



# Dysphagia in ALS

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# What is Dysphagia?

**Dysphagia:** Difficulty swallowing (Food, Liquid, Saliva)

- Dysphagia is present in more than 85% of patients with advanced ALS (Onesti et al, 2017).
- Dysphagia causes considerable distress and can lead to malnutrition and dehydration.

# Stages of Swallowing

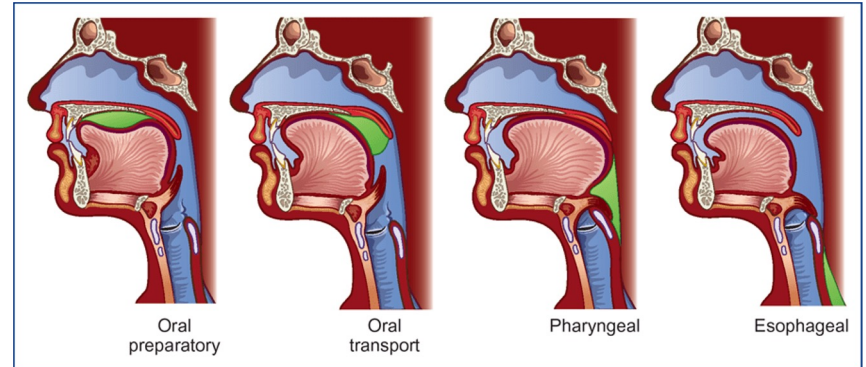
Swallowing is Characterized into Four Stages:

**Oral Preparatory Stage:** Receiving/taking food/liquid from utensil/cup, mastication (chewing), mixing food with saliva.

**Oral Stage:** Food is gathered (bolus) and propelled by your tongue to the back of your mouth (oropharynx).

**Pharyngeal Stage:** Movement of the bolus (food) from the oropharynx to the esophagus.

**Esophageal Stage:** Transportation of bolus from esophagus to the stomach.



# Signs & Symptoms of Dysphagia

- Coughing, Choking, Throat Clearing with food/liquid consumption.
- Change in vocal quality (gurgly or wet sounding voice) following food/liquid.
- Pharyngeal sticking sensation (feeling of something “stuck” in your throat)
- Difficulty swallowing medication.
- Food staying in your mouth (oral stasis).
- Taking additional time to get food to the back of your mouth to swallow.
- Food/liquids falling out of your mouth.
- Additional time to masticate (chew) food.
- Nasal Regurgitation.

# Role of Speech Language Pathologist (SLP) in Dysphagia Management

## History / Self Assessment

- Interview
- EAT-10

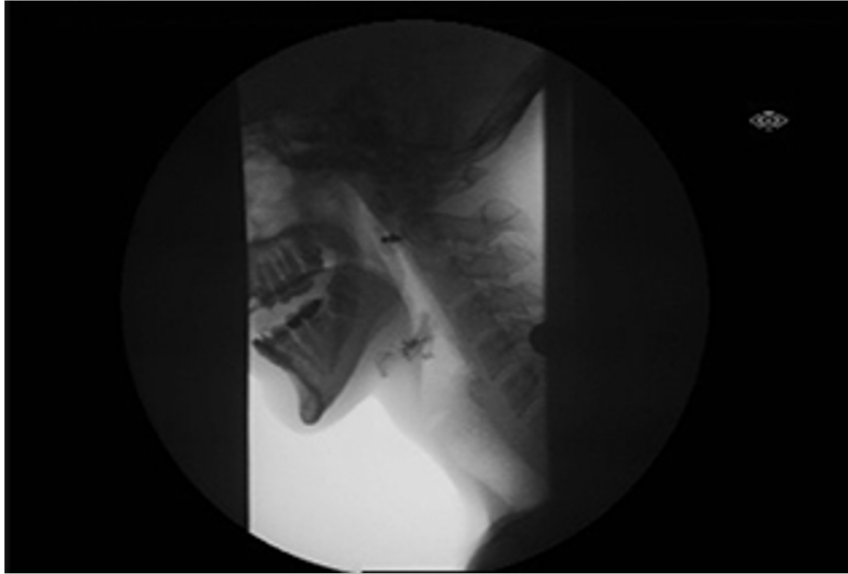
## Physical Exam

- Oral Motor Exam (OME)

## Assessment of Swallow Function

- Clinical Dysphagia Evaluation (CDE)
- Objective Instrumental Evaluations
  - Modified Barium Swallow Study (MBS)
  - Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

# Modified Barium Swallow Study (MBS)



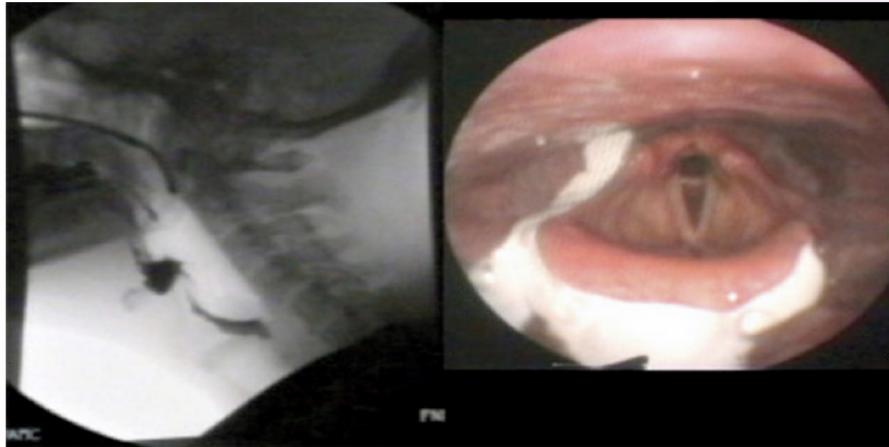
- A fluoroscopic (live x-ray video) procedure.
- Food and/or liquid is mixed with barium.
- Performed with SLP, Radiologist, and Radiology Technician.

# Fiberoptic Endoscopic Evaluation of Swallowing (FEES)



- A small flexible endoscope is passed through the nose to the top of the throat.
- Allows for structures of the larynx/pharynx to be evaluated.
- Saliva management.
- Food/Liquid trials.

# MBS vs. FEES



*Simultaneous view of MBSS (left) and FEES (right) showing spillage into the vallecula and right pyriform sinus.*



# Aspiration & Silent Aspiration

## Aspiration

- “Foreign body” (food, liquid, saliva, or pills) enters the airway (goes below the vocal folds) and goes into the lungs.
- “Going down the wrong way” or “Going down the wrong pipe.”
- This can elicit a cough or throat clearing response.

## Silent Aspiration

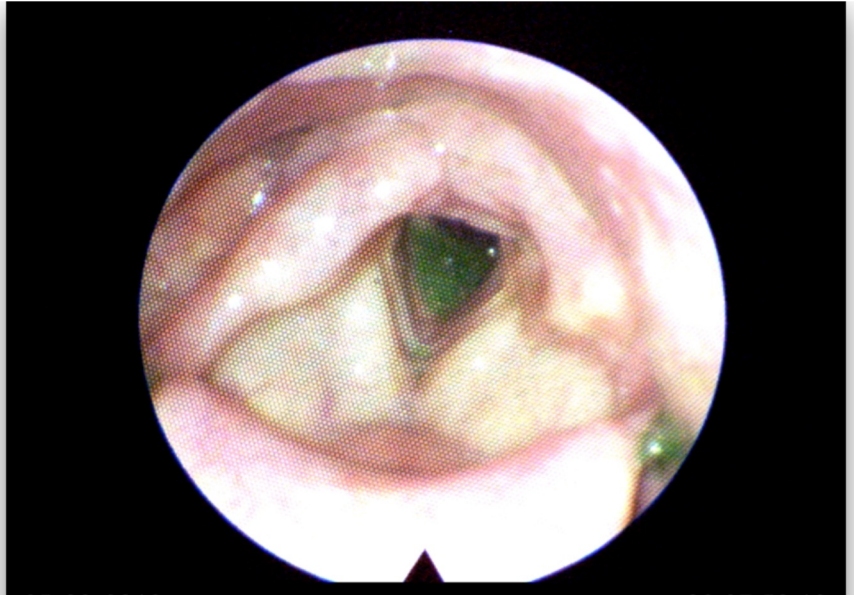
- When a “foreign body” (food, liquid, saliva, or pills) enters into the airway (goes below the vocal folds) and goes into the lungs - but **DO NOT** have a response.
  - No coughing, throat clearing, etc.

# Aspiration & Silent Aspiration

## Aspiration - MBS



## Aspiration - FEES



# Risks of Aspiration

- Choking
- **Aspiration Pneumonia**
  - Respiratory failure/ further respiratory compromise
  - Sepsis
  - Death

# Dysphagia Management

- Education
- Liquid/Food Modification
- Medication Administration Recommendations
- Compensatory Strategies
  - Postural changes
  - Adaptive Equipment
- Energy Conservation
- Oral Hygiene

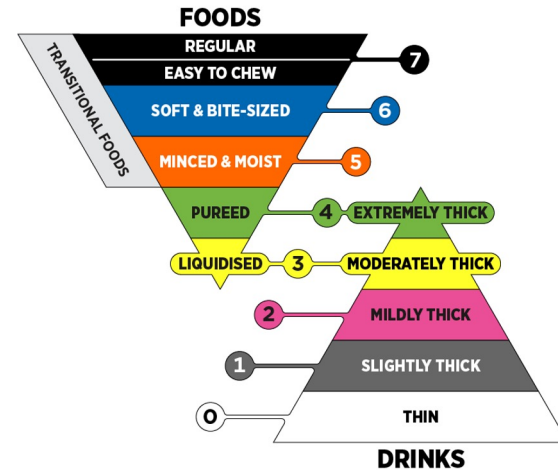
# Dysphagia Management

## Liquid & Food Modification



### The IDDSI Framework

Providing a common terminology for describing food textures and drink thicknesses to improve safety for individuals with swallowing difficulties.



© The International Dysphagia Diet Standardisation Initiative 2019 @ <https://iddsi.org/framework/>  
 Licensed under the Creative Commons Attribution Sharealike 4.0 License <https://creativecommons.org/licenses/by-sa/4.0/legalcode>.  
 Derivative works extending beyond language translation are NOT PERMITTED.

# Dysphagia Management Medication Administration



- SLP will provide medication administration recommendations following MBS/FEES.
- Barium Tablet will be trialed.



# Dysphagia Management Compensatory Strategies

## Postural Changes

- Should **ONLY** be performed when instructed by SLP.
- **Must** be trialed under objective instrumental evaluation (MBS or FEES) first!!

# Dysphagia Management Compensatory Strategies

## Adaptive Equipment





# Dysphagia Management

## Energy Conservation



- Smaller, more frequent meals.
- Following SLP diet and liquid recommendations for safest, most efficient PO consumption.

# Dysphagia Management

## Oral Hygiene

There is a strong correlation between poor oral health and increased risk of aspiration pneumonia (Stein & Henry, 2009).

Poor oral hygiene increases exposure to disease causing micro-organism found in the mouth.

Brush teeth a **minimum** of **twice** daily.

Have regular dental visits.

- Use of a suction toothbrush attachment can be helpful.
- Small headed or youth toothbrush – reduce gag reflex.



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