

ASK THE PHYSICAL THERAPIST

NEWSLTR HOLIDAYS 2016



BODY MECHANICS PART I

Proper body mechanics are such an integral way of literally saving yourself from injury. It not only teaches safe movement but correct movement for your muscles. I am always asked how to do specific chores like gardening, brushing teeth, making the bed. You'll find that moving in the correct way is actually easier to do because the muscles are being used most efficiently. The problem is that we have taught ourselves how to not move efficiently as we moved away from childhood. Think about it: have you ever seen a baby slouch? Watch as they learn to sit unsupported. They are quite erect. Why? This is how the muscles move more functionally. Muscles protect, stabilize, and move in elongated positions. They become inhibited with the compression. So try slouching and then lift your leg. Now sit upright and lift the leg. It should have felt not only easier, but the quality of movement should have been smoother and lighter. Now observe a toddler as she/he goes to pick up a ball from the ground. They get right up close to the ball and squat down to retrieve it, not bend over from the waist. So what happened to us as we got older to change these great mechanics to poor ones? Well that would be a good research project for the future.

In this edition of the newsletter I will talk about lifting and transferring objects. In subsequent editions, I will discuss mechanics for other activities. The biggest thing to remember is that you want the object to be part of you, so it needs to be close to you. As soon as you become a part of the object you are extending yourself with a weight that is crossing 2 joints, creating a longer lever arm that will cause stress in a part of the body that can't handle it. So you are setting yourself up for injury because one day the body will say that's enough and that less than an ounce pencil you just picked up will "throw your back out".

Instead what you should do is get as close as possible to the object you want to lift. It doesn't matter if it's on the counter, floor, behind boxes. Once you are as close as possible, either straddle the object with feet on either side or one foot in front of the other. Here's the tricky part. Everyone has heard bend from your knees or use your legs, but most people don't do this correctly. When you squat down, even if it's only 1" you have to squat, the buttocks must face directly to the floor and the spine stays straight from head to buttock. If you

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medications or surgery.**

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 floor. So think about how you move in your daily activities and how your body feels when you do these activities. If there is strain, something is off.

Stay safe and strong. To be continued with other movements we do daily.

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. 14th – Oct. 19th (no class on Oct. 12th) 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.

broadway

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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.