Esophageal Dysphagia: The Role of the SLP

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OBJECTIVES

1. Identify the interrelationship between the oral, pharyngeal and esophageal phases of swallowing.

2. Discuss differential diagnoses related to oropharyngeal and esophageal dysphagia & distinguish oropharyngeal from esophageal dysphagia by symptoms

3. Classify as structural or functional based on symptoms and signs

4. Review recorded instrumental assessments and evaluate structural and functional radiographic findings in an open and active forum.
Role of the Speech Pathologist

• Accurate understanding of basic esophageal anatomy and physiology
• Be able to identify diseases and disorders associated with esophageal dysfunction.
• Be able to accurately correlate subjective complaints and PMH with radiographic findings.
• Be able to make appropriate recommendations based on consultation with radiologist and historical, clinical & objective findings.
Approach to Dysphagia

Steps of Evaluation

- Separate oropharyngeal from esophageal dysphagia by symptoms
- Classify as structural or functional based on symptoms and signs
- Rule out structural obstruction.
- Recommend further evaluation using specialized testing for structural and functional deficits.
- SLP’s Scope of Practice: refer to ASHA position statement in your handout.
SLP’s Scope of Practice

- ASHA’s 1992 Position Statement:
  - “The traditional radiographic procedure was modified to study the specific anatomy and physiology of the oral cavity, pharynx, and cervical esophagus during the oral preparatory, oral, pharyngeal, and cervical esophageal phases of swallowing (Logemann, 1983)...
  - Results of the VFSS may suggest that referral to a radiologist/gastroenterologist for an upper GI series, or air contrast esophagram may be needed to view the esophagus. SLP’s should have sufficient knowledge to make an appropriate referral and plan cooperative management.

Historical Perspective

- SLPs remain the preferred providers for evaluation and treatment of oral and pharyngeal stage dysphagia

- Assessment of the esophagus was not always included in the evaluation
## Competencies

**Competency**

Videofluoroscopic Swallowing Studies

(Adapted from “Knowledge and Skills Needed by SLPs Performing Videofluoroscopic Swallowing Studies,” 2003)

### Knowledge required (Fundamentals):

- Normal and abnormal aerodigestive anatomy and physiology for respiration, airway protection, and swallowing.
- Normal and abnormal neuroanatomy and neurophysiology for respiration, airway protection, and swallowing.
- The interrelationships of the oral, pharyngeal, and esophageal phases of swallowing.
- The interrelationship of respiration and swallowing.
- Anatomical landmarks as viewed fluoroscopically in the lateral and anterior-posterior planes.
- Typical age-related changes in anatomy and physiology of the swallow.
- Changes in swallowing anatomy and physiology related to various medical conditions/surgical procedures.
- The potential effects of common medications on swallowing.
- Functional outcome measures in swallowing management.
- Existing efficacy studies and evidence-based practice related to swallowing.
Team Review – Dysphagia Rounds

• If practitioners choose to perform these procedures, indicators should be developed, as part of a continuous quality improvement (QA) process, to monitor and evaluate the appropriateness, efficacy, and safety of the procedure conducted.

• QA is a team approach between Radiology, Speech Pathology, and gastroenterology.

Insights into the Causes of Dysphagia

- Timing (prolongation)
- Coordination between bolus transit and swallow gestures
- Integrity of chambers and valves (displacements)


- Structural vs. functional
Predictability of Dysphagia

- Dysphonia
- Dysarthria
- Abnormal volitional cough
- Cough after swallow
- Voice change after swallow


- Odynophagia
- Globus Sensation
- Regurgitation
- Halitosis
Pharynx & Esophagus: A unique functional unit

• Interrelationship between oral, pharyngeal and esophageal phases: Cause & Effect

  – 1996 JHH study: 40 patients localized symptom at or above suprasternal notch.
  • 11/40 evidence of esophageal pathology only.
  • 14/40 had combined oropharyngeal-esophageal disorders.
“The mouth, pharynx, & esophagus operate as an integrated system & that dysfunction in any of these anatomic & functional components leads to adaptive or compensatory changes in the other.”

Triadafilopoulos, et al., 1992, Digestive Diseases & Sciences
Value of Protocol

- Ensures patient safety
- Permits standardization of the exam
- Enables performances over time
- Enables comparison to other patients and normals.

Esophageal Protocol

• **Procedure**: Patient is positioned in RAO position. Patient is presented HD barium in a cup with straw by the radiology tech.

• **Examination for Esophageal Motility**:
  – Two to three single swallows to assess esophageal motility. Patient is instructed to open his/her mouth after the swallow and wait **20-30** seconds to establish the primary wave of the swallow. This allows for a collapsed mucosal view once the esophagus is empty. The proximal 1/3 (striated muscle) of the esophagus and the distal 2/3 (smooth muscle) of the esophagus are examined.

• **Examination for Gastroesophageal Reflux, Hiatal Hernia, Esophagitis**: Reposition patient into supine (lying face upward) position by having the patient turn 180 degrees and perform a Valsalva manuever then breath. Spot films will be taken for post study review by the Radiologist to most optimally assess esophagitis.
Clinical Rating Tools: FOSAD

• Features of Swallowing and Dysphagia
  – Oral aspects
  – Pharyngeal aspects
  – Esophageal aspects
Esophagram

- **Double Contrast**
  - High density barium
  - “thick”
  - Fizzies

- **Goal: Mucosal detail**
  - Esophagitis
  - Neoplasm
Esophagram

- Low density barium
  - “thin”
- Single swallows for peristalsis
- Multiple swallows for detection of
  - Rings
- Strictures
- Hernia
UES/Pharyngoesophageal Segment

- High pressure zone between pharynx and the esophagus
- Protects against aspiration of reflux
- Prevents aerophagia
- 3 components of the UES
  - Upper 2/3: Inferior pharyngo constrictor muscle
  - Lower 1/3: Cricopharyngeus
  - Cervical esophagus

5 Phases of UES/PES opening

- Inhibition of tonic contraction
- Hyolaryngeal excursion causes passive opening or relaxation
- Distention of the PES occurs through both bolus size and weight.
- There is a passive collapse of the UES/PES as food passes through
- Closure of the UES/PES through action contraction.

Esophageal Anatomy

- **Striated Muscle**
  - Upper 1/3: striated

- **Smooth Muscle**
  - Lower 2/3: smooth

- **Two sphincters:**
  - UES (Cricopharyngeus) and LES

- Average peristalsis takes 6-8 seconds to proceed through the esophagus, with average velocity of 3-4 cm/sec.

- UES to LES = 20 cm
Propelling Muscle Action

- Normal primary peristaltic contraction
  - Waves of 30mm of mercury or more
  - Velocity of 6mm per second or less.
- Each wave should have a duration of 3-4 seconds to propel solids through the esophagus.
- Secondary peristaltic wave:
  - Approximately the same amplitude and velocity characteristics as primary peristalsis and act to clean out the esophagus.
- Tertiary contractions:
  - Simultaneous contraction waves of the same amplitude & duration as primary waves but they do not progress down the esophagus because they occur simultaneously.
Thoracic Esophagus
‘Esophageal Plexus’

• Esophageal Plexus:
  – formed by the vagus nerve [10th cranial nerve], and the vagal trunks all lie on the outer surface of the thoracic esophagus.

• Vagal Reflex Arc:
  – from the esophagus to the lung can cause bronchoconstriction when stimulated (i.e. by reflux, stasis, etc.)
Esophageal Symptoms Definition

• Dysphagia
  – Difficulty swallowing, a sensation that food is getting stuck in the esophagus

• Odynophagia
  – Pain with swallowing

• Globus Sensation
  – A lump in the throat, relieved by swallowing

• Chest pain
  - The feeling of chest pain, presumably of esophageal origin (can be confused with cardiac pain which must be examined)
Differential Diagnosis of Dysphagia

Esophageal Dysphagia

- Motility Disorders
  (Neuromuscular Disorders)
  - Achalasia
  - Scleroderma
  - Diffuse Esophageal Spasm
  - Nutcracker
  - Non-specific esophageal dysmotility (NEMD)

- Intrinsic Obstructive Lesion
  - Diverticula
  - Webs
  - Schatzki Ring
  - Stricture
  - Tumor
  - Hiatal Hernia
  - Neoplasm/Cancer

- Traumatic
- Infectious-bacterial,viral
- Inflammatory-esophagitis
- Vascular, Endocrine, Autoimmune
  - Varices, Diabetes,
  - Sjogrens Syndrome

- Drugs
- GERD
Motility Disorders
Esophageal Motility Disorders

- Nutcracker
- Nonspecific esophageal motility disorder
- Diffuse spasm
- Achalasia
- Hypertensive LES
J.Q.: Esophageal Dysmotility
Achalasia

• Caused by failure of the lower esophageal sphincter to relax which leads to tonic sphincter contraction.

• Symptoms are caused by food becoming trapped in the esophagus and unable to pass into the stomach.

• Esophagus resembles ‘bird’s beak’ radiographically.

• Treatment: balloon dilation or surgery may benefit from Botox® (botulinum toxin) injections.
Achalasia - MBS
Scleroderma

• Connective tissue disorder that weakens LES thus associated with increased GERD
• affect predominantly the smooth muscle region (lower 2/3)of the esophagus
• Causes profound hypomotility

– Symptoms: heartburn, dysphagia

– Diagnosed: Barium Swallow

– Treatment: cannot change motor disturbance but should treat symptoms.
Diffuse Esophageal Spasm

• Uncoordinated contractions of the esophageal body due to neuromuscular abnormalities resulting in spasm

• **Symptoms**: Intermittent difficulty with both solids and liquids.

• **Etiology**: Unknown

• **Treatment**:
  – Calcium Channel Blocker
  – Myotomy, which is performed only in extreme cases, can relieve the uncoordinated contractions
Esophageal Spasm
Cork Screw Esophagus
Nutcracker Esophagus

• The major difference between esophageal spasm and nutcracker esophagus is that in a nutcracker esophagus there are very high amplitude contractions in the distal esophagus and no simultaneous contractions as seen in esophageal spasm and only occasionally does impairment of esophageal function lead to dysphagia.

• “nutcracker” is often used to represent a variant of diffuse esophageal spasm.
Intrinsic Obstructive Lesions
Esophageal Diverticulum

• **Symptom:** Most are asymptomatic;
  – If large than may be associated with non-cardiac chest pain, dysphagia, regurgitation & aspiration

• **Etiology:** Acquired; seldom seen before the age of 40.
  – A diverticulum is small outpouching of the wall of the throat.
    Develops at the junction of the throat and the esophagus.
  – Occasionally occurring in the esophagus, sometimes just above a stricture or narrowing
  – Such outpouchings can occur in 3 areas of the esophagus:
Esophageal Diverticula

• **Treatment:**
  – If symptomatic, then surgical management with diverticulectomy, diverticulotomy, diverticulopexy

• **Diagnosis:**
  – Usually through routine barium swallow examinations.
Esophageal Diverticulum

I. Upper Esophageal Diverticula (Zenker's)
   Uncommon Esophageal Diverticula/Pulsion or traction forces

II. Midesophageal - Usually small and asymptomatic.

III. Epiphrenic - Usually symptomatic and on the right
S.B. Diverticulum
Zenker’s Diverticulum

• Symptoms:
  • Initially vague and include general complaint of difficulty swallowing.
  • As the pouch enlarges, patients often develop:
    • A cough
    • Bad Breath
    • Regurgitation of undigested food
    • Pharyngeal gurgling.
    • May see a bulge in the throat
    • May have repeated Pneumonia.

• Etiology:
  • Acquired, usually from dysfunction of the UES, Tends to develop very slowly over years. Patients are usually middle aged or elderly.
Zenker’s Diverticulum

Treatment usually involves surgically cutting the muscle in the upper part of the esophagus or surgical removal of the pouch. Significant improvement occurs in over 90% of patients.

- If the pouch is very small and does not cause symptoms, it is usually just observed.
Zenker’s Diverticulum
ZENKERS’S CASE STUDY

• 83 y/o female
• Recurrent pneumonia
• Clinical swallow exam:
  – gurgling in mouth and neck, progressive dysphagia, coughing during meals intermittently with solids and liquids
• MBS results: 6-7cm Zenker’s diverticulum
Zenkers Diverticulum
Mid-Esophageal and Epiphrenic Diverticulum
Complications of any Diverticula Repair

• Erosion with bleeding
• Inflammation with abscess
• Perforation
• Fistula formation
• Retained foreign body
• Neoplasm
Diverticulum
Hypopharyngeal (cricopharyngeal) bar

- Hypopharyngeal bars:
  - common
  - often associated with other pharyngeal and esophageal abnormalities.
- In most patients, the bar is a secondary phenomenon and does not appear to contribute significantly to the patient`s symptoms.
Webs

• **Symptoms:** Difficulty swallowing solid foods

• **Etiology**
  - Congenital
  - Acquired: Plummer-Vinson
  - Radiation-induced

• **Treatment**
  - Dilation of the affected portion of the esophagus (essentially "mash" the webs flat)

• **Diagnosis**

  • **Videofluoroscopy:** appears as a sharp anterior and/or posterior projection

  • **Endoscopy** (scope passed down the throat into the esophagus)
Schatzki Ring

- Dysphagia with swallowing solid foods occurs when the diameter of the ring is <1.3 cm/13mm.
- The diagnosis is established either by a barium swallow or by endoscopy.
Schatzki Ring

- Smooth concentric ring of tissue that marks the junction between gastric and esophageal mucosa (gastroesophageal junction)
- It is composed of the hypertrophied mucosa of the squamocolumnar junction
Schatzi’s Ring
P.T.
Schatzi’s Ring
P.T.
Stricture

• **Symptoms:**
  – Intermittent, non progressive or slowly progressive difficulty swallowing solids when stricture is small, however dysphagia may progress from solid to semisolid to liquids in a brief period of time
  – Globus sensation, non-cardiac chest pain, unexplained weight loss. In time, the narrowing can become quite severe and obstruct the flow of food into the stomach.

• **Etiology:**
  – A narrowing in the esophagus usually caused by Acid Reflux in the lower esophagus

• **Diagnosis:** Videofluoroscopy and Endoscopy
Strictures

Benign Distal Esophageal Stricture in Patient with GERD

Figure 11. Esophageal stricture showing obstruction of food bolus with corresponding barium swallow.
Stricture

- **Treatment:** Dilation

- Types of dilators: Hurst/Maloney. Mercury-filled rubber bougies, first used by Hurst in 1915, have a blunt tip.
Pt #9: Progression of Post Cricoid Pharyngoesophageal Stricture
Pt #9: Stricture (Tread) 6-22-2008
Malignant Tumors of the Esophagus

- Squamous cell carcinoma is the most common esophageal neoplasm, (>90%)
- Esophageal CA is one of the most fatal forms of gastrointestinal cancer.

Figure 21. Esophageal cancer (A) with corresponding barium swallow x-ray (B) and endoscopic view (C).
ESOPHAGEAL CARCINOMA
ALMOST COMPLETE OBSTRUCTION OF THE JUNCTION OF CERVICAL AND THORACIC ESOPHAGUS DUE TO MALIGNANCY
Anatomic Variants
Hiatal Hernia

• A portion of the upper stomach protrudes through a small hole in the diaphragm where the esophagus and the stomach join.

• Etiology:
  – Most with unknown etiology
  – small % congenital
  – aging
  – acid-reflux
Types of hiatal hernia

Type I: axial or sliding hiatal hernia

Type II: paraesophageal hernia
Trauma

• Caustic Burns
  • Caustics--Alkalis (pH>7)
    • Drain openers
    • Laundry detergent
    • Clinitest tablets
    • Hair relaxers
  • Corrosives--Acids (pH<7)
    • Lysol (phenol)
    • Battery fluid
  • Bleaches--Neutral pH
    • Sodium hypochlorite

• Foreign bodies
  – Can lodge at the aortic arch and lead to vascular esophageal fistula in as little as 1 wk.

• Perforation: Medical tubes and instruments, blunt trauma, forceful vomiting (Boehaaves Syndrome).

• Intramural Hematoma
Esophageal Infections

- **Symptom:** Odynophagia, non-cardiac chest pain

- **Etiology:**
  - Involves damage to the esophageal tissue.
  - Can result from frequent and persistent presence of stomach acid in the esophagus.
  - Fungal (Candida), Bacteria, Parasitic, Viral Infections (Cytomegalovirus, HIV, Herpes Simplex Virus, Varicella Zoster (a DNA virus that causes chickenpox and herpes zoster), Epstein-Barr Virus Human Papilloma virus)

- **Treatment:**
  - Pharmacological Management
Esophageal Inflammation

- Radiation Esophagitis
- Chemotherapy Esophagitis
- Barretts Esophagus
- Pill Induced Esophagitis
Barrett’s Esophagitis: Severe Esophagitis

• Etiology:
  – Premalignant change in type of epithelium, or cell lining, of the esophagus.
  – Typically occurs as longstanding damage from gastroesophageal reflux.
  – Approx. 5-10% of persons will progress to cancer.

• Diagnosed:
  – through endoscopy.
Pill Induced Esophagitis

• **Etiology:**
  – Causes mucosal injury in the esophageal lumen
  – occurs mostly in patients with stenosis or abnormal peristalsis

• **Symptoms:**
  – retrosternal pain which develops after hours, days or weeks of pill taking

• **Diagnosis:** Barium Swallow

• **Treatment:**
  – usually resolves after 1-6 weeks after pills are stopped. Control of acid reflux allows for faster healing.
Autoimmune Diseases

Sjogren's Syndrome

The body's immune system mistakenly attacks its own moisture producing glands.

– Symptoms

  • lack of saliva

  • esophageal connective tissue abnormality

– Treatment:

  • based upon the types and severity of symptoms

– Diagnosis: Modified Barium Swallow Study/Esophagram
Vascular Bleeding Esophageal Varices

• Varicose Veins in the Esophagus

• Symptoms: symptom of chronic liver disease (such as cirrhosis)
  – vomiting, vomiting blood, black/tarry stools
  – excessive thirst, paleness, lightheadedness

• Etiology:
  – A bleeding condition resulting from dilated veins in the walls of the lower part of the esophagus and, sometimes, the upper part of the stomach.

• Diagnosis: EGD (esophagogastroduodenoscopy)
Treatment for Esophageal Varices

- Endoscopic Therapy
- Balloon Tamponade
- Transjugular Intrahepatic Portosystemic Shunting
- Octreotide and vasopressin are medications that may be used to decrease portal blood flow and slow bleeding.
- Emergency surgery.

• **Prognosis:** Bleeding recurs frequently. Bleeding esophageal varices are a serious complication of liver disease and carry a poor prognosis (probable outcome).

• **Complications:**
  - recurrence of bleeding after treatment
  - hypovolemic shock
  - esophageal stricture after surgery or endoscopic therapy
Vascular: Esophageal Varices
Endocrine - Diabetes

• 60% of diabetics with evidence of peripheral or autonomic neuropathy have disordered motility. Few are symptomatic.

• Radiographically:
  • May be failure of primary stripping wave suggestive of hypomotility disorder.
Gastroesophageal Reflux GERD

- **Reflux:** acidic contents of the stomach back up, or reflux, into the esophagus.

- **Symptoms:**
  - Heartburn, persistent sore throat, hoarseness, chronic cough, asthma, heart-like chest pain, and a feeling of a lump in the throat. Frequent heartburn (two or more times a week), may be associated with chronic gastroesophageal reflux, and a more serious condition called gastroesophageal reflux disease, or GERD.
  
  - Dysphagia is often present in patients with significant GERD.

- **Etiology:**
  - Acid reflux occurs when the lower esophageal sphincter either relaxes inappropriately or is very weak.

- **Complications associated with Reflux**
  - Chronic gastroesophageal reflux may result in serious complications. The constant presence of stomach acid in the esophagus may lead to conditions such as erosive esophagitis (an irritation or inflammation of the esophagus), Barrett’s esophagus (a pre-cancerous condition), or ultimately, to esophageal cancer.
Assessing The Effect Of Reflux On The Esophageal Mucosa

- A barium swallow detects gross changes, such as stricture formation or a deep esophageal ulcer, but misses the much more common shallow ulcerations and erosions, which are detected by endoscopy.
  - Biopsy may demonstrate the histologic changes of reflux.
  - Esophageal pH monitoring can confirm the diagnosis.
  - Esophageal manometry may be performed to estimate LES pressure and to determine the presence or absence of peristaltic waves.
  - Transnasal esophagoscopy with/without brush biopsy
  - Endoscopy
M. W.
Anterior Cervical Fusion
Total Thyroidectomy
Neuromuscular Disease
Complication of Severe GERD: ESOPHAGEAL STRICTURE

- Of the many who complain of symptoms of GERD, only a few develop esophageal strictures, usually at the lower end of the esophagus, but sometimes migrating over years to the mid-esophagus or higher.
Medications Associated With Dysphagia

- Medications can cause direct esophageal mucosal injury.
- Certain medications, hormones and foods are associated with reduced lower esophageal sphincter tone and reflux.
## Management Options for Esophageal Dysphagia

<table>
<thead>
<tr>
<th>Condition</th>
<th>Conservative treatment</th>
<th>Invasive treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diffuse esophageal spasms</td>
<td>Nitrate, calcium channel blockers</td>
<td>Serial dilations or longitudinal myotomy</td>
</tr>
<tr>
<td>Achalasia</td>
<td>Soft food, anticholinergics, calcium channel blockers</td>
<td>Dilation, botulinium toxin injections, Hellers myotomy</td>
</tr>
<tr>
<td>Scleroderma</td>
<td>Anti-reflux, systemic medical management of scleroderma</td>
<td>None</td>
</tr>
<tr>
<td>GERD</td>
<td>Anti-reflux drugs (H2 blockers, Proton pump inhibitors) and prokinetic agents (cisapride)</td>
<td>Fundoplication</td>
</tr>
<tr>
<td>Infectious esophagitis</td>
<td>Antibiotics (nystatin, acyclovir,..)</td>
<td>None</td>
</tr>
<tr>
<td>Pharyngoesophageal (Zenker’s) diverticulum</td>
<td>None</td>
<td>Endoscopic or external repair in addition to cricopharyngeal myotomy</td>
</tr>
<tr>
<td>Schatzki’s ring</td>
<td>Soft food</td>
<td>Dilation</td>
</tr>
</tbody>
</table>
Manometry

• Manometry evolved from intraluminal manometry which is used to evaluate the speed and force of esophageal peristalsis.

• Pressure changes created by displacement of fluids moving through a hollow tube can be measured with manometry.

• Pressure transducers with internal strain gauges or sensors are placed inside a catheter which is directed either orally or transnasally through the pharynx and into the esophagus.

High-Resolution Esophageal Motility Study

Greater Baltimore Medical Center
The Milton J. Dance, Jr. Head & Neck Center
4443-849-2087
Baltimore, MD 21204

Patient: M000557878
Gender: Male
DOB / Age: 
Height: 6 ft
Procedure: Esophageal Manometry

Residual Pressures
- LES (mean): 3.1 mmHg (<15.0)
- UES (mean): 44.3 mmHg (<12.0)

Motility
- Dist. wave amplitude: 40.0 mmHg (43-152)
- Wave dur. @ LES -3.0 & 7.0
- 1.9 s (2.7-5.4)
- Onset vel. (LES -11.0 to -3.0)
- 4.6 cm/s (2.8-6.3)
- Percent peristaltic: 50 %
- Percent failed: 30 % (0 %)

Basal Pressures
- LES, respiratory min: -2.5 mmHg (4.8-32.0)
- LES, respiratory mean: 11.8 mmHg (13-43)
- LES mean: 121.3 mmHg (34-104)

Anatomy
- LES mid (end-exp.): 52.0 cm
- LES proximal: 51.0 cm
- LES length: 1.0 cm (2.7-4.8)
- Hiatal hernia: No

Swallow Composite (mean of 10 swallows)

Resting Pressure Profile & Anatomy

Notes: Motility values are mean among swallows; Normal values: Simultaneous contractions; Velocity > 6.0 cm/s; eSEEs Sleeves; 3SN, IRP, DCI, IBP – See manual definitions.
Manofluorography

- Manofluorography simultaneously records oropharyngeal pressure changes, anatomic biomechanical and physiological swallow events and bolus transit onto a video tape (McConnell et al., 1986).
- Oropharyngeal and esophageal anatomy and bolus flow are monitored from the videofluoroscopic images.
- Pressure changes associated with each swallow are displayed simultaneously in analog form as negative or positive pressure waves.
- The relationships among the forces created by the opposition and the contractions of the tongue, pharynx, larynx, esophagus, and bolus are able to be studied.

pH Monitoring

- Remains the gold standard for diagnosing patients with suspected reflux disease.
- A nasogastric probe is inserted into the patient's esophagus and records pH levels. These levels are compared with the patient's record of symptoms over a 24-hour period to determine if acid reflux contributes to the symptoms.
- Combined recordings of esophageal pH levels and intraluminal esophageal pressure may aid in diagnosing patients with reflux-induced esophageal spasm.

Clinical Case Challenge

E.D.

-  51-year-old female

-  Hx: moderate mental retardation, seizure disorder, schizophrenia
-  Per report from patient’s caregiver patient has been choking and regurgitating both solids and pills in applesauce for approximately 2 months.

-  Diet was downgraded to puree with thin liquids and regurgitation has reportedly decreased.

-  Patient has a history of gastroesophageal reflux and takes antacid tablets every morning.

-  No history of pneumonia, recent hospitalizations, or other significant medical history was reported.
E.D. – Oropharyngeal Phase Exam Stills
E.D.- Esophagram
Exam Still
Clinical Case Challenge

E.H.

EH

- 65-year-old gentleman who was referred for MBS due to patient complaints of worsening dysphagia and odynophagia since mid-February 2010 following a fall on the ice.

- Patient has a previous hx of anterior cervical disc fusion (C3-7) in 2006, after which patient reported significant voice and swallowing deficits. Unfortunately, these deficits were exacerbated by this recent fall.

- Patient underwent X-ray and CT imaging of the spine following the fall, both negative for acute changes. Today, patient presents with c/o pain specifically on the right side of his neck with swallowing, vocal hypernasality with abnormal, cul-de-sac resonance, and c/o worsening reflux since the fall.

- Medical history includes OSA, dysphagia, C3-3 ACDF in 2006, recent fall, reflux, high cholesterol
Clinical Case Challenge
E.H.
Clinical Case Challenge
E.H.
Conclusions

• Team approach.
• Consider oropharyngeal-esophageal protocol
• Know when to refer.
• Specific diagnostics enables specific treatment.
• Read current literature to broaden view of assessment and treatment tools.