



# The Foundation of the Postural Restoration Institute™

By Ron Hruska

## History of Passion

As the Postural Restoration Institute (PRI) approaches the end of its first decade the staff of PRI, Postural Restoration Certified (PRC) therapists, and I, are often asked about the history of PRI. It's an Institute that is truly built around 30 years of clinical practice associated with re-occurring successes of specific patient treatment programs. Consistent evidence-based correlations, discovered with patient biomechanical, respiratory and neurological functional patterns, as well as predictable functional limitations, allowed us to establish reproducible outcome based programs.

My passion for cranio-dontics, the respiratory system's influence on neuro-mechanics, bi-pedalism, and pathokinesiologic patterns of tri-planar organization and muscle integration, autonomic nervous system influences on the stomatognathic and somatosensory systems, neuro-optometric effects on the vestibular system and multi-sensory control of posture relating to primitive and developmental reflexes, has resulted in an examination process of the asymmetrical human body and an intervention process called Postural Restoration.

## Asymmetrical Function

My clinical orientation and methodology of intervention has and will always be guided by practical experience and a predictable, objective outcome approach rather than precepts or theory, since the complexity of diagnostic classification, complexity of diagnostic language and labeling, and the complexity of professional consensus regarding treatment intervention exists across many, if not all, health care professions. We live in an evidence based society that still believes the left appendages of our musculoskeletal system are in the same symmetrical position as the right, or vice versa. Research methodology, evaluation guidelines and treatment intervention do not include steps or measures that need to be taken into consideration because of our asymmetrical architecture, fluid-dynamics, gaseous diffusion and cerebral function.

The pre-dental and pre-medical classes, as well as the dental and medical program classes, that I attended were not taught with text-books that differentiate the uniqueness of a right lateral pterygoid muscle of the face, from it's counterpart on the left, because of typical human organization of cranial torsion, sidebending and sagittal rest in the right dominate oriented human.

I was not informed about the unique qualities of the human roborant left hamstring, left femoral adductors, left gluteus medius, left diaphragm leaflet, right gluteus maximus, left inferior oblique of the eye, left subclavius, left transverse abdominis and triangularis sterni, and the right peroneals as a family of muscle that is needed to counteract forces produced by their counterparts in the typical asymmetrical pattern of the upright human.



**Hypertonicity** Overuse of anti-gravitational muscle on one side leads to C1 C2 mal-alignment, dental malocclusions, facial, cervical, thoracic, lumbopelvic, acetabular–femoral, femoral-tibial, etc...torque, scoliosis, cervical hypolordosis, lumbar hyperlordosis, and most importantly system hypertonicity.

**Recognition of Altered Systemic Muscle** These neuro-mechanical issues can be initiated or compounded by visual and vestibular paradoxical function, tooth and mandibular functional limitations, respiratory patterns of dysfunction or pulmonary dysfunction, and improper foot proprioceptive feedback, leading to altered force and timing of systemic muscle contraction. All of the above associations can now be included and integrated in the design of a treatment program that uses PRI algorithms.

There is, has been, and always will be strong evidence that supports the predictability of human posture and the ability to manage human intrinsic forces associated with human primitive and developed reflexes. Typical or normal imbalances of muscle strength, normal muscle length discrepancies associated with visible typical pelvic torso and facial torsion, standard human patterns of strategic compensation, and modeled patterns of neuromuscular anxiety, however, is not referenced or outlined in current literature.

**Polyarticular Muscular Chains** The human develops strong usage of his or her left Anterior Interior Chain (Left AIC), right Brachial Chain (Right BC), right Temporal Mandibular Cervical Chain (Right TMCC) and Posterior Exterior Chain (PEC) early. Consistent patterns of cervical torticollis, scoliosis, femoral-patellar compression and cranial-thoracic asymmetries are a few examples of early-adaptation to gravity and human asymmetry. Naming these chains seemed so appropriate and empirically easy. No one, nationally or inter-nationally had ever looked at or addressed this issue of human integrated asymmetry or put together physically, physiologically, or psychologically issues at multi levels or with multi systems, in the manner PRI does.

**Synergistic Mentors** I'll never forget, as a former dental student, who dropped out of the dental tract to pursue reasoning behind teeth being chewed up on one side, the impact Brunnstrom, Knott and Voss had on me in my early stages of didactic understanding of synergistic patterns of function. However, Gindler and Buckholz empowered me, through their European philosophy of hyperinflation association with hypertonicity early on in my career of physical therapy. Janda, Chaitow, Gracovetsky, Borch-Jacobsen and Myers were never mentioned or referred to at any of the myriad of post-graduate courses I took regarding myofascial release, mobilization, cranial-sacral, muscle energy, strain-counterstrain, etc. I never fully gravitated toward these post-graduate concepts because of their familiar “syndrome” or “symptom” approach and application.



## **Interdisciplinary Integrative Cause**

For every effect there is a cause, and the question of ‘cause’ motivates my passion for integrative thought and reason. I will always be appreciative of individuals, including and like, Zink or Pope, ‘The Common Compensatory Pattern’, Previc, ‘Cerebral Lateralization’, Mezieres, ‘The Mezieres Method’, Isogai, ‘Dynamic Therapy’, Fonder, ‘The Dental Physician’, Schomberger, ‘The Malalignment Syndrome’, James and Stokon, ‘Cranial Strains and Malocclusions, Padula, ‘Visual Midline Shift’, Magoun or Gehin, ‘Cranial Osteopathy’, and Rubin, ‘Voice as Related to Handedness’, because of their search for the integrative cause.

## **Hemispheric Plasticity**

We all appreciate the fundamental differences in the neural organization of the left and right cerebral hemispheres. My first real orientation to plasticity of the motor cortex occurred while working with patients who had cerebral vascular accidents. It was always more difficult to establish a center of gravity with the right lower extremity with a patient that lost the Broca and Wernicke area of the left hemisphere, than on a person with a right cerebral vascular accident. As I worked with non-cerebral vascular accident amputees in the same practice setting I saw the same trend. Limited left hip extension, adduction and stability with left lateralization, limited left thoracic abduction and left abdominal facilitation exists to some degree in all of my patients when compared to the right side regardless of neuromuscular or orthopedic etiology. In essence it was actually easier to functionally rehabilitate the right cerebral vascular accident patient than the left lower extremity amputee, because of left cerebral plasticity and difficulty in reducing left lower motor hip flexor and abductor tone on the left lower extremity amputee.

## **Regulatory Functional Lateralization**

Functional lateralization, fundamental differences in the neural organization of the left and right cerebral hemispheres and cyto-architectural anatomic brain asymmetry was also recognized in the patients I worked with at a hospital outpatient based physical therapy department. Young women especially, who presented difficulty with left lower extremity adduction and experienced right knee pain, did immediately better mechanically and symptom wise, using the same left extension, adduction and hip internal rotation program I used on my patients who had amputations, cerebral vascular accidents or chronic obstructive pulmonary disease. Patients with anterior knee pain, regardless of the side, who went through countless hours of rehabilitation with little success, had a reduction of pain immediately with the establishment of left acetabular femoral and femoral acetabular internal rotation as they had on the contralateral side. I knew from these types of experiences that the left pelvis and lower thorax was consistently forward, unstable, more often anteriorly rotated, and more restrictive than the right. The right cerebral vascular accident patient needed left hamstrings for return of reciprocal gait, keeping in mind he or she probably didn’t have full extension or adduction on the left prior to his or her cerebral accident. The left lower extremity amputee with similar gait issues needed a left hip flexor inhibition program. Anterior knee pain patients needed the same rehabilitation approach on the left side as the above patients, regardless of the side their knee pain existed.



**Unilateral  
Compensatory  
Patterned  
Function**

The unilateral orientation of organs and the vagal system, unilateral diaphragmatic function, unilateral neglect, unilateral lymphatic emptying, and unilateral binocular dominance all contribute to predictable, measurable and ineluctable patterns of vestibular-ocular, cranio-mandibular, cervical-thoracic, thoracic-lumbar, lumbo-pelvic, pelvic-femoral, femoral-tibial, tibial-calcaneal and rear foot-fore foot upright, synergistic, reflexive and non-reflexive compensatory function.

**Multifaceted  
Approach of Non-  
Linear Treatment**

To reduce the nature of unilateral influences on compensatory neuro-mechanics or the possible compensatory neuro-mechanical influences on our unilateralization; empiracle experiences and a balanced, cross-linked mind-set is needed. The day after I graduated from physical therapy school, I started classes in public administration to balance my years of biology with business, economics, human-resource development, gerontology, public and private organization classes, etc...and quickly realized that success in the clinic depends on multifaceted, integrative and intuitive approaches. The Omaha Veterans Administration Medical Center and their rehabilitation process in the seventies and eighties allowed me to integrate closely with speech therapists, orthotic and prosthetic specialists, physiatry based neurologists, occupational therapists, and social workers who empowered the most handicapped to levels that no sole specialist would ever achieve. I soon realized balancing a budget using zero-based methodology or balancing muscle around a proximal joint requires input from many sources that stimulate or inhibit specific measures for successful outcomes and self-regulation. Our bodies are far from being in equilibrium. They may be stable but they can only maintain this stability by a constant ongoing process of adjustment and self-regulation. Prigogine, a Nobel Prize winning physicist, described organisms as “non-linear, complex, dynamic, self-regulating systems that are far from equilibrium”.

**Imbalanced  
Inhibition vs.  
Balanced  
Strengthening**

The capacity for self-healing and self-regulation provides me the basis for new paradigms. For example, the ventilatory process was never made clearer to me than when I worked in a burn unit. My respect for the diaphragm, it's dermis healing abilities, and it's influence on the lumbo-pelvic-femoral complex would not have been realized if I did not take advantage of opportunities that existed in a hospital setting. As a director of the physical and occupational therapy department, I had achieved the ability to reduce use of isokinetics for functional rehabilitation and increase the use of hamstring, gluteal, adductor, abdominal and hemi-diaphragm unilateral postural oriented programs. I developed a system that isolated left hamstrings, independent of speed, gravity or position to balance the pelvic femoral sagittal forces and pelvic biomechanical planes. Protonics® Neuromuscular Repositioning allowed me to finally maintain a neutral lumbo-pelvic position during low back or lower extremity retraining through hip flexor inhibition. The quintessence of health is an active, on-going attempt to inhibit imbalancing force. Every time I see a teeter-totter on a playground I'm reminded of this essential element. The body is full of active teeter-totters constantly being challenged with purposeful asymmetries and dynamic imbalances.



**PRI  
Guidance**

After 16 years of hospital and outpatient based care, I knew I had reached a climacteric in my life, when a majority of my patients with temporo-mandibular dysfunction, shoulder impingement, cervicalgia, low back strain, epicondylitis, anterior cruciate ligament repair, pelvic floor dysfunction, etc., were reaching optimal functional outcomes through the incorporation of left acetabular femoral internal rotation, the isolated facilitation of left femoral adductors and left thoracic abductors, the establishment of a left zone of apposition and the enhancement of right brachial expansion. It was often difficult to convince physicians and physical therapists to reposition a pelvis and a femur before stretching out an iliotibial band or performing an iliotibial band release, surgically. Because of these common rehabilitation measures and other aforementioned issues I developed a private practice and established the Postural Restoration Institute™. My clinical experiences and outcomes and my former and present patients continue to guide PRI educational endeavors.

**Unorthodox  
Gratification**

The gratification on a patient's face or tears that follow the manual application of a PRI right subclavius technique to restore full right humeral glenoid internal rotation or left cervical rotation or to reduce thoracic outlet symptoms, reinforces the need for assiduous attention given to the development, formation and application of each PRI manual or non-manual technique. The heterodox beliefs of PRI application and Left AIC, Right BC and Right TMCC principles are usually quickly accepted because of the objective, consistent success of reducing tri-planar pattern restrictions and multi-level symptomatic pain or discomfort.

**PRI  
Neuromuscular  
Orthotic  
Principles**

Acceptance of PRI theory allows the therapist to use PRI neuromuscular orthotic principles to reduce right femoral adductor tone and improve left lateralization with right medial longitudinal arch contact, or bi-nasal optical occlusion to improve mid-brain, ambient, parasympathetic activity, or an elastic functional abdominal support across the left abdominal region to help maintain a left zone of apposition, or a maxillary sagittal or pivotal oral appliance to reduce internal rotation of the right temporal bone, or motion controlled footwear with calcaneal stability to reduce TMJ compression or clenching, or first metatarsal head proprioceptive contact on the right side to improve arm swing, or gait retraining through left arm-right leg lead to reduce right sacral-iliac joint dysfunction, etc., with other complimentary non-manual and manual PRI techniques.

**PRI  
Mission**

PRI now has 23 Postural Restoration Certified (PRC) physical therapists, 14 PRC centers, 5 educational courses (*Myokinematic Restoration, Postural Respiration, Cervical-Cranio-Mandibular Restoration, Impingement and Instability, Advanced Integration*) and will offer for the first time next spring an Interdisciplinary Integration course involving dentistry, optometry and podiatry. PRI has produced three editions of a CD-Rom comprised of Non-Manual Techniques and most recently finished the first edition of a Manual Techniques DVD. PRI's website



(*posturalrestoration.com*) continues to be the number one resource for information regarding courses, location of nationwide PRI health professionals, educational materials, and references. Most recently, the website has developed into a dynamic resource providing its audience with daily news and dialogue direct from PRI. PRI concepts continue to grow both nationally and internationally. The PRI mission is to explore postural adaptations and asymmetries and their influence on the polyarticular chains of the human body. Our mission is based on the development of an innovative treatment approach that explains the primary contributors of postural kinetic and kinematic movement dysfunction.

**Commitment to  
Lifelong  
Learning**

Reading journal articles, books, research and curricular material from other professions, almost on a daily basis, has increased my voracious appetite and my insatiable curiosity for information on anatomical and physiologic imbalance. My pedagogic mind is a reflection of my commitment to test knowledge through experience, persistence and willingness to learn from mistakes. The Anterior Interior Chain of our bodies is a reflection of pedagogic reasoning, leading to a PRI experience. By continuing to commence with PRI experience in aquatics and PRISM pool design and application, with optometrists and vision retraining, with dentists and cranial alignment and with my patients and their sincere desire for guidance, I will continue to connect links.

**Commitment to  
Service**

My mindset for non-linear linkage existed long before serving on the Model Practice Act Task Force of the Federation of State Boards of Physical Therapy, or serving as the youngest president of the Nebraska Physical Therapy Association, or serving on the American Physical Therapy Associations reference committee and judicial committee, or serving on the State Board of Examiners in Physical Therapy. As Leonardo da Vinci recognized and appreciated “interconnectedness of all things and phenomena”, so do I. Long before the Guide to American Physical Therapist Practice was written, I embraced ambiguity, paradox and uncertainty with a passion. Passion for PRI application, education and integration reduces the insecurities and instabilities of those with the same embrace.