

**Improving the Clinical Education Model for Speech-Language Pathologists for  
Comprehensive Skills Training in Flexible Endoscopic Evaluation of Swallowing, or  
(FEES)**

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## FEES CLINICAL EDUCATION MODEL

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### **Executive Summary**

#### ***Organizational Background:***

This capstone project focused on exploring what factors, processes or characteristics may facilitate better implementation of a comprehensive clinical education program for Flexible Endoscopic Evaluation of Swallowing (FEES), to improve speech-language pathologists' unified competency for patient care. The project aimed to understand if specific variables, evident in other professions where there are evidence-based endoscopic competencies, have value to transfer and implement in a system-wide FEES competency training model.

The partner organization was Robert Wood Johnson University Hospital: Hamilton Campus (RWJ-Hamilton), which is part of Robert Wood Johnson Barnabas Health- one of the two largest hospital systems in the State of New Jersey. Each RWJ campus serves its own local community, with RWJ-Hamilton providing care to residents in Central New Jersey to the Jersey coastline. This campus was the among the first hospitals in the region to purchase a FEES system, and the site was excited to be in a unique position to implement best practices with FEES training.

Improving staff competency training would allow Robert Wood Johnson Barnabas Health System an opportunity to be more aligned across its campuses in terms of service provision for FEES. In turn, the improvement in FEES services for RWJ would result in other significant and meaningful impacts on our healthcare system.

#### ***Literature Review/Conceptual Framework:***

The literature review for this capstone project included the relevant publications that already exist to understand where the field of speech-language pathology is situated in healthcare. It included general articles about FEES for patient care, and why SLPs should be competent to

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complete them. The review then transitioned to studies addressing endoscopic clinical training for physicians, which allowed for identification of additional gaps in the literature about SLP FEES training. Further sections investigated features of speech-language pathology clinical competency training for FEES in the literature, which appears to be a topic open to development for the profession. Finally, the review addressed the role of participation in endoscopic competency training for SLPs. Limited Peripheral Participation (LPP), frames the project questions within a Conceptual Framework.

### ***Project Questions:***

This capstone project investigated: (1) How do medical speech-language pathologists currently perceive their experiences with endoscopic training to learn FEES? (2) What are current perceptions of *competence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES? (3) What are current perceptions of *confidence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES?

### ***Research Design:***

This capstone project used a mixed-methods approach, including a survey and a focus group with follow-up assessment and recommendations based upon the findings.

The online survey (10-15 minutes) was distributed to the American Speech-Language Hearing Association (ASHA) Special Interest Group (SIG) #13 list serve, which is an online community for speech-language pathologists, who specialize in FEES. All members received the invitation link to participate in the survey through August 1, 2023. Statistical processes were completed with SPSS software to analyze the survey data.

A focus group met in mid-July 2023, to triangulate survey findings with organizational data. The July focus group meeting had 16 participants and took approximately 60 minutes. In

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collaboration with the Senior Clinician at RWJ-Hamilton, participants were invited to the focus group meeting via organizational email and consent forms were provided. The meeting took place via Zoom. Coding processes were completed to analyze the focus group data.

### ***Findings:***

*Finding One:* Speech-Language Pathologists value all aspects of their training, but standardized and reflective practice are more important than self-assessment.

*Finding Two:* Speech-Language Pathologists who complete FEES collectively recognize value in a community of practice, or a participatory model for learning endoscopy.

*Finding Three:* Speech-Language Pathologists who complete FEES collectively recognize value in self-assessment and standardized practice for competency with their training.

*Finding Four:* Speech-Language Pathologists who complete FEES collectively recognize value in self-assessment and standardized practice for clinical confidence with this skill.

### ***Recommendations:***

*Recommendation One:* Design a logic model for participation in a community of practice during FEES training.

*Recommendation Two:* Revise the current FEES competency process to better align with standardization in physician training.

*Recommendation Three:* Develop a FEES report template in the RWJ electronic medical record (EMR) for standardized documentation.

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### **Dedication**

I must acknowledge the many people who supported me in my doctoral studies. Family, friends, coworkers, classmates, and professors offered support and encouragement in different ways across the last four years. I plan to thank each of them personally for influencing me, giving me the opportunity to pursue this work and for motivating me to complete it during difficult times.

I would like to first recognize my own FEES mentor, Shana Shah- who was very kind, patient and giving of her time to share this complex skill with me. My experience learning how to perform FEES with Shana opened not only the doorway to a new professional community, but it began my fascination with the training process for FEES. My partner organization, Robert Wood Johnson University Hospital- Hamilton Campus, also holds a special place in my heart because of their immediate willingness to support me with this project. They also entrusted me as the trainer for their new FEES program. I wish to especially recognize Linday O'Brien, Larissa Lee Lum, Courtney Fluehr and Sarah King- as I could not have done this project without them.

I thank my doctoral advisor, Dr. Courtney Preston, for her assistance. I have never had a stronger editor for a writing process than Dr. Preston. I will never forget her encouraging me to look at the work that I do with FEES, by way of my capstone writing, in new ways.

I am grateful to my friend, Dr. Bryan Hendricks, for being a second reader for me during various steps of this project. I appreciated his willingness to help me and provide feedback, sometimes with short notice.

I recognize the support at work from the entire rehabilitation team through this process, along with the friendships of Caitlin DellaValle, Jackie Davis and Joice Ordonez. I extend special

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gratitude to the speech-language pathologists who kept everything running smoothly so I could focus on this project: Nicole Diekow, Hannah McKeown, and my faithful friend Kristin Gipe.

Finally, I thank my husband Rich and my daughters, Elise and Blair, for their patience with me for four years so I could complete my coursework and prepare for this capstone project. Their sacrifices were a lot to ask- so I remain forever grateful to my family.

I dedicate this capstone project to the speech-language pathologists who are still working diligently to have FEES programs of their own. I hope they do not give up on that dream and that one day soon it will be standard practice in our profession to have access to FEES equipment, communities of practice for FEES mentorship and standardized protocols for the procedure, beginning with the training process. As I become Dr. Pattay, one of the most significant accomplishments of my life, I hope to contribute further to this fascinating area of research.



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### **I. Organization Context**

The partner organization is Robert Wood Johnson University Hospital: Hamilton Campus (RWJ-Hamilton), which is part of Robert Wood Johnson Barnabas Health- one of the two largest hospital systems in the State of New Jersey. The organization and its system are accredited by the Joint Commission and New Jersey Department of Health and Senior Services. There are RWJ campuses located throughout Central to Northern New Jersey. The RWJ health care system is comprised of campuses that are teaching hospitals, community hospitals, long-term acute care hospitals, children's specialty hospitals, outpatient centers, affiliated medical groups and research centers. Each campus, including RWJ-Hamilton, serves its own unique local communities, depending on the geographic location.

Employees comprise a diverse population in terms of race, ethnicity, culture, gender and religion- as New Jersey is known for its diversity, particularly in comparison to other geographic areas of the United States. Work roles at RWJ-Hamilton include, but are not limited to: physicians, specialists, nurses, techs, social workers, clinical liaisons, and rehabilitation therapists.

The rehabilitation team has a presence at both the hospital (the inpatient setting), as well as in the clinic (the outpatient setting) through the RWJ-Hamilton campus. There is a Director of Rehabilitation (a physical therapist by discipline), who provides leadership to the hospital therapy team in addition to all outpatient clinics. Separately, a Clinical Supervisor (typically a physical therapist or occupational therapist) provides immediate, on-site support at each outpatient location. Speech-Language Pathology Services operate under this team as well. A Senior Speech-Language Pathologist, or (SLP) organizes all the daily therapy services, patients' schedules and ancillary programs within the hospital, while several other Senior SLPs have

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similar responsibilities for the outpatient clinics. Some SLPs work full-time, part-time or per diem (as needed). Some SLPs are cross trained to work in both the hospital and the clinic. Other SLPs are additionally cross trained in the outpatient setting to work with both adults and pediatrics.

Overall, this project informs interested parties about how to train SLPs more effectively and efficiently to be competent with providing Flexible Endoscopic Evaluation of Swallowing, or (FEES) to patients in the statewide hospital system. FEES is an instrumental assessment that SLPs complete endoscopically for diagnosing and treating dysphagia, or swallowing disorders. Primary stakeholders include Senior SLP Clinicians at all campuses. They want to know the outcomes from this project related to improving competency training models, as they onboard and train new staff. Additionally, the Director of Rehabilitation and Clinical Supervisor expect to share how this performance improvement project impacted RWJ-Hamilton, as they were the department champions for purchasing the FEES equipment for the SLP team. Secondary stakeholders are comprised of the following team members, who work with the SLPs and consequently care about the outcomes of the FEES procedures for patient care- as FEES are accessible: the supervising physician (ICU Director), the Stroke/CVA Coordinator and the ICU team. Tertiary stakeholders for the project include Senior Leadership at RWJ-Hamilton, in addition to Senior Leadership across the Robert Wood Johnson Barnabas Health System.

There are some long-term considerations and external factors, such as: expenses to introduce the FEES program to the RWJ-Hamilton campus, along with routine updates to standardization of practice (assessment, scoring, documentation processes).

With better staff competency training, the increased FEES accessibility for RWJ patients can result in other significant and meaningful impacts on our healthcare system. Doing so would:

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reduce the associated costs of dysphagia; reduce hospital readmissions; reduce risk of aspiration and/or death; improve discharge and disposition planning relating to swallowing deficits; and improve quality of life among patients. These positive changes in turn allow Robert Wood Johnson Barnabas Health System an opportunity to be more aligned across its campuses in terms of service provision for FEES.

## **II. Problem of Practice**

There has been a national paradigm shift for SLPs who perform flexible endoscopic evaluations of swallowing, or FEES. Many clinicians have started a conversation about better or best practices in performing FEES- as the current methods for training and competency are not uniform. Consequently, speech-language pathology professionals currently provide inconsistent patient care, inconsistent clinical recommendations, and non-standardized documentation. The methods and approaches for SLP FEES training are also not equitable with the training models used by physicians- some of whom also train in endoscopy.

FEES is a gold standard instrumental assessment for diagnosing and treating dysphagia (swallowing disorders). To complete a FEES, a qualified provider passes a flexible laryngoscope trans-nasally (through the nose) to the hypopharynx (the back of the throat). The provider observes how a patient is swallowing, while recording the images on a monitor. FEES is a highly objective study of a person's swallowing abilities. It also identifies problems impacting one's swallowing safety and assists in identifying the appropriate plan of care/intervention for patients in any healthcare setting.

There are two objective instrumental swallowing studies that SLPs can employ to evaluate the swallowing performance: the FEES, which will be the focus of this paper, and the Video Fluoroscopic Swallow Study (VFSS). Both tools are considered superior to a clinical

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bedside examination for assessing swallow function; however, each assessment has its strengths and limitations. As swallowing experts, SLPs are uniquely qualified to determine which study is most appropriate for each patient. At times, patients benefit from participating in both studies.

The VFSS requires several special considerations, including scheduling, transportation, and radiation exposure. Typically, VFSS is conducted in a hospital setting and requires transportation of a patient to a radiology suite. Of note, there are patients who cannot be transported to the radiology suite or cannot tolerate this test due to their physical stature, positioning constraints, and/or fatigue. The SLP completes this study in conjunction with a radiologist. Scheduling constraints and/or long wait times are often barriers to completing this test. Further, the SLP must complete the VFSS in a timely manner secondary to concerns relating to the amount of radiation exposure for the patient. Exposure time for a VFSS should be no more than three to five minutes. Therefore, VFSS is limited to the time of day that the radiologist is available. The SLP must also be conservative about the length of time to conduct the study, as well as repeating the study, while trying to capture the true picture of the patient's swallowing function.

FEES is a portable study and the SLP can perform it at bedside, or in the patient's room in the hospital setting. There is no need to transport the patient out of their room/facility and it can be performed by the SLP independently, requiring less staffing. In addition, there is no radiation exposure- which allows for frequent reassessments. FEES can be performed on all patients regardless of their stature or body mechanics. This test has no time constraints and has more flexibility regarding when it can be performed. Delays in discharge from inpatient facilities are prevented through use of FEES. Ultimately the use of FEES reduces testing time, improves quality of care, and reduces cost/length of stay- which current literature explains.

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As some patients have symptoms that can be addressed optimally after completing both VFSS and FEES, it is highly desirable that all hospital campuses have access to both types of swallowing tests. Currently, Speech-Language Pathology at RWJ-Hamilton utilizes VFSS every weekday collaboratively with the Radiology Department. After submitting a budget proposal in June 2022, followed by purchase orders- the SLP team finally received its Olympus endoscopic equipment in January 2023 to initiate a FEES program. According to the American Speech-Language-Hearing Association (ASHA), SLPs with appropriate training and competence in performing FEES are qualified to perform this procedure. After finalizing policies and procedures with the Infection Control and Biomedical Departments in April 2023, RWJ-Hamilton is ready to implement a clinical competency training process – that is also compliant with State of New Jersey regulations (which require a minimum of 25 FEES procedures with a trainer for competency).

### *Purpose of Capstone*

A national training protocol for FEES does not yet exist. ASHA created a revisional tutorial in January 2021 on clinical competency training for FEES (the first update since 2004). Additionally, the New Jersey Speech-Language-Hearing Association (NJSHA) submitted a white paper in December 2022 to its State Legislation to align its competency practices with these revisions, which suggest the following: the need to paradigm shift from a numbers-based model to training that includes consensus-based decision making. These models emphasize the cognitive load, physical skills, and clinical accuracy required to attain proficiency. To date, no published data is available that supports any specific FEES training approach, or that any course is superior to another. The methods are also not equitable with the training models that physicians use- some of whom also train in endoscopy. RWJ-Hamilton has the unique

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opportunity to explore several gaps in clinical training before the RWJ-Hamilton campus and SLP team introduce the new FEES program.

Endoscopic competency training for different types of physicians (otorhinolaryngology, gastroenterology and pulmonary), does include some number-based criteria (ie. the minimum times that one must pass the scope in training), but there is also an emphasis in these medical specialties on mentorship with other skills necessary for endoscopic competency: self-assessment, reflection in practice and standardized documentation. SLPs would benefit from a more comprehensive and robust training process when learning FEES, aligning SLPs with a physician model for endoscopic skill practice.

RWJ-Hamilton is well-informed about FEES: the indications for VFSS versus FEES; the need to have patients access both VFSS and FEES. The hospital needed to first request access to FEES through a budgetary process, which is the common action plan that each RWJ hospital is taking to secure its equipment. Each campus first demonstrated with data how the absence of the FEES service line negatively impacted patient care. The main driver for this information was the SLP team, while the Senior SLP gathered the necessary statistics for the Rehabilitation Director. In turn, the Rehabilitation Director used this data when communicating with the Finance Director. After the budget request was approved, the Rehabilitation Director had to then submit a purchase order for equipment.

Beyond securing the equipment, the Hamilton campus was initially content to use the training models for FEES competency that were previously designed by other RWJ campuses. They assumed that the competencies were sufficient, until the RWJ-Hamilton SLP team had a dialogue with their leaders about the need to review trends on current training practices, before implementing a program at an additional hospital campus. Leadership was receptive to this

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conversation, and then agreed to a partnership with a Vanderbilt doctoral student to investigate performance improvement with FEES training.

Inconsistent training within the speech-language pathology profession currently impacts clinical competency for FEES. Additionally, the methods and approaches for SLP FEES training are also not equitable with the endoscopy training models that physicians use. Consequences of this problem include inconsistent and suboptimal patient care, clinical recommendations, and documentation. There has been limited momentum in the field to examine this inequity or address its far-reaching effects.

There is also limited information on causes of this problem with FEES competency training in the speech-language pathology profession. However, other professionals also train in endoscopic competency. They have explored causes of the same problem in research by trying to understand participants' perceptions about clinical training. This project will borrow from that research.

### **III. Review of Literature**

To optimally investigate the Problem of Practice, I reviewed the relevant publications that already exist to understand where the field of speech-language pathology is situated in the literature. I began by reading general articles about instrumental swallowing assessments for patient care (which include both FEES and VFSS) and why SLPs should be competent to complete them. I then transitioned to reviewing studies addressing endoscopic clinical training for physicians, which allowed for identification of additional gaps in the literature. Next, I investigated features of speech-language pathology clinical competency training for FEES in the literature, which appears to be a topic open to development for the profession. Finally, I looked

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at the role of participation in endoscopic competency training as participation frames my project questions in Section IV.

As I reviewed documents relevant to my project, I prepared a rhetorical precis of each article that I identified, and then added it to my literature matrix as an organizational system. My search tools included Vanderbilt's Jean and Alexander Heard Libraries and Google Scholar search engines using various combinations of key terms together, with the terms *endoscopy* and *competency*. I also reviewed reference sections of particularly relevant articles to identify other articles of interest in this review process.

Concepts associated with the problem are endoscopic clinical training and competency for speech-language pathologists. Additionally, I am interested in the role of participation. Terms associated with this project are: FEES, flexible endoscopic evaluation of swallowing, competency, speech-language pathology, participation, and communities of practice. The following sections elaborate on what the field already knows about the problem of practice, then transition to information that SLPs may borrow from other professions who have made gains with their own clinical training and competency for endoscopic skills.

### *Introduction to FEES as an Endoscopic Technique*

Dr. Susan Langmore (SLP), Dr. Nels Olson (ENT) and Ken Schatz (SLP) first established FEES in 1988 as an instrumental objective swallowing assessment, performed by a qualified professional passing an endoscope through the nose to view the throat (Langmore et al., 1988). FEES is a portable, or completely mobile assessment. Before the 1980s, commercial flexible laryngoscopes were not common. Over a relatively short period of time, "FEES became the exam of choice for viewing anatomy, physiology, and for biopsies of suspicious masses" (Langmore, 2017). FEES in the 1980s looked nothing like FEES does today. SLPs now pair



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high-tech laryngoscopes with cameras, monitors, adapters, and recorders. In 2001, ASHA officially added FEES to the scope of practice of SLPs.

FEES is a known, safe procedure, which makes it desirable for SLPs to complete with overall low risk of complication. FEES has only a few unintended adverse events: nosebleed, fainting, and laryngeal spasm. While investigating 2,820 patients with FEES, approximately 1% of cases experienced these reactions (Aviv, 2000; 2005). All events were considered minor incidents, and they all resolved spontaneously. Another safety-related concern that facilities often raise regarding FEES is the use of topical anesthesia in the nasal cavity (Langmore, 2017). However, there are no studies to support this concern. When the SLP safely completes FEES, the procedure identifies problems impacting one's swallowing safety and assists in identifying the appropriate plan of care and intervention for a variety of patient populations across all healthcare settings.

### *FEES: Reduced Testing Time, Improved Quality of Care and Reduced Cost/Length of Stay*

As previously mentioned in Section II, patients only having access to a VFSS when they require a FEES is problematic. Dysphagia is a substantial health risk for patients in the U.S. healthcare system (Patel et al., 2018). Dysphagia affects 3% of inpatient adults in the US (ages 45-90 years). Actual numbers may be much higher, as hospitals may underreport or under-diagnose the condition. Patients with dysphagia in acute care have a mean length of stay of 8.8 days, in comparison to 5 days for patients without dysphagia. For facilities that lack FEES, SLPs instead defer to the VFSS. The VFSS has many limitations with timing and scheduling around a radiology physician, which contributes to the delayed discharges of patients with dysphagia.

Health care providers need to consider patient satisfaction when treating patients with dysphagia who may require FEES. Diet modifications and enteral nutrition (feeding tubes) are

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meant to provide temporary solutions to current deficits in swallowing. However, these tools often become permanent due to a lack of access to FEES. O’Keeffe et al. (2018) showed how these therapies correlate to dehydration and malnutrition, due to reduced intake and reported dissatisfaction. In addition, thickened liquids may impede the absorption of some medications (Cichero, 2013). Among the 212 patients whom Groher et al. (1995) reassessed in a study, 91% were unknowingly appropriate to advance their diets.

Thickened liquids do not prevent aspiration (food and/or liquid entering the airway) in all people with dysphagia (Kaneoka et al., 2017). Newman et al. (2016) showed that up to 40% of individuals aspirate thickened liquids and are more likely to silently aspirate mildly thick liquids than thin liquids. Furthermore, pulmonary injury is worse in individuals who aspirate thickened liquids than thin liquids (Nativ-Zeltzer et al., 2018). In addition, patients often do not enjoy drinking thick liquids, which may decrease their motivation to drink them. Decreased fluid intake puts them at increased risk for medical conditions including but not limited to dehydration, malnutrition, and urinary tract infections. These avoidable conditions, among others, equate to 78% of all hospital readmissions (Mor et al., 2010).

The costs of FEES are certainly important to consider. Hospital patients with dysphagia cost the facility an average of \$4,282 more than those without dysphagia. In the community settings this cost increased to \$7,209 (Westmark et al., 2018). The most cost-effective model in treating dysphagia was one in which the SLP teams used FEES, compared to use of a bedside examination (no swallow study) alone (Wilson and Howe, 2011).

Healthcare providers often prescribe diet modifications or feeding tubes to patients when they are without access to instrumental studies, or when patients have a change in medical status. These alternate means of nutrition are often costly for patients and healthcare facilities. The costs

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of keeping a patient on thickened liquids can range between \$2,000 - \$7,000 a year. The cost of managing a feeding tube is reported to average over \$31,000/year. These costs are potentially unnecessary for the healthcare system. Opportunities to access FEES will help to avoid these cost burdens (Hwang et al., 2014).

Inadequate access to the appropriate assessments can have costly and fatal repercussions. For example, readmissions to hospitals due to aspiration pneumonia calculate to cost about \$30,000 per patient (Oh et al., 2004). Furthermore, aspiration pneumonia is the leading cause of death in skilled nursing facilities. Having better access to FEES will facilitate best practice and personalized patient care, thereby significantly reducing healthcare costs. Having FEES equipment and providing SLPs with FEES training certainly has associated costs, but these costs do not accede the costs of dysphagia for patients.

### *Endoscopic Training in Other Professions*

Although currently there are limited studies that investigate medical SLP's formal process for FEES training- clinical education and training is a widely researched variable within other healthcare professions. Experts often assess the processes that physicians use, among those who also complete endoscopy. Scafidi et al. (2023) focused on endoscopic competency training for gastrointestinal, or GI specialists. These physicians can perform endoscopy as part of fellowship training, and endoscopic competency requires both acquisition as well as maintenance. In this study, the authors analyzed the values of self-assessment in endoscopic training by having student physicians use different self-rating tools. The goal was to determine the mean bias between the self-assessment and the external assessment scores from mentors. Ultimately- the study determined that regardless of the tools used, self-assessment is inaccurate for new endoscopic learners without providing them with video feedback.

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Scholars have also minimally researched reflective practice for SLPs in medical settings. Studies on reflective practice have instead focused on other health care professionals. To return to GI physician endoscopic training, Qayed et. al (2021) completed a study of GI fellows. In the survey, 71.9% of trainees reported difficulty finding a satisfactory job after graduation, and most planned to spend 50% of their clinical practice performing endoscopy. Despite this difficulty, 97% reflected they would make the same decision to pursue endoscopic training again if given the opportunity. Participants provided explanations for this reflection, including: acquiring technically complex endoscopic skills, increased marketability, and fulfillment of personal career goals.

Another important feature of endoscopic competency and training in other professions is the ability to write documentation about the procedures. As standardized documentation is an important quality indicator in endoscopy, Harris et al. (2021) completed a retrospective study to investigate the reliability of GI physicians' reporting techniques across time. The study compared physicians who used only voice dictation to document endoscopic study in 2008, to physicians in 2014 who used a dictation template, with embedded key terms and standardized reporting items within the template. Implementation of the templates increased overall report completeness and the use of universal language for the profession. This study also noted that "use of dictation on endoscopic reports alone no longer meets modern quality standards". Although SLPs acknowledge the need for standardization in their endoscopic report writing- ideas about what these metrics should look like are only starting to emerge.

Most endoscopic practice for physicians has moved onto understanding and acknowledging that the skill set requires mentorship with smaller subsets of skills. Walsh (2007) recognized that endoscopic training for pediatrics is like adult endoscopy, and "it requires the

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acquisition of related technical, cognitive and integrative competencies.” Physician researchers like Walsh also emphasize the need for “mentors to be mentored”, which supports the idea for continuing education for all members of the community of practice.

Other endoscopic professions are finding value by integrating these different skills into competency check lists. Mahmood et al. (2016) acknowledged that numbers-based competency approaches vary from program to program in the pulmonology field, and the authors decided that it was time for training programs to have a standardized approach to training in bronchoscopy. To address the need for competency-based assessment of rigid bronchoscopy, they developed an objective, 23-point, checklist-based instrument, the Rigid Bronchoscopy Tool for Assessment of Skills and Competence (RIGID-TASC). The RIGID-TASC highlights how “an important aspect of developing a checklist-based assessment tool is to ensure that it captures the important components or steps of that complex task”, as trainers can break down steps into subcategories.

### *Self-Assessment, Reflection and Standardization*

Currently, all literature that addresses self-assessment for the speech-language pathologist is framed to investigate how SLPs can better introduce self-assessment into their interventions with their patients and clients, across different populations. The positionality of these articles is the speech-language pathologist as a practitioner- not a learner. There are limited studies that approach the topic of SLPs engaging in self-assessment, either within their own discipline or specific to a medical SLP training to complete FEES competency training. As previously mentioned, Miles et al. (2020) designed a tracheostomy training program that did incorporate questions into their model, both for pre-assessment and post-assessment about a different hands-on skill to understand clinician attitudes about learning.

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Like self-assessment, other professions seem to be ahead of speech-language pathologists with using reflection in practice. However, some evidence of its use is emerging, particularly in university clinics at the graduate student level. Ofoe (2023) discussed how it is important to add reflective competence to learning by “examining our clinical actions, whether good or bad,” and by “adding clinical journaling as an important next step” (p. 10). The author went on to recommend an outline for effective journaling, including the following benefits: personal and professional well-being, targeted support, theory-to-practice integration, schema development, clinical attitude, mental well-being and self-awareness.

There is also limited research about the use of standardized documentation in speech-language pathology. To address this gap in the literature for both interpreting and documenting FEES, Curtis (2022) completed a scoping review of FEES-related research. In his work, he described how clinicians may become skilled to pass the endoscope, but they are otherwise subjectively assessing patients and consequently writing reports with this same subjectivity. Curtis emphasized the need for developing a FEES protocol, or a method for standardizing these practices across speech-language pathologists. Components to this protocol include controlling for the test items, test item volumes, numbers of trials, colorants and camera positioning. He also described different metrics for rating the severity of the deficits observed while completing the patient’s endoscopic testing.

While these articles offer a starting point for improving FEES competency training in the field of speech-language pathology, they only discretely address the individual factors that are needed for effective skills training. There is no literature about speech-language pathologists’ learning how to complete FEES with a more comprehensive approach in communities of practice, like physicians. Langmore (2017), the inventor of FEES, stated that “a team approach to

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diagnosis and treatment most likely serves the patient best” and “training should be expanded so that more patients can get the service they need” (p. 34). Robinson (2021) thoughtfully suggested the concept of the “consciously competent FEES supervisor” (p. 210). This type of supervisor “facilitates the development of the trainee’s own conscious competence”, so in turn the trainee begins to build skills early on with new peers in new cohorts on their teams for FEES training.

### *Participation*

Regarding participation, Orsmond et al. (2022) detailed a new framework when they explained how professionals, specifically physicians, are constantly acquiring and learning new skills. However, for long-term success, there continues to be the need for physicians to be involved in a community of practice and have a professional identity. Orsmond designed a new model for successful participation that is appropriate for physicians, which is similar in thought to the program reevaluation that the field of speech-language pathology is proposing for some of its more advanced, hands-on skills in the medical setting.

Similarly, for a group of ENTs, the objective of their study was to design a new training model for otorhinolaryngology (ear-nose-throat, or ENT) physicians (Aryasomayajula et al. (2018). This model was specifically called a “learning-centered induction program.” Junior physicians participated in 4-month rotations to learn skills across different clinical settings with more senior staff. Novel learning strategies were introduced in each setting. The learning model aimed to empower these novice providers to execute their role safely and confidently. Results of participant observation and questionnaires revealed that junior physicians who participated in this trainee-centered approach, with increased guidance and supervision, felt not only more involved in the practice but also more confident in their skills.

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In the field of pulmonology, Mahmood et al. (2016) concluded that “there is a shift in the evaluation and accreditation of educational programs, away from education potential to outcomes and competence assessment, and the achievement of milestones”. The authors went on to define training milestones as “knowledge, skills, attitudes, and other attributes” that one learns gradually when growing from an early learner, to eventually becoming an unsupervised practitioner in a community of practice.

Although Lave and Wenger (1991) intended for the concepts of their Participation Theory to translate to different professions, there is limited general literature about speech-language pathologists and their attitudes regarding their mentorship and learning opportunities. Minimal research has also been conducted framing or positioning SLPs within any theoretical contexts. The following research questions framed for investigation in Section IV appear to be supported by the following conceptual framework: Participation Theory, as learning how to complete FEES ideally involves an apprenticeship model with a community of practice.

### **IV. Project Questions**

#### *Conceptual Framework*

In the literature review, I began by introducing FEES, as well as the VFSS, the complementary examination to FEES. After differentiating between the two tests, I clarified that the scope of this project was FEES competency. The research I presented next in the literature review helped explain ways that medical education trains students, including SLPs. Additionally, the references explained how other practitioners outside of the SLP profession are successfully learning how to become competent in endoscopy skills. Such literature focused on self-assessment, reflection and protocol standardization as variables for success. The conceptual

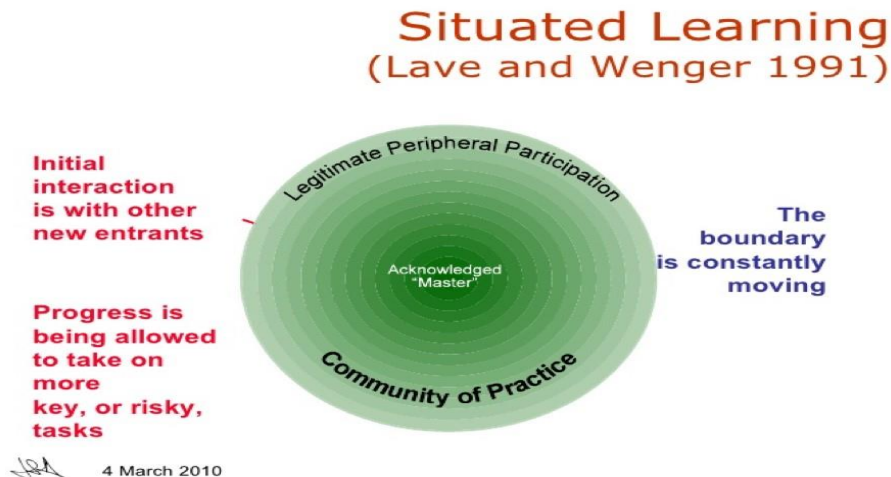


## FEES CLINICAL EDUCATION MODEL

framework of Participation Theory was an appropriate context in which to situate the project questions in this study.

Learning from participation is an evidence-based practice. Focusing on participation is somewhat of a “Newtonian shift” from focusing on methods that use a behavioral or cognitive lens, which Greeno (1998) discussed when he defined the situative perspective. Within any situative investigation, “all arrangements of activity provide situations and practices in which learning occurs, and all learning occurs in some situation” (p. 14). This innovative conceptual framework supports a sub-theory called legitimate peripheral participation, or LPP. Legitimate peripheral participation is defined as “the point that learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of the community” (Lave and Wenger, p. 29). In summary, newcomers participate in communities of practice with old-timers, while moving toward full participation. It is important to understand that the authors suggest this concept to be more of a viewpoint on learning- as opposed to a particular strategy or technique.

**Figure 1: Lave and Wenger (1991)**



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This project focused on Participation Theory and LLP throughout my investigation of FEES competency development at my partner organization, as LLP is generalizable to professions beyond those specialties that the seminal authors initially discussed- including health care workers.

I reviewed relevant literature on Participation Theory, including LLP, noting common themes of self-assessment, reflection and standardized protocols in communities of practice. Collectively, Participation Theory forms the basis of the conceptual framework which proposes direct positive relationships between: participation and self-assessment; participation and reflective practice; and participation and use of standardized protocols in practice. All these tools are relevant in communities of practice. In my study, I explored how speech-language pathologists perceive these variables within their clinical training for FEES competency.

Regarding the use of Participation Theory among healthcare providers- detailed frameworks have existed for some time for physicians to use when they measure how new professionals are constantly acquiring and learning new skills. However, for long-term success, there continues to be the need to be involved in a community of practice and develop a professional identity.

As previously mentioned in Section III, researchers have conducted limited data framing or positioning SLPs within any theoretical contexts. Most research about SLPs situates the SLP as a professional or clinician, not the learner. Furthermore, there is limited literature about speech-language pathologists and their attitudes regarding any specific training and learning opportunities, particularly any conducted with mentorship in communities of practice.

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### *Project Questions*

The study explored the relationships between current approaches to SLP endoscopy training for FEES and participation, as described in the conceptual framework. I knew that there is limited data available about my problem of practice, as it relates to participation or communities of practice. Therefore, I desired to address the gaps in the literature by asking specific project questions. I aimed to explore how SLPs with different levels of FEES experience, who participated in different types of FEES training retrospectively define competency and confidence with this skill. Please refer to the corresponding concept map (Appendix E). As the literature explained, communities of practice thrive with self-assessment, reflective practice and standardized methods. These project questions determined if SLPs value and understand characteristics of a community of practice in endoscopy training (like physicians do). Again, please refer to Appendix C for conceptual mapping. Explicitly, the research questions are:

*Question 1.* How do medical speech-language pathologists currently perceive their experiences with endoscopic training to learn FEES?

*Question 2.* What are current perceptions of *competence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES?

*Question 3.* What are current perceptions of *confidence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES?

As I investigated medical speech-language pathologists' experiences with clinical training to learn endoscopic skills for FEES, I wanted to identify any relationships to other professional training models for endoscopy to understand best practices to transfer to SLPs who are learning how to perform this skill.

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After pursuing these research questions, I anticipated learning that some of the variables predicted to influence speech-language pathologists' competence and confidence would have relevance in the data that I collected, supporting the idea that participating in a community of practice, like physicians do, is an area that the SLP profession should address when training clinicians in endoscopic skills to perform FEES.

### **V. Project Design**

#### *Data Collection*

To further understand FEES competency training for speech-language pathologists, in addition to understanding how participation impacts this professional skill, I needed to complete further research. I collected data from speech-language pathologists who are currently trained in FEES within the organization to explore trends in level of skill experience: none, emerging, competent, trainer, expert. I also wanted to explore trends in models of training: learning FEES with physician supervision only, learning FEES with SLP supervision only, or learning FEES in a collaborative setting with different professionals (a combination of physician with SLP and/or other). Based upon the literature review, there is little qualitative work completed to date on medical SLP experiences with FEES training. From speech-language pathologists across the country, I also collected data about perceptions of different components of skills training for FEES. I collected this data to determine if there are relationships between the levels of experience with FEES and the FEES training environments with the speech-language pathologists' perceptions of competence and confidence with FEES skills.

#### *Instruments and Tools*

I used a focus group protocol to understand speech-language pathologists' perceptions within the entire RWJ organization about their experiences with FEES training (See Appendix

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B). The skill range with FEES competency at RWJ is currently quite variable across the hospital sites. There are new graduates who are hoping to achieve competency under a mentor, SLPs who practice independently without a mentor, and experienced SLPs who would like to mentor other SLPs but feel unable to provide that level of expertise. There are also SLPs who have trained only with physicians, trained only with SLPs, as well as clinicians who have trained collaboratively with both types of endoscopists. As stated above, there is limited exploratory information about this topic. There is also limited qualitative information available about this topic. Therefore, I spoke directly to participants in the organization, since I had access to them for the purposes of this project.

I also distributed a survey to speech-language pathologists through my professional organization, ASHA. The survey items allowed me to gather national information about SLPs' perceptions on FEES competency and confidence, relating to FEES training.

I borrowed a survey tool from the profession of gastroenterology. Kumar et al. (2020) designed this national Delphi survey, which was then used to develop the standard teaching competencies for endoscopy training for GI specialists. Participants were required to be endoscopy education experts (professors, or published authors), which established construct validity for this survey. The authors provided content validity through review of the literature, discussion with experts, and cognitive interviews with teaching faculty. (See Appendix D).

### *Recruitment and Sampling*

For the focus group recruitment, my partner organization hosts a system-wide monthly meeting for all speech-language pathology staff. Currently, the staff meet by way of a virtual invitation. The intent or purpose of the meetings is for all SLP clinicians, from novice to senior level, to connect about topics of clinical practice, or discuss issues relating to quality control or

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standardization of practice across campuses. For some sites where SLPs work in isolation, the meetings are a great way for them to have access to a network of clinicians. More recently, staff have at times used the meetings for mentorship opportunities and emotional support.

With over twelve hospitals in the system, usually six to eight sites log in to attend the meetings. One to two clinicians attend each meeting from any site, because other SLPs must remain treating patients on the hospital floors and units. I anticipated a range from six to sixteen participants to attend the July and August meetings, allowing me to collect qualitative data in a focus group setting (Ravitch and Carl, p. 148). I invited all SLPs within the hospital system who are trained in FEES or currently completing training to be focus group participants. The Director of Rehabilitation at RWJ-Hamilton distributed the invitation via email (See Appendix A). This sample was appropriate to compare to the one to whom I distributed my quantitative survey, because I only gathered quantitative data from SLPs who have training experience with this skill. All SLPs are not interested in or trained in FEES.

### *Survey*

For the survey participant recruitment, I accessed the Special Interest Group (SIG) #13 list serve, which is an online community within ASHA. As of June 2023, there are 5,792 members of SIG 13. This community board posts a daily email, which is a compilation of clinical questions, job notifications, conference registrations, and research surveys that focus on the topic of dysphagia, or swallowing disorders. While not *every* dysphagia specialty SLP performs FEES, *only* dysphagia specialty SLPs perform FEES.

I posted the survey invitation to this list serve on July 1, 2023 (See Appendix C). Within this SIG, only SLPs who are trained in FEES were qualified to complete the survey. This sample was appropriate to compare to the one I investigated at RWJ-Hamilton, because I targeted my

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survey to the SLPs who specialize in dysphagia (fewer than 6,000), rather than sending the survey to all SLPs in the country (almost 183,000). Participants entered their survey responses into Qualtrics (Provo, UT), which is a web-based survey tool.

I collected data from both the focus groups and the survey simultaneously; I ran the focus group meetings in July and August while I invited participants to complete the electronic survey during the entire month of July. Once I received IRB approval of my focus group protocol, I confirmed and facilitated the quantitative data collection at the monthly SLP meetings in both July and August, with sixteen participants attending in total. Once I received IRB approval of my survey, I submitted the participation link to ASHA SIG #13 list serve on Saturday July 1, 2023, leaving it open through Monday July 31, 2023 to allow for an optimal number of responses this summer. I sent a follow-up invitation email to the list serve community on Monday July 17, 2023. The email functioned as a two-week reminder to complete the Qualtrics survey. The email did generate more responses, seventy-three in total. I continued to meet twice per week with my partner organization on-site, and they remained informed of the data collection throughout the course of the project.

### *Reliability and Validity*

After analyzing my focus group protocol responses, I anticipated learning how levels of FEES experience and types of FEES training influence speech-language pathologists' perceptions of their clinical competence and clinical confidence with their FEES skill, supporting the idea that how clinicians are participating in their training process is an area that the SLP profession should understand.

To manage validity in my design, I received feedback from my capstone advisor and ensured that I created my research questions with purpose and without bias. The only lingering

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question regarding threats to validity included my bias or position as a speech-language pathologist.

Regarding the survey tool, the Delphi process itself provided additional content validity, as this process includes completing several rounds of surveys until participants reach consensus on their responses. Finally, entering my survey responses into Qualtrics supported the validity of the response process, because the online system ensured quality control of instrument administration data coding.

## **VI. Data Analysis**

### *Focus Group:*

I investigated medical speech-language pathologists' perceptions about their FEES training, because I want to identify any relationships between SLP level of FEES experience (none, emerging, competent, trainer, expert) and SLP FEES training types or models (physician supervision only, SLP supervision only, or collaborative supervision), with perceptions of clinical competence and clinical confidence with FEES. After asking my protocol questions, I anticipated learning that some of the variables suggested in the literature to influence speech-language pathologists' clinical competence and confidence with FEES would have relevance in the qualitative data that I collected.

To analyze the data, or transcripts from the two different focus group meetings, I used the following approach. First, I completed a member check with the Senior SLP at my partner organization, allowing her to listen to the transcripts of the focus group meetings and determined if we interpreted the data in the same way. This method is also known as "respondent validation" (Ravitch and Carl, p. 176). After completing this task, we confirmed that we did interpret the focus group responses in the same way.



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Due to the manageable size of my focus group transcript, I decided not to use qualitative coding software. I organized my codes and *a priori* categories that became structured under the theme of participation with a simple highlighting process, assigning each code or category a highlighted color in the transcript so that I could consider all preliminary findings as they emerged. These codes and categories formed the qualitative codebook that I developed as a key part of my analysis for the focus group data. See Figure 2 below.

I visually completed a descriptive open coding process when I independently reviewed the transcripts (Ravitch and Carl, p. 258), by first determining words or ideas that the focus group participants expressed with high frequency throughout the meetings when answering questions about *competency* and *confidence*. Then, I completed an axial coding process by thematically grouping the data segments I had identified during the open coding step, better organizing my information into categories (Ravitch and Carl, p. 266). I used three specific categorical codes: *self-assessment*, *reflective practice* and *standardization*- as these concepts all characterize the community of practice learning style. Therefore, participation was the primary thematic code, or theoretical construct of the coding process (Saldaña, 2013). To mitigate data that did not fit into my coding structure, I created a code *other*. This code included other responses that were related to FEES, but respondents provided information outside of the immediate focus about training: reasons that some FEES programs are currently on hold, productivity standards in hospitals and some of the preparatory steps to completing a FEES. Since the organization and I decided that there was still value within some of the *other* code, I will address some of this data in the findings and recommendations.

Additionally, I wanted to know if the SLPs who learned FEES from one supervisor only perceived their skills differently than the SLPs who learned their skills in a community of

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practice. I looked to make any direct comparisons within the five levels of experience with FEES and three types of groups (physician supervision only, SLP supervision only, or collaborative supervision), based on their responses relating to categorical codes. I coded this demographic information beside the codes about communities of practice. Please refer again to Figure 2.

**Figure 2: Qualitative Code Book Table: Excerpted (Carl and Ravitch, 2021)**

Code	Description	Sample Quote
<b>Competence:</b> A trait for FEES, discussed by ASHA	Meeting the requirements to practice a skill, as determined by a mentor or supervisor	“Competence in FEES – goes way beyond passing a scope and more importantly understanding what I see, interpreting it and applying to formulate a treatment plan.”
<b>Confidence:</b> A trait for FEES, discussed by ASHA	Being comfortable with the skill throughout the entire process	“To know what I am and am not able to handle as the treating SLP. For example, if I’m not sure about something, reaching out to others for opinions/feedback is important. Likewise, if something feels completely out of my knowledge base or skill set, then I should be confident (and not insecure) that referring to another SLP with more experience is best for the patient.”
<b>Self-Assessment:</b> A trait of LLP, or community of practice	Considering personal progress while advancing through a skill set	“The training I am currently receiving includes experienced SLPs but also is catered to how I learn with frequent check-ins and self-assessment.”
<b>Reflective Practice:</b> A trait of LLP, or community of practice	Learning about oneself while advancing through a skill set	“I think my expectation for a FEES program was less structured, whereas the training I am receiving is more structured- which I think helps me meet clear weekly/monthly goals.”
<b>Standardization:</b> A trait of LLP, or community of practice	Translating local information into collective knowledge across operations and regions	“I am hoping there is more standardization and support for SLPs during FEES training. I think standardizing a training process would make it more clear to SLPs if they are/are not clinically competent and knowing when to get more support.”
<b>Other:</b> Information that does not fit neatly into the self-assessment, reflective practice or standardization codes	Reasons that some FEES programs are currently on hold	“There have been a lot of changes this year and I have to train the whole new staff. The FEES has taken a little bit of the back-burner for now, but I hope to get there soon.”
	Productivity standards in hospitals that impact FEES training	“I think the hardest part of FEES training is finding time to complete hands on training and assist/observe real studies when productivity standards make it feel like there is not enough time in a workday.”
	Some of the preparatory steps to FEES training	“I really think it’s about the availability of the patients...do we have a caseload for it [FEES training]? Also, if there’s not a supervising SLP then it’s not an ideal situation for us.”

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### *Survey:*

I transferred my Qualtrics survey data to SPSS statistical software, which is compatible with Qualtrics. I first completed descriptive statistics, which included frequency counts for the *levels of experience with FEES* and the *type of FEES training*. I also included means, modes and standard deviations based on these responses, as well as from the responses in the Likert Scale that assessed the 18 proposed competencies for endoscopic training.

I used both non-parametric and parametric testing, specifically Chi-Square and two-way ANOVA, which allowed me to run data and compare overall survey responses. I first completed a Chi-Square Test to directly compare the responses to the two demographic questions about *level of experience with FEES* with five groups (none, emerging, competent, trainer, expert) and *type of FEES training* with three groups (physician supervision only, SLP supervision only, or collaborative supervision). I will share significant findings between the responses with descriptive graphical analysis.

I also completed a two-way ANOVA to compare responses to the same two demographic questions about *level of experience with FEES* and *type of FEES training*, along with any interaction effects for these independent variables. The ANOVA also compared the Likert responses that assessed the 18 proposed competencies for endoscopic training, which addressed clinical competency and clinical confidence in its sub-questions. The 18 proposed competencies for endoscopic training functioned as a dependent variable in the ANOVA. Additionally, I coded each of these sub-questions, if applicable, in SPSS to correspond to one of the following concepts: *self-assessment, reflective practice, and standardization*. These concepts are embedded throughout the survey. The results of the ANOVA revealed any additional statistically significant

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findings that I am looking to investigate. Again, I will share these results with statistical graphics in my findings section.

### *Triangulation of Multiple Data Collection Methods*

As previously stated, I first exported the data from my Qualtrics survey into SPSS and completed the limited amount of cleaning that the data set required so I could begin to run statistical analyses: Chi-Square and two-way ANOVA. I then reviewed focus group responses from the July and August meetings by beginning with open coding and axial coding after completing the member check with my partner organization (Johnson, 1996). My partner organization did not have any concerns about the accuracy or reliability of the focus group transcripts during this review.

I then proceeded with a data source triangulation between the survey and the focus group to determine if what I was “observing and reporting carried the same meaning when found under different circumstances” (Johnson, 113). I triangulated my results by looking at the data reported by all five experience groups (none, emerging, competent, trainer, expert), compared to the three training groups (physician supervision only, SLP supervision only, or collaborative supervision) in both the survey responses and in the focus group responses. I determined if there was anything significant about their perceptions about clinical competency and clinical confidence. Then, I specifically analyzed questions about participation or communities of practice relating to key concepts that are embedded in both the survey tool and the focus group protocol: *self-assessment*, *reflective practice* and *standardization*. After this process, I was better able to understand if and how participants valued learning FEES in a community of practice.

I was concerned that although I have a large population to survey, I still could not predict or guarantee a certain number of respondents for my sample size- which could have impacted my

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validity. I was also concerned that I would have disproportion in size within the groups that I compared in the survey. For example, I had more respondents with emerging FEES experience, compared to respondents with experience training others with the skill. Also, I had fewer respondents who trained with a physician, compared to respondents who trained in the other learning models. I will address these concerns by explaining these potential types of outcomes as limitations in my study.

## **VII. Findings**

This quality improvement study focused on three research questions about clinical training for FEES in the field of Speech-Language Pathology: How do medical speech-language pathologists currently perceive their experiences with endoscopic training to learn FEES? What are current perceptions of *competence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES? What are current perceptions of *confidence* to a medical speech-language pathologist learning to train in endoscopic skills for FEES? The study resulted in four findings:

### *Descriptive Statistics*

Below is an overview of the descriptive statistics that I generated in SPSS. This data visualization in Tables 2 and 3 shares the mean and standard deviation of both the types of FEES training and the level of FEES experience of the 56 complete survey responses.

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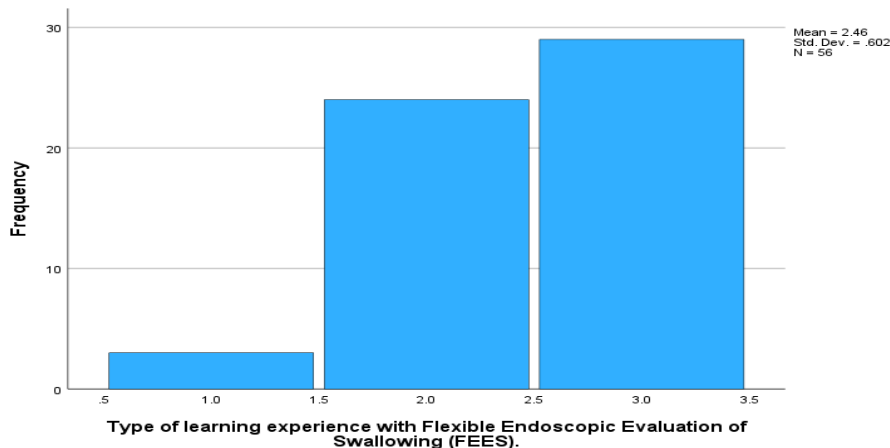
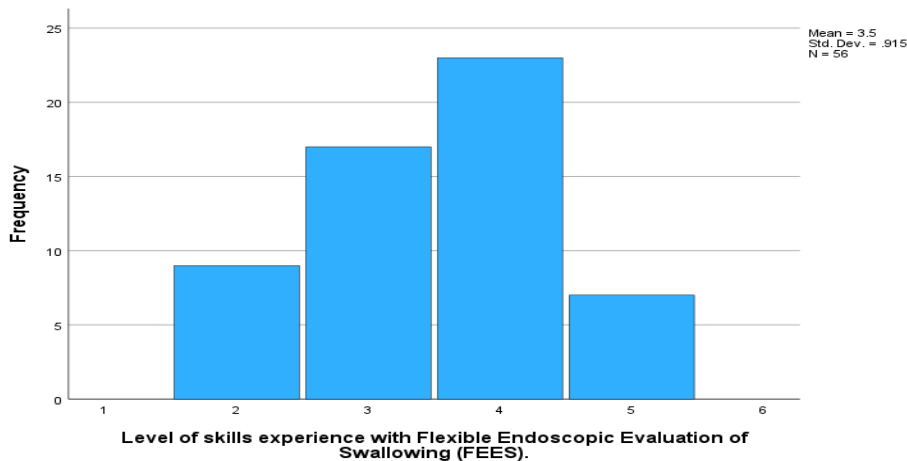
**Table 2: Descriptive Statistics for Type of FEES Training**

Table 2 shows that most of the participants in the survey had SLP only FEES training (24) or collaborative training (29). Only (3) participants completed FEES training with a physician only. This information suggests that most SLPs do not train in a physician only model and instead train with other SLPs or in some type of learning community. This information also suggests that SLPs who FEES train collaboratively, or at least with other SLPs, are interested in this topic.

**Table 3: Descriptive Statistics for Level of FEES Experience**

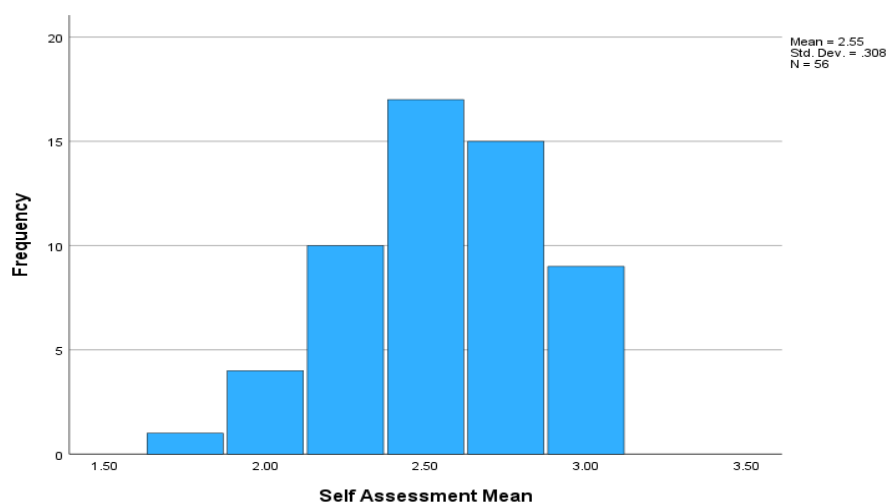
## FEES CLINICAL EDUCATION MODEL

Table 3 shows a split in group sizes between those with emerging FEES experience (9) and those who are experts (7), from those who are competent with FEES (17) and those who teach or train others with FEES (23). What I learned from these statistics is there is variance in both the participants' types of FEES training and the level of FEES experience. However, most participants may care about collaboration and have experience already with FEES- which is indicative of an understanding or interest in the topic of improving competence or confidence with the skill at the clinician or trainer level.

***Finding One: Speech-Language Pathologists value all aspects of their training, but standardized and reflective practice are more important than self-assessment.***

The participants' perceptions about the importance for different skills embedded within FEES training were variable. Table 4 shows the mean responses to the 6 questions in the survey mapped to practices for self-assessment. Participants rated 5 of the 6 skills as either important or essential.

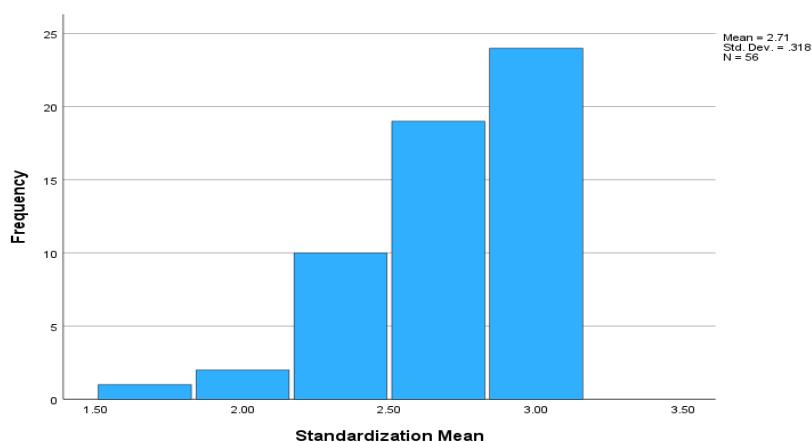
**Table 4: Importance of Self-Assessment during FEES Training**



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Like self-assessment, the participants perceived standardizing FEES skills training as something of value. Table 5 shows the mean responses to the 5 questions in the survey mapped to practices for standardization. Participants rated 4 of the 5 skills as either important or essential.

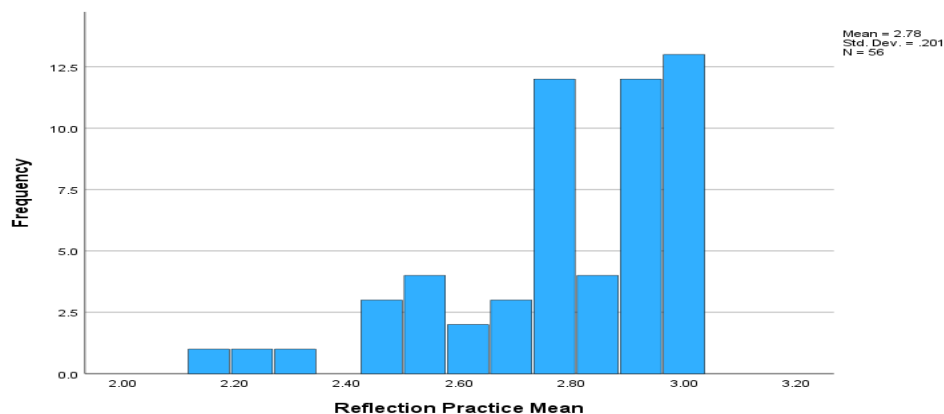
**Table 5: Importance of Standardized Practice with FEES Training**



The participants had more variance in their mean responses regarding their perceptions of implementing reflective practice with FEES training. Table 5 shows the mean responses to the 11 questions in the survey mapped to practices for standardization. What was an interesting result was variability with the response to Question 10: “Monitors and responds to the trainee’s cognitive load”. This question was also the one question about which the physician experts did not reach consensus in Kumar’s original Delphi survey (2020).



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**Table 6: Importance of Reflective Practice with FEES Training**

***Finding Two: Speech-Language Pathologists who complete FEES collectively recognize value in a community of practice, or a participatory model for learning endoscopy.***

There was evidence across the transcripts that SLPs who have trained with physicians only, SLPs only, as well as those clinicians who trained in a collaborative model all voiced an interest or desire to learn FEES in more of a collective setting. A clinician who trained for FEES with a physician only shared, “I didn’t have a speech pathologist training me on strategies when scoping- I only did 25 scopes with an ENT. I think it does come with a little bit of a different perspective.” Another clinician who trained for FEES with (another) SLP only recognized the strengths of the SLP, “By the time I came to the hospital, I found that the speech therapist supervising me was more helpful than the ENTs. I feel like the ENTs were just there to observe but having a speech pathologist be there to supervise me and give me directions helped me out with what to do next. In addition to finding out how to write the report, I think that that was much more helpful than having the ENTs. Overall, it’s a good experience just to see the different perspectives of ENTs and speech, too.”

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However, other SLPs spoke about the overall value of collaboration in FEES training: “While I was mostly learning from other experienced SLPs I did feel like I was helping other hospital staff understand FEES, why we use it, what it allows SLPs to do, etc. while we were in the process of getting the program in place. Even though I didn’t have patient experience with FEES, I do think having unique knowledge about swallowing and FEES helped educate other staff in the hospital. This seemed particularly helpful with nurses and doctors who, in my experience, are more at the forefront of noticing swallowing problems and ordering speech services.” This last learner recognized the contributions of different team members in FEES training, outside of even the physician and the SLPs.

***Finding Three: Speech-Language Pathologists who complete FEES collectively recognize value in self-assessment and standardized practice for competency with their training.***

While a statistical review of my TWO-WAY ANOVA revealed that while SLPs had more variance in their responses about reflective practice: there was statistical agreement on *self-assessment* with FEES across skill level and learning type.

**Table 7: Tests of Between-Subjects Effects with Self-Assessment**

Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
FEES Learning Type	.518	2	.259	2.883	.066
FEES Skill Level	.305	3	.102	1.133	.346
Interaction	.440	5	.088	.980	.440

There was also statistical agreement on *standardization* of FEES practices across skill level and learning type.

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**Table 8: Tests of Between-Subjects Effects with Standardization**

Variable	Type III Sum of Squares	df	Mean Square	F	Sig.
FEES Learning Type	.252	2	.126	1.238	.300
FEES Skill Level	.114	3	.038	.374	.772
Interaction	.345	5	.069	.677	.643

There was also triangulating evidence in the transcripts that SLPs, across type of FEES training and level of FEES experience- expressed comments about self-assessment as an indicator for skills competence. They also spoke consistently about the need for standardization with this skill.

Many clinicians defined competence in general as learning requirements to practice FEES skills with a mentor: “Competence in FEES – goes way beyond passing a scope and more importantly understanding what I see, interpreting it and applying to formulate a treatment plan.” While connecting the need for self-assessment to competency, many of the focus group participants valued considering personal progress while advancing through their FEES skills set. One new learner who was participating in a collaborative training model shared, “The training I am currently receiving includes experienced SLPs but also is catered to how I learn with frequent check-ins and self-assessment.”

Across types of FEES training and levels of FEES experience, SLPs in the focus group also related standardization in FEES practice to competence. Among many other responses, a learner with over twenty-five years of FEES experience, who trained in a physician only model elaborated about standardization: “I am hoping there is more standardization and support for SLPs during FEES training. I think standardizing a training process would make it more clear to SLPs if they are/are not clinically competent and knowing when to get more support.” This comment was remarkable, because it highlighted how experienced clinicians understand the

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value in a community of support- regardless of whether they received the resource during their own training process.

***Finding Four: Speech-Language Pathologists who complete FEES collectively recognize value in self-assessment and standardized practice for clinical confidence with this skill.***

I already learned from the survey's TWO-WAY ANOVA about agreement for self-assessment and standardization across FEES skills level and learning type. For data triangulation, there was also evidence in the transcripts that SLPs, across type of FEES training and level of FEES experience- expressed comments about self-assessment as an indicator for skills confidence. They again spoke consistently about the need for standardization with this skill.

Many clinicians in the focus group defined clinical confidence with FEES as “being comfortable with the skill throughout the entire process.” Like competence, many of the focus group participants valued the need for self-assessment to understand comfort with the FEES process. One newly competent learner who had participated in a collaborative training model shared, “I need to know what I am and am not able to handle as the treating SLP. For example, if I'm not sure about something, reaching out to others for opinions/feedback is important. Likewise, if something feels completely out of my knowledge base or skill set, then I should be confident (and not insecure) that referring to another SLP with more experience is best for the patient.” For this learner, she was able to make the connection between how self-assessing confidence ultimately impacts the quality of the FEES and her patient care.

Across types of FEES training and levels of FEES experience, SLPs in the focus group also related standardization in FEES practice to confidence, desiring to translate local information into collective knowledge. Among many other responses, a learner with over twenty-five years of FEES experience, who trained in a physician only model elaborated about

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standardization: “I think it's a little bit intimidating when you're sitting there with this very fancy scope going up patients' noses. At first, it takes a lot of confidence... and you have to be very secure in your ability to also perform a new task that we've never done before and you have to be proactive. There's no set standardization so my training is different from someone else's training. What makes me more competent than you? I don't think there's an answer to that. I think it would be nice if there was some kind of standardization.” This learner’s commentary directly highlights how without standardization in FEES training protocols, SLPs have been left to rely on personal self-confidence, which should not be a substitute for clinical confidence.

### **VIII. Recommendations**

After reviewing the findings from my data collection, I was able to develop recommendations that were appropriate for presentation to RWJ Hamilton, and which aligned with the project questions in the original problem of practice about improving FEES competency training for SLPs in the organization.

#### ***Recommendation One: Design a logic model for participation in a community of practice during FEES training***

This performance improvement project allowed me to identify that the approach to FEES training currently varies from campus to campus within the RWJ health system. Each site’s training was dependent upon whoever geographically was available and willing to guide other clinicians through the training process from novice to competent. Since trainer options were limited, the facilities often conformed to their only available training model: physician only, SLP only. All campuses required clinicians to complete their 25 scope passes- but beyond that mandate, the training process varied. As a result, not all clinicians have the same level of competence, confidence or ability to transfer the skill onto the next new clinician.

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Based on the responses in the survey and the common theme in the focus group about communities of practice, RWJ Hamilton would benefit from creating and sharing a visualization about the approach to participation that they have adapted for use in FEES training. I have suggested designing a logic model that is accessible through a shared folder for all SLPs and rehabilitation managers. For sites that are still preparing to purchase equipment and plan a competency program, this model will assist with illustrating the level of involvement for the different participants in the hospital community.

The model should include all inputs, outputs (both activities and participation) and outcomes (short, medium and long). The model should highlight all the different participants and ultimately stakeholders in the training model, since the collaborative training model that RWJ-Hamilton recently introduced with training new staff was characteristic of a community of practice. While there was a SLP leading the training, there was a physician available for peripheral support, and many volunteers from other departments (nurses, nursing aides, managers) created opportunities for clinicians to practice FEES procedures during their transition from novice to competent with this skill. In the process, these team members learned about FEES, how to refer appropriate patients, and how to encourage and motivate their patients to participate in the procedure with stories of their own FEES experiences. This logic model is available in Appendix E of this report.

### ***Recommendation Two: Revise the current FEES competency process to better align with standardization in physician training***

While there are processes of tracking and attaining FEES competency within the RWJ system, this performance improvement project highlighted how the training currently varies from hospital campus to hospital campus. Most of the campuses require clinicians to complete some

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type of written anatomy test- but not the same test. Mentors track scope passes on log forms of their choice. There is no master form to track and monitor skills or recommend intervention.

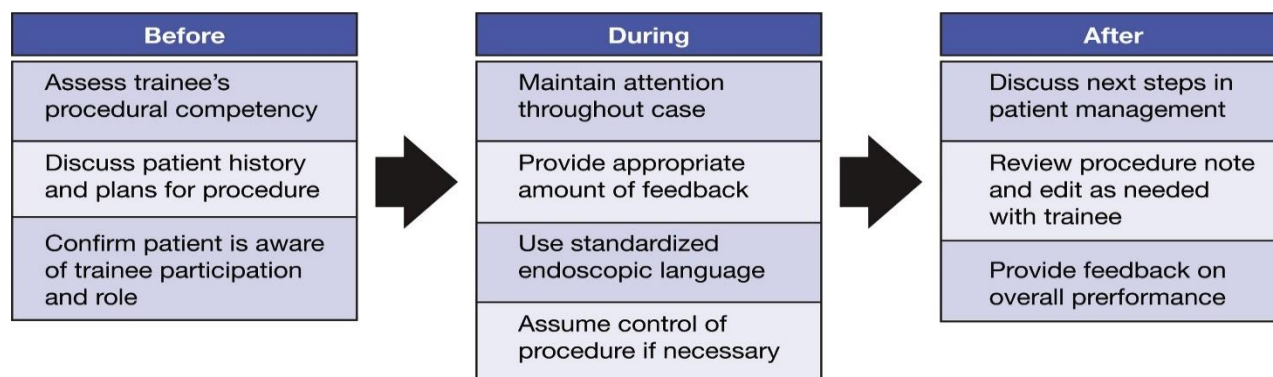
Based on the responses in the survey and the common theme in the focus group about standardization, RWJ Hamilton would benefit from implementing several new documents for competency. I have suggested designing a standard form for each clinician, for mentors to track and record the numbers of FEES passes while obtaining the numbers-based requirement for competency (which is also a state requirement in New Jersey). This form is available in Appendix F of this report.

Also based upon the responses in both the survey and in the focus group about self-assessment, RWJ Hamilton would benefit from implementing an opportunity for clinicians to self-assess before beginning their FEES competency training. Clinicians should also complete a self-assessment again as a final step to completing FEES competency. I have suggested the pre- and post-assessments that are embedded in ASHA's Dysphagia Competency Verification Tool, which is also available in Appendix G of this report.

I also reviewed the anatomy exams in use at other RWJ sites and selected one that included competency with the anatomy of the nose- not just the hypopharynx.

Finally, I recommended borrowing Kumar's Competency Checklist to be the master document for monitoring and tracking competency skills (cognitive, technical, safety), after modifying any terms from GI-specific language to SLP-specific language about endoscopic training. See Kumar's competency framework below:

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**Figure 3: Kumar (2020)**

***Recommendation Three: Develop a FEES report template in the RWJ electronic medical record (EMR) for standardized documentation***

While there are FEES reports available within the RWJ system, this performance improvement project also highlighted how the FEES documentation currently varies from hospital campus to hospital campus. All campuses require clinicians to bill or charge for a FEES and complete some type of report to upload to RWJ's electronic medical record (EMR)- but not necessarily the same report. As a result, not all clinicians document the same way, and not all mentors within the organization train with the same approach to report writing. Therefore, not all clinicians receive the same feedback about improving FEES documentation.

Based on the responses in the survey and the common theme in the focus group about standardization, RWJ Hamilton would benefit from implementing a standardized report for competent FEES clinicians. I have suggested designing a master FEES report template that is accessible through the EMR for all SLPs, once they are deemed competent to complete FEES. The report should include all appropriate scripted narratives and auto fills, allowing the clinician time to focus on writing a subjective description about the passing of the scope through the nose



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and what the clinician visualized. The clinician would then move onto completing standardized rating scales and metrics about the quality of the patient's swallowing performance. Most importantly, these metrics would be evidence-based and well known in the clinical practice of FEES. The report would next include an option for the clinician to select recommendations. Finally, the clinician would choose the patient's therapeutic goals from an established list of goal options. This form is available in Appendix H of this report.

### **VIII. Limitations**

Any performance improvement project has limited applicability beyond the partner organization. This examination of Robert Wood Johnson: Hamilton Campus's FEES competency program is no different. Though other sites of RWJ may recognize the challenges that RWJ-Hamilton faces and may benefit from my case study, contextual differences may render its findings inapplicable. Specifically, health care systems in certain geographic areas may not be able to use some or all the recommendations that I provided in this project if any current state regulations preclude them from doing so.

In addition, there were limitations relating to my data collection. The sample size of 73 participants that I had available to analyze from my survey was a small number. With the potential for over 6,000 responses- this participation may have been related to the time of year that I distributed the survey (summer, when people were away on vacation or not actively checking email accounts if they worked in academic settings). When I think about how the sample impacted the findings in this project, the sample may not be representative of all the speech-language pathologists' perceptions who complete FEES.

Lastly, there were limitations relating to the uneven distribution of questions in the survey that I could align with the traits of community of practice in health care: self-assessment,

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reflective practice and standardization. I borrowed Kumar's endoscopic competency training survey to capitalize on his systematic and methodological approach to endoscopic training for physicians. While I found it useful for the design of this performance improvement project, there was not a perfect mapping of the training skills to a learning in a community of practice.

### **X. Conclusion**

This quality improvement study revealed that medical speech-language pathologists desire to complete their FEES training in communities of practice to optimally develop clinical competency and clinical confidence. Herein lies an opportunity for RWJ-Hamilton, and its extended system of 12 acute care hospitals, to better serve its SLPs and ultimately its patient populations and larger communities.

RWJ-Hamilton deserves its reputation for excellence, including more recent recognition for program development. RWJ wants its employees to develop into clinicians who challenge themselves to learn more advanced skills, which provides both employee satisfaction and optimal patient care. RWJ understands that its FEES program needed development, and its initiative to improve the current FEES clinical education model speaks to the organization's commitment to continuous improvement. Agreeing to work with me in partnership on this project was an intuitive next step for RWJ, as they desired to make their FEES program for SLPs as reputable as some of the pre-existing programs in the Rehabilitation Department.

RWJ-Hamilton is already making effective use of the findings and recommendations from this investigation. I anticipate that they will engage in ongoing refinement of their FEES clinical training model, as needed. In the long term, RWJ's interest in ongoing improvement will help people in the community recognize the value and utility of the FEES program.

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**Appendix: Visuals and Instruments***Appendix A**Focus Group Invitation*

## Focus Group Invitation:

As part of my doctoral studies at Vanderbilt University, I am working with Robert Wood Johnson University Hospital- Hamilton Campus as they consider how to improve upon competency training for Flexible Endoscopic Evaluation of Swallowing (FEES). I would like to invite all system-wide Speech-Language Pathologists to participate in a focus group to discuss experiences with FEES training. All levels of training experience (novice to experienced) are welcome to participate.

The Zoom meeting, scheduled for July 12, 2023, will take approximately 45 minutes.

Participation is voluntary and your response will be kept anonymous. You will have the option to not respond to any question(s) that you choose.

Please respond to Lindsay O'Brien, Senior Clinician, by July 10, 2023 to let me know whether you are willing to participate. If there is someone else at your hospital who would be a better contact, please let me and Lindsay O'Brien know.

If you have any questions about the project, please contact the Principal Investigator, Susan M. Pattay, via email at [susan.m.pattay@vanderbilt.edu](mailto:susan.m.pattay@vanderbilt.edu) or my faculty advisor, Dr. Courtney Preston at [courtney.e.preston@vanderbilt.edu](mailto:courtney.e.preston@vanderbilt.edu).

Sincerely,

Susan M. Pattay

Doctoral Student at Vanderbilt University



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*Appendix B**Focus Group Protocol*

## Focus Group Protocol:

A Begin with one facilitator providing introductory comments:

- Welcome and thank everyone for volunteering to participate.
- Introduce yourself, the cofacilitator, and the note taker.

B Give a very brief overview of the project and goals for the focus group or interview. For example, “We are talking to you to find out about your experiences with FEES training and how that process prepared you to perform and possibly teach that skill to others.”

C Give participants information about the process: one person talks at a time, it is acceptable to pass on a question, everyone has a right to talk, there are no right or wrong answers.

D Allow participants the opportunity to ask any questions.

- 
1. How would you describe the FEES training process in which you participated?
  2. Could you describe your role(s) / involvement in this training process?
  3. How well do you think your FEES training prepared you for this skill set?
  4. How did your FEES training process compare to your expectations? Why?
  5. What makes a FEES training process easy or hard?
  6. What characteristics of a FEES training process make the experience effective or not?
    - Self-assessment? Reflective Practice? Standardization?
  7. What does clinical *competence* in FEES mean to you as an SLP in 2023?
  8. What does clinical *confidence* in FEES mean to you as an SLP in 2023?
  9. If you knew then what you know now, how might your training process have been different?
  10. What do you see happening over time to FEES competency training for SLPs?

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### *Appendix C*

#### *Survey Invitation*

##### Survey Invitation:

If you are a FEES clinician, then please consider participating in the following doctoral research study.

This study will be exploring speech-language pathologists' perceptions about best practices for Flexible Endoscopic Evaluation of Swallowing (FEES) training for clinical competency.

We will also be examining if specific variables, implemented in other professions where there are evidence-based endoscopic competencies, have value to transfer and implement in FEES competency training models.

Clinicians with all levels of FEES experience are welcome to participate through July 31, 2023.

Vanderbilt University Qualtrics software will gather all data through an anonymous survey, IRB # 231050. We estimate that the survey will take approximately 10 minutes to complete.

If you are interested in participating, please access the survey using this link:

[https://peabody.az1.qualtrics.com/jfe/form/SV\\_2mImw46psbHOb3w](https://peabody.az1.qualtrics.com/jfe/form/SV_2mImw46psbHOb3w)

If you have questions or would like additional information, please email: [susan.m.pattay@vanderbilt.edu](mailto:susan.m.pattay@vanderbilt.edu).

Thank you for your time!

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*Appendix D**Competency Survey***Endoscopy Teaching Competencies**

This survey will explore perceptions about best practices for clinical competency training in Flexible Endoscopic Evaluation of Swallowing (FEES).

Please indicate your years of experience working as a speech-language pathologist (SLP).

- 0-5 years
- 6-15 years
- 16-25 years
- 26-35 years
- 35+ years

Please indicate which type of learning experience you had with Flexible Endoscopic Evaluation of Swallowing (FEES).

- physician supervision only
- speech-language pathologist supervision only
- participatory supervision with collaborating professionals (physician, SLP, other)

Please indicate which level of skills experience you have with Flexible Endoscopic Evaluation of Swallowing (FEES).

- I have no experience or training with this skill.
- I have emerging experience or training with this skill, but I can not complete FEES independently.
- I am competent in FEES and I am able to complete this skill alone.
- I am competent in FEES and I am experienced with training other clinicians in this skill.
- I am competent in FEES and I am an expert on this topic, with advanced understanding of this skill (an expert is defined here as a trainer, researcher, or presenter on FEES).

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The following (18) proposed competencies are for endoscopic training.

Please recall your own learning experience with FEES and rate each proposed training competency as being not important (1), important but not essential (2), or essential (3).

	Not important (1)	Important but not essential (2)	Essential (3)
1a. Assesses trainee's current procedural competency: If earlier in training, asks trainee about familiarity with procedure (eg, number of procedures performed) and/or objective measures of past performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1b. Asks trainee if he or she is focusing on a particular skill (eg, assessing the vocal cord medialization)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2a. Sets expectations for the procedures: Establishes how much of the case the trainee can expect to perform	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2b. Discusses the circumstances under which the mentor will take over (and subsequently return the scope if possible)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>

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	Not important (1)	Important but not essential (2)	Essential (3)
3a. Discusses a plan for delivering feedback: Determines when feedback will be given (eg. after each procedure and/or at end of session)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3b. Asks trainee if he or she wants feedback on a particular topic or skill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4a. Discusses the patient history and plan for procedure with trainee: Discusses indication and appropriateness for procedure, patient's relevant past medical and surgical history, prior endoscopic procedures including anesthesia requirements, anticipated need for intervention (eg, referral), and/or any unusual aspects of the case with the trainee	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4b. Reviews steps of more complex procedures with the trainee	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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	Not important (1)	Important but not essential (2)	Essential (3)
5a. Confirms patient is aware of trainee's participation and role: Establishes that patient understands role of trainee vs mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6a. Optimizes room configuration for trainee: Checks bed and screen height	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
6b. Ensures proper patient positioning for procedure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7a. Ensures trainee has discussed anticipated needs for the procedure with coordinating staff (nurse and/or technician): Confirms trainee has checked endoscope and informed staff of any identified issues	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
7b. Ensures trainee has communicated anesthesia plan and anticipated interventions with staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Not important (1)	Important but not essential (2)	Essential (3)
8a. Maintains attention throughout the case: Stays positioned next to trainee and ready to assist	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8b. Monitors trainee's awareness of patient comfort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8c. Avoids distractions from other devices (eg, smartphone, computer)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9a. Provides appropriate amount of feedback during procedure: Delivers both positive and corrective feedback	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9b. Guides trainee through procedure (eg, how to navigate through a tight turbinate, when to advance the scope), as necessary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10a. Monitors and responds to trainee's cognitive load: Looks for cues that suggest cognitive overload (eg,	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Not important (1)	Important but not essential (2)	Essential (3)
sighing, frustrated vocalizations, repeating same maneuver repeatedly without success)			
10b. Does not overwhelm trainee with feedback while he or she is completing a complex task	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10c. Advises trainee to STOP to be able to receive feedback if critical to deliver during procedure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10d. Addresses distractions in the environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11a. Uses standardized endoscopic language to guide trainee through procedure: Advance, pull back, toggle up, toggle down, turn left, turn right, release toggle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12a. Assumes control of procedure when trainee is unable to progress or if patient safety concerns arise: Does not allow trainee to struggle for an indefinite	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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	Not important (1)	Important but not essential (2)	Essential (3)
period of time (particularly if repeating same maneuver without success)			
12b. Asks trainee to think aloud on how to troubleshoot a difficult segment before taking the scope	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12c. If needs to take over procedure, verbalizes what he or she is doing differently to complete the task (eg, advance scope)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
13a. Maximizes time spent by trainee performing procedure: Returns the scope to the trainee after navigating through difficult section	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13b. If chooses to not return scope, communicates reason as to why	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
14a. Discusses next steps in management for the patient: Asks trainee what he or she would recommend for the patient based on the endoscopic findings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Not important (1)	Important but not essential (2)	Essential (3)
14b. Ensures plan is communicated to the patient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15a. Reviews procedure notes and provides feedback as needed to trainee: If makes significant edits to notes, finds time to discuss with trainee (either after procedure or discussion)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16a. Provides feedback to the trainee: Asks trainee to reflect on what went well and what could be improved	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16b. Provides own assessment of trainee's performance in context of case difficulty and timeline of training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16c. Links feedback directly to observed procedure(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17a. Sets learning objectives for future sessions: Makes an action plan for trainee to improve (eg, provides resources or instructions)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

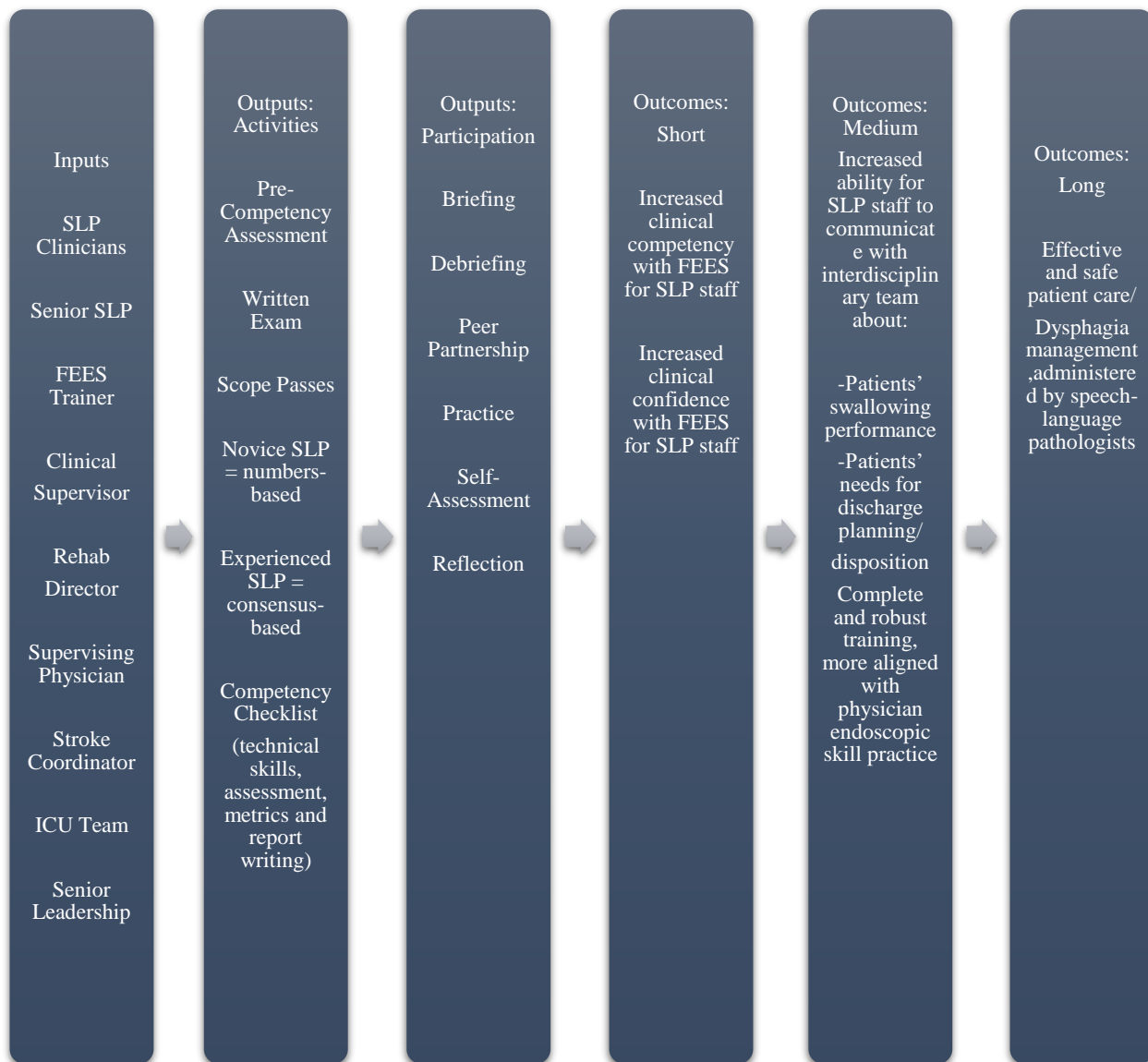
## FEES CLINICAL EDUCATION MODEL

	Not important (1)	Important but not essential (2)	Essential (3)
18a. Asks trainee for feedback on the session: Provides trainee with opportunity to reflect on teaching style	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
18b. Seeks out trainee's perspective on how to improve learning environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

FEES CLINICAL EDUCATION MODEL

Appendix E

FEES Community of Practice Logic Model





## FEES CLINICAL EDUCATION MODEL

## Appendix G

## Self-Assessment Form

## Privilege: Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

CPT: 92612 Please see <https://www.asha.org/practice/reimbursement/coding/SLPCPT/> for updated coding guidance.

Applicant name: \_\_\_\_\_

Date training initiated: \_\_\_\_\_ Date competency attained: \_\_\_\_\_

Preceptor name(s): \_\_\_\_\_

Key: SA=Self-Assessment PA =Preceptor Assessment T = Training C =Competent

Instructions: Applicant will perform procedure with supervision from preceptor until the applicant demonstrates the expected standard of care and skills needed to independently perform the procedure with each age group requested.	SA: Baseline rating	PA: Date competency demonstrated	
<b>Procedure-Related Skills</b>	<b>SA Rating</b>	<b>PA Rating</b>	<b>Date</b>
Recognizes anatomical landmarks as viewed endoscopically			
Identifies the indications and contraindications for FEES, including who is and is not a candidate for the study			
Identifies and explains the risks, benefits, and precautions related to FEES			
Identifies the elements of a comprehensive FEES			
Adapts evaluation, as appropriate, for patient's medical diagnosis or response (e.g., BOLT, esophago, cardiac, etc.)			
Operates, maintains, and disinfects the equipment needed for an endoscopic examination			
Applies topical anesthetic when clinically appropriate and when permitted by the licensing regulations of individual states			
Inserts and manipulates the endoscope that obtains desired view in a manner that causes minimal discomfort and prevents unpleasant complications			
Manipulates the endoscope within the hypopharynx to obtain the desired view			
Directs the patient through appropriate tasks and maneuvers as required for a complete and comprehensive examination			
<b>Procedure-Related Skills</b>	<b>SA Rating</b>	<b>PA Rating</b>	<b>Date</b>
Demonstrates knowledge of medical contraindications, impending signs of patient distress, and appropriate actions to take if complications arise			
Detects and interprets abnormal findings in terms of the underlying anatomy and pathophysiology			
Assesses vocal fold mobility and laryngeal closure for phonation, breath holding, and cough			
Assesses secretion management, quantity and location of pharyngeal residue, pharyngeal constriction/contraction symmetry, and swallow initiation			
Presents various bolus consistencies, dyed green for contrast, based on clinical assessment			



This tool is consensus-based and provided as a resource for members of the American Speech Language-Hearing Association (ASHA). Information included in this tool does not represent official ASHA policy. Portions of this tool are reprinted with permission from the American Board of Swallowing and Swallowing Disorders (ABSSD).



## FEES CLINICAL EDUCATION MODEL

*Appendix H**FEES Report Template***Flexible Endoscopic Evaluation of Swallowing (FEES) Study (CPT 92612)**

**REASON FOR REFERRAL:** This patient was referred for FEES by Dr. \*\*\* given chief complaints of \*\*\*.

**SUBJECTIVE:** @NAME@ is a @AGE@ @SEX@ presenting today with complaints of \*\*\*.

Oral motor/CN exam: Oral structure and function were assessed. Facial symmetry was grossly intact. Dentition was in fair condition. Labial ROM and strength were WFL. Mandibular ROM and strength were WFL. Lingual ROM and strength were WFL.

**OBJECTIVE:**

A flexible fiberoptic nasoendoscope was passed transnasally through the \*\*\* nasal passage to view the nasopharynx, oropharynx, hypopharynx, and larynx.

Velopharyngeal port: \*\*\*

Observations of hypopharynx/larynx prior to bolus presentation: \*\*\*

DDK tasks prior to bolus presentation:

- BOT retraction: \*\*\*
- Pharyngeal Squeeze/Medialization: \*\*\*
- Glottic closure: \*\*\*
- Breath hold: \*\*\*
- Throat clear: \*\*\*

Secretions: \*\*\*

Secretions Severity Rating Scale

0= Normal

1= Secretions outside the laryngeal vestibule that are cleared with spontaneous swallows

2= Deeply pooled secretions or any transition between 1 and 3

3= Secretions in the laryngeal vestibule that are not cleared

Textures Administered: \*\*\*

Method of presentation: Self-administered by clinician/patient/other

**ASSESSMENT:**

Bolus Containment: \*\*\*

Posterior Bolus Propulsion: \*\*\*



## FEES CLINICAL EDUCATION MODEL

Epiglottic Inversion: \*\*\*

Hyolaryngeal elevation: \*\*\*

Base of tongue to posterior pharyngeal wall contact: \*\*\*

Pharyngeal contraction/stripping wave: \*\*\*

Pharyngeal Residue: \*\*\*

## Yale Pharyngeal Residue Rating Scale

For **vallecula:**

- 0= None 0% No Residue
- 1= Trace 1-5% Trace coating of mucosa
- 2= Mild 5-25% Epiglottic ligament visible
- 3= Moderate 25-50% Epiglottic ligament covered
- 4= Severe >50% Filled to Epiglottic rim

For **piriform sinus:**

- 0= None 0% No Residue
- 1= Trace 1-5% Trace coating of mucosa
- 2= Mild 5-25% Up wall to quarter full
- 3= Moderate 25-50% Up wall to half full
- 4= Severe >50% Filled to aryepiglottic fold

Penetration/Aspiration: \*\*\*

## Penetration-Aspiration Scale Score

- 1= No contrast enters airway
- 2= Penetration: entry of material into the airway, remains above the vocal folds and is ejected from the airway
- 3= Penetration: entry of material into the airway, remains above the vocal folds and is **not** ejected from the airway
- 4= Penetration: entry of material into the airway, contacts the vocal folds and is ejected from the airway
- 5= Penetration: entry of material into the airway, contacts the vocal folds and is **not** ejected from the airway
- 6= Aspiration: entry of material into the airway, crossed the plane of the vocal folds and is ejected from the airway
- 7= Aspiration: entry of material into the airway, crossed the plane of the vocal folds and is **not ejected from the airway despite effort**
- 8= Aspiration: entry of material into the airway, crossed the plane of the vocal folds and is **not ejected from the airway and there is no response to the aspiration**

## FEES CLINICAL EDUCATION MODEL

Therapeutic interventions trialed + effectiveness: \*\*\*

Upper esophageal phase - backflow observed: \*\*\*

### OVERALL IMPRESSIONS/FINDINGS:

This patient presents with a \*\*\* dysphagia, characterized by \*\*\*.

**RECOMMENDATIONS:** Follow up with Dr. \*\*\*. Based on today's findings the following were recommended to this patient:

1. Dysphagia therapy with a focus on improving timing, strength, coordination, and efficiency of the oropharyngeal swallow.
2. Diet texture recommendations: \*\*\*
3. Use of the following compensatory strategies: \*\*\*

### TREATMENT PLAN:

\_\_\_\_\_ x week for \_\_\_\_\_

#### Long Term Goals:

- Client will maintain adequate hydration/nutrition with optimum safety and efficiency of swallowing function on oral intake without overt signs and symptoms of aspiration for the highest appropriate diet level.
- Client will utilize compensatory strategies with optimum safety and efficiency of swallowing function on oral intake without overt signs and symptoms of aspiration for the highest appropriate diet level.

#### Short Term Goals:

##### Inpatient

- Patient will tolerate thermal/gustatory/tactile stimulation with fading multimodal cues for potential to increase therapeutic PO trials.
- Patient will tolerate therapeutic PO trials, for potential resumption of oral diet.
- Patient will demonstrate appropriate UR positioning and tolerance for candidacy to order instrumental assessment of swallowing.
- Patient will engage in physiotherapeutic swallowing exercises, based upon instrumental swallowing assessment, with 80% accuracy.
- Patient will use swallow strategies in prescribed situations with 80% accuracy independently.

##### Outpatient

- Patient will complete cervical stretching that can increase flexibility for the muscles used for swallowing, with independence.
- Patient will engage in laryngeal massage/myofascial release to work on release extrinsic laryngeal musculature tension that can increase difficulty using the muscles for swallowing in an efficient manner, with independence.

## FEES CLINICAL EDUCATION MODEL

- Patient will engage in physiotherapeutic swallowing exercises, based upon instrumental swallowing assessment, with 80% accuracy.
- Patient will use swallow strategies in prescribed situations with 80% accuracy independently.

This clinician explained the results and recommendations to the patient; he/she expressed understanding and agreement with the goals and treatment plan. The SLP provided education with visual/audio feedback after this study.

Thank you for this consult.

Clinician:  
Speech-Language Pathologist