually good. However, only your doctor can make this determination. You should definitely not avoid your doctor because you are fearful that you may require treatment.
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