

# A



# Fairytales Handbook

Scoliosis: information and advice  
for kids (and parents)

COLOURING  
BOOK

ILLUSTRATED  
BY  
Cery



Written and printed by Isico Illustrations by Cevì

First edition May 2016 [en.isico.it](http://en.isico.it) – [isico@sico.it](mailto:isico@sico.it)


© 2016 Isico – This booklet is available under the CC-BY-NC-ND license

# A FAIRYTALE HANDBOOK

Scoliosis: information and advice for  
curious kids  
(and for Mums and Dads too!)

*For all our young patients*

This morning, when Fairy Vertebra looked at herself in the mirror, she noticed that her back didn't look quite right. She frowned, which made her look quite different from her usual happy self! Worried, she looked hard at her reflection: her back was bent! And she didn't understand why.

Her woodland friends couldn't help her either. She asked the elves, goblins, dwarfs and unicorns, but they didn't know what the problem was: they all had suggestions to make, of course, but no one really had the answer. Even the "Great Book of the Forest" wasn't much help. It just said that a "bent back" is called **scoliosis**  <sup>ABC</sup>, a word that Fairy Vertebra had never heard before.

The Fairy Queen, who is the wisest one of all, told her it would be best to go and see Doctor Bones at ISICO, and so she did. And he used that very word to describe her curve: scoliosis!



Doctor Bones looked kindly at Fairy Vertebra through his thick glasses and started to answer her questions.




Whenever you see this symbol, turn to the last page and find out a little more.



## What is scoliosis?

Well, Fairy Vertebra, the thing is, although it doesn't hurt, I can see that your spine  bends to one side. You need to understand that in everyone's back, and in every fairy's back, too, there is a line of small bones, called vertebrae. When these bones are properly arranged, in single file, your spine is nice and straight. But sometimes some of them move to one side a bit, and this makes your spine change shape. When they are out of line like this, they form a curve of the spine that we call scoliosis. When the bones move to the right, the curve is right sided and, to use the proper term, we call it a "right convex" curve. Scoliosis can appear at any age, **the important thing is to spot it, and doctors like us can do that by examining you and doing an X-ray**  of your **back** (an X-ray is a sort of photograph that gives us lots of information). But the little bones in your spine don't only move sideways, they also rotate. When this happens, you get what we call a

hump , which is like a little hill that appears on your back; it is most noticeable when you bend forwards.



Make sure you ask Doctor Bones' friends at ISICO to explain exactly what kind of curve or curves you have, and all about the best treatments for you!





If you already have X-rays of your back that you have done in the past, you'll need to bring them along. We will use them to check how your back changes as we treat you.

“Idiopathic” scoliosis is a rather clever term that we doctors use when we don't know exactly what has caused the problem.

But there are things we do know! First of all, we know that it is wrong to say that scoliosis is just bad posture; in people with scoliosis the vertebrae are actually in the wrong position, which alters the structure of their spine. Second, we know that scoliosis is not caused by carrying or wearing your school backpack the wrong way. We also know that 3% of kids have scoliosis, girls much more often than boys, and that sometimes more than one person in the same family has scoliosis.



Why do you treat scoliosis, even though it doesn't hurt?

Scoliosis is like a treacherous, dangerous dragon, Fairy Vertebra, you never know exactly when it is going to attack. Scoliosis can, in fact, get worse as you grow, especially during early childhood and during puberty, which is the time (from around 10 to 14 years of age) when you grow the most.

If your scoliosis measures more than  $30^\circ$  when you have stopped growing (at around 16–18 years of age), then there is still a risk that it may progress (get worse) in the future; if it measures more than  $50^\circ$ , then it is very likely to get worse.

This is why it is so important to treat scoliosis before it gets that bad. Treating scoliosis is like taking that dragon prisoner and making sure you are safe from its fiery breath!



As I say, Fairy Vertebra, you must get treatment, because scoliotic humps and curves can get more noticeable over time. If you don't treat your back properly now, then when you are older your scoliosis could start to be painful, too. Also, you might not like the way your back looks.

If your scoliosis is very bad, you can decide to see a doctor who will give you a brace to wear. Putting on a brace is like putting on shiny armour to fight the dragon! Using a brace may not completely correct the shape of your back, but it can stop your problems from getting worse, or at least slow them down.



Let me put it like this. Imagine a river that is filling up with water. We need to build strong riverbanks to stop the water from escaping and causing problems. It's the same with scoliosis. If everyone does all they can (doctors, physiotherapists, orthopaedic technicians, Mum and Dad, and you!), and if your scoliosis does what it should, too, then problems can be prevented and you can grow strong and healthy.



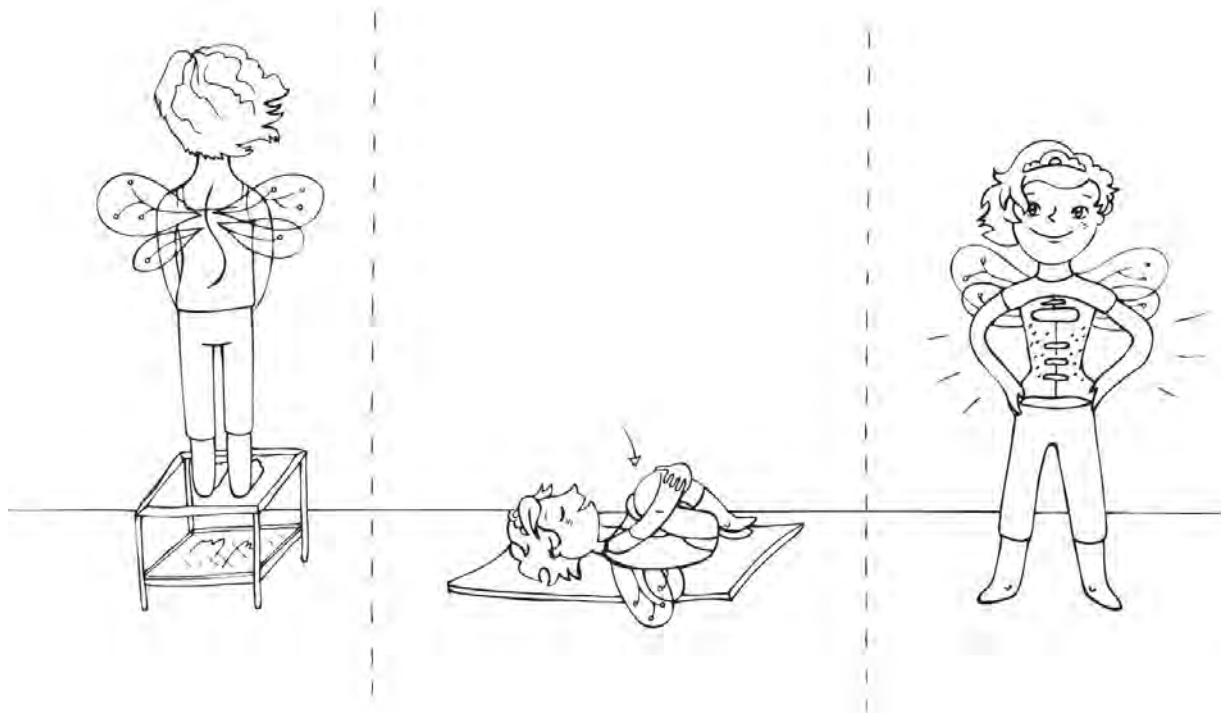
Don't forget, WE WANT YOUR BACK TO LOOK GOOD AND, EVEN MORE IMPORTANT, WE WANT IT TO WORK WELL TOO!

# What happens next, Doctor Bones?

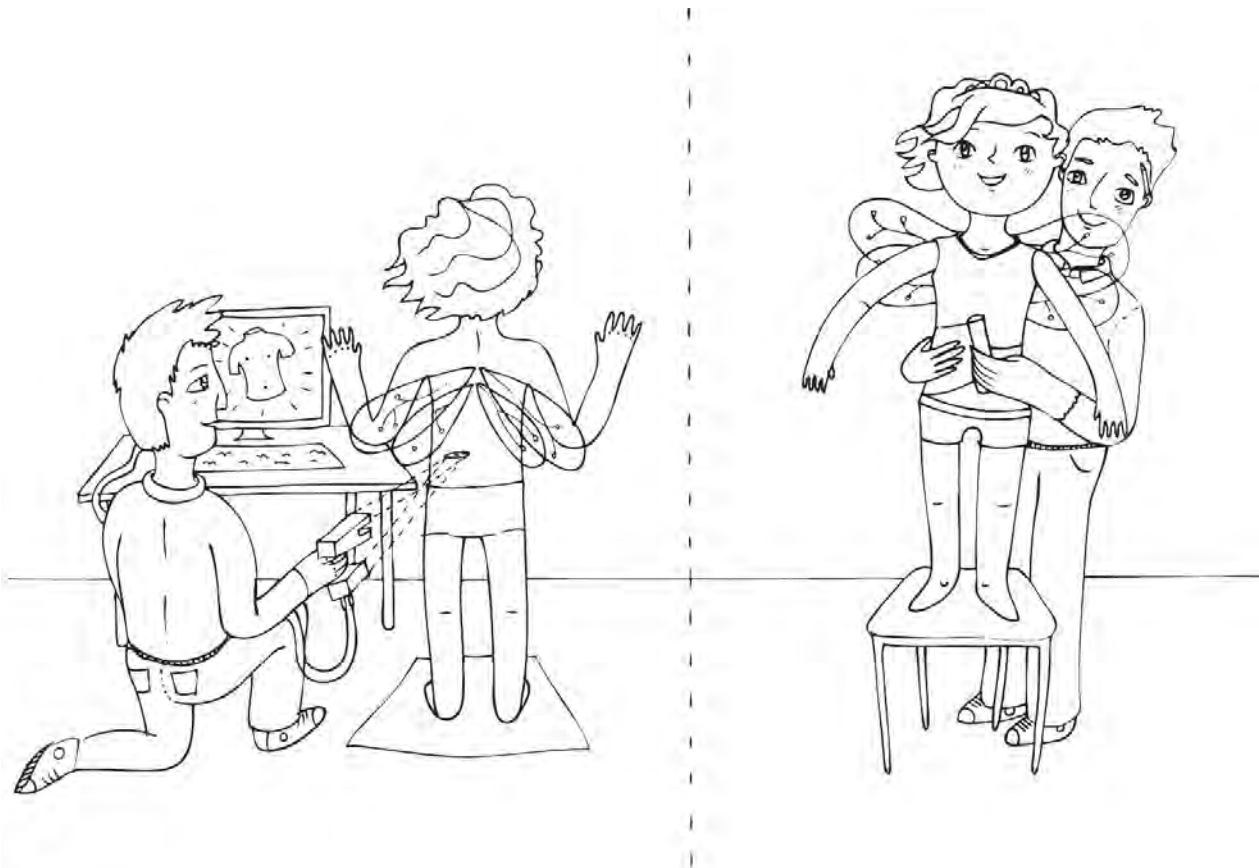
It depends on your back, really. There are several possibilities.

- We might decide it's enough just to keep an eye on you. If so, we will see you every so often to check how you are growing, and we won't do anything until we think it is the right time for you!
- We might decide you should do some special exercises (SEAS  ABC exercises work well for scoliosis). If so, our therapists will teach you self-correction exercises  ABC.
- You might have to wear an elastic brace (called Spinecor), or a rigid or super-rigid brace (such as the Sibilla, Lapadula or Sforzesco braces, although there are others, too). At ISICO, we don't use plaster casts anymore. Instead, we have a brace, called the **Sforzesco**, which is as strong as armour and offers exactly the same benefits as a plaster cast, but luckily it can be taken off. In other words, Fairy Vertebra, you will be able to wash your back every day and also swim in the Enchanted Lake in your favourite costume!

We will always be here to give you advice, telling you how many minutes of exercises you should be doing each day, and how many hours you should be wearing your brace. Both these things will depend on how your scoliosis is doing. For some time, your back will need to be guided as it grows. It's important to remember this, and follow the advice you are given. That way, later on, you won't need support for your back because it will be able to hold itself in the right position. This is important both for your back, and for you!



If I decide you need to wear a brace, the orthopaedic technician will measure you up and make one especially for you, like armour for a very brave warrior! Then I will check it to make sure it fits you like a glove. If it does, you'll be able to take it home with you. You will soon find it is your greatest friend!





**A**fter that, you will come back and see me every 4-6 months or so.

Remember, if there's anything you don't understand, you can ask me all the questions you want, just like you have today.

At the beginning of the treatment, we will take an X-ray of you with your brace on. Four or five months later, we will take another one, this time without the brace. After that, we will X-ray you once a year, each time without your brace.



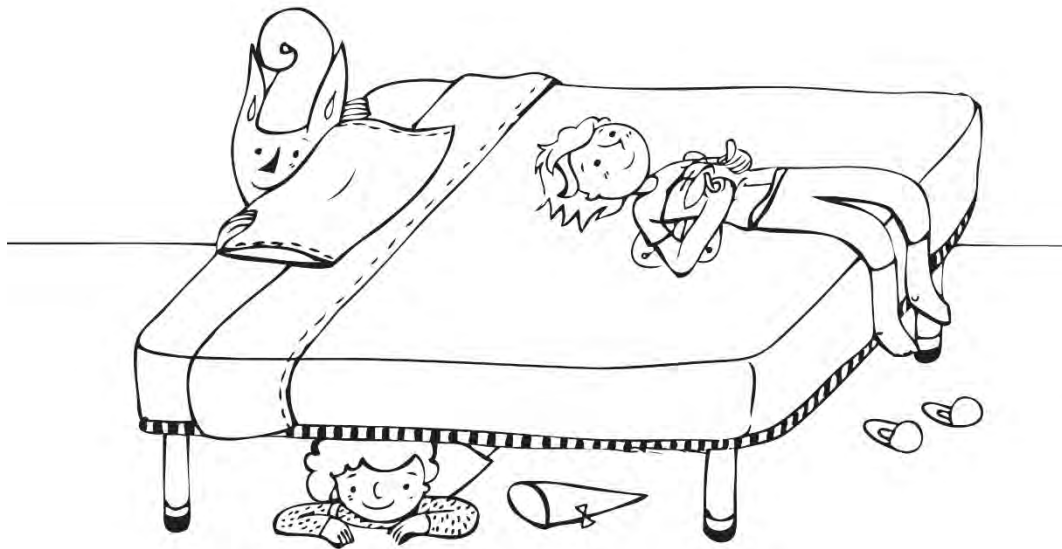
## When can I stop wearing a brace altogether?

**W**hen we doctors say it is time, you will start wearing your brace less and less. Then, at a certain point, you will be able to wear it just at night. Finally, we will tell you can stop wearing it altogether. It's difficult to say how long you will have to wear it for. It depends on how long it takes those little bones in your back to finish growing and getting strong, and also on other things, too. **But we will be looking after you all the time, until your back is ready.**



## What position should I be in to put my brace on?

If you are at home, you can put your brace on while lying flat on your back on a bed. Be sure to tighten it as far as the marks we have made on the closing straps! Lying flat stretches your spine and this helps your brace to work better. When you aren't at home — when you're at school, for example —, you can also put it on standing up. It's quite easy and you won't need any help.



## Why do I have to keep it on for such a long time?

It is important that you keep your brace on for as long as you need to. You might even need to wear it for 23 or 24 hours a day.

The number of hours you wear your brace will be reduced bit by bit, as this is the only way to make sure the treatment works properly.

The time you have to wear your brace each day will depend on your scoliotic curves and on the risk of your scoliosis progressing (getting worse). If you have scoliosis the delicate bones in your spine can get more and more out of position as you grow, making your spine more deformed. The brace supports your back and helps to keep your vertebrae in line. Remember to keep it on at night, too!

It might feel strange for the first few days, but you will quickly get used to it. You'll soon realise that you are more comfortable when you are wearing it than when you are not.



## What happens when I grow?

**W**e give you a new brace! The first brace we give you is usually the one that causes the most noticeable change in the shape of your back and chest, and after a few months you might need a new one.

When deciding if it is the right time to give you a new brace, we look at how much you have grown: how much heavier or taller you have got, and how much your chest and pelvis (hips) have grown. The decision can also depend on the type of brace you wear.



Will other kids make fun of me in my brace?

**A** little Wizard who wore a brace — I think his name was Merlin — once told me: “I look stiff, like a robot, and if you touch me you can tell that I am wearing a hard shell, like an old tortoise’s shell. Most of my friends don’t have to wear one, but **my brace protects me and makes me feel stronger!**”.





And if you wear it, Fairy Vertebra, you will grow into a beautiful fairy, just like Tinkerbell!

If you explain all about your brace and why you wear it, your friends won't make fun of you. You mustn't ever be afraid to talk about it.

You will find lots of people who are kind to you, and you will also meet others who wear a brace, just like you.



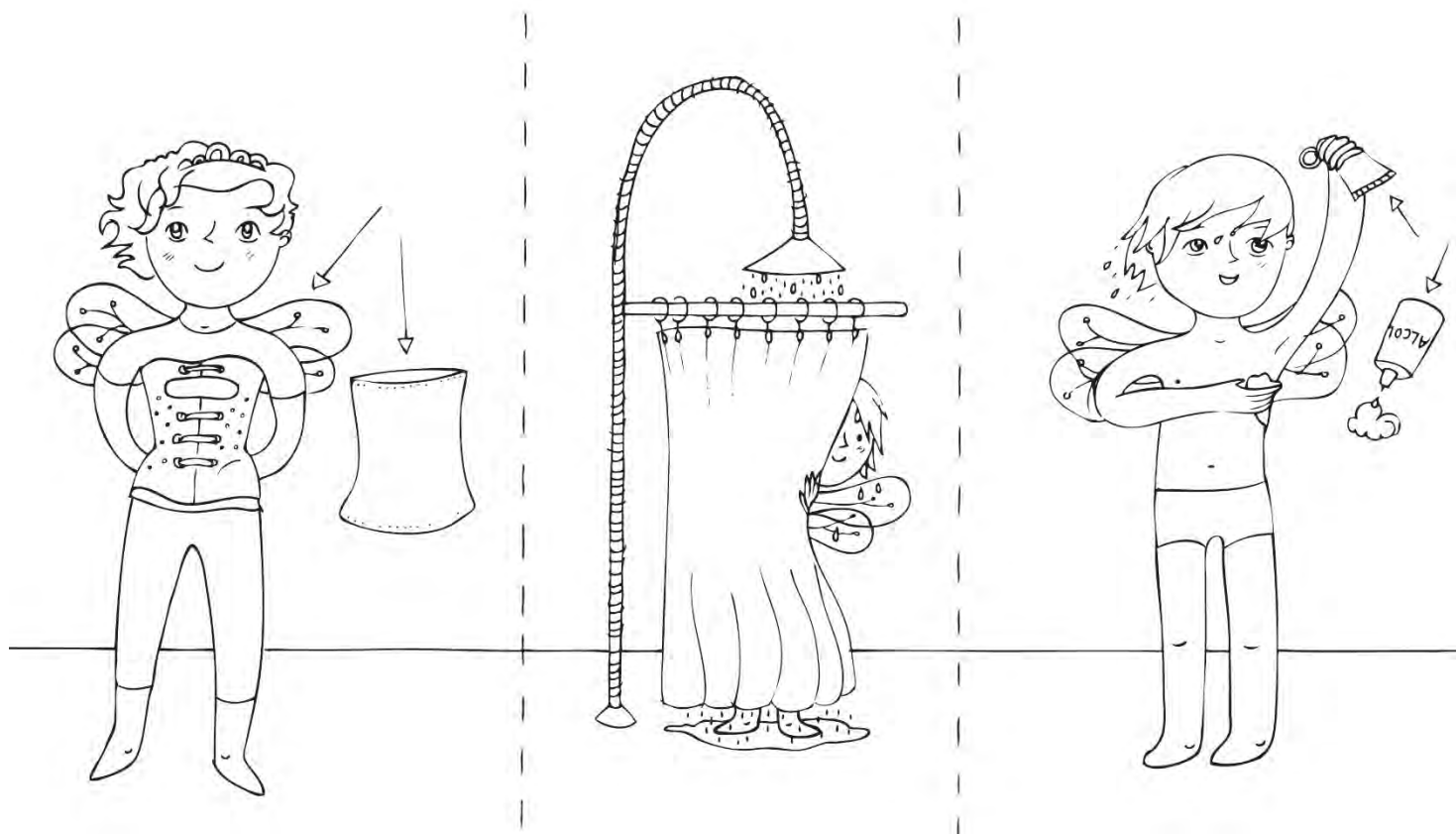
## How should I look after my skin?

To protect your skin, it's a good idea to wear a cotton t-shirt under your brace. Make sure it doesn't have any thick seams. If you prefer, we have some special fabric tubes you can wear for protection.

Proper daily hygiene is really important, too, especially in hot weather, when you sweat more. So, **have a shower or a bath every day.**

If your skin becomes inflamed (red) in places, don't put moisturiser on it. Instead, dab the area with surgical spirit (a type of alcohol) or apply a zinc-based cream.

If any little cuts or wounds form on your skin, come and see me or send me a message and I will tell you what to do.



## Do I have to follow a special diet?

**N**o, you can eat anything. No food is forbidden! You just need to remember that whenever we eat, our stomach gets full and needs a bit more room. **You can loosen your brace a bit at lunch and dinner. It is also a good idea to have smaller but more frequent meals.**

Don't forget, always drink plenty of water and try not to have too many fizzy drinks.



## Do I have to give up sport?

**A**bsolutely not! Sport is very important. We want you to grow strong and agile, Fairy Vertebra, so that you can run in the woods with all your friends!

Choose the sport you like best and do it with or without your brace on, depending on how many hours you are allowed to go without it. Sport is important because you need strong muscles to support your back, both now and later on, when you've finished wearing a brace.





## Do I have to do physiotherapy?

Yes, we will prescribe it for you.

Just like sport, physiotherapy exercises help to keep your muscles working. Sport is important, but it isn't just for your back. Instead, the physiotherapy that we suggest is a SPECIFIC treatment for your scoliosis.

We show all our patients, both the youngest and the older ones, exactly what to do: our physiotherapists show our youngest patients games they can do at home with Mum and Dad to make their trunk muscles strong, while they teach older patients self-correction exercises, that is, a set of movements to correct the curves and help put the spine back in the right position.



Even if you live a long way away, it isn't a problem. We will make sure you understand everything, and then you can do the exercises at home with Mum and Dad. We will see you regularly to change your exercises a little, or choose some new ones.



## Do people with scoliosis have operations?

If scoliosis is very severe, an operation is sometimes necessary to fix the spine in position using rods and screws attached to the vertebrae; after the operation, the part of the spine operated on will be rigid.

If you don't follow all the instructions you have been given about your treatment (what to do and when), then your scoliosis can get worse.

That's why it is important to do your exercises properly, exactly as you have been shown, and wear your brace all the hours your doctor tells you to.

Unfortunately, scoliosis can be really mean, and get a lot worse anyway, even when you have worn your brace and done everything you were told to do. If that happens, you might need an operation.

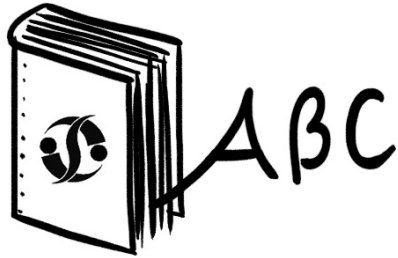


Fairy Vertebra, I'm afraid the magic in your wand isn't enough to treat your back, but you can be sure that, if we all work together, we will manage to help you grow in the best possible way.

And when you've finished with your brace, you'll be ready to fly off on new adventures with your wings well positioned on your lovely healthy back!

**HAVE A GREAT TRIP!**





USER INSTRUCTIONS:  
THE ISICO WORDBOOK



**Scoliosis:** Scoliosis is a deformity of the bones of the spine and trunk. The spine, seen from the front and from the back, is curved instead of straight, and the vertebrae are rotated. The word “scoliosis” comes from the Greek “skolíosis”, which means ‘bending’.

**Spine:** Also called ‘spinal column’ or ‘backbone’, your spine supports your body, just like the pillars of a temple. It is made up of bones called vertebrae.

**X-ray:** This is a photograph that, using X-rays, shows us the bones in our body. Doctors can see on X-rays whether you have scoliosis or not.

**Hump:** In scoliosis, rotation of the vertebrae causes a protuberance (or bump) to appear on your back. This is called a hump and it is most noticeable when you bend forwards.

**SEAS:** This stands for Scientific Exercises Approach to Scoliosis. It is the name of the type of exercises that ISICO has developed and recommends for people with back problems, including people with scoliosis. The

physiotherapist chooses the exercises that the patient will do at home with the help of Mum and Dad or, if they are older, by themselves.

**Self-correction:** This term refers to a set of small movements of the spine that the patient is taught to do. These movements can help to correct, as far as possible, his or her curving back. Is your back curved to one side because of scoliosis? Self-correction is a way of teaching your body how to find its right balance again.