

Getting it Straight

Scoliosis and Structural Integration

By Lana Lensman



Scoliosis affects 1 in 1,000 children, with approximately 500,000 children in the United States suffering from the debilitating condition. Unlike cancer and heart disease, scoliosis is rarely fatal. However, it can have a severe impact on a child's quality of life, both physically and psychologically.

Most children with scoliosis suffer from back pain. In many cases, they will spend their childhood wearing a full-torso brace.

Wearing a brace not only affects their appearance, creating self-esteem issues at a critical time when self-identity is being shaped, but also limits their ability to play, participate in sports, dance or perform other movements that are natural, healthy parts of a child's life. A brace can be uncomfortable to wear, limiting air-flow to the body, causing itching and creating rashes and/or skin sores. When a brace does not stop the progression of scoliosis, surgery is often performed to insert a metal rod into the spine to force it straight.

David Davis, an instructor for the Guild for Structural Integration in Boulder, Colo., began researching scoliosis more than 25 years ago. His wife Lorraine developed scoliosis at the age of 11, after being involved in a critical car accident. Her injuries resulted in a disparity in the length of her legs, an uneven base of support in her pelvis and chronic pain. Her discomfort motivated Davis to explore how structural integration (SI) could affect and change a debilitating condition such as scoliosis.

Researching Western medicine treatments for scoliosis, Davis found that the available options focused on the use of "force" either through bracing or surgery to create change in the spine over a long period of time, while not addressing the relief of pain. In contrast, practitioners applying structural integration philosophy to scoliosis-related issues believe the body has the ability to reorganize; in fact, to heal itself. A SI practitioner facilitates length and expansion in the body's structure, allowing the possibility for change. Lengthening through the soft tissues allows the body to restructure itself, coming back into positive relationship with gravity, returning to its natural, healthy, pain-free state.

Davis practiced SI techniques on Lorraine over a period of 25 years, recording the changes that were taking place in her structure. "I applied the 'Rolfian view,' looking at the three-dimensional pattern throughout the system rather than looking at scoliosis as only a spinal problem. This view of the body is invaluable and the understanding that the body is a 'plastic medium' is also essential to undertake a project of this nature," Davis says.

"The basic SI training I received taught me how to work with a rotated vertebrae and scoliotic patterns. However, while I worked with Lorraine I discovered that the SI work chased the strain up or down to the occiput or sacrum, hours or days later. The strain pattern was looking for the next place to get stuck. Out of concern for my wife's well-being I had to work on exploring alternative ways to relax and release and organize the scoliosis strain pattern throughout the structure. In 1977, Lorraine had a major breakthrough — her left femur released and seemed to grow. A deep scar pattern in her leg released,

allowing her pelvis to become more horizontal. Over time we significantly reduced her pain as the apex of the mid-thoracic curve moved more to center, creating a more even base of support. Her spinal pattern lengthened significantly and her pelvis is approaching horizontal now."

It is important to note that scoliosis reforms bone and becomes more difficult to liberate beyond 25 years of age. Adults can change scoliotic patterns but their bodies change

It is important to note that scoliosis reforms bone and becomes more difficult to liberate beyond 25 years of age.

more slowly and differently than with youth. Treatment during youth is the best opportunity to straighten bodies by changing the beginning patterns of scoliosis.

Scoliosis by Definition

Most people have a natural curve in their spine. When one views a normal spine from the side, curves are evident in the neck, upper back and lower back. These natural curves are needed to maintain appropriate balance over the pelvis. When viewing the spine from behind, it appears straight with minimal side-to-side curvature, unless the person has scoliosis.

Scoliosis, simply defined, is curvature of the spine. The curves are usually "C" shaped or "S" shaped, creating a twist in the spine. A curve on one side will form a compensating bend in the opposite direction. Scoliosis usually occurs in the mid-back (thoracic spine) or lower back (lumbar spine), resulting in a deformity that occurs in varying degrees, most commonly, side-to-side. Viewed from the back, the

curve can bend to the left or the right. A normal spine has a curve measuring less than 10 degrees. A practitioner will determine the angle of the curve using the vertebra at the apex of the curve as a starting point. A scoliotic spine measures curves of 10 degrees in mild cases and up to 90 degrees in severe cases.

The most common form of scoliosis is "idiopathic," meaning its cause is unknown. Eighty percent of scoliosis develops in adolescents, ages

10–18, and is more prevalent in girls than in boys. Scoliosis can also be found in adults, but more likely than not in those cases it was undiagnosed during childhood. In other cases, it is believed scoliosis can be caused by physical trauma or stress, such as a car accident, although infants can be

born with a severe deformity of the spine called congenital or infantile scoliosis. However this type of scoliosis is rare.

Research has indicated various possible causes of scoliosis, including connective tissue disorders, nervous system abnormalities, hormonal imbalances, genetic/hereditary factors and even consistent physical or emotional stress, but these theories have as yet to be validated.

Detection and Prevention

Evidence of scoliosis will usually first appear in children at the age of 8. Parents and practitioners should look for signs such as uneven shoulders, a prominent shoulder blade, an uneven waist, elevated hips or a tendency to lean to one side. In growing children and adolescents, mild curvatures of the spine can quickly become worse (10 degrees or more within a few months), so early detection is critical. Symptoms of scoliosis range from back pain to labored breathing, perhaps caused by pressure on the heart and diminished lung capacity.

Scoliosis is usually diagnosed in schools or by pediatricians using the "Adam's Forward-bend Test."

Because the curvature is most often in the thoracic spine, a noticeable hump in the rib cage or a fullness in the lumbar spine can be seen. It is common for unequal trunk muscle development to be misdiagnosed as a spinal deformity. An X-ray can confirm diagnosis and illustrate the magnitude of the curvature. Curves between 20–25 degrees require consistent monitoring. Any curve over 25 degrees in a child or adolescent will usually require some form of treatment.

Treatments

The common medical approach for scoliosis ranges from examination of the spine every 3–6 months in mild cases, to bracing and/or surgery in extreme cases. Severity and location of the curve, age, potential for further growth and general health of the patient all must be considered. The younger the patient, and the larger the curve, the more likely the condition will worsen.

Since scoliosis is considered a deformity, treatments are focused on reducing the progression of the deformity and not on the treatment of pain.

Bracing, the most common treatment used for scoliosis, is for curves of 30–40 degrees. A brace is used to stop the progression of the spinal curve, but it does not change the amount of curvature already present in the spine. Most curve progressions occur during a child's growth phase, and once the growth has ended curve progression is highly unlikely. Therefore, bracing can be used from infancy through adolescence. Braces have replaced the use of full torso un-removable casts of the past and are usually worn 23 hours per day.

Surgery is used to provide stabilization of the spine. In a procedure called "Bone-Fusion" the orthopedic

surgeon takes tiny pieces of bone from the patient's pelvis and inserts them between the vertebrae hopefully stimulating the bones to eventually grow together. During the surgery a metal rod, hooks and wire are inserted to keep the spine straight until the bones fuse. The rod is never removed because that would require another extensive surgery. Recovery time is usually one week; normal physical activities can be resumed in 3–4 months and, in most cases, all normal activities with no restrictions resumed in a year.

SI and Scoliosis

Practitioners of SI use connective tissue as the medium to create structural change in the body. Through a form of deep tissue manipulation the connective tissue is released and reshaped, allowing the body to become re-aligned and more efficient. SI is performed in a series of 10 weekly sessions (called the 10-series) and then adapted thereafter to the special needs of the

thorax, pelvis and legs and their external landmarks — ears, shoulders, hips, knees and ankles. This efficient balance can become distorted and the balanced relation destroyed due to physical trauma or stress, creating a body that is now random. Once the vertical line has been destroyed, the unremitting drag of gravity is one of the most relentless factors in destroying efficiency. The body is a plastic medium; therefore it can be restored to verticality. The vertical line reappears and becomes self-perpetuating. As the body again learns efficient movement, the muscles designed for structural balance can cooperate creating a symmetrical effective body." It is this philosophy that forms the basis for SI as a viable treatment for scoliosis.

The Scoliosis Workshop

Through Davis' personal experience in treating his wife's scoliosis and healing the scoliosis clients that came to see him over the years, he believed he had gained insight and understanding into how to "unwind" or relieve the strain patterns of scoliosis.

In 1996 Davis traveled to Israel to teach a basic SI course.

During the trip he met Gabriel

Rosenthal, an SI practitioner in Israel who had been

doing extensive research on the history of treating scoliosis.

"Rosenthal, a researcher by nature, had been studying scoliosis for some time and had accumulated thousands of pages of documentation on the methods used to address scoliotic patterns. He strongly believed that SI was effective in working with the scoliotic body," Davis says.

"We worked together to present our research to the Guild, with recommendation to start a scoliosis workshop. We consolidated Rosenthal's information into 300 pages of documentation, which has become the →

Eighty percent of scoliosis develops in adolescents, ages 10–18, and is more prevalent in girls than in boys.

client. The 10-series is a very precise process, following tension patterns in the body, beginning on the surface and progressively working into the deeper layers of connective tissue.

Ida Rolf, founder of SI, addressed the use of the treatment to make changes in the structure of the spine in *The Body is a Plastic Medium*, published in the early 1960s. She writes, "The design of the body calls for balance within the myofascial system. Such a balance between muscular components may be recognized by an imaginary vertical line joining the center of gravity with the various blocks of the body, head,

Look for signs such as uneven shoulders, a prominent shoulder blade, an uneven waist, elevated hips or a tendency to lean to one side.

training material for the course. Rosenthal traveled to the United States to participate in the first scoliosis workshop in 1998.

Susan Melchoir, director of The Guild, is responsible for designing and coordinating workshops and training programs offered to SI practitioners. "David Davis, members of the faculty and other practitioners had communicated over the years their experiences in working with scoliotic clients and a desire to learn more about the benefits of SI work on individuals with scoliosis," she says. "When Davis and Rosenthal submitted their proposal we felt this would be a good addition to our current training program. The workshop was originally created as a two-week course, but due to time conflicts of practitioners it was condensed and is now being offered as a six-day workshop."

The course is limited to practitioners who have completed the SI basic training and understand the SI model of organizing the body within the 10-series framework. The curriculum includes: Origins and diagnosis of scoliosis, the understanding of scoliotic patterns in the body and the principles of personalizing SI to the scoliotic client, with emphasis on the three-series, post-ten integrative sessions. Practitioners learn new tools and strategies to work with "normal" as well as scoliotic bodies. In each workshop practi-

tioners have a minimum of two models to work with and to learn from. The goal of the workshop is to not only provide practitioners with the information, hands-on experience and accomplishment of creating positive change in a scoliotic body but to benefit the bodies of the participating models. Success in the workshop is achieved when a model's pain and strain patterns have been diminished, resulting in a more open, lengthened, balanced structure. As yet there have been no known contraindications in working with scoliotic models.

Conor's is but one of the many success stories (at right) for which SI is responsible. And the surface has just barely been scratched.

With legitimate research, case studies and even a continuation of anecdotal trials, SI can find scientific legitimacy and be considered a viable alternative for treating the thousands of children affected by the debilitating condition each year. **M&B**

Resources

For more information on scoliosis, contact:
The Scoliosis Association — www.scoliosis-assoc.org
National Scoliosis Foundation — www.scoliosis.org
Scoliosis Research Society — www.srs.org

To find out more about structural integration, SI training programs and the scoliosis workshop, contact The Guild for Structural Integration at 800/447-0150 or 303/447-0122; www.rolfguild.org.

Lana Lensman is a Portland, Ore., freelance writer specializing in health and fitness. She also is a consultant to the complementary health industry.

A Case Study: Conor's Story

Conor was 16 years old when he came to see Betsy Gillis, a Colorado SI practitioner. Over the summer of 1996 he experienced a massive growth spurt, gaining 3–4 inches in height. He also developed a sudden and severe occurrence of adolescent scoliosis. Gillis believed the sudden change in his structure caused one of his lower lumbar discs to bulge and become extremely compromised.

"Conor was an attractive boy involved in sports and an honor student. When he came into my office for his first session in the fall of 1996, he was withdrawn and insecure about his sudden change in appearance," Gillis says. "Because of Conor's self-consciousness about his condition, a 'before' picture seemed unnecessarily insensitive. We had yet to establish a relationship and his sense of comfort and safety was a priority. However, due to the dramatic shift that occurred during session one, we decided a picture would be taken to track his further progress."

A modified SI session was performed incorporating techniques normally used in sessions one through three. These sessions (out of the 10-series) focus on creating space around the core, enabling the core to lengthen and expand, and allowing the body to reorganize vertically and heal itself.

"There was a significant amount of immobility and tension found in the structure around the ramus of the pelvis," Gillis explains. "The pelvic floor and the tissue attached to the coccyx were nearly indiscernible from the bone itself. Conor's shortened core had become tighter while the sleeve around it still managed its growing spurt."

After the third session there was dramatic improvement in the length and vertical orientation of the spine and supporting structure, including a reduction in the amount of torque and stress upon the lumbar disc. The tension seemed to be easing in Conor's body.

Conor's parents wanted reassurance that SI was the best course of

scoliosis

action so they sought out the services and advice of a local osteopath. Assessing Conor's situation as a "protective scoliosis," he said he believed the structure had suddenly shortened to immobilize the previously compromised disc to prevent further rupture. His opinion was that any rapid increase in the length of the supporting structure of the spine could result in permanent spinal damage. Gillis reviewed Conor's case with two instructors at the Guild and was advised to stop working with Conor.

Gillis could not let go of the question: Was the spine curved because the core had shortened prior to the disc strain or had the erectors and deeper core structure shortened suddenly as a protective function of the distressed disc? What about the basic tenet of giving a troubled structure length and space within which to heal?

Heeding her associate's advice, Gillis discontinued the SI sessions. After a few months, Conor called Gillis. The boy was discouraged with his continuing pain and the lack of improvement in his structure. "Conor was trying other alternative therapies during this time, but he seemed to have an internal sense that SI was the most effective treatment for him. He made the decision on his own that it was time to proceed with the remaining sessions of the 10-series and his parents respected his decision," Gillis says.

Sessions four through seven of the 10-series focus on the "liberation of the

core," working below, on, in and around the pelvis, moving sequentially up the spine, abdomen and thorax into the cranium to lengthen and decompress the spinal pattern, while horizontalizing the pelvis as the base of support. "These four sessions, the core of the series, were important to Conor's progress because the verticality of Conor's spine had been severely compromised due to the shortening of the supporting myofascial structures surrounding it," Gillis says. "As I worked with the tissue around the pelvis, it softened, allowing length to extend up through the spine, creating the space in which to straighten. Freeing the pelvis and spine from compensatory tensional patterns gave Conor the length he needed. He was progressing more quickly and deeply during these four sessions than I had expected."

Gillis arranged for sessions eight through 10 to be performed in the company of Davis. These sessions are the integrative essence and art of the 10-series, balancing the body in the field of gravity.

"With Conor, Betsy and I worked four-handedly, two practitioners in concert, to achieve the dynamic fine-tuning Conor was looking for and needing to be stable, resilient and open enough to continue changing positively with the aid of the gravitational field, which had been magnifying and increasing his curvature," Davis says.

"Throughout the final sessions the structure continued to ease and a quality of subtle mobility and freedom from very deep in his body emerged," Gillis says. "Conor also seemed to emerge from his withdrawn state into a light, playful interaction. This was the most profound, rewarding aspect of his healing process."

Gillis continued to monitor Conor's process, arranging follow-up sessions to ensure the spine was not moving back into its prior condition. Pictures were taken to monitor and track his progress. Three years later, Conor's spine remained straighter, indicating a progression of positive, permanent change.



This series shows Conor's spine at one-, two- and three-year intervals after the 10-series. He was 18 in the top photo.



Conor's progress at age 16 is shown during the 10-series. The top three photos were taken within one month, about 10 days apart. The last two were taken four months later within a two-month time frame.

Photos courtesy of Lana Lensman.

Copyright © 2003 EBSCO Publishing