FUNCTIONAL BREATHING FOR FITNESS

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Luke is a functional breathing and lifestyle optimization coach with a remarkable journey of personal triumph. Confronting the obstacles of ADHD, depression, and chronic asthma, he intimately understands the struggles that accompany health conditions and the suffocating feeling of being trapped. Plunging to rock bottom and almost losing his life became the catalyst for an incredible transformation.

The journey evolved into a dedication to personal growth, leading to Luke becoming a licensed Unbeatable Mind Coach under the mentorship of former Navy SEAL Commander Mark Divine. With certifications as a Neuro-Linguistic Programming Trainer and Master Ericksonian Hypnotherapist, he now specializes in guiding high performers toward improved cognitive performance and optimal health through the transformative practice of focused breathing.

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HOW CAN PROPER BREATHING ENHANCE YOUR WORKOUT PERFORMANCE?

Mastering proper breathing techniques plays a pivotal role in increasing oxygen delivery to working muscles and significantly reducing recovery times. The basis of healthy breathing is to prioritize nasal only breathing first and foremost. When breathing through the nose, the nasal passages act as a natural filter, humidifier, and warmer for incoming air. Additionally, nasal breathing better promotes diaphragm activation which allows for a deeper and fuller breath.

Nitric oxide, a gas produced in the nasal sinuses, plays a crucial role in enhancing blood flow and oxygen delivery. When you breathe through your nose, nitric oxide is released into the nasal airways and is subsequently carried into the lungs. Nitric oxide helps to dilate the airways and blood vessels, improving the efficiency of oxygen uptake in the lungs and facilitating its transportation to working muscles. This can enhance endurance and overall cardiovascular function.

Moreover, nitric oxide has vasodilatory effects, meaning it can widen the blood vessels. This improved blood flow not only benefits the cardiovascular system but also supports better oxygen delivery to muscles, contributing to improved exercise performance. Nasal-only breathing, therefore, is not only a natural way to filter and condition the air but also a mechanism to harness the performance-enhancing benefits of nitric oxide, ultimately reducing fatigue, shortening recovery times and improving overall fitness outcomes.

I HAVE BEEN BREATHING ALL MY LIFE. HOW CAN I TELL IF I AM BREATHING CORRECTLY?

Expanding on the emphasis on nasal-only breathing, the subsequent element of healthy respiration involves enhancing carbon dioxide tolerance. While carbon dioxide (CO2) was once regarded as a byproduct (or ‘waste product’), it is actually the trigger for breathing. By elevating your tolerance to CO2, you can enhance overall fitness and athletic performance.

When the receptors responsible for breathing are acutely attuned to carbon dioxide, respiration becomes more efficient. Cultivating an increased tolerance to CO2 leads to more effortless breathing whether during light or intense exercise.

In the course of physical exertion, oxygen consumption escalates, causing a marginal drop in blood oxygen levels. Concurrently, heightened muscle activity generates additional carbon dioxide. The sensitivity of receptors to carbon dioxide and oxygen plays a pivotal role in the body's management of physical exercise and recovery.

The Body Oxygen Level Test (BOLT) offers a simple assessment to ascertain how healthy and efficient your breathing is. Devised by Patrick McKeown, it gauges your CO2 tolerance. Low CO2 tolerance leads you to breathe harder and faster in daily life and exercise, causing persistent breathlessness.

How to measure your BOLT score:

You'll need a stopwatch or timer. Follow these steps:

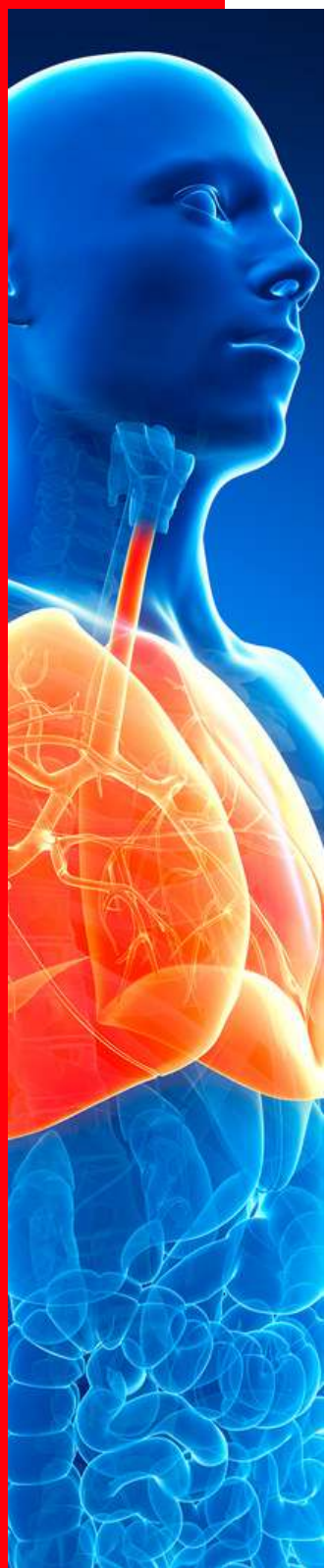
1. Sit upright in a relaxed position
2. Inhale and exhale normally (as you normally would, without changing the depth or speed) through your nose for 2 breath cycles
3. On the third breath cycle, inhale then exhale to neutral (not till your lungs are fully empty), pinch your nose closed and hold your breath
4. Start your stopwatch and time how long until you feel the *first distinct urge to breathe - throat contracting, chest tightening, fluttering diaphragm or your brain signaling "breathe now!"
5. Stop timing when you feel that first urge - that's your BOLT score

*This test is not about willpower for the longest hold. Your first breath after should be the same rate as before your hold. Needing big, gasping inhales means you held too long, invalidating the result.

Take the test first thing in the morning for an accurate average. Now let's explore what your score indicates:

- 10 seconds or below: Your CO2 tolerance is poor. You likely suffer respiratory issues, high mental/emotional stress.
- 10-25 seconds: Your breathing may be impaired - congestion, cough, wheezing, disrupted sleep, snoring, fatigue, breathlessness during exercise.
- 25 seconds and above: Your breathing is easy with good general fitness.
- The ideal goal is 40+ seconds for optimal respiratory health and overall wellbeing, plus enhanced mental and physical performance.

HOW CAN BREATHING EXERCISES CONTRIBUTE TO BETTER LUNG CAPACITY AND RESPIRATORY HEALTH?



To understand how breathing exercises contribute to improved respiratory function, it is crucial to grasp the fundamentals of healthy or functional breathing.

Healthy functional breathing entails optimizing three key dimensions:

Biochemistry - Improving Gas Exchange:

- Gentle nasal breaths, as opposed to forced deep breaths, enhance gas exchange in the alveoli air sacs and bloodstream.
- During inhalation, alveoli, the tiny lung sacs, fill up with fresh, oxygen-rich air. Simultaneously, blood carrying oxygen arrives at these lung sacs, facilitating the exchange of oxygen into capillaries and binding with red blood cells.
- Carbon dioxide waste moves from capillaries into alveoli and is expelled during exhalation.
- Alveoli enable this crucial oxygen-carbon dioxide exchange, supplying oxygen to the blood while eliminating waste.
- Gentle breathing improves oxygen uptake and delivery while reducing CO2 sensitivity, ultimately relaxing blood vessels for enhanced oxygen release to tissues (*Bohr Effect).

Biomechanics - Diaphragm Activation:

- The diaphragm, a dome-shaped muscle beneath the lungs, serves as the primary breathing muscle.
- During inhalation, the diaphragm contracts and flattens downward, expanding lung space for air intake.
- Exhalation involves the relaxation and upward movement of the diaphragm, expelling air.
- Nasal breathing optimally engages the diaphragm, while mouth breathing relies more on shallower upper chest muscles.

Cadence - Slowing Down:

- Slowing the breath, especially during exhalation, activates the parasympathetic relaxation response.
- Stress and anxiety typically elevate respiratory rates with shallow breaths.
- Slowing down the breath rate signals safety, allowing the parasympathetic system to take over, calming the body and shortening recovery times.

In a nutshell, promoting healthy/functional breathing revolves around three key principles encapsulated in the acronym NSL: Nose, Slow, and Low breathing.

*The Bohr effect, named after the Danish physiologist Christian Bohr, explains how the affinity of hemoglobin for oxygen is influenced by alterations in blood pH and carbon dioxide levels. When tissues are engaged in heightened metabolic activity, they generate increased carbon dioxide, leading to a rise in blood acidity. In acidic conditions, hemoglobin releases oxygen more easily to working muscles, ensuring efficient oxygen delivery to areas with high metabolic needs. This adaptive process adjusts to the body's changing demands, maintaining a delicate balance between oxygen absorption in the lungs and its release in the tissues.

WHAT SPECIFIC BREATHING PATTERNS ARE BENEFICIAL FOR DIFFERENT TYPES OF EXERCISES?

Cyclic sighing/double clutch:

The physiological sigh, also known as cyclic sighing, serves as a rapid and effective method to facilitate recovery between sets or rounds of interval training. The efficacy lies in the double inhale, which enhances oxygen intake while strategically minimizing the loss of excess carbon dioxide (explained later) during the subsequent exhalation cycle. Employ this sequence when your recovery break falls between the 10-40 sec range.

How to do it:

1. Take a deep inhale through your nose
2. Take a second sharp inhale through the nose
3. Perform a deliberate and extended sighing exhale through your mouth
4. Repeat this sequence throughout your rest break

Watch me perform the technique in this post

2/4/6 or 3/5/7 recovery:

This technique too aids in enhancing cellular oxygenation while effectively removing excess CO2 without overdoing it. Employ this sequence to accelerate recovery between high-intensity exercise bouts, especially when you are in the anaerobic zone, and your recovery window falls beyond the 40+ second range:

1. Inhale and exhale through the MOUTH for 2 breath cycles
2. Inhale through the NOSE and exhale through the MOUTH for 4 breath cycles
3. Inhale through the NOSE and exhale through the NOSE for 6 breath cycles
4. Keep cycling through 1-3 until you have recovered sufficiently
5. If you have a longer recovery time, you can repeat the exact same sequence for a count of 3/5/7 breaths

Watch me perform the technique in this post

Simulation of Altitude Training (breath holding for stamina)

Incorporate this pre-training technique to enhance recovery, improve aerobic capacity, and increase resistance to fatigue during intense sessions. Holding your breath after exhaling induces short-term stress, leading to adaptations that combat fatigue, shorten recovery times, and elevate the lactate threshold. Additionally, it cultivates mental resilience to withstand extended periods of breathlessness. This technique is done 5-10 mins before your training session.

1. Inhale and exhale normally through your nose
2. Pinch your nose closed and hold your breath
3. Start jogging on the spot during the hold
4. When you feel the urge to breathe, increase your pace while relaxing into the discomfort
5. At strong air hunger, sprint as hard as you can until you must breathe again
6. Release your nose and take 6 small nasal breaths. Then breathe normally
7. Repeat this cycle for a total of 5 breath holds

Perform this routine every other day, adjusting intensity to your comfort level.

Watch me perform a variation of this technique here.

TOP TIP TO PASS TO OUR EXERCISE PROFESSIONALS

1.Test and Learn:
As you begin your journey into fitness, cultivate a spirit of curiosity. In the initial stages, resist the urge to pigeonhole yourself into a specific specialization. Instead, immerse yourself in different courses and expand your knowledge base. Let your pursuits be more than a collection of certificates; ensure that your newfound wisdom is not just acquired but also vigorously applied and tested in the dynamic realm of real-life scenarios.

2.Understand Individual Differences:
Recognize that every person is unique with different goals, abilities, and preferences. Tailor your approach to each client's individual needs rather than applying a one-size-fits-all mentality. Learn about different body types, physiological responses, and psychological aspects of exercise to provide personalized and effective training programs.

3. Specialize with Purpose:
As you cultivate a comprehensive knowledge of fitness, contemplate the prospect of eventually honing in on a specialization that harmonizes with your passion and preferred clientele. This transformative process may span a couple of years. Delving into a specific niche empowers you to intensify your expertise, distinguish yourself in the market, and draw in clients who resonate with your distinctive skill set.

4. Stay Inspired and Inspire Others:
Cultivate a true passion for fitness and well-being that extends beyond the gym. Set the example because you embody the principles you advocate. Show consistency in your habits, illustrating that a healthy lifestyle is not merely a short-term endeavor but a continuous, sustainable process. Your dedication to personal and professional growth serves as inspiration for those you work with and those considering working with you.

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