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Our Aging Patients
Part 2: The Aging Swallow

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Presbyphagia

- Declines of swallow associated with normal aging
- Normal changes are not considered a disorder
- Secondary factors (disease or other health factor) increase risk of significant dysphagia
- 33% of surveyed aging (ages 65-94) reported current difficulties with swallowing (Roy et al, 2007)
Dysphagia

• Statistics on incidence in aging vary, with increased medical comorbidities increasing likelihood of disorder
• Some estimate 300-600 thousand Americans per year experience dysphagia (Sura et al., 2012) Up to 68% of patients in LTC!
• Disordered swallowing may lead to
  – Aspiration
  – Modified diets
  – Weight loss/ Failure to Thrive
  – Inability to maintain nutrition/hydration

The Normal Aging Swallow- Motor Function

• Strength Decreases in
  – Lips
  – Tongue
  – Mandible
  – Pharynx
  – Larynx
• Decreased lingual and pharyngeal strength
  – may require multiple swallows to clear vallecular space; this will be spontaneous unless there is a disorder
  – Infrequent, shallow laryngeal penetration is normal; frequent or deep is not
  – This penetration should NOT reach the level of the vocal folds
The Normal Aging Swallow- Motor Function

- Xerostomia is common
  - leading to inability to form a cohesive bolus
- UES opening may not fully relax
  - causing food, pills, etc. to “get stuck”
- Esophageal peristaltic wave weakened (presbyesophagus)
- Vocal folds begin to atrophy or thin
- Swallow initiation slows
  - normal is approx. 1 second; aging is approx. 1.2 seconds (Nikhil et. al, 2014)

The Normal Aging Swallow- Sensory Function

- Decrease in taste and smell
- Reduction of saliva secretion
- Decreased sensitivity and thinning of vocal folds (may lead to inability to fully protect airway during swallow)
### Other Factors of Aging

- Change in nutritional requirements
  - Vitamin D deficiency (less outdoor time)
  - Calcium (bone health)
  - Protein (muscle mass)
  - Nutritional supplements to maintain weight
- Lower activity level = less caloric intake needs
- Changes in dentition (tooth loss, shifting)
- Kyphosis, changes in posture

### Etiologies of Dysphagia

- **Static Neurological Disorders**
  - CVA, SLN Palsy
- **Progressive Neurological Disorders**
  - ALS, MS, Parkinson’s Alzheimer’s, Myasthenia Gravis
- **Cancer**
  - Tumor, radiation, chemotherapy
- **Pharyngeal disorders**
  - Zenker’s Diverticulum, Cricopharyngeal Achalasia
- **Gastroesophageal disorders**
  - Hiatal hernia, esophageal stricture, Barrett’s esophagus
- **Chronic Conditions:**
  - Diabetes, COPD, Arthritis
Other Factors in Dysphagia

- Polypharmacy
- Sarcopenia (loss of muscle mass/strength)

Effect of Dysphagia

- Decreased motivation or enjoyment for eating due to social isolation
- Activity limitations, increased effort and time to eat, embarrassment
- Financial problems that impair ability to maintain nutrition
- Physical limitations that prevent preparation of food
- Depression leading to fatigue, globus sensation
Evaluation- Where it All Begins!

• Case history, review of medical co-morbidities
• Patient interview, review of symptoms
  – May use QOL instrument such as SWAL-QOL
• Clinical Assessment of Dysphagia (BED)
  – May include standardized instruments like SAFE or MASA, Burke Dysphagia Screening Test
  – Tools such as pulse oximetry, 3 oz water test
  – Cranial Nerve Exam
• Instrumental Assessment of Dysphagia
  – Barium Swallow (Esophagram)
  – Videofluoroscopy (MBSS)
  – Fiberoptic Endoscopic Evaluation of Swallowing (FEES)
  – Surface Electromyography (sEMG)
  – Manometry

Treatments or Interventions

• Medical Interventions
  – GERD meds, surgery, feeding tube placement
• Prevention
  – Maintenance of good oral hygiene
  – Routine exercises to maintain strength
• Intervention by the SLP
  – Rehabilitative Strategies (fix the physical problem)
  – Compensatory Strategies (compensate for the physical problem)
  – Free Water Protocol
• Precautions/ Caregiver trained intervention
  – Positioning
  – Feeding techniques
  – Specialized dining equipment
What are the Goals of Therapy?

• Maintain nutrition and hydration
• Maintain quality of life
• Protect the patient’s airway (health)

Environmental Changes

• Placement of food (from side, etc.)
• Lighting
• Music
• Smells (aromatherapy, bread baking, etc.)
• Presentation of food
Rehabilitative Strategies

• Progressive resistive exercises
• Shaker
• Masako
• VF adduction exercises
• Expiratory Muscle Strength Training
• McNeill Dysphagia therapy program
• NMES
• sEMG Biofeedback

Compensatory Strategies: Maneuvers

• Supraglottic swallow
• Supra-supraglottic swallow
• Effortful swallow
• Mendelsohn
• Throat clear, re-swallow
Compensatory Strategies: Body and Head Positioning

- Body posture (lying down, upright 90 degrees, on side)
- Head posture (chin up, chin down, head turn)

Compensatory Measures: Modification of Food/Liquid

- Cold bolus
- Sour bolus
- Texture changes in food (modified diet)
- Carbonated bolus
- Quantity changes
- Thickened liquids (dehydration?)
- Alternate nutrition/hydration (bite-sip)
National Dysphagia Diet

- Level 1: Dysphagia Pureed
- Level 2: Dysphagia Mechanically Altered (ground meats)
- Level 3: Dysphagia Advanced (chopped or tender meats)
- Level 4: Regular

The best therapy for swallowing?

- Swallowing!
Evidence-Based Practice

- Research Evidence
- Clinician Expertise
- Patient Values

(Some of the strongest research in dysphagia isn’t necessarily published in SLP journals- expand your search!)

SLP Scope of Practice

- NPO?
- Supplements?
- Assessment
- Education
- Rehabilitation
When the patient refuses recommendations...

SLPs should respect the patient’s autonomy (right to make decisions about their own medical care).

- Do you automatically discharge the patient?
- Do you provide education to the patient as well as the caregiver?
- Do you determine appropriate strategies on the patient’s chosen diet?

It’s not always black and white!

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Caregiver Education

- Promote good oral care!
- Strategies for Caregivers
  - Prefeeding
  - Mealtime
  - Post-feeding
What you do makes a difference!!

References from the slides...

