Dysphagia Management and the IDT

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Director of Rehab
Course Content

• 3 stages of the normal swallow

• Dysphagia in the 3 stages of the swallow

• Dysphagia Management
  • Assessment
  • Treatment
  • Team
The Normal Swallow

Hammiverse.com
## Oral Stage

<table>
<thead>
<tr>
<th>Bolus</th>
<th>Lips</th>
<th>Cheeks and Tongue</th>
<th>Tongue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solids and liquids are called “boluses” once they enter the oral cavity</td>
<td>Keep oral cavity closed to prevent bolus from spilling out</td>
<td>Maintain tension while chewing and manipulating boluses</td>
<td>Propels bolus backward to the pharyngeal stage</td>
</tr>
</tbody>
</table>
Bolus Propulsion is Voluntary

Once the bolus is propelled backward, the involuntary swallow reflex is engaged at the level of posterior tongue and faucial arches.
What comes next that you can’t see!
“The Two Pipes”

**The Right Pipe**
- Pharynx (throat)
  - Valleculae
  - Epiglottis
  - Pyriform Sinuses
- Esophagus (swallowing pipe)
  - Enters the stomach

**The Wrong Pipe**
- Larynx (voice box)
  - Vocal folds
    - Penetration: Bolus above the vocal folds
    - Aspiration: Bolus below the vocal folds
- Trachea
  - Enters the lungs
Important: The airway is always open except when you swallow.
Pharyngeal Stage

- Mechanical movement
  - Hyoid bone and larynx are pulled upward and forward
  - This tucks larynx under the base of the tongue and moves it away from the esophagus
  - Soft palate elevates and closes off nasal port

- Airway protection has 3 levels:
  1. Vocal folds adduct to seal the glottis (space between vocal folds)
  2. Aryepiglottic folds adduct for further protection above vocal folds
  3. Epiglottis covers laryngeal vestibule
Pharyngeal Stage

The Bolus

Enters the valleculae

Divides as it hits the epiglottis

Descends along the lateral channels

Enters the pyriform sinuses

The cricopharyngeal sphincter relaxes and then...
The Bolus

Enters the esophagus

Is carried down the esophagus with peristaltic waves

Lower esophageal sphincter relaxes

Bolus enters the stomach
Dysphagia is...

difficulty swallowing in the oral, pharyngeal or esophageal stage.

What can go wrong and why...
Dysphagia is a symptom...

It is not a disease.

A work-up is needed if cause is unknown.
### Causes of Oral and Pharyngeal Dysphagia

<table>
<thead>
<tr>
<th>Neurological</th>
<th>Oral Surgery, Neck injuries and/or surgery</th>
<th>Mechanical</th>
<th>Medication</th>
</tr>
</thead>
<tbody>
<tr>
<td>stroke</td>
<td>Post intubation dysphagia</td>
<td>Mass</td>
<td>Anything that affects alertness, speech and motor coordination!</td>
</tr>
<tr>
<td>TBI (traumatic brain injury)</td>
<td>Thyroid or vocal cord surgery</td>
<td>Edema</td>
<td></td>
</tr>
<tr>
<td>Dementia</td>
<td>Cardiac surgery (can affect recurrent laryngeal nerve)</td>
<td>Direct injuries to the neck (strangulation, knife wounds)</td>
<td></td>
</tr>
<tr>
<td>Parkinson’s disease</td>
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<td></td>
<td></td>
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<tr>
<td>multiple sclerosis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ALS (amyotrophic lateral sclerosis)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>muscular dystrophy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cerebral palsy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cervical spinal cord injury</td>
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</tbody>
</table>
Causes of Esophageal Dysphagia

**GERD**
- Causes inflammation and reduced peristalsis
  - Worsened with hernia
  - Can reflux into the larynx

**Dysmotility**
- Achalasia
- Diffuse spasm
- Presbyesophagus

**Obstructions**
- Esophageal strictures, rings, webs, tumors
Concerns with Dysphagia

- Choking
- Aspiration pneumonia
- Malnutrition

Death
Oral Stage Dysphagia

Difficulty chewing

- Not dysphagia per se, but can complicate things

Pocketing and residue

- Food in mouth after the swallow

Difficulty initiating bolus propulsion posteriorly

- Holds food in mouth
- Attempts to propel bolus but struggles

Loss of control of the bolus

- Anterior – bolus spills out of mouth
- Posterior – DANGER: airway is not protected!
Oral stage dysphagia can result in penetration or aspiration BEFORE the swallow

Important: The airway is always open except when you swallow.
# Treating Oral Dysphagia

### Oral motor therapy (lips, tongue, cheeks)
- Strengthen
- Improve ROM
- Improve coordination
- Exercises overlap with improving speech intelligibility

### Positioning
- Chin tuck
- Head turn to weaker side (unilateral weakness)
- Head tilt to stronger side (stroke, oral cancer)

### Consistency
- Downgrade texture
- Food
- Liquid
Pharyngeal Stage Dysphagia

You need to know the difference between penetration and aspiration...
<table>
<thead>
<tr>
<th>Penetration</th>
<th>Aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Enters the laryngeal vestibule</td>
<td>• Enters the laryngeal vestibule</td>
</tr>
<tr>
<td>• Stays above true vocal folds</td>
<td>• Goes below the true vocal folds</td>
</tr>
<tr>
<td>• Ejected into pharynx from pressure of swallow and/or by coughing</td>
<td>• Aspirated into lungs</td>
</tr>
<tr>
<td>• Signs: Choking, coughing, throat clearing, wet vocal quality</td>
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</tr>
<tr>
<td></td>
<td>• No cough = silent aspiration</td>
</tr>
</tbody>
</table>
### Pharyngeal Stage Dysphagia

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nasal regurgitation</td>
<td>Velopharyngeal incompetence</td>
</tr>
<tr>
<td>Delayed swallow reflex</td>
<td>Airway is not protected as bolus passes</td>
</tr>
<tr>
<td>Reduced laryngeal excursion</td>
<td>Epiglottis may not fully deflect</td>
</tr>
<tr>
<td>Reduced pharyngeal peristalsis</td>
<td>Residue in pharynx after the swallow (complains of globus sensation)</td>
</tr>
<tr>
<td>Cricopharyngeal dysfunction</td>
<td>spasm &gt; bar &gt; Zenker’s diverticulum</td>
</tr>
<tr>
<td>Complaints</td>
<td>globus sensation, coughing, choking, throat clearing, regurgitation</td>
</tr>
</tbody>
</table>
Pharyngeal stage dysphagia can result in aspiration **DURING** and **AFTER** the swallow.

Important: The airway is always open except when you swallow.
Treating Pharyngeal Dysphagia

Masako (tongue hold)
- Hold tongue between teeth and swallow (improves strength of posterior pharyngeal wall)

Laryngeal elevation
- Glide up a pitch scale and hold larynx in elevated position (improves strength of laryngeal strap muscles)

Shaker exercise
- Lie in supine position, lift head to look at toes (works on hyolaryngeal elevation and relaxes cricopharyngeal sphincter)

Sensory stimulation
- Thermal stimulation
- Tactile stimulation
Strategies for Pharyngeal Dysphagia

**Effortful swallow**
Engages base of tongue for better stripping (less residue)

**Mendelsohn maneuver**
Elevates larynx and opens esophagus
- Hold larynx in an elevated position during swallow

**Supraglottic swallow**
Closes vocal folds by holding breath before and during swallow, then cough after swallow

**Super-supraglottic swallow**
Uses increased effort during breath hold before the swallow, facilitating glottal closure
Positioning for Pharyngeal Stage Dysphagia

- **Chin tuck**
  - Widens vallecular space

- **Head turn**
  - Turn to the weak side

- **Head tilt**
  - Tilt to the strong side
Esophageal Stage Dysphagia

GERD

- LPR (laryngopharyngeal reflux)
  - coughing, throat clearing, vocal hoarseness
  - Can cause esophagitis and reduced motility
  - Can worsen with hernia

Cricopharyngeal dysfunction

- Spasm, difficulty relaxing

Structural abnormalities

- Stricture, Zenker’s diverticulum, web, ring, masses
  - Blocks path of bolus

Motility disorders

- Reduced peristalsis, diffuse esophageal spasm, achalasia
Esophageal Stage Dysphagia can occur **AFTER** the swallow.

Important: The airway is always open except when you swallow.
Treating Esophageal Dysphagia

• MD/NP
  • May diagnose and treat GERD based on history and symptoms
    note: ENT will see evidence of LPR by direct visualization

• GI confirms diagnosis of
  • GERD
  • Cricopharyngeal dysfunction
  • Structural abnormalities
  • Motility disorders

• GI work up includes
  ▪ Barium swallow
  ▪ Upper endoscopy
  ▪ Acid probe test
  ▪ Manometry
Speech-Language Pathologist’s (SLP) Role in Esophageal Dysphagia

• Defer to GI

  • NPO, clear liquids only, pureed diet, soft solids

  • Normal oropharyngeal swallow means nothing if something can go horribly wrong in the esophageal stage:
    
    ▪ Case of presbyesophagus resulted in food impaction leading to near death, prolonged ventilation and lengthy hospital stay
    
    ▪ Esophageal cancer? SLP doesn’t know how tumor is responding to treatment
Speech-Language Pathologist’s (SLP) Role in Esophageal Dysphagia

• Support GI recommendations
  • Teach anti-reflux precautions
  • Address concerns and symptoms

• Follow through with assessment when GI advises to “advance diet as tolerated”
Aspiration Precautions

What does that mean?

Aspiration precautions

- Sit upright
- Slow pace
- Small bites/sips
- Alternate liquids and solids
- Eliminate distractions

Reflux precautions

- Eat in upright position
- Stay upright for 30-60 minutes after meal

Special precautions

- Recommended by SLP
When to refer to SLP

- Suspect aspiration pneumonia

- Risks factors for aspiration pneumonia from UpToDate

- Neurological disorders
  - Reduced consciousness
  - Esophageal disorders
  - Mechanical disruption (tracheostomy, intubation)
  - Miscellaneous: anesthesia, protracted vomiting, large volume tube feedings, recumbent position
• Differential diagnosis for
  • Onset of unexplained coughing
  • COPD exacerbation
  • Pneumonia type (community acquired vs aspiration)
  • Poor p.o. intake

• Complaints from participant
  • Dysphagia
  • Odynophagia
  • Globus
  • Choking, coughing, throat clearing
    ▪ Is it really choking?
  • Regurgitation (not vomiting)

• Observations from staff
  • Holding food in mouth
  • Difficulty initiating swallow
  • Choking, coughing, throat clearing, regurgitation
Role of SLP

• History

• Clinical Assessment
  • Oral and pharyngeal stages
  • Questions about pharyngeal/esophageal stages

• Recommendations
  • NPO (type of alternate nutrition is provider decision)
  • Diet consistency
  • Positioning
  • Strategies
  • Therapy
  • Prognosis
  • Further assessment: MBS, FEES (fiberoptic endoscopic evaluation of swallowing)
  • Referrals
    ▪ GI
    ▪ ENT
    ▪ Neurology
MBS vs. Barium Swallow

**Modified Barium Swallow (MBS)** Aka Video Swallow Study (VSS)
- Performed by SLP with radiologist
- Focus on oropharyngeal dysphagia
- Uses real food and liquid mixed with barium

**Barium Swallow**
- Performed by radiologist
- Focus on esophageal dysfunction
- Uses liquid barium and tablet
MBS with dysphagia from YouTube
MBS: SLP and the Radiologist

SLP

• Reports what is seen

• Assigns level of aspiration risk

• Determines plan of care

• Gives prognosis

• Recommends
  • NPO
  • Texture upgrades/downgrades
  • Positioning
  • Strategies
  • Treatment

Radiologist

• Reports what is seen
Advantages of on-site SLP

- More timely assessments
- Improved communication of results and recommendations
- Improved follow through with recommendations
- Staff education
- More efficient referrals (GI, ENT, Neurology)
- Review need for speech at Short Term Rehab
MD/NP

Refers to SLP

Writes orders for SLP recommendations
- Diet consistency
- Specific orders for those who cannot care for themselves: positioning, strategies
- Important: diet texture orders can change from hospital to SNF to home and any change in condition

Writes orders
- Referrals to other disciplines
- MBS or FEES
Medications

• Any medication that is sedating, causes slurred speech or drooling can cause dysphagia

• Medications that lists dysphagia as a rare symptom...
  • Is considering a person with a normal swallow
  • Can worsen dysphagia for someone who has dysphagia
Often first to observe dysphagia or hear complaints of dysphagia

SLP reviews results and recommendations from assessment with Nursing

Nursing follow-through with recommendations is key to success
Recommends referrals to SLP
- Hears complaints of dysphagia during assessment

Interacts with SLP
- RD focus is nutrition (calories, cholesterol, sugar, protein, etc)
- SLP focus is diet texture
- Coordinate efforts

Communicates
- RD alerts SLP about unresolved issues
- RD alerts team further intervention is needed
Recognize and alert team about signs/symptoms of dysphagia

Deliver the correct texture of food/liquid

Follow through with recommendations
  • Remind participant to follow precautions
  • May need supervised table

PCS/CNA and Activities
# Dysphagia Diets: Variety of Labels

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pureed</td>
<td>Smooth</td>
</tr>
<tr>
<td>Ground</td>
<td>Often ground meat and chopped soft fruit/vegetables</td>
</tr>
<tr>
<td>Soft</td>
<td>Normal foods that are not too hard/crunchy /chewy</td>
</tr>
<tr>
<td>Regular</td>
<td>Means texture only</td>
</tr>
</tbody>
</table>
PT

• Mobility can reduce risk of developing aspiration pneumonia

OT

• OT works on self-feeding skills
• Can overlap with SLP in diagnosis and treatment of dysphagia with advanced training
Center Manager coordinates efforts of the team

Social Work and Home Care Coordinator set up services in the home
- altered diet textures
- assistance with meals

Medical Secretary
- Books appointments and tests
- Sends information to specialist

Additional IDT involvement
Quality of Life Considerations for the IDT

• Thickener

• Altered textures
  • Pureed
  • Ground
  • Soft solid

• Feeding tubes
Road back to health

Err on the side of caution
- Temporary restrictions can expedite recovery
- Poor dysphagia management can prolong illness

End of life

Why not throw caution to the wind?
- Choking is not a good end
- “A dry death is better than a wet death.” (quote from pulmonologist)
Challenges

• Buy-in
  • Participant
  • Family
  • IDT

• Follow through
  • Consistent or not?

• Disbelief
  • “Food gets stuck in my throat and, but there is nothing wrong with my swallow.”
  • “Yeah, I choke, but my swallow is fine.”
  • “What do you mean I can’t swallow?”
Questions?

Element Care