



Improving Swallowing Ability Using sEMG and Exercise



Dysphagia

Patient Information: Male, Age 80

Diagnosis: Diabetic Ketoacidosis / Oropharyngeal Dysphagia / Pneumonia

History: This gentleman was referred to a skilled nursing facility for rehabilitation services after a five-week hospitalization due to Ketoacidosis (a serious diabetic complication where the body produces excess blood acids) with symptoms of fatigue, nausea, vomiting, and altered mental status. During the course of hospitalization he was diagnosed with pneumonia and dysphagia (difficulty swallowing). A fiberoptic endoscopic evaluation of swallow was performed revealing pharyngeal dysphagia with penetration into the airway of all food consistencies, and a feeding tube was placed. Prior to hospitalization he lived independently with his wife and had normal swallow function for regular food and drink.

Pre-Therapy Status:

- Clinical Swallow Exam: Frequent coughing and throat clearing with intake of thin liquids.
- Fiberoptic Endoscopic Evaluation of the Swallow (FEES): Decreased movement and coordination of tongue base and pharyngeal (throat) muscles. Silent aspiration occurred and a cued cough resulted in clearance of food and liquid from the airway. Vocal folds mobile bilaterally. Thick secretions.
- Functional Oral Intake Scale (FOIS): Level 1; nothing by mouth.
- Diet Recommendations: All nutrition and hydration were delivered through the feeding tube.

Therapy Information:

- Modality: OmnisEMG™ Biofeedback
- Frequency: 5x per week.
- Protocol Specifics: Typical and effortful swallow exercises were performed with sEMG biofeedback visualizations using line graph, bar graph, and kangaroo to improve swallow quality and strength.
- Duration: Eight weeks.
- Other Therapy Services Provided: Oropharyngeal muscle strengthening exercises, compensatory strategies, oral care, and caregiver education.

Outcome:

- Clinical Swallow Exam: Little to no coughing or throat clearing with oral intake.
- Modified Barium Swallow Study (MBSS): No aspiration occurred during the study. The tongue and throat muscles displayed continued weakness but were functional for eating a diet.
- Functional Oral Intake Scale (FOIS): Level 6; total oral diet with multiple consistencies without special preparation, but with specific food limitations.
- Diet Recommendations: Soft, chopped solids and thin liquids.

This gentleman reports he is very impressed with the Synchrony Dysphagia Solutions by ACP® program and the OmnisEMG™ technology, commenting that the treatment and the clinician were his “life line.” He was surprised with how quickly he progressed, allowing him to eat and drink again at the end of therapy. He and his wife are looking forward to his feeding tube being removed in the future.



OmnisEMG™ Biofeedback



Fresh River Healthcare

96 Prospect Hill Road, East Windsor, CT 06088 • (860) 623-9846

For information or placement inquiries, please contact our Admissions Coordinator