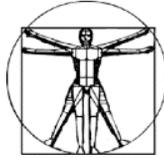


## ASK THE PHYSICAL THERAPIST

NEWSLETTER MARCH 2017



### MOVEMENT AND THE CORE

Fluidity and ease of movement is a result of using your muscles in an efficient and appropriate way. The body wants to stay upright, be symmetrical, and be in harmony. Therefore, it will do whatever it needs to do to maintain homeostasis. This is why the core and alignment are so important. Let's say you can do an exercise to one side but not as well to the other, you have created a muscle imbalance. The body will then go to the side of least resistance, meaning you will continue to strengthen the strong side, which will continue to weaken the opposite side of the body. If turning to the left is much harder than the right, you are probably not efficiently recruiting the correct muscles and the movement becomes stilted because you are asking other muscles to do what they are not meant to do. As this continues, you are setting yourself up for injury. Repeat this over and over again, you create weaknesses until the body says "enough".

What exactly is the core? It includes your abdominals, buttocks, pelvic floor muscles. When these muscles are engaged, they provide stability so that your arms and legs can then move with control. For instance, standing on one leg requires you to recruit the buttocks (gluteals). Try something more dynamic and kick your other leg out front. If you don't have the core properly engaged, you will fall off balance. Doing a pirouette while tilting to one side or going for a tennis ball that is not hit directly to you, requires you to dynamically recruit the core so you have control to complete the turn or hit the ball. Try getting up off the floor without using any objects or even your hands. You must use your core dynamically.

How do you figure out where the weakness lies? We are 3 dimensional people so we work in opposition to maintain symmetry and stability in the body. If the right buttock is engaged the left abdominal also has to be engaged to provide that symmetry to keep you in "neutral". If you lift the left leg, the right abdominal and buttock must be recruited to allow this movement. If you throw a ball with your right arm, the left side of the body (core) must be stable to get the power behind the ball. What do you do now? It all comes back to the core and recruiting the appropriate muscles at the right time for ease of movement. Strengthen the abdominals, pelvic floor muscles, and buttocks both statically and dynamically in different positions.

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**We change people's lives by  
giving them the confidence to  
achieve their goals of an  
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without the use of pain  
medications or surgery.**

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## **BREATHING**

Breathing I believe we can all agree on, is the most essential thing for living. But it is also essential for exercise. I am always asked how to breathe during an exercise or told that they tend to hold their breath. So try this out: hold your breath and feel what happens to your body. Is it tensing? Now try to lift your arm – pretty heavy and doesn't feel as mobile? Now I want you to exhale forcefully through your mouth or hiss. Do you feel your body lengthening, your abdominals contracting, the rest of your body relaxing? Lift your arm as you inhale and exhale through your mouth as you lower the arm. Did you feel a greater ease of movement, the shoulder blade muscles in the upper back contracting, the neck getting longer? So what changed in your "exercise"? You didn't change the lifting of the arm. You changed the quality of your movement with your breath. The movement became more efficient and therefore you will be less likely to injure yourself.

Just as we are 3 dimensional people, so are our muscles and bones. Everything moves in 3 dimensions. When we inhale: the diaphragm contracts and lowers, the ribs swing outward like a bucket handle, and the upper ribs at the sternum rise like a pump handle. When you do diaphragmatic breathing you use a coupling of muscles: pelvic floor, abdominals, intercostals. Sounding familiar – this is your core. This is how your breathing relates to the core muscles to maintain healthy posture/alignment and prevent injury.

With inhalation, the spine extends or lengthens. Diaphragmatic breathing connects the diaphragm, abdominals (specifically the transverse abdominus) and the pelvic floor to support the internal organs. With forced exhalation, you activate the transverse abdominus muscle, the intercostal muscles (between the ribs), and the iliopsoas muscle eccentrically contracts causing flexion in the spine (bending) and a backwards tilt in the sacrum which flattens the low back, but gives the effect of elongating the lower trunk. This decreases the intersegmental pressure of the spine. So be kind to your body and **BREATHE!** while exercising.

I am always asked how to improve posture. All good posture means is that you have aligned your body so that now all the muscles and bones are not stressed and there is an ease of movement. So this is not your mother's lecture about putting your shoulders back, but how to effectively stand from the ground up.

## POSTURE/ALIGNMENT

Standing: Start from the feet and work your way up the body.

Place weight on your feet from the inside of the heel to the outside of the heel, along the outside of the foot, and across the metatarsals (the balls of the feet). You should feel like a triangle of pressure with the two points at the forefoot and one at the rearfoot (or heel). Weight should then be centered equally between both feet/legs.

The pelvis should then be in neutral. To find it, first slouch by bringing the top of the pelvis backward to the point where you're lower back is flattened without a curve. Then bring the pelvis forward so you excessively arch in the lower back. Take the pressure off the back to decrease the arch in it. You will feel your abdominals start to engage. This is neutral pelvis.

Next lift the sternum (think where the bottom of the bra line is or where a tie clip used to be) towards the ceiling without affecting how you placed your feet or pelvis. You should feel an increase in the separation between the bottom rib and the top of the pelvis. This will also engage your abdominals. Do not flare in your ribs, but allow them to come towards each other and down toward the pubic bone.

Lastly, keep the eyes focused forward with the chin tucked in towards the neck. You should feel an elongation/lengthening of the back of the neck, which will also put your earlobes in line with your shoulders. So now if a plumb line were dropped down, it would bisect your ear, shoulder, hip, knee, ankle, and go through the middle of the arch of the foot. You should feel taller, lighter, and no area of the body should feel stress, but in unison.

If you stick your buttocks out behind you, even when bending your knees, you are now using your back. The wider your stance, the closer you are to the floor. If you are lifting something light, meaning something that doesn't strain you, bring it in close to your body and then straighten your legs keeping the buttocks down to the floor. If the object is heavy or bulky, like a bag of dog food, hug it into your body but don't lift it. Then just straighten your legs with the buttocks facing down to the floor not out to a wall behind you. Because we are hopefully all attached upper and lower body, just straightening your legs with a heavy item rather than lifting it will put less strain. If you still feel strain when trying to lift a heavy object, DO NOT lift it. Wait for help. One last note on this, you may find that you get yourself into a situation where it is impossible to straddle the object because it may be behind boxes, say, or you are getting clothes out of the washer or out of the trunk of a car. If you lift one leg up and keep the spine straight from head to buttock, this relieves the stress on the back. You can try it now - stand up and lean over the table. Now lift one leg and then lean over the table. Feel the difference? You should feel relief in the back because there is no strain there with one leg off the

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**HAPPY HOLIDAYS! HAVE A HAPPY, SAFE HOLIDAY PACKAGE LIFTING!**

**CALL TODAY TO SCHEDULE YOUR APPOINTMENT: 301-493-9257**

**UPCOMING EVENTS:**

**Back Pain Management workshop: Saturday October 15th 10-11 a.m. at Life Energy Fitness,  
11333 Woodglen Dr., Suite 100, Rockville, MD 20852**

**Osteoporosis workshop: TBA**

**Pilates/Exercise class: 5 class series for \$95 Sept. 14<sup>th</sup> – Oct. 19<sup>th</sup> (no class on Oct. 12<sup>th</sup>) Wednesdays 12-1 at  
10410 Kensington Parkway, Suite 111, Kensington, MD 20895**

I would greatly appreciate any suggestions on topics you are interested in. This newsletter is to inform you, so **email me** at: [cynthiaweiss@verizon.net](mailto:cynthiaweiss@verizon.net).

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If I do not have your email address, please send it to me or if you no longer want to receive emails please inform me.