



Case study report: postural restoration: an effective physical therapy approach to patient treatment

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The purpose of this case study is to inform specialists that there are different approaches to physical therapy treatment intervention. It introduces a case study report of a 40 year old female who failed to improve her musculoskeletal pain issues in her cervical spine, lumbar spine, left lower extremity, left hip, right shoulder and TMJ with previous physical therapy and chiropractic intervention. Her pain issues did resolve however with physical therapy treatment by a trained therapist in Postural Restoration. Postural Restoration is a posture-based approach to physical therapy treatment developed by Ron Hruska, PT at the Postural Restoration Institute in Lincoln Nebraska.
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A physical therapist who has graduated from an accredited education program has entry level skills to treat patients. It is the continuing education after graduation that varies between individuals and that determines the development of advanced skills for treating patients. Patients with multiple areas of musculoskeletal dysfunction can be a challenging treatment endeavor. This is complicated further when there is a history of trauma or surgery. The Postural Restoration approach to treatment is one example of advanced physical therapy training post graduation. It has been found to be instrumental in relieving patients' multitude of pain complaints and truly getting to the biomechanical cause of patients chronic pain patterns.

Case study

A 40-year-old female reports of pain in multiple areas, including her cervical spine, lumbar spine, left lower extremity, left hip, right shoulder; she also complains of TMJ. She reported previous treatment with physical therapy and chiropractic care without success. An evaluation on Decem-

ber 30, 2005 by a physical therapist trained through the Postural Restoration Institute™ revealed that the patient demonstrated a bilaterally anterior rotated pelvis on the left greater than the right, restricted chest wall mobility, poor diaphragmatic breathing, and poor lumbo-pelvic stability. This was demonstrated by the patient's inability to perform the following: hip adductor and extensor drop tests, active hip internal and external rotation, upper extremity horizontal abduction, full shoulder flexion, cervical rotation, and lumbar rotation (Table 1).

Patient history

Past medical history is significant for acid reflux, renal colic spring of 2004 and 2005, low back pain and sciatica, TMJ and neck pain. Past surgical history includes right foot 1982, right rotator cuff 1999, and heart catheterization 2005. She also has a history of two motor vehicle accidents in 1989 and 1990.

She reported her pain levels using the visual analog pain scale 0 to 10 as follows: Cervical spine 0 to 8/10, currently 4/10 and worse at night. Her low back pain is less intense, but it is constant and aggravated with lifting, carrying, and vacuuming. Her left hip pain radiates to the left foot. Walking aggravates her left hip and leg symptoms.

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Table 1 Initial evaluation objective data

Evaluated	Result	Left	Right	Measure	Rating
Extension Drop Test (Thomas Test)	Positive	+	+		
Adduction Drop Test (Ober Test)	Positive	+	+		
Lower Trunk Rotation		15"	13.5"	inches	
Cervical Rotation	Positive	+	+		
Brachial Flexion	Negative	-	-		
Brachial Abduction	Positive	+	+		
Exhalation Restriction	Positive	+	+		
Inhalation Restriction	Positive	+	+		
Hip Internal Rotation		55	50	PROM	Degrees
Hip Internal Rotation		53	45	AROM	Degrees
Hip External Rotation		28	33	PROM	Degrees
Hip External Rotation		22	18	AROM	Degrees
Shoulder IR		75	45	PROM	Degrees

Objective tests related to postural restoration

The tests in table 1 provide information to the physical therapist on the patterns of postural muscle imbalance. This patient had significant postural muscle tension that restricted her active range of motion, passive range of motion and flexibility in her cervical spine, shoulders, scapula/thoracic complex, rib cage, pelvic girdle, hips, and lumbar spine. Her patterns of tension would be described by the Postural Restoration Institute as being consistent with a Posterior Exterior Chain, bilateral Brachial Chains and Temporal–Mandibular–Cervical Chain.¹⁻³

Treatment overview

This patient was treated for 16 visits over 6 months which included approximately twice a week for 4 weeks, then once per week for 4 weeks, and finally once per month for 4 months.

Her treatment consisted of Postural Restoration manual and nonmanual exercise techniques, including a home program. The left anterior interior chain and T4 techniques were frequently used manual techniques. She was started with the 90/90 supine wall hip lift and left side lie scissor nonmanual technique also early on in treatment.¹⁻³ She also had several sessions which incorporated interferential electrical stimulation on her low back area.

Six weeks after her initial evaluation, she reported she was having no pain. She had been skiing 3 days consecutively and had no pain after or during. She reported she was performing her home nonmanual exercise techniques daily.

She was not having difficulty or pain with performing her ADLs. She followed up on a monthly basis to adjust her home program. She reported that, after increased work stress, she had an episode of increased pain when she stopped her nonmanual exercise techniques for 4 days.

Her husband was instructed on the day of discharge to perform a left anterior inferior chain manual technique at home as the patient was moving out of state. With the patient lying on her back with her knees bent and feet on the table, he was instructed to place his right hand underneath the central right back with the most lordotic apexed vertebra between the third and fourth fingers. He was then instructed to place his left hand on the patients left body of the sternum. The tip of his left third finger was slightly below and around the ziphoid process. On the patient’s inhalation, he was instructed to “pull,” guide, and rotate more with the right hand and forearm and “push,” guide, rotate, and hold the upper left chest with the left hand as he pulled slightly the entire chest with the right hand. On exhalation, he was instructed to guide the left ribs down with his left hand, pull the right thoracic up with his right hand, and hold at “pause” phase of diaphragmatic breathing.³ She had met goals for treatment and was independent with her home program. She was discharged on June 15, 2006 with the following objective findings.

Objective findings related to postural restoration

The objective data in table 2 demonstrate significant reduction in her postural muscle imbalance and improvement in her diaphragmatic breathing pattern. This correlates

Table 2 Discharge evaluation objective data

Evaluated	Result	Left	Right	Measure	Rating
Extension Drop Test (Thomas Test)	Negative	-	-		
Adduction Drop Test (Ober Test)	Negative	-	-		
Lower Trunk Rotation	Negative	-	-	12"/12"	
Cervical Rotation	Negative	-	-		
Brachial Flexion	Negative	-	-		
Brachial Abduction	Negative	-	-		
Exhalation Restriction	Negative	-	-		
Inhalation Restriction	Negative	-	-		
Hip Internal Rotation	Negative	-	-		
Hip Internal Rotation	Negative	-	-		
Hip External Rotation		35	33	PROM	degrees
Hip External Rotation		30	28	AROM	degrees
Shoulder IR		75	75	PROM	degrees

to her subjective reports of decreased pain in her neck, TMJ, low back, left hip, and leg.

She was provided with the names of physical therapy clinics near her new residence that have trained therapists in Postural Restoration should she require future care.

Discussion

Postural Restoration is a posture-based approach to physical therapy management developed by Ron Hruska at the Postural Restoration Institute (PRI) in Lincoln, Nebraska. PRI was established in 1999 to explore and explain the science of postural adaptations, asymmetrical patterns, and the influence of polyarticular chains of muscle development on the human body. Faculty of PRI educate physical therapists throughout the United States on this innovative treatment approach. It is an approach that involves treating the entire body. It incorporates proper breathing techniques and function with manual and nonmanual exercise techniques to reduce characteristic positions of postural imbalance and their compensatory patterns.¹⁻⁴

Hruska defines posture in this way: "Posture is a reflection of the 'position' of many systems that are regulated, determined, and created through limited functional patterns. These patterns reflect our ability and inability to breathe, rotate, and rest symmetrically with the left and right hemispheres of our axial structure."⁴

"Limited functional patterns" refers to movement that is restricted in directions, planes, or normal boundaries of functional range as a result of improper joint, muscle, and

mediastinum rest position. Function is therefore limited because soft tissue and osseous restrictions prevent one from using muscles and joints in their normal range. Adaptation and compensation for these limitations require neuromotor encoding and hyperactivity of muscle that is placed in improper positions that exceed normal physiological length, or in positions that make them a mover or counter-mover in planes and directions that are not observed when one is in a neutral or more symmetrical state of rest. This compensatory activity and hyperactivity usually becomes dysynchronous in the accessory muscles of respiration and at the appendicular flexors and axial extensors, thus limiting functional rotation at the trunk and through the lumbo-pelvic-femoral and cranial-mandibular-cervical complex.⁴

For more information about Postural Restoration or to access physical therapists trained in this approach, please visit the Postural Restoration Institute Web site (<http://www.posturalrestoration.com>).

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