DETRAINING EFFECTS AND EMST IN PARKINSON’S DISEASE

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Introduction: Disordered oropharyngeal swallowing can cause aspiration of food and liquids, leading to pneumonia, dehydration, malnutrition, and ultimately death. In PD, dysphagia is the main cause of life-threatening morbidity. EMST is efficacious for improving swallowing function in persons with PD and dysphagia. It is important to assess changes in swallowing once treatment is discontinued. This in turn will aid in the development of EMST maintenance programs.

Aims: To test swallowing and breathing related treatment outcomes associated with expiratory muscle strength training (EMST) following a three month detraining period.

Methods: We completed a blinded, randomized placebo-controlled clinical trial, testing the effects of four weeks of training (EMST₁₅₀, Aspire Products), in a cohort of 60 persons (30 EMST, 30 sham) with PD. Complete swallowing evaluation was completed pre/post treatment. Following completion of this phase of study, a subset of participants (n=15) in the experimental group detrained for a period of three months, at which time repeat measures of swallowing/breathing function were completed.

Results: Following the three month detraining period, participants demonstrated an 8.7% increase in penetration-aspiration score (worsening of swallow safety), no change in swallowing-related quality of life, and 2.01% reduction in maximum expiratory pressures.

Conclusions: Despite the fact that reductions in swallow safety and maximum expiratory pressures were found before and after a three month detraining period, the percent reduction was less than expected in this population with neurodegenerative disease. Therefore, a maintenance EMST program may be warranted and of clinical utility in this population. This possibility requires further study.