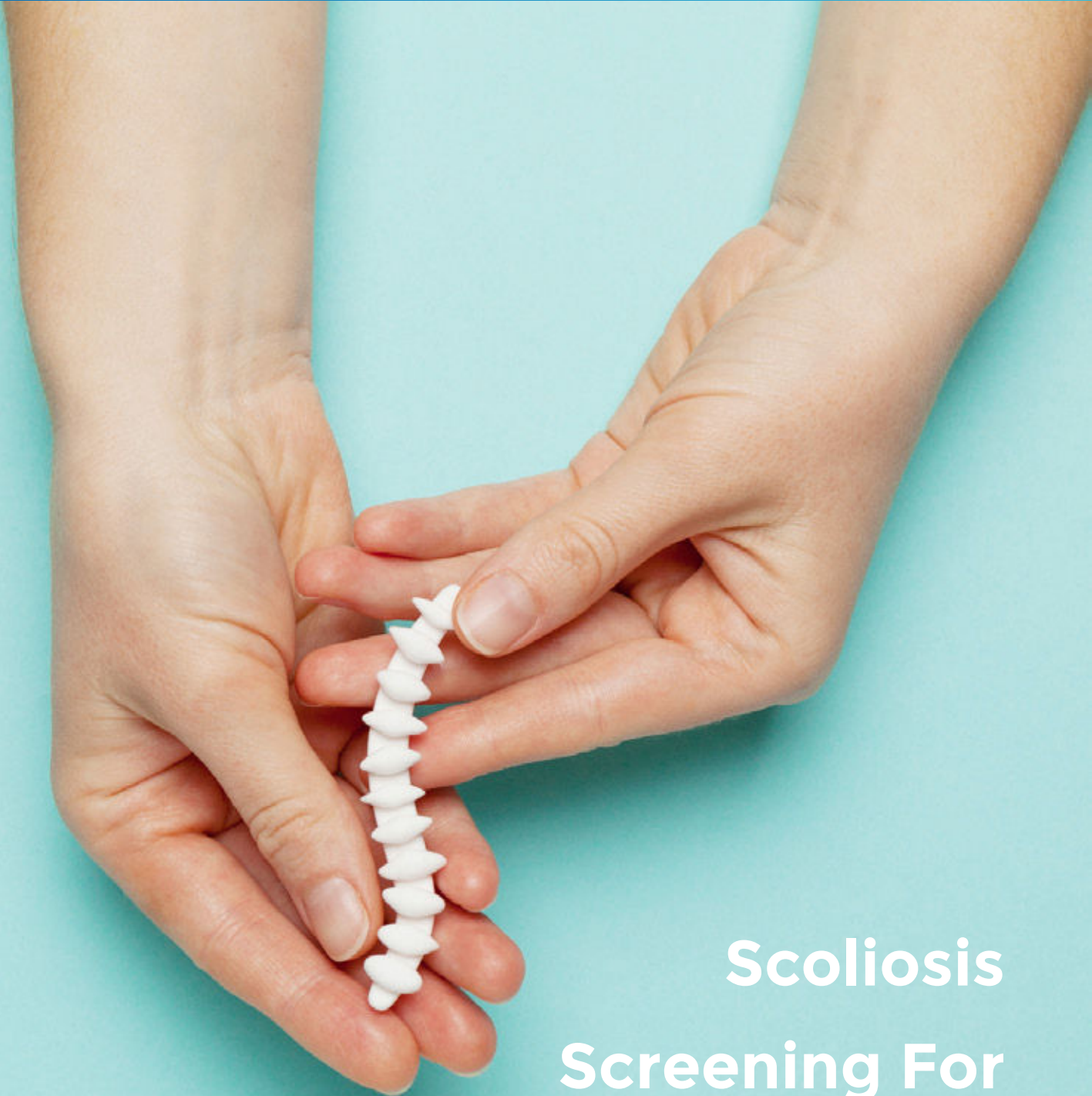




ROWAN
BERKOWITZ

C.P.O (SA)



**Scoliosis
Screening For
Adolescents.**

What is Scoliosis?

Scoliosis, which has several causes, is defined as a lateral curvature of the spine in the frontal plane of the body, which means that the spine curves from side-to-side. Normally, the spine is straight, as seen from the front or behind. With scoliosis, the spine curves to the side in the shape of the letter “S” or “C”.

The most common form of Scoliosis is termed ‘IDIOPATHIC’-which literally means ‘of unknown cause or origin’, and may occur in early childhood or adolescence. Scoliosis may occur anywhere in the spine but is usually found in the Lumbar (lower back), and Thoracic (mid-back) regions.

Types of Scoliosis?



Thoracic



Lumbar

What does it look like?

Signs and Symptoms of scoliosis can include:

- The body (trunk) leaning more to one side than the other.
- A rib “hump” and/or a protruding shoulder blade.
- The opposite sides of the body may not appear level.
- A tilted head that does not line up over the hips.
- One hip or shoulder that is higher than the other, causing an uneven waist.
- In developing girls, breasts appearing to be of unequal size or at different heights.
- Unequal distance between arms and body.
- Clothes that do not “hang right,” i.e., uneven hemlines.
- Standing with one knee slightly bent a lot of the time.
- There is often a family history of Scoliosis or Scheurmanns disease, although this may not always be the case.

A common fallacy is that “everyone has one limb shorter than the other”. This is not correct, unless there is either a congenital shortening, or, there has been a fracture of a long bone in the leg. Often, one leg may APPEAR to be shorter than the other. This may be as caused by a tilted pelvis, which may have Scoliosis as an underlying cause.



How can I tell if my child has Scoliosis?

A proper diagnosis has to be made by a medical practitioner or scoliosis professional, but a simple 2 minute evaluation of your child will give you an indication if further investigation and treatment is required.

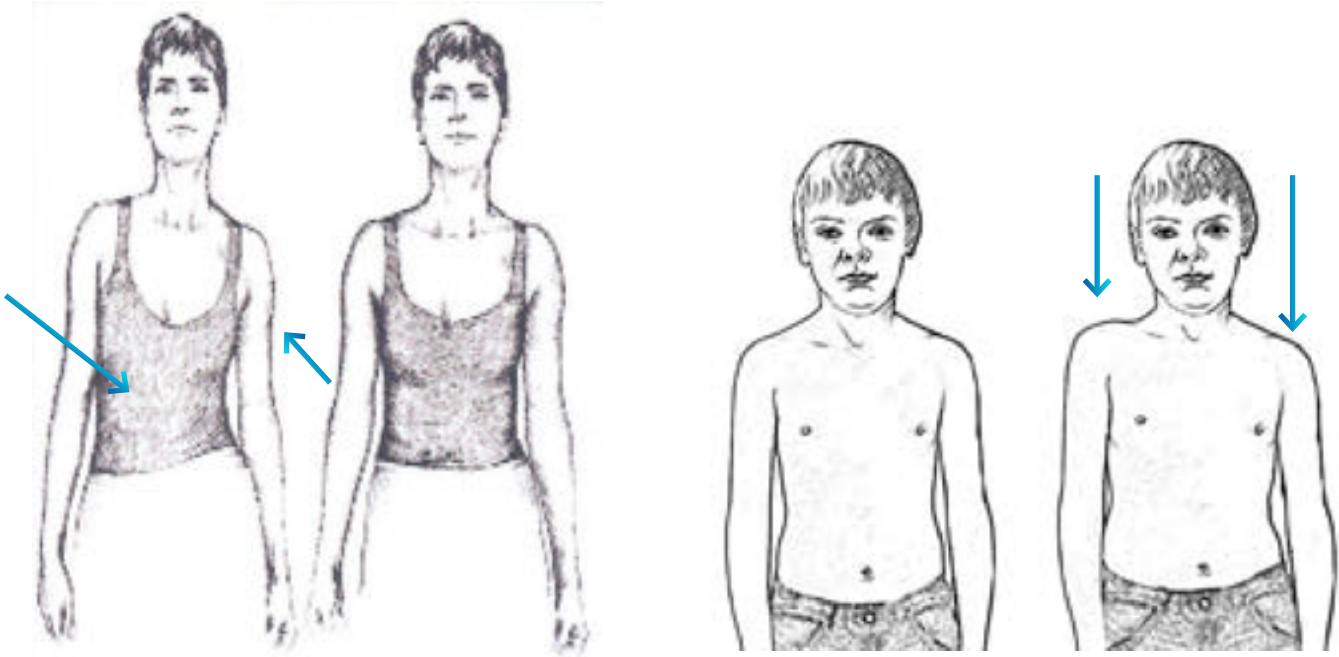
Simply follow the guidelines below, and go through the questionnaire attached to see if your child needs further investigation.

1. Ask your child to take off their shirt and stand in front of you.
2. Go through each test, using the pictures as a guide, then circle the "Y" for yes, or "N" for no next to each question.
3. Once you have completed the tests, total the "Y's" and "N's" and refer to the chart.
4. If you have answered "yes" to MORE THAN ONE of the questions, your child needs further investigation.
5. Take this questionnaire to your medical practitioner, or contact one of the numbers listed below to find out what steps to take and where to find help.



TEST ONE

Your child should stand on a level surface facing toward you



Are the shoulders heights uneven?

Y N

Are the hips uneven?

Y N

Is the distance between the arms and torso uneven or unequal on one side?

Y N

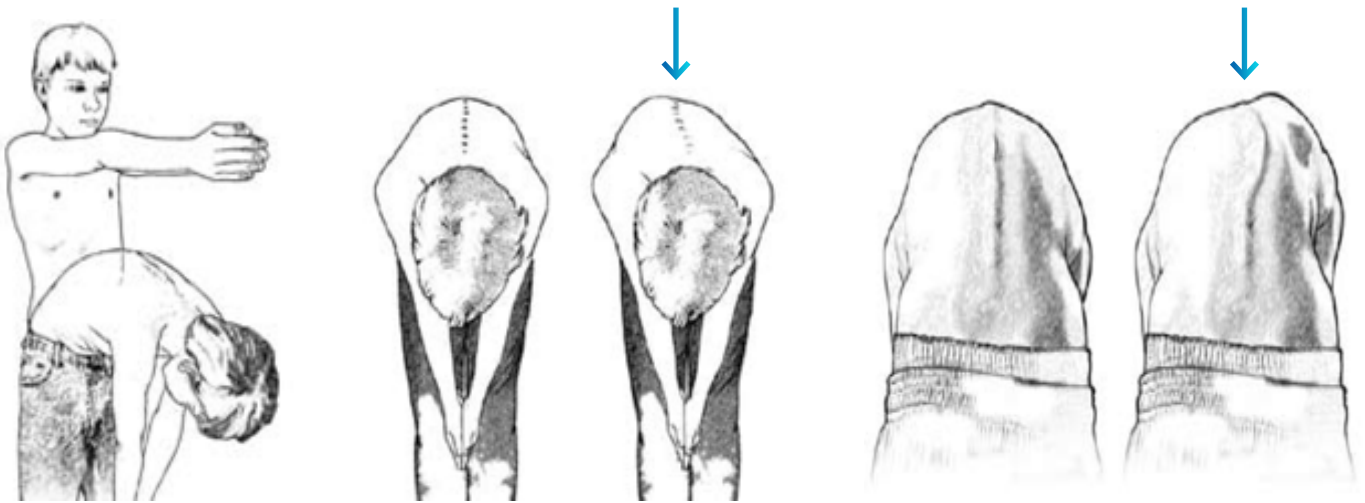
**Repeat the same test looking from behind
(look for the same features as the front view).**

It may be useful to have your child stand in front of a tiled wall (bathroom or kitchen) so you can use the lines between the tiles as a grid to compare shoulder height

TEST TWO

With your child facing toward or away from you.

- Arms straight out ahead with palms touching together, bend forward from the hips about 90 degrees then, clamp the hands between the knees.(knees as straight as possible).
- Head hanging down, neck relaxed (child looking at their knees).



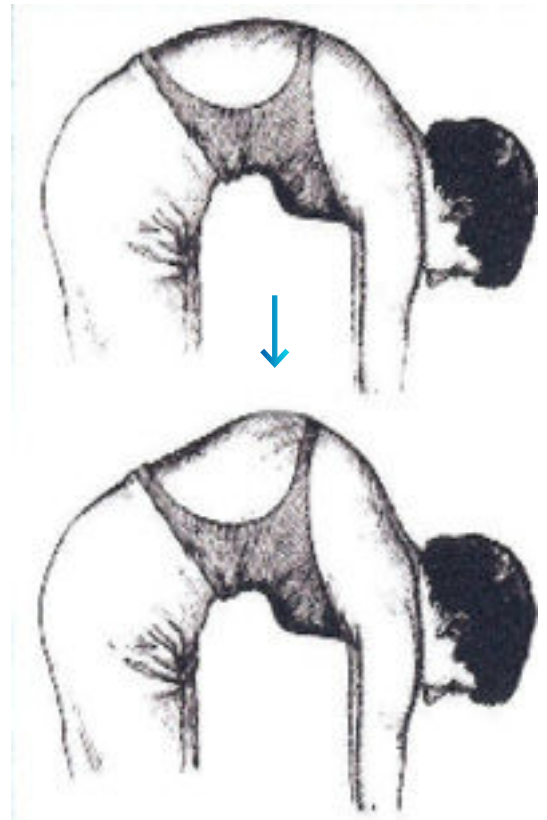
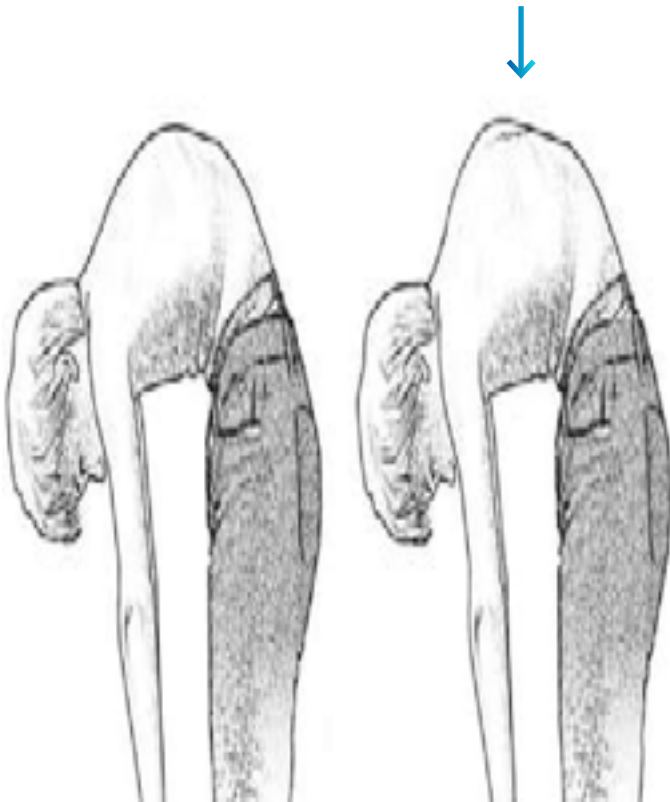
- Is one shoulder blade protruding or sticking up more than the other? Y N
- At the upper part of the back, is there a raised rib 'hump' on one side or the other? Y N
- Does the rib area look uneven or unbalanced? Y N
- On the opposite side to the rib 'hump', lower down, is there another 'hump' near the waist area? Y N
- Does one hip appear to be higher or not level to the other? Y N
- Can you see the spine making an "S" or "C" shape? Y N
- Does your child often stand with one knee slightly bent? Y N

Repeat this test looking from behind (or front depending which way you started)

Another adolescent spine conditions, known as hyper-kyphosis, (Scheuermann's) may also be detected by doing a similar test.

TEST THREE

With your child bent forward in the same way as test 2, get him or her to turn 90degrees away from you. You should now be looking at him/her from the side. This time, though, the hands should hang free pointing toward the floor.



Now look across the surface of the back near the upper part:

- If the back does not appear smooth or even, does the back shape 'peak' or have a sharp angle to it? Y N
- Do you constantly have to remind your child to "sit up or stand straight", or 'pull your shoulders back'? Y N
- Does your child complain of back ache or pain near the middle of his/her back? Y N



How will a diagnosis be confirmed?

If you are concerned that your child may have Scoliosis, Scheurmanns diseases, or other postural deformity of the spine, consult your healthcare practitioner.

They should request X-rays of the spine to confirm a diagnosis. They may wish to refer(or you may ask them to) you to an Orthopaedic Surgeon, Physiotherapist or Orthotist (specialising in disorders of the adolescent spine), for further management and treatment.

What are the treatment options?

Protocol depends on several factors such as, skeletal maturity, size of the curve & other underlying conditions.

The condition may be monitored with X-rays, scoliosis - specific physiotherapy may be advised, bracing either full-time or night-time, or surgery may be recommended if the scoliosis is beyond a specific curve size. This applies to both Scoliosis and hyper -kyphosis (Scheuermann's).

There is a perception that neither specific physiotherapy nor bracing is effective. This is not correct. There is lots of clinical data on trials and international research which have been conducted, proving the effectiveness of both scoliosis - specific physiotherapy and 3D bracing.

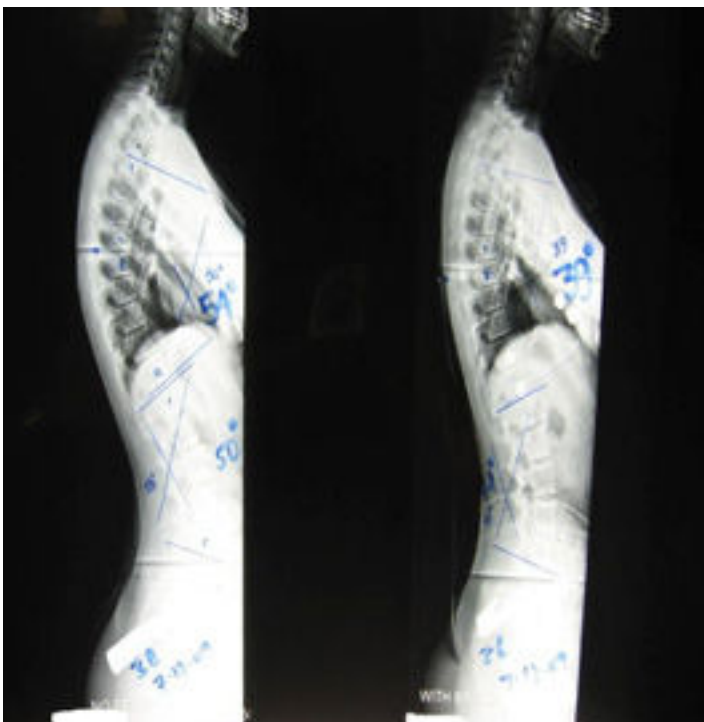
Research has also shown that general fitness exercises and some other exercises can make the deformity worse. However, specific methods such as Schroth method (Germany), SEAS Method (Italy) have shown favourable results and improve the condition. These methods are conducted by therapists trained in these methods.

The following pictures demonstrate the corrective effect of bracing for Scoliosis:



Left: patient standing without brace | Right: patient standing with brace on.

The following pictures demonstrate the corrective effect of bracing for Kyphosis (Scheuermann's):



Left: patient before brace 54° curve | Right: patient corrected in brace 39° curve.

General conservative management of Scoliosis and Scheuermann's:

The earlier the problem is detected, the more effective the treatment is.

For Idiopathic Scoliosis and Hyperkyphosis (e.g. Scheuermann's), there are 3 common approaches:

Scoliosis:

- Spinal curvatures less than 10 degrees are generally monitored 6 - 12 months later for signs of progression. Specific physiotherapy exercises may be recommended and sometimes a shoe insert may also be prescribed.
- 15-25 degrees: as above, but night-time bracing may be suggested to correct the curve and retard progression and a Scoliosis specific exercise program.
- 25 & ABOVE degrees: full time bracing and a specific physiotherapy program.

Scheuermann's Hyper-kyphosis:

- The normal thoracic curve value is between 20 - 50 degrees.
- Curves between 40 - 50 degrees can be closely monitored by 6 monthly X-rays for signs of progression.
- Curves over 55 degrees and kyphosis in the presence of Scheuermann's disease need to be braced.
- Physiotherapy alone will not control curve progression in this type of Kyphosis.



Contact us for more information

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