

Patient Guide to Scoliosis Bracing

At Johns Hopkins, we use an interdisciplinary team approach to scoliosis bracing. The most important member of the team is the brace wearer: YOU. Your family is also a critical member of the team. Other team members include your physician, a physician assistant, a nurse, and the orthotist. Feel free to call on any and all of these members when you have questions or need support. The team wants your treatment to be a success. You can also contact the National Scoliosis Foundation for information. They can be reached at 1-800-NSF-MYBACK (673-6922). Their fax is 781-341-8333. The NSF email is: scoliosis@aol.com

The Facts

- Scoliosis is a sideways (lateral) curve of the spine, usually developing in early adolescence.
- About 80% of scoliosis is idiopathic which means that the cause is unknown.
- 1 to 2 of every 100 people has scoliosis. About 2 to 3 of every 1,000 people will need treatment for progressive scoliosis. One of every 1,000 people requires surgery.
- Scoliosis tends to run in families and although boys and girls are affected the same at the onset, girls are more likely to have curves that continue to worsen and require treatment.
- Spinal curvature is best dealt with when the body is still growing and can best respond to treatment such as a brace. Mild cases may only require monitoring by your doctor and no bracing.

What is scoliosis?

As mentioned, scoliosis is a lateral curvature of the spine. The spine also twists on its axis, causing a distortion of the ribs. This results in a "hump" on the back. Your doctor can tell you what levels of the spine are affected by scoliosis.

Why do I have to wear a brace?

Scoliosis may rapidly worsen during growth if the curve is over 25 degrees. The purpose of bracing is to keep the curve from progressing (worsening) as the child grows. A brace may not correct the curve permanently, but it may prevent it from increasing.

The brace is made of plastic and is contoured specifically for each patient in order to give the straightest possible shape. It extends from below the armpit to the beginning of the pelvic areas in the front and just below the shoulder blade in the back. Pads are placed to provide pressure on the curve and areas of relief are provided opposite the areas of pressure. The brace is worn under clothing and is not visible. Those who wear a brace lead very normal lives, and participate in activities, physical education, and sports. Any activity that the wearer can do in a brace is allowed.

How long do I have to wear the brace?

The brace needs to be worn 23 hours each day until the team determines that the patient has reached skeletal maturity. At that point, you might be switched to wearing the brace at night only. The patient is slowly weaned from the brace when it is deemed appropriate.

What results can we expect?

About 4 out of 5 growing patients (i.e. 80%) will have a satisfactory result. This means that their curve will not significantly increase. About 1 of 5 (i.e. 20%) will have some increase. There is no way to predict which patients will have the better results. Occasionally, surgery will be needed.

Are there any other options?

Bracing and surgical correction are the only options which have been proven to be effective in scientific studies. There are no equally effective treatments. Exercise, by itself, is not a treatment for scoliosis. It cannot stop a curve from worsening.

Instructions for Wearing your Brace

Successful brace wearing requires you to:

- Wear your brace 23 hours daily within 2 to 3 weeks of the start of receiving your brace (unless otherwise specified by your doctor).
- Take care of your skin on a daily basis.
- Wear an undershirt at all times under your brace (for girls, bras are worn under the undershirt). The shirt must fit well, without wrinkles.
- Apply the brace properly to your body (as will be taught to you in the doctor's office).
- Do your exercise program daily.
- Gradually increase your brace wearing time daily until you reach the goal.

How do I put on my brace?

The team at Johns Hopkins will demonstrate proper placement of the brace to you. At first, you will need help. Eventually, you will learn to do it by yourself. The easiest method is outlined below.

- Place the brace around your body by holding each side and spreading the brace so you can twist into it. The brace is stiff when new.
- Make sure that all straps are outside of the brace.
- The opening of the brace should be in the middle of the back so that the bumps on the spine and the crease between the buttocks are halfway between each edge (i.e. in the middle of the opening).
- Push the brace down by placing your hands on your hips. The indentations on the inside of the brace should rest just above your hips and below your ribs.
- Lean forward on to your forearms onto a table, dresser, or counter. Your helper will thread the straps through the buckle.
- Your helper applies pressure with the flat of one hand to the side opposite the buckle. At the same time, the helper pulls the Velcro strap with the other hand towards the hand applying the pressure.
- Secure the bottom strap first. Then do the top. Finally do the middle strap. Then straighten up.
- Repeat securing the straps until the brace is tight.

How do I apply and tighten the brace myself?

- Place the brace on your body as described above.
- Put the straps through the buckles.
- Lean forward from your hips and pull the straps out, down, and away from the buckle side.
- Remember to be patient with yourself. Putting the brace on by yourself takes practice.

How tight should the brace be?

When you or your helper pushes on both sides at once, there should be no "give" or movement of the brace. Wear it as tightly as possible. The straps should be tightened beyond the original mark if possible.

Helpful hints:

- Make sure that your spine is centered in the brace.
- The waist pads must be just above your hips and below your lowest rib.

Protecting Your Skin

It is very important to prevent skin breakdown (i.e. sore, red skin). The skin under the brace needs to be toughened up, especially where the brace presses the hardest.

To protect the skin:

- Bathe or shower daily.
- Apply rubbing alcohol with your hands to the area over the hips. Alcohol plus the friction of your hand to your body will toughen the skin. Continue this procedure only until your skin toughens (usually about 2 to 3 weeks after you start wearing the brace).
- Pay special attention to pink areas of the skin where your brace presses the most. The pink color should disappear within 30 minutes of removing the brace. If the skin remains pink longer than 30 minutes, adjustments may be required.
- Always wear a cotton undershirt without side seams under your brace. Some of our patients have had custom fitted undershirts made of Pima cotton or Gard cotton. They can be custom made to minimize wrinkles and extend the full length of the brace, while leaving only one vertical seam that is located in the center of the back where the brace is open. This eliminates bruising caused by seams.

To order these specialty garments, contact:

Florencia Hejtmanek
12240 Wilkins Avenue
Rockville, MD
Phone = 301-231-8998 (extension 210).

- A strapless undershirt can be made from cotton tubing (similar to what was used for your brace fitting) and is great for hot summer days. Just seam the tubing to allow a form-fit, then cut it just long enough to fold down over the top of the brace and up to cover the bottom of the brace. If necessary, you can tape the tubing to the brace with masking tape.
- Wear your brace as tightly as possible. A loose brace will cause rubbing and lead to skin problems.
- The use of cornstarch (a dusting) may be helpful in hot weather, or on skin sensitive to alcohol. Do not use creams, lotions, or powder under the brace initially because they tend to soften the skin and can lead to skin breakdown.
- If there is skin breakdown (sore, red, raw skin), the brace must not be reapplied until the skin heals. This usually takes several days. If this happens, call the clinic nurse, the pediatric orthopaedic nurse, or the pediatric orthopaedic physician assistant. The problem may be solved over the phone. What may be most important is calling your orthotist to double check your brace fit.
- Sometimes the skin over the waist and hips gets darker. This is common and is not a problem. When the brace treatment is over, this color will go away.

Caring for Your Brace

Your brace can and should be cleaned frequently. You can use soap and water to clean it daily. Once each week, wipe your brace down with rubbing alcohol. Straps will wear over time and need to be replaced. This can be done easily by your orthotist.

Exercise

Attached are two sets of exercises. The first is a set of exercises done during the time you are not wearing your brace. These exercises are designed to keep your back limber and prevent your muscles from getting weak.

The second set of exercises are those that you do while wearing your brace. They should be done as often as you can during the day. It is these exercises that will help your brace to be more effective in the treatment of scoliosis.

DOING THESE EXERCISES RIGHT FROM THE START WILL MAKE THE BRACE MORE COMFORTABLE.

The brace and exercises together will achieve the best results and make your brace treatment more successful. We recommend swimming without the brace since water supports your back. For safety around the water, try swimming in your brace with a buddy so that you won't be afraid if you fall into the water.

Tips from Our Patients

- *Air conditioning often provides extra comfort for brace wearers. Heat can be a real problem.*
- *Some patients have found that they don't like using powders inside the brace. Little "pills" of damp powder may form and be uncomfortable.*
- *The brace should not cause pain or bruising. Fitting and adjustments may need to be made frequently, especially during growth spurts. A slight adjustment to the brace can often be very effective. Your orthotist will be happy to help you with fittings.*
- *Cowl neck and turtle-neck tops as well as scarves tied in an ascot fashion are helpful in covering a Milwaukee style ring.*