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Physical Therapy & Wellness

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What is the Deep Core?

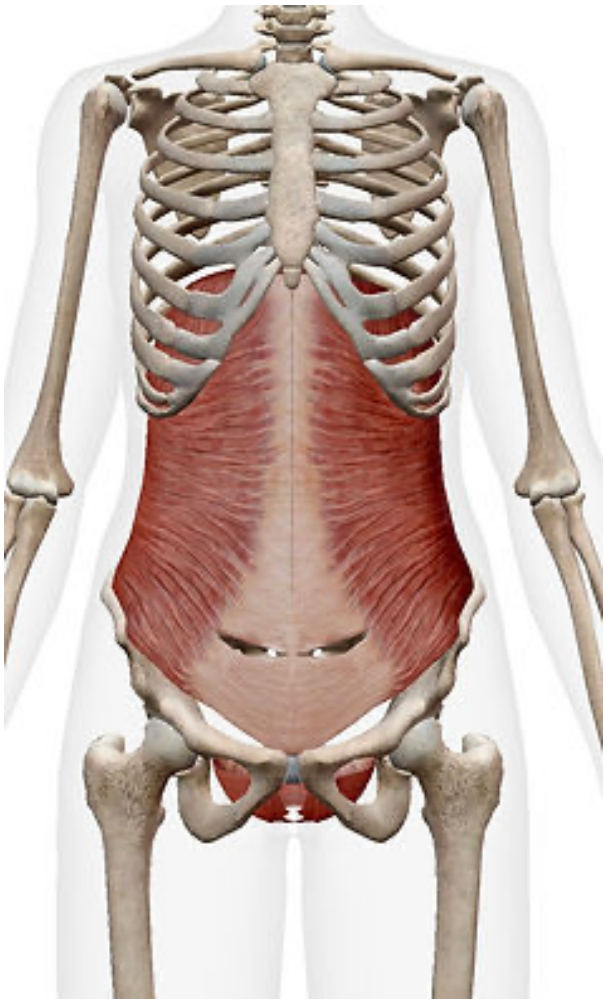
Consists of the
- Diaphragm
- Transverse abdominis
- Pelvic floor

The deep core consists of **three muscle groups that form a cylinder around the trunk - the diaphragm, pelvic floor, and transverse abdominis**. These muscles work together to manage the pressure inside of the abdomen, stabilizing the spine and pelvis, and providing support for your pelvic organs. Proper functioning of the deep core is important to prevent and manage common conditions such as low back pain, abdominal separation, urinary leakage, and pelvic organ prolapse.

Let's take a closer look at each muscle, individually:

THE DIAPHRAGM

The diaphragm is a dome shaped muscle that forms the top of the cylinder. It is responsible for expanding the rib cage and pulling air into the lungs. **A strong diaphragmatic breath expands the lower rib cage in all directions.**



THE PELVIC FLOOR MUSCLES (PFM)

The pelvic floor muscles form a bowl at the bottom of the cylinder and are crucial for lumbopelvic stability, pelvic organ support, and bowel, bladder, and sexual functioning. **A healthy pelvic floor functions automatically, contracting and relaxing with your breath throughout the day and in reaction to your everyday activities (e.g., contracting when you cough, sneeze, or jump and relaxing when you pee, poop, or give birth).**

THE TRANSVERSE ABDOMINIS (TrA)

The transversus abdominis muscles make up the front and sides of the cylinder and wrap all the way around to the back. They lie beneath the rectus abdominis (the six-pack muscles) and the external and internal obliques. **The muscle fibers run horizontally and act as your "built-in back brace" when activated properly.**

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THE DEEP CORE AS A UNIT

These three muscles must work together to do their job. As you breathe in, the diaphragm flattens, expanding the rib cage and compressing the abdominal cavity. To maintain the pressure in the abdomen, the pelvic floor and transverse abdominis muscles must relax. The pelvic floor lowers and lengthens and the belly expands. When you breathe out, the diaphragm lifts back up to push air out of the lungs, the pelvic floor contracts and lifts, and the transverse abdominis hugs in.

During activities that increase intra-abdominal pressure, such as sneezing, coughing, lifting something heavy, jumping, or running, the pelvic floor needs to be able to contract (and relax) quickly and strongly in response to the increased pressure. In the case of running or jump roping, it must do this over and over again.

In a well-functioning core, all of this happens automatically without any conscious thought or effort. However, during pregnancy and after childbirth, this system is often disrupted due to one or more of the following:

- Stretching, weakening, and/or incoordination of the abdominal or pelvic floor muscles
- Overactivity and/or guarding of the abdominal or pelvic floor muscles
- Perineal or cesarean scar tissue restrictions
- Tightness and/or weakness in nearby muscles and joints
- Changes in posture and movement patterns

After a thorough assessment, a qualified physical therapist will be able to show you specific exercises to improve coordination, flexibility, and/or strength of the deep core muscles, depending on your individual needs.

TIPS TO EGAGE YOUR DEEP CORE WITH EVERYDAY ACTIVITIES

- Exhale when you get up from a chair, roll over in bed, or pick up your baby.
- Exhale during the exertion phase of any exercise. For example, when performing squats, breathe in as you lower down and breathe out as you rise back up. The same goes for upper body exercises. When performing bicep curls, breathe in as you lower the dumbbells towards the floor and breathe out as you curl the weight up.
- If you experience urinary leakage when you cough or sneeze, try actively contracting your pelvic floor muscles just as you're about to sneeze or cough and hold it through the sneeze/cough.

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