DN thesis

How Naprapathy can help people with Scoliosis

Written by: Ali Reza Khadem Haghighi DOMP, RMO, BSc. (Ost), DO (EU) Student Number: U2109011 Doctor of Naprapathy, Cat. 3 June 2023



What is Scoliosis?

Scoliosis is an abnormal lateral curvature of the spine. It is most often diagnosed in childhood or early adolescence.

The spine's normal curves occur at the cervical, thoracic, and lumbar regions in the so-called "sagittal" plane. These natural curves position the head over the pelvis and work as shock absorbers to distribute mechanical stress during movement.

Scoliosis is often defined as spinal curvature in the "coronal" (frontal) plane. While the degree of curvature is measured on the coronal plane, scoliosis is a more complex, three-dimensional problem in the following planes:

- 1. Coronal plane
- 2. Sagittal plane
- 3. Axial plane

With scoliosis, the spine rotates and develops a side-to-side curve. Curves may be as mild as 10 degrees, or as severe as 100 degrees or more.

Cause of scoliosis

The cause of scoliosis is not always clear, and it can be classified into different types based on its underlying causes:

- 1. Idiopathic Scoliosis: This is the most common form and has no known cause. It is further divided into three age groups: infantile (0-3 years), juvenile (4-9 years), and adolescent (10-18 years).
- 2. Congenital Scoliosis: This type of scoliosis is present at birth and results from abnormalities in the formation of the spine.
- 3. Neuromuscular Scoliosis: It occurs due to underlying neuromuscular conditions like cerebral palsy, muscular dystrophy, or spinal cord injuries.
 - o cerebral palsy a condition associated with brain damage.
 - muscular dystrophy a genetic condition that causes muscle weakness.
 - \circ Marfan syndrome a disorder of the connective tissues.
- 4. Degenerative Scoliosis: This type develops in adulthood as a result of degenerative changes in the spine, such as arthritis or disc degeneration.
- 5. Functional Scoliosis: This type is a temporary curvature caused by a problem outside of the spine itself, such as a difference in leg length.

In general, most scoliosis in adolescents occurs in the thoracic or rib cage portion of the spine. For adults, the main concern is typically in the lumbar or lower spine. This portion of the spine is most susceptible to the changes seen with aging or degeneration. It is usually first noticed by a change in the appearance of the back.

In adults, age-related changes in the spine's discs and joints and bone density reduction may cause scoliosis. Adults can also experience worsening over time of previously undiagnosed or untreated scoliosis.

Mid to lower back pain and back stiffness are often the first symptoms of degenerative adult scoliosis. Therefore, treatment is mainly aimed at pain relief.

Most people with scoliosis have mild curves and probably won't need treatment with a brace or surgery.

While most people with scoliosis have a mild form of the disorder, scoliosis may sometimes cause complications, including:

- **Breathing problems:** In severe scoliosis, the rib cage may press against the lungs, making breathing more difficult.
- **Back problems:** People who had scoliosis as children may be more likely to have chronic back pain as adults, especially if their curves are large and untreated.

• **Appearance:** As scoliosis worsens, it can cause more noticeable changes — including uneven hips and shoulders, prominent ribs, and a shift of the waist and trunk to the side. People with scoliosis often become self-conscious about their appearance.

Signs and symptoms of Scoliosis

Several signs indicate the possibility of scoliosis.

- A visible Sideways curvature of the spine
- Sideways body posture
- One shoulder raised higher than the other.
- One shoulder or hip is more prominent than the other.
- A difference in leg length
- Clothes not hanging properly.
- Local muscular aches
- Local ligament pain
- Decreasing pulmonary function is a major concern in progressive severe scoliosis.
- Curved posture
- Difficulty sitting or standing.
- Difficulty walking due to loss of leg muscle coordination.
- Humpback
- Leaning towards one side
- Nerve damage causes weakness, numbness, and pain in the legs and feet.
- Protruding rib
- Reduction in height due to a curved spine
- Shortness of breath and fatigue, caused by an upper spine curve.
- Spinal stiffness

While we can't eliminate the condition, we can control and slow that progression by reducing the curve and limiting its effects on a person's health.

Fortunately, naprapathy is an ideal treatment solution for this issue.

Naprapathy is an alternative medicine (CAM) that focuses on the treatment of Neuromusculoskeletal conditions.

Naprapathy is a system of techniques created by Dr. Oakley Smith, one of Dr. Andrew Taylor Still's students of Osteopathy. Thus, naprapathy has origins in Osteopathy, taking a holistic strategy to the healing process. It is distinguished by its hands-on approach involving manual techniques in correcting shortened or pathologic soft and connective tissues around the spine and other joints, such as ligaments and fascia. It relies on breaking up adhesions and restoring order to the body. It is mainly a combination of spinal mobilization, spinal manipulation, muscle stretching, and massage.

Naprapathy addresses and corrects the connective tissue tension in these ligaments, allowing lasting results, and enhancing posture. it may be used to treat patients presenting with deviations of the neck and spine and can play a part in treating and improving forward-head posture, kyphosis (excessive rounding of the upper spine or hunch-back commonly seen in the elderly population), lordosis (dramatic low back curve), and scoliosis (sideways deviation of the spine in a C or S shape). In this way, naprapathy enhances posture by addressing imbalances that contribute to back and neck pain.

Naprapathy addresses the underlying causes of pain and dysfunction, promoting long-term healing and treating chronic and acute issues. By reducing pain, improving range of motion, enhancing posture, reducing stress, aiding in injury prevention, and increasing quality of life.

Naprapathy offers valuable benefits for the neck and spine through the use of manual techniques, serving as an effective and safe option for individuals of all ages.

Naprapathy is suitable for individuals who experience imbalances and dysfunctions in muscular use patterns, posture, tension, headaches, stress, and muscular pain due to prolonged sitting or standing, sedentary lifestyles, motor vehicle injuries, work-related injuries, pre-and post-surgical cases, or sports injuries.

Naprapathy is appropriate for people seeking a gentler, more conservative means of pain and discomfort relief before considering pharmaceuticals and surgical interventions.

Here are some ways in which naprapathy might be applied in scoliosis treatment:

Pain Relief: Scoliosis can cause discomfort and pain due to the abnormal curvature of the spine. Naprapathy techniques, such as manual manipulation and soft tissue work, could help reduce muscle tension, improve circulation, and provide pain relief for individuals with scoliosis.

Improved Range of Motion: The manual techniques used in naprapathy could potentially help improve flexibility and range of motion in the spine and surrounding muscles. This might be particularly beneficial for individuals with scoliosis who experience limitations in movement due to their spinal curvature.

In naprapathy, oscillation is used to enhance the range of motion at every joint level, which serves this purpose more effectively than manipulation alone. Special care and attention while oscillating causes mechanoreceptors within the joint to reset. This is beneficial to restore range of motion, as the naprapathy essentially molds the ligaments into a more ideal position. What follows, is that the ligaments support the joints in normal alignment. Hence, the naprapath enables each vertebra to operate as it was designed to, moving freely, unlocked from a stuck state.

Naprapathy accomplishes this by treating the joint in a position of ease, molding it from every direction. This stimulates the loose ligaments, sending signals in the body for them to tighten up; meanwhile, tight ligaments release and loosen up, bringing equilibrium to all ligaments of that joint, and improving range of motion.

Postural Improvement: Naprapaths often focus on postural assessment and correction. While naprapathy may not directly correct the underlying curvature of scoliosis, it could help individuals develop a better awareness of their posture and make adjustments that minimize discomfort and strain.

Naprapathy helps enhance posture for the neck and spine by realigning the many ligaments in the spine; for each vertebra in the spine, there are 27 ligaments connecting it with the structures above and below it which hold the joints at their normal position, or their position of dysfunction. It is because of this that they play a critical role in our posture. One of the reasons for this instability is the fact that ligaments cannot stretch beyond 4% of their resting state without becoming damaged or sprained. However, manual therapy, such as naprapathy, can play a part in rebalancing the systems of the body and restoring optimal function. Using the same philosophy, naprapathy works on the neck and spine to restore health and function to the ligaments, treating instability and allowing the bodily systems to operate in alignment, preventing future injury. With naprapathy oscillation, a release of tension and improvement can be felt in minutes. However, there is more therapeutic benefit in having multiple treatments because ligaments are incredibly dense and strong, and take time to fully adjust. they are the densest of all the connective tissues in the body; thus, they play a significant role in good posture and poor posture alike.

Muscle Imbalance Correction: Scoliosis can lead to muscle imbalances as the body tries to adapt to the spinal curvature. Naprapathy's soft tissue techniques could potentially address these imbalances and help improve muscle function and symmetry.

Supportive Care: Naprapathy might be used in conjunction with conventional medical treatments for scoliosis, such as bracing or physical therapy. It could offer additional support in managing pain and discomfort, as well as promoting overall well-being.

CONCLUSION

Naprapathy has been found as an effective treatment for chronic pain and conditions that affect musculoskeletal disorders. It can truly help the body heal and restabilize itself. Naprapathy offers a comprehensive and effective solution for individuals suffering from scoliosis. By employing various manual techniques, naprapathy aids in reducing pain and easing the healing process.

The manipulation of soft and connective tissues, along with spinal mobilization, muscle stretching, massage, and oscillation, all contribute to pain reduction and improved function. One of the key benefits of naprapathy is its ability to improve range of motion and enhance posture. By targeting and correcting shortened and pathologic soft tissues, naprapathy helps to restore proper alignment to the spine and joints.

the goal of naprapathy treatments is to correct postural dysfunctions, decrease pain without the use of pharmaceuticals, re-educate the muscles on appropriate firing patterns, and loosen adhesions or tight musculature. Patient education is provided linking exercise and nutrition to prevent future injuries and pain syndromes. Medical massage, heat/cold therapy, gentle stretches, soft tissue, and joint manipulations, trigger point therapy, and other modalities are used to achieve this goal.

Case study

My client, a female, 68 years old, retired accountant presented to our clinic on Sept.10/ 2019. The client continues to receive treatment once every month until the present Feels much better on the neck, mid, and lower back, and hip on both sides with treatments.

PRIMARY REASON FOR VISIT

- Scoliosis on the upper back and lower back
- neck tightness on both sides
- shoulder tightness on the left side
- mid back tightness on both sides and spine
- lower back tightness on both sides
- left hip achy pain (lateral, posterior)
- relieve the tension
- left foot cramping (sometimes)

she was being treated for this issue before, she tried physiotherapy, chiropractic, and massage. she reports That pain is variable and feels worst in the morning.

standing, sitting for long periods, walking for long periods, and washing dishes, also aggravate the pain.

Yoga, movement, and stretching relieve the pain.

She suffers from scoliosis for a long time ago and it is due to work-related.

her T spine x-ray which was taken on Dec. 14/2018 and Nov.13/2020 indicates that there is scoliosis in T7-T8 with Cobb's angle of 18.5 degrees and T12-L1 with an angle of 19 degrees and intervertebral disc space lose identified at L3-L4 and L5-S1

Objective:

tightness on neck, shoulder, upper back, mid back, lower back, hip, IT band, and leg on both sides

stiffness in the mid back and lower back

right hip higher in standing position

Assessments

gait, postural, whole body ROM evaluation and assessment.

Treatment plan

MET, MOB, TPT, MFR on neck, shoulder, upper back, mid back, lower back, hip, thigh, IT band.

NAP on spine COT on head and neck.

taught some exercises and stretches for the neck, back, and hip, and handed over the whole body stretches chart to the client.

to follow up as needed.

Home Exercise Program for Scoliosis

Scoliosis is a term used to describe any abnormal, sideways curvature of the spine. Viewed from the back, a typical spine is straight. With scoliosis, the spine can curve in one of three ways: The spine can curve to the left, shaped like the letter "C" & The spine can curve to the right, shaped like a backward letter "C" & The spine has two curves, shaped like the letter "S"



The spine can be considered a building block, similar to the figure above. The long side of the block represents the lengthening (stretching) of your muscles. The short end of the block illustrates the shortening (contracting) of your muscles. Both extremes affect your ability to use your back muscles appropriately for posture and functional activities. It is important to attain and maintain a straight spine for your muscles to be used at their full functional level. To do so, you must become more aware of your body, especially your spine, to use self-correction to change your spine's position during daily activities.

For practice, the following exercises will focus on core strengthening, proprioception, and posture. Scoliosis exercises should be done carefully and performed with proper technique. Remember, the goal is to promote symmetry within the spine to regain trunk alignment.

1) Core Strength: Your core muscles include your abdominal muscles, back muscles, and muscles around the pelvis. These muscles are designed to protect the spine by creating a sturdy rod that limits excessive movement in any direction. Strong core muscles make it easier to do many physical activities.

2) Proprioception: Proprioception is the sense of the body in space regarding position, motion, and equilibrium. It uses receptors located in the skin, muscles, and joints to build the internal sense of your body.

3) Posture: Your spine is strong and stable when you practice healthy posture. But when you stoop or slouch, your muscles, and ligaments struggle to keep your body upright and balanced. Poor posture can stress or pull muscles, which may lead to pain. It is important that you practice and maintain good posture throughout the day. The more you practice good posture, the more

natural it will feel. Blocks: Shoulder Rib cage Hips Shifting away from vertical "C" Curve "S" Curve



GOOD STANDING POSTURE

GOOD SITTING POSTURE



Although good posture should be natural, you might feel stiff and awkward at first. The key is to practice good posture all the time: at home, school, riding in a car, eating a meal, etc.

These exercises are general exercises that can be used before initiating a physical therapy program that will highlight individualized corrections for specific curves. They are not specific to Schroth treatment but will improve proprioception, spinal mobility, and stability.

- Pelvic Tilts
- Cat-Camel
- Double-Leg Abdominal Press
- Single-Leg Balance
- 1) Pelvic Tilts

I) Pelvic Tilts



Lying on back with knees bent and feet flat on the floor. Flatten back by tightening stomach muscles and buttocks. Hold for 5 seconds, breathing normally.

Repeat <u>10</u> times per set. Do <u>2</u> set per session? Do <u>1</u> sessions per day.

2) Cat-Camel



On hands and knees, maintain tight abdominals with head straight (Photo 1). Take a deep breath in and lift your lower rib cage, round your back and relax your neck (Photo 2). As you breathe out, lower your chest towards the floor, looking slightly upward. Return to the beginning position with tight abdominals. Repeat __10__ times per set. Do __2__ set per session? Do __1__ sessions per day.



3) Double-Leg Abdominal Press

Lying on your back with knees bent and your feet flat on the floor (Photo 1), keeping your back in a neutral position. Raise your legs off the floor one at a time so that your knees and hips are bent at 90° angles (Photo 2, 3). Push your hands against your knees while pulling your knees

toward your hands, which will engage your abdominal muscles (Photo 4). Keep your arms straight! Hold for three deep breaths.

Repeat <u>10</u> times per set. Do <u>2</u> set per session? Do <u>1</u> sessions per day.

4) Single Leg Balance

(If possible, perform in front of a mirror to help visualize a straight spine.)



With your eyes open, bend one knee up and balance on one foot. At first, you may use your hands, like holding the back of a chair, table, or wall. As balancing gets easier, take your hand(s) away and place them out to the side. Challenge yourself by bringing your arms across your chest. Close your eyes for an even greater challenge.

Repeat _5_ times per set. Do _1_ set per session? Do _1_ sessions per day.

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CHOC children's orthopedic institute

Dr. Nuzum's notes on the DN course

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