

Post-Webinar Q&A with Stevie Marvin, CCC-SLP, BCS-S
“Managing Dysphagia in the ICU”

This webinar, originally broadcast on 5/11/2020, had over 2,000 registrants. Given the high number of participants, we were unable to address all the questions that came in during the presentation. Below are the responses to the questions that we were not able to address during the presentation due to time constraints.

What is your favorite dysphagia screening tool? Post-extubation screening tool?

There are several articles written on screening for dysphagia in the ICU (listed below). My favorite article is "Validation of a Postextubation Dysphagia Screening Tool for Patients After Prolonged Endotracheal Intubation" published in 2018 by Johnson et al. What I like about it compared to other PED screening tools is that there are logical automatic fail criteria that prevent high risk patients from being screened. That being said, significantly more research is needed on the sensitivity and specificity of RN screens in this patient population. I'd encourage you to read some of the other articles and make your own decision based on the needs of your patients and logistics at your facility.

Other articles: "Evaluation of swallow function post-extubation: Is it necessary to wait 24 hours?" by Leder et al, 2019 (studied YSP in recently extubated patients), Dysphagia in Mechanically Ventilated ICU Patients (DyNAMICS): A Prospective Observational Trial by Schefold et al, 2017 (also involved a large volume water swallow but different pass/fail criteria than YSP), "Development of modified swallowing screening tool to manage post-extubation dysphagia" by Christenson & Trapl, 2017 (uses GUSS-ICU), Nurse-performed screening for post-extubation dysphagia: a retrospective cohort study in critically ill medical patients" by See et al, 2016 (Massey Bedside Swallow Screen), Frequency and outcome of post-extubation dysphagia using nurse-performed swallowing screening protocol" by Omura et al, 2018.

What is EBP re: ice chips? In your ICU are ice chips readily available? Any concerns re sterilization of the ice chip machines?

To my knowledge, there are no published studies examining the risk of aspiration with ice chips within the ICU. Personally, I make recommendations for ice chips on a case by case basis based on the patient's risk/vulnerability profile and their performance with ice chips during a clinical swallowing evaluation. Sometimes I recommend unlimited ice chips but more often I recommend a limited amount with or without supervision depending on the patient's cognition and feeding ability. As SLPs at our facility, we have the ability to order "aspiration precautions" in addition to diet orders where we give specific feeding instructions to the RN/NA (e.g. limiting the amount of ice chips). These precautions are in the patient's medical record but they are also posted at the patient's bedside for any staff offering ice chips or other oral intake.

Regarding sterilization of the ice machine, I generally trust that it's as sterile as the water coming out of the machine or the water coming out of the tap. I think we can become

hyperfocused on sterilization of the water but I think the highest risk of bacteria aspiration comes from the patient's mouth. Therefore, I would focus on having the RNs/NAs complete thorough oral care prior to offering ice chips. ICU RNs, at least in our facility, are aware of the importance of oral care for reducing pneumonia risk, likely due protocols put in place by the ICU team for reducing ventilator-acquired pneumonia. You could also inquire with the maintenance staff at your facility regarding their cleaning protocols for the ice machine.

\ What is your protocol for evaluating patients on HFNC, Bi-PAP, CPAP? Timeline, parameters, etc. Do you allow patients to consume PO while on HFNC, BiPAP, etc.. Are you automatically consulted?

I do not evaluate (or recommend) oral feeding in any patient receiving continuous BiPAP or CPAP. This is due to the high risk that the food or liquid could be blown into their airway. I also think that continuous BiPAP/CPAP is an indicator that a patient's respiratory status is too tenuous for oral feeding. If a patient is on intermittent BiPAP/CPAP for either breathing treatments or nights/naps, then I evaluate the patient when they're off BiPAP/CPAP. If they are coming off continuous BiPAP/CPAP for the first time for the evaluation, I request that they be off 30 minutes prior to the swallowing evaluation so I can trust that they really will tolerate being off for a prolonged period of time (and also so they don't have a belly full of air when I feed them for the first time). We are not automatically consulted on these patients. It is the physician's discretion on who needs evaluation and when they are ready for evaluation based on their overall medical status.

Do you practice Modified Evans Blue Dye Test for you tracheostomized patients?

We do not use the Modified Evans Blue Dye Test with our tracheostomy patients because research shows it has a low sensitivity for aspiration. In my experience, if a patient aspirates so severely that they have a colored bolus coming out in their tracheal secretions, then there is usually some other sign of aspiration during the bedside evaluation. Because patient's with tracheostomies are at elevated risk for silent aspiration, I use the bedside only to determine readiness for instrumental evaluation and to help me select type of instrumental evaluation (FEES vs VFSS).

In addition, at our hospital we currently do not have access to blue dye due to published safety concerns with blue dye (Lucarelli et al, 2004; Carpenito & Kurtz, 2002; File et al, 1995) and inability to order the plant-based option (Phagin Blue) at our facility. You can use naturally colored foods during the bedside evaluation, but again the sensitivity for aspiration is so low that I don't think it adds much.

Does the sub-glottic granulated tissue resolve on its own? Or is intervention required?

With regards to resolution of the granulation tissue, I would always recommend referring to an ENT for their opinion. I'm not sure how much resolves spontaneously or what the timeline for recovery is but it is a hot topic of research.

For your "case study" 1 - what did the patient have as a means of hydration over the weekend, until you could put her on a regular diet on Monday? Did you refer for ENT consult 2/2 granuloma tissue noted?

In the case study I presented, she received IV hydration over the weekend. When I saw her significant tissue changes, I first showed the images to her critical care team and then to one of the ENT residents. At the time of the FEES, both recommended a wait/watch approach since the granuloma was not impacting her breathing and was unlikely to be the cause of her dysphagia. Over the weekend, however, she had a slight decline in respiratory status and ENT was reconsulted. Even though she was still breathing well on room air and had not stridor at the time of their follow-up evaluation, they still decided to take a closer look. By the time they looked, it was gone (ENT fellow told me they think it fell off).

Are you aware of any studies that assessed the reliability and validity of CSEs through telepractice? How safe is tele therapy for Dysphagia during pandemic?

As far as I know, there are no studies looking at SLP telemedicine services with the ICU. I bet there will be some coming out because of the pandemic though. Here is a list of articles related to SLP telepractice (not an exhaustive list) but I encourage you to seek out other information via ASHA or your own pubmed search because I am not a telepractice expert. In fact, I am new to SLP telemed as of March 2020 when the pandemic hit the US. Also, with regards to the presentations at DRS, I would trust anything that Dr. Malandraki says. She is amazing and one of the smartest SLPs I have ever worked with.

List of studies on SLP telepractice: "Implementation of speech pathology telepractice services for clinical swallowing assessment: An evaluation of service outcomes, costs and consumer satisfaction" by Burns et al, 2019; "Telehealth Stroke Dysphagia Evaluation Is Safe and Effective" by Morrell et al, 2017; "Impact of dysphagia severity on clinical decision making via telerehabilitation" by Ward et al, 2014; "Evaluation of a Clinical Service Model for Dysphagia Assessment via Telerehabilitation" by Ward et al, 2013.

If a patient does not pass Yale/3 oz water challenge, would you recommend functional practice with something the patient is asymptomatic with while objective/imaging tests are currently being deferred or are not yet available?

I believe the authors of the YSP publications have strongly advised it's use as just a pass/fail. That being said, if you incorporate other textures into your clinical bedside evaluation, you can use your judgment on safety of these other textures based on their performance at the bedside and their risk/vulnerability profile. I am more likely to encourage functional practice pre-instrumental in a low risk patient and more conservative (strict NPO or just limited ice chips/swabs) in a high risk patient. I consider their overall medical stability, respiratory status, cough strength, immune function, etc. when deciding how aggressive to be at the bedside.

Question about "tracheostomy tubes don't cause dysphagia": doesn't just the presence of a trach tube alter the swallow mechanism -since it opens the "closed system" and alters the pressures needed for normal swallowing?

This is an excellent question and a point I should clarify. Patients with an open tracheostomy lose subglottic pressure during the swallow (similar to a large glottal gap due to a vocal fold paralysis). This loss of subglottic pressure can impact swallow function but it does not occur in all patients (the same way not all patients with vocal fold paralysis have difficulty swallowing). There is research that suggests that speaking valves or trach caps can reduce aspiration in some patients. So in this sense, an open tracheostomy can impact swallow function but again probably not the sole cause of a patient's dysphagia.

For your VFSS do you use visipaque or omnipaque as well?

We use Varibar barium products for our swallow studies. I'm not personally familiar with visipaque but we don't use it during our swallow studies. The radiologists use omnipaque for leak studies (e.g. checking for a leak at the anastomosis for a patient with recent esophagectomy) prior to administering barium but the SLPs never use omnipaque for a routine swallow study.

When/Do you choose water free protocol?

The free water protocol has been primarily researched in rehab patients. ICU patients are not as stable or mobile as rehab patients so I would strongly caution against using any free water protocol in the ICU.

Limited research is available on the safety in acute care patients, who again or often not as stable or mobile as rehab-level patients. One study "Implementation and analysis of a free water protocol in acute trauma and stroke patients" by Kenedi et al, 2019 examined the use of a free water protocol in a specific group of acute care patients.

When you reviewed the FEES of the patient with dysphagia secondary to compression of the RLN, how did you differentiate that it was compression of the nerve vs other possible causes?

I let the ENTs decide what they think caused the vocal fold immobility. In the case I showed, that was the consulting ENTs working theory.

Do you do NMES and/or DPNS on recently extubated patients who failed VFSS/FEES?

We do not use any electrical stimulation at the UW due to lack of evidence on its efficacy as dysphagia treatment.

How do you enforce and/or regulate functional practice for someone who has an NPO order otherwise? Whose responsibility is it to make sure this happens?

We write orders for the specific textures, amounts, and frequency of functional practice. We have both diet order and aspiration order sets and we place this information in both of these orders. At our facility, the physicians have the option to delegate diet order writing permission to the SLP at the time of the Swallow consult. If you don't have the ability to write orders, I would ask the physician to write the orders on your behalf.

You mentioned "post-pyloric" in regards to acid reflux-what is that?

Post-pyloric means the tip of the feeding tube is past the pylorus of the stomach. This is believed to reduce reflux of tube feeding.

In the case study, during the FEES, there was a white-yellowish object below the VF, what is that?

The ENT diagnosed this as granulation tissue from the endotracheal tube.

Increased tissue granulation with COVID patients, correct?

That is one theory that has been mentioned on message boards due to either the prone positioning and/or need for prolonged ventilation with an endotracheal tube, however, it's still too new for there to be any published research on this.

**What do you identify as placing a patient in the immunocompromised population?
Bloodwork values, dx?**

I look at patient's diagnoses. For example, undergoing cancer treatment that impact immune function, other medications that impact immune function, organ transplant. When in doubt, ask the referring physician. When I'm on the fence on whether to be aggressive versus conservative, I take the question and various options to the consulting physician so they can offer their insight based on the patient's overall status.

What is the risk level of silent aspiration in patients with tracheostomy?

It's high. The percentages of silent aspiration are listed in the slides but range from 27-49% of the patients studied.

Do repeated exercises really help? If so, how long does it take to see improvement?

The efficacy of exercises is dependent on the underlying etiology of the dysphagia. Not all patient populations benefit from exercises. The decision to start swallowing exercises should be based on the patient's history (age, comorbidities, underlying medical diagnosis responsible for the dysphagia), the physiological etiology of their dysphagia, and the patient's goals/motivation.

How fast after extubation have you done the FEES?

I take it on a case by case basis. For research, I've done it as soon as 2 hrs post-extubation. For clinical care, if I do it the same day as extubation, I try to schedule for late afternoon to allow the maximum amount of time for recovery. I only do early FEES when I'm confident I will be able to start the patient on an oral diet after the FEES. If I feel their swallowing is too impaired or if they do not seem medically stable, I push the FEES out to at least the next day.

How do you convince nursing staff to consult SLP when patient is extubated and need swallow assessment?

Bring your critical care team (RNs/MDs) data. Start with the Macht article from 2013 or a similar review article.

What are some ways to avoid the patient from coughing during swallow evaluation, especially. during the COVID?

I don't think we can prevent patients from coughing during a swallowing evaluation. If a patient starts to cough during an evaluation, I usually encourage them to continue with strong coughing to clear the airway. It's important that we are wearing the appropriate PPE during any patient interaction.