



LIFE AFTER Scoliosis treatment



isico's ADVISE

Written and printed by Isico

Illustrations by Cevì

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en.isico.it - isico@isico.it

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BYE BYE BRACE!



Scoliosis treatment has been a major part of your life over the past few years, especially if you have needed particularly aggressive therapy. It has demanded commitment and sacrifice. You have had to follow a long programme of exercises, and many of you will have had to learn to get along with a particularly annoying friend: your back brace!



But it was always going to come to an end. And now it is finally time to say goodbye to the annoyance of your exercises and your brace, and continue your daily life on your own, without their support.

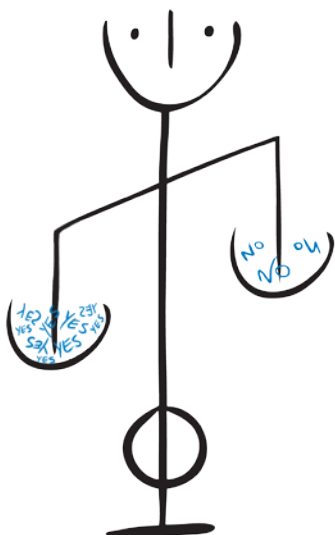
At this point, although **you are naturally going to enjoy feeling lighter and freer than before**, you will also find you have **lots of questions** springing to mind. You may even have so many questions and doubts that the future suddenly starts to look more complicated and less rosy than you expected it to be, and this might make you feel anxious.

CAN I DO ABSOLUTELY ANYTHING?
CAN I NOW CONSIDER MY BACK
JUST THE SAME AS
OTHER PEOPLE'S OR
WILL I HAVE TO GO ON GETTING TREATMENT
ALL MY LIFE?
ARE THERE SPORTS THAT I CAN AND CAN'T
DO?
WILL I GET BACK PAIN?
CAN I DO ANY
CAN I HAVE CHILDREN? JOB I WANT?

Our aim is to give you answers to these questions — and we mean proper answers based on the latest scientific evidence, and certainly not on “hearsay”, theoretical reasoning, or what the textbooks were saying years ago (which, instead, is what you might get if you seek advice from someone who has not been able to keep abreast of the latest developments in the field).

This booklet is intended to help you understand the many things that you can do, and the few things that you mustn't do, if you want to be sure of managing your scoliosis effectively in adulthood. We will explain the reasons behind all our suggestions and advice, in the hope that this

will help you avoid possible errors, and spare you, and your family, unnecessary worries.



Obviously, all the advice we set out here constitutes general advice that, as such, needs to be adapted to you specifically: this is something we can do with you, through one-to-one contact with your ISICO therapist.

Be aware that scientific knowledge is increasing and changing all the

time, and therefore that advice given now might not always be considered valid. This is what makes **it is so important for people with health problems to have regular checkups at specialised centres, like ISICO**. This is a particularly important consideration for you, given that scoliosis in adulthood is a field in which we have been learning more and more in recent years.



ANATOMY, OR THE STRUCTURE OF THE SPINE

The spine is made up of numerous small bones (vertebrae) stacked on top of one another. Unlike what we find in most other parts of our body, for example in our legs and arms, in our back we don't have one long bone providing stability; instead, each vertebra simply rests on (and engages loosely with) the one below. This arrangement allows the trunk to move in all spatial directions, but it means that the spine requires the support of certain structures, in particular ligaments and muscles, to give us the stability we need to be able to cope with daily activities.

This is particularly important, and harder to achieve, in individuals with scoliosis, a condition characterized by twisting of the spine in the three planes of space. In the presence of scoliosis, the spine bends to one side (this is clearly visible on X-rays); it also rotates (this causes the development of a "hump"), and it loses its normal sagittal curves (or lordosis and kyphosis).

Anyone affected by scoliosis (youngsters as well as adults) will spontaneously lean in the direction of their scoliosis curve, often without being aware they are doing so. All adults, of course, naturally tend to assume a more forward-bent posture as they age. **But in a person with scoliosis, this is accompanied by the tendency to bend in the direction of the scoliotic curve.** Therefore, for a series of biomechanical reasons, the tendency to grow bent will appear earlier and be much more pronounced in individuals with scoliosis.



SCOLIOSIS: THE 3 LEVELS OF TREATMENT



As you know, the scoliosis treatment plan you followed while growing up was based on the use of techniques designed to limit any worsening of the condition, thereby making you less likely to become increasingly bent and giving you better stability.

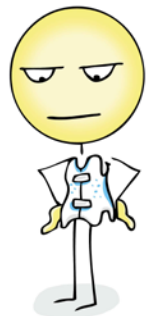
exercises

Exercises are certainly **the least invasive treatment** available: once the spine, thanks to the “active” intervention of muscles and the nervous system that controls them, has been moved into the position representing the best possible level of correction, exercises are used to **improve the individual’s ability to maintain this position** in all daily activities.



BRACING

A brace corrects the position of the spine and gives it stability, and it continues to work all the time it is being worn. A brace provides passive correction, but does not improve muscle tone. That part is up to the patient: muscles can be trained actively through specific exercises and sport.



SURGERY

With surgery, both correction and stability of the spine are guaranteed, thanks to the placement of fixation devices (rods, screws, and so on). The downside is that the patient loses (partially, and in some cases totally) the ability to move the part of the spine that has been operated on.

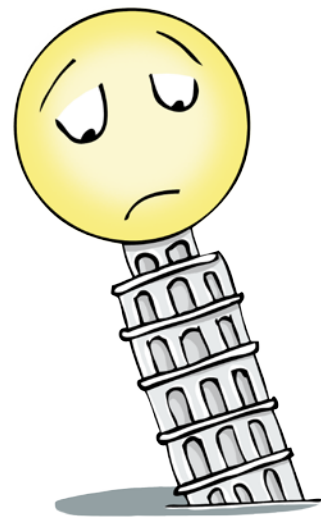


WHAT TO EXPECT AFTER TREATMENT

SCOLIOSIS CAN GET WORSE IN ADULTHOOD

Unfortunately, regardless of whether you only had exercise-based treatment or wore a brace, if your scoliosis exceeds a certain threshold there is still a chance of it worsening in adulthood. This is because the spine, in the presence of a particularly pronounced curve, partially loses its natural ability to support itself. The scientific community has established that this risk is associated with a Cobb angle of 30 degrees or more, measured on X-rays. However, it is important to say two things in this regard: first of all, this is obviously not a clear-cut threshold, in the sense that it would be wrong to say that there is no risk in the presence of a curve measuring 29°, or that the risk suddenly appears when it reaches 30°. The fact is that the risk increases gradually until, at a certain point, it can be considered significant; furthermore, this threshold is also determined by other, individual, factors, which your doctor can explain.

All this can be explained in terms of what we generally call the “**Tower of Pisa effect**”. In other words, if the spine leans too much, it will tend to “give” more and more, but providing it remains within certain limits, it will continue to be stable, even if it does lean sideways at little. An individual with worsening scoliosis will show an increasing deformity, and will be more prone to developing persistent back pain. Anyone with severe scoliosis will be familiar with the very definite sensation of their back pulling them in a certain direction (the same direction as the curve), and they will say that their back sometimes feels “compressed” (such as when they are carrying heavy things, like shopping bags or suitcases); on the other hand, they will feel that they derive benefit from any activity that lengthens or stretches the spine, or that lessens the compressive effect, on the trunk, of the force of gravity. However, despite this, traction and passive lengthening must not be used for therapeutic purposes as they can aggravate scoliosis in the long run. The important thing is that patients, throughout their lifetime, implement various tricks to improve their spine’s capacity to support and stabilise itself, and avoid situations that will reduce this. Exercises and bed rest are the best answer.



HOW LIKELY IS IT TO GET WORSE?

Individual risk levels are difficult to establish. However, we know that the chance of scoliosis deteriorating is less than 5-10% in the presence of curves measuring less than 30°, rising to more than 90-95% for curves of more than 50°. The risk therefore increases sharply between these two thresholds. In reality, research data from the last few years have shown that it is not so much the extent of the scoliosis as **the loss of trunk balance in the sagittal plane, that is to say the tendency to lean forward, that has a negative influence** in terms of pain, spine function and quality of life.

TWO ALARM BELLS

bending Forwards

This is something that the people around you will notice before you do. If your family and friends keep remarking that you tend to bend forwards whenever you are tired, have done a lot of walking, or are in a hurry, **then you should have a checkup as soon as possible, and above all try to combat this tendency:** be sure to correct your posture and ask your family and friends to keep on reminding you to stand up straight. In adults scoliosis can modify the spine to the point that it becomes pushed forward. The sooner the tendency to bend forwards is spotted, the sooner the problem can be addressed, hopefully while the spine is still elastic enough for its balance to be recovered.



Feeling shrunken

A bent back will take a few centimetres off your height. And the more bent it gets, the shorter you will become. **A loss of height is the second important alarm bell.** Worsening scoliosis is not necessarily accompanied by pain or other signs, but if you start to realise that you are no longer able to reach high shelves, or if you are feeling increasingly “shrunk”, then you need to have a checkup and possibly an X-ray.

Obviously, we all become a few centimetres shorter as we get older, but scoliosis can make this happen more quickly. It is particularly useful to ask someone of a similar age to you (partner, friends) what they think. After all, they will be going through the same ageing process as you, and they might have become aware that you are losing height more quickly than them.

DO! OR how to help your Trunk Remain supported and stable



Do regular physical activity: at least an hour, twice a week. Choose a sport you like. Don't be conditioned by the various false beliefs and preconceived ideas you come across. Scoliosis is a relatively rare disease, and only an expert really knows how best to manage it. For this reason, it is better not to tell people who aren't experts that you have scoliosis, because the advice they will give you is more likely to be wrong than right, and it is not at all helpful to let yourself get confused. You will possibly encounter poorly informed instructors who will prohibit you from doing certain movements, and recommend that you do other specific ones. **But the truth is that there is no sport that can treat scoliosis, and no activity, other than the ones mentioned in this booklet, that will make it worse.** For example, if you swim, you might be told you should only do backstroke, because it will improve your scoliosis, and that you should avoid doing breaststroke, as it will make it worse. Neither of these things is true. If you do need to take any particular precautions, the doctors and physiotherapists at ISICO will be the first to tell you; otherwise you must simply assume that your back is no impediment to any activity! If you have any problems, doubts or questions, always consult the experts at ISICO. Also, during the day, make the most of every opportunity you have to get some exercise: use the stairs instead of the lift, leave your car at home and go on foot or by bicycle, for example.



Specific exercises. Specific exercises are necessary only if a doctor at ISICO prescribed them: they might be prescribed if your scoliosis has got worse over the years, or if you are experiencing pain or having difficulty with everyday activities. Your physiotherapist may also recommend that you continue, in your daily life, doing the self-correction exercises you learned during your treatment. If there is a very high risk of your scoliosis getting worse, you may be advised to do specific exercises as prevention. If you choose not to do these, it becomes even more crucial to respect the scheduled times for medical checkups; for someone whose scoliosis is getting worse, a checkup can be an important opportunity for planning a treatment designed to reduce the risk of further deterioration.



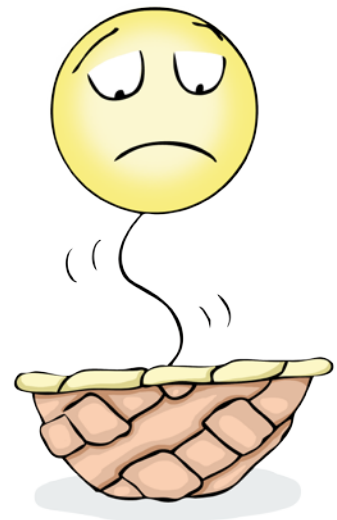
DON'TS! Activities that may destabilise the spine, and must be avoided



“Dangerous” sports. We said earlier that you are free to choose a sport you like. Well, this is true up to a point: **it is best to avoid activities that demand considerable mobility** of the spine, given that excessive movement of the spine means more stretching of the ligaments, which will make them looser. This is a potentially harmful situation if you have scoliosis.

When you are doing your chosen sport, avoid the regular repetition of exercises that take your spine to the end of its articular range of motion: for example, avoid bending your trunk sideways as far as it will go, and then straining to increase the movement even more. Similarly, avoid belly dancing, for example, and Latin-American dances involving frequent repetition of exaggerated sinuous trunk movements.

It won't do any harm if you do these things for a couple of weeks, while on holiday, for example, but **doing them** repeatedly (once or twice a week say) **over longer periods of time could be risky.**



Spinal manipulation. Possible treatments for low back pain include spinal manipulation, usually proposed by doctors/physiotherapists or by chiropractors/osteopaths. By “manipulation”, we mean those sharp and rapid movements (known as “thrusts”) that usually produce an audible joint sound (popping or cracking). These manoeuvres can be harmful if performed repeatedly over long periods of time, although they can be useful for resolving a single episode of back pain. It is important to note that spinal manipulation should not be proposed as a way of “improving” scoliosis, given that, to date, there is no evidence in the literature that it is effective in this sense.





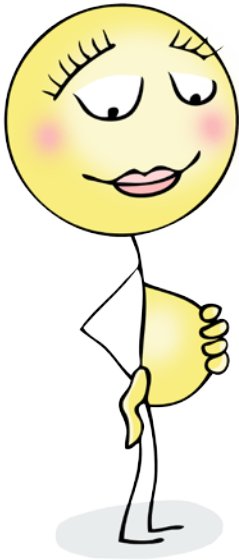
Vertebral traction. Although vertebral traction initially produces a sensation of spinal elongation, and thus of relief, it nevertheless has two potential negative effects: **vertebral traction, especially if performed intensively, can contribute to a lengthening (and therefore "softening") of the tendons, muscles and ligaments, which reduces their capacity to provide support.** Furthermore, once the traction itself is over, the spine will tend to "give" just as much as it did before, if not more so. **So, repeated traction therapy is out!**



I'M HAVING A BABY

Are you a woman with scoliosis? Well, there's no contraindication if you want to have a baby.

Pregnancy. When you are pregnant, your body naturally produces a hormone called relaxin, which has the effect of relaxing your pelvic ligaments in readiness for childbirth. It also "softens" your back. During the pregnancy itself, you will have no particular problems, as your uterus and its contents will support the spine and help to keep it stable.



After the birth, your back will remain very mobile for a few months, and this is when problems can start to arise. Indeed, your baby, no longer supporting you from inside, will start to place your back under some strain, as he/she will often be in your arms and will be growing increasingly heavy. This can cause scoliosis to worsen.

So, when you find you are pregnant, why not do what you can to be prepared, making the most of the months you have ahead of you before your baby arrives? Get in touch with ISICO and ask for a physiotherapist to draw up **an appropriate exercise plan, to be followed until you give birth.** This will allow you to prepare your back for the critical postnatal period.

Delivery. When you reach the end of your pregnancy, just like any other woman you can opt for a natural delivery or a caesarian section, depending on what your gynaecologist advises. In most cases, you can even have an epidural, providing you have had the go-ahead from the anesthesiologist.

Your baby's first year. As soon as possible after giving birth, start doing your self-correction exercises again, and continue doing them until your baby is at least a year old.

As your child grows. Scoliosis tends to run in families. Remember, too, that it can start at any age, so don't listen to those who tell you it is solely a problem of adolescence: it isn't! Indeed, precisely for this reason, **it is important to get your child checked out if you notice that, from a very young age, he/she constantly tends to assume a forward-leaning trunk and/or head posture.** In any case, have your child examined before he/she starts school, at the age of around 7 years, and then at the onset of puberty (breast development, appearance of body hair). Puberty brings the fastest growth spurt, during which there is a higher risk of scoliosis progressing.

Try to have the right attitude! Don't worry excessively about the possibility of your child having the same problems as you do, as this could make you unnecessarily alarmist. Equally, don't ignore the issue, convincing yourself that the risk will go away if you don't think about it.



TAKE NOTE



Scoliosis and pain

Pain can be felt at any point along the spine, regardless of where the scoliotic curve is located. **Those with a curve measuring less than 30° are no more prone to back pain than people with a normal, straight back;** beyond the 30° threshold, however, pain is likely to be experienced more frequently, and it is also more difficult to alleviate or eliminate when it does occur.

Pain can sometimes also mean that the scoliosis is getting worse, or indicate impaired trunk balance: **in the case of significant, persistent pain** (lasting longer than a month) or pain radiating to the lower limbs, **it is a good idea to consult your ISICO doctor**, who may order an X-ray and can work out the most suitable treatment for you.





Surgery

Scoliosis surgery is designed to stabilise the spine through the placement of special fixation devices (rods and screws) which block it in position and permanently curb the progression of the scoliosis curve.

When is surgery indicated in adults? It can be indicated in the presence of **a curve measuring more than 45-50° that is accompanied by significant pain** and disability and/or shows **considerable** and progressive **deterioration**, and when there is no response to conservative treatment prescribed by physiotherapists with specific expertise in the treatment of scoliosis, such as those who work at ISICO.



Medical checks

Like other chronic conditions, significant scoliosis in adults must be monitored over time through regular medical checks carried out by a specialist (once every two to three years) and X-rays (performed once every four to five years, or at other intervals as prescribed by the doctor).

If your scoliosis reaches 45-50° but you choose not to have surgery, these medical checks will need to be even more frequent; conversely, as long as the curve remains below 25-30°, they can be a little less frequent (however they are still necessary, because even though you are at much less risk of deterioration, if you turn out to be the one patient in a hundred who is an exception to the rule, then obviously it is better to discover this in good time). **The first “treatment” for scoliosis is to monitor in the situation over the years**, so as pick up on any changes. Don’t forget this! Also, keep in regular touch with your specialist, or physiotherapist; this will allow them to respond specifically to any doubts or queries you may have.

In any case, continue to follow the advice your doctor gave you at the time you stopped growing and your treatment came to an end.

By the way, unless the professional following your case notes down your measurements, he/she will not have any values against which to monitor your situation over time and therefore will not be able to tell you if anything has changed. It is worth remembering this!



A Few notes on ergonomics

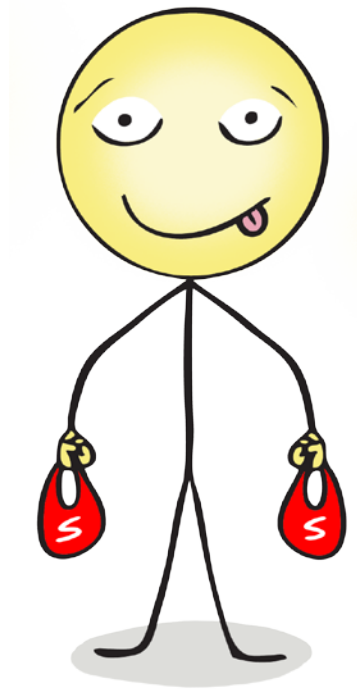
The most important rule is that you must “listen to” what your back tells you, which means keeping as active as possible.

Generally speaking, try not to stay still in the same position for too long; it is important to change your position frequently. In particular, **whether you are standing or sitting, avoid prolonged asymmetrical postures** (for example, don't stand with more weight placed on one leg, don't sit with your weight resting on one arm of a chair, and don't excessively rotate a page you are writing on).

When you have to carry heavy things, try and find ways of making this less tiring for your back, such as keeping the weight close to your body (it is better to use backpack than a bag), distributing the load evenly (e.g. two lighter bags are better than one heavy one), or using a trolley.

If you have a curve of 40° or more, **it is better**, when you are particularly tired, **to have a rest lying down rather than sitting down**: 15-20 minutes can be enough to rest your back sufficiently to allow you to resume your daily activities.

Don't be concerned that resting your back will make it weaker: you can rest your back more than once a day if this helps to keep you more active through to evening time. However, if you start feeling that you need to lie down more and more often, this probably means that your back is losing the ability to support itself properly. This ability can be improved by adhering to a specific exercise plan.

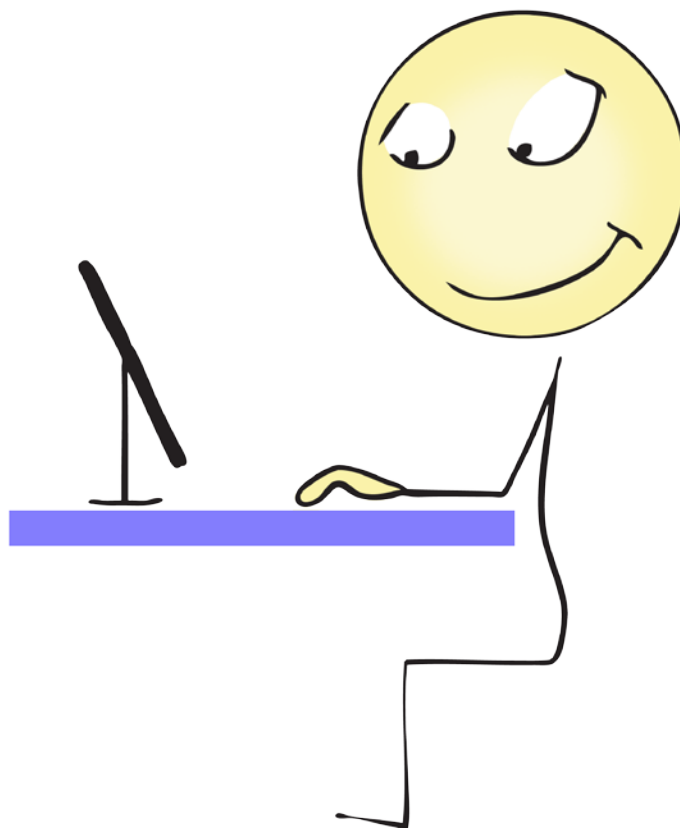


AND finally, some aesthetic considerations

Asymmetries and other imperfections caused by scoliosis are among the main reasons why affected adults decide to get examined by a specialist. But in actual fact, the golden window of opportunity for limiting these problems is adolescence, when the growing trunk is still malleable. In very early adulthood, bracing can sometimes still be used to make uneven hips and chest asymmetries less noticeable. Subsequently, however, surgery (providing it works) is the only way of achieving appreciable aesthetic results, but it is, of course, a far more invasive approach.

As you get older, exercises are the only thing that can help you. Indeed, a better posture, achieved by doing exercises, will improve the way you look. A hump — this is the term for the protrusion that develops on the back of a person with scoliosis as a result of rotation of the vertebrae and displacement of the ribs and back muscles — will be far more noticeable in someone who has a tendency to bend forwards. If this tendency can be reduced, it will appear less prominent.

It is important to underline that because the spine itself is partially deformed, **the scoliotic curve will be impossible to correct completely**. However, a good proportion of it is purely attributable to the force of gravity, and **this part can be corrected**. All asymmetries resulting from this yielding to gravity can potentially be improved.



HELP!

WHO CAN ADULTS WITH SCOLIOSIS TURN TO FOR ADVICE?

The demands of adult life are numerous and they change as time goes by. Therefore, there are no stock answers and solutions that suit everybody. **Systematic monitoring** of your scoliosis, according to the indications you were given by your doctor at ISICO, is **vitaly important, in order to give you peace of mind, but also the chance to seek advice and answers to the various doubts and questions that will crop up as you go through life:** this is the job I do, I want to try this sport, I've been thinking of doing that activity, these are the situations in which I find I get back pain ... what does all this mean for my scoliosis?

Another aspect to bear in mind is that **scientific knowledge evolves over the years**. The more things advance, the more we understand. **At ISICO we certainly do a great deal of research, and we are learning more and more about how best to help our patients.** Being in regular contact with our patients over time also helps us to be better informed and therefore better able to help them.



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ISICO – Istituto Scientifico Italiano Colonna Vertebrale

Cup 02.84161700 – Fax 02 91390842

E-mail isico@isico.it – www.isico.it

<http://www.facebook.com/isico.italia>