

Spinal Screening Program



School Spinal Screening Guidelines

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In collaboration with:
Texas Department of State Health Services

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INTRODUCTION

School spinal screening was developed to identify adolescents with small spinal curves and refer them for treatment before these curves become too severe. All states do some form of spinal screening to assure students needing evaluation and/or treatment get early attention. The state of Texas mandates spinal screening for students in the 6th and 9th grade using school nurses and other trained adults to screen all students. Careful training and understanding of spinal screening is essential for the success of this program. Schools may implement a program that includes screening in the 5th and 8th grades as an alternative to 6th and 9th. The intent of the state law is to maintain a three-year gap between students' spinal screenings.

A special thanks is extended to the **Scoliosis Research Society** for their permission to reprint the graphics displayed in this manual.



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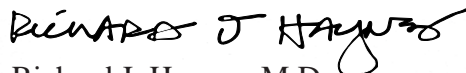
RE: Spinal Screening

Dear Spinal Screener:

The surgical treatment for severe spinal deformities has been extremely successful. Continuing advances have made the procedures easier for the patients and their families and the results more impressive. Many of these surgeries are avoidable with effective school screening and bracing programs.

The majority of the severe spinal deformities occur in children with adolescent idiopathic scoliosis. All of these children had little or no deformity in their preadolescent years. The goal of school screening for scoliosis has not changed over the 30 years of its existence, "the identification of small progressive curvatures of the spine." All of the large devastating adolescent idiopathic curves were once small curves, the majority of which are readily braceable. Successful school screening programs and bracing programs result in a decreasing incidence of spinal deformity surgery for adolescent idiopathic scoliosis. Despite the challenges of its efficacy, school spinal screening remains the standard for decreasing the incidence of spine surgery of spinal deformity for idiopathic scoliosis. The role of the screener in preventing these surgeries is paramount.

My personal enthusiasm for school screening for scoliosis has remained unchanged over the last 30 years.



Richard J. Haynes, M.D.
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THE NORMAL SPINE

The spinal column is made up of 33 vertebrae or bony segments. These are aligned vertically on top of one another and supported by muscles and ligaments (Figure 1). Discs between each vertebrae serve as pads. The purpose of the spinal column is to provide stability, add mobility to the torso, and protect the delicate nerves of the spinal cord.

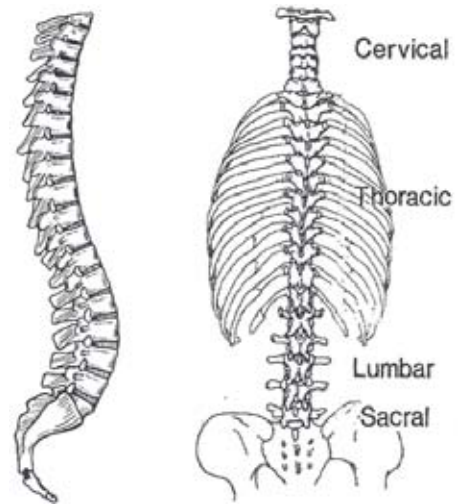


Figure 1

The spine is divided into four main areas: the **cervical** area (neck), the **thoracic** area (chest), the **lumbar** area (small of the back), and the **sacral** area (lower portion of the spine). When viewing the back directly from behind the spine is straight, the shoulders even, hips are level and the distance between the arms and the body are equal (Figure 2).

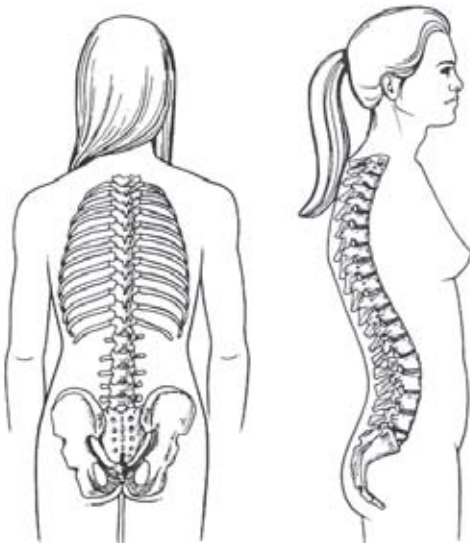


Figure 2

When viewing the spine from the side, the natural curves of the shoulder and lower back can be seen. The shoulder blades protrude the same amount on each side, creating a symmetric appearance on each side of the spine.

ABNORMAL SPINAL CURVATURE

Spinal screening is designed to detect two major types of spinal deformities: **scoliosis** and **kyphosis**.

Scoliosis

Scoliosis is defined as an abnormal lateral curvature of the spine of 10 degrees or more. This rotation in the spinal column creates a side to side, “S” shaped curve when viewed from behind (Figure 3). Some cases worsen with time and can result in serious problems such as unsightly appearance, occasionally back pain as one ages, and in the worst cases, interference with heart and lung function. Scoliosis is further divided into two categories: **structural** and **functional**.

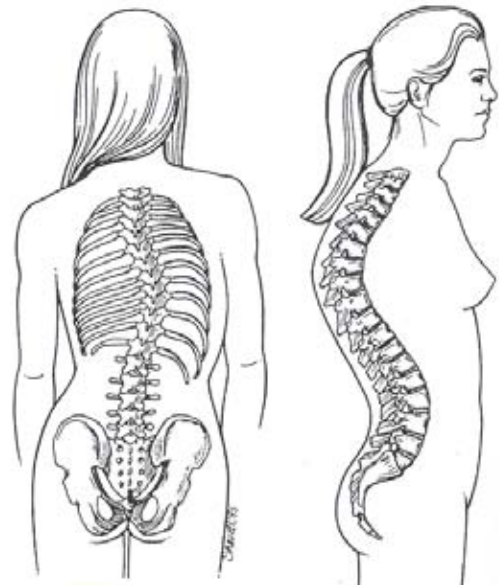


Figure 3

Structural Scoliosis

These curves are the result of changes in the alignment in the vertebrae that are fixed. Structural curves can be distinguished from functional curves by their associated spinal twisting. This twisting results in the hump on one side of the rib cage seen when the student bends forward. Unlike poor posture, these curves cannot be corrected by learning to stand up straight.

Functional Scoliosis

In this type of scoliosis there are no permanent changes in the shape or structure of the spine. Functional scoliosis develops secondary to another abnormality, usually in the hip or lower extremity. The most common cause of functional scoliosis is a difference in the length of a student’s legs that makes the child stand unevenly. Uneven leg length can be identified by having the student stand with one foot on a block of wood. With the hips then at the same level, the spine appears straight. Other causes are muscle spasms, pain, or poor posture.

Incidence of Scoliosis

Eighty-five percent of all cases of structural scoliosis have no known cause and are referred to as **idiopathic scoliosis**. Idiopathic scoliosis occurs in two to three percent of the adolescent population. It commonly affects young people between the ages of 10 to 16 years of age. Gender does make a difference in the time of onset because girls begin their adolescent growth spurt and reach skeletal maturity earlier than boys. This accelerated spinal growth generally occurs from the ages of 10 to 14 for girls and 12 to 16 for boys. The incidence of idiopathic scoliosis occurs equally in early adolescence for both boys and girls for small curves (less than 10 degrees). Curve progression is more common in girls and larger curves are more prevalent. Another factor that can contribute to the incidence of scoliosis in a student is a positive family history of scoliosis, suggesting a genetic predisposition.

In contrast to idiopathic scoliosis, there are several less common types of scoliosis that have a known cause. These curves may be present at birth or related to muscle disorders and are not the focus of school screening because they occur earlier in life.

For idiopathic scoliosis, the earlier in the growth spurt a curve is identified, the greater the risk the curve will worsen. For example, an immature, premenstrual girl has a higher risk of progression than an adolescent female who has begun menses, or an adolescent boy who has developed signs of maturation such as axillary hair.

Idiopathic scoliosis can go unnoticed in a young person because it is rarely painful in the formative years. Signs to watch for are (see Figure 4):

- One shoulder higher than the other
- One shoulder blade higher/more prominent than other
- One hip higher than the other
- Space between arms and body greater on one side
- Leaning to one side
- The head is not centered directly above the pelvis

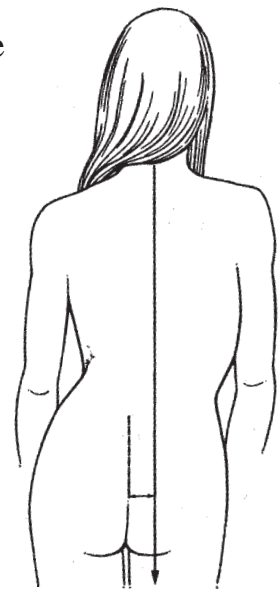


Figure 4

Kyphosis

Kyphosis, or roundback, is described as an excessive curvature of the thoracic spine when viewed from the side (see Figure 5). This deformity can be corrected with exercises and proper posture if it is not fixed. A small percentage of young people have a fixed, structural type of curve called **Scheuermann's kyphosis**, where the vertebrae are actually wedged. The cause for this type of deformity is unknown. Bracing or surgery may be recommended for the immature adolescent with Scheuermann's kyphosis. In relationship to scoliosis, a fixed kyphosis is a much rarer finding in teenagers, but will occasionally be identified during school spinal screening.

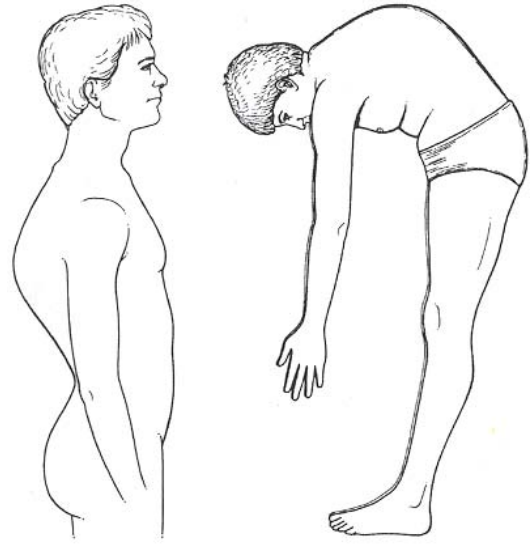


Fig. 5 Kyphosis is an excessive curvature in the thoracic spine.

SPINAL SCREENING PROCESS

Early detection is the key to controlling spinal deformities. The purpose of school screening is to detect scoliosis and kyphosis at an early stage when the curve is mild and may even go unnoticed. Most curves can be treated without surgery if they are detected before they become too severe. The screening process identifies students that have some physical findings that suggest a spinal curve. **The screening process does not diagnose a spinal deformity.** The student showing these findings is referred to a physician who completes an extensive examination and takes x-rays to confirm whether or not the student has an abnormal spinal curve. At that point, the physician can provide recommendations for treatment. The goal of the screening process is to detect a student who needs to be referred at the earliest point, before an abnormal curve gets worse.

Screening Procedure

The examiner may conduct the screening from a seated or standing position. The examiner should place a mark on the floor to show the student where to stand. A distance of 5 to 8 feet between examiner and student is recommended.

Students should remove their shirts so the screener has better visualization of the upper body. Girls should be wearing a bathing suit top, sport bra, or other appropriate clothing item. Students should ideally be wearing shorts as well, to allow better visualization of the waist, hips, and legs. Although the illustrations in this manual depict a student in his underwear, **students should not be screened in their undergarments.** If a student has not dressed appropriately for the screening, provide appropriate clothing or reschedule his or her screening.

The student begins by standing erect with feet slightly apart, knees straight, and arms hanging loosely at his or her sides while facing the examiner. Note the following:

- It is important for the student to face forward throughout the exam positions. Turning the head can cause a change in the findings.
- Long hair should be moved forward to allow full view of the student's back.

- 1 With the student facing **front** in the standing position (Figure 6), the examiner checks for the following signs of a possible abnormal spinal curvature:



Figure 6

- One shoulder higher than the other
- Larger space from arm to the side of the body (compare both sides)
- Uneven waist creases
- Uneven hip levels

- 2 The next position is the **Adams forward-bending test**. The student is standing erect with feet slightly apart and knees straight. With the palms of both hands touching, the student bends forward until the back is horizontal (Figure 7). Examine the student in this position to check for:



Figure 7

- Uneven contours, humps on one side
- Any curve in the spine

- 3 View the student from the **side** in the standing position (Figure 8) and check for:



Figure 8

- Exaggerated roundness in upper back
- Exaggerated arch in lower back

4 Next, view the student from the **side** in the forward-bend position (Figure 9) checking for:

- Uneven contours, humps on one side
- Flexibility - can the student bend forward and touch upper shins or feet



Figure 9

5 View the student from the **back** in the standing position (Figure 10) and note any of the following:

- Head is not centered directly above crease in buttocks
- One shoulder blade wing is higher or stands out more than other
- Uneven waist creases
- Uneven hip levels
- One shoulder higher than other
- Curved spine
- Larger space from arm to the side of the body (comparing both sides)

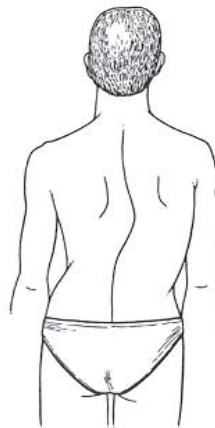


Figure 10

If hips appear uneven, but no other abnormalities are noted, consider possibility of unequal leg length, and visualize alignment of knee creases if possible.

6 Finally, view the student from the **back** in the forward-bending position (Figure 11) to check for:

- Uneven contours, humps on one side
- Any curve in the spine

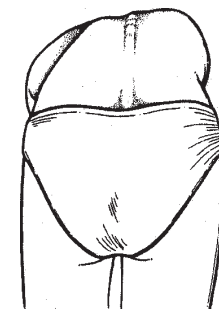


Figure 11

***Students with any positive findings should be re-screened prior to referral.**

Using the Scoliometer (optional)

When some physical findings are present suggesting a spinal deformity, rescreening is necessary to identify which students need to be referred to a physician. The scoliometer is a brand of inclinometer. It is similar to a carpenter's level and designed to measure the degree of spinal rotation. This is particularly helpful when a student has some positive physical findings from the Adams forward-bending test. The purpose is to measure the degree of rotation to identify if the student needs to be referred to a physician for evaluation.

As with any tool, correct use is important to ensure the results are accurate and consistent. To use the scoliometer:

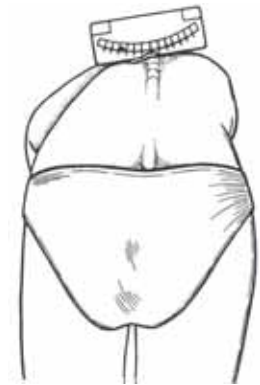


Figure 12

- Place the scoliometer gently across the student's back at the point where a hump or unevenness is most prominent (Figure 12).
- The number "0" should be directly over the top ridge of the spine.
- Do not press down on the device as that can distort the reading.
- Referral is recommended for students with a reading of 7 degrees or more.
- Students with a reading of 5 to 7 degrees should be re-screened in six months to one year to determine if the curve is increasing.

REFERRAL PROCESS

School screening was developed to identify adolescents with small spinal curves, and refer them for treatment before the curves become severe. Although the majority of patients with idiopathic scoliosis do not require more than observation, some will need brace therapy or even surgery. While school screeners can identify physical findings that may suggest spinal curves, they cannot diagnose the reason for the finding or its significance. This must be done by a physician.

The screening process is sensitive enough that some students will be referred that either do not have a spinal problem or do not require treatment beyond observation.

The screener must be careful in communicating with the student and family when a problem is suspected until a final diagnosis is made. If there are concerns about a student's screening results, the screener is encouraged to work with another professional adult to review the findings. Novice screeners are encouraged to work with an experienced screener to gain expertise. A scoliometer may be particularly helpful for re-screening to measure the spinal curve and decide on the need for referral. All students with positive findings are to be re-screened prior to referral.

Proper documentation of the school spinal screening program includes:

- results of initial screening
- results of re-screening
- referrals made
- referral results
- planned follow-up

The **Spinal Screening Worksheet** (Appendix A, page 35) provides space to record all of the above.

A student found to have a possible abnormal spinal curve at the initial spinal screening and re-screening will be referred to a physician. The physician will evaluate whether or not there is truly a spinal deformity. A complete history and physical examination involves re-evaluating the findings noted during the school screening. An x-ray may be taken to allow the physician to see and measure any abnormal curvature of the spine. The most common measurement used is the Cobb method, which identifies the degree of curvature. The skeletal maturity of a young person can also be estimated by evaluating the Risser sign on the x-ray. This is a small ridge of bone that forms over the top of each side of the pelvis. The more complete the Risser sign, the more mature the skeleton and the less risk for any future growth that could increase the curve. Another way the physician may estimate bone/skeletal maturity is through a hand x-ray. This works because bones in the hand mature at different times during the child's growth spurt. The amount of curvature in degrees and the maturity of the skeleton at the time of discovery will determine the treatment selection.

MANAGEMENT OPTIONS

Management options for spinal deformities consist of the three “O”s:

Observation

Routine re-screening or observation by the physician is a form of treatment for mild curves. Once the school program refers a student to the physician as a result of a positive finding, the physician may need to follow the adolescent and monitor for any increase in the curve. From the amount of curve and the growth pattern of the child, the physician will decide if and when to add any further treatment. This observation period consists of re-screening regularly throughout the rapid growth years of adolescence until the spine is mature. It is important to note that more than 90% of students with scoliosis require no treatment other than observation.

Orthosis (brace)

Studies show that bracing can prevent the progression of a spinal curve in a growing adolescent (Rowe 1997, Lonstein 1994). This makes it important for students that have mild curves that are progressing to be identified. For a student with scoliosis, preventing the curve from progressing can prevent the need for spinal surgery (Rowe). While the orthosis can prevent worsening of the spinal curve, it cannot undo what curve already exists.

Bracing is generally recommended for curves of 25 to 40 degrees and for progression of existing curves in adolescents with growth remaining. Use of an orthosis, often called a spinal brace, can prevent progression of the curve. The orthosis supports and puts pressure on the spine to prevent more curvature from forming during active spinal growth. The main factor in achieving a higher rate of success is how many hours in the day the brace is worn. A wearing schedule of 16 hours a day has a success rate of 60%, whereas a wearing schedule of 23 hours a day has a success rate in the 90% range (Rowe). This is a good reason to encourage students to wear their orthoses as prescribed by their doctor.

Various spinal orthoses are available. The TLSO orthosis (Illustration 1) is named by the areas it is designed to stabilize—the thoracic, lumbar, and sacral parts of the spine. It is more cosmetically acceptable than the older Milwaukee brace because it can be covered well by clothing.

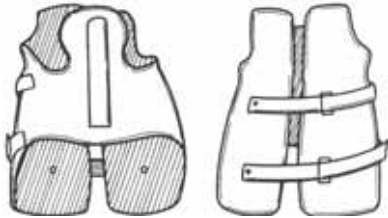


Illustration 1: TLSO Low Profile Orthosis

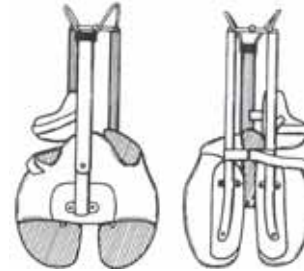


Illustration 2: Conventional Milwaukee Brace

In some cases the curve is high in the spine and will require a Milwaukee brace for correction (Illustration 2). Wearing a brace is not an easy treatment for a teenager. Even covered by clothing, it is hot, hard, and can make the student feel self-conscious. Getting into a daily routine of wearing the brace and participating in activities the student enjoys helps with compliance, which is the key to successful treatment. Even though bracing can be difficult for an adolescent to adjust to, studies have found this to be short-term for the teen with a supportive environment.

Operation: Spinal Fusion and Instrumentation

For those students with a worsening spinal deformity, surgery can reduce a portion of the curve and prevent it from increasing in the future. Usually surgery is reserved for teens and pre-teens that already have a curve of 45 degrees or more. The most common surgical procedure is a posterior spinal fusion with instrumentation and bone graft. This type of surgery involves attaching rods to the spinal column to help straighten it. The bone graft between the affected vertebrae encourages fusion, or joining, of the bone to prevent further progression of the curve. Instrumentation refers to the various rods, hooks, wires and screws which are used to hold the spine in the corrected position while the bone fusion heals. The instrumentation is rarely removed.

Following the surgery, the fused section is no longer flexible. This does not seem to cause a problem unless there is a great number of vertebrae that need to be fused. The average hospital stay is about 5 to 7 days, and the student can usually return to school in 2 to 6 weeks. During the first year after surgery, there will be some limitation on strenuous physical activity. After this healing phase, the surgeon will usually release the student for all activities, including some competitive, low contact sports. Sometimes the physician feels it is necessary to exempt the child from competitive contact sports and gymnastics.

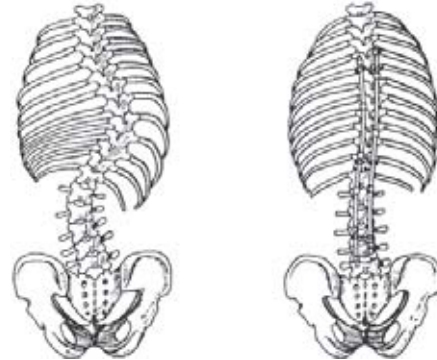


Illustration 3
Spine with double major curve prior to surgery

Spinal fusion with instrumentation. Note significant correction of curve.

Alternative Treatments

Other treatments have been tried for spinal deformities and have not been found to be successful in preventing curves from progressing. Included in this list are electrical muscle stimulation, exercise programs, manipulation, massage, and magnets. These treatments may not be harmful in and of themselves. The concern is that the use of, or belief in, these treatments prevents the family from seeking proven treatment. This delay in medical treatment may cause the adolescent with a progressing curve to get worse and need surgery instead of bracing.

SPINAL SCREENING PROGRAMS

All 50 states perform some form of school spinal screening. In Texas, spinal screening is mandated by state law. Nationwide, 21 states require schools to provide screening. The remaining states provide screening through voluntary programs. There is some variation in the grade levels and frequency of screenings, but all target the time when adolescents are beginning their rapid growth phase.

The school system provides a place where all students can be examined and results tracked. Since spinal changes generally do not cause pain, mild curves may not be noticed by parents or cause a visit to the family doctor. Also, as a student matures and becomes more modest, parents may have few opportunities to view his or her back to notice a change. Without school screening, referral and treatment, mild curves may progress into severe scoliosis or kyphosis. These conditions may require major surgery and the results are often less favorable than if the condition had been detected and treated earlier.



The shaded states above require spinal screening in schools.

Cost Effectiveness

Recent studies have validated the effectiveness of non-surgical treatment in the adolescent with a spinal curve that is progressing. Early detection and initiation of treatment can prevent the need for spinal surgery at a cost of tens of thousands of dollars. Early treatment also prevents the discomfort, need for physical rehabilitation, and interruption in schedule related to major surgery. Surgery can result in a student missing from 2 to 6 weeks of school, and needing homebound instruction during the recovery time.

Frequency of Screening

Ideally, spinal screening should be conducted annually during the growth of adolescence, ages 10-14 (grades 5 through 9), to detect spinal concerns early. **The Texas Legislature has mandated all children in grades 6 and 9 attending public and private schools shall be screened for abnormal spinal curvature before the end of the school year.** The screening requirement for children entering grade 6 or 9 may be met if the child has been screened for spinal deformities during the previous year. **Schools may implement a program that includes screening in grades 5 and 8 as an alternative to grades 6 and 9.** The intent of the state law is to maintain a three year gap between student spinal screenings.

New students or late enrollees that enter a grade which is scheduled to receive spinal screening, and who do not have a record of having received their spinal screening at their previous school, must be included in the spinal screening. If the screening has already taken place for that school year, such students must be screened individually by the end of the school year. Additionally, it is recommended that students entering the district who are past the grades of the screening requirement, but who, according to school records, have never been screened, be included in the annual spinal screening, or be screened individually.

In addition, the program allows for screeners to re-check students they consider to be at risk for developing an abnormal curve. **A sign of possible abnormal curvature (though not enough to warrant referral), along with evidence that a student is in a rapid growth phase, would be criteria for rescreening that student on a more frequent interval, such as in six months, or during the next scheduled school spinal screening.** In males, rapid growth may continue to the age of 16, which the screener may need to take into consideration for follow-up.

Who May Screen

Health aides, licensed vocational nurses, physical education teachers, classroom teachers, and adult volunteers may conduct school spinal screenings after they complete a spinal screening certification workshop conducted by a Department of State Health Services approved trainer.

Licensed professional health practitioners such as registered nurses, nurse practitioners, physician assistants, physicians, chiropractors and physical therapists may conduct the spinal screening without prior certification if their course of study included physical assessment, or they received formal advanced instruction in spinal screening as part of their continuing education. Licensed professional health practitioners are always welcome to attend a spinal screening workshop for additional guidance or to refresh their skills.

With an assistant, an experienced screener should be able to screen 20-30 students per hour. Below is a brief checklist to prepare for spinal screening. Review the **General Organization for Spinal Screening Activities** on the following pages for a detailed outline of the screening process and documentation.

PREPARATION FOR SCREENING CHECKLIST

- Locate appropriate rooms for screening
- Obtain student roster
- Send pre-screening letter to parents
- Conduct orientation of students
- Review students to be excluded
- Remind students of appropriate clothing

EQUIPMENT CHECKLIST

- Student roster
- Privacy screens
- Table
- Chair
- Tape to mark floor
- Pencils
- Scoliometer (optional)

Establishment of a School Screening Program

- Coordinate with school administration.
- Verify screeners are state-certified. Arrange for non-certified staff who will be screening to attend a Department of State Health Services-approved screener certification workshop.
- Conduct an in-service educational program for school system resource personnel/administrators, school nurses, physical educators, parent and student representatives.
 - Discuss the legal requirements for spinal screening, scope of the problem, rationale and technique of screening.
 - Discuss grades to be screened and methodology for screening, including how follow-up of positive cases and referrals will be carried out. Although the law requires screening before the end of grades 6 and 9, exact ages and patterns of screening will vary depending on grade structure of schools and screener availability. Some schools may choose to screen all children in grades 5-9 (ages 10-14).
- Determine screening date and site.
- Obtain necessary forms (most forms you will need are included in Appendix A).
- Publicize screening program via local medical meetings, media, PTA, student groups, and/or parent letter. The **Watch Out for Scoliosis** brochure can be a useful enclosure in these notifications (see Appendix A for samples of the above).
- Arrange and perform screening.
- Complete follow-up and referral activities.

General Organization for Screening

(See also - School Spinal Screening Flowchart, Appendix C, page 61)

The person responsible for the school/district's spinal screening program will have to coordinate activities with chief administrators, teachers, parents, nurses, and screeners.

Students with Physical Limitations

If for some physical condition a student cannot stand in the manner necessary for the Adam's forward-bend test, do not attempt to screen that student. The screener should contact the student's parents and inform them that their child is at the age where he/she should receive the state-mandated spinal screening. Ask the parents or legal guardian to request a medically appropriate spinal screening from the student's primary physician at his/her next visit, and request the results of this screening for the school's records and the Department of State Health Services Spinal Screening Report (see Appendix A, page 39). It may be helpful to provide the Parent Notification and Referral form to the parents for this purpose (Appendix A, page 37). On the Spinal Screening Report, indicate this student as a referral. Once the parents return the results of a physician's exam, enter the data into the diagnosis/treatment section as appropriate.

Students Under Prior Treatment

If it has been verified that a student is receiving on-going treatment for scoliosis, kyphosis, or other spinal abnormality, then it is not necessary to screen that student. Record this student in the Under Prior Treatment column of the Spinal Screening Report. Do not record the student's diagnosis or treatment on the form. That data is only for students that have received a parent notification and referral from the school. If unable to verify a student is under prior treatment for a spinal abnormality, then include the student in the school spinal screening.

Preparation for Screening

- Students must be screened individually in a space offering privacy. If possible, locate a private area where students can remove their shirt and/or change clothing. A room adjacent to the physical education dressing room is often ideal for screening.
- You may choose to have two or more adults participate in the screening process for security/liability concerns. Assistants can help with preparation and management.

- Conduct orientation sessions for each class of students to be screened. The Department of State Health Services Audiovisual Library lends educational videos for children that explain the importance of spinal screening and allay any fears they may have (see Resources, Appendix C, page 62 for titles and ordering info).
- Determine the amount of time needed to conduct the screenings and develop a schedule. With an assistant, an experienced screener should be able to screen 20 to 30 students in an hour. If necessary, coordinate this schedule with the teachers who will need to release their students from class on those days.
- Send out a pre-screening letter to the parents (see **Sample Pre-screening Letter** in Appendix A, page 27). You may also enclose the Watch Out for Scoliosis brochure (Appendix A, page 29).
- Have a roster of students available using the Spinal Screening Worksheet (Appendix A, page 35) or a similar form.
- Students whose parents have submitted an Affidavit of Religious Exemption are excused from screening. Appropriate personnel should be notified privately regarding these students.
- Parents may choose to have the screening conducted by a physician instead of the school. In this case, parents are asked to provide signed results of an Adam's forward-bending test from a physician's office by the end of the school year the student is scheduled for screening, or by the beginning of the following school year if the exam is obtained during the summer holiday. The Parent Notification and Referral form (Appendix A, page 37) is useful for parents to use for this purpose.
- On the day before the screening, remind students of the screening's purpose. Remind boys and girls to wear or bring shorts, and remind girls to wear a two-piece swimsuit top, a halter top, or sports bra. **Speak positively**, and refer to this activity as "spinal screening" rather than "screening for scoliosis and kyphosis."
- It can be helpful to have some extra sports bras and gym shorts on hand for students that do not dress appropriately that day. They should be provided a space to change into these in private.

Screening

- The screener may use a chair. There should be a table nearby for use in writing down information, and a place for students to place shirts and jackets. The screener should be five to eight feet from the student. Place a strip of tape on the floor to mark the place the student is to stand. Good lighting will facilitate the screening.
- Some students find the screening process upsetting. This can happen if the student feels unprepared or does not have appropriate attire. It is strongly recommended these students be allowed to visit with the counselor, school nurse, or other trusted staff person privately, or allowed to call their parent/guardian. Often these students will calm down and be able to participate in screening. If not, add the student's name to list of those needing to be rescheduled for their screening.
- Check students with their shirts removed. Girls are to be examined with their halter top, swim top, or sport bra on.
- In order to save time, have some students wait in a separate but nearby area. These students should not be in a location where they are able to see their peers receive the screening. An aide or volunteer may assist in maintaining the flow of students.
- Record the name of each student in the class on the Spinal Screening Worksheet or use a classroom roster. Record all positive findings next to the student's name on the worksheet. If a student does not receive the screening, note the reason next to his/her name.
- Arrange to re-screen students with positive or abnormal findings within two weeks. screen those students who missed the initial screening at that time as well.
- Use of the scoliometer (optional) to re-screen will assist in determining which students need referral. Refer those whose spinal curve on the scoliometer is 7 degrees or more. If possible, ask another certified screener to re-screen with you for reassurance that your screening is accurate. If a student has a reading between 5 and 7 degrees, the Department of State Health Services recommends rescreening that student in six months to a year in case the curve is increasing.

FOLLOW-UP ACTIVITIES

Absentees

Students who were not screened due to absence should be scheduled for screening as soon as possible. Ideally, these screenings can be carried out during the re-screening of students found to have positive findings at the initial screening. The second screening should be conducted approximately two weeks after the initial screening.

Exclusions

If a student was excluded from screening for any other reason, have his/her reason documented and included in his/her school health record.

Positive Findings

While screening the absentees, use the session to re-screen all students with positive findings at the initial screening. The original worksheet may be used at the re-screening. If initial positive findings are not confirmed, the parents need not be contacted. If a positive finding is confirmed by the person who re-screens, the parent, guardian, or managing conservator should be contacted as specified in the following section.

Contacting the Parent/Guardian

As a courtesy, **telephone** the parents to explain that a professional evaluation is recommended as a precaution. Give reassurance that many findings are of no consequence, but professional observation may be needed to determine that the signs are not worsening. Inform parents that they will receive written notification of the screening findings in the form of a Parent Notification and Referral form (Appendix A, page 37), which they should take with them to the professional exam. This form is to be completed and returned to the school.

Financial Assistance

Certain families may be eligible for state health insurance under the TexCare Partnership Plan. This plan allows families to receive Medicaid or CHIP dependent upon financial requirements. Applications are available by telephoning 1-(800)-647-6558. Further information is available at **www.texcarepartnership.com**.

Follow-up Letter

The law requires that the parents/guardians of students with abnormal screening results be notified in writing. For this purpose, use the Parent Notification and Referral form (Appendix A, page 37). This form contains spaces to record the results of the screening, and includes instructions to the parents, guardian or managing conservator to obtain a professional examination for their child by an appropriate health practitioner.

Referrals

The school screening coordinator or designee should maintain a record of students whose health care providers report no abnormalities, but about whom there is continuing concern on the part of the screener. These students should be tracked as follows:

- 1) Schedule students to be seen by the school physician or nurse who can be in communication with the student's own health care provider.
- 2) If the student's health care provider continues to feel that no further action is indicated, re-screen the student in three to six months.
- 3) If concern persists, these concerns should be discussed with the family and a second medical opinion should be considered.

The school nurse and physical education instructor should be aware of students who are wearing braces. The school nurse may need to supervise skin care. In most cases, students who wear braces are encouraged to participate in a wide range of physical education activities, but the health care provider's recommendations will need to be followed.

Spinal Screening Report (form M-51)

The Spinal Screening Report (Appendix A, page 39) enables the Department of State Health Services to collect data and create an annual report regarding the diagnostic outcomes of school spinal screenings and referrals. In order to obtain accurate data, it is important that the Spinal Screening Report be as complete and accurate as possible.

Detailed instructions for completing the Spinal Screening Report are located on the back of each form. The Spinal Screening Report should be completed by the school or school district and returned to the Department of State Health Services no later than June 30th each school year.

Late Exam Results

On the back of the Spinal Screening Report is a smaller table entitled Late Exam Results. This table is provided for districts to record and submit the results of any student spinal screening referrals that were returned after the submittal of the previous year's report to the Department of State Health Services. If there are no late results available, then this table may be left blank.

Documentation

Record on the student's health record the date and results of the screening as well as the results of any referral.