

How learning to breathe properly can improve physical performance

By **Marylene Vestergom** Special to the Star

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Let's face it: we take breathing for granted. We do it from the moment we are born until we die, and it's mostly unconscious.

Did you know we take approximately 25,000 breaths a day? It stands to reason why it's important to understand how to breathe, especially when embarking on any physical activity.

The furnace for this activity is the diaphragm. "It's one of the most important muscles for breathing," says Dr. Greg Wells, scientist in translational medicine at Sick Kids Hospital in Toronto. "When you engage your diaphragm, it contracts downward increasing the space in your chest cavity, allowing your lungs to expand, pulling air in. When contracted, the intercostal muscles, which are in-between your ribs, lift your rib cage and help the diaphragm. The second part of your breathing is the muscles needed to exhale. The exhalation muscles help you empty your lungs such as those all-important abdominal muscles. When we exhale the diaphragm relaxes and moves upwards. Inhaling and exhaling intrinsically depend on each other."

And like any tool, your breathing is an instrument that needs to be trained, but you don't need any special equipment. All you need to do is understand your breath can be regulated to perform any activity, whether it's working out or taking time out to relax.



As a former runner and instructor of Yoga for Runners in Toronto, Christine Felstead has encountered her share of people who hold their breath while practicing. “It’s counterproductive because you just tighten up,” says Felstead. “That’s why diaphragmatic or belly breathing is important. Many get stuck breathing in their upper chest. Instead, you want to breathe in through your nose and, as your diaphragm contracts, your belly expands and your lungs fill with air. Breathing is the essence of life, but we all need a reminder on how to use it, and awareness is step one.”



Marilyn Robinson, functional trainer at Cleveland Clinic, agrees, and says breathing is critical when training her clients. “A basic count of two breaths-in to four breaths-out can help to tap into their parasympathetic nervous systems. This technique helps them to relax by taking control of their breath instead of activating the sympathetic nervous system, often referred to as the fight-and-flight response, which arouses the body. The ratio of the

inhale and exhale can change but to put your body in a state of calm, try to make the count for the exhale longer than the inhale.”

It takes practice, but it’s something Robinson encourages her clients to do before going to bed.

If the activity is rhythmic or repetitive, then you want to practise entrainment. “This is when your breathing is done in time with your movement,” says Wells. “When rowing, you would exhale when you’re pulling, and inhale when you’re resetting; biking, you’re breathing in time with the pedal stroke, and when you’re running, it’s in time with your cadence.

Highly experienced athletes work a lot on controlling their breathing to enable their technique to drive the movement, not their breathing.”

In other activities like tennis, golf and lifting weights, the goal is to exhale in time with the power move. That’s why tennis players scream out when they hit the ball; in golf, they’ll exhale on contact, and in the weight room, they’ll exhale as they contract the muscle to lift the weight.



Even at the boxercise class at Toronto’s Centre Ring, which is known for its all-round aerobic and anaerobic workout, former amateur boxer and trainer Gary Hynd stresses the importance of breathing. “We’re not talking about shallow breathing through your mouth but deep breathing through your nose. That’s

why I like to incorporate skipping as part of the warm-up because it helps you to commit to the process of breathing through your nose and exhaling through the mouth. When you get to the heavy bag, you exhale with every punch. So, if you’re throwing four hard punches – you should take a deep inhale before you start and then it’s four punches accompanied with four sharp exhales.”

And if you’re doing it right, breathing will dramatically impact the quality of the movement and can make you stronger and even more powerful.

So, it’s not by accident, it’s by design.



Former national team rower and founder of Toronto’s Scullhouse Rowing, Kristin Jeffery says, “Sometimes we’ll coach the crew to emphasize their exhale at the end of the work portion so it helps people focus on when they should be working versus recovering and filling their lungs. It’s a cool way of synchronizing everyone in the class.

During my competitive days, we would often concentrate on those exhalations, making sure that you're emptying your lungs because if you can't fully exhale, you can't fill your lungs."



For Toronto's ultramarathoner Tara Norton and coach at Team Atomica, breath awareness can also help with dealing with pain, especially when pushing yourself at a high level. "For instance, when racing, I'm often counting in my head as a mental technique to take the focus away from the pain. This distraction lets me take in more oxygen, so my body will be more relaxed and I'll use less energy."

Breathing has a dramatic and fundamental impact on your ability to exercise. With the rise of high intensity interval training or HIIT, in places like F45, the competitive nature of the group settings can be intimidating. "First timers are overwhelmed," says Robinson "and are often gassed after a few minutes; some are not even conscious of breathing, and women especially seem to breathe through pursed lips. They need to open their mouths and really exhale, allowing the air out and then breathing in to take in more oxygen."

Breathing is the most fundamental thing that we need to live but if you can train your breathing, you'll have a massive impact on your ability to do whatever you love, even if it's just chilling after a running a 10k.