Dispelling Myths About The Use Of FEES

Fiberoptic Endoscopic Evaluation of Swallowing (FEES) is the label that Langmore, Schatz & Olsen coined in their 1988 paper describing the protocol they'd developed in the mid 1980s. Today, many endoscopes no longer contain fiberoptics, and there are several popular protocols that vary the approach originally described, but the term "FEES" has become synonymous with the use of endoscopy to evaluate swallowing.

Describing the history and current use of FEES in a recent paper, Langmore (2017, p.28) wrote that ". . . in some parts of the world, FEES is the primary procedure done on patients with suspected pharyngeal dysphagia, with other procedures following only when the diagnosis is incomplete. This procedure is often compared to the videofluoroscopic swallow procedure (VFSS), also known as the Modified Barium Swallow (MBS). Because VFSS was already an established procedure when FEES was first described, VFSS is often referred to as the 'gold standard.' However, others would argue that being there first does not make you better."

Although SLPs do argue that for a given patient at a given time, FEES or VFSS might be the better exam, it is safe to say that FEES has become an option to VFSS in the standard care of individuals with dysphagia today. Where resistance to FEES persists, sometimes myths regarding its usefulness or even safety persist, too. This handout is an attempt to dispel some of these myths.

Why: FEES has become a popular procedure due to its convenience and cost effectiveness in some situations. It can be used in a variety of settings, even while the patient is bedridden, in isolation, or in the ICU. FEES can be used with various populations including patients on a ventilator or with a tracheostomy, patients with head and neck cancer, and even pediatrics to name a few. FEES can also be a much more cost-effective option in some settings. However, some SLPs, physicians, nurses, and administrators have been misinformed or not entirely educated to the benefits of using FEES, therefore they are not allowing their patients to experience all of the benefits that FEES has to offer.

Instruction: Langmore (2017) describes FEES as a comprehensive procedure that includes 3 parts to the exam. This protocol has not undergone validity testing; therefore, it remains a guideline. FEES does not merely identify aspiration, but rather it examines:

1. anatomy, secretions, and movement of the structures by asking the patient to perform non-swallow, speaking and breath- holding tasks,
2. the direct evaluation of swallowing as the patient eats and drinks various bolus consistencies,
3. postural, dietary, and behavioral changes which can be trialed as problems occur.

How: Use this handout to help dispel some common myths about FEES to help advocate for its use for your patients.

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Myth #1: VFSS is the gold standard test to assess swallowing function in individuals with known or suspected dysphagia.

Reality: According to Langmore (2017), four papers have been written using simultaneous VFSS/FEES studies. Taken together, these papers found that FEES is more sensitive to identifying the presence of bolus material than VFSS, and that raters consistently rated bolus penetration into the airway or amount of residual bolus material more severely than on VFSS (Rao, Brady, Chadhuri, Donzelli & Wesling, 2002; Kelly, Leslie, Beale, Payten & Drinnan., 2006; Pisegna & Langmore, 2016; and Kelly, Drinnan & Leslie. 2007).

According to Rao, et al. (2002), the sensitivity value (the true-positive rate) was higher when FEES was used as the gold standard for laryngeal penetration and pharyngeal residue. The specificity value, the true-negative rate, was higher for laryngeal penetration, aspiration, and pharyngeal residue when the VFSS was used as the gold standard. VFSS and FEES are equally effective, comparable, valid instrumental procedures for swallowing and both deserve to be considered the "gold" standard (Rao, 2002).

Myth #2: You don't see as much with FEES.

Reality: According to Pisegna & Langmore (2016), clinicians reported better visualization of anatomical sites on FEES than VFSS. FEES can be very reliable at determining laryngopharyngeal abnormalities in hospitalized dysphagia patients, with 79% of them presenting with abnormalities (e.g., arytenoid edema, granuloma, vocal fold paresis, diffuse edema, airway stenosis, ulcer) (Postma, McGuirt, Butler, Rees, Crandall, & Tansavatdi, 2007). According to Murray, Langmore, Ginsberg, & Dostie (1996) the accumulation of secretions observed during FEES is highly predictive of aspiration of food or liquid. Secretion severity correlates with aspiration and diet; patients with tube feedings and trachs had greater secretion severity (Donzelli, Brady, Wesling, & Craney, 2003).

Myth #3: FEES is painful.

Reality: Several studies have been performed and have found no significant difference in the comfort of FEES even compared to using an anesthetic, saline, or placebo (Leder, Ross, Briskin, & Sasaki, 1997; Singh, 1997; and Kamarunas, McCullough, Guidry, Mennemeier, & Schluterman, 2014). Cohen (2003) performed a study of 349 consecutive FEES exams where patients were asked to rate the level of discomfort with the procedure. 12.6% of patients stated there was no discomfort, 48.4% thought it was mild, 31.5% described moderate discomfort, and 7.5% said it was severe. 98% of the patients stated that they would repeat the test in the future. It is important to note that state regulations may not allow the use of lidocaine unless administered by a physician.

Myth #4: FEES is dangerous.

Reality: Langmore (2017) states that FEES has been shown to be extremely safe with all reported complications being minor and spontaneously resolved. In a prospective study of 1340 patients by Aviv et al. (2005), epistaxis occurred in 1 patient (0.07%) with no airway compromise. In a study by Cohen et al. (2003), mild epistaxis occurred in four patients (1.1%) with no episodes of airway obstruction or laryngospasm. A study of 300 acute stroke patients within two days of stroke (many on anticoagulants) showed no epistaxis, change in mental status, laryngospasm, or brady/tachycardia requiring special treatment (Warnecke, et al., 2009). A study of 2820 patients showed 4 cases of epistaxis (.14%), 3 cases of vasovagal syncope (.1%), and 2 cases laryngospasm (.07%) with all resolving spontaneously (Nacci, et al., 2016).

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