BREATHER FIT

WORK HARD. BREATHE EASY.

RMT FOR ATHLETES

BOOST YOUR PERFORMANCE BY TRAINING YOUR RESPIRATORY MUSCLES

Exercise can serve as recreational pastime, improve fitness, help to reduce weight, or represent the core activity of professional athletes. Independent of the goals of exercise, one fundamental rule of exercise states that muscles must be trained to improve performance. While this rule applies to all muscles of the body, the respiratory musculature is often overlooked. Strengthening your respiratory power by RMT can however greatly contribute to improving exercise capacity and peak performance - and may just provide that little, but crucial advantage in professional sport.

Here is **why** respiratory muscle performance is critical for exercise, **what** impact RMT has had on the performance of athletes, and **how** RMT can be included into training routines.

WHAT CAN BREATHER FIT DO FOR ATHLETES?

- The limit of exercise tolerance - in athlete and patient alike - is determined by local muscle discomfort, dyspnea and fatigue, with dyspnea being the greatest contributor to exercise cessation. The reason for both muscle pain and dyspnea is a failure of the cardiorespiratory system to deliver adequate oxygen to support the current metabolic requirements of the muscles involved [1].
- Respiratory muscle training (RMT) improves exercise-limiting dyspnea and delays time to fatigue in healthy people and athletes [2–4].
- RMT enhances performance by improving respiratory muscle endurance, maximal sustainable ventilatory capacity (MSVC) and maximal voluntary ventilation (MVV) [5].

- Combining RMT with other training modules such as HIIT further enhances the effects of training, as measured by core strength and endurance, onset of blood lactate accumulation, endurance running performance and economy in recreational runners [6].
- Exercise under water requires increased respiratory work due to hydrostatic pressure differences across the chest wall. RMT improves endurance of fin swimmers and significantly improves surface and underwater swim times [7].
- A systematic review and meta-analysis of the effect of RMT on endurance performance confirmed effectiveness of RMT, particularly of combining inspiratory and expiratory muscle training [3] - **Breather Fit** is the first device to offer both IMT and EMT.
- Studies have shown that respiratory muscle training (RMT) improves impaired oxygen uptake, VO2max and ventilatory efficiency, improving aerobic fitness [8–12].
- RMT reduces the oxygen cost of breathing by up to 12%, thereby releasing oxygen for use by other muscle groups [13].
- RMT was also shown to improve the blood flow to resting and exercising limbs, delaying the metaboreflex, thereby improving exercise capacity and endurance [14].
- RMT strengthens the diaphragm and improves posture and proprioceptive use, for better balance and injury prevention [15].

SPECIFIC BENEFITS OF RMT ON ATHLETIC PERFORMANCE

- 17% increase in the time to fatigue in sub-elite swimmers [2]
- 50% increase in surface swim endurance in scuba divers [7]
- 88% increase in underwater swim endurance [7]
- 29% decrease in post exercise lactate [7]
- 20% increase in running time to exhaustion carrying a 25kg thoracic load [16]

AVERAGE RMT INDUCED BENEFITS WOULD CONVERT TO RELEVANT ADVANTAGES IN TIME TRIALS OF [3]:

- 40 m or five skiff lengths in a 2 km rowing regatta,
- 100 m in a 2 km running race,
- 1.2 m in a 200 m swimming competition and
- 1 km in a 30 km cycling race.

HOW TO USE BREATHER FIT TO BOOST PERFORMANCE

- **Breather Fit** is intended for moderate to high intensity RMT in healthy adults and athletes. RMT is recommended at 60% to 70% of MIP for 2 to 3x 10 breaths, twice a day.
- In addition, using RMT to warm up respiratory muscles before high intensity exercise can significantly improve time to exhaustion. The protocol has to be determined individually for this purpose [17].

BREATHER FIT'S IMPACT ON NOSE BREATHING

Breather Fit must be used with diaphragmatic breathing for optimal benefit. However, **Breather Fit** is not intended to change your breathing technique during performance.

Nose breathing has proven effective and beneficial for exercise performance - **Breather Fit** will not alter that effect. On the contrary - breathing alone does not train your respiratory muscles - strengthening your respiratory muscles using **Breather Fit** will make your (nose) breathing more effective, optimizing the benefits.

CONCLUSION

Integrating RMT using **Breather Fit** in your training schedule will:

- Boost human performance
- Improve oxygen uptake
- Improve VO2Max
- Decrease time to fatigue

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