

»» NeuroMuscular Reprogramming® (NMR): The Missing Link in Scoliosis Treatment

»» INCIDENCE AND PROGNOSIS

Lateral spinal curvatures of 30 or more degrees have been reported in about 1 of every 700 or so adolescents in the United States (ref). Of these cases, it has been estimated that 60% will progress to the point of needing spinal fusion surgery intended to stabilize and/or correct lateral curvature (ref).

Up to 85% of the cases fulfill the criteria for Adolescent Idiopathic Scoliosis (AIS), or 'Scoliosis of unknown origin beginning in late childhood or early adolescence' (ref). 10,000 to 20,000 scoliosis surgical fusions are performed each year (ref).

Many scoliosis patients who have had spinal fusions for scoliosis suffer decades later with painful complications or failures which significantly impact wellbeing and may necessitate repeat surgeries.

»» ORIGINS OF SCOLIOSIS

There is very little known about the causes of AIS. Two mechanisms have been proposed, (i) neurological abnormality, (ii) biomechanical defect(s).

The neurological or neuromuscular school considers scoliosis a secondary development resulting from an as-yet-undiscovered abnormality in the peripheral nervous system regulating static and/or dynamic tone in the muscle systems supporting the spine. The abnormal patterns of muscle tone create tension and exert forces which cause the spine to curve.

The biomechanical school of thought hypothesizes that lateral spinal curvature is caused by the muscular support systems of the spine not having sufficient strength to support the spine in a fully vertical position against the weight of the upper body and torsional forces caused by movement of the arms and head.

Scoliosis Research Society (SRS) Doctors on the Causes of AIS: According to SRS Spinal Surgeon Dr. Michael Neuwirth on p. 21 of his book THE SCOLIOSIS HANDBOOK (New York: Henry Holt and Company, 1996), most SRS doctors align themselves with these

two schools of thought when speculating on the cause of Adolescent Idiopathic Scoliosis:

»» COSTS OF CONVENTIONAL SCOLIOSIS TREATMENT

If only 10,000 Scoliosis patients (the lowest estimate by the FDA) have spinal fusions at \$50,000 each (the low average for primary thoracic fusions), the cost for surgeries alone is \$0.5 billion. If the FDA's high estimate of fusions is taken (25,000) and cost per patient is averaged at \$125,000 to accommodate both original and subsequent surgeries, the cost exceeds \$3 billion. Some observers have estimated the probable total annual cost for treatment of scoliosis to be as high as \$10 billion (ref).

References: The above information taken from a report on research into the causes of Adolescent Idiopathic Scoliosis by Elizabeth Mina published on www.microconn.com/scoliosis/idioemina.htm web site.

»» A PROPOSED RECONSTRUAL OF SCOLIOSIS

Children have neuromuscular dysfunctions resulting from falls and accidents and minor impact injuries throughout childhood. Because nothing is ever done to correct the dysfunctional patterns established at the time of an injury, especially if the injury is sub-clinical, i.e., nothing is broken, strained or torn, these patterns of muscle facilitation and inhibition are present at the time a growth spurt starts. The body grows quickly around a tension pattern leveraging unevenly on the structure of the spine.

In alignment with both schools of thought about the origins of scoliosis, we propose that the etiologic mechanisms of AIS are untreated chronic upper body neuromuscular imbalances initiated by minor impact injuries accumulated through childhood which are aggravated by rapid growth between the ages of 12 and 16. This argues for a valuable role for complementary treatments which ameliorate and/or stabilize scoliosis.

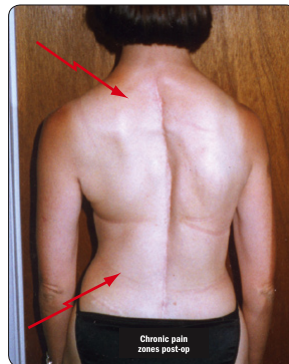
RESULTS OF SURGICAL FUSION



Age 36, post spinal fusion
age 13, T4 - L2



Age 36, 4 months post fusion
with rods T2 - L4



Age 43, 7 years post-op continuing
muscle distortion



With monthly NMR for maintenance

"My pain patterns were usually on the left side in the neck and shoulder region, left hip/low back. Sometimes my right ribs get "sore" or "tired" - the pain diminishes the more I do yoga, stretching, have NMR sessions, etc., but I am not in pain all the time any more. I can be pain free for great periods of time and then other times are not so great, but it does not prevent me from living my life or doing what I want to do.

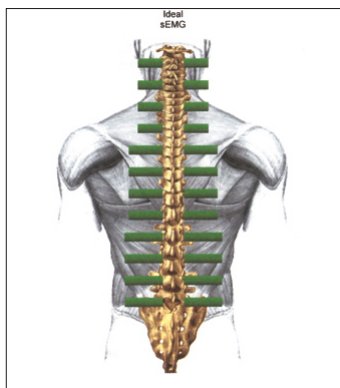
I have found NMR and working with Jocelyn to be an incredible journey of self-renewal and expansion. Jocelyn Olivier is a genius when it comes to knowing and understanding the

human body and how it functions. Her work with me using NMR has reawakened my body and my mind-body connection helping me to once again work successfully on reprogramming the patterns of my scoliosis.

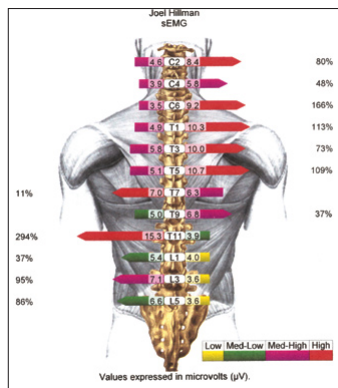
Scoliosis patients need to be aware that even with surgery, or perhaps especially with surgery, one needs to continue to do physical conditioning and body-work such as NMR. I have found NMR to be the most profound work in assisting me in living well with scoliosis."

-Debra B

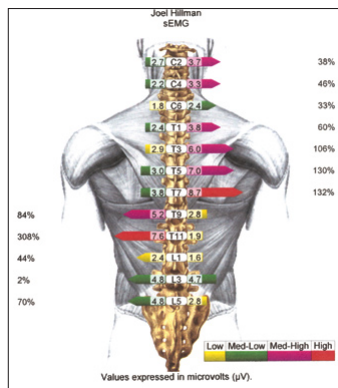
SCOLIOSIS CASE STUDY: JOEL



Ideal sEMG



NMR AUGUST 4TH, 2004



COMBINATION NMR AND TRT



COMBINATION NMR AND TRT



Joel maintains amazing postural balance compared to his actual deviation.

NeuroMuscular Reprogramming NMR

works with the body's organizational intelligence to restore efficient motor patterns governing coordinated movement. It utilizes applied kinesiology to assess dysfunctional muscle relationships and cue the brain to re-program static and dynamic muscle tone. The use of applied kinesiology to awaken the perceptual feedback of the proprioceptive system brings stored movement patterns out of the cerebellum and up to the cortex for relearning. Combining this process with advanced bodywork techniques, the restoration of functional movement patterns can be immediate. Utilizing NMR is always quicker than any other single method of re-education. NMR is effective with both chronic and acute neuromuscular dysfunctions, scoliosis, whiplash, stroke recovery, chronic pain syndromes and the residual neuromuscular effects of sports and other injuries. It has a valuable role to play in remediating the collateral neuromuscular effects of head injuries. It works well with all other modalities, speeding up treatment time to accomplish long lasting results. NMR is also easy on the practitioner, working with organizational intelligence and strategy instead of force.

Patient History

- Patient: Caucasian male, age 54.
- Height as a youth: 6' 3.5" inches.
- Age 15: A football accident necessitated a splenectomy.
- Age 16: Scoliosis diagnosed (AIS).
- Athlete until age 18. Between age 18 and 35 he did not participate in athletics.
- Age 30 to 53: The patient received many forms of bodywork and acupuncture for relaxation of structural tensions and pain.
- Age 35: He began yoga therapy and chiropractic to correct his scoliosis pattern.
- Age 36: Yoga therapy occasioned the first onset of pain associated with scoliosis.
- Pain syndromes persisted and worsened from age 36 until age 53 including pain upon walking, brushing teeth, washing dishes, vacuuming, bending, sleeping etc., necessitating stretching of the left back numerous times per day.
- Age 43 to 53: During this period patient did weight lifting to stabilize his structure but it failed to reduce the pain pattern.

Treatment with NeuroMuscular Reprogramming & Torque Release Chiropractic

At age 53 Joel began NeuroMuscular Reprogramming. Within 5 sessions his pain syndromes began to diminish. Chronically weak muscles began to build. The dramatic disparity between the 2 sides of his ribcage began to diminish over the next few months. At the time the first EMG was taken he had received 8 months of NMR every 2 weeks on the average (16 sessions). Over the next 8 months, he worked with a combination of NMR and Torque release Chiropractic. The effect of chiropractic vastly speeded the results of NMR by mobilizing the tissues next to the spine.

NMR combines with the Torque Release Technique and the balance exercises as an integrated system for the treatment of scoliosis disorders. The combined treatment produces a more intelligent, balanced sensory motor system. Scoliosis patients can expect to enjoy pain relief, enhanced range of motion, and a halting or slowing of the curve progression.

Patient's Post Treatment Status

Joel's present height is 6 ft. 1 and 3/4 in. He is pain free most of the time now except after sustained bending activities such as gardening or vacuuming.

"I used to have frequent painful spasms in upper right shoulder/ neck area, but also on the left side which caused great difficulty in turning my head to the side. Cervical vertebrae were often subluxated. I suffered frequent headaches. My left lower rib area had been chronically painful for years necessitating stretching it many times a day. Learning Hatha Yoga gave me an awareness of my deformation and imbalance and an understanding of my muscular asymmetry. Yoga therapy showed me a way to try to strengthen and build up my underdeveloped muscles while stretching the overdeveloped ones. The S pattern plus the twist of the curve, made the task of straightening extremely difficult, if not impossible. I tried weight lifting also, but NeuroMuscular Reprogramming has been the most helpful intervention to help me get it all back together."

-Joel H

"NeuroMuscular Reprogramming works with strategy not strength."



Jocelyn Olivier

is the founder and executive director of the Institute of Conscious BodyWork in San Anselmo, California. Raised on Vancouver Island and the Queen Charlotte Islands off the coast of British Columbia, she migrated to California in 1973 to work in the field of bodywork. She has developed a unique and particularly effective approach to remediate neuromuscular and musculoskeletal disorders: NeuroMuscular Reprogramming. Ms. Olivier can be reached at the Institute 415 258 0402 or at Healex Center in Marin County California 415 949 9945.

NMR Protocols for Scoliosis

Handout of suggested protocols for Scoliosis is available upon request.