

EFFECT OF RMT ON COUGH AND SWALLOWING FUNCTION



When it comes to living a healthy life, not much is as important as having a clear and strong airway. When disorders develop that threaten that airway - dysphagia, for example - overall health as well as quality of life can be seriously impacted. The ability to cough, for example, is particularly important for clearing foreign particles from the airway, and that is especially true for those with dysphagia who may be at risk for penetration/aspiration (P/A), such as Parkinson's Disease (PD) patients. It is important to do everything possible to keep the airway clear and the ability to cough and swallow - two things that can be affected by age or illness - as strong as possible. If we fail to do that, then it should be noted that aspiration can occur during swallowing, and potentially cause pneumonia, a leading cause of death in PD patients.

This blog post takes a look at expiratory muscle strength training (EMST) and its effects on improving the cough and swallow functions.

Key Findings

- Cough is important for airway clearance in patients with dysphagia who are at risk of penetration/aspiration, such as people with Parkinson's disease.
- Aspiration can occur during swallowing, and can lead to pneumonia and death.
- Expiratory muscle training (EMT) improved cough volume acceleration and decreases in the penetration/aspiration score.

Patient Impact

RMT effectively improves cough and swallowing function in people with dysphagia.

Study Methods

Measured parameters from an airflow waveform produced during voluntary cough, pre-EMST and post-EMST, included inspiratory phase duration, compression phase duration (CPD), expiratory phase peak flow (EPPF), expiratory phase rise time (EPRT), and cough volume acceleration (VA). The swallow outcome measure was the degree of P/A during the swallow task.

Study Results

There was a significant decrease in the duration of the CPD and EPRT; the decrease in EPRT resulted in a significant increase in cough VA. Significant decrease in the P/A scores were found post training.

The results demonstrate that EMST is a viable treatment modality for a population of participants with PD at risk of aspiration.

References

Pitts T, et.al., Impact of Expiratory Muscle Strength Training on Voluntary Cough and Swallow Function in Parkinson Disease. - CHEST, 2009; 135(5),1301-8.