It's FEES-able

From starting a FEES program to performing an exam & interpreting results in case studies.

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FEES

What: Instrumental swallowing assessment that can be performed at patient's bedside

Description of Assessment:

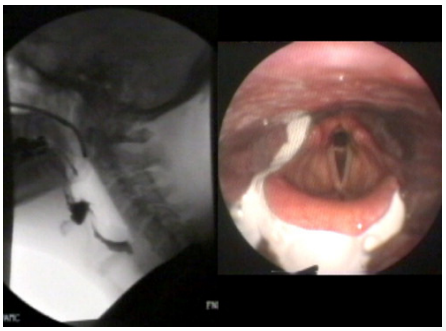
- A fiberoptic endoscope is passed transnasally and permits inspection via direct visualization of swallowing mechanisms and functions from the velopharynx to hypopharynx and larynx.
- Status of standing secretions in the hypopharynx and frequency and effectiveness of spontaneous swallowing are noted, and potential implications for aspiration are taken into consideration as the examination proceeds.
- The patient is then directed to perform various tasks to evaluate the sensory and motor status of the pharyngeal and laryngeal mechanism.
- Food and liquid boluses are then presented to the patient so that the integrity of the pharyngeal swallow can be determined, including penetration & aspiration.

ASHA Position Statement

It is the official position of the American Speech-Language Hearing Association that fiberoptic endoscopy is an imaging procedure that may be utilized by speech-language pathologists to evaluate swallowing function. Fiberoptic endoscopy may also be utilized as a therapeutic aid and biofeedback tool during the course of swallowing treatment. The assessment and management of dysphagia falls within the scope of practice of speech-language pathology.

(ASHA.org Position Statements)

FEES v. VFSS



VFSS or FEES

- **Main differences**:
  - VFSS provides visualization of oral phase & allows you to screen the esophageal phase.
  - FEES is more sensitive to micro-aspiration & allows for direct visualization of the larynx.
- **Which exam would you choose & why for the following**:
  - Suspect Esophageal dysphagia
  - Trach pts, especially new trach
  - Recent extubation
  - ACDF
  - H & N Cancer
  - Neurological diagnosis/ Confusion
  - Lung Transplant

Considerations for starting a FEES program

- Support of medical director & staff
- Infection Control Policy
- Sterile Processing or cleaning protocol
- Ability to pass competencies to perform FEES independently
  - Must pass competencies under the direct supervision of a SLP trained & competent in FEES or ENT physician
  - Should take FEES training courses &/or read textbooks
  - ASHA provides general guidelines for competency but does not set a direct number of passes to be achieved

**if you contract with a mobile FEES company, and they are performing the study in your facility, then you should confirm with your infection control representative regarding compliance.

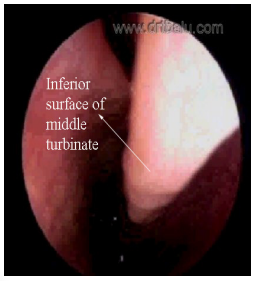
FEES equipment

1. Scope
   - HD quality
   - Light source in scope
   - Size: peds v. adult
2. Hardware to record the study
3. Monitor for visualization
4. Storage cabinets for FEES

Ready to perform a FEES

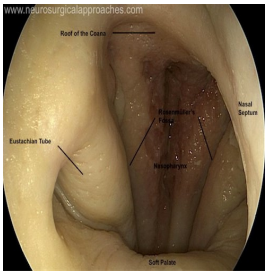
- Assess anatomy and physiology
  - Velopharynx
  - Base of tongue
  - Posterior Pharyngeal Wall
  - Laryngeal Function for phonation & airway competency
  - Overall assessment of hypopharynx & larynx for edema or erythemia & any abnormalities for which the appropriate referral can be made
- Assess secretion levels (see handouts)
  - Murray 3-point Secretion Scale
  - Marionjoy 5-point Secretion Scale
- Obtain a general idea of sensation, or perform FEESST if you have the equipment
- Provide consistencies to individual to assess swallow mechanism

Anatomy: Endoscopic View of Naris



- Landmarks:
  - Meatus = opening
  - Turbinates
  - Septum
- Points to remember:
  - Stay in inferior turbinate
  - Avoid the septum
  - Don't drive blind

Anatomy: Nasopharynx

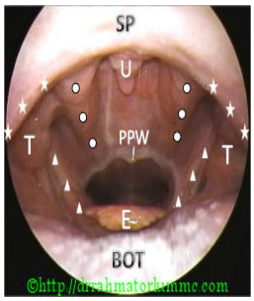


- Superior portion of the pharynx
- Landmarks:
  - Pharyngeal tonsils
  - Eustachian tubes

Screen:

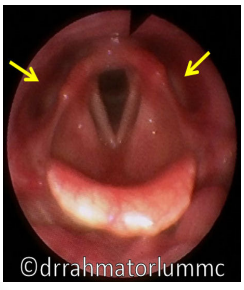
- Velopharyngeal insufficiency
- Nasoreguritation

Anatomy: Oropharynx



- View from the mouth!
- **Landmarks:**
  - Soft palate
  - Base of tongue/vallecula
- **Screen:**
  - Symmetry
  - Amount of movement

Anatomy: Hypopharynx



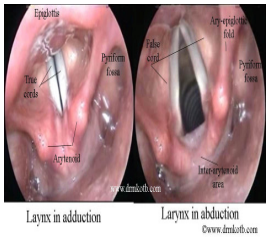
Landmarks:

- Tip of epiglottis
- Inferior border of cricoid cartilage
- Pyriform sinuses

Screen:

- Symmetry
- Material in pyriforms
- Secretion management

Anatomy: Glottis



Laynx in adduction Larynx in abduction

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- Landmarks:
  - Arytenoids
  - Aryepiglottic folds
  - False vocal folds
  - True vocal folds
- Screen:
  - Symmetry
  - Movement of Vocal Folds
  - Secretion Management

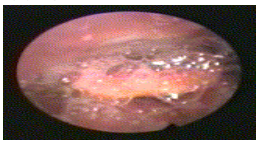
Assessing Secretions

Status of standing secretions in HP (also note viscosity & color):

0 = Normal moist
1= Pooling outside laryngeal vestibule
2= Pooling in laryngeal vestibule transiently, spills in over the observation period or patient clears them
3= Pooling in laryngeal vestibule consistently and patient does not clear them

** Rating of 2 or 3 is an excellent predictor of aspiration of PO

(Murray et al, *Dysphagia. 1996;11:99-103.)*



FEES: Assessing Physiology

- Assessing VP symmetry, movement and range of motion
  - (M-PAH or ask the pt to swallow)
- Base of Tongue (CN XII)
  - Repeat "earl" or other postvocalic /l/ word
  - Produce "hawking" sound
  - Trill
- Pharynx constrictors (CN X) & longitudinals (CN IX&X)
  - Strained loud high "EE"
  - Grunt or trill

** Assess symmetry & range

FEES: Assessing Physiology

- Laryngeal Function (CN X)

Respiration: Laryngeal Excursion & Timing Inhale/exhale.

-Rest breathing Normal: rate of 3 to 4 secs each cycle or 12-20 per minute. Symmetric abduction/adduction.

-Inhalation: symmetric with complete excursion?

**Tasks: panting, deep inhalation, alternate "EE".

Phonation:

-Asymmetry?, incomplete closure?, slow/delayed?

**Tasks: "EE", repeated "EE-EE-EE"

FEES: Assessing Physiology

- Airway Protection: Laryngeal Competence for breath hold

1. Hold breath lightly...Do TVCs contact?
2. Hold breath very tightly...Do FVC & arytenoids help closure?
3. Sustain breath holding to the count of 10...Should have complete glottic closure 7+ seconds
4. Cough or throat clear...Is it delayed or asymmetrical?

FEES: Assessing Sensation

- Response to light touch of tongue (CN XII), pharyngeal walls (CN IX & X)?
- Response to light touch of epiglottis (CN IX & X)

** Usually can have a good idea of sensation from passing the scope & assessing physiology. However, if still have questions can lightly touch.