



## ABDOMINAL STRENGTHENING

Four muscle groups make up the abdominal area. These muscles control the movement of the body to allow the body to bend side to side, to twist right and left and to lower and raise the torso.

The **rectus abdominals** muscle runs the length of the central abdominal from the pubic bone and connects to the sternum. The rectus abdominals pulls the torso toward the hips.

The **external obliques** run diagonally down from the lower ribs and connect to the front top of the pelvis and the pubic bone. External obliques aid in twisting the trunk. Right external oblique is activated when twisting left.

The **internal obliques** lie underneath the external obliques and run diagonally in opposite direction of the external obliques. The internal obliques run from the top of the hip lumbar region and connects to the lower ribs. Internal obliques aid in twisting the trunk in the same direction as the side they are on. The left internal oblique twist the torso left. (Therefore the left internal oblique and the right external oblique work together to twist the torso left.)

The **transverse abdominals** (TVA) muscle runs horizontally across the abdominal wall underneath the external and internal obliques. The transverse abdominals run from the top of the hip lumbar region, across the pelvis and connects to the pubic bone. Transverse abdominis pulls the abdominal wall inward, forcing expiration.

**To activate the TVA** imagine you want to stop peeing mid-flow, or stop yourself passing wind. The goal is to be able to feel the TVA abdominal contracted whilst performing 10 breaths.

**To feel the muscle contracted** use your finger and find the top of the hip. Move 2 centimeters in towards the naval and then 2 centimeters down towards the pelvis and gently press down. When you contract the muscle, as explained above, you should feel the muscle press against your finger.

Abdominal muscles are a part of almost every move that you make. They are the core of your strength and power. They are essential for good posture, supporting the back and preventing lower back problems.

Transverse abdominals muscles are key to a strong abdomen and the ones that we have most difficulty in exercising. They lie the deepest of the four groups of abdominal muscles.



### **Exercise 1a**

Keep your chin in and stomach flat, shoulders should be resting on the ball. Relax your back and support yourself using your buttocks, ensure at all times back is straight and does not sag or arch. Hold for 15 seconds and repeat 5 times.



### **Exercise 2**

Keep your stomach firm and flat, squeeze your buttocks. Slowly lifting your right leg off the floor hold for 5 seconds and then lower. Repeat 5 times and then change legs.



### **Exercise 3a**

Lie on your back with your feet on the ball, keep your stomach pulled in.



### **Exercise 3b**

Squeeze your buttocks and lift your hips from the floor until your back is in-line with your knees. Hold for 5 seconds then return to, the starting position. Repeat 5 times.