

# BREATHING TRAINING FOR HEALTH, VITALITY, & PERFORMANCE

A Simple Complete Guide to Respiratory Muscle Training (RMT)



**A**t **FITSCI**™ we are committed to teaching science-based methods to boost your health, lifespan, and performance using our unique devices and training techniques. We hope you enjoy this complete guide for using our one-of-a-kind device, the Healthspan Breathing Trainer.

## WHO should be using the FITSCI™ Healthspan Breathing Trainer?

As you will see, virtually everyone can benefit from using this device whether you suffer from labored breathing (dyspnoea) or exercise intolerance for any reason or just want to improve your breathing for health and performance. The reason is its wide range of fully calibrated Inspiratory AND Expiratory resistances. Other devices have adjustments you need to make independently for these resistances. **FITSCI**™ has optimally calibrated them to each other for you to simplify use and take out the guesswork.

Specific conditions RMT is for as supported by research include:

- COPD
- Asthma
- Emphysema
- Bronchitis
- Heart failure
- Infection Prevention Pre or Post Surgery
- Neuromuscular disease
- Healthy aging
- Reduced respiratory muscle strength

<https://clinicalgate.com/implementing-respiratory-muscle-training/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2692111/>



## When Not to Use it?

**W**hile, there are no reports of individuals experiencing adverse effects while using breathing trainers, we advise NOT using the device with the following situations:

- during or within 48 hours of an acute asthma incident
- history of pneumothorax
- pneumothorax due to a traumatic injury that has not healed fully
- burst eardrum that has not healed fully, or any other condition of the eardrum
- if you feel lightheaded or dizzy during use
- currently suffering from symptoms of a cold, flu, sinusitis, or respiratory illness
- simultaneously while performing other activities (walking, running, driving)
- don't have your own device (DO NOT SHARE devices)
- a device that has not been properly cleaned before/after use

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## Introduction to Respiratory Muscle Training (RMT)



**B**reathing is something we rarely think about, usually controlled automatically and rhythmically by our hindbrains. However, though we may not always focus on breathing, it is imperative to our survival – every system in your body relies on the oxygen you breathe in to function! This lack of breathing awareness only changes when, for any reason, our ability to breath well is taken away. Understanding the benefits of improving breathing is important for reasons other than sustaining life too. Overall well-being can be improved with breathing training. It can have positive effects on cognition, digestion, sleep, immune response, and stress levels.

Our lungs' ability to breath is actually controlled by inspiratory and expiratory muscles. These muscles include our diaphragm and intercostals which can be strengthened like any other muscle. Breathing trainers bear application use across nearly the whole population, finding uses in treatment and training ranging from patients with COPD to elite athletes. Notable benefits of RMT include increased ventilatory muscle endurance, expiratory and inspiratory muscle strength, submaximal exercise capacity, maximal exercise capacity, improved asthma symptoms and decreased perceptions of labored breathing.

## What Benefits of RMT are supported by Scientific Evidence?

- RMT could be a useful tool for improving ventilatory efficiency and delaying onset of premature fatigue during exercise in conditions of hypoxia (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6341067>)
- Selective RMT improves respiratory muscle endurance and strength, with an enhancement of submaximal and maximal exercise capacity in patients with heart failure. Can improve dyspnea during activities of daily living. (<https://www.ahajournals.org/doi/full/10.1161/01.cir.91.2.320>)
  1. increases in ventilatory muscle endurance,
  2. increases in strength of both the inspiratory and expiratory muscles,
  3. increases in submaximal exercise capacity as assessed by the 6-minute walk test,
  4. increases in maximal exercise capacity as assessed by measurement of peak aerobic power
  5. increases in peak exercise ventilation, and
  6. decreases in rating of perceived dyspnea during volitional isocapnic hyperpnea.
- Training your inspiratory muscles can have huge benefits for your physical performance. It improves endurance and for athletes that train daily, the results can be quite significant. However, it also has a positive impact on your overall health, body, brain, and heart. Research suggests that inspiratory muscle training lowers blood pressure, improves vessel health, and improves cognitive health. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2692111/>



## Getting RMT Started with the **FITSCI**™ Healthspan Breathing Trainer

1. Set the breathing trainer to “level 0” with the dial turned fully clockwise (to the left)
2. In a relaxed seated position (relax your chest and shoulders), maintaining good upright posture, prevent nasal breathing with the nose plug and insert the mouthpiece fully sealing your lips around its outer shield with the bite blocks between your teeth. Look forward, not down to reduce saliva production
3. Continuously fully inhale (2-3 seconds), briefly hold, and exhale into the breathing trainer’s mouthpiece as many times as you comfortably can (without puffing your cheeks or feeling any distress). Inhale and exhale by respectively expanding and contracting your lower ribs and belly. STOP if you feel any discomfort or distress of any kind
4. Once you can comfortably and confidently complete 30 breaths for 3 training sessions in a row, increase the resistance by one level.
5. These breathing training sessions should occur 1-2 times per day (morning and evening ideally) and will yield results with increased tidal volume, easier breathing, and better performance after 4-6 weeks.



## Cleaning your *FITSCI*™ Healthspan Breathing Trainer

- Rinse mouthpiece with water and air dry after each training session
- Weekly, fully disassemble the device, rinse all parts well with water and let air dry before reassembling

