

Scoliosis & Yoga

Although it can be a debilitating spinal condition, scoliosis responds well to appropriate stretching.

Flo Fenton describes how to help manage scoliosis through yoga.

Scoliosis is one of the potentially more debilitating spinal conditions, (because of the pain and loss of normal movement caused by the abnormal spinal curves) the term 'scoliosis' describes an abnormal side-to side curvature (an 'S' or reverse 'S' bend) of the spine. The severity of symptoms (including pain) and the visibility of the condition, as well as its causes, varies widely between sufferers.

Some scolioses, called 'functional scoliosis' can be caused by spasms in the muscles either side of the spine. Functional scoliosis can also be caused by either true, or apparent difference in leg length. In true leg length difference, the length of leg bones are actually different. In apparent leg length difference, the difference is caused by an asymmetry in the use of the joints at the ankle, knee or hip, causing one leg to be, in effect, shortened. Functional scoliosis can be reversed by working to decrease the asymmetry, either in the tension of the muscles in the back (perhaps with a combination of yoga and massage), or in the leg length difference. In the case of apparent short leg, this would entail re-training the joints of the a-symmetrical leg to work differently. In the case of true short leg, a 'lift' worn in the shoe is often prescribed. (However, a lift is not recommended during yoga practice unless the difference is greater than 5cms.) In each case, once the imbalances associated with the condition are corrected, a functional scoliosis will disappear.

The other major type of scoliosis is 'true scoliosis'. In this case, the abnormal curves are caused by asymmetrical development of the muscles and bones of the spine. True scoliosis cannot easily be corrected. 70 per cent of scolioses that fall into the true scoliosis category are 'idiopathic'. This means that there is no known cause for the condition, which usually begins during the growth spurt at adolescence. Interestingly, recent studies suggest that idiopathic adolescent

Suggested Yoga Sequence for Scoliosis

Many of these postures are also helpful for strengthening and stretching backs without scoliosis. They work by either; lengthening the short side and strengthening the weak side of the muscles either side of the spine, increasing the space between the vertebrae, and helping the de-rotate the abnormal 'twist' of the rib-cage.

1. Hanging over a table



Use a kitchen table or similar, with plenty of blankets to create enough height; the arms should not touch the floor in the finished pose. Have a chair in front, and a partner the first few times you try this. Sit on the table, roll onto your side, and then pull yourself to the edge so that the torso starts to come over the edge of the table. Use the chair seat to hold onto whilst you move the torso right over the edge; the whole torso hangs off the edge of the table, with the legs and hips only on the table. Have your partner secure your legs. Fold the arms and allow the torso to hang. Imagine the space increasing between each vertebra. Release a little more with each exhalation. To come out of the pose, place the hands onto the floor, have your helper steady the chair, then hold the chair seat. Slide your legs close to the table and put one leg down at a time.

Benefits: gravity is used to lengthen shortened and tight muscles, and create more space between the vertebrae of the spine.

2. Supported Trikonasana (Triangle pose) into Ardha Chandrasana (Half-moon pose) with a chair



Trikonasana against the wall

With the back against the wall, try to keep both shoulder blades on the wall, and the whole of the back of the pelvis on the wall, in each side of the posture. Your job will be to try to lengthen out of the side waist on the side on which the spine is concave, and to emphasise the twist from the navel more on the convex side, so that the two sides of the back ribs are evenly against the wall.



Ardha Chandrasana using the wall and a chair

From Trikonasana, bend the front knee, and take the weight onto the front foot. Place the hand onto the chair and raise the back leg until the foot is at hip height. Try to keep the whole back evenly on the wall, as in Trikonasana.

Benefits: Trikonasana and Ardha Chandrasana even out the asymmetry of strength/flexibility of the para-spinal muscles on the two sides of the spine. These postures will feel very different in the left and right sided versions; use the wall to help you feel where 'straight' is in these postures.

3. Modified Parivrrta Trikonasana (Revolved triangle pose)



Begin with the feet at 3-4 feet apart and parallel, with the back to the table. Inhale, and as you exhale swivel the right foot out, and the left foot in, so that the feet are in the position shown. Try to have the torso and both hips now facing the same direction as the right foot. Inhale and as you exhale tilt the whole torso forwards at the hips (not the waist!) and place the hands on the table as shown as support. Try to keep the navel turning up towards the ceiling. Then repeat for left side, turning the feet the other way from the starting position.

Benefits: stretches the tight side, and strengthens the weak side of the torso. Helps de-revolve the revolved ribs.

Using yoga to manage the symptoms of scoliosis may seem to be time-consuming and difficult; however, the condition won't go away on its own. The surgical alternative to using yoga (involving fusing parts of the spine) will result in less movement, and may not reduce the pain.

scoliosis may be caused by an alteration in the proprioceptivity of cervical spinal nerves. By alleviating tension in muscles, and promoting healthy proprioceptive functioning of the nervous system, yoga could therefore help prevent the condition. Statistics vary wildly, but somewhere around 5 per cent of the population have some type of scoliosis, and about one to two per cent have true scoliosis. This percentage may be much higher in a yoga class. In a class of 20 students, it is therefore likely that at least one student will have a scoliosis. Seven times as many women as men have scoliosis.

There are four common patterns for scoliosis: right thoracic (major

4. Modified Parsvottanasana (Forward triangle pose)

Stand facing a table. Step one foot forwards and one foot back, with both big toes pointing forwards, and feet about hip width apart. Inhale, lengthen the spine. Exhale, tilt forwards at the hips. Place the palms on the table as shown. Make sure that the hips are even in distance to the table. Try to lengthen the concave side of the spine, and avoid stretching the convex side. Repeat other side.



Benefits: lengthens and strengthens the para spinal muscles, and the supporting muscles of the lower back.

5. Spine stretch with Bar



Grab onto the bar and walk the feet back until the spine is parallel to the floor and the feet are directly under the hips. Now bring the heels forward to the position where the toes were and hang backwards, bending from the hips and stretching the buttocks away from the bar. Keep the neck in line with the spine, without allowing the chin to lift up. Feel the entire spine being lengthened by the pull.

Then change the stretch by altering the position of the feet (stepping them closer to, and/or further way from the bar) and repeating.

Benefits: stretches all of back muscles, increases space between vertebrae.

6. Ardha Shalabhasana (Half locust pose)



Lie down on your belly, with the arms stretched out along the floor over your head. Stretch to lengthen the distance between your fingertips and your toe tips to your maximum ability. Inhale. Holding the breath in, lift the right arm and the left leg, the chest and head. Look up at the ceiling. When you are ready to exhale, come down. Inhale again. Holding the breath in, raise the left arm and the right leg, head and chest.

This is one round. Practice five rounds, and then rest completely. Take the arms down beside you and turn the head to one side.

Benefits: Strengthens lower back, and promotes more even strength on two sides of the spine.

deviation is in thoracic spine and to the (right) left lumbar, right thoraco-lumbar (deviation is to the right in the thoracic and lumbar region, creating a 'C' curve), and right thoracic-left lumbar (two curves of equal deviation from the centre line creating an 'S' curve).

Signs and Symptoms of Scoliosis

Because of the sideways deviation of the spine in scoliosis, there is also a rotation in some of the vertebrae, and this in turn twists the ribs that are attached to them. The result will be twisted hips, shoulders and ribs, and a shift in the centre of gravity. On the concave side of an 'S' bend in the thoracic spine, the ribs will be pushed forwards, and on the convex side they will be pushed back. The back of the rib-cage will protrude on the convex side, forming a rounded look to the upper back on that side (and frequently a painful mass of muscle over the roundedness, around the shoulder blade, which has been displaced by the protruding ribs.) Meanwhile, the thoracic spine will lose its natural and healthy roundedness (the curve from front to back, called a 'kyphosis'), and become flat (or even concave). The lumbar curve (lordosis) may also be flattened. Depending on the type of scoliosis, some or all of these things may be true. In some cases an 'S' (or 'C') curve will be clearly visible, as well as some rounding of the rib-cage at the back on one side. In others, it may not be possible to easily see an 'S' (or 'C') curve, but the spine may be unnaturally flat.

As a yoga teacher, I find Adho Mukha Svanasana (Downward facing dog pose) normally shows up a scoliosis easily in a student. Though the hands and feet seem to be in the right place, the student will somehow look 'twisted' in the pose; one side of the waist will appear shorter than the other, and one side of the upper back may appear to be more rounded.

Pain is nearly always associated with scoliosis. The muscles are over tight on the concave side and the joints, and nerves of the spine are compressed. Over time, the intervertebral discs will wear on the compressed side. On the convex side, the muscles beside the spine are over stretched, and there may be pain in the muscles of the shoulder

Through careful, consistent, and committed yoga practice scoliosis can become mostly pain free.

blade due to the distortion of the rib cage. Musculo-skeletal pain may occur due to uneven weight distribution on the arms and legs.

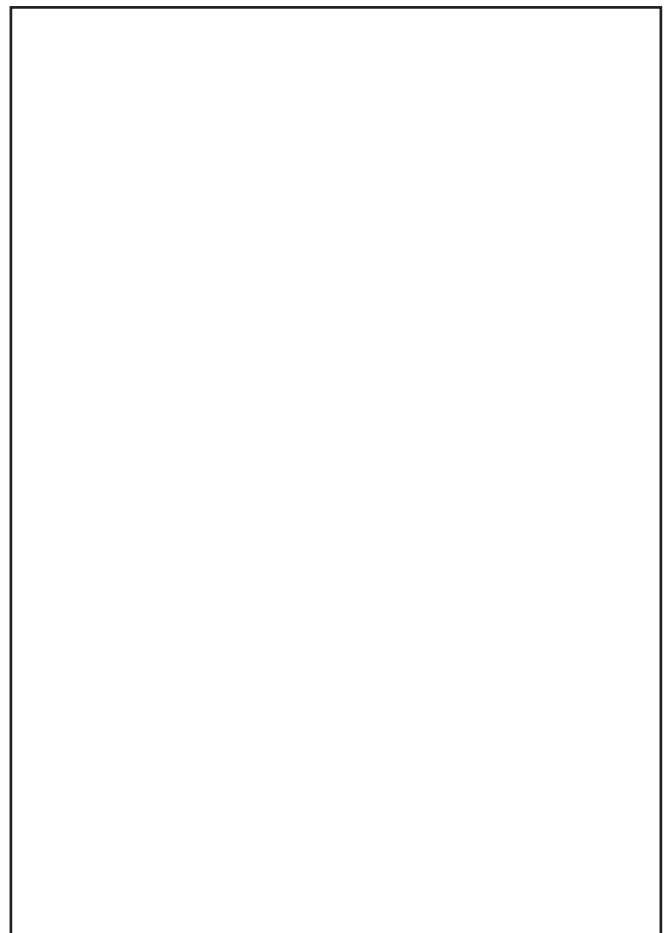
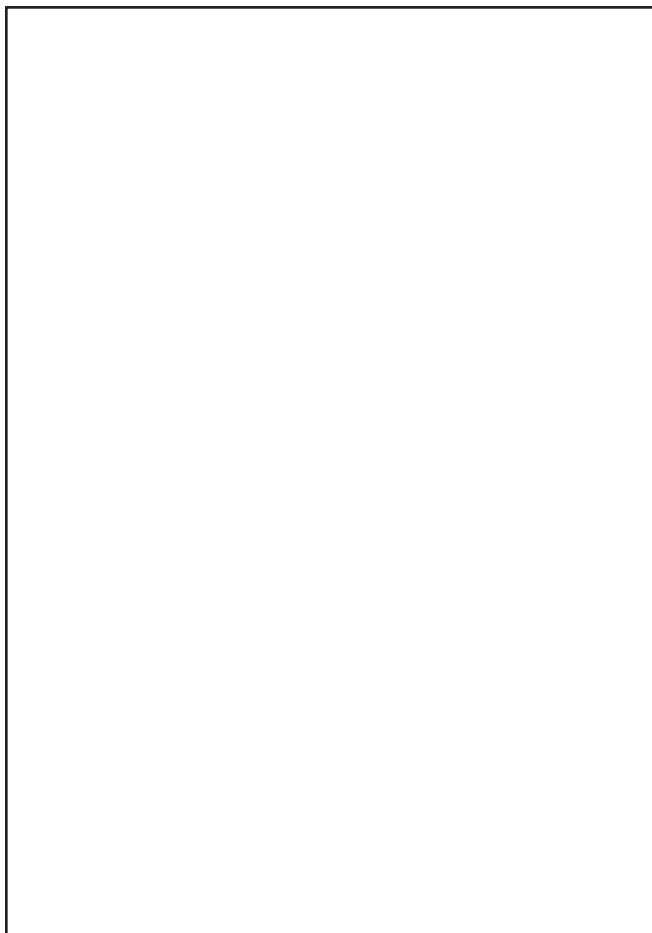
To determine whether you have a structural scoliosis, and its shape, sit in a chair and bend forwards, with the back rounded as much as possible. A structural scoliosis will be clearly visible in most cases. Have a helper make dots with a marker pen corresponding to the spinous processes

7. Setu Bandha Vinyasa (Moving bridge pose)

Lie on your back with the knees bent, and the feet just over hip-width apart. Have the outside edges of the feet parallel to the edges of the mat. Place the palms down on the floor beside the hips. Inhale as you peel the spine from the floor and raise the arms above the head. The backs of the arms will be on the floor and the hips at knee height at the top of the in breath. Exhale as you roll back down the spine, vertebra by vertebra, taking the arms down simultaneously. Try to take the waist to the floor before the hips. Try to synchronise the movements of the arms and spine so that the hands reach the floor at the same time as the hips.

Do this five times.

Benefits: Creates heightened awareness, and greater strength and flexibility in back and spinal muscles.



8. Modified Paschimottanasana (Supported seated forward bend)

Place the bolster so that the end is in close under the lower ribs. Inhale and as you exhale slowly let the front of the body rest on the bolster. The forehead should be easily supported. If more height is needed, use more folded blankets over the bolster. (Note: If there is any strain in the lower back, sit on a couple of folded blankets, and bend the knees slightly)



Benefits: stretches out the back muscles

9. Twist in a chair

Sit sideways in a straight backed chair with a flat seat. Adjust the height of your feet and/or sitting bones with props if necessary so that the knees and hips are the same height. Take hold of the two sides of the chair back with the hands at shoulder width apart. Inhale, lengthening the spine, and as you exhale twist towards the chair back. Lengthen upwards on each inhale, twist gently on each exhale within comfortable range. Then repeat on other side.



Benefits: helps de-revolve the rotated ribs.

10. Shavasana (Relaxation)



Use props if necessary to maintain symmetry. A pad can be used beneath the shoulder on opposite side to that which protrudes. A rolled blanket can be used behind the neck, or a folded blanket beneath the head to support the neck in a long straight line. A bolster beneath the thighs is beneficial if the lower back is tender.

(the bits that stick out) to show the curves of the spine. Once you know which side of the spine is concave, and which is convex, you are halfway towards being able to use yoga as a tool to alleviate the symptoms.

What can yoga do to help?

As mentioned previously, a functional scoliosis is much more easily reversible than one which is structural. However, though a structural scoliosis may never be completely straightened, students can achieve management of the symptoms, so that they can in effect live life as if their spine was straight. Depending on the degree to which the spine deviates from the norm, the symptoms can be managed, alleviated, or even reversed. Through careful, consistent, and committed yoga practice, even someone with a structural scoliosis can become mostly pain free, and achieve a renewed perception of their centre of balance. Using yoga to manage the symptoms of scoliosis may seem to be time-consuming and difficult; however, the condition won't go away on its own. It (and the associated pain) will get worse over time. The surgical alternative to using yoga (involving fusing parts of the spine) will result in less movement, and may not reduce the pain. As a massage practitioner, I regularly see clients who have had surgery, and are still in the same degree of pain as before. The pain is coming from tight muscles and compressed nerves and joints.

Surgery cannot fix such problems; stretching (through yoga or massage) can.

Whether the scoliosis is structural or functional, and whatever shape the 'S' bend makes in your spine, there are a few basic rules that hold true in working with all types of scoliosis.

1. Find out the shape of your spinal curves (have a helper assess, or go to a chiropractor or osteopath if needed.)
2. Always work to lengthen (stretch, make more space on) the side that is concave.
3. Always work to strengthen the side that is convex.
4. Never allow the concavity to collapse further.
5. Never continue to overstretch the convexity.
6. People with scoliosis have a distorted idea of what 'straight' is. Practice with a helper/teacher or at least with a mirror whenever you can.
7. Make sure your teacher is confident to give you guidance on working with this condition. If not, get a referral, or try another senior teacher who has worked with scoliosis.

References

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