

BENEFITS OF RMT ON DYSPHAGIA PATIENT OUTCOME AND ECONOMIC BURDEN



Today we're going to talk about dysphagia and how it affects patient outcomes, both physically and economically. This is an important issue that affects many people, and it can be a difficult concept to fully wrap your mind around. With that in mind, let's start at the beginning and work our way through the issues!

Please note that we've provided our sources for you so that you can take a look at them and read the information at your leisure, should the desire strike.

Key Findings

- Dysphagia comprises a complex range of symptoms associated with the uptake of food and liquid, often perceived as an obstruction during swallowing.
- Dysphagia is more prevalent in the elderly, and in those with neurological disorders such as stroke, multiple sclerosis (MS) and Parkinson's disease (PD).
- Prevalence lies between 11% and 55% in elderly people, but rises up to 81% in patients with PD.
- Dysphagia is associated with a 13% increase in mortality, and causes 60 000 death per year in the US.
- The current annual economic burden is in excess of \$1 billion, with an expected annual increase due to the ageing population.
- Respiratory muscle therapy (RMT) improves swallowing and cough function in patients with PD, leading to better airway clearance and reducing the risk of penetration/aspiration.

Patient Impact

Early RMT intervention should prevent emergency room visits and may reduce hospitalization, reducing the burden of dysphagia on the healthcare system.

What is dysphagia?

Dysphagia is composed of complex range of symptoms associated with the uptake of food and liquid, often perceived as an obstruction during swallowing (also known as globus). It is diagnosed in people who are unable to orally prepare or contain food and/or liquid, and/or those who are impaired in passing the bolus from the mouth through the pharynx. Dysphagia is more prevalent in the elderly (over 65) due to age-mediated muscle degeneration, and in those with neurological disorders such as stroke, multiple sclerosis (MS) and Parkinson's disease (PD). While dysphagia affects 11% of elderly Americans living in communities, prevalence rises to 25% in hospitalized individuals and to 55% in people living in aged care facilities. Other sources report an average prevalence of 13.5% to 22.6% in unselected adults, almost half of which have not discussed their recurrent swallow problems with a physician. In patients with underlying neurological disorders prevalence is significantly increased to up to 64% in stroke patients, 34% of MS and 81% of PD patients (1),(2).

What symptoms manifest with dysphagia?

Symptoms of dysphagia include malnutrition, dehydration, and weight loss, as well as a higher risk of developing cardiac and respiratory conditions. Dysphagia is associated with a 13% increase in mortality, and causes 60,000 deaths per year in the U.S. due to complications, especially via aspiration pneumonia. Treatment of dysphagia reflects the complexity of the disorder, and includes speech and language therapists, gastroenterologists, otolaryngologists, neurologists, surgeons, dietitians, nurses, and radiologists. Early intervention and therapy is associated with reduced risk of aspiration pneumonia and quicker recovery (5).

How much does it cost to treat dysphagia?

Dysphagia poses a significant burden on the healthcare system due to prolonged hospital stays as well as the need for feeding tubes for affected patients. The current annual economic burden is estimated at \$547 million for prolonged hospitalization and \$670 million for enteral feeding supplies, amounting to total annual costs in excess of \$1 billion, with an expected annual increase due to the ageing population (1),(3). In addition, patients over 65 presenting with dysphagia, choking or globus represent 37.6% of all emergency department visits for food-mediated adverse events (4).

How can dysphagia be improved?

Respiratory muscle therapy (RMT) strengthening the expiratory muscles has been shown to improve swallowing and cough function in patients with PD, including cough acceleration for improved airway clearance and increased penetration/aspiration scores, which indicate improved efficacy during swallowing (6). The remote monitoring functionality of the Breather 2 combines the benefits of RMT with the ability to monitor patient compliance and performance, and will therefore be able to identify a decline in relevant parameters, which could be associated with progression of dysphagia or imminent exacerbations requiring medical attention. Early intervention should prevent emergency room visits and might reduce hospitalization, reducing the burden of dysphagia on the healthcare system.

References

1. Cichero JA, Altman KW. Definition, prevalence and burden of oropharyngeal dysphagia: a serious problem among older adults worldwide and the impact on prognosis and hospital resources. Nestle Nutr Inst Workshop Ser. 2012;72:1-11.
2. Wilkins T, Gillies RA, Thomas AM, et al. The prevalence of dysphagia in primary care patients: a HamesNet Research Network study. J Am Board Fam Med. 2007 Mar-Apr;20(2):144-50.
3. <https://bismarck.sanfordhealth.org/vitalstim/DysphagiaFactSheet.pdf>
4. Geller AI, Shehab N, Weidle NJ. Emergency Department Visits for Adverse Events Related to Dietary Supplements. N Engl J Med. 2015 Oct 15;373(16):1531-40.
5. Bakhtiyari J, Sarraf P, Nakhostin-Ansari N, et al. Effects of early intervention of swallowing therapy on recovery from dysphagia following stroke. Iran J Neurol. 2015 Jul 6;14(3):119-124.
6. Pitts T, Bolser D, Rosenbek J, Troche M, Okun MS, Sapienza C. Impact of expiratory muscle strength training on voluntary cough and swallow function in parkinson disease. Chest. 2009;135(5):1301-1308.