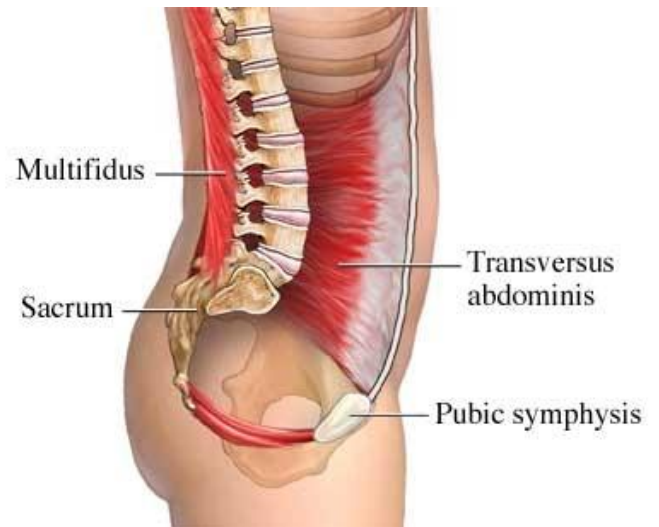


The Core

Transversus Abdominus

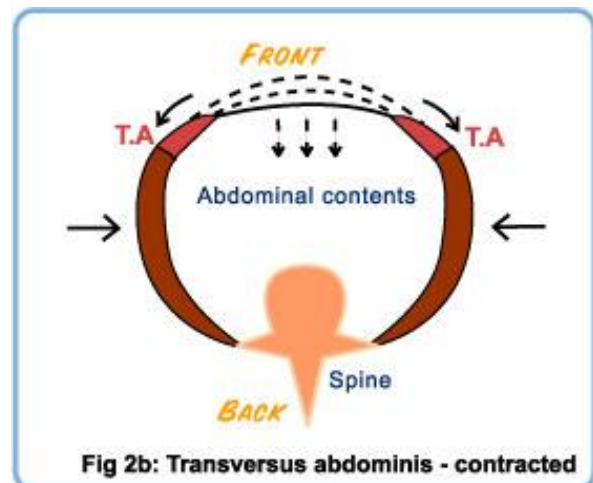
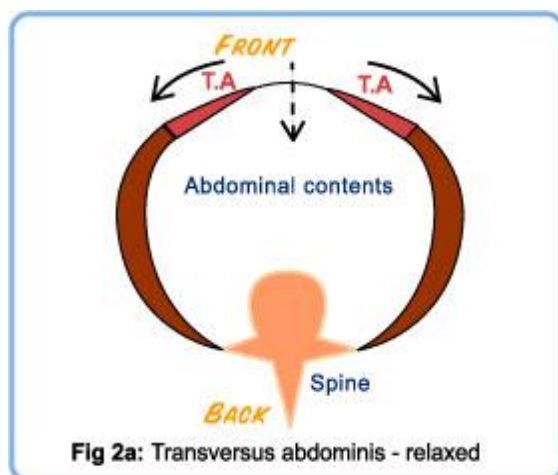
Transversus Abdominus is the deepest abdominal muscle. It has fibres that are oriented horizontally, and it wraps around the abdomen between the lower ribs and the top of the pelvis, acting like a girdle. The picture on the right displays only the deepest layers of muscles, showing that the transversus abdominus is functionally linked to the deep back muscle, called the multifidus, and the pelvic floor muscles. These muscles act together to form the true deep core stabilizing muscle system. They act to stabilize the spine and pelvis before movement. This is the key.



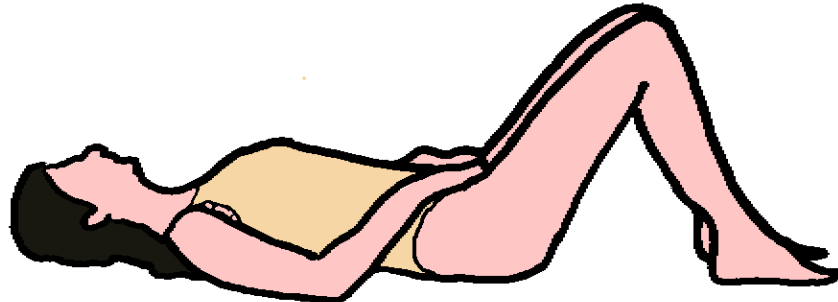
The function of the transversus abdominus is to act BEFORE the other muscles so that it may function to stabilize the spine and pelvis before movement occurs, and thus, it limits the amount of translation and shear/stress that is placed on the joints of the lower back and pelvis. Thus the sequence of muscle activation is crucial in restoring better stability of movement and limiting the stress and strain on joints.

After an injury, lower back pain, pregnancy, or even after other injuries throughout the hip, knee or foot, this muscle becomes inhibited and thus, does not function in the proper sequence and often cannot maintain a proper contraction to actually stabilize as it is intended to do.

Thus, it is important to attempt to isolate the contraction of the transverses abdominus. Then it is important to sequence the contraction of the transverses with the action of other muscles after it is activated. Then, the activities can be progressed towards more function.



Step 1 – Activating the Transversus Abdominus



1. Lie on your back and relax your lower back into a neutral position.
2. Use your hands and fingertips to feel or palpate just inside of your hip bones into the abdominal muscles.
3. Breathe in laterally to expand the ribcage while keeping the shoulders relaxed. Then breathe out through your mouth, allowing the sternum to soften.
4. As you breathe out, try to pull gently in your transversus abdominus by attempting one of the cues listed below:
 - a. Imaging gently hollowing your abdomen as if trying to do the zipper up on a tight pair of jeans
 - b. Think about the pelvic floor muscles, and imagine lifting up through your urethra or testicles, or utilizing a Kegel type exercise to activate the pelvic floor muscles.
 - c. Visualize a string running from the anus forwards towards the pubic bone and that this string pulls forward (contracting the pelvic floor muscles which helps transverses work)
 - d. Imagine a line between the two hip bones and think about this line connecting and becoming slightly shorter.
 - e. You will feel a slight tension, or pulling in like a girdle, under your fingertips. You do not want to feel a bigger more explosive contraction that pushes your fingers upwards, as this will indicate that the bigger abdominal muscles are working moreso.
 - f. Repeat the exercise, attempting to maintain the contraction initially for 3-5 seconds, and gradually increasing the hold as you are able, without the bigger muscles compensating and pulling in. Continue to breathe while holding the contraction

Compensations to be aware of:

- Tilting your whole pelvis backwards, or flattening of the back
- Holding your breath or bracing through the chest
- Squeezing the buttocks, or clenching the buttocks
- Bulging of the abdomen or depression of the rib cage