Mary Free Bed Rehabilitation at Munson Healthcare

Dysphagia Overview

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Adapted from the original content by:
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Dysphagia

Dysphagia: disorder of the swallow mechanism resulting in impaired ability to safely take adequate nutrition and hydration.

Dysphagia may lead to secondary problems, related to aspiration of food or liquids into the lungs, resulting in aspiration pneumonia.

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Basic swallow anatomy

- **Oral Stage –** lips, cheeks, jaw, masseters, dentition, tongue, hard palate & soft palate
- **Pharyngeal Stage –** tongue base, soft palate, pharyngeal walls, epiglottis, & larynx
- **Esophageal Stage –** upper esophageal sphincter/cricopharyngeus, esophageal walls, & lower esophageal sphincter

Basic swallow physiology

- **Oral Stage –** receiving food, mastication, bolus organization, propelling bolus into the pharynx. Taste, temperature, texture sensors
- **Pharyngeal Stage –** valve off the nasopharynx and airway, propel boluses into the esophagus
- **Esophageal Stage –** propel bolus into the stomach, valve off the stomach

**A patient can have dysphagia at any or all phases of the swallow. Dysphagia can be common with neurological changes, including stroke.*

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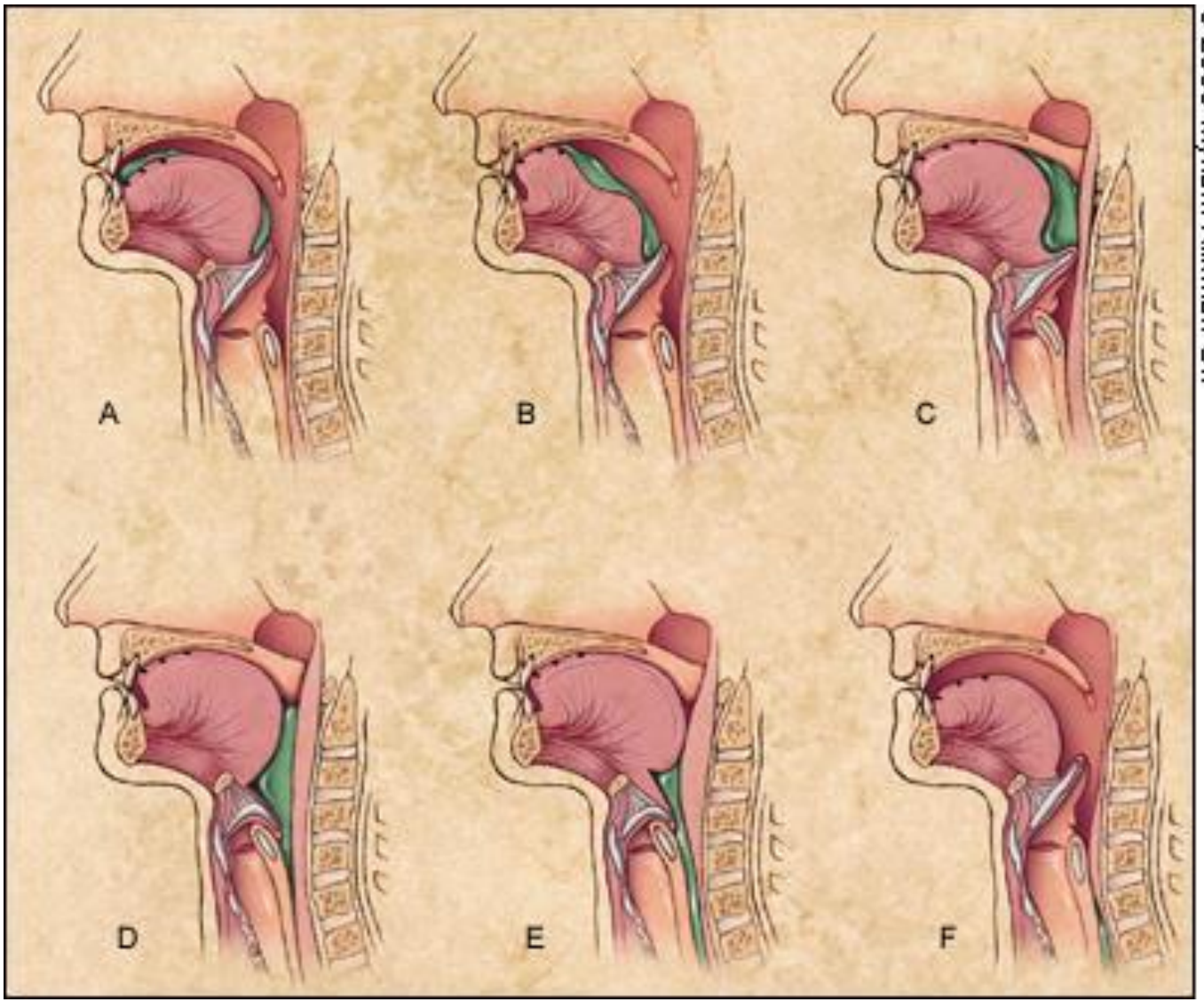

What can go wrong?

Oral stage

- **Poor lip seal** or **lip sensation –** can lead to:
  - loss/drooling
  - inability to take liquid or food from a cup, straw, or utensils
  - complete anterior or posterior bolus loss
- **Poor dentition** or **loose dentures –** impairs ability to:
  - masticate solids
  - keep solids organized
- **Cheek weakness –**
  - impairs mastication
  - allows pocketing due to sensory and/or motor changes

What can go wrong?

Oral stage *(cont.)*:

- **Tongue weakness –** impairs:
  - mastication
  - bolus organization
  - bolus propulsion into the pharynx
- **Sensory deficits** for:
  - taste
  - tactile
  - temperature

  all impair mastication, bolus organization, safety, and appetite.

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What can go wrong?

Pharyngeal stage:

- **Swallow reflex delay** due to reduced sensory feedback – may cause:
  - flooding of the pharynx pre-swallow
  - prevent pharyngeal phase action
- **Valving problems –** can allow:
  - nasal reflux
  - laryngeal penetration
  - aspiration of bolus
  - prevent passage of bolus into the esophagus

What can go wrong?

Pharyngeal stage *(cont.)*:

- **Impaired pharyngeal peristalsis** – can cause bolus stasis in the pharynx or disorganized bolus transport
- **Absent cough reflex** or **severely impaired vocal cord dysfunction –** can cause silent aspiration
- **Swollen tissue –** alters natural bolus flow

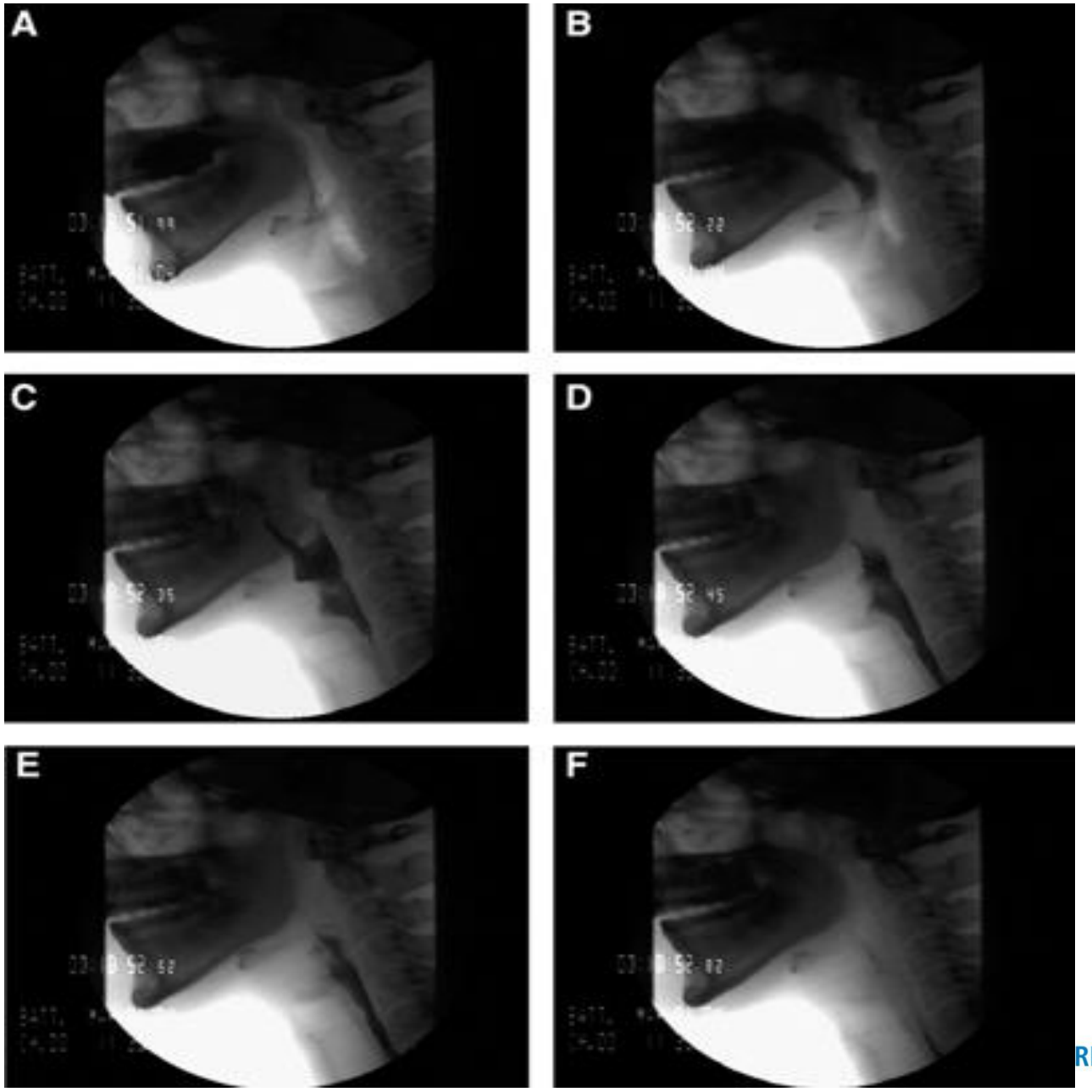
What can go wrong?

Esophageal stage:

- **Sphincter malfunctions** – can prevent boluses from entering or leaving the esophagus
- **Reduced peristalsis** – can cause bolus stasis.
- **Structural changes** – such as diverticulum, cervical osteophyte, or strictures can impede bolus flow.

Why do a videoflouroscopy?

- Videos allow moving picture views of bolus material passing through the 3 stages of the swallow – allow diagnosis of problems in the late oral, pharyngeal, and esophageal stages.
  - **Anterior views:** allow diagnosis of unilateral problems
  - **Lateral views:** allow diagnosis of aspiration and other structural problems


A
B
C
D
E
F

Feeding Techniques

- Chin tuck, head turns, and head tilts.
- Straw/no straw
- Sit near 90 degrees
- Meds with puree (Crush?) See orders.
- Thickened liquids
- Food consistencies

We have IDDSI diet levels to provide details on what a patient may or many not tolerate.

IDDSI: Diet Levels

International Dysphagia Diet Standardization Initiative

Level 4: Pureed

- Usually eaten with spoon, but fork is possible
- No chewing required.
- Falls off spoon but maintains shape. No lumps
- Not sticky
- No separation liquid from solid

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IDDSI: Diet Levels

International Dysphagia Diet Standardization Initiative

Level 5: Minced & Moist

- Adults: 4 mm lump size (slightly larger than 1/8 inch)
- Pediatrics: 2 mm lump size (half size: *"food fits between prongs of fork.")*
  - Must be moist
  - Must have thick gravy or sauce
  - Can be eaten with a fork or spoon
  - Can be scooped or shaped into a ball
  - No separate thin liquid
  - Vegetable/fruits minced & drained of all liquids
  - Doesn't easily come through tines/prongs
  - Cohesive to hold shape on spoon

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IDDSI: Diet Levels

International Dysphagia Diet Standardization Initiative

Level 6: Soft & Bite-Sized

- Adults: 15 mm or 1.5 cm pieces (slightly larger than ½ inch)
- Pediatrics: 8 mm lump size (half size: *"foods cut to approximately the size of an average adult's thumb nail"*)
  - Can be eaten with a fork or spoon
  - Can be mashed/broken down into smaller pieces with pressure from fork
  - Soft, tender, and moist with thick gravy or sauce
  - Vegetable/fruits cut in 1.5 cm pieces & drained of all liquids
  - No separate thin liquid

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IDDSI: Diet Levels

International Dysphagia Diet Standardization Initiative

Level 7: Easy to Chew

- Normal, everyday foods of soft/tender texture (per SLP recommendation)
- No hard, tough, chewy, fibrous, stringy textures, bones, or gristle
- Should be able to cut or break apart foods with side of fork or spoon
- Foods must be moist

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Reflux/ Dysmotility

- Eat/drink in upright position – 90 degrees is ideal
- Remain upright 30 min after intake.
- May need small, high calorie foods
- Focus high calorie/nutritious foods first
- Focus on moist/cohesive foods
- May need HOB elevated at all times
- (GI consults and additional testing)

Next Steps

- The goal is always to maximize function for each patient and a goal of moving towards the least restrictive diet possible.

- Although advancing a diet is always a goal, the pace depends on success with overall recovery. This can take time and patients may need ongoing services beyond their acute care stay.

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Speech Therapy: Hospital setting and next steps

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Speech therapy: Acute Care

- **Diagnose and treat** disorders of communication, cognition, memory, and dysphagia
- **Educate** patients and their families regarding area of difficulty.
- **Assist** in discharge planning, related to continuing treatment needs and safety.

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Dysphagia: Assessment

- Dysphagia can be common in our stroke population.
- Gather history regarding patient's pre-admit diet level and dysphagia symptoms.
- Clinical/bedside evaluation of oral motor/sensory function.
- Functional evaluation of swallow with various consistencies of liquids and solids.
- Videofluoroscopic evaluation of swallow.

Dysphagia: Treatment

- Adjust liquid and solid food levels for safest oral intake considering evaluation information in addition to patient's cognition and level of alertness.
- Provide strategies for eating and swallowing that allow a safe and least restrictive diet.
- Plan exercises to improve mastication, bolus organization, lip seal, velopharyngeal closure, tongue base retraction and hyolaryngeal elevation. Exercises to increase airway safety may also be added.

Dysphagia: Treatment

- Recommend postural or positional changes that make swallowing safer.
- Stimulation of sensory responses.
- Recommend safest route for oral medications
- Monitor intake of liquids and solids.
- Discussion regarding alternative feeding when oral intake is not an option for a patient.

Stroke: Assessment

- **Gather history** of patients pre-admit level of language, cognition, and memory ability.
- **Evaluate** language, cognition, and memory abilities and use the information to establish a plan of care and safe discharge plan including rehabilitation settings and options.
- **Educate** family related to language impairments caused by the patient's stroke.

Left Brain Strokes

- **Aphasia:** receptive and/or expressive language impairment with a widely varying level of difficulty from essentially no language to having only difficulty with high level language.
  - Can be fluent or non-fluent.
- **Anomia:** form of aphasia that affects mostly nouns
- **Apraxia:** consists of random omissions or substitutions of speech sounds or syllables due to a problem of motor programming
- **Limb or motor apraxia:** Poor motor planning in general

Left Brain Strokes

Dysarthria impacts motor function at the level of the:

- Lips
- Tongue
- Jaw
- Soft palate
- Vocal folds
- Respiratory system
- Speed/coordination of movements and strength can all be affected – commonly people refer to this as “slurred” speech or “imprecise” speech.

Right Brain Stroke

- Left neglect often impacts patients with right brain strokes. Left neglect can occur with or without left visual field loss.

- Right brain damage can result in poor deficit awareness and poor insight into the effects deficits have on basic function.

Right Brain Stoke

- **Cognition –** can be impaired by pt's poor ability to consider the scope of a problem before solving it. Impulsivity is common in Right CVA. Patients rarely gather all available information before initiating problem solving.
- **Orientation –** may be intact initially but can worsen as the duration and severity of the symptoms impair the pt's ability to gather accurate information from the environment.

Right Brain Stroke

Functional impairments include difficulty with:

- Reading
- Writing
- Telling time
- Orientation to environment
- Budget math
- Scanning table top and organizing information
- Counting money
- Social skills
- Navigating

*When information is organized for the patient, their problem solving can appear intact. (eg. Counting money with a target vs. open amount.)

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Other injuries/diseases that speech therapy can have a role in treating.

- **Traumatic Brain Injury -** Evaluate and treat communication, cognitive, and memory deficits. ST can offer family education & assist with safe discharge planning.

- **Degenerative neuromuscular diseases -** such as Huntington's, MS, Parkinson's, ALS, CP, and others.- ST can help maintain communication abilities, provide alternative means of communication, and evaluate dysphagia. During early stages of diseases, results of ST evaluations can lead to consultations for more specific pt dx.

Other injuries/diseases that speech therapy can have a role in treating. (cont.)

- **Head and neck cancer** - ST can help with early detection, treatment of dysphagia, and help patients maintain swallowing during chemo/radiation.

- **Dementia** - ST along with other rehabilitation services can help determine pt's safety for independent living and educate families on ways to keep loved ones safe or referral for additional services such as GAC.

- **Tracheostomy and Passy Muir Valves** - ST can help restore speech and evaluate for dysphagia.

Alternative communication

- ST can evaluate a pt's cognitive, physical, and communication abilities to determine optimal communication device options.
- Munson's ST department has access to iPads with AAC applications. We also encourage patient to use their smart phones to communicate.
- Low tech communication sheets and boards are also an option for patients.

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Next Steps

- **When a person has experienced a change that has impacted:**
  - Communication
  - Cognition
  - Memory
  - or their ability to eat/swallow safely

  Ongoing rehabilitation is part of the next step in their journey.

- **Speech Therapy is able to help along the way from acute care, to inpatient rehab, to home health and outpatient services.**

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