

Dynamic Activation of the Posterior Oblique Chain: The Reverse Lunge

Perry Nickelston, DC, FMS, SFMA

Transitioning a patient into dynamic movement stability is a critical component of ongoing maintenance care. Once people experience pain, they often develop a subconscious fear of movement. They are scared of getting hurt again with even the simplest activities of daily living; subsequently, poor movement patterns and compensations result. Stiffness and tightness take hold in an effort to obtain safety and security.

Just because the pain has gone away does not mean optimal function and movement efficiency have been restored. Perhaps the pain and injury your patient experienced was from their inability to move efficiently in the first place. It's a clinical thought process worth considering; the chicken-or-the-egg dilemma. Which came first? Is the patient in pain because they move wrong or do they move wrong because they are in pain? Yes!

Inherently, one of the weakest and most underactive movement systems in the body is the posterior oblique chain. Why? Because people sit on it all day, rarely using it. Teaching a patient how to engage the [posterior chain](#) and become comfortable with different vectors of movement delivers powerful results. The dynamic reverse lunge with a twist is a simple and effective movement to accomplish this task.

The Posterior Oblique Chain

First, let's review the posterior oblique subsystem chain of movement and why it's important. The posterior oblique subsystem (POS) is comprised of the latissimus dorsi, thoracolumbar fascia and contralateral gluteus maximus. It forms a sling system of movement from the shoulder to the opposing hip. The superficial gluteus maximus then blends in with the superficial fascia latae of the thigh, in particular the superficial iliotibial band. Its primary function is stabilization of the posterior kinetic chain, transfer of force between lower and upper extremities, integrated whole-body pulling movements, "turning out" of the kinetic chain, and eccentric deceleration of total-body pronation of the anterior oblique chain.

The muscles involved in this subsystem are the largest in the body. Every time a patient bends over to pick something up or takes a step, it is this subsystem, along with the optimal function of the inner unit, that ensures optimal stability of the [lumbopelvic](#) hip complex, and arthrokinematics of the SI joint and lumbosacral joints.

The concept of myofascial slings comes out of the work done by Andry Vleeming and others on sacroiliac joint stability. As the term *sling* suggests, the muscle system is able to provide a dynamic way of stabilizing the SI joint through force closure. This closure relates to the ability of the muscle system, through its attachments into connective tissue (ligaments and fascia), to compress to joint surfaces together and provide stability. The ability to walk and do rotational patterns is dependent on the function of this system. Last time I checked, every single one of your patients needs to walk. So, it's a good idea to harness the function and power of this system.

The Dynamic Reverse Lunge: Programming and Implementation

Introduce this movement only when the patient can demonstrate pain-free motion on hip extension and rotation. Adequate centralized core stability should first be mastered on a ground-based movement prior to standing, e.g., the bird dog. The patient should feel secure in a staggered-stance movement. A video demonstration of the movement is included on this page.

<iframe width="560" height="319" src="http://www.youtube.com/embed/MPV_ZAf7ITw?rel=0" frameborder="0" allowfullscreen></iframe>

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- Starting position is double-leg stance. Step back with one leg going into extension, maintaining upright posture. Widen base of support if balance is an issue. Beware of neck flexion or extension compensation.
- Keep slight bend in the knee and dorsiflex the **rear foot** with toes into the ground. Actively contract the glute max on the rear leg. The forward leg will automatically engage the glute max.
- The arm on the forward leg goes into forward flexion and horizontal abduction; the arm on the rear leg crosses midline of the body and the hands rest by the lateral aspect of the forward thigh.
- Rotate the body toward the forward leg side and horizontally abduct the arm farther while rotating the head, looking in the direction you are going.
- Add additional pressure to the outside of the forward leg with the hand to increase range of motion.
- Exhale on every repetition; contract the mid-back shoulder blade and latissimus on both sides.
- Return to starting position and repeat.

Perform 10 repetitions on both sides. Complete all 10 on one side and then repeat on the other side in the beginning. This is to help set motor programming for the extension-based pattern. Many people have a hard time "feeling" an extension-based movement. After demonstration of proficiency with the single-side movement, patients may alternate side to side, one rep per side for a total of 20 repetitions.

The muscle sequencing of gluteus maximus and latissimis dorsi activation with **thoracic spine** rotation, while stretching the more often overactive and tight anterior oblique sling, is very effective at making quick changes. Teaching patients how to move better and lead a healthy lifestyle is our obligation. Start implementing this movement and start seeing the positive responses sling training can deliver.

Resources

- B2C Fitness: Integrated Education System. <http://b2cfitness.com/about.html>
- Chek P. *Movement That Matters: A Practical Approach to Developing Optimal Functional Movement Skills*. Encinitas, CA: C.H.E.K. Institute, 2000.
- Cook G. *Movement: Functional Movement Systems: Screening, Assessment, and Corrective Strategies*. Aptos, CA: On Target Publications, 2010.
- Vleeming A. *Movement, Stability, and Low Back Pain: The Essential Role of the Pelvis*. New York: Churchill Livingstone, 1997.

MAY 2013