Grand River Sports Medicine Centre

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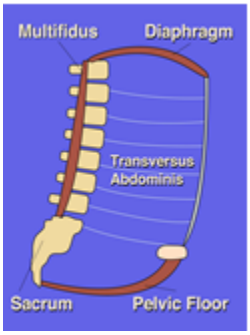
GOAL POST

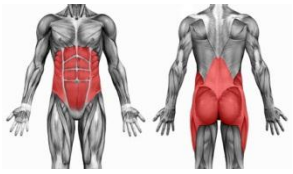
# What Skaters Need to Know About Core Stability…

**by: Dana Snelling HB(Kin), MSc(PT)**

### *Core Stability Defined*




Core stability is a dynamic concept that refers to the ability to control movement of the spine during movement and includes 3 components: the nervous system, the passive system (ligaments and connective tissue around joints) and the active system (local and global muscles). Local muscles stabilize specific joints and are designed to contract for long periods of time. Transversus abdominis is a local muscle.

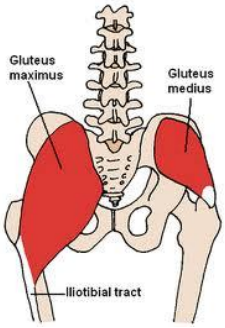


Global muscles are larger and span many joints. They contract more forcefully to provide stability under greater loads. The Rectus Abdominis or "6-pack" is a global muscle.

Effective stabilization of the core involves the nervous system sending messages to the local muscles, followed by the global muscles. The passive system provides stabilization at the extremes of range of motion. Injury often occurs when the nervous system and/or the active systems are not working properly. The problem may be related to endurance, strength or the timing of the muscle contractions (i.e. the global muscles take over and work before the local muscles).

### *More than just Abs*

The core is often synonymous with the abdominals but for activities like skating the muscles around the hips and pelvis are very important. The gluteal muscles, especially Gluteus Medius, work along with the abdominals and local muscles to provide stability to the hip joint and pelvis. Gluteus Medius works to keep the pelvis level, which is required to align the hip over the knee and ankle. This proper alignment is essential for maintaining edges, taking off and landing jumps.




It has been shown that weakness in the Gluteus Medius is associated with lower extremity injuries because there is excessive strain on the hip, knee and ankle joints when they are not held in proper alignment.

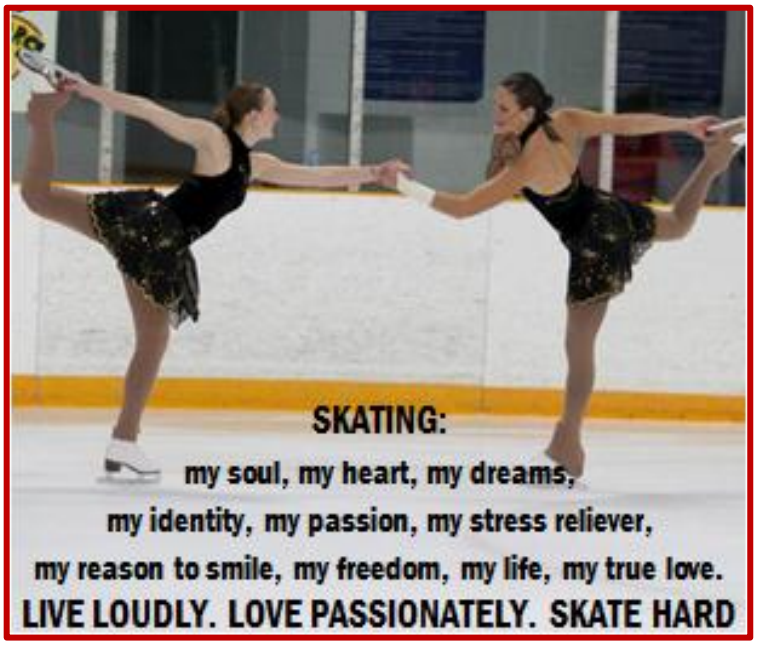
Strong Gluteus Medius vs. Weak Gluteus Medius

### *Why is Core Stability Important?*

The spine is the foundation of movement for the arms and legs. A strong core is required to stabilize the spine in order to make movement efficient, strong and coordinated. In addition, core stability is important to generate maximum power and transfer loads. In the sport of figure skating, an incredible amount of core stability is needed to control the blade on the ice, achieve tightness in the air with jumps or spins, keep the body upright while jumping and to maintain balance.

***Training your Core***

A comprehensive core training program will begin with basic activation of the local, deep muscles and then progressed to add various challenges to the core by moving the arms and legs. Initially, the core should be trained to remain active at a low level for a long period of time (i.e. endurance). Endurance in the local core muscles is the key to prevent injury in the spine. Once this has been achieved, exercises like planks to build strength in the bigger global muscles can be introduced. If the global muscles, like the "6-pack muscles" are over-exercised before the local core stabilizers, the muscles can become imbalanced and the body is prone to injury. Next, balance exercises and sport-specific movements can be added. For skaters it is important to combine core stabilization with jumping exercises (plyometrics) to challenge the muscles in the way they are used during the sport. A Registered Physiotherapist or Certified Athletic Therapist, with advanced experience in core training is a valuable resource for any active individual. They can create a core stability program designed to meet your specific needs and goals and guide you step-by-step along the way. In addition, Pilates-based exercise is also an effective way to train and maintain core stability and can be a great option for off-ice training.




# STAFF PROFILE

**Dana Snelling HB(Kin), MSc(PT)**

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**Education**

- Honours Bachelor of Kinesiology and Anthropology degree from McMaster University.
- Master of Science of Physiotherapy from McMaster University.

**Post Graduate**

- Clinical tutor for the physiotherapy program and as a clinical preceptor for physiotherapy students at McMaster University.
- Working towards certification in Manual therapy.

**Focused Interests and Skills**

- Manual Therapy
- Pilates
- Exercise Therapy

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# Tips & Tricks

**Static Stretching as a Cool-Down**

After competing it is very important to go through a full cool-down. A cool-down should consist of static stretching. Static means without motion, so static stretching cool-down would consist of stretching in a stationary position. Each stretch should be held for approximately 20-30 seconds and be repeated 2-3 times.



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