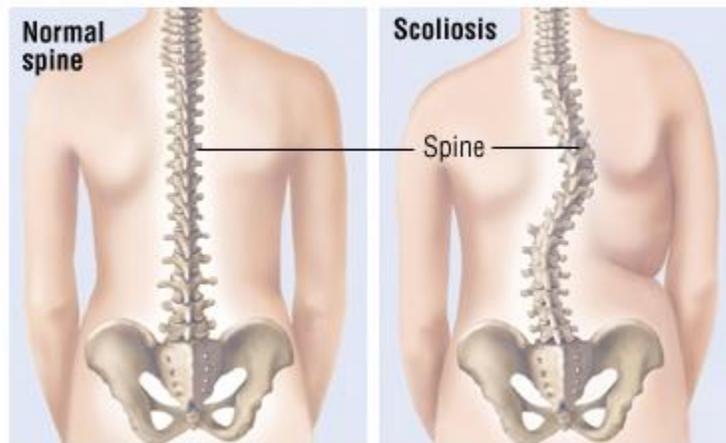


Did you know that physical therapy has a new rising role in the conservative treatment of scoliosis?!



The Scoliosis Research Society (SRS) describes scoliosis as follows:

“Scoliosis is a common condition that affects many children and adolescents. Simply defined, scoliosis is a sideways curve of the spine that measures greater than 10 degrees. Instead of a straight line down the middle of the back, a spine with scoliosis curves, sometimes looking like a letter "C" or "S." Some of the bones in a scoliotic spine also may have rotated slightly, making the person’s waist or shoulders appear uneven.” 1.

Scoliosis’ etiology is still not well known. In over 80% of the cases the underlying cause is not known, thus “idiopathic”. It is NOT caused by heavy backpacks, bad posture, or minimal leg length differences. While it occurs in both boys and girls, the progression rate can be 5-8x’s greater in girls. This condition affects millions of people, across the lifespan.

It affects the shape of the discs, connective tissue, and spinal vertebrae. Asymmetrical wedging impacts the biomechanics of alignment and movement. For example as a wedge shape is flexed or extended it no longer moves in a pure sagittal plane, but now has a rotational movement coupled with it. This concept can be seen in the standard scoliosis screening test Forward Bend or Adam’s test in which flexion and rotation coupling causes a measurable rib prominence.



In children and teenagers, it is a condition that has a risk of progressing during bone growth. There are currently no clear predictors for which child's curve will remain small, medium, or larger curves that require surgical intervention. Historically, the treatment approach was "watch and wait". Previous general physical therapy, exercises, lateral stretches over a ball, Scolitron, electrical stimulation....most had weak studies that produced little to no significant changes to scoliosis progression. It appeared as though most scoliosis physicians separated physical therapy from the conservative treatment plan of care. Recent research has changed this.

"AAOS, SRS, POSNA and AAP believe that recent high quality studies demonstrate that non-operative interventions such as bracing and scoliosis specific exercises can decrease the likelihood of curve progression to the point of requiring surgical treatment." 2.

Physiotherapy Scoliosis Specific Exercises target 3 areas: 1. 3-dimensional self-correction 2. Sensory-motor neuromuscular re-education of ADLs. 3. Stabilization and integration of corrected posture. Several randomized controlled trials recently published have begun to demonstrate the positive outcomes of PSSE in stabilizing curve progression.

Physiotherapy Scoliosis Specific Exercises (PSSE) is an advanced certification for post graduate physical therapists. While there are several schools of PSSE, in the US, Barcelona Scoliosis Physiotherapy School based Schroth is the largest. This school provides 2 levels of certification. The 1st is for general Schroth programs for adolescents and adults without pain. The 2nd level is for Schroth programs that need specific modifications such as early onset, post- surgical, or adults with pain.

The International Society on Scoliosis Orthopaedic and Rehabilitation Treatment (SOSORT) has published guidelines for the span of treatment for scoliosis. Together with SRS they are advancing the research in this exciting new area of non-operative treatment.

EARLY DETECTION IS KEY!

For more information, please feel free to contact Marissa Muccio PT
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1. <https://www.srs.org/patients-and-families/common-questions-and-glossary/frequently-asked-questions>
2. <https://www.srs.org/about-srs/quality-and-safety/position-statements/screening-for-the-early-detection-for-idiopathic-scoliosis-in-adolescents>

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2. **Negrini, S., Aulisa, A. G., Aulisa, L., Circo, A. B., de Mauroy, J. C., Durmala, J., . . . Zaina, F. (2012).**

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