

Introducing New Possibilities for the Reduction and Correction of Scoliosis



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Dedication

I would like to dedicate this text to individuals currently living with Harrington rods fused to their spines. Their personal testimonials of the pain and disability associated with long-term implantation of the Harrington rods, and the courage they exhibit every day in dealing with these debilitating side effects, have inspired me to write this.

To Tracy –

In memory of those who passed away while undergoing the scoliosis surgery.

To Lori –

Every parent wants to give their child a better life... you have.

And I also dedicate this to people living with scoliosis,
both young & old, who refuse to accept the medical paradigm,
and never stop searching for a better way...
...until they find it.

To Jonathan –

*Spared the wrath of both Hurricane Katrina & the Harrington surgery
(to decide which one is more devastating would be impossible).*

To Hope –

*Whose parents have literally been around the world & back, and never, ever gave up.
You have the most beautiful name in the world.*

To Samantha & Sasha –

Living proof that scoliosis cannot reduce a woman's beauty.

To Dr. Harmony, Dr. Cheryl, Dr. Mitchell, & Dolly –

For proving that persistence succeeds when all else fails.

And to everyone else, too many to list:

Thank you for your inspiration.

Keep smiling.

Together, we will win the battle against scoliosis.

Introduction

The thoughts, ideas, and recommendations presented in this brochure should be considered investigational and experimental ONLY. To date, only one study has been published regarding this new biomechanical method of treating scoliosis, and clearly this is not enough to prove its effectiveness. It is our goal to implement a larger, long-term study to follow up on the promise offered by this initial research as quickly as possible.

I wrote this brochure because, over the years I have spent working in my father's chiropractic clinic, I have developed a great deal of respect and even admiration for the men and women of all ages who have come to us for treatment of their scoliosis. I have listened to their stories, empathized with their pain, and shared in their joy as positive changes were made to their so-called "incurable" condition. I have also formed close, personal relationships with men and women who, in their youth, had undergone the Harrington rod implantation surgery in an attempt to halt the progression of their scoliosis and, sadly, found the quality of their lives worsened, rather than improved, by the procedure.

Scoliosis is estimated to affect 4.5% of the general population. In a nation of approximately 273 million people, this means that over 12 million cases of scoliosis exist, and almost 500 more are diagnosed each day – about 173,000 every year. According to some studies, the average scoliosis patient will suffer a 14-year reduction in their average life expectancy¹. This means that if by some miracle we could eliminate scoliosis completely, this would add 168 million years of health and productivity to our society. Clearly this is not a minor issue, but an epidemic, and one that should be taken very seriously. Finding a proven and cost-effective method of treating scoliosis should be the chiropractic profession's top priority. Until we have done so, I do not believe that any chiropractor in the world has the right to describe themselves as "spinal experts."

There are no scoliosis experts. If there were, there would be no scoliosis patients. The information I offer in this brochure is intended to be the first step in a long journey towards coordinating the care and correction of scoliosis patients throughout the world. Please consider it carefully, evaluate the alternatives, and then make a conscious and deliberate decision on its validity. For too long, professional jealousy and the status quo have dominated all facets of the healthcare profession. It is time to refocus on the real reason this profession exists – to serve our patients. Let us place the health and well-being of those who have been entrusted to our care before any personal considerations, and work together to find the most effective cure for every condition.

If this brochure has found its way into your hands, there must be a reason. Please do not hesitate to copy and distribute the information herein to all who might benefit from it, but under no condition should you sell it for a profit. As the author, I have made a personal oath to share the information in this article without regard for financial compensation, and I encourage you to do likewise.

I thank you sincerely for taking time to read this brochure, and pray that it inspires and rekindles in you the passion for life, health, and happiness that has led each of us to walk this path.

Scoliosis Surgery: the Untold Truth

Every year in the United States, roughly 20,000 Harrington rod implantation surgeries are performed on patients with scoliosis, at an average cost of \$120,000 per operation². One-third of all spinal surgeries are performed on scoliosis patients.

Every year, about 8,000 people who underwent this surgery in their youth for the correction of their scoliosis are legally defined as permanently disabled for the rest of their lives⁸. Even worse, follow-up x-rays performed upon these individuals reveal that, an average of 22 years after the surgery was performed, their scoliosis has returned to pre-operative levels³. The Harrington rods inserted into their spines will either bend, break loose from the wires, or worse, break completely in two, necessitating further surgical intervention and removal of the rod. Once the rod is removed, corrosion (rust) is found on two out of every three⁴.

After the operation is performed, the average patient suffers a 25% reduction in their spinal ranges of motion⁵. Non-fused adult scoliosis patients do not have this same impairment. This flatly contradicts the claim that having a steel rod fused to your spine will not affect your mobility, physical activities, or quality of life.

These facts are never shared with the patient prior to the surgery. Parents do not choose the Harrington rod implantation procedure because it is the best choice for their son or daughter, but rather because they are misled into believing that it is the *only* choice. However, many studies suggest that the side effects of the surgery are worse than the side effects of the scoliosis itself. Consider the titles & conclusions of the following studies:

Treating Scoliosis in Young Unneeded

Journal of the American Medical Association (JAMA), Stuart Weinstein, MD, University of Iowa, 2003.

“Many with curvature of spine go on to lead normal lives. Many adolescents diagnosed with spine curvatures can skip braces, surgery or other treatment without developing debilitating physical impairments, a 50 year study suggests.”

Long-term results of quality of life in patients with idiopathic scoliosis after Harrington instrumentation and their relevance for expert evidence

Gotze C, Slomka A, Gotze HG, Potzl W, Liljenqvist U, Steinbeck J.

Z Orthop Ihre Grenzgeb 2002 Sep-Oct;140(5):492-8

“CONCLUSION: Forty percent of operated treated patients with idiopathic scoliosis were legally defined as severely handicapped persons 16.7 years after the surgery.”

Medical Complications in scoliosis surgery

Curr Opin Pediatr 2001 Feb;13(1):36-41

“[Complications] include the syndrome of inappropriate antidiuretic hormone, pancreatitis, superior mesenteric artery syndrome, ileus, pneumothorax, hemothorax, chylothorax and fat embolism. Urinary tract infections, wound infection and hardware failure are not addressed.” [They were not addressed because happened so often!]

Results of Surgical Treatment of Adults with Idiopathic Scoliosis

J Bone Joint Surg AM 1987 Jun;69(5) :667-75 Sponseller, Nachemson et al,

“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]. In view of the high rate of complications, the limited gains to be derived from spinal fusion should be assessed and clearly explained to the patient.”

Corrosion of spinal implants retrieved from patients with scoliosis

Akazawa T, Minami S, Takahashi K, Kotani T, Hanawa T, Moriya H.

Department of Orthopedic Surgery, Graduate School of Medicine, Chiba University, 1-8-1 Inohana, Chiba, 260-8670, Japan. J Orthop Sci. 2005;10(2):200-5.

“Corrosion was seen on many of the rod junctions (66.2%) after long-term implantation.”

Scoliosis curve correction, thoracic volume changes, and thoracic diameters in scoliotic patients after anterior and posterior instrumentation

Int Orthop 2001;25(2):66-0

“The correlation between the change in Cobb angle and the thoracic volume change was poor for both groups.” [e.g., whether fused in the front or back of the spine, surgery will not improve cardiopulmonary function.]

Radiologic findings and curve progression 22 years after treatment for AIS

Spine 2001 Mar 1;26(5):516-25

“Initial average loss of spinal correction post-surgery is 3.2 degrees in the first year and 6.5 after two years with continued loss of 1.0 degrees per year throughout life.” [So, if a 50 degree Cobb angle is corrected by surgery to 25 degrees, it will return to its pre-operative condition of 50 degrees after roughly twenty years.]

Prospective Evaluation of Trunk Range of Motion in AIS Undergoing Spinal Fusion

Spine 2002 Jun 15;27 (12) :1346-54 Engsberg et al, Wash U, St. Louis, MO

“Whereas range of motion was reduced in the fused regions of the spine, *it was also reduced in un-fused regions* [emphasis added]. The lack of compensatory increase at un-fused regions contradicts current theory.”

Health-related quality of life in patients with AIS; a matched follow-up at least 20 years after treatment with brace (BT) or surgery (ST)

European Spine Journal 2001; Aug; 10(4): 278-88

“49% of surgically-treated patients admitted limitation of social activities due to their back.”

<p>Paul Harrington, known for inventing the surgery that implants metal rods in scoliotic spines, stated in 1963 that, "<i>metal does not cure the disease of scoliosis, which is a condition involving much more than the spinal column.</i>"</p>

Out of the scientific journal Pediatric Rehabilitation comes perhaps the most truthful and compelling study ever published on scoliosis surgery:

Impact of Spine Surgery on Signs and Symptoms of Spinal Deformity

Pediatr Rehabil. 2006 Oct-Dec;9(4):318-39

Hawes, M.

University of Arizona, Tucson, AZ 85721, USA.

“Pediatric scoliosis is associated with signs and symptoms including reduced pulmonary function, increased pain and impaired quality of life, all of which worsen during adulthood, even then the curvature remains stable. Spinal fusion has been used as a treatment for nearly 100 years. In 1941, the American Orthopedic Association reported that for 70% of patients treated surgically, outcome was fair or poor: an average 65% curvature correction was reduced to 27% at greater than two year follow-up and the torso deformity was unchanged or worse. Outcome was worse in children treated surgically before age 10, despite earlier intervention. Today, a reduced magnitude of curvature obtained by spinal fusion in adolescence can be maintained for decades. However, successful surgery still does not eliminate spinal curvature and it introduces irreversible complications whose long-term impact is poorly understood. For most patients there is little or no improvement in pulmonary function. Some report improved pain after surgery, some report no improvement, and some report increased pain. The rib deformity is eliminated only by rib resection, which can dramatically reduce respiratory function even in healthy adolescents. Outcome for pulmonary function and deformity is worse for patients treated surgically before the age of 10 years, despite earlier intervention. Research to develop effective non-surgical methods to prevent progression of mild, reversible spinal curvatures into complex, irreversible deformities, is long overdue.”

Good Questions & Honest Answers

Q: There's a lot of controversy about whether or not bracing works. What is your opinion about treating scoliosis with a brace?

A: The controversy over the effectiveness of bracing is somewhat misleading. You will never find any doctor in the world claiming that bracing will reduce or correct scoliosis; rather, the debate is over whether or not wearing a brace will prevent the scoliosis from getting worse. When doctors state that bracing “works,” what they’re really saying is that it stabilizes the scoliosis, keeping it at its current position. Most doctors will insist that bracing does “work” – with proper compliance. Recommended compliance is twenty-three hours per day, every day. If this seems a little extreme to you, you’re not alone.

In a study published in the American Journal of Orthopedics, 60% of the patients surveyed felt that bracing had handicapped their life, and 14% felt it had left a psychological scar⁶. The Children’s Research Center in Dublin, Ireland, has not recommended bracing as a treatment for scoliosis since 1991, stating, “If bracing does not reduce the proportion of children with AIS [adolescent idiopathic scoliosis] who require surgery for cosmetic improvement of their deformity, it cannot be said to provide a meaningful advantage to the patient or the community.”⁷

Q: If it is so harmful, then why is the Harrington rod implantation surgery still being performed in the United States?

A: First, many healthcare professionals are not aware of the scientific literature that details the negative side effects of the procedure. Also, very little follow-up with the patient is performed after the operation. Many surgeons believe that the surgeries they perform are beneficial to the patient because no one has returned to their office after the operation to inform them otherwise. Doctors are desperate to meet their patients’ demands for treatment of their scoliosis, but have no options besides prescribing bracing (which, at best, only slows or stops progression, and at worst, actually worsens the scoliosis by weakening the postural muscles), or performing the surgery.

Obviously, if surgeons stop performing this surgery, they stand to lose a great deal of money. Alternative treatment methods for scoliosis are simply not explored by the established medical community because of the possibility that they may prove to be more effective and less costly, thereby eliminating both the need to treat scoliosis surgically, and also their source of income.

Q: Why will my insurance company pay for the Harrington rod surgery, but not alternative methods of scoliosis treatment such as chiropractic?

A: The answer is deceptively simple, and unfortunately based upon the laws of economics, rather than what is best for the patient. The insurance companies are undoubtedly aware of the research stating that 40% of operated patients are legally defined as permanently handicapped for the rest of their lives⁸; in such an event, the insurance company’s financial responsibility for that patient is terminated, and federal Social Security & Disability programs are responsible for covering all medical expenses.

Q: Why should I seek treatment for my scoliosis from a chiropractor certified by CLEAR Institute? What do they know that my regular D.C. doesn't?

A: Typical chiropractic adjustments have been proven to be ineffective or even harmful to the scoliotic patient, due to the mobilization of fixated vertebrae by the adjustment. While this may cause pain relief in the short term, the long term result is increased progression of the Cobb angle. CLEAR practitioners are not focused on relieving pain, although this is certainly the end result. Chiropractors trained by CLEAR Institute are committed to achieving structural changes to the spine that will allow the body to de-rotate and correct itself, and use specific, reproducible precision x-rays that are analyzed according to exact guidelines to measure and quantify the change.

Q: My scoliosis is termed "idiopathic," meaning the cause is unknown. Is it true that I inherited this condition from my mother?

A: Scoliosis is not a genetic mutation, or a reaction to heavy backpacks worn in adolescence, or the result of an anatomical short leg. In fact, a recent study published in the scientific journal *Spine* in 2006 asserted that no specific gene has ever been linked to scoliosis⁹. Scoliosis is the body's natural and innate response to the loss of mechanical function provided by the normal curves of the spine. When these curves disappear, the body re-inserts them in another dimension. If scoliosis has a "cause," then it can only be described as the laws of physics!

It is easy to understand the concept of mechanical advantage for yourself. Find a heavy weight, about 10 to 20 pounds, and hold it in your hand. Most likely, your elbow will come close to your body, and your palm will be up, with your fingers facing away from you. This is very similar to how your spine supports the weight of your head with the curve in your neck. Now try removing the curve from your wrist; rotate it 180 degrees and bend it forwards with the weight still in your hand. Your elbow will swing out to the side to replace the lost stability. This is very similar to what happens in your spine when the curve in your neck is lost; the body develops scoliosis because a straight spine is extremely unstable. Essentially, scoliosis is a biomechanical reaction to forward head posture & the loss of the curve in the neck, and develops due to pressure & interference on the nerves responsible for maintaining posture & symmetry during growth.

These x-rays show Harrington rods that bent and broke while still inside the patient's body. Many surgeons will refuse to operate on this condition, leaving the patient with few options to alleviate their pain & suffering.



New Research, New Possibilities

On September 14th, 2004, an article was published in BMC Musculoskeletal Disorders entitled, “*Scoliosis treatment using a combination of manipulative and rehabilitative therapy*,” by Mark Morningstar, D.C., Dennis Woggon, D.C., and Gary Lawrence, D.C. In this study, twenty-two scoliosis cases with Cobb angles ranging from 15 to 52 degrees were treated with an experimental rehabilitation protocol involving specific spinal adjustments, exercise therapy, and vibratory stimulation. Three subjects were dismissed from the study for non-compliance. After 4-6 weeks of treatment, the nineteen scoliosis patients who remained had experienced an average reduction in their Cobb angle of 62%. Individually, reduction varied from 8 to 33 degrees. None of the patients’ Cobb angles increased. The conclusion of the study was that these results warrant further testing of this new protocol. To see the study for yourself, go online at: [**http://www.biomedcentral.com/1471-2474/5/32**](http://www.biomedcentral.com/1471-2474/5/32)

Since this study, we have attempted to understand exactly why such positive results were achieved, and our research has led us to the following theories:

1.) Scoliosis is caused by a dysponesis (miscommunication) between the motor-sensory input/output from the upper trunk to the lower. This is in turn caused by a unilateral (one-sided) impairment of the spino-cerebellar loop, which is located in the area between the occiput and the first cervical vertebra. Supporting this theory is the fact that 100% of scoliosis patients have a problem with proprioception (orientation of the body in time and space), and 100% of scoliosis patients have a loss of the curve in their neck, resulting in forward head posture.

2.) Exercise rehabilitation therapy is mandatory to reverse the scoliosis. Without patient compliance, no amount of care can help. It is necessary to retrain the postural muscles of the body. Vibratory stimulation overrides the body’s proprioceptive signals and mechanoreceptors, thus facilitating retraining of the postural muscles.

3.) Cobb angles over 30 degrees cannot be reduced in the same manner as Cobb angles under 30 degrees. The muscles contract more on the convexity of the curve, rather than the concavity, as is the case with angles under 30 degrees. Normal laws of biomechanics do not apply in patients with Cobb angles of more than 30 degrees!

These theories have led to the composition of a treatment protocol for scoliosis patients that, so far, has had universal success in compliant patients. While surgery may be necessary in some cases, such as when the patient exhibits non-compliance with mandatory exercise rehabilitation protocols, this information should be encouraging to parents of children with scoliosis who are debating whether or not to schedule the Harrington rod implantation surgery for their son or daughter. I would like to personally encourage you to delay the surgery until all other non-surgical options have been exhausted. Long-term ramifications of the Harrington surgery have been so unfavorable that the new recommendations are to remove the rods after four years⁴. Little to nothing is known about how the build-up of scar tissue and the disruption of the spinal pathology will affect the patient in the future once the rods have been removed.

Recommendations for Scoliosis Treatment

One component is universally lacking in nearly all forms of scoliosis treatment today: the effect of the cervical spine in determining spinal pathology, gait, stance, and overall posture. The head controls all components of the spine below it, much like how the engine controls the direction of a train. Without regard for which direction the locomotive is heading in, how is it possible to control the boxcars behind it? The very first aspect that must be addressed in scoliosis correction is the cervical spine; specifically, correcting the forward head posture by restoring the curve and the normal ranges of motion in the neck, especially between the occiput (C0) and the atlas (C1). This is why lateral cervical views in neutral, flexion, and extension are necessary. Follow-up x-rays should be performed roughly every three months as objective proof of improvement; should the patient's progress plateau or regress, additional rehabilitation or alterations to the protocol may be required. Obviously thoracic views are necessary to measure the Cobb angle, but stay away from full-spine views! The rate of distortion is too high to allow for consistency and accuracy when comparing measurements between pre- and post- x-rays. It is also important to evaluate the curve in the low back, and rotation in the hips with lateral and A-P lumbar x-rays, and correct any deviation from normal that is found.

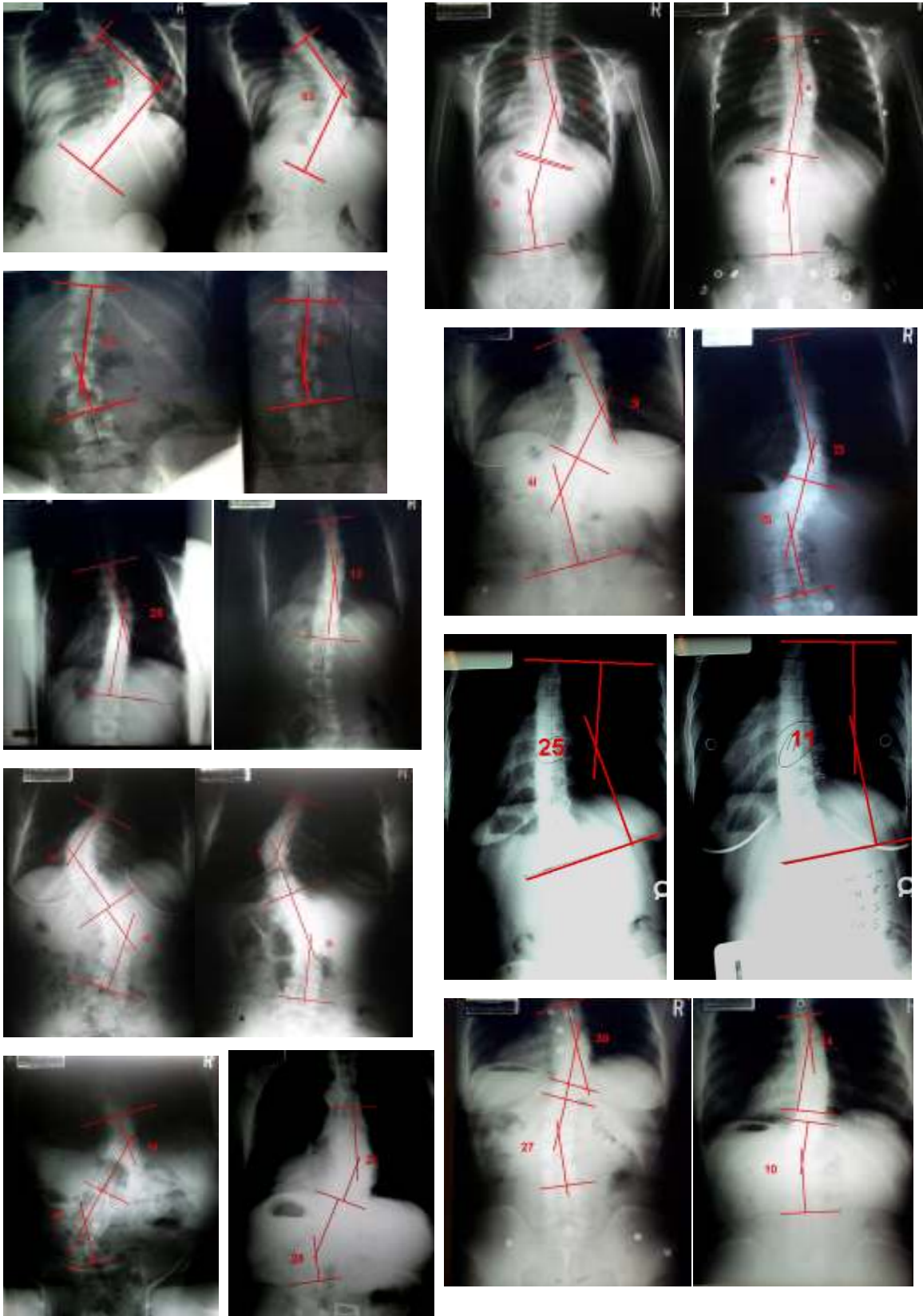


Balance and proprioception also play an important role in the rehabilitation of the scoliotic patient. One method of reducing forward head posture and retraining postural muscles is deceptively simple: by blocking the superior half of the lens on a pair of glasses, and instructing the patient to wear them for at least twenty minutes, the postural muscles of the neck are retrained to better hold the cervical lordosis in place. Various spinal weights may be placed on the head and/or hips to activate the weakened postural muscles. Also, whole-body vibration therapy (WBV) has been scientifically proven to be extremely effective at proprioceptive re-education.



Do NOT make the mistake of trying to “push” a scoliosis out of the spine! This type of adjustment is foreign to the body, and will be resisted. Most scoliosis braces are ineffective or even harmful because they do exactly this. A scoliotic spine must be visualized and corrected three-dimensionally; the lateral curve will not reduce until the spine has been de-compressed and de-rotated. *Adjusting the apex of the curve, whether into the concavity or the convexity, will inevitably make the situation worse.* Traction – pulling – is far more effective because it is a subtler, gentler force, and one that is less readily resisted by the body. CLEAR Institute has developed a chair that incorporates cervical decompression with lateral thoracic and lumbar traction, and also addresses the rotational aspect of the scoliosis simultaneously. This passive exercise therapy can be performed by the patient at the clinic or at home.

The Results:



Research & References

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