

USING YOUR DIAPHRAGM FOR *breathing and a healthier body*



GUEST CORNER

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At rest adults breathe between 12-20 breaths per minute or 17,000-22,000 per day. That is a staggering number. Unless we have a cold or become short of breath, we take breathing for granted. With each breath we take, fresh oxygen enters our lungs and oxygenated blood transfers to our heart which the heart pumps to our organs, cells and muscles. As we move or exercise, we breathe faster and deeper because our muscles and cells require more oxygen and the heart pumps faster.

HOW WE BREATHE

Breathing is a natural process and does not require a conscious effort. But most people tend to breathe shallow using the upper chest and neck muscles and do not use the most important breathing muscle - the diaphragm - to breathe. The diaphragm is a dome-shaped muscle under your ribcage that contracts and relaxes rhythmically as we inhale and exhale.

THE DIFFERENCE BETWEEN CHEST BREATHING AND DIAPHRAGM BREATHING

Chest breathing uses the chest and neck muscles to pull on the ribcage as you fill the lungs with air, causing the chest to expand when you inhale and relax when you exhale. In contrast, with diaphragm breathing, your diaphragm contracts during inhalation for the lungs to expand, and the muscles between the ribs (intercostal muscles) help to expand and lift the ribcage sideways and allow more air to fill your lung capacity. The abdominals relax as you breathe in and contract as you exhale.

To train and engage the diaphragm to breathe properly will initially require a conscious effort. Breathing from the diaphragm also helps to control your posture by increasing your core strength, relax your neck muscle tightness as you offload on using the accessory neck muscles to breathe.

THE HEALTH BENEFITS OF DIAPHRAGM BREATHING

Several medical studies show the health benefits of diaphragm breathing; for example, it results in lower heart rate and blood pressure, helps to promote relaxation and exercise more efficiently.*

The diaphragm helps maximize lung capacity when you inhale and, when you exhale, it helps to stabilize the primary

foundation for the body forming the pelvic girdle. If you imagine the abdomen as a box: where the diaphragm muscle is the lid/top of the box, the core abdominal muscles is the front of the box, the buttock (Gluteal muscles) is the back of the box, and the pelvic floor muscles are the bottom.

Using the diaphragm breathing method to assist in movement, exercise, transitions will help you to reserve more energy, prevent lactic acid build up as we have more oxygenated blood to the muscles, keep your posture more balanced and safer and protect your back. Never hold your breath and exhale on exertion or when the muscles contract.

TRAINING EXERCISES FOR YOUR DIAPHRAGM MUSCLE

To train your body to use your diaphragm more efficiently in all positions and by adding more muscle groups and eventually use diaphragm breathing in your daily life use these exercises:

1. Start:

- Lie on your back with your knees bent over a pillow or feet flat on the table/bed.

- Place one hand on your chest and the other hand on your abdomen below your ribcage.

- Breathe in through your nose and canalize all the air to your diaphragm allowing your hand on the abdomen to raise up to the ceiling as the diaphragm contracts and the abdomen relaxes. No movement should come from your chest hand.

- Now exhale slowly through your mouth and pull your belly button to your back bone, tighten your pelvic floor muscles by pulling up between your legs, and contract the inner core muscles as you exhale. When you exhale, envision a vacuum in a plastic bag sucking the air from the inside to contract.

2. Next turn onto your side to practice diaphragm breathing on your side. Raise your upper arm up to the ceiling as you exhale.

3. Turn again onto your back and do mini-bridges by lifting your pelvis up in the air as you exhale adding the glutes.

4. Sit up tall to practice diaphragm breathing in a sitting-position. Lift one leg up to your chest when you exhale adding the hip-flexors.

5. Finally, stand up, exhale as you stand up by engaging your inner core to stabilize and keep your back flat. Tighten your glutes and thigh muscles to get to a tall upright position and lift your ribcage away from the diaphragm.

More advanced uses with diaphragm breathing during exercises:

- Plank: Lie on your stomach, push

onto your elbows and on your knees. Engage your entire core pulling your belly into your spine. Progress to straighten your elbows and do the plank on your hands and toes.

- Push-ups: Breathe in and expand your lungs relaxing your abdomen as you lower your body and exhale during the most difficult part as you contract your core- the push up.

Correct breathing is a critical aspect of any exercise routine, walking and daily activities as your muscles need oxygen to contract and can make a huge difference in the outcome of your workout. Breathing with your diaphragm will help you feel more energized. As your diaphragm becomes stronger and lungs expand better with fresh oxygen, your inner core will get stronger with each exhale and contraction and you will feel more in control of your body.

Take a deep diaphragm breath for a healthier body. If you experience any difficulty breathing, please contact your physician or physical therapist.

*Hopper et al "Effectiveness of diaphragmatic breathing for reducing physiological and psychological stress in adults", National Library of Medicine (Sept 2019).



Lize Lubbe is the owner of Lize Lubbe Physical Therapy with its main practice located at 892 Route 35 in Cross River and a PT Studio in the premises of Apex Fitness (where her team focus on the rehabilitation of sports-related injuries). Learn more by calling 914-875-9430, emailing contact@lizeclubbept.com or visiting www.lizeclubbept.com.



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