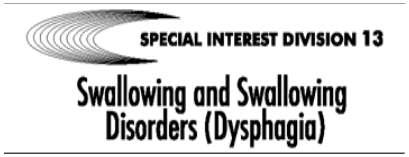
This material is intended for use by Speech-Language Pathologists for **professional advocacy**. Advocacy is the act of espousing and seeking support for a position. The Division 13 Professional Advocacy Committee actively espouses and strongly recommends the involvement of speech language pathologists as the primary providers of diagnostic and treatment services for patients with dysphagia of all ages.

DYSPHAGIA

- The American Speech-Language-Hearing Association
  - Special Interest Division 13- Swallowing and Swallowing Disorders
  - Pediatrics
    - Professional Advocacy Committee



What is Dysphagia?

- Difficulty with eating which may include one or more of the following
  - Sucking
  - Chewing food
  - Swallowing solids and/or liquids
  - Coughing or choking when eating
  - Food sticking in the throat or chest
- It is estimated that more than 15 million people in the United States have Dysphagia

Swallowing may be a problem in one or more of these activities

- Eating and drinking, including breast feeding, bottle feeding, drinking from cup, eating from spoon or fork and chewing
- Controlling saliva
- Taking oral medications
- Managing saliva while brushing teeth

Prevalence of Dysphagia in the Pediatric Population

- Prevalence in the general population is unknown. There is a high prevalence in certain conditions, e.g. CP - 27-40%. (Kleinman, 2004)
- Behavioral components in children with feeding/swallowing abnormality is 80% (Burklow et al, 1998)
- Anatomic abnormalities, i.e. cleft palate .8 to 2.7 cases per 1000 live births

What Causes Dysphagia

- Dysphagia may be associated with many medical conditions
- The most common are
  - Prematurity/Low birth weight
  - Brain tumors
  - Nervous System disorders (cerebral palsy,meningitis)
  - Genetic Syndromes
  - Gastrointestinal conditions
  - Heart disease
  - Cleft lip and/or palate
  - Airway/anatomical issues

The Four Phases of Typical Feeding and Swallowing

- These four phases are dynamic and overlapping
- In general they allow food and liquid to move from the mouth into the stomach efficiently and safely

Oral Preparatory Phase

- Eating is anticipated
- Food is brought to the mouth
  - Bitten off
  - Taken from the utensil
- Food is mixed with saliva and chewed when needed
- Liquids are sucked from a nipple or sipped through a cup or straw
- Coordinating sucking, swallowing and breathing is the most complicated task for the newborn

Oral Initiation Phase

- The food or liquid is collected
- Sealed between the roof of the mouth and the tongue
- The suckling swallow allows the liquid to fall from mouth into pharynx
- Food is swallowed as the tongue moves toward the back of the throat (pharynx) with a stripping wave
- This begins the actual reflexive swallow

Pharyngeal Phase

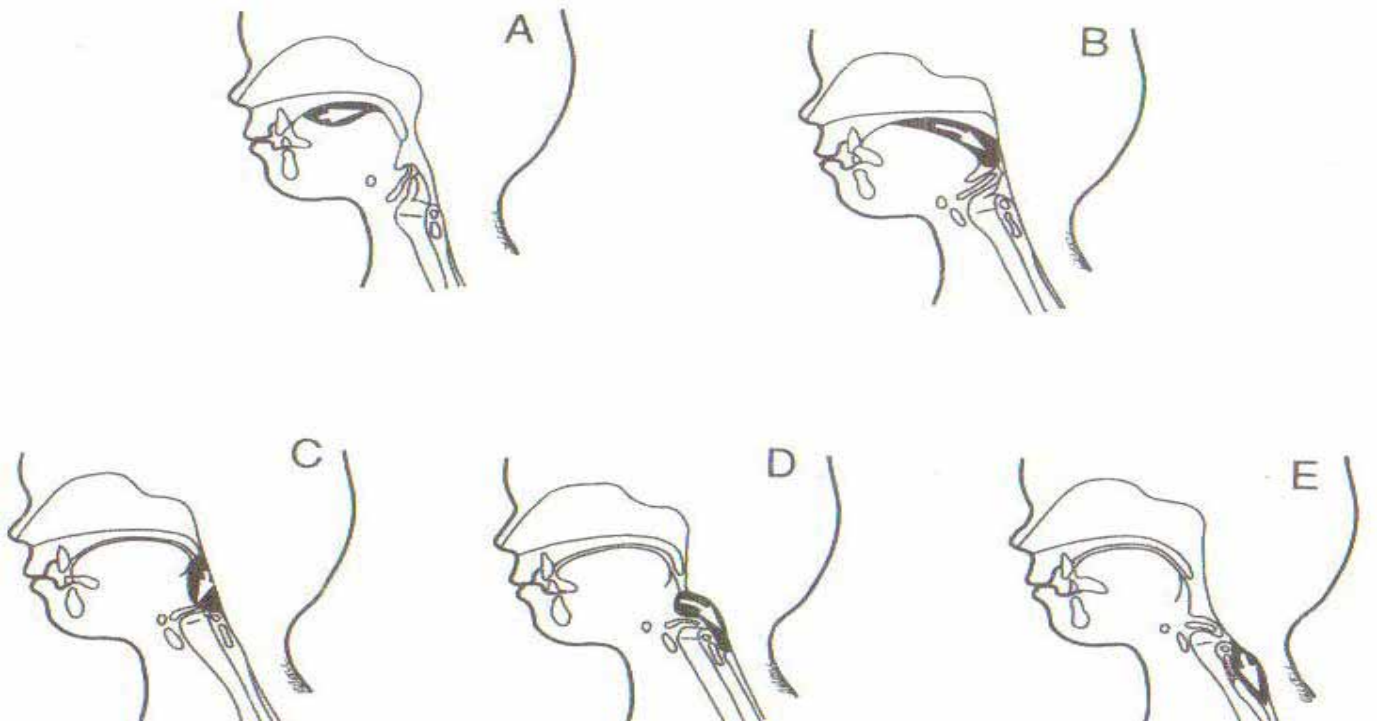
- Soft palate elevates to keep food from nose
- Tongue moves back
- Larynx moves up
- Epiglottis tilts down to guide the food past the airway
- Breathing stops
- Vocal folds come together
- Muscles of pharynx contract
- Upper esophageal sphincter relaxes

Esophageal Phase

- Peristalsis (a wave of contraction) moves the food through the esophagus
- The lower esophageal sphincter relaxes to allow the food to pass into the stomach
- The lower esophageal sphincter then returns to a closed 'tonic' state to prevent regurgitation

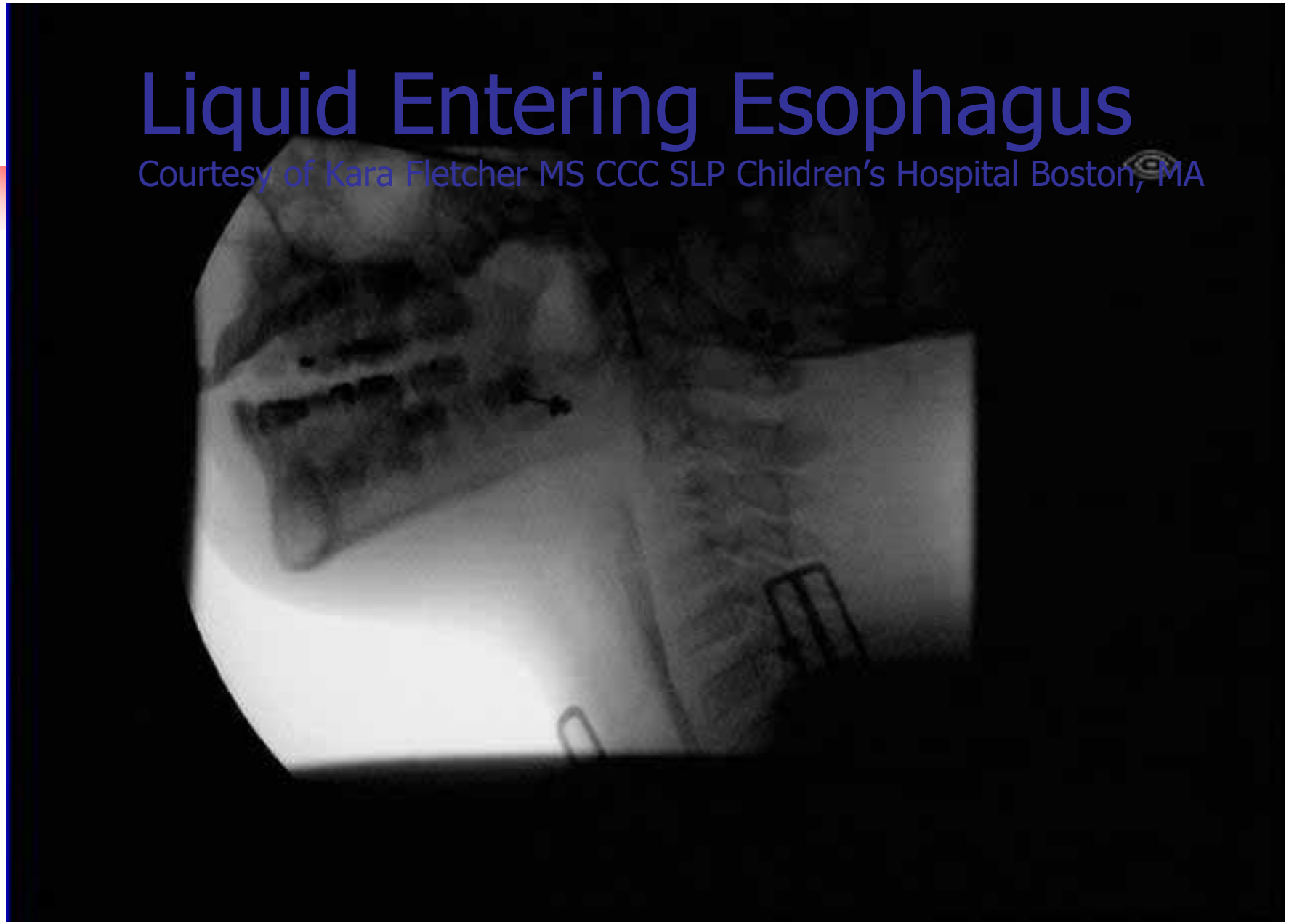
The Phases of Swallowing

From Pediatric Swallowing and Feeding P30 by Arvedson and Brodsky1993, San Diego: Singular Press by J.C. Arvedson. Reprinted by permission



Liquid Entering Esophagus

Courtesy of Kara Fletcher MS CCC SLP Children's Hospital Boston, MA



Oral Stage Dysphagia

- Difficulty keeping food in mouth
- Difficulty suckling or manipulating food
- Impaired biting, chewing, cup or straw drinking
- Failure to initiate/ maintain sucking
- Weak and/or discoordinated tongue movements
- Inefficient tongue movements
- Difficulty meeting nutritional needs

Oral Sensory Issues

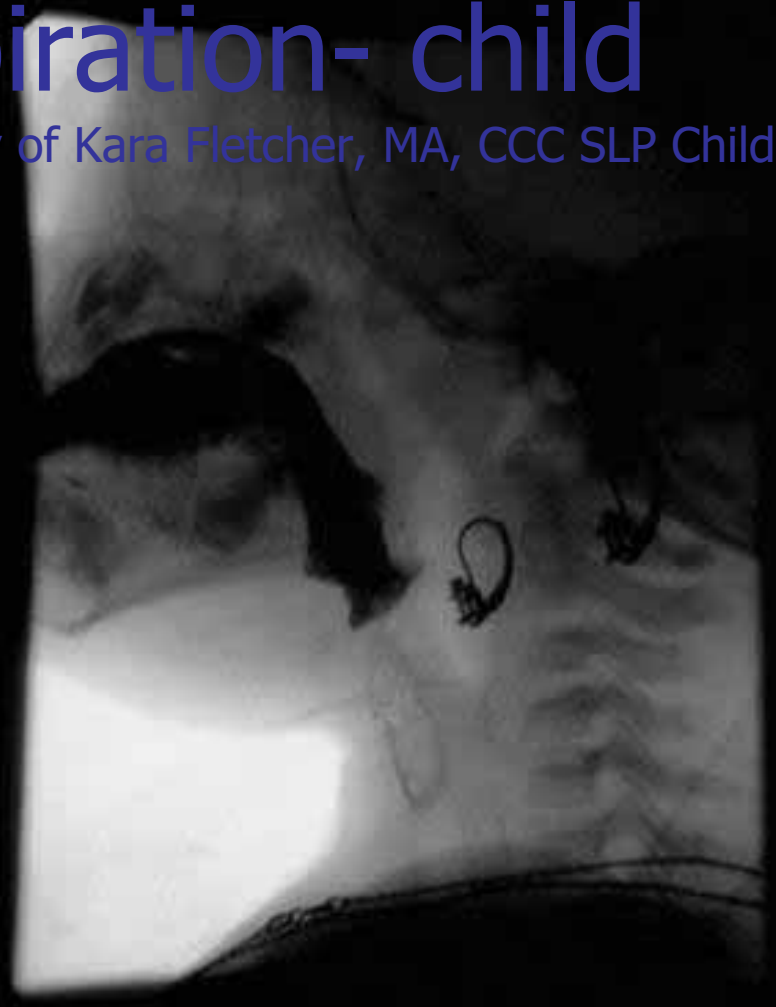
- Signs of possible Oral Hypersensitivity
  - Heightened gag reflex
  - Difficulty transitioning to textured foods
  - Sensitivity to touch in and around mouth
  - Difficulty tolerating tooth brushing
- Signs of possible Oral Hyposensitivity
  - Food pocketing
  - Reduced awareness of food in oral cavity
  - Increased drooling, poor saliva management

Pharyngeal Phase Dysphagia

- Decreased ability to "trigger" the swallow
- Material left in pharynx after swallow
- Material misdirected into airway-below vocal cords is aspiration
- Aspiration of food, liquid and/or saliva
- Aspiration may be "silent"-no cough
- Aspiration may increase upper respiratory problems such as asthma or BPD

Aspiration- child

Courtesy of Kara Fletcher, MA, CCC SLP Children's Hospital Boston, MA

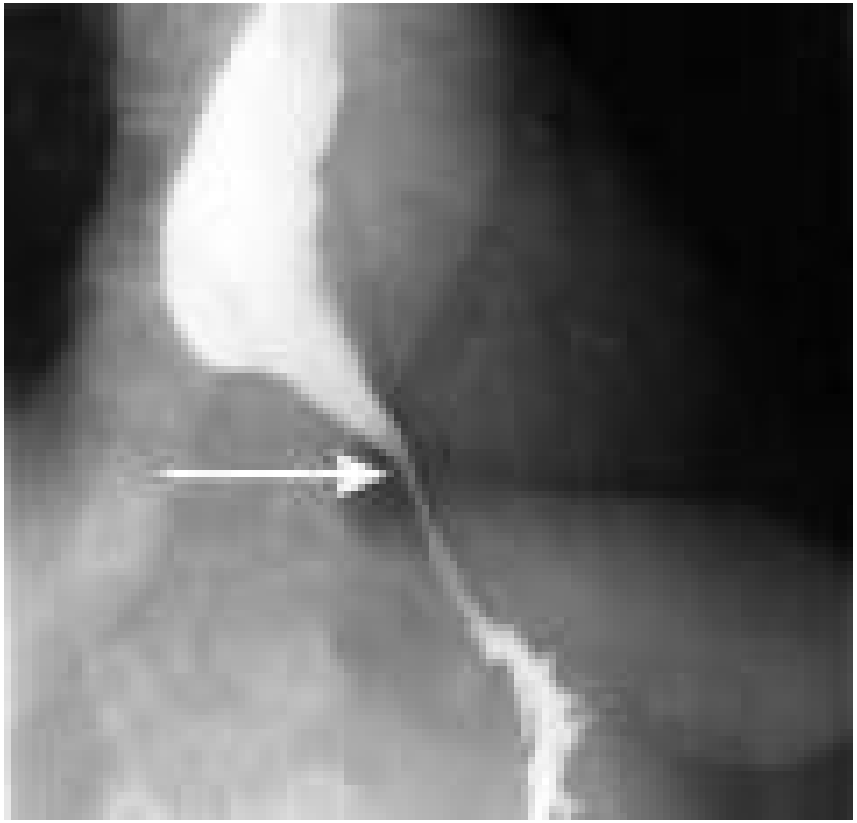


Esophageal Phase Dysphagia

- Difficulty with the transport of food and/or liquids through the esophagus
  - Children may be reluctant to eat
- Reflux-Movement of food and/or liquid from the stomach back into the esophagus

Narrowing in the Esophagus

Courtesy of St. Joseph's Regional Medical Center Paterson, NJ



Signs of Oral Phase Dysphagia

- Irritability
- Lack of alertness during feeding
- Prolonged feeding time
- Loss of food or liquids from the mouth
- Food sitting in mouth after meal
- Excessive drooling
- Gagging with certain textures
- Slow bottle feeding

Signs of Pharyngeal Phase Dysphagia

- Coughing during or after meal
- Coughing, choking or gagging
- "Wet" or "gurgly" voice or breath sounds
- Sensation of food sticking in throat
- Difficulty coordinating breathing and eating or drinking
- Pharyngeal problems may exist without any signs

Signs of Esophageal Phase Dysphagia

- Arching or stiffening of body during feeding
- Frequent spitting up and/or vomiting
- Difficulty managing solid food
- Preference for liquids
- Sensation of food sticking in throat
- May be associated with frequent respiratory problems or infections

How is Dysphagia Evaluated?

- Speech-language pathologists are the professionals most appropriately trained to assess and treat dysphagia in the oral and pharyngeal stages and screen for dysphagia in the esophageal phase.

Evaluating Dysphagia

- History
- Clinical Examination
- Observation of the child eating and drinking

- Team Assessment may include
  - Nutritionist/Dietician
  - Nurse
  - Physician
  - OT/PT

The Modified Barium Swallow

- Examination of the mouth, throat and sometimes the esophagus with videofluoroscopy
- Images the swallowing process as the food and liquids flow through the mouth and throat into the esophagus.
- May include treatment planning

The Modified Barium Swallow

- Problem areas can be examined, the reasons behind those swallowing problems identified and a course of treatment planned
- A variety of food samples are given during the test to help to determine the best diet for the patient
- Different positions and some therapy techniques may also be tried during the study to determine the best management strategies

The Modified Barium Swallow

- The study is completed by a Speech-Language Pathologist, especially trained in evaluating and treating dysphagia.
- A Radiologist frequently collaborates during the assessment.

Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

- Uses a special camera on a narrow tube to look at the throat during the swallowing of foods and liquids.
- The narrow tube is inserted into the nose and positioned to view the throat.
- Pictures are taken as the foods and liquids move through the throat.

Fiberoptic Endoscopic Evaluation of Swallowing (FEES)

- The FEES test is performed by a Speech-Language Pathologist. An Ear, Nose and Throat Physician may collaborate during the test.
- Recommendations for the safest diet and best therapy techniques for the swallowing problems are made following FEES.

How is Dysphagia Evaluated?

- If esophageal problems are suspected additional x-rays and tests may be recommended
- These will be ordered by the child's physician and may include
  - Upper GI Series
  - Ph Probe
  - Scintigraphy

What treatments are available?

- Depending on the cause of the problem any of the following may be used to help the child manage their difficulties eating and to correct or improve the condition
  - Dysphagia therapy
  - Medical intervention
  - Surgical intervention
  - Dietary modifications
  - Feeding modifications

Intervention may Begin in the NICU

- More infants are surviving complex medical conditions. This means that more preterm infants and full term infants with complications are surviving and are in need of care.
- SLPs have a unique contribution to make in the NICU with their expertise in communication development, feeding and swallowing function, and parent-child interactions.

Assessment of Feeding-NICU

- ***Role of SLP***
- Pre-feeding Assessment/Readiness for Oral Feeding
- Evaluate Breast/Bottle Feeding Abilities
- Instrumental Swallowing Evaluation

Treatment of Children

- ***Role of SLP***
- Exercises to improve the safety and effectiveness of swallowing for eating and other swallowing activities
- Exercises to help the child acquire mature eating skills
- Exercises to improve the child's behaviors for participating in eating and other swallowing activities

Types of Treatments

- Pediatric dysphagia therapy is family centered and sensitive to cultural differences among families
- Therapy includes working with families so they may
  - **Better understand the child's problem**
  - **Help their child to eat better**
  - **Help their child to advance skills in swallowing activities**

Types of Treatments

- Medical Interventions
  - Dilation of a narrowed area
  - Medications
- Surgical interventions
  - Reconstruction of oral, pharyngeal or esophageal structures
  - Placement of a feeding tube to supplement or substitute for eating

Evidence Based Practice

- Treatments offered should "integrate patient values and preferences along with best current research evidence and clinical expertise in making clinical decisions".

American Speech-Language-Hearing Association (2004) Evidence-Based Practice in Communication Disorders: An Introduction (Technical Report)

Types of Treatments

- Dietary Modifications
  - Modifying the consistency of food so that it is easier to chew or swallow
  - Modifying the consistency of liquids so that they can be swallowed easily and safely
  - Assuring that nutritional needs are met

Feeding Modifications

- Special modifications may be needed for
  - **The position in which the child is fed, and engages in other swallowing activities**
  - **The bottles, nipples and other utensils with which the child is fed**
  - **Food taste, texture, consistency and temperature**
  - **Pacing the rate of eating**
  - **Techniques used for assisting the child**

General Suggestions for a safe and efficient swallow

- Have a quiet and relaxed atmosphere at mealtime
- Thicken liquids and keep foods soft and moist if needed
- Sit as upright as possible when eating, drinking, taking medication or brushing teeth
- Give foods that the child chews well
- Wait for the child to swallow before giving another bite

General Suggestions for a Safe and Efficient Swallow

- Give small mouthfuls
- When drinking, allow the child to swallow each sip before giving another one
- If the child is independent in swallowing activities encourage them to
  - Eat slowly
  - Take small bites and small amounts on the spoon
  - Pay attention to the swallowing activity

General Suggestions for a Safe and Efficient Swallow

- It may be helpful to
  - Encourage the child to drink during the meal
  - Keep the child upright for at least an hour after eating to allow food to be digested
  - Check the mouth after eating and clear food that may be remaining
  - Brush teeth after each meal

Finding Help

- Speech-Language Pathologists are specially trained to work with children with feeding and swallowing problems
- They hold a master's or doctoral degree, a state license where required and the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language-Hearing Association

Finding Help

- American Speech-Language-Hearing Association 1-800-638-8255 www.asha.org
- Specialty Board on Swallowing and Swallowing Disorders brss@wismed.org
- Your local hospital or health agency
- Your local Early Intervention program or Public School
- Your State licensing department

This program was produced by the Professional Advocacy Committee of Division 13 Swallowing and Swallowing Disorders

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