



Katharina Schroth's
three-dimensional scoliosis treatment

author Christa Lehnert-Schroth

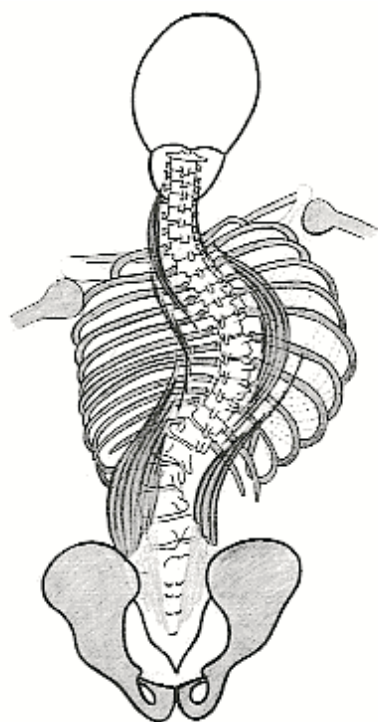
What is scoliosis and what causes it?

The Greek word "skolios" means curved or crooked. In a medical context, "scoliosis" refers to a lateral curvature of the normally straight vertical line of the spine. This condition has always been a major challenge to the medical profession.

The cause of scoliosis is largely unknown. Eighty percent of cases of scoliosis are described as "idiopathic", i.e., the cause is unknown.

An identifiable cause (such as accidental injury, rickets, flaccid or spastic paralysis, congenital bone deformity, leg length inequality, muscle imbalance, familial predisposition and many other besides) is found in only about 20% of cases.

About 4% of the population suffer from scoliosis = from the mildest form (many people are unaware that they even have the condition) through to the most severe form with pronounced hump formation and pelvic tilt and a range of health problems that arise as a result of scoliosis.



The drawing shows the torsion on the scoliotic spine with the resultant strengthening of the muscles on the convex side. These left lumbar spinal erector muscles are overly strong, thus the right thoracic group compensate, and thus again the left cervical group resulting in a typical three-curve scoliosis posture.

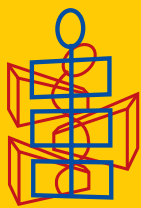


Scoliosis consists of a more or less strong static change that begins at the feet, legs, and hips and causes an imbalance of trunk musculature both in length and circumference. The greater the spinal deviations from the body's centerline, the longer the corresponding muscles become and thus lose their thickness (diameter) and elasticity, and become slack and finally inactive. They lose their holding function.

The structural changes described above are only possible because the muscles permit them to take place. The muscles shorten or lengthen depending on which direction the trunk shifts and twists. That is, the lateral and posterior torso shifts can only occur when the corresponding structural muscles yield and lengthen.

In the drawing it is clear that the muscular imbalance begins already in the lumbar region and continues up to the cervical area. Treatment must therefore primarily correct posture to the extent that the body again assumes its normal upright stance. This can only happen with development and training of the corresponding erecting muscle groups.

In order to restore muscular balance, the abnormally lengthened muscles must be shortened, and the shortened muscles lengthened. They must be strengthened on both sides of the body so that they can again hold the spine and ribcage in their normal upright position. It is essential that the inactive, shortened muscles perform active erecting work in a lengthened condition.



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According to **Schroth**, identifying the cause plays a subordinate role in the treatment of scoliosis. For **Schroth** the status quo is the decisive factor. In other words:

“What are the facts before me?” and “What can I do to modify them?”

Therapists require the ability to empathise, to think their way into the patient's suffering and the principles underpinning the **Schroth** approach, in order to select the most effective treatment.

What does “three-dimensional scoliosis treatment” mean?

In scoliosis the patient's trunk is deformed in **three dimensions**.

Both the therapist and the patient need to recognise and understand this fact. This is why, from the very outset, patients are introduced to the theoretical concepts underlying the *Schroth* approach. They stand between mirrors to study their deformity and they are told how this **three-dimensional** deformity can be reversed as they are encouraged to imagine creating the opposite shape to that which their body currently shows.

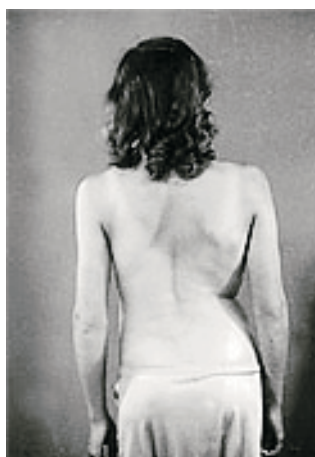
According to **Schroth**, scoliosis is a deformity of the trunk, and hence of the spine, that runs in **three directions (dimensions)**: namely front to back (sagittal), side to side (bilateral), and top to bottom (longitudinal). Hence the use of the term “**three-dimensional**”. Scoliosis is not characterised by just one curve – the thoracic – that is often the most striking.

Schroth includes the upper thoracic vertebrae in the first or cervical curve. The thoracic or main curvature is the second curve, and the lumbar curvature is the third curve. The interplay of these three components results in the three (or four) torsions of the ribcage and spine.

All trunk segments deviating laterally (sideways) from the midline also automatically rotate backwards. The ribcage rotates firstly against the pelvic girdle and secondly also against the shoulder girdle. This leads to hump formation.

Often, however, the lower spinal curve at about L4 also transitions into a further compensatory lumbosacral curve. **Schroth** then speaks of a 4-curve scoliosis with contrary pelvic shifting and torsion by comparison with 3-curve scoliosis in which the lumbar curve extends down to the sacrum.

The illustrations show the visible outward difference.



< Four-curve scoliosis

Three-curve scoliosis >

