



PHYSIO FOCUS

PHYSIO FOCUS is a bi-monthly publication geared towards providing practical physiotherapy and health information.

INSIDE THIS ISSUE:

- Tonic and Phasic Muscle Systems .1
- NOI Fitness Class Information1
- Idiopathic Scoliosis Rehab2
- Exercise of the Month: Triangle.....2
- Health Corner: Hemp Seeds2
- Contact Info2

NOI Fitness Classes

Fall Class Schedule

Please sign up at front desk!

Pilates Mat

Mondays at 5:30 pm

A floor based exercise program that uses your own body or small props to build core strength and retrain proper muscle patterns while increasing your mind-body awareness.



3770 Montrose Rd. Units 2-4
 Niagara Falls, ON L2H 3K3
 905-371-1939 www.niagaraortho.ca
 Check us out on Facebook!

“To keep the body in good health is a duty... otherwise we shall not be able to keep our mind strong and clear.”- Buddha

Tonic and Phasic Muscle Systems

When designing and managing our training systems, we always keep in mind two categories of muscles: tonic and phasic.

The tonic system consists of the “flexors” and is phylogenetically older and dominant. These muscles are involved in repetitive and rhythmic activity and are activated in flexor synergies.

The phasic system consists of the “extensors” and emerges shortly after birth. These muscles work eccentrically against the force of gravity and emerge in extensor synergies.

It is important to remember that the tonic muscles are prone to tightness or shortness, and the phasic muscles are prone to weakness or inhibition. This response is based on the neurological response to harmful or potentially harmful stimuli. For example, following structural lesions in the central nervous system (such as cerebral palsy or cerebrovascular accident), the tonic muscles tend to be spastic and the phasic extensor muscles tend to be flaccid. Therefore, patterns of muscle imbalances may be due to central nervous system influences, rather than to structural changes within the muscle itself.

This classification is not rigid, in that some muscles may exhibit both tonic and phasic characteristics. Also, in addition to neurological predisposition to tightness or weakness, structural changes within the muscle may also contribute to muscle imbalances.

However, in the chronic pain that is centralized within the central nervous system, patterns of muscle imbalance are often a result of neurological influences rather than structural changes.

Why should you care about all of the above? Because when we consider the great degree of interdependence between central nervous system and musculoskeletal system, and the inseparableness of the two systems, we must abandon “bootcamp mentality” to developing fitness and adopt a more intelligent approach to creating fit and healthily moving (and looking) bodies that last a lifetime.

Exercise of the Month: Triangle Pose!



The Triangle Pose is a common Yoga movement that offers an effective functional stretch that targets multiple muscle groups! This exercise creates a series of triangles within the body providing a great hamstring, gastroc-soleus complex, upper side abdominal and low back stretch. The effectiveness of this stretch lies in the premise that any individual can obtain this position safely with correct modifications and adjustments! Often bolsters and Yoga blocks are used if an individual cannot fully get into the desired position. Check with your NOI team today to see how to safely incorporate this exercise into your current regime!

Postural Rehabilitation and Idiopathic Scoliosis

Adolescent idiopathic scoliosis (AIS) can be defined as a three dimensional spinal deformity in a growing child characterized by a spinal curve greater than 11 degrees. The prevalence of AIS ranges from 1-3 percent of adolescents with a male to female ratio of 1:2. Since the cause of AIS is unknown, developing a systematic and comprehensive treatment plan can be difficult.

Weiss and colleagues 2016 reviewed multiple exercise-based and postural rehabilitation programs to determine the role and effectiveness of each in the management of AIS. The researchers reviewed various constructs including: role of posture in daily activity, side-shift, sitting postures, standing postures, carrying a backpack and the scoliotic breathing pattern as the background for their evaluation.

Their systematic review of the literature indicated that scoliosis-pattern-specific exercises reduce the Cobb angle and angle of trunk rotation in patients with AIS.

Further analysis indicated that the Schroth approach, the only protocol to be found effective in three separate clinical trials, was far superior than other regimes with a defined correction procedure as well as general exercise. One of the key strategies utilized under this method is the specific exercise approach that targets postural correction and functional adaptation. The importance lies in *“adopting these corrective postures in daily activities to reduce asymmetrical loading of the spine”*.

NOI Physiotherapists are trained in assessing and developing effective treatment programs for anyone dealing with AIS.

Health Corner

Hulled Hemp Seeds and your Health!

Looking for a new super food? Then try hulled hemp seeds, also known as hemp hearts. These little seeds are easy to use and have a soft texture and a slightly nutty flavor. You can add them to yogurt, cereal, salad, and applesauce. You can even use them in homemade shakes or energy bars (see below). If you compare a 30g serving of hemp seeds to chia seeds, hemp seeds contain more protein (chia seeds have more fibre). While hemp seeds are considered a complete protein, be sure to use various protein sources if you are vegetarian or vegan to ensure you are getting the required amount of all the necessary amino acids. Since hemp hearts contain healthy fats it is best to store them in the refrigerator to ensure they do not go rancid. There's also no need to worry about getting 'high' from hemp hearts. Hemp is a species of *Cannabis sativa* but it is not the same as marijuana. Hemp contains 0.001% Tetrahydrocannabinol (THC) and will not cause a psychoactive effect.

Here's an afternoon pick me up recipe to get you acquainted to using hemp hearts

- 1 cup oatmeal
- 1/2 cup nut butter
- 1/3 cup agave (or honey)
- 1 cup coconut flakes
- 1/2 cup ground flaxseed
- 2 cup chocolate chips
- 1 tsp vanilla
- 1/2 cup of Hemp Hearts (to roll the energy bites in)

Directions

Put all ingredients in one bowl, mix, and roll them in Hemp Hearts. Then let chill for 30 minutes in the fridge. Store in an airtight container and keep refrigerated for up to a week.