

THIRROUL PHYSIOTHERAPY AND SPORTS INJURY CLINIC

Suite 14, 345 Lawrence Hargrave Drive Thirroul, NSW 2515.

Ph: 0242 673400

Core stability

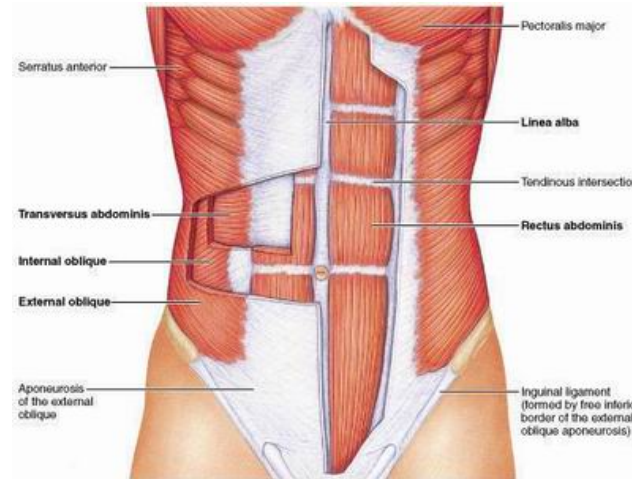
Achieving better activation and control of your lower abdominals will assist in supporting your lower spine and improve in general strength and stability. If you have good control of your deep abdominal fibers you can decrease the direct load from your lower back and disperse the force throughout the entire trunk. Effectively controlling your abdominals can be integral in the ability to decrease low back pain.

The important aspect of activating your lower abdominals is to have minimal contraction for the activity performed. You should not have a full contraction of your lower abdominals, but a gentle contraction to stabilise the pelvis and lower spine.

Anatomy

You have four main abdominal muscles. At the front you have rectus abdominals, which are your six pack muscles. These muscle fibers are vertical, help you sit-up, are excellent to show off down the beach but are not very effective in supporting the lower spine. In addition you also have external and internal obliques more to the sides of your trunk with muscle fibers in both diagonal direction. These help you twist and side flex and offer some core stability. Your deepest abdominal muscles are your transverse abdominals. These attach to your lower spine and have transverse (horizontal) fibers that attach to the front to the abdominal fascia. This muscle sits in a position similar

to the corset women used to wear in the past. If these transverse abdominals are activated effectively it can aid in stabilising and supporting the lower spine.



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How to activate

There are numerous prompts to activate your abdominals and each person will find different prompts more effective than others. Knowing your anatomy, where the muscles attach and how the muscle fibers contract can assist in getting the broader picture and a better understanding of your body.

If you place your thumbs just above your hips and slightly towards the front, take a small cough and you should feel the lower abdominals activate. This is a co-contraction of your abdominals as you use your

breathing muscles (diaphragm and accessory muscles). You will be trying to activate your lower abdominals WITHOUT activating your upper respiratory muscles and your ribs. If you are performing this activity properly, no-one should be able to see you turning your lower abdominals on or off.

Imagine you have a piece of string about 2 inches below your belly button and you are pulling the lower stomach in towards the spine and gently lifting towards your head, your lower belly should draw in about 1cm and you should feel the abdominals (where you are placing your thumbs) tense up gently. When contracting your lower abdominals you should be activating about 5-10% of a full contraction, not as hard as you can. Over-activation of your abdominals will lead to poor control and significantly increase intra-abdominal pressure. You should be able to hold your lower abdominals comfortably whilst breathing normally. It is important that you relax your upper chest. You should find it is easy to activate your lower abdominals when breathing in and they want to drop off when you breathe out. You will be practicing this to keep a gentle constant contraction of your lower abdominals whilst breathing normally. Over time you should be able to activate your lower abdominals automatically, especially when bending down, changing positions or lifting objects.