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[INSTRUMENT REVIEW]

The Breather - An Instrument Review

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Introduction :

Respiratory muscle weakness is one of the most important reasons for the decrease in respiratory function to meet the increased demands of oxygen during physical activity, with important secondary consequences. This includes dyspnoea, exercise intolerance, sleep disturbances, speech and swallowing problems, as well as musculoskeletal and posture problems reduction in the respiratory muscle strength. [1]

'The Breather' is an Inspiratory as well as Expiratory Muscle Training device. It provides a resistance to strengthen the muscles of respiration, same as the way resistance provides for the strengthening of the muscles of your arms and legs. Breathing against resistance during respiratory muscle training (RMT) activates and strengthens muscles for breathing, improves speech, swallowing and posture of the thoracic cage & spine. This will reduce breathlessness and promote the ability to perform daily activities. [1]



Fig.1 The Breather Device

RMT protocols depend on the device use, the underlying disorder and the requirement of the daily activities. Generally, improving respiratory muscle strength requires regular RMT for at least 3 weeks to observe a significant effect. RMT during which resistance is added to inspiratory flow will give inspiratory muscles, especially the diaphragm, which generates negative intrathoracic pressure which helps in the enlargement of the thoracic cavity during inspiration. Expiration is passively mediated by the recoil of the lung and thorax but the forced expiration or expiration during exercise requires expiratory muscle activation. During expiration, the transverse abdominis and the internal and external oblique muscles, as well as internal intercostal are predominantly in use. These muscles also play an important role during phonation, airway clearance and expectoration. [1]

Training intensity should be moderate to high; patients should train at 50–70% of their maximal inspiratory or expiratory pressure. Training frequency is typically once or twice per day, on at least 5 days per week. [2,3]

As per manual "GENERAL PROTOCOL P N MEDICAL PULMONARY AND SPEECH DEVICES Last Updated: 10/03/17 Version: 1.0" given by "P N MEDICAL PULMONARY AND SPEECH DEVICE" [4]

How to use The Breather: -

- Sit upright and hold the mouthpiece between your lips, don't clench it with your teeth.
- Breath in and out through the mouthpiece (not

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the nose) using diaphragmatic breathing.

- Aim to complete RMT with effort (orange section of #5-7).
- Listen for a strong 'wind' sound during inhalation & exhalation to indicate you are doing RMT with effort in the zone
- Listen to your body. Ask yourself:
- Am I feeling out of breath or lightheaded?
- Take breaks as you need them.



Fig. 2 - Positioning & Use of Device

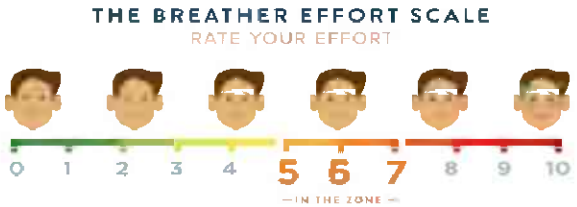

Fig 3: Scale to understand Use of device

CLEANING THE BREATHER Up to once daily

1. Separate the blue mouthpiece from the white portion of The Breather
2. Wash in warm water with mild dish-washing soap
3. Rinse both pieces well
4. Shake out the excess water & use a clean towel to dry surfaces
5. Air dry thoroughly (overnight is a great time)
6. Before putting the mouthpiece on, sharply inhale & exhale through the body to release any possible seals
7. Store in a clean, dry place that can ventilate



Fig. 4 Cleaning of the Device

DISINFECTING THE BREATHER Up to once weekly

1. Clean as outlined above in steps 1-3
2. Soak in either 70% alcohol OR hydrogen peroxide for 5 minutes
3. Rinse with sterile or distilled water
4. Shake out excess water & allow drying thoroughly
5. Store in a clean, dry place that can ventilate

Limitation Of This Device:-

we measure the strength of the respiratory muscle in 'cmH2O', with the help of the MIP & MEP device. Also, all the other training instruments available in the market are with the 'cmH2O' unit. Although 'The Breather' device is available with the levels i.e. 1 t o 6, and the conversion/ formula to convert these levels in terms of 'cmH2O' is not mentioned in their manual.

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4. PN Medical - Home of The Breather and Breather Fit, GENERAL PROTOCOL P N MEDICAL PULMONARY AND SPEECH DEVICES Last Updated: 10/03/17 Version: 1.0. Available from: https://www.pnmedical.com.