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The State of the Clinical Swallowing Evaluation

We Can Not Know What We Can Not Know

Relevant Financial Disclosures

- I am currently employed as the Agency Administrator for Integra Rehabilitation and I provide Flexible Endoscopic Examination of Swallowing (FEES) for Integra Rehabilitation's customers.

- Integra Rehabilitation is a sponsor at this convention.

Relevant Non-Financial Disclosures

- Past-President of GSHA and have held various other positions both elected and appointed within the organization since 2004.

A story about my Dad's dysphagia assessment experience… because sometimes it takes being on the other side of the system, to realize something is wrong with the system…

My Dad's dysphagia history…

- His swallow difficulty started with an anterior cervical disk fusion in 1999
  - Sent home after a one night stay with no swallowing consultation
  - Had some cough-choke during eating/drinking post surgery
  - Would not tell his surgeon about his difficulty and wouldn't ask for a swallow study
  - Maintained an "occasional" cough-choke with meals and refused any further assessment.

Continued…

- Diagnosed with Chronic Myeloid Leukemia in 2015
  - Immune system wiped out by chemo
  - Took ongoing antibiotics, antifungals, and antivirals for the duration of treatment
  - As he systemically got weaker, his “clinical” dysphagia s/s increased.
  - He finally consented to me doing a flexible endoscopic examination of swallowing and guess what??? He was aspirating consistently with thin liquids.
  - He continued to decline any treatment

Continued…

- Began to develop upper respiratory infections and pneumonias that required additional antibiotics to treat
  - I explained to him that he probably was not able to handle aspiration anymore
  - I explained to him that if we could get the hospital to do a study, they might could work with him to make recs to stop or decrease the aspiration
  - My Dad agreed!!! My mother told his Hospitalist about the difficulty and requested a swallow study
  - The SLP arrived… fed him a cookie. Gave him water. Told my parents “He doesn’t seem to have any trouble swallowing.”

Continued…

- At the time of his “assessment”, screen, or whatever you want to call it…
  - there was an ongoing active right lower lobe pneumonia
  - a history of upper respiratory infections
  - a history of anterior cervical disk fusion
  - two people relaying that he “coughed” at meals
  - BUT according to my parents “He tried real hard while she was here and barely coughed at all!”

What does a swallowing screen look like? What is it???

ASHA's SIG 13 Attempts to answer that question for us.

The term *swallowing screening* is generally used to refer to a minimally invasive evaluation procedure that provides quick determination of

- the likelihood that dysphagia exists;

- whether the patient requires referral for further swallowing assessment;

- whether it is safe to feed the patient orally (for the purposes of nutrition, hydration, and administration of medication);

- whether the patient requires referral for nutritional or hydrational support.

* However, the majority of screening procedures described in the literature are rather narrow and have focused only on identifying overt signs of aspiration, rather than being broader screening procedures that address the range of aspects listed above.

swallowing screen…

Many facilities have developed screening tools based on a review of the articles described in Question 3 above. Although these specific features are not necessarily all supported by high-level evidence, these tools or checklists generally include the following:

- a few questions about history/risk factors;

- observation of the patient's level of alertness;

- observation of signs of motor speech and/or voice abnormalities;

- observation of signs of dysphagia that can be determined without presenting any food to the patient (e.g., weak cough, inability to control saliva);

- for some tools, presenting small amounts of food or liquid (often water) to the patient.

Many of the tools are designed as decision trees or flowcharts. For example, as soon as one of the questions answered indicates increased risk, the screening procedure is terminated and a referral to speech-language pathology is initiated.

swallowing screen…

What are the different models of swallowing screening that might be considered for use?

Model A. The SLP trains nursing staff to conduct swallowing screenings. Nursing staff perform swallowing screenings and refer patients with identified swallowing problems to a speech- language pathologist for a comprehensive swallowing assessment. Given nursing staff turnover, training may need to be offered on a regular basis. In one study reported in the literature, the SLP maintained a presence in the emergency room for several months with the purpose of conducting swallowing screenings and, at the same time, demonstrating screening procedures to nursing staff who ultimately assumed the responsibility of conducting swallowing screenings for future patients (Steele, 2002). This model may allow for senior nursing staff to become sufficiently skilled to train future nursing staff in screening.

Model B. The physician performs swallowing screening in the course of his or her regular medical evaluation. He or she requests further swallowing assessment by the SLP when he observes signs of swallowing difficulty. Physician swallowing screening tends to be less structured than swallowing screening conducted by nursing staff.

Model C. Model A or B followed by an automatic referral within a specific timeframe (often 24– 48 hours) for swallowing assessment by speech-language pathology for all patients admitted to the acute stroke unit or with a specific diagnosis. This model may include an ongoing in-service training module for nurses during annual education days or new-hire orientations, as well as frequent in-services/presentations to medical residents and/or attending physicians.

Model D. All patients are automatically referred to speech-language pathology for swallowing screening or assessment.

Model E. Nursing staff contact the SLP on an on-call basis to request screening for patients who have presented to the emergency room with conditions that are recognized to pose a possible risk of dysphagia.

swallowing screen…

What is the role of SLP in conducting or designing and supporting a screening program?

The SLP should be involved from the beginning in the discussions at the facility regarding how dysphagia will be screened. The SLP has the most in-depth understanding of the signs and symptoms of dysphagia, risk factors, possible medical complications if dysphagia is not identified, and so on. The SLP has also read the most recent information in the literature and can share this knowledge so that the facility makes evidence-based decisions as it designs and conducts the screening program. There are numerous swallowing screening "tools" described in the nursing literature. Without the SLP's involvement in the design of the program, one of these may be selected without thorough review of the literature.

What should happen when a patient fails a screening?

Patients who show signs of dysphagia upon a swallowing screening should be referred for comprehensive swallowing assessment. It is common for precautions (such as no oral intake or dietary precautions) to be put in place while the patient is waiting for further assessment.

Let's talk about EBP (Evidence Based Practice)

Spring, B. & Hitchcock, K. (2009) Evidence-based practice in psychology. In I.B. Weiner & W.E. Craighead (Eds.) Corsini's Encyclopedia of Psychology, 4th edition (pp. 603-607). New York:Wiley

The positives of implementing appropriate screening practices…

1. Identification of “at risk” individuals.

2. Address problems early

3. Help to place people in their appropriate post acute environment

4. Allows further clinical and instrumental testing to be provided as early as is feasible.

Stephanie Daniels, PhD, CCC-SLP outlined the steps in determining how to proceed with services when evaluating swallowing for acute neurological events in an article for DysphagiaCafe.com…

- The evaluation of swallowing is a three-tiered process, especially with acute stroke patients. The process of evaluating swallowing in patients presenting to the hospital with stroke symptoms begins with screening given the American Stroke Association guidelines, which indicates that swallowing must be screened prior to oral intake including medication. Frontline healthcare providers such as registered nurses or physicians typically administer the swallowing screen given the fact that they are available 24/7. A screening is a rapid, non-invasive examination to determine RISK of dysphagia and/or aspiration. It does NOT diagnose dysphagia. A positive (failed) screen should result in an expedited referral to speech pathology.
- A positive screening result is followed by a clinical swallowing examination (CSE) completed by a speech-language pathologist (SLP). Screening and the CSE are NOT the same thing. A carefully administered CSE can be an important diagnostic tool in which the SLP gathers information to gain a more holistic view of the patient and make judgments on swallowing ability. It is important to note, however, that the CSE cannot be used to determine the underlying impairment of swallowing, confirm airway invasion, identify the effects of compensatory strategies, or recommend appropriate rehabilitative approaches. For this, a third step in evaluation is warranted, the instrumental swallowing evaluation.

http://dysphagiacafe.com/2014/08/21/the-clinical-swallow-evaluation-with-a-focus-on-stroke/

Eric Blicker M.A. CCC-SLP.D BCS-S's words to remember swallowing assessments by…

- **P**: *Preparation*: Have all supplies ready before you start. Ensure appropriate medical support depending on location (ie: nurse clearance for exam and vital signs monitoring in ICU). Explain CBSE to patient/family and prepare them for exam.
- **O**: *Orders*: Always check orders before exam, determine if there instructions in orders (ie: call MD after exam), determine if patient status has changed since orders were written (may prompt call to ordering MD. Important post-test if SLP will be taking verbal or telephone orders for dietary consistency recommendations that these are properly written.
- **P**: *Pulmonary*: Chest x-ray reports review and search for keywords like "infiltrates" "pneumonia", monitor oxygen saturation level as a drop in O2 saturation may reflect aspiration risk, determine if suction set-up in standby is needed, determine patient's baseline level of congestion, determine if patient is able to cough on command, listen to the quality of the cough (wet/congested vs dry). Determine if there are nasal cannula oxygen orders. For tracheostomy and ventilator dependent patients: determine if respiratory therapist can assist, determine cuff status, determine if passy-muir speaking valve can be used, determine who will suction the tracheostomy tube patient (SLP, RT, or nurse). For post extubation exams, determine length of intubation and determine how long patient has been extubated. Many SLP's prefer a 24 period of extubation prior to the CBSE. Determine alternation of breathy sounds: rhonchi, rales, crackles, wheezing.
- **S**: *Sensory*: Determine patient's sensory awareness: Assess for hemiplegia and hemiparesis with stroke patients. Assess for reduction to laryngopharyngeal sensation. Awareness of potential risk factors to the internal branch of the superior laryngeal nerve (ISLN) the sensory nerve branch of the Vagus Nerve CN X, for the supra-glottic space. Potential sensory loss in the throat has been associated with: prolonged intubation, traumatic intubation, aging process, severe laryngeal edema from laryngopharyngeal reflux, carotid endarterectomy, thyroid surgery, and anterior cervical spinal fusion surgery.

continued…

- **H**: *History*: Dysphagia case history: new vs chronic condition, prior assessments. Obtain subjective reports on dysphagia impression from patient, staff, and family. Thorough chart review.
- **O**: *Oral motor*: Assess strength, range of motion, agility. Assess speech intelligibility, oral symmetry, oral hygiene, gag reflex response, cranial nerve functions, velar elevation on phonation, determine if there is oral defensiveness and biting responses to intra-oral stim.
- **M**: *Medications*: Can impact alertness, ie: Ativan with CNS depression. Medication that may have involvement with esophageal injury, ie: aspirin. Medication impacting oral cavity dryness, ie: certain ACE inhibitors for hypertension. Monitor for certain topical anesthesia, ie: xylocaine and a numbing impact on the airway.
- **E**: *Environment*: Level of medical intensity/acuity will shape the approach to the CBSE and recommendations. Hospitals and skilled nursing facilities will have different needs and requirements. Level of supervision for patient based on what is possible in the setting.
- **L**: *Labs*: Lab values to check: White blood cell (WBC) elevation may represent infection. Pre-albumin is another lab to check. When pre-albumin levels are lower than normal (less than 18 mg/dL), it may be a sign of malnutrition.
- **A**: *Aspiration*: Clinical symptoms of aspiration risk: cough, choke, wet voice, throat clearing, eye tearing, increased work of breathing, congestive changes with oral intake, drop in O2 saturation level.
- **N**: *Neurological*: Acute (encephalopathy, CVA) vs. chronic (Dementia) conditions, patient's ability to follow directions, patients orientation awareness. Deficits can impact dysphagia training and instruction to the dysphagia patient. Determine the neurological impact for patient's wakefulness and alertness for safe oral feeding.
- **D**: *Diagnosis*: Dysphagia from structural etiology, ie: head and neck cancer, from neurological etiology: CVA, from chronic conditions, ie: COPD, will each require specific interventions. Patients with more comorbidities are often the more complex dysphagia patients, ie: neurological and structural deficit.

Continued…

- **P**: *Pharynx*: Include exam of larynx and pharynx. Determine: can patient produce saliva swallow at baseline, if there is swallow weakness and/or delay, if patient is showing wet voice which may reflect laryngeal penetration, if there are quality changes during PO trials, if there is vocal cord dysfunction (increasing hoarseness, increasing breathiness, diplophonia).
- **R**: *Recommendations*: Clear and concise verbal and written communication to staff and family. Should address aspiration risk and dysphagia. Should address referral to other disciplines, ie: ENT. Should address: nutrition, hydration, and medication delivery needs. Should address need for instrumental assessment, ie: MBS and potential therapy follow up. Should include: patient positioning and delivery rate of bolus volumes.
- **I**: *Intake status*: Oral vs. non-oral, if oral then which food and liquid consistencies are best tolerated. Determine need for nutrition dept. follow up, calorie counting, and PEG weaning (when applicable).
- **D**: *Dysphagia*: Provide PO trials, document dysphagia behaviors, and determine dysphagia severity and location, ie: oral/pharyngeal or both.
- **E**: *Esophagus*: Determine if there are pre-existing esophageal based conditions, ie: stricture, diverticulum. Assess for possible GERD symptoms, ie: belching. Determine if patient is being medicated for reflux, ie: Pepcid.

Which leads us to the “uncomfortable truth” about clinical swallow examinations…

Dysphagia 17:219 (2002)
DOI: 10.1007/s00455-002-0055-6

Dysphagia

Editorial

The Bedside Swallowing Evaluation When Endoscopy Is an Option: What Would You Choose?

One of the perils of clinical practice is the inability to identify subjects at high risk for potentially devastating events. One measure of this risk is the false negato his assertion that “even if the clinical examination is negative, visualization of the pharyngeal swallow is necessary” [1].

Dr. Steven Leder PhD CCC/SLP and his team pointed out that…

1. The false negative rate for clinical swallowing exams is 14% (this isn't good)

2. The false positive rate for clinical swallowing exams is about 70% (this isn't good either)

Leder SB, Espinosa JF: Aspiration risk after acute stroke: comparison of clinical examination and ®beroptic endo-scopic evaluation of swallowing. Dysphagia 17:214±218, 2002.

Aviv JE, Sacco RL, Mohr JP, Thompson JLP, Levin B, Sunshine S, Thomson J, Close LG: Laryngopharyngeal sensory discrimination testing with modi®ed barium swallow as predictors of aspiration pneumonia after stroke. Laryn-goscope 107:1254±1260, 1997

So what should we do?

- View dysphagia screens/assessments in a more “holistic” light
- Understand that they are just parts of the puzzle
- Incorporate what you learn into the OVER ALL diagnosis.
- Understand their strengths and their limitations. Move to the appropriate instrumental examination to fill in the pieces of the puzzle.
- Implement screening protocals into whatever setting you are in.

The healthcare culture is changing…

Screens and assessments by SLPs in acute care have potential to be missed more as the focus is often on “getting them to another setting”.

WE must educate our hospitals that the cost of not screening may be bigger than the cost of a couple of extra days in the hospital.

WE must educate that patient outcomes may be adversely affected if screens/evals are not conducted before discharge.

WE must be able to demonstrate why financially we are a bargain!

WE must must be advocates for ourselves, our skill and our patients!

We also have to diligently advocate for appropriate dysphagia care and services.

When we need a visual, we need a visual.

We have to educate that a Flexible Endoscopic Examination of Swallowing or a Modified Barium Swallow Study is being done for reasons other than to "detect aspiration"…

- FEES and the MBSS are essential in the determination of WHY someone is aspirating. Aspiration is the consequence of a malfunctioning system.
- Never would a Physical Therapist do any exam just to watch the patient fall down.
- When patients aspirate on an MBSS or FEES many more factors go into determining if they remain safe for PO intake
- What did the aspirate? How much? How often? What is the general health of the patient like.

Ashford, J.A. (2013). FEES: Instrumental Dysphagia Assessment Training Manual. Nashville, TN: Author

Langmore, S. (2001). Endoscopic Evaluation and Treatment of Swallowing Disorders. New York: Thieme

Clinical utility of the modified barium swallow. Dysphagia. 2000 Summer;15(3):136-41. Martin-Harris B1, Logemann JA, McMahon S, Schleicher M, Sandidge J.

Last year at GSHA, I talked about myths that we have adopted as a profession and one of those myths was…

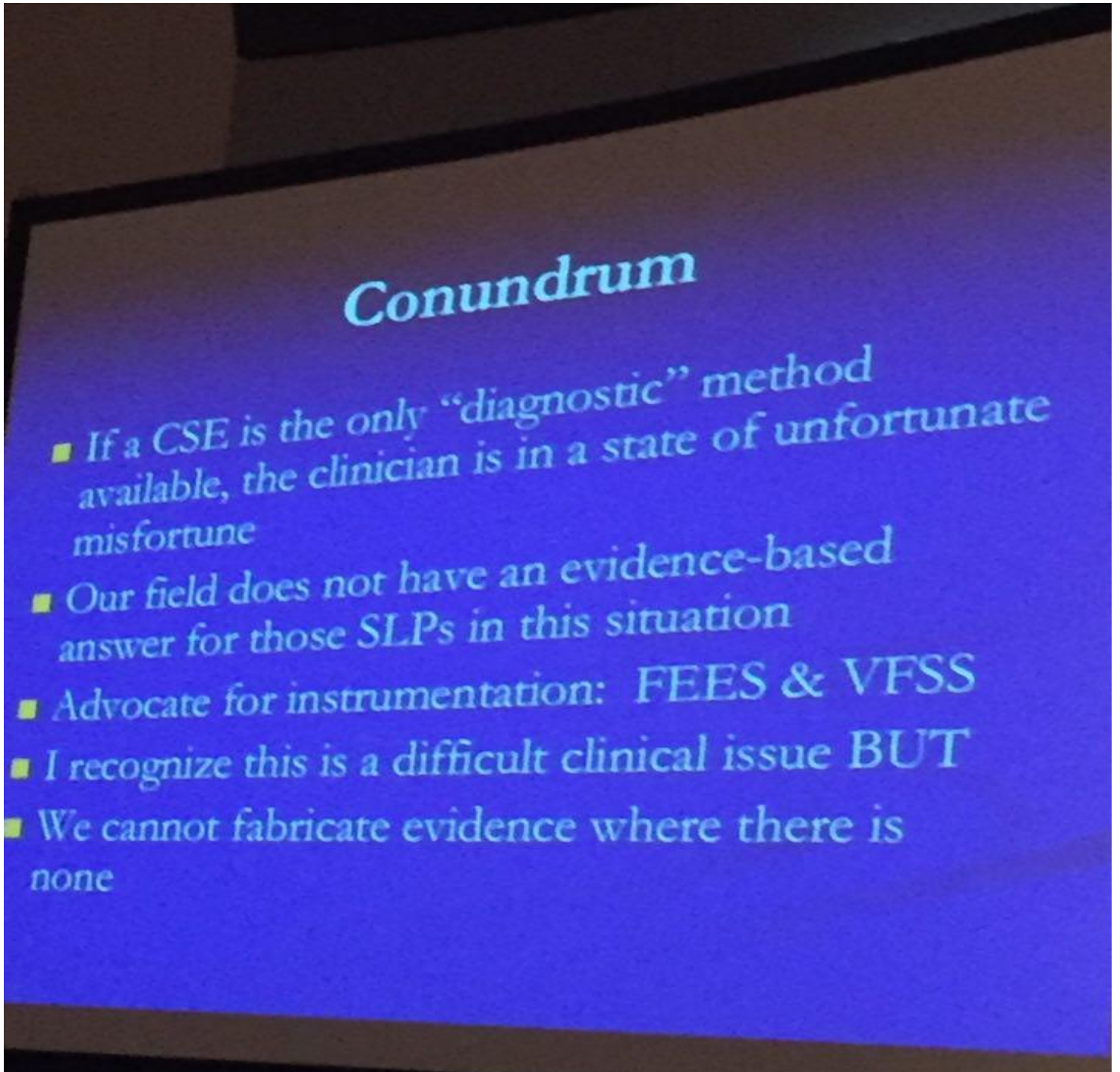
"My clinical experience, training, and particular swallow examination allows me to make accurate determinations about the underlying cause and severity of my patients dysphagia… so there."

CSE (Clinical Swallow Exam) vs An Instrumental

- Clinicians must examine their own long held beliefs to make sure they have incorporated new insights from from emerging scientific literature
- Most importantly, clinicians must be willing to let go of beliefs and familiar actions that are no longer sufficient to meet the demands of clinical practice.
- In other words, “Change is Good”
- Simply put: All studies that compare the CSE to FEES/MBSS determine that the CSE alone misses a high rate of those that are aspirating or otherwise impaired.
- The CSE doesn’t do the complete job.

Hoffman L. Prologue: Improving clinical practice from the inside out. Lang Speech Hear Svs Schools. 2014;45:89-91.

Leder SB, Suiter DM, and Warner HL: Advantages & Disadvantages of CSE Compared with Simultaneous FEES. ASHA Convention 2015


Conundrum
If a CSE is the only "diagnostic" method available, the clinician is in a state of unfortunate misfortune
Our field does not have an evidence-based answer for those SLPs in this situation
Advocate for instrumentation: FEES & VFSS
I recognize this is a difficult clinical issue BUT
We cannot fabricate evidence where there is none