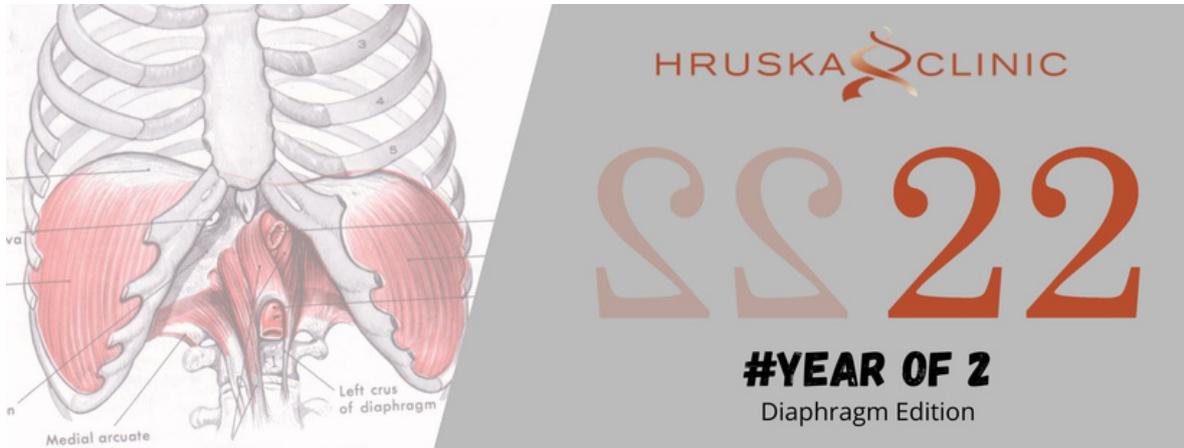


THE INTEGRATOR



As we continue to think about the number two this year, let's talk about the diaphragm. Most people (even within the medical community) think of the diaphragm as being one muscle. In reality, we have two. There is a left and a right diaphragm that are different from one another, though the fibers are integrated in a way that gives the illusion of it being one. Here at the Hruska Clinic we understand and care about normal human asymmetry that contributes to many of the problems we treat each and every day.

The diaphragm is an important muscle that has great power for breathing and much more. And as you know... *with great power comes great responsibility*. Unfortunately, when that power is lost or misused there can be consequences. As you also now know (in 2022 of course) you have 2 distinct sides of your diaphragm (the right and the left) that are physically different, have different demands and needs that need to be addressed in order for the power of the entire diaphragm to be effectively harnessed. The increased size, stronger attachments and more optimal shape and size of the right diaphragm (thank you liver) compared to the left diaphragm is one of the key things that sets our tendency and pattern of right postural dominance. We will breathe much more efficiently using that bigger right diaphragm when we stand with more weight on our right side. This position of weight shift helps us to expand the more "open" left chest wall (thanks heart) compared to the right chest wall. This ease of breathing while standing on the right leg is more a factor in right dominant posture than "I just like my right side more". This is why even "left handed" people still show this right dominant postural tendency.

This imbalance between the 2 sides isn't necessarily a bad thing, as long as we don't get so dominant and stuck on the right side that the left diaphragm, in its weaker position and state, becomes un-able to keep up its responsibilities for breathing, and management of pressure in the thoracic-abdominal cavity, and in its understated role in general posture and movement. When the right and left sides are imbalanced enough, all of those things will be affected.

In the grand scheme of life the need to breathe and exchange gas is more important than "being balanced" and other muscles will need to "pick up the slack" for the left diaphragm's inability to keep up with its responsibilities. Your neck and back will take over for breathing duties (and will complain about it!). Your left pelvis floor and pelvis structure will be challenged for pressure management and shifting your weight from side to side (and they will complain about it!). Your right side will eventually get tired of doing all the work (and complain about it!). And more!

At the root of a lot of issues from head to toe is an inability to properly use both diaphragms to breathe and manage pressure in the abdomen and pelvis. Ensuring the left side is in an optimal position with optimal leverage by restoring pelvis and rib position, using proper muscle activation and cooperation is a necessary part of ANY treatment plan if we are truly going to keep your 2 sides balanced anywhere. That is great responsibility and great power... as long as we respect it and utilize it to do good and not evil!

TO LEAVE YOUR OWN
GOOGLE REVIEW,
SCAN HERE

RECENT GOOGLE REVIEW:

"The Hruska Clinic are experts at treating patients who have struggled or tried other options with minimal success. From chronic pain, headaches, dizziness and more- they understand the connections in your body in a way that very few do. They are masters of the intricate connections and how one piece out of place can have a cascade effect on many other body systems."



Why a Balloon with my Postural Restoration Physical Therapy Techniques?



The balloon? Yes, a balloon. We are that clinic. If not a balloon, a straw, or a kazoo. We will utilize all of these tools to maximize your ability to regulate internal pressure, control airflow, gain chest wall expansion, regulate O₂ and CO₂ gas exchange, balance the autonomic nervous system, inhibit or facilitate muscles, decompresses the spine, and allow for lateralization of movement from side to side. Who knew a balloon could do so much?

Well, if you are starting to understand the importance of the respiratory diaphragm and the importance of managing its imbalances to help all these responsibilities it has in your body, it starts to make sense!

The resistance of the balloon maximizes the ability for your ribs to move down and in allowing air to get all the way out and then then PAUSE (in a state of exhalation). This pause allows for the respiratory diaphragm to ascend (which we want!) placing it in an optimal position to assist with drawing air in and allowing for O₂ and Co₂ exchange to occur in the base of the lung tissue. You couple the physiology of gas exchange, diaphragm position, and the fact you are drawing air in thru the nose (parasympathetic nervous system) and out into the balloon (sympathetic nervous system) with a biomechanical position or specific activity assigned to you by your PRI® (Postural Restoration Institute) trained Hruska Clinic Physical Therapist, you will gain breathing efficiency, improved pressure regulation for chest expansion, spinal decompression, inhibition and facilitation of specific muscles to help with more efficient postural and movement patterns and more! This tool will allows us to help you regulate all the responsibilities the diaphragm muscle has. The power of the diaphragm and the power of the balloon!!!

Beyond Breathing: The Diaphragm does more than just help you breathe

The diaphragm muscle is the primary muscle for respiration and breathing, but that is not its only role. The diaphragm muscle separates your thoracic cavity, where your lungs are, and your abdominal/pelvic cavity, where your digestive organs and others are. Based on this anatomy and position it has a key role in regulating pressure between these 2 cavities. This helps your body do many things beyond just breathing (exchanging oxygen and carbon dioxide in the lungs). It also plays a role in helping your body regulate blood pressure, circulate blood and lymphatic fluid, digest your food, hold your body upright (posture) and move through shifting your weight or center of gravity from side to side.

If we think just of breathing and getting air into your lungs as the diaphragm contracts and flattens the volume of space in the thoracic cavity (lungs) increases which leads to less pressure which allows air to flow into your lungs [inhalation]. As the diaphragm (and ribs) relax and squeeze together the volume in the lungs decreases and air comes out [exhalation]. (See Fig 1.) However if you think about what is going on below the diaphragm as it contracts and flattens (inhalation) the volume of the abdominal cavity is decreased and pressure increases in the pelvis and abdomen. This pressure of the abdomen and pelvis needs to be managed by muscles in the pelvis and abdomen in order for the pressure to decrease in the lungs. This back and forth pressure between the 2 cavities is a big deal to keep blood pressure up when you stand, and move. If it isn't managed well you may have issues with blood pressure management which could lead to issues like dizziness.



Fig 1

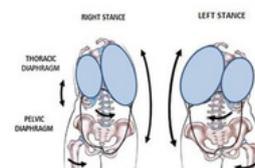


Fig 2

Additionally, when one side of the ribs and pelvis is expanded and the other is not this will allow and lead to a shift of ones center of gravity toward the side that is less expanded. For ideal efficient movement the diaphragm, and thoracic and abdominal/pelvic cavities need to be able to equally pressurize and depressurize for efficient movement patterns and walking to occur. (See Fig 2) When this isn't balanced, and one side is different from the other your whole body's posture and movement patterns will be affected. So, in order to regulate pressure, breathe, and stand and move well this is an important piece to be managed.

Fig 2 "Illustrations by Krystal Thompson for Postural Restoration Institute®. Modified with permission.