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SPORT & REHABILITATION CENTRE

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#101 – 135 East 15th St.
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Core Exercises

Everyone knows that having a strong core is important. But why? In fact, what is the core? Well, it is a group of muscles that is the **foundation of your strength**, located in the lower torso and along the spine. It consists of:

- Rectus Abdominis
- Internal & External Obliques
- Erector Spinae
- Quadratus Lumborum
- Gluteus muscles
- Transverse Abdominis
- Multifidus
- Diaphragm
- Pelvic floor muscles

That's a lot of important-sounding muscles! And they are. **All movements originate** from your core, which act together to give you **posture**, **balance**, and **stability**. A weak or imbalanced core leads to compensation and incorrect biomechanics; injury and decreased performance are likely to occur. When you *do* properly align your body, however, your **spine will experience less strain** as you sit, stand, and move around each day. As well, correct biomechanical movement allows **increase** in **efficiency** and **amount of force produced**, providing you with **more power**. In short, a strong foundation equals strong movement, and vice versa.

Plus: Superman, Batman, and the Hulk combined will have nothing on you.

Dysfunction may occur from, but not limited to:

- Motor vehicle accident
- Pregnancy
- Abdominal injury or surgery
- Low back pain
- Bad posture
- Imbalance within core muscles

which can lead to →

A delay, or even complete absence in anticipatory contraction of the internal core muscles!

So where do I begin?

The first step is to find a "neutral" spine position. It is the least painful and most sound biomechanical posture for your lower back.

i. Lie down on your back with feet shoulder width apart, flat on the floor about 6 – 10 inches away from your buttocks. (Your back should maintain its natural curve.)

ii. Using your abdominal muscles, press your lower back into the floor. Release. Next, over-arch your back so that your pelvis is pressed down into the floor.

iii. Alternate and repeat this 10 times. Then, allow pelvis to come back midpoint between the 2 exaggerated positions – this is your neutral spine! This position should be emphasized and maintained for ALL MOVEMENTS.

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But what about the muscles?

While all the muscles we identified as part of "The Core" are integral, we need to make sure first and foremost that the internal muscles are functioning. The goal is to have them active (and stay active!) throughout your daily life without having to think about it.

Transverse Abdominis (TA)

This is the deepest and most fundamental of the abdominal muscles. Working with the multifidi muscles (which connect the vertebrae together, 1–3 at a time), the TA forms an internal corset-like structure to stabilize the spine during movement.

Let's start with "hollowing".

1. First step is to do this while lying down. Suck in your stomach, as if to try and push your bellybutton to the floor. You should be able to feel this deep in your low belly.

2. Remember to breathe! You are engaging your core, not trying to look skinny for a photo shoot. As mentioned before, the diaphragm is a part of the core – breathing will make sure it is getting a workout too.

3. When you've got the hang of this, try it sitting up. Easy? Try it walking around. Good? Let's move on!

Now we want to work on keeping the TA engaged at all times!

So let's try a couple simple exercises while remembering to hollow your stomach before initiating any movement (and maintain this contraction!).

Leg Raises

• Lie on your back with feet flat on ground. There are 2 different versions:
a) Slowly bring one knee towards chest, and then return to start position.
b) Slowly slide one heel away from body along the floor, then return to start position.

Pelvic Bridge

• Lie on your back with feet flat on the ground.
• Squeeze your gluts (another core muscle!) and lift buttocks off floor until hips, knees, and shoulders are aligned. Keep hips level at all time. Hold for 3 sec, then release. Repeat, remembering to engage TA!

*Quick forceful exhalations during the exertion phase of an exercise will help engage the TA!