

Managing adult scoliosis with physiotherapy

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Adult idiopathic and degenerative (de novo) scoliosis

Scoliosis (curvature of the spine) in adults happens for two reasons. The first is that scoliosis started when the patient was younger (adolescent idiopathic scoliosis). It is known that some of the curves that occur in a growing child will continue to get bigger when he or she is an adult. Curves which are 50° or more once the patient is fully grown could increase in size by an average of one degree per year. Curves of less than 30° rarely worsen. This is known as the natural history, or what happens to the spine if no treatment is ever given.

The second is degenerative or de novo type of scoliosis, which starts after the age of 40 and is thought to be caused by arthritis or degeneration (gradual deterioration) of the spine, with uneven collapse of the discs and the facet joints (the hinge joints at the back of the spine) causing a shift in alignment leading to a curvature. Degenerative scoliosis can get worse over the years. Some people with degenerative scoliosis also have osteoporosis.

Since people with both types of scoliosis often also have arthritis, many will have back pain and muscle fatigue (when muscles feel weak, painful and tired), they may also have leg pain. Larger curves (over 40°) should be checked from time to time to see if the curve is getting bigger. Worsening of the scoliosis and/or osteoporosis will also cause a person to lose height, this is because the spine gradually slides to the side as well as forwards. The specialist will check the spine using X-rays, MRI scans, and possibly CT scans. This will help to see if

there are irregularities in the spine and around the nerve roots and spinal cord that could be affecting the spinal curve.

Adult degenerative scoliosis can be treated either conservatively (medication, injections, physiotherapy, etc) or with surgery. Surgery should usually be a last option if conservative treatment has failed and quality of life is very poor.

Physiotherapy in adults with scoliosis

Physiotherapists see many common problems and each patient should be assessed very carefully to see which areas it may be possible to improve with physiotherapy.

A good physiotherapy assessment should look at the following:

- Posture
- Muscle length
- Muscle strength
- Muscle control
- Range of movement
- Neurological (nervous system) involvement
- Gait pattern (pattern of movement of the limbs when walking)
- Balance
- Function (the special, normal or proper action of a body part or organ)

Posture and muscle length

Often someone with scoliosis will lean forwards and to the side either slightly or a lot. They will often try to avoid doing this, which can lead to slightly bent knees and the pelvis tilting backwards. This

can cause very tight muscles at the front of the hip as the muscles behind the thigh (the hamstring muscles).

Muscle strength and control

When checking muscle strength it is common for patients to have weak core muscles. Core muscles are the deep stomach and back muscles as well as gluteal (group of muscles which make up the buttocks) and pelvic floor muscles (muscles that support the bowel, bladder and womb). As a result of the changed posture caused by scoliosis the neck tends to stick out forwards causing tight muscles on top of the shoulders, and around the back of the neck leaving the deep muscles at the front of the neck very lengthened and weak.

Range of movement and neurological symptoms

One of the biggest reasons a patient will come to physiotherapy is because of pain in the back itself. This can be caused by the joints, the discs or by overtired muscles. The patient may also have leg pain or cramps. This could be caused by the nerves

being squashed, either in the spinal canal (the passage formed by the opening of the vertebrae through which the spinal cord runs), which is called stenosis, or where they exit the spinal canal. At times the nerves are tight in general and this can cause leg discomfort or pins and needles.

Gait, function, and balance

Physiotherapists often see patients who have problems with standing and walking. Often the ability to walk gradually gets worse and the distance gets less over time. Stiffness in the morning is a common complaint. The muscles can get tired so work less well during the day and especially towards the end of the day. Normal everyday activities such as getting dressed and showering, gardening, cooking, and cleaning become more difficult and painful.

As part of the physiotherapy assessment the main cause of the functional difficulties should be looked at. Often poor balance caused by the altered posture described above can make all of these tasks difficult.



How can physiotherapy help?

It is very important to make clear that physiotherapy does not help to make a curved spine straight. As an adult with scoliosis; the curve will be very stiff and a physiotherapist cannot help to change this.

The aim of physiotherapy is to help to reduce pain and to improve function. Once the physiotherapist has found out what may be causing the pain and the problems with function they will be able to advise on how much they can help. If pain is caused by slightly stiff and overloaded joints, over fatigued, weak and/or tight muscles, physiotherapy may help. The treatment could consist of mobilisations of joints (moving joints in certain directions and at different speeds to regain movement), offloading of (reducing the pressure on) joints or neural structures (structure that is part of the nervous system) by taping, stretching tight muscles, pain relief with acupuncture, and re-training muscle control and balance. Teaching a person to pace their activities is often an important part of treatment as most people tend to do either too little or too much for too long. Changing the habits of a lifetime can be hard but it is part of improving mobility.

If a patient has very bad leg pain, which may be due to severe tightness of the spinal canal and nerves are squashed, physiotherapy is not the best treatment. Often patients may need injections or can consider surgery depending on the amount of pain and the patient's situation. It is always a good idea to get an opinion from both a physiotherapist and a spinal surgeon experienced in the treatment of adults with scoliosis to make sure all avenues of treatment have been explored. Sometimes neither of them is the right person to help and a referral to a pain management team is a better option.

Glossary of terms

Discs are round and flat on the top and bottom. They are attached securely to the vertebrae above and below them. The discs are slightly flexible, providing shock absorption for the spine.

Degenerative refers to a disease or condition that gets worse over time and is often age-related.

Facet joints are the small joints between each of the vertebrae in your spine. The facet joints are the

joints in your spine that make your back flexible and enable you to bend and twist.

The **spinal canal** is a passage formed by the opening of the vertebrae through which the spinal cord runs. The spinal canal is filled with cerebrospinal fluid that bathes the nerves.

Vertebrae are small bones that make up the spine.



Additional support and advice

Contact the Helpline team

020 8964 1166 or info@sauk.org.uk

Go online

Check out the Information Standard accredited medical information and personal accounts on our website, at www.sauk.org.uk/scoliosis-information.

Connect with others

Contact the SAUK office for information about SAUK members, volunteers, and Regional Representatives who may have particular experience of this area.