

# A Practical Approach to Torso Training Part I

*Brijesh Patel, MA, CSCS*

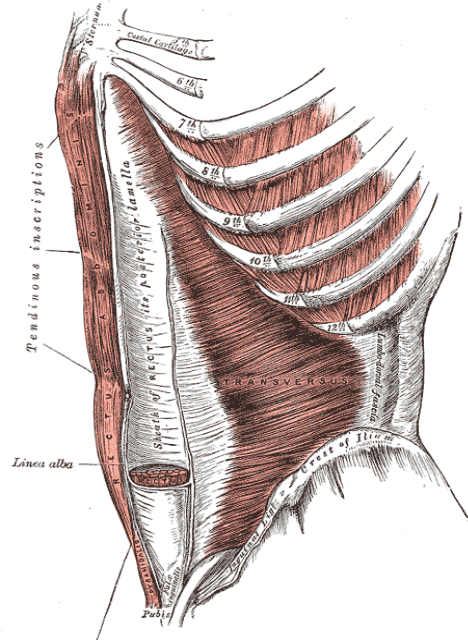
If there was an area of the body that we could train that could result in faster throws, hitting farther, throwing farther, running faster, would you use it? Of course you would, it would only make sense. The torso is the area that I'm referring to, and can help you maximize your performance on the field, court, or ice.

The term torso refers to the middle area of the body. Other terms that are commonly used to describe this region are core, abdominals, abs, or the trunk. There are many muscles that are located in this region. We will break the muscles down into two main categories, global muscles and local muscles.

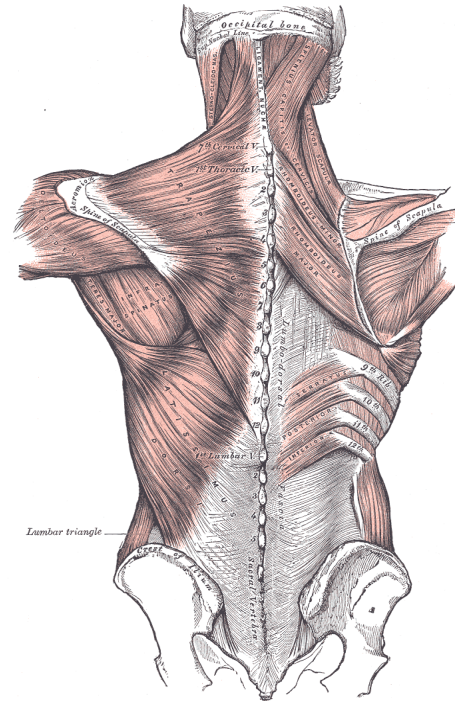
## **Local vs. Global Muscles**

There are a number of muscles in the abdominal region. They can be broken down into two primary categories, local and global muscles. The local muscles are primarily segmental stabilizers. The local muscles refer to the muscles that directly attach to the lumbar vertebrae. These muscles are considered to be responsible for segmental stability as well as controlling the positions of the lumbar segments. The main muscles that make up this inner corset are the multifidus, internal oblique and transverse abdominus. They are involved with segmental control and allow trunk movement in a controlled manner. These muscles allow movement to be as efficient as possible. They stabilize in quick and active motions, such as twisting and swinging. Research shows that these muscles are initiated prior to limb movement in healthy individuals. People who have chronic low back pain don't activate these muscles prior to movement. In other words their recruitment patterns are out of sync. The reason that most people get back injuries is that they lose the ability to contract these muscles properly. When this happens, the multifidus tends to atrophy (because of in-activation) much like the VMO of the knee does. The internal oblique aids in torso stability as well as rotation. The multifidus is a long strap like muscle that runs down the length of the spine. Its primary function is that of a rotational stabilizer. Those with chronic low back pain also demonstrate a motor control deficit in the TVA.

The global muscles control orientation of the spine and form the outer corset. The main muscles are the rectus abdominus, spinal erectors, external oblique, quadratus lumborum and lats. Their primary function is to lessen the force that can be transferred to the inner corset during heavy loading. They also aid in rotational and side bending movements. These muscles help to produce and absorb force during large torque producing movements. They have no direct attachment to the lumbar vertebrae. The local and global abdominal muscles are independent of each other and should be trained separately.



*Anterior View of Abdominal Musculature*



*Posterior View of Abdominal Musculature*

### **Importance of Core Training**

Most of traditional abdominal training is done in wrong positions, performed with little variety, and done with very little thought. Leg lifts and crunches are at the “core” of most abdominal programs, and these types of exercises need to be looked at more carefully to actually determine what purpose they serve.

The exercises just mentioned primarily recruit the global muscles and are performed in a short range of motion, in a very non-functional position. Ask yourself, “How many times do you actually need to use your abdominals while laying flat on your back in daily activities and in sport”, “do your abs “burn” during daily activities or sport?” The answers are pretty easy, and require very little expertise on the topic. So why do some many coaches, trainers, and athletes prescribe these exercises as abdominal training? Now don’t get me wrong, these exercises aren’t all bad, but need to be considered into a full training program that covers all areas of torso training.

Performing a variety of movements will ensure that balance is achieved between all muscle groups, and that injuries are limited as much as possible. The core musculature is the first muscles recruited prior to any other limb movement. This happens so that the muscles that attach directly to the spine can stabilize the spine so your movements with your limbs will be much stronger. Another function of the core is to help transfer force from the lower body up to the upper body. For example, if you can squat 600 pounds, but lack core stability, you may only be able to transfer 250 pounds, which will make you a very inefficient athlete. Your core will leak away about 350 pounds of useable force. But if we can improve your core stability and transfer all 600 pounds and apply this force quickly we will be very efficient and more productive as an athlete.

You've probably heard the adage before, "you are only as strong as your weakest link." If your core is your weak link it can make the difference between you running over somebody or getting run over by somebody. Properly planned and progressed abdominal training can make a huge difference in force generation and force transfer. This will help to make your core functionally stronger and more powerful, so you can improve your performance and minimize injury.

Learn how to properly train the abdominal musculature in Part II.