Pilates for Scoliosis

Agie Skele
July 29, 2017
Pacific Palisades
Abstract

What is scoliosis and how can clients manage chronic back pain and improve their posture? Scoliosis is a curve in the spine. There are different degrees of scoliosis. Mild scoliosis can have a curve that is almost impossible to see and it doesn’t affect a person’s daily activities. It can also be severe and affect breathing and include chronic back pain. It is unknown where scoliosis comes from but some people can be born with it as others can develop it in their teenage years. In some cases, children will need to wear a body brace or have a spinal surgery, but usually it can be managed with exercise. In this research paper, it is unknown whether the client was born with scoliosis or developed it in later years. She has chronic back pain but after practicing Pilates for the past four years, it has drastically decreased and her posture has improved as well. It has become her regular routine to attend Pilates classes 3-4 times per week. The BASI block system conditioning program has been recommended to keep managing her scoliosis and back pain.
Table of Contents

What is Scoliosis?.............................................................................................................4
Anatomy of the Spine........................................................................................................6
Case Study.........................................................................................................................8
Conditioning Program Utilizing BASI Block System.........................................................10
 Desired Results of Conditioning Program......................................................................13
Conclusion.......................................................................................................................14
Works Cited.....................................................................................................................15
What is Scoliosis?

“Scoliosis is a deformity of the vertebral column characterized by abnormal curvatures in all three planes, most notably in the frontal and horizontal. The deformity most often involves the thoracic spine but other regions can be affected.” (Kinesiology of the Musculoskeletal System, p. 289) According to https://www.gstatic.com/healthricherkp/pdf/scoliosis.pdf, most cases are mild with small discomfort, but people who develop more severe scoliosis can feel pain and discomfort. Visually a person can be leaning to one side, and can develop muscle spasms and physical deformity, or an uneven waist, hips and shoulders. In some cases, people might require surgical treatment or a back brace to stabilize and support their back but, in most cases, scoliosis can be managed through exercise and a chiropractor’s treatment. If the spinal curve gets worse, the spine will also rotate or twist, in addition to curving side to side. This causes the ribs on one side of the body to stick out farther than on the other side.

There are two types of scoliosis:

*Functional:*  
- Can be corrected by an active shift in posture.

*Structural:*  
- Is a fixed deformity that cannot be corrected by an active shift in posture.

According to Kinesiology of the Musculoskeletal System, p. 290, approximately 80-90% of all cases of structural scoliosis are termed “idiopathic.” This means the condition has no apparent biological or mechanical cause. This type of scoliosis most commonly affects adolescent girls. Scoliosis is described by the location on the spine and the number of fixed frontal plane curvatures. The most common scoliosis consists of a single lateral curve
around the T7-9 region but there are many other patterns that involve a secondary curve, which would be in the lumbar spine. Rib cage deformity is also present a lot of times (add more from page 292). Some complications might include heart and lung damage, or chronic back pain.
Anatomy of the Spine

Normal spine

Scoliosis

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Image 1
Section through scoliotic spine; decreased vertebral height and disc thickness on concave side.

Image 2
Case Study

It is unknown if the client was born with scoliosis or if it developed in her teenage years. When she was 12 years old, doctors in Latvia diagnosed her with scoliosis in her lumbar spine area. See Images 2 and 3, which show the client from the right side standing and during a roll down.

It might be inherited as her father had severe scoliosis. For about two years, she visited clinics to do exercises that were similar to Pilates once a week. From ages 24-30 she saw a chiropractor three times a week, but it was never suggested to do back-strengthening exercises. Around age 30 she discovered Pilates and has been taking Pilates classes 3-4 times per week. Pilates has helped her with posture and muscle strength, and has reduced her chronic back pain. Now she only goes to the chiropractor every few months. Pilates is a big part of her daily routine and she has been advised to take Pilates lessons 3-4 times per week to continue managing her scoliosis. The BASI exercise program ensures that her whole body is targeted performing BASI block system exercises.
**Conditioning Program Utilizing BASI Block System**

The following conditioning routine will include a full-body workout following the BASI block system. The client will start and finish with a roll down for the instructor to see the client’s alignment at the beginning and at the end of the session. The roll down is a great tool for the instructor to assess imbalances in a client’s body and the client can start warming up her body. The rest of the exercises will follow the BASI block system to ensure that all muscles are targeted during the session. Since this client has scoliosis in her thoracic spine, she needs to work on chest expansion, strengthening core and back muscles, and aligning her body. Her right shoulder tends to roll forward so the client will need to focus on opening her right shoulder. Since this client has been practicing Pilates for four years, she has become aware of her body alignment but she will need assistance from the instructor to help with that, as sometimes it is hard for her to feel it herself.

The following is an example of a Conditioning Program.

**Roll Down**

**Warm up (Mat)**

- Pelvic Curl,
- Spine Twist Supine
- Chest Lift
- Chest Lift With Rotation

**Foot Work (Reformer)**

- Heels Parallel
- Toes Parallel
- V Position Toes
- Wide Heels
- Wide Toes
- Calf Raises
- Prances
- Single Leg Heel
Single Leg Toes

Abdominal Work (Reformer)

100 Prep  
Coordination

Hip Work (Reformer)

Frog  
Circles Down  
Circles Up  
Openings

Spinal Articulation (Reformer)

Bottom Lift  
Bottom Lift with Extension

Stretches (Reformer)

Kneeling Lunge

Full-Body Integration I (Reformer)

Elephant  
Upstretch 1  
Upstretch 2  
Reverse Knee Stretch

Arms Supine (Reformer)

Extension  
Adduction  
Circles Up  
Circles Down  
Triceps

Leg Work (Wunda Chair)

Leg Press Standing

Lateral (Wunda Chair)

Side Reach
Back Extension (Wunda Chair)

Swan Basic

Roll Down
Desired Results of Conditioning Program

Following the BASI conditioning program 3-4 times per week, it is desired that the client will have more awareness of body alignment, have a better posture, strengthen muscles and reduce back pain.
Conclusion

Client has been aware that she has scoliosis and chronic back pain since her teenage years. She has been to chiropractors for several years but was introduced to Pilates about four years ago and has been practicing Pilates 3-4 times per week. Although she still experiences back pain in her thoracic spine, it has reduced tremendously with Pilates. She will continue her Pilates practice to work on strength, alignment and posture. The BASI block system ensures that every muscle is targeted during the exercise program.
Works Cited

Hansen John, T. *Netter’s Clinical Anatomy*, Canada: Saunders, an imprint of Elsevier Inc. 2010, pp.43

