JUNE IS NATIONAL SCOLIOSIS AWARENESS MONTH
Straightening Spines with Non-Invasive Scoliosis Treatment
By Dolly A. Garnecki, D.C.

Charlottesville, VA – For nearly half a century, the only treatment options for patients suffering from this disease, that affects the neuro-musculoskeletal system, have been back surgery or wearing a restrictive brace over the torso for 23 hours per day. However, a new treatment for scoliosis now offers a non-invasive and non-bracing alternative. The new method combines vibration therapy and chiropractic adjustments while retraining the position and orientation of the body.

Detection and Diagnosis
Often, the first indication of scoliosis is abnormal posture that can be detected through postural screenings. The most common postural abnormalities presented with scoliosis are a right head tilt, a high and forward right shoulder, and a high right hip that is also rotated forward. When viewed from the back, the right scapula is often elevated and there is a pronounced rib hump on the right side. The crease for the waistline is also asymmetrical.

From a side view, the head and neck is jutted forward instead of seeing a normal presentation where the middle of the ear is centered over the shoulder that is centered over the pelvis, knee, and ankle. The head jutting forward is called forward head posture, and it is due to loss of curvature in the neck. The average adult skull (and its contents) weighs about 10 pounds. For every inch of forward head posture, the skull feels as if it weighs an additional 10 pounds. Someone with a straight neck might feel as if his head weighed up to 30 pounds. Loss of curvature in the neck causes the spine to lose its ability to function in properly supporting the weight of the head and the weight of the body against gravity. The body reacts and adapts to loss of curvature in the neck by buckling. Then, it creates a curve in the lateral dimension to help support the weight of the upper body.

In addition to posture analysis, scoliosis is diagnosed through an x-ray study and mathematical measurement of angles, called Cobb’s angle. A Cobb’s angle 10 degrees or greater is indicative of this neuro-musculoskeletal condition. Scoliosis is most commonly found in children and adolescents ages 10 to 16. Its progression is marked by hormonal changes that occur in the body; so during puberty and menopause, scoliosis has a tendency to increase in severity.

According to the National Scoliosis Foundation, symptoms may include back pain, neck pain, hip and knee pain, headaches, fatigue and, in severe cases, difficulty walking or breathing. Of greatest concern, however, are the affects of scoliosis on the heart and lungs that can lead to an earlier death by as many as 14 years.

No one knows what causes scoliosis, and there is no cure. Yet, more and more doctors are finding that there is a correlation in patients with scoliosis who also had some sort of traumatic birth event. A stressful birth experience resulted in a forceful pulling and twisting of the baby’s head from the birth canal that may have lead to ligament damage around the vertebral bones of the upper part of the neck. Ligament laxity or damage in the upper neck is found more and more frequently in the presentation of idiopathic scoliosis.

Studies indicate the prevalence of scoliosis is anywhere from 4.5 percent to as much as 15 percent of the general population. In 1988, a study was published by Brigham Young University finding that 12 percent of college-aged women had scoliosis.

Traditional Medical Treatment
Methods and Pitfalls
There are three structural components to the manifestation of scoliosis: 1) compression, 2) lateral flexion or sideways bending, and 3) rotation. All three components contribute to the abnormal position and posture of the spine. However, the traditional methods of bracing and surgery only address the lateral flexion or sideways bending of the spine. They do not address the rotational or compression components.

Traditionally, when a scoliosis is first detected and the measurement is between 10 and 25 degrees, doctors instruct patients to “watch and wait.” The observation period of a mild scoliosis is a lot like waiting for a hurricane to make landfall. The condition won’t stop on its own, and it most certainly won’t reverse. As previously mentioned, scoliosis tends to progress with hormonal changes during puberty and menopause.

Once the scoliosis measurement has progressed beyond 25 degrees, patients are instructed to undergo surgery to correct the deformity. Traditionally, the surgical treatment is to perform a spinal fusion, or “fusion surgery.” The spine is stabilized with rods, wires, and bone grafting material to fuse the vertebrae together in a fixed position.

Non-invasive treatment is offered through The Hook Treatment. The Hook Treatment involves a combination of vibration therapy, postural retraining, and balanced exercise, all while retraining the position and orientation of the body. It is a non-invasive and non-bracing alternative to scoliosis treatment.

Photo by: The Hook/Courteney Stuart, 2009
degrees, doctors then recommend a brace where the goal is to arrest the progression of scoliosis. There are studies that indicate bracing can actually make scoliosis worse since muscles weaken and rely on the brace for support. Once the brace is removed, the body collapses back into the abnormal posture associated with scoliosis. With weakened muscles in the trunk, the body can collapse into a more severe scoliosis when the brace is no longer being worn. Research literature indicates that bracing has anywhere from a 44 percent to 88 percent failure rate.

Kayla Lisa, who wore a scoliosis brace as a child, recalled “My brace became too small for my growing body. I was disappointed that after all those years of wearing the brace, it only stabilized my back and once I was unable to wear it, the scoliosis became worse.”

Of those being braced, studies indicate that 60 percent to 70 percent of the patients are negatively affected psychologically and 14 percent are permanently scarred after wearing the brace. Dr. DeJeanne Denet a chiropractic physician in Belle Chase, Louisiana who wore a brace as an adolescent remarked, “I was compliant with the brace for about a month, and I wore it off and on for about a year. It was very debilitating and uncomfortable. It covered my whole torso including my hips. I could not even bend over to tie my own shoe without assistance from someone else. Every time I put it on, it made me feel self-conscious and helpless. I also had to wear the brace for 23 hours a day, meaning I had to sleep in it.”

The final traditional treatment method is surgery that is recommended in adolescents when Cobb’s angle measurements exceed 40 degrees and in adults with measurements greater than 50 degrees. Today, approximately 95 percent of scoliosis surgeries involve the use of Herrington rods that are used to fuse the spinal bones involved in the lateral bending of scoliosis. Studies indicate that the nearly universal side-effect of surgery was a 25 percent reduction in mobility. And, by the 17th post-operative year, up to 40 percent of patients who had scoliosis surgery were legally defined as severely handicapped. According to a study in the Journal of Bone Joint Surgery in 1987, “frequency of pain was not reduced...pulmonary function did not change...40% had minor complications, 20% had major complications, and there was 1 death (out of 45 patients). The side effects of surgery are extremely grave. It appears much less risky to avoid this option altogether.

Bracing and surgery only address the lateral component of scoliosis. Neither of these traditional methods addresses the other two components of scoliosis: compression and rotation. Both have a number of significantly negative side effects.

Non-Invasive Treatment

On the other hand, a non-invasive treatment method for scoliosis developed by doctors at the Clear Institute in Minnesota, marks the first alternative available to scoliosis patients in a number of years. Repeated success at multiple clinics throughout the world have helped patients not only reduce pain, increase lung volume, but also restore curvature to the neck and reduce scoliosis Cobb angle measurements. In a pilot study on the scoliosis reduction and rehabilitation protocol published in BioMed Central in 2004 studied 19 subjects. After 4-6 weeks of treatment, all of the subjects averaged a 62% decrease in their Cobb angle measurements, and none had an increase in Cobb angle measurements.

On the first visit, a full patient case history is recorded followed by a complete orthopedic and neurological examination that includes testing of balance and lung capacity. Postural analysis and an x-ray study determine any deviations from a mathematical model of normal symmetry.

The non-invasive treatment has three phases per visit: mix, fix, and set. The mix phase is used to warm up the soft tissues of muscles and ligaments holding the spine in place. They are extremely tight in an asymmetrical presentation in response to the abnormal postural positioning of the spine, and the spine cannot be repositioned until the soft tissue that’s attached to them is first made more pliable. The muscles and ligaments are loosened through a series of six warm-up modalities and exercises.

Next, the fix stage occurs through specific chiropractic adjustments applied to joints of the spine from the upper neck down to the pelvis as well as the ribs and shoulders. The adjustments are based on 41 different measurements and 23 specific angles determined from an x-ray study. The measurements are derived from mathematical and biomechanical principles due to the abnormal positioning of the spine detected from x-rays.

Finally, all of the soft tissue and spinal changes are set in place through neurologically re-education that teaches the body to hold and begin to maintain its new position. Retraining of the muscles that provide postural stability is necessary since they function at an involuntary and unconscious level. This retraining occurs through use of specially designed equipment that provides whole body vibration, spinal traction, and de-rotation.

A re-examination and any necessary interim x-ray views are taken to determine the patient’s structural and biomechanical adaptation to treatment through mathematical and objective analyses. Treatment continues until the treatment goals are reached.

Justine Lisa of Charlottesville states, “Before I began my scoliosis treatment, I had so many pains and problems with my back. I felt like I was the only person on the face of this planet with this problem. After a few weeks of treatment, I started to notice extremely large changes. My breathing became better, my clothes were getting more comfortable, and my favorite, the part of my back that was uneven started to level! It is taking a lot of patience and time to fix my scoliosis. I know that under the chiropractic care of Dr. Dolly and her staff, anything can be accomplished, and it will only get better from here!”

Her sister, Kayla Lisa of Charlottesville commented on what it feels like to go through a treatment session, “I can tell that it is something positive for my body. After just a few appointments, my back felt much better. The pain isn’t necessarily sharp excruciating pain...its more of a soreness, the “new workout at the gym” pain. Over time, your body gets used to it and it actually feels good. It is refreshing to get everything back in alignment.”

Commitment to Early Detection

June is Scoliosis Awareness month. As a chiropractic physician eager to raise awareness and detection of scoliosis in children, I learned that it has been over a decade since most Virginia schools offered scoliosis screenings. As a result, I am currently working with the Virginia Chiropractic Association and two pilot schools in Charlottesville to develop a school screening program that will be able to provide earlier detection of scoliosis. My goal is to teach school nurses and doctors how to perform more thorough postural and spinal screenings so we can detect this disease early and prevent its debilitating effects.

Keys to Success

The keys to success with this chiropractic and rehabilitative treatment approach invoke teamwork and compliance. The patient must be willing to engage in
home exercises and stretches on a daily basis in addition to the rehabilitative therapies and chiropractic adjustments received in the office. Teamwork involves the patient, the parents, the doctor, and the staff to achieve measurable goals and desired results. It is imperative to note that treatment goals cannot be reached if the patient is not consistently doing her part of the home care regimen.

Dr. Randy Michaux, the director of Advanced Spinal Care in Ashburn, Virginia remarks “The protocols set forth by CLEAR Institute have been extremely helpful in the rehab process for my patients. I have found that warming up the spine prior to adjusting increases [patients’] range of motion and aids in [delivering] the chiropractic adjustments. I have had several patients tell me they appreciate and enjoy the process because it is addressing all the components of the spine....They like having a goal that they know we both are working toward, namely correction of their spine.”

It’s better to catch scoliosis early when the measurements are less than 25 degrees than to wait until it’s progressed to the point where degeneration of the spinal discs occur leading to spinal fusion over time as the body adapts to the stress of the abnormal position. The Mix-Fix-Set protocols were developed as a response to the failure of the traditional model of “watch and wait.” Early detection and intervention can help a young person avoid the physical and emotional effects of scoliosis. The earlier a child’s scoliosis can be detected, the better reductions and better corrections can be achieved using these non-bracing and nonsurgical methods.

Dr. Denet came to Charlottesville for a week of intensive scoliosis treatment. “When I came to Dr. Garnecki for treatment, I was suffering from upper back pain and knee pain. After two treatments, I felt significantly better, and I also noticed that my breathing had improved. I could take deeper and fuller breaths compared to before I began treatment. Afterward, my back felt straighter; I had more flexibility, and I felt I had less pressure on my hips and low back. By the end of one week, the pain in my upper back and knee were completely gone. Furthermore, my scoliosis decreased from 40 to 36 degrees in my thoracic spine, and my lumbar curve went from 55 to 52 degrees after one week of intensive treatment! I am so grateful to Dr. Garnecki, because she really cares, and she worked hard to help me achieve these results! Now I know there is a true solution to scoliosis without surgery.”

Dr. Garnecki is a Virginia Chiropractic Association (VCA) member and the director of Spinal Health & Wellness in Charlottesville, VA, where she provides leading edge, non-bracing and non-invasive scoliosis treatment. For a highly trained doctor of chiropractic in your area, call the VCA office at 540-932-3100 or visit the Find-a-Doc section of VCA’s web site, www.virginiachiropRACTIC.org.