

# Back to School: A Scoliosis Guide for School Nurses

## What is Scoliosis?

- Definition: curvature of the spine that can occur in the frontal plane and cause rotation of the vertebral bodies. Can have a C shape or an S shape. Includes rotation of the spine.
- Diagnosis: Often a parent or a pediatrician may notice asymmetrical torso (uneven when bending over, uneven hips or shoulders, protruding scapula, or protruding ribs). Diagnosis by a physician using x-rays to image the spinal elements.
- Age, Gender, and Cause of "idiopathic adolescent scoliosis":
  - Begins during the growth spurt before puberty and signs begin in adolescence.
  - Girls are 7 times more likely to have a curve that requires treatment.
  - May run in families, but adolescent idiopathic scoliosis has no known cause.
- Treatment depends on degree of curvature:
  - Mild: 10 - 20 degree curvature. Monitored closely, but usually no treatment is necessary.
  - Moderate: 20-50 degrees curvature. Often bracing used to stop the curve from progressing.
  - Severe: 50 degrees or greater will usually need surgery to straighten the curve.
- Treatment and monitoring end when patient stops growing (growth plate x-rays or 1 year after onset of menses).



## What is the Purpose of Bracing?

- Bracing does not reverse the curve or cure the scoliosis. The purpose is to prevent the curve from progressing.
- It only benefits patients who are still growing.
- Sometimes patients' curves continue to progress despite bracing and will require surgery.

## What is a Brace?

- There are many types of braces that are dependent on:  
(1) where the curve is located; (2) whether there is more than one curve; (3) whether the brace needs to stabilize both a curve and rotation of the torso; and (4) treating doctor and orthotist.
- Each brace is individually made for the patient. Fragile and expensive and need to be stored carefully.
- Made of hard plastic, contoured tightly to the patient's body and designed to press firmly against the direction of the curve. Anchored on the hips and tightened using large velcro clasps.
- Seamless fabric needs to be worn between the brace and skin to protect the skin. Clothing usually worn over the brace.



## How Often Does the Brace Have to be Worn?

- Each patient varies, but the average goal is 18 hours a day.
- It is more effective the more hours it is worn. Hours may be reduced as a patient's growth slows.

## What Are Activity Limitations During Treatment?

- When the brace is off, there are usually no limitations
- Limitations while the brace is on depends on the type of brace and how much it restricts movement
- School activities that may be impacted:
  - (1) P.E./ school sports - Brace will need to be removed.
  - (2) Music - Deep breathing restricted and may limit shoulder and arm movement. May need to be removed.
  - (3) Activities that require bending over or on the ground (Consider assembly/ lunch seating and locker location).

*\*\*Photos Top: front and back of brace for S curve x-ray at top of page; Bottom left: front closing brace for S curve with one shoulder restricted; Bottom right: brace for low C curve that stops below breasts with shoulders unrestricted.*

- (4) Sitting at desks - Some braces restrict ability to lean forward and restrict shoulder movement. Students should have a desk chair that allows them to easily reach the desk using only their arm and provide a resting space for their arm. Accommodation may allow standing at lab tables with stools.
- (5) Biking - the brace will need to be removed to bike to or from school. Consider transportation issues.
- (6) Eating - some patients are unable to eat a full meal with the brace on and may require accommodation to eat smaller, regular snacks throughout the day.
- (7) Temperature control - The brace and extra clothing layers are very warm. Some outdoor activities may require accommodations to avoid overheating.

### **How does it affect the student academically, mentally, and physically?**

- **Physically:** (1) lack of mobility (see above); (2) physical discomfort and pain.
- **Academically:** (1) Physical discomfort is distracting and can make it hard to focus; (2) Easily frustrated with the additional hurdles, which makes it harder to participate and complete certain assignments.
- **Emotionally:** (1) Feeling different than peers; (2) Feeling that they can't wear their favorite/ preferred clothes (hide the brace and need larger size), so "not cool"; (3) Feeling left out - can't bike with friends, sleepovers require a bed, etc.; (4) Embarrassed to ask friends for help or to make changes to accommodate them; (5) Worried that might need surgery if bracing doesn't work; (6) Extra responsibility/ worried to plan for bracing, change of clothes, care of brace during daily transitions; (7) Expect anger, frustration, sadness, embarrassment.

### **How can school nurses support students?**

- Meet with guardians and student to decide whether informal accommodations or 504 Plan is appropriate.
- Provide a "point person" if the need for help arises (school nurse, counselor, staff member).
- Ask if current students who brace are willing to share their experience. Host a meeting with newly diagnosed students to let them know they are not alone and that other students are a good resource and support.
- Most teachers and staff members will not be familiar with bracing. Helpful guidance by school nurses to students, teachers, and staff make it more likely that students brace during school hours, and will benefit the long term physical and emotional health of students with scoliosis.

#### **Accommodations to consider:**

- Place to change in or out of brace, designated person to help tighten the brace, and place to store the brace.
  - The velcro is very loud - students might be embarrassed by the sound or not enough room to change. Often need to change all clothes, so make a private teacher or nurse bathroom available.
  - Might require help to put on the brace if velcros in the back. Allow student to have a pre-identified friend(s) allowed to accompany student to help put on brace.
  - Identify a safe place to store the brace when it is not being worn. Will likely not fit in a student locker.
  - Teachers might need to allow student (and friend) to leave class early or arrive tardy.
- Is it appropriate to excuse the student from P.E.? Do after school sports to meet physical activity needs?
- Can classes that require the student to be out of the brace be scheduled for the first or last period of the day?
- Work with teachers on seating arrangements (helpful friend nearby, able to see straight on rather than turn in chair, desk and chair set up) and counselors should assign a higher locker.
- Students may need a little time to decompress in a quiet space, need a break to take off the brace, or require help. Perhaps provide the student with an "anytime pass" to the office.

Students spend a third of their day at school and the helpful guidance of school nurses is a key part of bracing success at school. Every student and school situation will be different, but flexibility and understanding by teachers, nurses, and staff members will make the student more likely to wear the brace and support their treatment.

*With special thanks to Karla Mahoney RN, CSN and Dr. Eric Klineberg.*

**\*\* The information provided herein should not be considered medical advice. For diagnosis and treatment, please consult your medical provider. \*\***