

### Forms

Forms included in this section are designed to enhance instruction of volunteers and provide information to parents, volunteers, instructors and professionals involved in scoliosis screening. These forms are available at [choa.org/scoliosis](http://choa.org/scoliosis).

### Materials in this section that may be reproduced as needed:

- Pretest form
- Pretest answer key
- "Curve Checks" DVD quiz
- "Curve Checks" DVD answer key
- Scoliosis Screening Instruction Evaluation
- Scoliosis Screening Practicum Form
- Screening Scenarios Form
- Middle school parent newsletter information
- Notification of screening: Letter to parents (English and Spanish)
- Fast Facts About Scoliosis for parents (English and Spanish)
- Individual Scoliosis Screening Form
- School Screening Log
- Parent Notification of Positive Screening/Referral Form (English and Spanish)
- Adolescent idiopathic scoliosis fact sheet
- Backpack information for parents and students (English and Spanish)
- Five-step scoliosis screening process for volunteers
- Five-step scoliosis screening process for healthcare professionals



## Pretest form

1. Scoliosis refers to curves greater than:

- a. 5 degrees
- b. 10 degrees
- c. 20 degrees
- d. 40 degrees

2. Myth (M) or fact (F)?

- a. Scoliosis is mostly idiopathic (having no known cause).
- b. Scoliosis is similar to osteoporosis.
- c. Back pain is a symptom that indicates scoliosis in adolescents.
- d. Bad posture can cause scoliosis.
- e. Backpacks can cause scoliosis.

3. What are signs of scoliosis? (check all that apply)

- a. Uneven shoulders
- b. One hip higher than the other
- c. One arm hangs out farther from the torso
- d. Waist fold difference
- e. Thoracic (rib) prominence
- f. Lumbar (low-back) prominence

4. Why is screening for adolescent idiopathic scoliosis important? (check all that apply)

- a. Screening takes place when children are at risk for developing scoliosis.
- b. Curves need to be found when they are small curves.
- c. Adolescents will have problems in adult life if severe curves are not treated.
- d. All of the above

5. Who determines if the child has scoliosis?

- a. Screener
- b. Parent
- c. Physician

6. Put the steps in the scoliosis screening process in the proper order (note as 1 to 5).

- a. Child faces away from the screener.
- b. Child bends forward.
- c. Child turns to the side and bends forward.
- d. Child faces the screener.
- e. Child bends forward with the child's back to the screener.

## Pretest answer key

1. Scoliosis refers to curves greater than:

- a. 5 degrees
- b. 10 degrees
- c. 20 degrees
- d. 40 degrees

2. Myth (M) or fact (F)?

- F a. Scoliosis is mostly idiopathic (having no known cause).
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- M e. Backpacks can cause scoliosis.

3. What are signs of scoliosis? (check all that apply)

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5. Who determines if the child has scoliosis?

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- b. Parent
- c. Physician

6. Put the steps in the scoliosis screening process in the proper order (note as 1 to 5).

- 3 a. Child faces away from the screener.
- 2 b. Child bends forward.
- 5 c. Child turns to the side and bends forward.
- 1 d. Child faces the screener.
- 4 e. Child bends forward with the child's back to the screener.





# SCOLIOSIS SCREENING INSTRUCTION

**DATE:** \_\_\_\_\_

## EVALUATION

\_\_\_ SCHOOL NURSE      \_\_\_ PUBLIC HEALTH NURSE      \_\_\_ OTHER  
 \_\_\_ HEALTHCARE PROFESSIONAL

<b>Overall Evaluation:</b> <i>Please circle the appropriate response:</i>	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
1. The method used to present the material held my attention	1	2	3	4	5
2. The presenters demonstrated mastery of the topic.	1	2	3	4	5
3. The presenters were responsive to participant questions.	1	2	3	4	5
4. Overall, I was satisfied with the quality of this course/program	1	2	3	4	5
5. At the completion of this instruction, I am much more confident in screening children for scoliosis.	1	2	3	4	5
<b>Course Objectives:</b> <b>Overall Skills/knowledge presented met the course objectives</b> <i>Please circle the appropriate response:</i>	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
Distinguish between myths and facts regarding scoliosis.	1	2	3	4	5
Discuss the importance of scoliosis screening for adolescents.	1	2	3	4	5
Describe the scoliosis screening process including all five steps.	1	2	3	4	5
Report the abnormal physical findings of the scoliosis screening.	1	2	3	4	5
Describe the treatment options for scoliosis.	1	2	3	4	5
<b>Presenters:</b> <i>Please circle the appropriate response:</i>	Strongly Disagree	Disagree	Somewhat Agree	Agree	Strongly Agree
_____	1	2	3	4	5
<b>The presenter was effective.</b>	1	2	3	4	5

Name \_\_\_\_\_ Title \_\_\_\_\_

Credentials \_\_\_\_\_

### Scoliosis Screening Practicum Form

Check as person named above performs the scoliosis screening process:

\_\_\_\_ Reviews documentation form—child's name and date of birth

\_\_\_\_ Assesses visual height of child to position self correctly (sitting or standing)

\_\_\_\_ Instructs child to position self front standing position

\_\_\_\_ 1. Feet in alignment

\_\_\_\_ 2. Arms at sides

\_\_\_\_ Verbally note physical observations

\_\_\_\_ 1. Shoulders uneven/even

\_\_\_\_ 2. Unequal distance between arms and body

\_\_\_\_ 3. Hip uneven/even

\_\_\_\_ Instructs child in Adams Forward Bend Test

\_\_\_\_ 1. Palms together, arms out straight

\_\_\_\_ 2. Roll down until back parallel to floor

\_\_\_\_ Verbally notes physical observations

\_\_\_\_ 1. Thoracic prominence

\_\_\_\_ 2. Lumbar prominence

\_\_\_\_ Instructs child to position self back standing position

\_\_\_\_ 1. Feet in alignment

\_\_\_\_ 2. Arms at sides

\_\_\_\_ Verbally note physical observations

\_\_\_\_ 1. Shoulders uneven/even

\_\_\_\_ 2. Shoulder blade (scapula) more prominence

\_\_\_\_ 3. Shoulder blade elevated

\_\_\_\_ 4. Unequal distance between arms and body

\_\_\_\_ 5. Waist fold deeper one side

\_\_\_\_ Instructs child in Adams Forward Bend Test

\_\_\_\_ 1. Palms together, arms out straight

\_\_\_\_ 2. Roll down until back parallel to floor

\_\_\_\_ Verbally notes physical observations

\_\_\_\_ 1. Thoracic prominence

\_\_\_\_ 2. Lumbar prominence

\_\_\_\_ Instructs child to position self in side position

\_\_\_\_ 1. Feet in alignment

\_\_\_\_ Instructs child in Adams Forward Bend Test

\_\_\_\_ 1. Palms together, arms out straight

\_\_\_\_ 2. Roll down until back parallel to floor

\_\_\_\_ Verbally notes normal C curve or more than normal roundness

\_\_\_\_ Credentials \_\_\_\_\_ Initials \_\_\_\_\_

Print name of coach

Date \_\_\_\_\_

Name \_\_\_\_\_ Date \_\_\_\_\_

Title \_\_\_\_\_

### **Screening Scenario No. 1**

Katie—In the front position, her shoulders are even; her arm hangs out from her body more on her left. Her hips appear even. As she bends forward, no rib or lumbar prominence is seen. In the back position, her shoulders are even, her scapulas are even and her waist fold is slightly deeper on the left. Her left arm hangs out from her body. As she bends forward, a slight rib prominence is noted on the right. In the side position she has a c-shaped curve.

Is she a positive screen? \_\_\_\_Yes \_\_\_\_No

Should she be referred? \_\_\_\_Yes \_\_\_\_No

### **Screening Scenario No. 2**

Alonzo—In the front position, his shoulders are even and his arms hang evenly from his body. His right hip appears higher than his left. When asked to place his hands on his hips, his right hip appears higher than his left. As he rolls down, a right lumbar prominence is noted. In the back position, he seems to have difficulty maintaining the correct feet position, with feet together, weight evenly on both feet. His shoulders are even, his scapulas are even and his waist fold is even, his arms hang evenly at his sides. As he bends forward, no prominence is noted. In the side position he has a c-shaped curve.

Is he a positive screen? \_\_\_\_Yes \_\_\_\_No

Should he be referred? \_\_\_\_Yes \_\_\_\_No

### **Screening Scenario No. 3**

Samantha—In the front position, her right shoulder is higher than her left, her arms hang evenly from her body and her hips appear even. As she bends forward, there is an elevation of her right rib area (asymmetry of rib cage). Her lumbar area is even. In the back position, her shoulders are even, her right scapula is elevated and more pronounced, her waist folds are even and her arms hang evenly from her body. As she bends forward, there is a right rib prominence but no lumbar prominence. In the side position she has a c-shaped curve.

Is she a positive screen? \_\_\_\_Yes \_\_\_\_No

Should she be referred? \_\_\_\_Yes \_\_\_\_No

### **Screening Scenario No. 4**

Nikolas—In the front position, his shoulders are even and his arms hang evenly from the side. His hips are even. As he bends forward, there is a possible left rib elevation and a possible left lumbar elevation. In the back position, his left shoulder and his left scapula are elevated. His waist folds are even. His arms hang out evenly from the side of his trunk. As he bends forward, there appears to be a left rib prominence, then a right rib prominence and then a left lumbar prominence. In the side position he has a c-shaped curve.

Is he a positive screen? \_\_\_\_Yes \_\_\_\_No

Should he be referred? \_\_\_\_Yes \_\_\_\_No



### Screening Scenario No. 5

Madison—In the front position, her shoulders are even, her arms hang evenly from her sides, her hips appear even. As she bends forward her ribs appear symmetrical, as is the lumbar area. In the back position, her shoulders are even, her scapulas are even, her arms hang evenly from her side, her waist fold is the same. As she bends forward, there is symmetry in the thoracic and lumbar areas. In the side position she has a c-shaped curve.

Is she a positive screen?  Yes  No

Should she be referred?  Yes  No

### Screening Scenario No. 6

Jacob—In the front position, his shoulder are even, his arms hang evenly from his sides, his hips appear even. As he bends forward his ribs appear symmetrical, and there is no unevenness in the lumbar area. In the back position, his shoulders are even, his scapulas are even, his arms hang evenly from his side, his waist fold is the same. As he bends forward, there is symmetry in the thoracic and lumbar areas. In the side position, as he bends forward there is a prominence in the middle of his back.

Is he a positive screen?  Yes  No

Should he be referred?  Yes  No

### Additional screening scenarios from "Curve Checks" DVD, Chapter 16

#### Screening Scenario No. 7

Jasmine—What do you see as you watch the video?

- |   |  |
|---|--|
| Front view—Shoulder elevation           | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Unequal distance arm to body            | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Uneven hips                             | <input type="checkbox"/> Yes <input type="checkbox"/> No     |
| Rib prominence                          | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Lumbar prominence                       | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Back view—Shoulder elevation            | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Shoulder blade elevation or prominence  | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Waist fold difference                   | <input type="checkbox"/> Yes <input type="checkbox"/> No     |
| Unequal distance arm to body            | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Rib prominence                          | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Lumbar prominence                       | <input type="checkbox"/> Left <input type="checkbox"/> Right |
| Side view—More than normal rounded back | <input type="checkbox"/> Yes <input type="checkbox"/> No     |

### Screening Scenario No. 8

Mahogany–What do you see as you watch the video?

- |   |                        |
|---|------------------------|
| Front view–Shoulder elevation           | _____ Left _____ Right |
| Unequal distance arm to body            | _____ Left _____ Right |
| Uneven hips                             | _____ Yes _____ No     |
| Rib prominence                          | _____ Left _____ Right |
| Lumbar prominence                       | _____ Left _____ Right |
| Back view–Shoulder elevation            | _____ Left _____ Right |
| Shoulder blade elevation or prominence  | _____ Left _____ Right |
| Waist fold difference                   | _____ Yes _____ No     |
| Unequal distance arm to body            | _____ Left _____ Right |
| Rib prominence                          | _____ Left _____ Right |
| Lumbar prominence                       | _____ Left _____ Right |
| Side view–More than normal rounded back | _____ Yes _____ No     |

## **SAMPLE**

### **Stay ahead of the curve**

During the teenage years, a condition called scoliosis may develop. About 2 to 3 percent of children will develop this condition. The cause is usually not known. Scoliosis is a sideways bending of the spine that can get worse quickly during the teen years. Scoliosis also can make the spine rotate. A curve in the spine can be overlooked until it has become very noticeable. Some children will develop serious problems later in life if the condition is not treated. That is why it is important to have your child checked for scoliosis.

The school will be providing a screening examination as required by Georgia State Law O.C.G.A. Section 20-2-772 to check for this condition. The screening is simple and easy. The children are screened privately by a trained scoliosis screener. You will receive additional information by email or mail about scoliosis, and how and when the screening will be conducted.

Date: \_\_\_\_\_

Dear parent/guardian:

In the next few weeks, \_\_\_\_\_ School will conduct a scoliosis screening required by Georgia State Law O.C.G.A. 20-2-772 to identify students with signs of abnormal curvature of the spine. It is known that 2 to 3 percent of children may have scoliosis. If this condition is detected early and appropriately treated, progressive spine deformity can usually be prevented.

The procedure for screening is a simple test in which the trained screener looks at the child's back in the standing position and while bending forward. Boys and girls are screened separately. Girls should wear a bra, sports bra or bathing suit under their clothes on the day of the screening.

If your child has a suspected curvature, you will be notified and asked to take your child to your family doctor for further evaluation. **If you do not want your child to be screened, complete the requested information below and return it to the school.**

Sincerely,

Principal (school administrator)

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**I DO NOT WANT MY CHILD TO BE SCREENED FOR SCOLIOSIS**

My child is currently under care/observation for spinal problems: \_\_\_\_ Yes \_\_\_\_ No

\_\_\_\_\_  
Print name of child

\_\_\_\_\_  
Print name of parent/guardian

\_\_\_\_\_  
Signature of parent/guardian

Date: \_\_\_\_\_

School: \_\_\_\_\_

Teacher: \_\_\_\_\_

Fecha: \_\_\_\_\_

Estimado padre/tutor:

En las próximas semanas \_\_\_\_\_ School  
llevará a cabo un programa de detección de escoliosis, exigido por el Código 20-2-772 de la Asamblea General de Georgia para identificar a estudiantes con signos de curvatura anormal de la columna vertebral. Se sabe que dos o tres niños de cada 100 pueden tener escoliosis. Si esta condición se detecta a tiempo y se trata de manera adecuada, la deformidad progresiva de la columna vertebral por lo general se puede prevenir.

El procedimiento para la evaluación n es una prueba sencilla en la que el evaluador entrenado mira a la espalda del niño, tanto en la posición de pie y mientras se dobla hacia adelante. Los niños y las niñas son examinados por separado. Las niñas deben usar sostén, sujetador deportivo o traje de baño bajo la ropa el día de la evaluación.

Si su hijo tiene una curvatura sospechosa, se le notificará y se le pedirá llevar a su hijo a su médico de cabecera para que se haga otra evaluación. **Si no quiere que su hijo sea evaluado, por favor complete la información solicitada a continuación y devuélvala a la escuela.**

Atentamente,

Director (administrador de la escuela)

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**NO QUIERO QUE MI HIJO SEA EVALUADO PARA DETECTAR LA ESCOLIOSIS**

Mi hijo está actualmente bajo tratamiento/observación para problemas de columna vertebral: \_\_\_\_ Sí \_\_\_\_ No

\_\_\_\_\_  
Nombre del niño (letra de imprenta)

\_\_\_\_\_  
Nombre del padre/tutor (letra de imprenta)

\_\_\_\_\_  
Firma del padre/tutor

Fecha: \_\_\_\_\_

Escuela: \_\_\_\_\_

Maestro: \_\_\_\_\_

# Fast Facts About Scoliosis

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## What is scoliosis?

Scoliosis is a sideways curve of the spine. Adolescent idiopathic scoliosis (AIS) is the medical name for the most common type of scoliosis. AIS happens in children older than age 10 and teenagers. Idiopathic means that we do not know what causes it.

- The curve can make the spine look more like an “S” or “C” than a straight line when viewed from the back.
- Scoliosis also can make the spine rotate. This can make the shoulders or waist look uneven.

## What causes scoliosis?

Scoliosis tends to show up during teenage growth spurts. It also runs in families, but there is no known cause. Scoliosis is not caused by bad posture, heavy backpacks, poor diet or playing sports.

## What is a scoliosis screening exam?

The exam will be at your child’s school and done by trained screeners, such as nurses, physical education teachers or parent volunteers.

- The exam will take about one minute to complete.
- Boys and girls are screened separately in private areas. Girls may wear swimsuit tops under their clothes and remove their shirts for screening. Boys will take off their shirts for the exam.

## What are the signs of scoliosis?

The screener will look for certain signs during the exam, including:

When your child is standing:

- Uneven shoulders
- One shoulder blade sticking out more than the other

When your child is bending forward:

- A rib hump, called a rib prominence
- A lower back hump called a lumbar prominence

Scoliosis does not usually cause back pain. This is why it is important to look for signs on the outside of the body.

**Scoliosis is best treated when found early.** It can be hard to tell if your child has scoliosis. It is important for your child to have an exam done by trained screeners in school. More serious treatments for scoliosis can be avoided when scoliosis is found early.

Visit [choa.org/scoliosis](http://choa.org/scoliosis) for more information about the Children’s Healthcare of Atlanta Scoliosis Screening Program.

*This is general information and not specific medical advice. Always consult with a doctor or healthcare provider if you have questions or concerns about the health of a child.*

# Datos importantes sobre la escoliosis

## (Fast Facts About Scoliosis)

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**Children's**<sup>SM</sup>  
Healthcare of Atlanta

### ¿Qué es escoliosis?

Escoliosis es una curvatura lateral de la columna vertebral. La escoliosis idiopática del adolescente (*Adolescent Idiopathic Scoliosis*, AIS por su nombre y sigla en inglés) es el nombre médico del tipo más común de escoliosis. Ocurre en niños mayores de 10 años y en adolescentes. Idiopática, significa que se desconoce la causa.

- La curvatura hace que la columna se parezca más a una "S" o a una "C" que a una línea recta cuando se observa desde la parte de atrás.
- La escoliosis también puede hacer que la columna rote, lo cual hace que los hombros o la cintura se vean desnivelados.

### ¿Cuál es la causa de la escoliosis?

La escoliosis tiende a aparecer durante los períodos de crecimiento rápido en la adolescencia. También es hereditaria, pero se desconoce la causa. La escoliosis no es producida por mala postura, mochilas (*backpacks*) pesadas, mala alimentación ni por practicar deportes.

### ¿Qué es un examen de detección de escoliosis?

El examen lo hacen en la misma escuela de su niño, por personas especialmente capacitadas como enfermeras, profesores de educación física o padres voluntarios.

- El examen se demora aproximadamente un minuto.
- Niños y niñas se examinan separadamente, en áreas privadas. Las niñas pueden usar la parte de arriba de un traje de baño debajo de la ropa, ya que se quitarán la camisa para hacer el examen. Los niños simplemente se quitan la camisa.

### ¿Cuáles son los posibles signos de escoliosis?

El examinador buscará ciertos signos durante el examen que incluyen:

Cuando su niño está parado:

- Hombros desnivelados
- Un omoplato sobresale más que el otro

Cuando el niño se inclina hacia adelante:

- Una joroba de las costillas, conocida como prominencia de las costillas
- Una joroba de la parte inferior de la espalda, conocida como prominencia lumbar

La escoliosis generalmente no produce dolor de espalda. Por eso es importante buscar signos en el exterior del cuerpo.

**La escoliosis se trata mejor cuando se detecta en forma temprana.** Puede ser difícil saber si su niño tiene escoliosis. Por eso es importante que un examinador entrenado le haga un examen en la escuela. Cuando la escoliosis se detecta temprano se pueden evitar tratamientos más complejos.

Visite la página de Internet [choa.org/scoliosis](http://choa.org/scoliosis) para obtener más información sobre el Programa de detección de escoliosis de Children's Healthcare of Atlanta.

*Esta información es general; no es un consejo médico específico. Si usted tiene alguna pregunta o inquietud acerca del cuidado médico o la salud de su hijo, consulte siempre con su médico u otro profesional de la salud.*

**SCREENING FORM**

Grade (circle): 6 7 8 Other: \_\_\_\_\_

Primary screening date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Homeroom: \_\_\_\_\_

Student's last name: \_\_\_\_\_ First name: \_\_\_\_\_ M.I.: \_\_\_\_\_

Date of birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ Race/ethnicity: \_\_\_\_\_  Female  Male

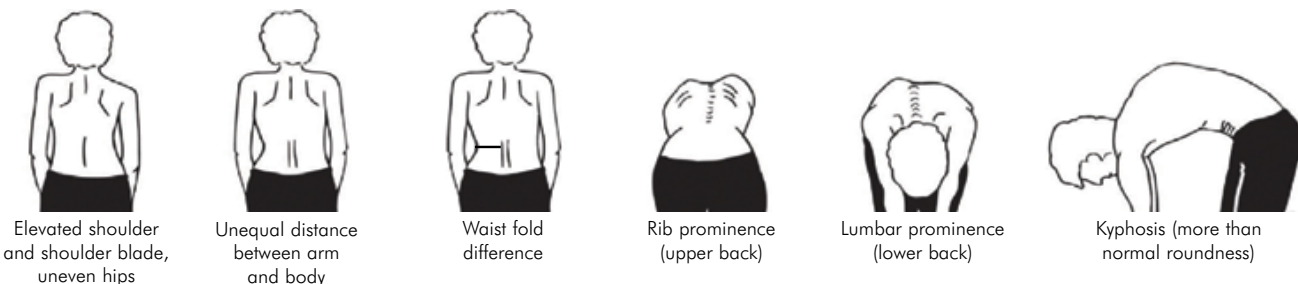
Name of parent/guardian: \_\_\_\_\_

Address: \_\_\_\_\_ Apt. #: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phones: Home (\_\_\_\_) \_\_\_\_-\_\_\_\_ Work (\_\_\_\_) \_\_\_\_-\_\_\_\_ Cell (\_\_\_\_) \_\_\_\_-\_\_\_\_

Name of school: \_\_\_\_\_ District: \_\_\_\_\_



	Primary screener		Secondary screener	
	Left	Right	Left	Right
<b>Front</b>				
Shoulder elevated				
Unequal distance arm to body				
Uneven hips				
Rib prominence				
Lumbar prominence				
<b>Back</b>				
Shoulder elevated				
Shoulder blade elevation/prominence				
Waist fold difference				
Unequal distance arm to body				
Rib prominence				
Lumbar prominence				
<b>Side</b>				
Kyphosis—more than normal roundness	Yes	No	Yes	No

Negative \_\_\_\_\_ Refer for second screening \_\_\_\_\_

Screener's name (print) \_\_\_\_\_

Check one:  School nurse  Teacher  Volunteer

Clinic assistant  Other: \_\_\_\_\_

Screener notes:

**Secondary screening date:** \_\_\_\_/\_\_\_\_/\_\_\_\_

Negative \_\_\_\_\_ Referred \_\_\_\_\_

Screener's name (print) \_\_\_\_\_

Check one:  School nurse  Health professional

Other: \_\_\_\_\_

Screener notes:





Date: \_\_\_\_\_

To the parent/guardian of: \_\_\_\_\_

Dear parent/guardian,

On \_\_\_\_\_, \_\_\_\_\_ conducted the annual state-mandated scoliosis screening for middle school students. A curve of the spine can appear during the years of rapid growth between ages 10 and 15. Findings of the screening indicate your child needs further examination. We recommend that you follow up with your child's primary care physician or provider for an evaluation. If your child does not have a doctor, you may contact the Children's Healthcare of Atlanta Scoliosis Screening Program at **404-785-7553**.

Children's offers a follow-up scoliosis screening that may include X-rays read by a pediatric radiologist. These screenings are offered at Children's locations throughout metro Atlanta. You may schedule an appointment or get additional information by visiting [choa.org/scoliosis](http://choa.org/scoliosis) or calling **404-785-7553**.

Remember to take this letter with you to your child's provider or the provider at a Children's during your child's follow-up screening visit.

Complete the bottom portion of this form and return it to the school's clinic within 15 business days so that we can confirm your receipt of this notice, and note your plans for follow-up. **This information is not mandatory or required.**

Thank you for your cooperation.

\_\_\_\_\_  
(Signature of school nurse/public health nurse)

Date: \_\_\_\_\_

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Return this section to your child's school clinic.

\_\_\_\_\_ I have received notification for recommendation for further examination of the positive findings of my child's scoliosis screening.

\_\_\_\_\_ I will contact my child's primary care physician or provider, or the Children's Healthcare of Atlanta's Scoliosis Screening Program to schedule an appointment.

\_\_\_\_\_ I have noted your correspondence but do not wish to provide any further information.

Student: \_\_\_\_\_ Grade: \_\_\_\_\_

Parent/guardian signature: \_\_\_\_\_ Date: \_\_\_\_\_

Fecha: \_\_\_\_\_

A los padres/tutor de \_\_\_\_\_

Estimado Padre / Tutor,

El \_\_\_\_\_, \_\_\_\_\_ llevó a cabo la evaluación anual de escoliosis ordenado por el estado para estudiantes de la escuela intermedia. Durante el período de crecimiento rápido, es decir entre los 10 y 15 años, puede aparecer una curvatura de la columna vertebral. Los resultados de la evaluación indican que su hijo necesita un examen más exhaustivo. Le recomendamos un seguimiento con el médico /proveedor de atención primaria de su hijo para una evaluación. Si su hijo no tiene un médico, puede comunicarse con el Programa de Detección de Escoliosis de Children's Healthcare of Atlanta al **404-785-7553**.

Children's Healthcare of Atlanta ofrece evaluaciones de seguimiento para la detección de la escoliosis que podrían incluir radiografías que son leídas por un radiólogo pediátrico. Estas evaluaciones se ofrecen en todas las ubicaciones de Children's of Healthcare of Atlanta en el área metropolitana de Atlanta. Puede programar una cita u obtener más información visitando **choa.org/scoliosis** o llamando al **404-785-7553**.

Usted debe llevar esta carta a la cita de seguimiento con el proveedor de su hijo o con el proveedor de Children's Healthcare de Atlanta.

Complete la parte inferior de este formulario y devuélvala a la clínica de la escuela dentro de 15 días hábiles, para que podamos confirmar su recibo de este aviso, y anote sus planes para el seguimiento. **Esta información no es obligatoria ni requerida.**

Agradecemos su cooperación

\_\_\_\_\_  
(Firma de la enfermera escolar/enfermera de salud pública)

Fecha: \_\_\_\_\_

Devolver esta parte a la clínica de la escuela de su hijo.

\_\_\_\_\_ He recibido la notificación que recomienda un examen más exhaustivo en vista de los hallazgos positivos de la evaluación de escoliosis de mi hijo.

\_\_\_\_\_ Me comunicaré con el proveedor primario de mi hijo o con el Programa de Detección de Escoliosis de Children's Healthcare of Atlanta's para programar una cita.

\_\_\_\_\_ He tomado nota de su correspondencia pero no deseo proporcionar más información.

Estudiante: \_\_\_\_\_ Grado: \_\_\_\_\_

Firma de uno de los padres/tutor: \_\_\_\_\_ Fecha: \_\_\_\_\_

# Screening for adolescent idiopathic scoliosis



**Children's**<sup>SM</sup>  
Healthcare of Atlanta

## Effective screening provides early intervention for an overlooked condition

Scoliosis screening is aimed at identifying suspected cases of scoliosis that will be referred for diagnostic evaluation. The benefits provided by effective clinical scoliosis screening programs are significant, including the detection and referral of patients with adolescent idiopathic scoliosis (AIS) at an earlier stage of the clinical course<sup>1</sup> in addition to the potential prevention of deformity progression by brace treatment and the earlier recognition of severe deformities requiring operative correction.<sup>2</sup>

### Who is affected?

Scoliosis is a lateral deviation from the vertical line (sagittal plane) measured as greater than 10 degrees by X-ray. Vertebral rotation is an additional component.

Evidence supports scoliosis as being hereditary, and current studies indicate that AIS is a complex genetic disorder. The pathogenesis of scoliosis is not fully understood.

Scoliosis affects males and females equally. Females, however, are five times more likely to have a progressive scoliotic curve, requiring treatment.

Because scoliosis has few physical symptoms, a patient complaining of back pain may be symptomatic of another condition.

### What are the risks?

The risk of further progression is low for curves measuring less than 30 degrees at the time the patient reaches skeletal maturity. Curves of greater magnitude have a higher risk of progression after maturity, requiring continued observation through the adult years. Some studies report an average of 1 degree of curve progression a year.

### When should a child be screened?

Routine screening for scoliosis is important because it decreases the relative risk of curve progression into a surgical range by a factor of eight. The most specific test for scoliosis is the Adams Forward Bend Test.

The at-risk population is between the ages of 10 and 15. At minimum, females should be screened twice, at ages 10 and 12, and males should be screened once, at age 13 or 14<sup>2</sup>.

Georgia General Assembly Code requires screening of public school children for scoliosis<sup>3</sup>.

### What are the treatments?

#### Observation

Minor curves less than 15 degrees with minimal or moderate risk for progressive deformity need to be observed with periodic clinical physical examination. Observation continues until the risk for progression decreases, usually when the patient reaches skeletal maturity.

#### Orthotic intervention

Curves between 25 to 45 degrees with moderate or high risk for progression may be managed with a scoliosis brace to limit the risk of further progression until the patient reaches skeletal maturity. The National Institutes of Health (NIH) funded a study published in 2013 that affirmed the efficacy of bracing and the need for early detection of scoliosis. The study conclusively demonstrated that bracing in appropriately indicated patients will result in less surgery.

#### Surgery

Major curves greater than 45 degrees, or moderate curves with high risk for progression, may require a surgical intervention.

## What are the consequences of untreated progressive scoliosis?

- Significant deformity at the spine, which may lead to perceived disability as an adult, such as difficulty completing physical activities (more common in females)
- Development of osteoarthritis of the spine
- Development of chronic back pain, especially in lumbar curves of more than 50 degrees
- Risk during adulthood of additional progression for curves of more than 50 degrees at skeletal maturity
- Potential for decreased vital lung capacity and pulmonary function due to restricted chest diameter in thoracic curves of more than 100 degrees
- Shortness of breath and decreased pulmonary function in thoracic curves of more than 80 degrees
- Increased risk of death from pulmonary and cardiac failure in thoracic curves of more than 100 degrees
- Potential for significant psychological burden on self-image from deformity due to societal emphasis on appearance and health

## The Children's difference

Our Scoliosis Screening Program at Children's Healthcare of Atlanta partners with physicians, county health departments and school nurses to detect early signs of scoliosis in the at-risk population.

### Scoliosis clinics

- We offer registered nurse-facilitated scoliosis clinics at several metro Atlanta locations with X-ray evaluation for children referred from both physicians and school screenings.
- X-ray results and a treatment recommendation are sent to the families and their primary care physicians.

### Referral process

To refer a patient to the scoliosis clinic, have parents call **404-785-7553**.

## Additional services and resources

### Services

We facilitate access to area pediatric orthopaedic surgeons and additional orthopaedic resources.

### Educational opportunities

Our program's registered nurse coordinator provides in-service presentations at physicians' offices in metro Atlanta. Visit [choa.org/scoliservice](http://choa.org/scoliservice) to schedule.

### Annual scoliosis screening conference

- Speakers include pediatric orthopaedic surgeons, the program's registered nurse and board-certified orthotists.
- We offer presentations to healthcare professionals, county health department personnel and school nurses about best practices for scoliosis screening.

### Resources

- Physician quick reference guide: "Five Steps of Scoliosis Screening"
- Instructional materials for healthcare professionals and volunteers involved in school scoliosis screenings
- Educational materials for patients and families in English and Spanish
- Direct line to the Scoliosis Screening Program's registered nurse at **404-785-6753** to answer questions about scoliosis

### Websites

- Scoliosis Research Society: [srs.org](http://srs.org)
- National Scoliosis Foundation: [scoliosis.org](http://scoliosis.org)
- AAOS, SRS, POSNA, AAP position statement on screening for idiopathic scoliosis in adolescents: [srs.org/about-srs/quality-and-safety/position-statements/screening-for-the-early-detection-for-idiopathic-scoliosis-in-adolescents](http://srs.org/about-srs/quality-and-safety/position-statements/screening-for-the-early-detection-for-idiopathic-scoliosis-in-adolescents)



Visit [choa.org/scoliosis](http://choa.org/scoliosis) for more information about scoliosis and our Scoliosis Screening Program.

<sup>1</sup> American Academy of Orthopaedic Surgeons (AAOS), Scoliosis Research Society (SRS), Pediatric Orthopaedic Society of North America (POSNA) and the American Academy of Pediatrics (AAP)

<sup>2</sup> Hresko M.T., Talwalkar V.R., and Schwend R.M. (Sept. 2, 2015). Screening for the Early Detection of Idiopathic Scoliosis in Adolescents: SRS/POSNA/AAOS /AAP Position Statement. Retrieved from [srs.org/about-srs/quality-and-safety/position-statements/screening-for-the-early-detection-for-idiopathic-scoliosis-in-adolescents](http://srs.org/about-srs/quality-and-safety/position-statements/screening-for-the-early-detection-for-idiopathic-scoliosis-in-adolescents).

<sup>3</sup> Authority O.C.G.A. 20-2-772

# Backpacks can be a safe way to carry heavy loads



## If children and teens wear them the right way

When backpacks are used correctly, your child should be able to carry his books and supplies without causing problems to his neck, shoulders and back.

### What kind of backpack should my child use?

Choose a backpack made of light material, such as canvas or nylon. Be sure it is the right size for your child.

Look for:

- Wide, padded shoulder straps
- Padded back
- Waist strap
- Multiple compartments

Reflective strips on the bag are recommended. They make the child easier to see before sunrise and at night.

### How do I pack a backpack?

Always pack the backpack so that most of its weight rests low on your child's back near the waist. Pack the heaviest books closest to the body and distribute other items equally on the right and left sides.

Your child should:

- Bend his knees to pick up a backpack.
- Clean his backpack weekly to take out things he does not need.
- Put things in his locker so his backpack is not heavy.
- Take only what is needed to school.

### How much should a backpack weigh?

Backpacks should not weigh more than 10 to 15 percent of your child's body weight. This means a child who weighs 100 pounds should have a backpack that weighs no more than 10 to 15 pounds.

- If your child needs to lean forward to support the weight of his backpack, it is too heavy.
- Use backpacks with wheels and handles if your child needs to carry more than 15 percent of his body weight.

### How should my child wear the backpack?

Your child should wear it so that it puts weight on the strongest muscles in the body: back and stomach.

This means:

- Your child should wear both straps over his shoulders.
  - Adjust the shoulder straps so the backpack rests in the middle of his back.
  - The backpack should fit close to his body.
- Secure the waist strap.
  - This helps keep the backpack close to his body.
- Pack items in compartments.
  - This helps distribute heavy loads evenly.
- Make sure the bottom of the backpack rests in the curve of the lower back.
- Check the height of the backpack.
  - It should extend from the waistline to about 2 inches below the shoulders.
- The backpack should never sit more than 4 inches below the waistline.

### What else can I do to help my child?

Talk to your child and his teachers to make sure there are no problems. For example, if your child is having back problems and has a heavy book, ask if he can have a second book to keep at home.

Ask your child to tell you if he has any of the following in his back, shoulder or neck:

- Pain
- Numbness (lack of feeling)
- Tingling (itchy or stinging feeling)

*This is general information and not specific medical advice. Always check with a doctor or healthcare provider if you have questions or concerns about the health of a child.*

# Las mochilas pueden ser seguras para transportar cargas pesadas



## Si los niños y adolescentes las usan correctamente

Cuando las mochilas se usan correctamente, su niño podría llevar sus libros y materiales sin causarse problemas en el cuello, hombros y columna.

### ¿Qué tipo de mochila debe usar mi niño?

Escoja una mochila que sea de material liviano, como lona o nylon, y asegúrese de que sea del tamaño correcto para el niño.

Fíjese que tenga:

- Correas para los hombros, que sean anchas y acolchadas
- Respaldo acolchado
- Correa para la cintura
- Compartimentos múltiples

Se recomienda que la mochila tenga cintas reflectantes, ya que facilitan que el niño pueda verse antes del amanecer y durante la noche.

### ¿Cómo empaco la mochila?

Empáquela siempre de manera que la mayor parte del peso descansa en la parte baja de la espalda de su niño, cerca de la cintura. Empaque los libros más pesados cerca del cuerpo y distribuya otros artículos de manera uniforme tanto en el lado derecho como en el izquierdo.

Su niño debe:

- Doblar las rodillas para levantar la mochila.
- Limpiar la mochila semanalmente para sacar las cosas que no necesita.
- Dejar cosas en el *locker* para que la mochila no sea tan pesada.
- Llevar a la escuela solamente lo necesario.

### ¿Cuánto debe pesar la mochila?

Las mochilas no deben pesar más del 10 al 15 por ciento del peso corporal de su niño. Esto significa que un niño que pesa 100 libras no debe cargar una mochila que pese más de 10 a 15 libras.

- Si su niño se debe inclinar hacia adelante para sostener el peso de su mochila, entonces está muy pesada.
- Si su niño debe cargar más del 15 por ciento de su peso corporal, use mochilas con ruedas y agarraderas.

### ¿Cómo debe mi niño cargar la mochila?

Su niño debe llevarla de forma tal que ponga el peso en los músculos más fuertes del cuerpo: la espalda y el estómago.

Esto significa que:

- Su niño debe ponerse ambas correas sobre los hombros.
  - Ajustar las correas de los hombros de manera que la mochila descansa en el centro de la espalda.
  - La mochila debe quedar pegada al cuerpo.
- Debe abrochar la correa para la cintura.
  - Esto ayuda a mantener la mochila cerca de su cuerpo.
- Empaque los objetos en compartimentos.
  - Esto ayuda a distribuir uniformemente las cargas pesadas.
- Asegúrese de que el fondo de la mochila descansa en la curva de la parte baja de la espalda.
- Verifique la altura de la mochila.
  - Esta debe ir desde la cintura hasta 2 pulgadas por debajo de los hombros.
- La mochila nunca debe quedar más de 4 pulgadas por debajo de la cintura.

### ¿Qué más puedo hacer para ayudar a mi niño?

Hable con su niño y los maestros para estar seguro de que no hay problemas. Por ejemplo, si su niño sufre de problemas de espalda y tiene un libro pesado, pida que le presten otro para tener en casa.

Pida a su niño que le informe si presenta cualquiera de los siguientes en la espalda, hombros o cuello:

- Dolor
- Entumecimiento (falta de sensibilidad)
- Hormigueo (picazón o sensación de ardor)

*Esta es información general; no es un consejo médico específico. Si tiene preguntas o inquietudes sobre la salud de un niño, verifique siempre con un médico o un proveedor de salud.*

# Five-step scoliosis screening process for healthcare professionals

## First position:

### Anterior view, standing position

#### Instructions to the child:

- Face the screener. Put your feet together with equal weight on both legs.
- Breathe in. Let it out, and relax your shoulders. Let your arms hang naturally at your sides.

#### Look for (see Fig. 1):

- Shoulder height asymmetry
- Unequal distance between arms and torso
- Hip prominence or asymmetry

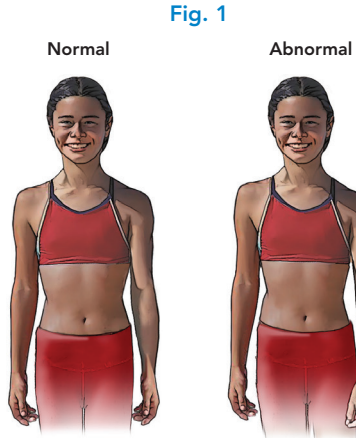


Fig. 1

## Second position: Anterior view, Adams forward bend test

### Instructions to the child (see Fig. 2):

- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

#### Look for (see Fig. 3):

- Upper thoracic asymmetry
- Lower thoracic asymmetry
- Lumbar asymmetry

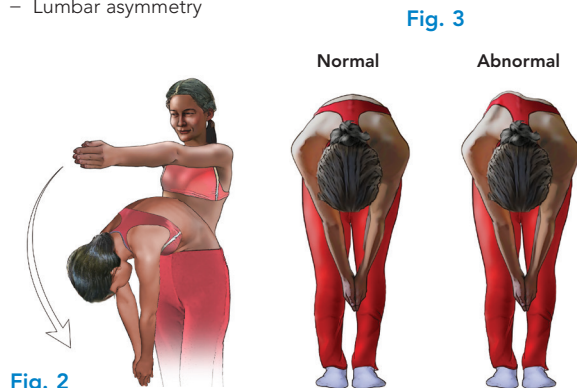


Fig. 2

Fig. 3

Fig. 2

## Third position: Posterior view, standing position

### Instructions to the child:

- Turn around (child's back is now to screener).
- Put your feet together with equal weight on both legs.
- Breathe in. Let it out and relax your shoulders. Let your arms hang naturally at your sides.

#### Look for (see Fig. 4):

- Shoulder height asymmetry
- Scapula prominence or asymmetry
- Unequal distance between arms and torso
- Waist crease asymmetry or no waist crease on one side
- Spine curved to one side

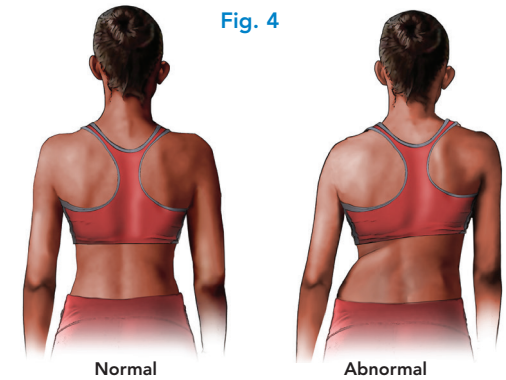


Fig. 4

## Fourth position: Posterior view, Adams forward bend test

### Instructions to the child:

- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

#### Look for (see Fig. 5):

- Upper thoracic asymmetry
- Lower thoracic asymmetry
- Lumbar asymmetry

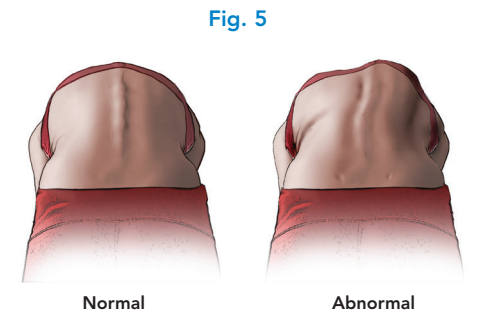


Fig. 5

## Fifth position: Sagittal view, Adams forward bend test

### Instructions to the child:

- Turn to the side. Put your feet together with equal weight on both legs.
- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

#### Look for (see Fig. 6):

- Sharp angle/abnormal contour in low thoracic area (kyphosis)

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

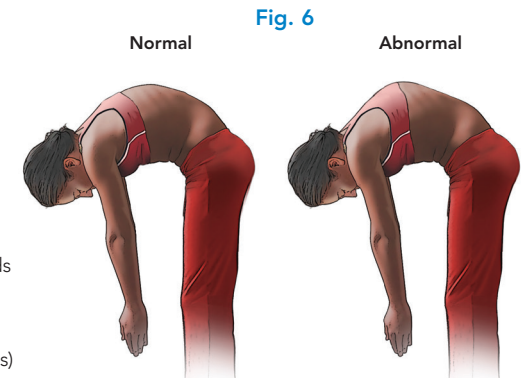


Fig. 6



Visit [choa.org/scoliosis](http://choa.org/scoliosis) or call 404-785-7553 for more information.



# Five-step scoliosis screening process for volunteers

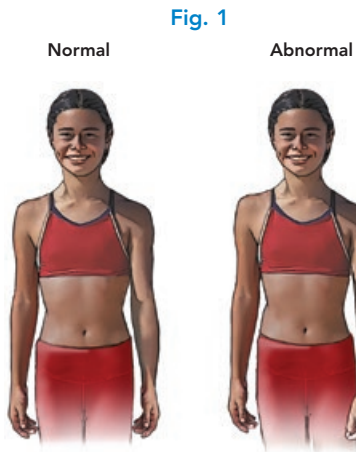
## First position: Front, standing position

### Instructions to the child:

- Face the screener. Put your feet together with equal weight on both legs.
- Breathe in. Let it out, and relax your shoulders. Let your arms hang naturally at their sides.

### Look for (see Fig. 1):

- Uneven shoulders (Is one shoulder higher?)
- Arm hanging out farther from body on one side
- Hip that appears higher on one side



## Second position: Front, bending forward (Adams forward bend test)

### Instructions to the child (see Fig. 2):

- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

### Look for (See Fig. 3):

- Upper rib prominence on one side
- Lower rib prominence on one side
- Lower back (lumbar) prominence on one side

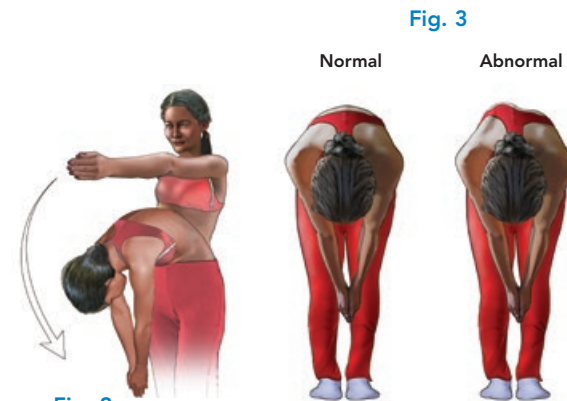


Fig. 2

## Third position: Back, standing position

### Instructions to the child:

- Turn around, (child's back is now to screener), put your feet together with equal weight on both legs.
- Breathe in. Let it out and relax your shoulders. Let your arms hang naturally at their sides.

### Look for (See Fig. 4):

- Uneven shoulders (Is one shoulder higher?)
- Shoulder blade (scapula) more prominent than other or one higher
- Arm hanging out farther from body on one side
- Waist fold deeper on one side

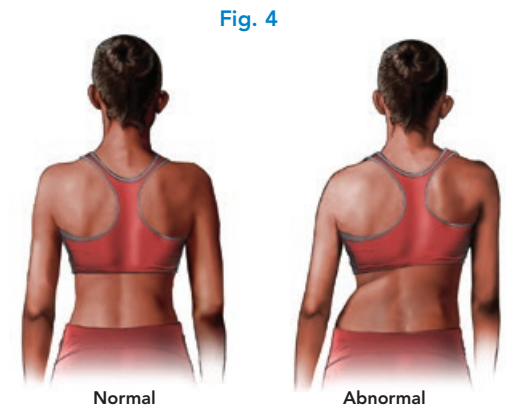


Fig. 4

## Fourth position: Back, bending away (Adams forward bend test)

### Instructions to the child:

- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

### Look for (See Fig. 5):

- Upper rib prominence on one side
- Lower rib prominence on one side
- Lower back (lumbar) prominence on one side

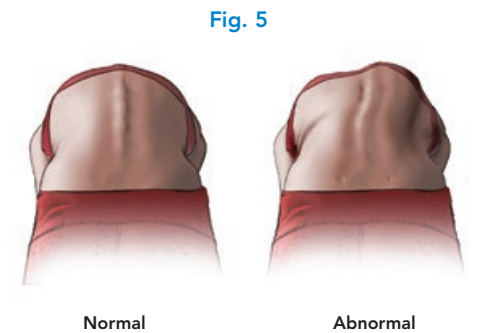


Fig. 5

## Fifth position: Side, in a bending position (Adams forward bend test)

### Instruction to the child:

- Turn to the side. Put your feet together with equal weight on both legs.
- Put your palms together with arms out straight.
- Put your chin on your chest and roll down until your hands touch your feet.

### Look for (See Fig. 6):

- Normal "c" shaped curve or more than normal roundness (kyphosis)

Note: Encourage the child to continue to roll down as far as possible until his back is parallel to the floor. Have the child repeat the Adams forward bend test if he rolls down too quickly or if he rolls down to one side or the other. (The child's hands should be pointing at the big toes.)

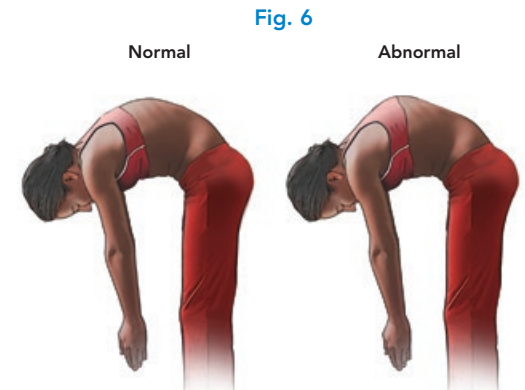


Fig. 6