



**CHU
Sainte-Justine**
Le centre hospitalier
universitaire mère-enfant
Université 
de Montréal

Scoliosis Bracing: How Does it Work?

Brochure for clients who have to wear an orthopaedic
brace to treat a spinal deformity





**You just got your brace
and all sorts of thoughts
come to mind.**

**Take comfort in the fact
that you're not alone.**

**We hope to help you with
some explanations!**

What is scoliosis?

Scoliosis is a deformity of the spine and rib cage. A deformed spine looks a little like a spiral staircase. It's a sideways curvature caused by a general rotation of the entire spine — a bit like twisting the spine. This is often referred to as an S- or C-shaped spine. In addition, there is a rotation of the vertebrae, which can be mild or severe and causes a deformity of the ribs in the rib cage. This partly explains the thoracic hump (bump in the upper back) and the lumbar hump (in the lower back). These humps are due to the displacement of the muscles above the vertebrae. This condition is not caused by poor posture or by carrying a school bag. The greater the deformity of the spine, the greater is the degree of scoliosis. For example, if the deformity is less than 10 degrees, it isn't seen, but with greater degrees of deformity, it becomes more noticeable (see Fig. 1).

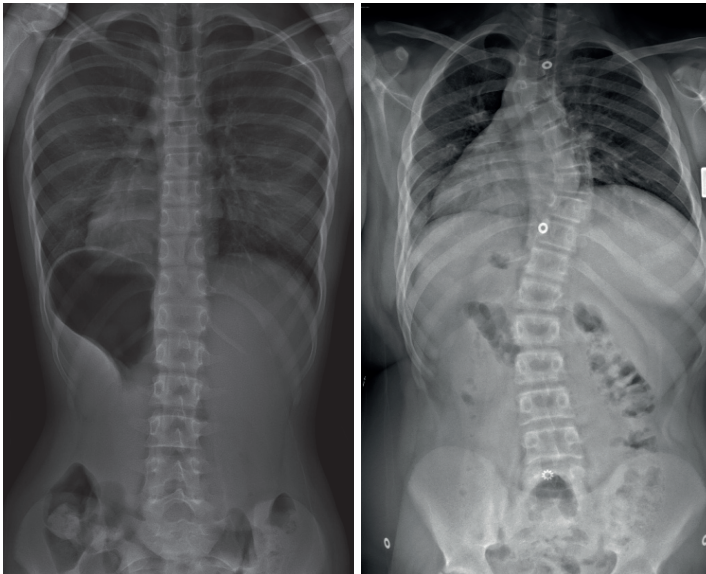


Fig. 1 | 0 degree • Normal spine

35 degrees • Spine with scoliosis

How common is scoliosis?

- Scoliosis affects 2-4% of the population.
- 5 out of 1000 people will have scoliosis greater than 20 degrees (Fig. 2).

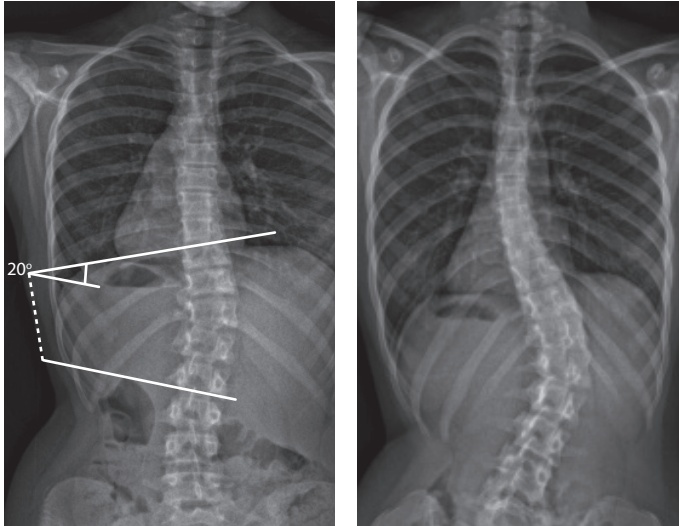


Fig. 2 | Examples of X-rays of spines with scoliosis.

- 1 person out of 1000 will have a scoliosis of more than 40 degrees.
- Among adolescents, as many girls as boys have scoliosis of less than 10 degrees.
- There is a higher proportion of girls with more severe scoliosis than of boys.
- The risk of curve progression is 50% if an adolescent girl has not yet started menstruating, and 20% if she has.
- The onset of menstruation usually indicates that the adolescent is completing her growth spurt and that the rapid progression of scoliosis is about to end. In boys, it's often the change in voice that indicates the end of the growth spurt.

I've been diagnosed with scoliosis. What are my treatment options?

Scoliosis of less than 20-25 degrees does not require orthopaedic treatment, even in a growing child. Regular clinical follow-up with X-rays will be done until growth is completed. In addition, physical therapy treatments for global postural re-education (GPR) may be prescribed or postural exercises may be suggested.

When scoliosis is progressive or if the curve is 20-40 degrees in a growing child, the rigid brace is the most effective orthopaedic treatment.

The brace is 72% effective when worn as specified by medical recommendations. It's usually worn 20 to 22 hours a day. At night, only the night brace is worn (while sleeping). The brace treatment ends when growth is completed.

How do you adapt to wearing a day brace?

Step 1

Day 1. When you get home, put on your brace (Fig. 3) for one hour only, then take it off. Check the condition of your skin. It's normal to see areas of redness on the waist and hips where the brace is positioned. The areas where the bones are closer to the skin are sensitive and need a little more attention. After 30 minutes, you should normally be able to put the brace back on for another hour. If the brace hurts, wait a little longer before putting it back on. It's normal to feel uncomfortable at first, but eventually you'll get used to it.



Fig. 3 | Example of a brace prescribed for patients with a spinal deformity.

Step 2

Day 2. When you get home from school, put on your brace and wear it until dinnertime (+/- 2 hours). Then take it off for dinner. Put it back on an hour later and wear it for another 2 hours. Take it off for 30 minutes to make sure there is no damage to your skin (significant redness that remains for

several minutes after removing your brace). If all is well, put it back on until bedtime. Continue this process until the next day off from school.

In the summer, because there is no school, you can gradually increase the number of hours you wear it, always allowing time to check your skin.

Step 3

Days 3 to 7. When you get up, put on your brace and wear it for 3-4 consecutive hours, with 30-minute breaks between each time. At this point, you'll begin wearing your night brace. Despite the initial discomfort, wearing the night brace will become more natural.

Step 4

By the beginning of the second week, if all is well and you feel comfortable, start wearing the brace to school. Each day, increase the number of hours to reach the goal of your medical prescription. At this point, be sure to tighten the straps to the line marked by the orthotist.

How do you start wearing the night brace?

Step 1

The first night, put on your brace (Fig. 4) just before you go to bed. Try to wear it for as many hours as possible without tightening the straps to the line marked by the orthotist. Continue until you can wear the brace all through the night. This should take 3 to 5 days.



Fig. 4 | Example of a night brace prescribed for patients with spinal deformity.

Step 2

Now that you're able to wear your brace all night, adjust the straps to the line marked by the orthotist.

What are the general instructions for wearing the brace?

Your brace will be much more effective if you wear it according to your doctor's instructions. Your orthotist will make sure your brace fits properly and will not hurt you, but you are now responsible for its effectiveness, based on the number of hours you wear it. Here are some instructions to help you wear your brace better:

- ▶ It is important to always wear a cotton camisole or t-shirt under the brace. Ideally, this garment should:
 - › Be snug enough not to wrinkle under the brace.
 - › Be long enough to go beyond the bottom of the brace.
 - › Have as little slack as possible (not be baggy), which could cause irritation.
 - › Have as few seams as possible. If there are any, turn the garment inside out to wear it.
- ▶ Watch the video: chusj.org/physio-ortho



What's next?

Some practical advices:

- ▶ Don't be discouraged if you find it hard to wear the brace at first; it will quickly become a second skin.
- ▶ It's normal that you don't want all your friends to know about your treatment. Choose a friend who you feel comfortable with and who can help you put your brace back on if you're having a hard time with it.
- ▶ Don't be ashamed to share your feelings about your brace. Your parents, friends and the scoliosis clinic staff are there to help you. You may also want to write down all your observations and feelings about your brace so you can discuss them with your orthotist, doctor, nurse or anyone else who can support you.
- ▶ If you feel you can't tolerate it anymore, give yourself a break for a few hours. If nothing else works, ask your parents to make another appointment with your orthopaedist.
- ▶ If you have skin rashes that appear after a while on the support areas of the brace, contact the orthotist who made your brace to check the fit. You can rub the reddened skin with a little alcohol. This can help dry the skin.

- Velcro straps have a life span of 3 to 6 months. When you see that they are no longer gripping properly, contact the orthotist to get new ones. They can be sent by mail.
- Sports and physical exercise are possible and even recommended. You can remove your brace at any time if you can't practice your sport with the brace on. All sports are allowed. There are no restrictions. Don't hesitate to try your activities while wearing your brace; you might be surprised at what you can accomplish while wearing it.
- Never wear your brace if it's wet. Dry it before putting it on, either with a dryer, using cold air, or simply by wiping it dry with a clean cloth.
- Take a bath or shower every day, unless you have been given other medical instructions. Don't wear your brace while bathing, showering or swimming.
- Don't use creams, lotions or powders under the brace as they soften the skin and increase the risk of irritation at friction points.

How to maintain the brace?

The brace should be cleaned regularly with a mild soap (dishwashing liquid) and dried with a clean cloth. If you use a hair dryer, be sure to use it at the cold setting, as heat could damage the plastic of the brace. If you have a problem, you can contact the orthotist at any time. It is recommended to wash the inside of the brace with rubbing alcohol every week to remove bacteria that may have accumulated.

How to put on the brace?

Here are some guidelines for putting on your brace properly.

Day brace

- Always put on your brace while standing;
- Place the brace 1 to 2 centimetres below the shoulder blade.
- While seated, with your weight on your thighs, you should be able to fit a finger underneath the brace.

Night brace

- Always put on your brace while lying down.
- Centre the opening at the front of the brace at the pelvis.
- Position the brace on your waist, above the iliac crest (the hipbone).

When is your next appointment at the Scoliosis Clinic?

- ▶ Brace-wearing follow-up with the orthopaedist is done approximately every 6 months.
- ▶ If you think your brace has become too small, it's best to contact the orthopaedist before your appointment.
- ▶ The day before your appointment, don't wear the brace until your visit with your orthopaedist (the surgeon who sees you in the clinic) and your orthotist (the one who makes your brace). This will give you a better idea of how your scoliosis is progressing.
- ▶ You should always bring your brace with you to your appointment with your orthopaedist. This way, they will be able to check if your brace is properly adjusted.

For more information

Nurse clinician at the Scoliosis Clinic:

julie.joncas.hsj@ssss.gouv.qc.ca

Orthotist:

Orthèse Prothèse Rive-Sud, 450 672-0078 (Lemoyne)

Orthotist:

Orthèse Prothèse Rive-Sud, 1 800 363-9406

CHU Sainte-Justine Appointment Centre:

514-345-2141

<https://www.srs.org/patients-and-families>



Diary

In this diary you can express, without restriction, all your observations and feelings about your brace.

The comfort of the brace, the limitations of your activities and your appearance are items that we could discuss and that are of great concern to us.

We suggest that you complete your diary every day so you don't forget any important details that could help us modify and improve your brace, as based on your comments.

Often a picture is worth a thousand words... Feel free to make any sketches that might express what you want to say.

Points to remember

- ▶ Number of hours you've worn your brace
- ▶ How do you like your brace?
- ▶ Your feelings about your brace
- ▶ Pain:
 - › Describe the site of your pain;
 - › On a 10-point scale (10 being the worst pain you can have and 0 being no pain), how much pain do you feel?
- ▶ Activities you do with your brace;
- ▶ Your limitations;
- ▶ Desired improvements;
- ▶ Any other comments?

Références

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2. Hresko MT. Clinical Practice. Idiopathic Scoliosis in Adolescents. *N Engl J Med.* 2013 Feb 28;368(9):834-41. doi: 10.1056/NEJMcp1209063. PMID: 23445094.

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