

## Training the Sling Systems for Golf

The term “core”, as in core stability is frequently used in training circles, and just as often misunderstood. Many authors have discussed the core in terms of the inner and outer units and I will show you how this relates to training the golfer. The inner unit consists of specific muscles of the core that provides stability to spinal segments such as the transverse abdominus, multifidus, pelvic floor musculature, and the diaphragm. These muscles are seldom worked during traditional exercise programs and are vital for injury prevention. The inner unit functions to provide the joint stability needed during the outer unit’s production of gross movement such as walking, throwing, and swinging to name a few.

In the golf swing both units are important, but I will discuss the outer unit’s dual role for the golfer. The outer unit consists of four sling systems composed of primarily phasic muscles or prime movers. The dual role of the sling systems is that of producing the afore mentioned movements and assisting the inner unit in joint stability. Without this added stability, the inner unit would be overloaded and fail leading to over-use injuries. Even a perfectly conditioned inner unit cannot perform the job alone.

The problem with today’s society and the phasic nature of the sling systems is the de-conditioning effect on phasic muscles. It is well documented that phasic muscles become inhibited in sedentary individuals, which in turn increases the demand placed on the inner unit to provide joint stability. On top of that, a sedentary individual most likely has a de-conditioned inner unit as well, but in this article we will focus on the outer unit.

Nowhere is this dual role of the sling system more evident than in the golf swing. The golfer needs a combination of the sling systems ability to produce effective and powerful movement, as well as joint stability for injury prevention. To get a clear understanding of the relationship between the sling systems and the golf swing let me describe each of the 4-slings and how each plays a role during the golf swing.

**Anterior Oblique Sling-** This sling system consists of the internal obliques on one side, the same side adductors and the opposite external obliques. The internal and external obliques are responsible for spinal/torso rotation during the golf swing. In the right-handed golfer, rotation in the back swing is created by contraction of the left external obliques and the right internal obliques. The adductors play a role in producing the transition of weight transfer from the top of the backswing to the start of the downswing. They also help stabilize the lower body as the torso rotates. Training the anterior oblique sling will increase performance by producing a more stable and powerful torso rotation and weight transfer.

**Lateral Sling-** The lateral sling consists of the gluteus medius on one side, the same side adductors, and opposite side quadratus lumborum. The lateral sling must be functional to provide the golfer with the adequate hip stability to allow proper torso rotational X-factor produced by the anterior oblique sling. The gluteus medius is vital for hip stability to prevent swaying/sliding in the swing and loss of power production. The quadratus lumborum’s main role is to protect against shear loads, amongst other load types placed on the lumbar spine during the golf swing.

**Deep Longitudinal Sling-** This sling system starts with the deep multifidus muscles with thoracolumbar fascial connections to the same side paraspinals. The paraspinals then blend with the same side hamstrings via the dorsal sacral ligaments and sacrotuberous ligaments. The main function of this sling is to provide stability to the lower lumbar spine and pelvis during the golf swing. This connection of the hamstrings to the low back is also why shortening of the hamstrings can lead to lower back pain.

**Posterior Oblique Sling-** The Posterior Oblique Sling is probably the most important of all slings when it comes to golf since it provides the most stability and power production in the golf swing. The posterior oblique sling consists of the latissimus dorsi on one side, then crosses over and connects with the opposite gluteus maximus via the thoracolumbar fascia. During the golf swing the lats are the main power producing muscles in the upper body, while the glutes are probably the most important muscle group in the entire body. The glutes are responsible for maintaining lower body stability and power throughout the swing. Numerous swing faults are produced with inadequate glute strength.

Understanding the sling systems clearly demonstrates the importance of these muscles in relation to the golf swing. Training the sling systems can increase the golfer's performance and prevent the over-use injuries from occurring. One key aspect to keep in mind when training the slings is that some of the muscle groups have a tendency to become tight and therefore will lose their designed function. These muscles include the lats, adductors, obliques, hamstrings, low back muscles, and quadratus lumborum. A balance of strengthening and stretching of these muscles is necessary for optimal performance.

### **Sling Specific Exercises**

Half-Kneeling chops with rotation  
Russian Twists w swiss ball  
Duck Walks  
Side leg lifts  
Single leg side planks  
Back swing resisted drill  
Bird dogs alternating arm and leg  
Bridges  
Standing one-leg alternating arm pulls  
Chest press- lunge stance one arm  
Rows-lunge stance one arm incline