Over a Lifespan
What’s the supportive role of the SLP when treating Dysphagia

Speech-language pathologists are knowledgeable about normal and abnormal anatomy, physiology, and neurophysiology of the upper aerodigestive tract responsible for respiration, swallowing and speech.
Differences between swallowing and feeding

• **Swallowing** – the entire act of deglutition from placement of food in the mouth through the oral, pharyngeal and esophageal stages of the swallow until the material enters the stomach through the gastroesophageal juncture.

• **Feeding** – is limited to the placement of food in the mouth; the manipulation of food in the oral cavity **prior** to the initiation of the swallow (may include mastication)
Dysphagia

- Any difficulties moving food from the mouth to the stomach

- Three stages of the swallow:
  - Oral
  - Pharyngeal
  - Esophageal
Oral Structures
• Oral Stage – often divided into two phases
  • Oral Preparatory Phase
    • When food is manipulated in the mouth and prepared for the swallow
  • Oral Phase
    • When the tongue propels the food posteriorly until the pharyngeal swallow is triggered

• Pharyngeal Stage
  • When the pharyngeal swallow is triggered and the bolus is moved through the pharynx

• Esophageal Stage
  • When esophageal peristalsis carries the bolus through the cervical and thoracic esophagus and into the stomach
Oral Stage

• Requires:

  • Intact labial musculature
    • To ensure an adequate seal
    • Prevent material from leaking out of the oral cavity

  • Intact lingual movement
    • To propel the bolus posteriorly

  • Intact buccal musculature
    • To ensure that material does not fall into the lateral sulci

  • Normal palatal muscles

  • Ability to breathe comfortably through the nose
Pharyngeal Stage of Swallow

• Pharyngeal transit time
  • Time it takes for the bolus to move from the point at which the pharyngeal swallow is triggered through the cricopharyngeal juncture into the esophagus – (1 second or less)

• Epiglottis
  • Directs the material around the airway rather than over the airway
  • The two portions of the bolus join again at the level of the opening of the esophagus
**Esophageal Stage**

- Cricopharyngeal region opens
- Esophageal peristalsis
- Opening of the LES
Evaluation of Swallowing Disorders

• Bedside (clinical) Assessment
  • Oral Facial Examination
    • Structure
      • Facial symmetry
      • Dentition
      • Oral cavity
      • Tongue
      • Velum
      • Oropharynx
  • Function
    • Lips
      • Retraction
      • Protrusion
      • Closure

• Labial assessment
  • Indicate any degree of facial paralysis
  • Indicate any problem with maintaining lip closure when food is placed within the oral cavity
Evaluation of Swallowing Disorders

• Bedside (clinical) Assessment
  • Oral Facial Examination
    • Function
      • Tongue
        • Protrusion
        • Elevation
        • Lateral extension
      • Velum
        • Gag reflex
    • Larynx
      • Vocal quality
      • Cough
  • Lingual assessment
    • Identifies limitation in tongue function that may affect the ability to propel food posteriorly or hold a cohesive bolus
    • Helps to identify probable consistency of best management
Evaluation of Swallowing Disorders

• Soft Palate and Oral Reflexes

• Gag Reflex

• It is possible to have a reduced or absent gag reflex and still have a normal swallow
Evaluation of Swallowing Disorders

• Bedside (clinical) Assessment
  • Swallow Assessment
    • Format depends on functional level of patient
  • Oral Phase
    • Oral clearance
    • Anterior sulcus
    • Lateral sulci
    • Tongue body
  • Reflexes
    • Biting
    • Oral defensiveness
Evaluation of Swallowing Disorders

• Bedside (clinical) Assessment
  • Swallow Assessment
    • Pharyngeal phase
      • Promptness
      • Laryngeal excursion
      • Vocal quality
      • Cough
    • Cervical auscultation
      • Cessation of breathing
      • Strong “clunk”
      • Clear airway
• Bedside (clinical) Assessment
  • Swallow Assessment
  • Materials
    • Dry swallow
    • Puree
    • Ground
    • Cut up
      • 1”, ½”, ¼”
    • Whole
    • Liquid
      • Thin, Nectar, Honey
Diagnostic Testing to Assess the Degree of Dysphagia

- Video Fluorographic Assessment
  - Modified Barium Swallow
    - Has two essential purposes
      - Define the abnormalities in anatomy and physiology causing the patient’s symptoms
      - Identify and evaluate treatment strategies that may immediately enable the patient to eat safely and efficiently
Diagnostic Testing to Assess the Degree of Dysphagia

• Flexible Endoscopic Evaluation of Swallowing With Sensory Testing

• FEESST

  • Is the only test of a swallow that examines both airway protection and bolus transport

  • Airway protection is determined by administering a calibrated pressure and duration-controlled pulse of air to the hypopharyngeal tissues innervated by the internal branch of the superior laryngeal nerve (SLN) in order to elicit the laryngeal adductor reflex (LAR), a fundamental, brainstem-mediated airway protective reflex
Penetration into Laryngeal Vestibule
Penetration with Aspiration
Hypertrophy of Cricopharyngeal Muscle
Cervical Osteophyte
Zenker’s with Aspiration
Zenker’s with Passage of Liquid
• **Dysmotility**
• **Tertiary Contractions**
• **Retrograde Movement**
Hiatal Hernia with Reflux
Management of the Patient with Dysphagia

• Treating the Dysphagic Patient

• SOLID/LIQUID CONSISTENCIES
  • FROM LEAST RESTRICTIVE TO MOST RESTRICTIVE

• SOLIDS
  • Whole – All meats, chicken, vegetables, pastas, fruits, cookies; presented in regular form or cut into bite size pieces for those patients who are not able to cut up their food
  • CUT-UP 1” ½” ¼” pieces – All meats, chicken, vegetables, pastas, fruits, cookies; presented in cut-up pieces.
  • GROUND – All meats, chicken, vegetables, pastas, fruits, cookies are to be placed into the blender until they appear to be like fine granola
    • All ground meats/chicken are moist
  • PUREE – All meats, chicken, vegetables, pastas, fruits, cookies are to be placed into the blender until they appear to be like fine baby food.
Management of the Patient with Dysphagia

• Treating the Dysphagic Patient

• **SOLID/LIQUID CONSISTENCIES**
  • FROM LEAST RESTRICTIVE TO MOST RESTRICTIVE

• **LIQUIDS**

  • THIN – No restrictions
  • NECTAR – Tomato juice, pear juice, or add Thick-It or Simply Thick to any thin liquid to obtain the consistency of the prior mentioned juices (i.e., tomato/pear juice). This is inclusive of coffee and tea as well as milk used for cereal and broths for soup and gravy
  • HONEY – Thicken any fluid to the consistency that of honey
  • PUDDING – Thicken any fluid to the consistency that of chocolate/vanilla pudding
Management of the Patient with Dysphagia
Management of the Patient with Dysphagia

• Treatment Planning

• Main Goal for any dysphagia treatment plan:

  • Establishment of oral feeding while constantly maintaining adequate hydration, nutrition and safe swallowing
WHERE DOES THE TREATMENT TEAM BEGIN AS WE CONSIDER GI ISSUES FOR PATIENTS WITH I/DD?

- The history
- The physical exam
- A little luck
WHAT ARE THE MOST COMMON BILLABLE ICD-10 CODES FOR OUR PATIENTS AND OUR TRENDS?

- **Constipation**
  - In 2005 it was our 9\textsuperscript{th} most common diagnosis code and represented 2.11\% of all ICD codes for primary care
  - In 2020 it was our 4\textsuperscript{th} most common diagnosis and represented 4.1\% of all ICD codes for primary care

- **GERD**
  - In 2005 it was our 13\textsuperscript{th} most common ICD code and represented 1.82\% of all codes for primary care
  - In 2020 it was our 8\textsuperscript{th} most common diagnosis and accounted for 2.2\% of all ICD-10 codes.
OBTAINING A GOOD HISTORY FOR OUR INDIVIDUALS

• Describing the Present Illness:
  • The principle symptoms should be described in terms of:
  • Location
  • Quality
  • Quantity or severity
  • Timing (i.e., onset, duration, and frequency)
  • The setting in which they occur
  • Factors that have aggravated or relieved them
  • Associated manifestations
THE PHYSICAL EXAM - IMPORTANT POINTS TO CONSIDER

- As an examiner you should be comfortable
- Good lighting and a quiet environment help
- Keep the patient informed as you proceed with your examination
- Sequence the exam to minimize the patient’s need to change positions
- Respect the patient's privacy during the exam
- If you discover an abnormal response or finding, can you reproduce it?
- Use techniques to distract the patient to reproduce abd pain.
- Watch the eyes. (It maybe helpful)
- How does picking up the legs or head help the exam?
- Address the patient!!!
WHAT ARE THE MAIN CAUSES OF ABDOMINAL PAIN?

1) Inflammation
2) Distension
3) Ischemia
4) Referred pain
WHERE DOES DEEP PAIN ORIGINATE FROM?
GERD

• The prevalence of GERD among institutionalized intellectually disabled with an IQ<50 is about 50%

It would be absurd to not always consider GERD
SIGNS AND SYMPTOMS PRESENTING AS GERD

- Cough
- Sore throat
- Chest pain
- Chronic throat clearing
- Hoarseness
- Hyperphagia
- Self injurious behavior

- Rumination
- Asthma exacerbations
- Vomiting
- Halitosis
- Loss of dental and gingival structure
- Increased salivation
- Otalgia

WWW.EMEDICINE.COM/ENT/TOPIC355.HTM
The results of most randomized trials show a 20 to 30 percent response to symptoms of GERD with placebo therapy, and this often is attributed to lifestyle modifications.

Modifications thought to be effective include elevating the head of the bed, reducing fat intake, quitting smoking, and remaining upright for three hours after meals.

Foods such as chocolate, alcohol, peppermint, coffee, onions, and garlic are reported to decrease lower esophageal sphincter pressure, but no randomized trials on their efficacy are available.
The basis of treatment for GERD, and can be accomplished most quickly and effectively with PPIs. In 33 randomized trials that included more than 3,000 patients with erosive esophagitis, more patients experienced symptom relief and healing of esophagitis with PPI therapy (approximately 80 percent) than with H₂RA therapy (50 to 60 percent).

Long-term PPI therapy is extremely beneficial in patients with chronic or complicated GERD, and safety concerns are minor (e.g., possible vitamin B₁₂ deficiency).
Higher-than-approved dosages of PPIs may be appropriate in certain situations, such as in patients who show only a partial response to standard doses or are having breakthrough symptoms, in empiric treatment trials for supraesophageal GERD symptoms, and in cases of severe esophageal dysmotility or Barrett’s esophagus. The dose should be divided, and the second dose given before the evening meal, not at bedtime.

Make sure you document why they are on GERD therapy. Atypical symptoms are often forgotten. Patient may go weeks if not longer before some
CONSTIPATION - TO POOP OR NOT TO POOP WHAT’S THE SCOOP?

https://www.aafp.org/afp/2015/0915/p500.html
Primary constipation, or functional constipation, is classified into three subtypes: normal transit constipation, slow transit constipation, and disorders of defecation.

Secondary constipation include medication use, chronic disease processes, and psychosocial issues.

For our I/DD patients we often do not think of the possible causes and just say yes to both.

PRIMARY CONSTIPATION, SECONDARY CONSTIPATION AND THEN THERE IS I/DD CONSTIPATION
<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 1</td>
<td>Separate hard lumps</td>
<td>SEVERE CONSTIPATION</td>
</tr>
<tr>
<td>Type 2</td>
<td>Lumpy and sausage like</td>
<td>MILD CONSTIPATION</td>
</tr>
<tr>
<td>Type 3</td>
<td>A sausage shape with cracks in the surface</td>
<td>NORMAL</td>
</tr>
<tr>
<td>Type 4</td>
<td>Like a smooth, soft sausage or snake</td>
<td>NORMAL</td>
</tr>
<tr>
<td>Type 5</td>
<td>Soft blobs with clear-cut edges</td>
<td>LACKING FIBRE</td>
</tr>
<tr>
<td>Type 6</td>
<td>Mushy consistency with ragged edges</td>
<td>MILD DIARRHEA</td>
</tr>
<tr>
<td>Type 7</td>
<td>Liquid consistency with no solid pieces</td>
<td>SEVERE DIARRHEA</td>
</tr>
</tbody>
</table>

**BRISTOL STOOL SCALE**
Nonpharmacologic Interventions

To take advantage of the gastrocolic reflex, patients should schedule toileting after meals. They should place their feet on a small step stool instead of on the floor to straighten the anorectal junction.

Exercise programs do not improve symptoms of constipation in nursing home residents and older adults; however, lifestyle education, including exercise and advice on increasing fluid and fiber intake, decreased constipation in one small study.11

There are no randomized controlled trials (RCTs) evaluating the benefit of water supplementation alone to treat constipation, although water supplementation totaling 1.5 to 2 L per day improved stool frequency in middle-aged adults on a high-fiber diet.

The recommended daily fiber intake is 20 to 35 g per day. Intake should be slowly increased over several weeks to decrease adverse effects, including flatulence, abdominal cramping, and bloating.
<table>
<thead>
<tr>
<th>Agent</th>
<th>Typical dosage*</th>
<th>Time of onset</th>
<th>Adverse effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylcellulose powder</td>
<td>19 g per day</td>
<td>12 to 72 hours</td>
<td>None compared with placebo¹⁷</td>
</tr>
<tr>
<td>Polycarbophil (Fibercon) tablets</td>
<td>1,250 mg, one to four times per day</td>
<td>12 to 72 hours</td>
<td>None recorded¹⁸</td>
</tr>
<tr>
<td>Psyllium (Metamucil) powder</td>
<td>1 tsp or 1 packet one to three times per day</td>
<td>12 to 24 hours</td>
<td>Bloating, abdominal distension in 4% to 18%¹⁶,¹⁷</td>
</tr>
<tr>
<td>Osmotic laxatives</td>
<td>Dose</td>
<td>Onset of Action</td>
<td>Adverse Effects</td>
</tr>
<tr>
<td>-------------------------------------------------------</td>
<td>-----------------------------------------</td>
<td>----------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lactulose solution</td>
<td>15 to 30 mL per day</td>
<td>24 to 48 hours</td>
<td>Bloating and cramping; nausea in up to 20%&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td>Magnesium citrate solution</td>
<td>150 to 300 mL, single dose or short-term daily dose</td>
<td>30 minutes to 6 hours</td>
<td>Increase in magnesium, causing lethargy, hypotension, respiratory depression&lt;sup&gt;20&lt;/sup&gt;</td>
</tr>
<tr>
<td>Magnesium hydroxide suspension</td>
<td>30 to 60 mL per day</td>
<td>30 minutes to 6 hours</td>
<td>Increase in magnesium, causing lethargy, hypotension, respiratory depression&lt;sup&gt;20&lt;/sup&gt;</td>
</tr>
<tr>
<td>Polyethylene glycol (Miralax) powder</td>
<td>17 g per day</td>
<td>24 to 48 hours</td>
<td>Minimal adverse effects of cramping and gas&lt;sup&gt;18&lt;/sup&gt;</td>
</tr>
<tr>
<td>Sorbitol solution</td>
<td>2 to 3 tbsp, single dose or short-term daily dose</td>
<td>24 to 48 hours</td>
<td>Bloating, cramping, and nausea&lt;sup&gt;19&lt;/sup&gt;</td>
</tr>
<tr>
<td>Category</td>
<td>Drug</td>
<td>Dose</td>
<td>Onset</td>
</tr>
<tr>
<td>-----------------------------</td>
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</tr>
<tr>
<td><strong>Stool softeners</strong></td>
<td>Docusate sodium (Colace) capsules</td>
<td>100 mg twice per day</td>
<td>24 to 48 hours</td>
</tr>
<tr>
<td><strong>Stimulant laxatives</strong></td>
<td>Bisacodyl (Dulcolax) tablets</td>
<td>5 to 15 mg per day</td>
<td>6 to 10 hours</td>
</tr>
<tr>
<td></td>
<td>Senna tablets</td>
<td>15 mg per day</td>
<td>6 to 12 hours</td>
</tr>
<tr>
<td><strong>Chloride channel activators</strong></td>
<td>Lubiprostone (Amitiza)&lt;sup&gt;†&lt;/sup&gt; capsules</td>
<td>24 mcg twice per day</td>
<td>Within 24 hours</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>Linaclotide (Linzess)&lt;sup&gt;†&lt;/sup&gt; capsules</td>
<td>145 mcg per day</td>
<td>—</td>
</tr>
</tbody>
</table>
- Enema: recommend mineral and warm water.
- Suppositories
- Measuring Abdominal girth
- Colchicine
QUESTIONS?

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