

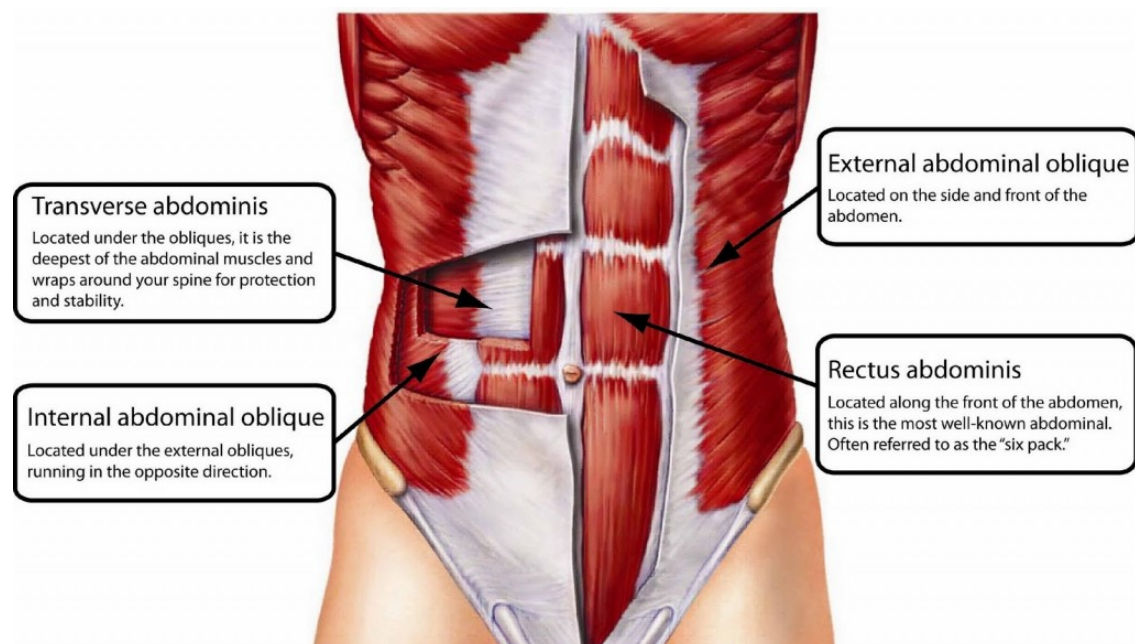
The Abdominal Muscles

The abdominals are located between the ribs and pelvis and act to support the trunk, allow movement and hold organs in place. There are four layers of abdominal muscles, each with a different purpose:

Rectus Abdominus – located between the ribs and pubic bone and the front of the pelvis, the main purpose of this muscle is to allow large movements of bending. This muscle is commonly known as the ‘six-pack’ muscle.

External and Internal Oblique – these muscles are located on each side of the rectus abdominus, and allow the trunk to twist.

Transversus Abdominus (TA) – This muscle is the deepest layer. Its main role is to stabilize the trunk and maintain internal abdominal pressure.



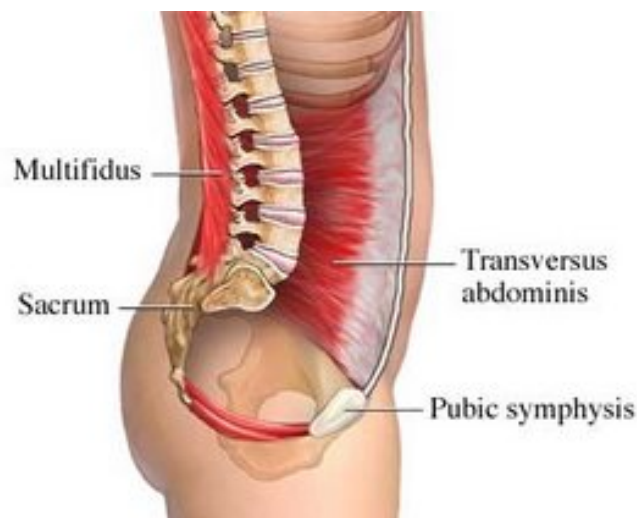
The ‘Core’ Muscles

Think of your core as a strong column that connects the upper and lower body together, creating a strong foundation for all activities. Without this foundation, injuries are likely to occur.

Your ‘core’ muscles refer to the deep muscles within the abdominals and back that attach to the spine or pelvis. These muscles include the transversus abdominus, multifidus, the muscles of the pelvic floor and gluteal muscles.

TA acts as the main stabilizer of the low back and core muscles. When activated, TA creates a deep natural "corset" around the internal organs and lumbar spine. This activation flattens the abdominal wall, stabilises the spine during activity, and compresses and supports the internal organs. A delayed onset of TA indicates a deficit of motor control and is expected to result in inefficient muscular stabilization of the spine (Hodges et al., 1996)

Multifidus is a deep back muscle that runs along the spine. It works in combination with TA to increase spine stability and protect against back injury or strain during movement or normal posture.



In patients with low back pain, it has been shown that multifidus becomes inactive, and it does not spontaneously resolve when the patient's pain disappears (Hides, 2001). This is shown to lead to recurrent episodes of low back pain. However four weeks after a specific exercise program to reactive multifidus there was complete recovery of multifidus (Hides, 2001) and a significant reduction in the likelihood to experience another episode of low back pain.

How to Activate Transverse Abdominus and Multifidus

When TA is activated multifidus is also activated. There are a few different cues that can be used to activate TA, however it is best to assess TA's activation under ultrasound with your physiotherapist to figure out the best cue for you.

Some common cues to activate TA include:

- Draw your lower abdominals to your spine
- Lift your pelvic floor
- Putting on skinny jeans
- Walking into ice cold water