



# DYSPHAGIA RESEARCH SOCIETY

JOIN US VIRTUALLY MARCH 9-12, 2021

29TH ANNUAL MEETING

**Wednesday, March 10 | 7:45 am – 8:00 am**

**Welcome and Announcements**

**March 10 | 8:00 am – 9:30 am**

**Scientific Papers Session 1: Healthcare Systems Dysphagia Practice Patterns**

**Dysphagia in the intensive care: multicentre, binational point prevalence survey**

**AUTHORS (LAST NAME, FIRST NAME):** Freeman-Sanderson, Amy<sup>1, 2, 3</sup>; Hemsley, Bronwyn<sup>1</sup>; Thompson, Kelly<sup>3</sup>; Hammond, Naomi<sup>3, 4</sup>

**Purpose:** Dysphagia, often occurs in an intensive care unit (ICU) patient cohort. Increased risk for dysphagia can result from the use of artificial airways and as a consequence of neurological and respiratory illnesses, all impacting on swallow function and safety. There is a lack of multisite data on the prevalence and management of dysphagia in ICUs. The aim of this study was to describe the prevalence of dysphagia in ICU patients and describe ICU level practices for diagnosis and management of dysphagia across Australia and New Zealand.

**Learning Objective:**

- Describe the prevalence of reported dysphagia in a population of patients admitted to intensive care setting and to describe ICU level support for dysphagia management.

**Understanding barriers and facilitators to Speech Pathology services in the Emergency Department**

**AUTHORS (LAST NAME, FIRST NAME):** Lal, Pranika<sup>1, 2</sup>; Wishart, Laurelie<sup>3, 2</sup>; Ward, Elizabeth<sup>3, 2</sup>; Schwarz, Maria<sup>1</sup>; Seabrook, Marnie<sup>1</sup>; Coccetti, Anne<sup>1</sup>

**Purpose:** Early detection of dysphagia can reduce associated medical comorbidities and subsequent burden of care. As most patients admitted to acute care services present first via the Emergency Department (ED), timely speech-language pathology (SLP) involvement in the ED services may improve patient outcomes and help reduce length of hospitalisation and associated service costs. To date, however, there is limited research into the models of ED SLP dysphagia services that currently exist and the factors that have influenced establishment of these services. This study utilised qualitative methodology to understand current models of SLP service provision in Australian ED settings and explore factors which have influenced establishment, implementation and sustainability.

**Learning Objective:**

- Identify current models of Speech Pathology service provision in Australian Emergency Department settings and explore factors which have influenced establishment, implementation and sustainability of the services.

### **Dysphagia Profiles and Management Patterns in Patients with COVID-19**

**AUTHORS (LAST NAME, FIRST NAME):** Pulia, Michael<sup>1</sup>; Schwei, Rebecca<sup>1</sup>; Rogus-Pulia, Nicole<sup>2, 3</sup>

**Purpose:** The prevalence of dysphagia in patients with coronavirus disease 2019 (COVID-19) is poorly characterized. The purpose of this study was to describe pre-existing and post COVID-19 dysphagia profiles and management among patients with confirmed COVID-19.

**Learning Objective:**

- Describe dysphagia profiles and management among patients with COVID-19 both before and after diagnosis.

### **Disparities Research in Oropharyngeal Dysphagia: A Scoping Review**

**AUTHORS (LAST NAME, FIRST NAME):** Feit, Noah<sup>1</sup>; Mocchetti, Valentina<sup>2, 4</sup>; Wang, Zhaorui<sup>1</sup>; Demetres, Michelle<sup>3</sup>; Andreadis, Katerina<sup>2, 4</sup>; Rameau, Anaïs<sup>2, 4</sup>

**Purpose:** This review intends to highlight existing primary healthcare disparities research in oropharyngeal dysphagia with the objective of elucidating knowledge gaps and guiding future prospective intervention-based research.

**Learning Objective:**

- Describe the existing swallowing-related healthcare disparities examined in current research.  
- Identify the limitations of current healthcare disparities research in oropharyngeal dysphagia and identify potential avenues of further research.

### **Impact of quantitative objective videofluoroscopic swallowing measures on analysis and treatment recommendations in a clinical context**

**AUTHORS (LAST NAME, FIRST NAME):** Kerrison, Gwen<sup>1, 3</sup>; Miles, Anna<sup>1</sup>; Heron, Michael<sup>1, 4</sup>; Allen, Jacqueline<sup>1, 2</sup>

**Purpose:** Although objective quantitative measures are available for videofluoroscopic swallow study (VFSS) interpretation, they are yet to be used routinely clinically. The aim of this study was to explore agreement between standard VFSS practice and quantitative analysis and the impact on diagnosis and recommendations.

**Learning Objective:**

- Identify the difference in agreement and diagnostic accuracy of a traditional observational VFSS analysis approach and quantitative measurement approach.
- Discuss the impact of this difference on treatment recommendations.

**Identifying the barriers and enablers to implementation of the International Dysphagia Diet Standardisation Initiative (IDDSI) and provision of Texture Modified Diets (TMDs) in New Zealand age-care facilities**

**AUTHORS (LAST NAME, FIRST NAME):** Wu, Xiaojing S.1; Miles, Anna2; Braakhuis, Andrea1

**Purpose:** Texture modified diets (TMDs) are a common intervention for older adults with swallowing difficulties to improve swallow safety, efficiency or enjoyment. The International Dysphagia Diet Standardization Initiative (IDDSI) provides a framework for terminology, definitions and testing of TMDs. This observational mixed methods study used the Consolidated Framework for Implementation Research (CFIR) to evaluate the effectiveness of IDDSI adoption in aged-care facilities (ACFs) and identify barriers and enablers to facilitate future implementation.

**Learning Objective:**

- Identify the enablers and barriers of IDDSI implementation in aged-care facilities to improve future implementation.

**Wednesday, March 10 | 9:30 am – 10:45 am**

**Scientific Papers Session 2: Dysphagia in Neurodegenerative Populations**

**Respiratory-Related Sensory Decline and Swallow Safety in People with PD: Preliminary Longitudinal Data**

**AUTHORS (LAST NAME, FIRST NAME):** Mir, Michela1; Slepian, Michelle2; Hegland, Karen2, 1

**Purpose:** Control of airway protection depends on intact sensory input from the respiratory tract to mediate ventilation and coordinate swallow and cough for pulmonary health. People with Parkinson's disease (PD) exhibit a blunted perception of respiratory sensations related to swallow and cough dysfunction. Yet, the onset of this sensory decline compared to swallowing impairment is unknown. We aimed to determine differences in sensory responses from airway stimuli and measures of swallow safety in people with PD across 10-18 months. We hypothesized that in early disease, swallow safety would remain the same despite a decline in sensory responses.

**Learning Objective:**

- Describe emerging sensory-related changes to the upper airway in people with early-stage Parkinson's

disease as they relate to the swallow safety ratings and the potential implications of diminished sensorimotor function that is necessary for airway clearance.

### **Respiratory-Swallow Training and Its Effects on Swallowing Outcomes in Parkinson's Disease: A Prospective Cohort Treatment Study**

**AUTHORS (LAST NAME, FIRST NAME):** Curtis, James A.1; Kiefer, Brianna<sup>2, 1</sup>; Huber, Jessica<sup>2</sup>; Molfenter, Sonja M.<sup>3</sup>; Troche, Michelle S.<sup>1</sup>

**Purpose:** Respiratory-swallow coordination is frequently impaired in Parkinson's disease (PD) and is associated with compromised swallowing safety and efficiency. The aims of this study were to examine the effects of four sessions of respiratory-swallow training (RST) on respiratory-swallow coordination and swallowing outcomes in PD.

#### **Learning Objective:**

- Describe the effects of respiratory-swallow training (RST) on respiratory-swallow coordination motor learning outcomes in this dysphagic cohort of people with Parkinson's disease (PD).
- Describe the effects of RST on reducing the frequency and amount of pharyngeal residue, penetration, and aspiration in this dysphagic cohort of people with PD.

### **Swallowing and gastrointestinal deficits in the Pink1<sup>-/-</sup> rat model of Parkinson disease**

**AUTHORS (LAST NAME, FIRST NAME):** Krasko, Maryann N.<sup>1, 2</sup>; Kelm-Nelson, Cynthia A.<sup>2</sup>; Ciucci, Michelle R.<sup>1, 2, 3</sup>

**Purpose:** Parkinson disease (PD) is a whole-body neurodegenerative disorder. Recent evidence suggests that CNS pathology may originate in the gastrointestinal (GI) tract during the prodromal phase. Early motor and non-motor signs such as dysphagia, delayed gastric emptying, and constipation may serve as potential biomarkers; however, because they are common, non-specific, or age-related, they often go unreported, making the study of PD-GI dysfunction in the early stages difficult. To overcome this limitation, early-onset genetic animal models of PD, such as the Pink1<sup>-/-</sup> rat, are a useful tool for studying swallowing and digestive deficits in this prodromal phase. We hypothesized that Pink1<sup>-/-</sup> rats would show early and progressive oropharyngeal dysphagia, delayed gastric emptying, and constipation.

#### **Learning Objective:**

- Identify the early oropharyngeal and gastrointestinal deficits found in the Pink1<sup>-/-</sup> model of Parkinson disease that are similar to those found in humans.

### **Impact of Expiratory Muscle Strength Training on Swallowing Kinematics in Individuals with ALS**

**AUTHORS (LAST NAME, FIRST NAME):** Tabor-Gray, Lauren<sup>2</sup>; Robison, Raelle<sup>1</sup>; Vasilopoulos, Terrie<sup>3</sup>; Plowman, Emily<sup>1</sup>

**Purpose :** Expiratory muscle strength training (EMST) is an increasingly popular intervention utilized by clinicians in dysphagia rehabilitation.<sup>1</sup> Although EMST is noted to improve subglottic pressure generation capacity crucial for effective cough production in neurodegenerative patient populations;<sup>2,3</sup> a recent systematic review revealed the paucity of data investigating the impact of EMST on swallowing

physiology.<sup>1</sup> We previously reported that an 8-week EMST regimen led to improvements in maximum expiratory pressure (MEP) and cough in people with ALS (pALS).<sup>2</sup> Motivated by this recent review, we aimed to examine the impact of EMST on swallowing physiology.

**Learning Objective:**

- Describe the rationale for use of EMST in individuals with ALS.

**Psychometric Validation of the Dynamic Imaging Grade of Swallowing Toxicity (DIGEST) for Use in Individuals with Amyotrophic Lateral Sclerosis.**

**AUTHORS (LAST NAME, FIRST NAME):** Plowman, Emily K.<sup>1, 8</sup>; Dallal York, Justine<sup>3, 8</sup>; DiBiase, Lauren<sup>3, 8</sup>; Segalewitz, Tara<sup>2, 8</sup>; Croft, Kayla<sup>2, 8</sup>; Lawrence, Shelby<sup>2, 8</sup>; Herndon, Nicole E.<sup>5, 2</sup>; Hutcheson, Katherine A.<sup>7</sup>; Anderson, Amber<sup>3, 8</sup>; Chapin, Jennifer<sup>8</sup>; Wymer, James<sup>4</sup>; Vasilopoulos, Terrie<sup>6</sup>

**Purpose:** The DIGEST scale is a validated instrument to index swallowing efficiency and safety in head and neck cancer. Given the paucity of valid functional outcomes of global dysphagia, we sought to psychometrically validate the DIGEST scale in people with ALS (pALS).

**Learning Objective:**

- Discuss the importance of patient population specific validation.  
- Describe a validated metric of swallowing efficiency and safety.

**Wednesday, March 10 | 10:45 am – 11:15 am**  
**Poster Viewing w/ Live Q&A – Group 1**

**Wednesday, March 10 | 11:15 am – 11:45 am**  
**Poster Viewing w/ Live Q&A – Group 2**

**Wednesday, March 10 | 11:45 am – 12:45 pm**  
**Lunch and Exhibit Viewing**

**Wednesday, March 10 | 12:45 pm – 1:45 pm**  
**General Session 3: Penetration-aspiration scale scores – what are we measuring? A swallow, a bolus, or the whole exam?**

**Presentation Title: The Penetration Aspiration Scale: Are We Using it Correctly?**

*James Coyle, PhD, CCC-SLP, BCS-S, ASHA-F – University of Pittsburgh*

Presentation will review development and intended uses of the penetration aspiration scale by its developers, and present issues related to unintended scoring methods by users of the scale.

**Learning Objectives:**

- Understand how the PAS was intended to be used.
- Identify PAS scores based on observation of single swallows.
- Describe the anatomic rationale underlying PAS scores.

**Presentation Title: Issues to consider in the measurement of Penetration-Aspiration in clinical and research contexts**

*Catriona Steele, Ph.D., CCC-SLP, S-LP(C), Reg. CASLPO, ASHA Fellow – KITE Research Institute – Toronto Rehabilitation Institute – University Health Network*

This presentation will review issues that are debated regarding appropriate use of the Penetration-Aspiration Scale, both clinically and in research. Specific topics to be covered include whether the scale has interval, ordinal or categorical properties; how this influences the choice of appropriate statistics for comparing scores; and information regarding the how frequently specific scores are seen.

**Learning Objectives:**

- Explain why decimal places have no interpretable meaning for Penetration-Aspiration Scale scores.
- Identify levels on the Penetration-Aspiration Scale that are more or less commonly seen than others.
- Describe approaches used for reducing the Penetration-Aspiration Scale for categorical analysis.

**Presentation Title: Penetration-Aspiration Scale**

*Maureen Lefton-Greif, Ph.D., CCC-SLP, BCS-S – Johns Hopkins Medical Institutions*

This session will review the development, levels and rationale of the Penetration-Aspiration Scale (PAS) and its intended use. Presentations will focus on how the PAS is being used in clinical care and research. The benefits and limitations of the PAS as an outcome measure will be present.

**Learning Objectives:**

- Explain the development, levels and rationale of the PAS and its intended use.
- Discuss how the PAS can be integrated with the other bolus grading methods (e.g., DIGEST).
- Describe the clinical utility and statistical properties of the PAS scale and its value as an outcome measure across the age spectrum.

**Presentation Title: Assessment and Treatment of Swallowing Disorders: Addressing Mechanisms**

*Katherine Hutcheson, Ph.D. – The University of Texas MD Anderson Cancer Center*

The presentation will detail the method for using the pattern of bolus-level penetration aspiration scale scores to grade the severity of a swallowing safety impairment according to the DIGEST framework.

**Learning Objectives:**

- Describe bolus level versus swallow level application of penetration-aspiration scale scores.
- Describe the modifiers used describe frequency and amount of penetration-aspiration using the DIGEST methodology.

Apply a decision-tree according to the DIGEST framework to summarize patterns of penetration-aspiration scale scores.

**Wednesday, March 10 | 1:45 pm – 2:15 pm**  
**Poster Viewing w/ Live Q&A – Group 3**

**Wednesday, March 10 | 2:15 pm – 2:45 pm**  
**Break**

**Wednesday, March 10 | 2:45 pm – 4:00 pm**  
**Scientific Papers Session 3: Technological Advancements in Dysphagia Assessment and Treatment**

**Identifying Respiratory-Swallow Phase Patterning and Lung Volume at Swallow Initiation Using a Wearable Tri-Axis Accelerometer**

**AUTHORS (LAST NAME, FIRST NAME):** Kantarcigil, Cagla<sup>1</sup>; Arafa, Hany<sup>2, 3</sup>; Nellis, Abigail B.<sup>1</sup>; Rogers, John<sup>2, 3</sup>; Xu, Shuai<sup>2, 4</sup>; Martin-Harris, Bonnie<sup>1, 4</sup>

**Purpose:** Recalibrating respiratory-swallow phase patterning through Respiratory-Swallow Training results in significant airway protection and swallowing biomechanical benefits. However, identifying patterns of chest-abdominal wall movements outside of research settings is cumbersome, as it requires Inductobands and specialized, non-portable devices. Wearable accelerometers that detect acceleration and motion across multiple axes could offer a feasible alternative; however, little is known about the utility of accelerometers in monitoring chest-abdominal wall patterns during breathing and swallowing. Thus, the aim of this study was to compare respiratory signals recorded during swallow trials using a tri-axis wearable accelerometer to the gold standard respiratory inductance plethysmography (RIP) recordings.

**Learning Objective:**

- Describe the utility of a novel wearable accelerometer in the detection of respiratory-swallow phase and lung volume during swallow trials.

**Auto Segmentation of the Hyoid Bone, Bolus, and C2-C4 Vertebrae Length on Videofluoroscopic Swallow Studies**

**AUTHORS (LAST NAME, FIRST NAME):** Shaheen, Nadeem M.1; Peña-Chávez, Rodolfo2; Ulmschneider, Chris3; Burdick, Ryan2, 4; Yee, Joanne5, 4; Kurosu, Atsuko3; Rogus-Pulia, Nicole2, 4, 5; Bednarz, Bryan1

**Purpose:** The hyoid bone, cervical vertebrae, and the bolus are regions of interest (ROIs) identified in videofluoroscopic swallow studies (VFSS) that contain information relevant to commonly used clinical measures for diagnosing swallowing disorders. Analysis of these ROIs in VFSS is time consuming and often requires a variety of manual inputs, adjustments, or measures to extract accurate anatomical and physiologic information. This study aimed to evaluate the accuracy of an auto segmentation algorithm of the hyoid bone, bolus, and cervical vertebrae 2 (C2) and 4 (C4) in VFSS image sequences.

**Learning Objective:**

- Discuss methods related to anatomical segmentation, ground truth segment analysis, and common segmentation metrics and network structures.

**Feasibility of Device-driven Treatment Approaches for Airway Protective Deficits via Telehealth**

**AUTHORS (LAST NAME, FIRST NAME):** Sevitz, Jordanna1; Borders, James C.1; Dakin, Avery1; Troche, Michelle S.1

**Purpose:** Airway protective treatments frequently utilize devices; however, the feasibility of initiating these treatments via telehealth is unknown. Therefore, this study aimed to determine the feasibility of using two device-driven treatments, Expiratory Muscle Strength Training (EMST) and voluntary cough skill training (VCST) using a peak flow meter (PFM) via telehealth. We sought to identify whether patients could (1) take measures of maximum performance, (2) set treatment targets, and (3) complete exercises via teletherapy. We also explored whether factors such as disease duration, cognitive status, presence of a care-partner, and internet speed impacted participation.

**Learning Objective:**

- Identify components of feasibility that enable successful Expiratory Muscle Strength Training and voluntary cough skill training via telehealth to target airway protective dysfunction in individuals with neurodegenerative diagnoses.

**3D Computer Graphics Model of the Anatomy and Physiology of Babies' Sucking and Swallowing as an Educational Tool**

**AUTHORS (LAST NAME, FIRST NAME):** Puccini, Flávia R.5; Martinelli, Roberta4; Rodrigues, Antônio D.1; Gatti, Marina3; Wen, Chao L.2; Berretin-Felix, Giédre3

**Purpose:** Breastfeeding is a complex function that requires coordination between sucking, swallowing, and breathing. Although technological and scientific advances have made it possible to better understand the steps involved in that process, no scientifically validated tool has been found in the literature that shows the anatomy and physiology of babies' sucking and swallowing through video. The current study aimed to develop and validate a 3D computer graphics sequence content showing babies' sucking and swallowing functions during breastfeeding as an educational tool

**Learning Objective:** Breastfeeding is a complex function that requires coordination between sucking, swallowing and breathing. Technological and scientific advances have enabled a better understanding of the steps involved in this process, however, no scientifically validated tool has been found in the literature that demonstrates the anatomy and physiology of the baby's sucking and swallowing by means of three-dimensional video. The present study performed the construction and validation of the 3D material of suction and deglutition in the term newborn of the virtual baby as an important educational resource.

### **Characterizing swallows from people with neurodegenerative diseases using HRCA signals and temporal swallow measurements**

**AUTHORS (LAST NAME, FIRST NAME):** Donohue, Cara<sup>1</sup>; Khalifa, Yassin<sup>2</sup>; Perera, Subashan<sup>3</sup>; Sejdic, Ervin<sup>2, 4</sup>; Coyle, James L.<sup>1, 5</sup>

**Purpose:** Dysphagia is highly prevalent in patients with neurodegenerative diseases (ND) and is frequently associated with adverse events; leading to faster disease progression. Swallowing in patients with ND should be monitored closely due to the progressive disease nature, likelihood of fatigue during meals, and potential day-to-day fluctuation. Undergoing instrumental swallow evaluations regularly can be challenging for patients with ND due to multifactorial health problems, physical mobility impairments, and transportation issues. High resolution cervical auscultation (HRCA), which uses acoustic/vibratory signals from noninvasive sensors attached to the anterior laryngeal framework during swallowing, has potential as a dysphagia screening method. This study aimed to 1. Investigate HRCA's ability to differentiate swallows from healthy people and people with ND and 2. Compare traditionally annotated temporal swallowing measures between the two groups. We hypothesized HRCA would accurately differentiate swallows and that there would be differences in temporal swallow measurements between groups.

#### **Learning Objective:**

- Describe characteristics of swallows from patients with neurodegenerative diseases based on HRCA signal features and temporal swallow measurements.

**Wednesday, March 10 | 4:00 pm – 5:15 pm**

### **Scientific Papers Session 4: Sensorimotor Mechanisms of Swallowing Function**

#### **Capsaicin-sensitive nerves are involved in the initiation of swallowing evoked by carbonated water in anesthetized rats**

**AUTHORS (LAST NAME, FIRST NAME):** Tsujimura, Takanori<sup>1</sup>; Yoshihara, Midori<sup>1</sup>; Nagoya, Kouta<sup>1</sup>; Magara, Jin<sup>1</sup>; Inoue, Makoto<sup>1</sup>

**Purpose:** Capsaicin powerfully evokes the swallowing reflex and is a known therapeutic agent for improving dysphagia and preventing aspiration pneumonia. However, the role of capsaicin-sensitive nerves in the initiation of swallowing evoked by various natural stimuli remains unclear. The aim of this study was to investigate the role of capsaicin-sensitive nerves in the initiation of swallowing evoked by mechanical and chemical stimulation.

**Learning Objective:**

- Identify peripheral neural mechanisms of initiation of swallowing evoked by laryngeal carbonated water application.

**Application of Capsaicin to the Oropharynx Reduces Bolus Size and Improves Swallow Safety in an Infant Animal Model**

**AUTHORS (LAST NAME, FIRST NAME):** Edmonds, Chloe E.1; Mayerl, Christopher J.1; Gould, Francois D.2; Adjerid, Khaled1; Steer, Kendall E.1; Bond, Laura E.1; German, Rebecca Z.1

**Purpose:** Insight into neural mechanisms underlying sensory stimuli is critical for using sensorimotor integration in targeted dysphagia management. One specific sensory input to swallowing is via the internal branch of the superior laryngeal nerve (iSLN), which triggers a pharyngeal swallow when the bolus reaches a threshold volume. Afferent nerve fibers associated with the iSLN express the ion channel TRPV1, which is stimulated by capsaicin. Thus, the oral application of capsaicin is a useful model to explore the role of sensory stimulation in changing swallow physiology. Using an infant animal model with an iSLN lesion, we hypothesize that capsaicin will change swallow biomechanics such that bolus size will be reduced, which will ultimately improve swallow performance and safety in neurologically compromised infants.

**Learning Objective:**

- Identify the effect of capsaicin when orally applied to a model of infant dysfunction, in terms of changes in the pathophysiology and biomechanics of swallowing.

**Taste stimulation and brain activity: A mechanism for neuroplastic change?**

**AUTHORS (LAST NAME, FIRST NAME):** Dietsch, Angela M.1, 2; Westemeyer, Ross M.1; Schultz, Douglas H.2

**Purpose:** Taste stimulation has been posited as a potential therapeutic tool for enhancing neuroplasticity and dysphagia recovery, but evidence has been confounded by inconsistencies across stimulus properties. To address this gap, we examined brain activity associated with precisely formulated and dosed taste stimuli while also accounting for participants' genetic taster status (GTS), which we previously reported as a significant modulator of swallowing physiology and underlying neural activity across tastant types.

**Learning Objective:**

- Describe differences in neural activation associated with tastant properties, and their clinical implications.

## **The Role of Aspiration Amount on Airway Protective Response in People with Neurogenic Dysphagia**

**AUTHORS (LAST NAME, FIRST NAME):** Curtis, James A.1; Borders, James C.1; Dakin, Avery1; Troche, Michelle S.1

**Purpose:** The primary aim of this study was to assess the effects of aspiration amount on ejective airway protective responses (e.g., cough, throat clear) in people with neurogenic dysphagia. Secondary aims were to assess the effects of bolus volume, disease diagnosis, and disease duration on airway protective responses after accounting for aspiration amount.

### **Learning Objective:**

- Describe the influence of aspiration amount on the likelihood of airway protective response in people with neurodegenerative diseases.
- Describe the influence of bolus volume on the likelihood of airway protective response, when accounting for aspiration amount in people with neurodegenerative diseases.
- Describe the influence of disease diagnosis and disease duration on the likelihood of airway protective response, when accounting for aspiration amount in people with neurodegenerative diseases.

## **Airway protection following unilateral DBS in Parkinson's disease: Does hemisphere make a difference?**

**AUTHORS (LAST NAME, FIRST NAME):** Smith-Sherry, May1, 2; Herndon, Nicole2; Hegland, Karen1, 2

**Purpose:** Research on the effects of deep-brain stimulation in both the globus pallidus internus (GPi) and the subthalamic nucleus (STN) on swallowing in Parkinson's disease (PD) have yielded inconsistent findings. The target laterality (right versus left) has not been investigated, which may explain some of the previous inconsistencies. Lesion studies in other populations (ie stroke) have shown that lesions in the right cerebral hemisphere may be more highly associated with swallowing impairment compared to left-hemispheric lesions. Therefore, the aim of this study was to examine the effect of laterality of single-lead implants (either GPi or STN) on airway protection in PD.

### **Learning Objective:**

- Describe the effect of DBS laterality on swallowing.

**Wednesday, March 10 | 5:15 pm**

**Adjourn**