

Flexible Endoscopic Evaluation of Swallowing (FEES)

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The procedure description was first published in 1988. FEES was first attempted using a rigid laryngeal mirror and an eyepiece. Much of the swallow process was missed because of the dynamic nature of the swallow and only the person viewing through the eyepiece was able to see any of the structures or processes. The first comprehensive FEES textbook was published in 2001 with many skeptics of the procedure. FEES has grown in technology and in acceptance in the medical world.

Common adverse reactions to endoscopy can include epistaxis, vasovagal response and laryngospasm.

The FEES examination developed by Dr. Susan Langmore is meant to be comprehensive and not a screening procedure for penetration/aspiration. Dr. Langmore describes 3 parts to the study. Part 1 includes observation of anatomy, rating of secretions and movements of structures in relationship to non-swallowing movements such as during speech and respiration. Part 2 includes direct evaluation of swallowing as the patient eats and drinks. Part 3 is intervention including use of postural, dietary and behavioral changes if needed.

There are multiple protocols or scoring tools for FEES such as the Yale Residue Scale by Dr. Steven Leder.

Sensory testing can also be incorporated with FEES testing by delivering calibrated air pulses to the pharyngeal structures.

Some common misconception of FEES include:

- Videofluoroscopic Swallow Study (VFSS) is the gold standard
- You don't see much with FEES.
- FEES is painful.
- FEES is dangerous.

VFSS Vs. FEES

- Both tests are Gold Standard
- Assessment accuracy with BOTH tests.
- Neither test is painful.
- Both tests are safe.
- Cost of VFSS is \$1200-\$1600 vs. \$300-\$450 for FEES.
- Not everyone can participate in VFSS.
- VFSS completed in the hospital or on a van. FEES can be completed anywhere!
- Results/Reports immediately? Can be with either. Usually have to wait for the VFSS report from the hospital.
- Barium is only used with the VFSS, not with FEES.
- No radiation with FEES.
- Positioning for VFSS upright in a chair in the fluoroscopy equipment. With FEES can be in a more natural seated position.
- Time: VFSS 3-4 minutes, FEES as long as the patient tolerates the scope.
- Continuous recording? VFSS no, FEES yes.
- Physician present? VFSS yes, FEES no.
- The facility SLP can be involved with either procedure but can bill for time with the patient during FEES when the scope is not in the nare.
- VFSS may limit who can watch due to room size and radiation exposure. Anyone can watch the FEES.

- VFSS you get a black and white lateral or a-p view. FEES high-definition, color view of the superior pharyngeal cavity.
- You can view the vocal cords with FEES but not with VFSS.
- Can you see the esophageal phase? You can with VFSS but not FEES.
- You can't see aspiration during the swallow with FEES, but you can see coating of the larynx following an aspiration event. With VFSS you can see aspiration during the swallow.
- You can see reflux with FEES, but typically may miss it with VFSS if the video is not running.
- The patient's actual medication can be used with FEES, however barium tablet has to be used with VFSS.
- You can trial any food with FEES and any food coated in barium with VFSS.
- Both can be used for biofeedback, however FEES is more practical for biofeedback.

For more information on all aspects and the history of FEES:

Langmore, S.E. History of Fiberoptic Endoscopic Evaluation of Swallowing for Evaluation and Management of Pharyngeal Dysphagia: Changes over the Years. *Dysphagia*. (2017) 32: 27. doi;10.1007/s00455-016-9775-x.

From www.mobiledysphagiasolutions.com:

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