

The Myth of Core Stability

The principle of core stability has gained popularity amongst both physiotherapists and the general population worldwide. Abdominals get all the credit for protecting the back and being the foundation of strength, but they are only a small part of what makes up the core.

Core stability refers to the ability of certain, specialized muscles to prevent uncontrolled and potentially injurious movement of the low back, trunk or lumbar spine. It's important to have adequate core stability, as powerful muscles attaching to the trunk initiate practically all sporting movements and most everyday ones.

Core stability benefits everyone, from older people to top professional athletes. Exercises for core stabilization should be part of every conditioning program.

The Role of Core Stabilising Muscles

In general, the muscles of the corerun the length of the trunk and torso. When they contract they stabilize the spine, pelvis and shoulder girdle and create a solid base of support. We are then able to generate powerful movements of the extremities (arms and legs). If your core muscles are strong and they activate when they should, posture is improved, your body is balanced, movement is more efficient and powerful, and you are less likely to be injured.

What are Stabilising Muscles?

Your body has two types of muscles, movers and stabilizers. Movers are large muscles that move body parts. Stabilizers are muscles that support your body through movement and prevent you from being injured while moving. Muscles acting in a stabilizing role aren't directly involved in movement, but instead keep certain parts of the body steady so that the primary working muscles (movers) can do their job properly.

Main Muscles involved in Core Stabilisation

The two primary core stabilizing muscles are the **Multifidus** and **Tranversus Abdominis**. These muscles comprise the innermost layer of muscles in the trunk.

Multifidus is a small muscle that crosses each spinal segment, making them perfect stabilizing muscles of the spine. Multifidus lies very close to the centre of the spine, and is therefore ideally placed to limit sloppy or uncontrolled movement of the spine when it is activated. People who've had back pain, even once, may lose the ability to work the multifidus muscles in the problem area. If the multifidus muscles aren't working correctly, the problem segment is left unprotected and is free to shift around during daily activities.



Transversus Abdominis (TA) resembles a corset in that it wraps around the trunk from back to front. When it tenses it creates tension in a broad piece of tissue called the thoracolumbar fascia, which runs across the low back. It also increases intra-abdominal pressure, which also helps to brace and support the spine. The combination of TA contraction and increased intra-abdominal pressure convert the otherwise soft abdomen and wobbly spine into a rigid cylinder.



Other muscles which contribute and help stabilise the pelvis and trunk are:

- <u>Rectus Abdominus/Internal and External Oblique Muscles</u>
- <u>Erector Spinae</u> superficial back muscles
- Gluteal Muscles and in particular the medius and minimus muscles
- Deep Hip rotators and Flexors
- <u>Hip adductors</u> or groin muscles.
- <u>Thoraco-Lumbar Fascia.</u>

Core conditioning exercise programs need to target all these muscle groups to be effective, thus allowing us to perform our daily activities of living.

PHYSIO4ALL Exercise Classes

Modern evidence-based principles of rehabilitation provide a theoretical and conceptual basis for reducing long term incapacity due to low back pain. Pain and disability may originate from a biological condition, but the development of chronicity and incapacity are subject to powerful psychosocial influences and therefore, they are important obstacles to recovery.

Research studies for as long as four decades have confirmed that weakness and decreased control of the trunk muscles occur in people who suffer from low back pain. At PHYSIO4ALL our main objective is not only to increase strength, endurance and flexibility but to provide a diverse range of exercises for the whole musculoskeletal system to maximize performance and improve your lifestyle. We aim to develop functional fitness - that is, fitness that is essential to both daily living and regular activities.

Our <u>Clinical Pilates</u> and <u>Back2Bizz</u> classes are supervised by qualified physiotherapists with professional and clinical experience. PHYSIO4ALL classes are tailored to meet your specific needs based on a 1-1 Pilates Assessment of your spine, posture, muscle strength, flexibility, core strength as well as your lifestyle and levels of activity.

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