

# Clinical Assessment of Feeding and Swallowing Disorders in Infants and Children

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## Overview

- Introduction
- Anatomy and Physiology Review
- Clinical Evaluation
- Instrumental Evaluations
- Treatment, Treatment, Treatment!
- Practical Issues and Families

\*\*\* caveat

## Feeding and Swallowing Disorders

- American Speech Language Hearing Association (ASHA, 2001)
  - Feeding disorder
    - “...In pediatrics, this term may be used to describe a failure to develop or demonstrate developmentally appropriate eating and drinking behaviors.” (p. 186)
  - Dysphagia
    - “A swallowing disorder... may involve the mouth, pharynx, larynx, and/or esophagus.” (p. 186)

## Pharyngeal Phase

- When executed properly...
  - Seals velopharyngeal port
  - Hyoid moves superiorly, anteriorly
    - Epiglottis deflects
  - Larynx closes
    - Multiple levels of closure
  - UES relaxes
  - Passage of material through pharynx
- Major landmarks
  - valleculae
  - pyriform sinuses
- Muscles (major groups)
  - Major groups: palatal elevators and depressors, pharyngeal constrictors, laryngeal elevators and depressors, laryngeal muscles
- CNs
  - More Anatomy

## Esophageal Phase

- Connects pharynx to stomach
- Anatomy
  - Muscular tube; both lengthwise and around
  - CNs
- Although we do not treat esophageal disorders, still important

## Cranial Nerve Review

- V Trigeminal (motor and sensory)
- VII Facial (motor and sensory)
- IX Glossopharyngeal (motor and sensory)
- X Vagus (motor and sensory)
- XI Accessory (motor)
- XII Hypoglossal (motor)
- I Olfactory

## Description of the Problem

- How does the family describe the problem?

- Need to consider
  - SAFETY
    - Skills
    - Behavior

## **Case History**

### **Medical History**

- Birth history
- Major medical conditions
  - Specific medical conditions
- Hospitalizations

### ***Pulmonary Conditions***

- Pneumonia
- Bronchopulmonary dysplasia
- Asthma
- Laryngo/tracheo/broncho- malacia
- Frequent upper respiratory infections
- Airway compromise

### ***Gastroenterological Conditions***

- Gastroesophageal reflux disorder (GERD)
- Eosinophilic esophagitis
- Short bowel syndrome
- Motility disorders

### ***Common Conditions Associated with Feeding and Swallowing Problems***

- Burklow et al., 1998
  - Neurological
  - Genetic
  - Metabolic
  - Cardio-pulmonary

### ***Neurological***

- Cerebral palsy
- Muscular dystrophy
- Shaken baby syndrome
- Seizure disorders

### ***Genetic Syndromes and Sequences***

- Down syndrome
- Cri-du-chat syndrome
- Velo-cardial-facial syndrome
- CHARGE syndrome
- Pierre-Robin sequence
- *What systems are affected?*

### ***Metabolic Disorders***

- Pompe disease
- Carnatine deficiencies
- Niemann-Pick disease

### ***Cardio-pulmonary Conditions***

- Variety of cardiac conditions
  - Tetralogy of Fallot

- Patent ductus arteriosus (PDA)
- Pulmonary conditions
- Special consideration for infants

### **Developmental History**

- All milestones
- Gross motor
  - Trunk control
  - Head control
- Fine motor
  - Self-feeding
- Speech and language
- Cognitive

### **Feeding History**

- Feeding as a neonate
- Feeding problems with the bottle/breast
- Transitional feeding skills
- Food preferences and dislikes
- Alternative sources of nutrition
- Mouthing behaviors

### **Current Feeding**

- Describe current feeding
  - Parent and child
- Schedule
- Current foods and liquids
  - How do they get them?
- Clinical signs of swallowing dysfunction

### **Other Information**

- Weight gain
- Pediatrician
- Social history
- Previous feeding/swallowing or developmental testing, therapy
- Other professionals

### **Oral Motor and Feeding history**

- Oral feeding history
  - Breast/bottle feeding, texture introduction and transition, complications
- Oral exploration
- Teething/drooling
- Food preferences
- Method of consumption
- Cup drinking
- Describe typical mealtime

### **Teaming**

- Teams are crucial
- Establish roles based on competency
- “Case manager,” ASHA suggests typically SLP

### **Team Members**

- Parent/guardian, SLPs, OTs, Primary physician, Sub-specialists, PTs, Psychologist, Dietician, Nurse, Social worker, Various others

## **Planning For a Clinical Assessment**

- Ideally, have some information prior to the examination
  - Age
  - Some medical history
    - Are there any restrictions?

## **Testing Environment**

- Home vs. clinic or hospital
- Room
  - How stimulating?
- Seating
  - Be prepared to provide support
- Toys

## **Available Foods and Liquids**

- Familiar foods
- Based on the child's age should have a variety of textures
- Be prepared with a variety of nipples, cups, utensils, etc.
- Thickener

## **Planning for Feeding**

- Who should feed?- CAREGIVER!

## **Clinical Evaluation**

- Feeding behaviors
- Oral motor evaluation
- Signs of pharyngeal dysphagia

## **Infant Readiness for Feeding**

- Neurological Stability
  - Autonomic stability
    - Heart rate
    - Eye contact
    - Respiratory rate
- Age

## **Feeding Behaviors**

- Common descriptions include:
  - Food refusal
  - Food selectivity
  - Disruptive behaviors
  - Extended meals

## **Sensory Responses**

- Hypo-reactive sensory disorders
  - Increased stimulation=Typical response
- Hyper-reactive sensory disorders
  - Stimulation= Tone changes, atypical reflex patterns
- Sensory defensiveness
  - Stimulation=Increased responses with behavioral changes

## **General Observations**

- Level of interaction
- Cognition
- Overall tone
  - Low/typical/high
- Respiration/respiratory patterns
- Secretion management

## **Oral Motor Evaluation**

- Oral mechanism observation and exam
- Observe lips, tongue, jaw, face, cheeks
  - Symmetry at rest
  - Symmetry with movement
  - Structured tasks?
- Dentition

## **Evaluation of Reflexes**

- Age
- Underlying diagnosis

## **Infant Assessment**

- Positioning
  - How is the child held?
- Flexion vs. extension
- Stability
  - Internal vs. external
- Suckle vs. suck
  - Anterior-posterior movement of the tongue
  - Tongue, lower lip, mandible, and hyoid move together
  - Lip seal is not as important, frequently see mild liquid loss
- Disappears at 6-9 months, some say earlier
- True suck
  - Compression
  - Lips more important
  - Important for further oral motor skill development
- Non-nutritive suck
  - Rate=2/second
  - 6-8 sucks per swallow
- Nutritive suck
  - Rate=1/second
  - Generally a 1:1-2:1 suck to swallow
- Serve different purposes
- Pattern
  - Establish and maintain
- Respiration
  - Changes
- Adequate strength
  - NNS vs. NS
- Lips
  - More important for older infants
  - Anterior loss
- Jaw/tongue movement
  - Do you see separation?
- Tongue

## **Transitional Assessment**

- Transitional feeding
- Rommel et al. (2003)

- Almost 50% had an oral motor component
- Identified factor in children previously thought to have no organic basis (Reilly, Skusse, Wolke, & Stevenson, 1999)
- Limited empirical evidence (Ruark, 2004)
- Limited number of tools to examine oral motor skills, especially those with standardization
- *Schedule for Oral Motor Assessment* (Reilly, Skusse, & Wolke, 2000)
  - 8-24 months
  - Variety of textures
  - Published validation and reliability measures (Reilly, Skuse, Mathisen, & Wolke, 1995; Skuse, Stevenson, Reilly, & Mathisen, 1995)
- Positioning
  - Head control- approximately 4 months
  - Trunk control- 6 months
- SAFETY
- Textures
- Different Classifications
  - Developmental Food Continuum (Toomey & Ross, 2004)
  - National Dysphagia Diet (National Dysphagia Diet Task Force, 2002)
  - Be prepared to assess a variety of age appropriate textures
- Current diet
  - Liquid- in usual bottle or cup
  - Food- with child's utensil if possible
- Challenging Foods
  - Safety is primary goal
  - Oral motor challenge and/or sensory challenge
- Textures
  - 6 months
    - Puree, solid
  - 8-12 months
    - Puree, meltable solid
  - 12-18/24 months
    - Puree, meltable solid, mechanical soft
  - 24 months and beyond
    - Puree, meltable solid, mechanical soft, chewy solid (e.g. meat)
- Lip closure for spoon placement
  - Minimal closure
  - Upper lip assists with closure on spoon
  - Upper and lower lip
- Lips closure for solid food
  - Lips move with jaws during chew
  - Functional pattern
- Biting and chewing
  - Jaw stability
  - 4-6 months emerging
  - 9-12 months becomes independent
- Up and down jaw movements prior to 4 to 6 months is a phasic bite
  - Important for children with altered neurological system
- Biting
  - Phasic
  - Controlled bite soft foods
  - Controlled bite solid foods
    - Movements

- No movements
- Developmentally
  - Anterior → posterior
- Tongue movements
  - Suckling
  - Sucking
  - Mashing
  - Lateralization
  - Diagonal transfer
    - Contribute to rotary chew
- Chewing
  - Munching
  - Diagonal
  - Rotary
  - Refines until 8 years of age (Gisel, 1988)
- Cup drinking (open cup)
  - Suckling
  - Sucking with biting on cup for stabilization
  - Sucking without biting
- Non-developmental oral motor patterns
  - Frequently the result of altered neurological system
    - Cheek/lip retraction
    - Jaw thrusting/ with protrusion
    - Tongue retraction
    - Tongue thrusting
    - Tonic bite

### **Pharyngeal Assessment**

- Signs/symptoms of swallowing dysfunction
  - Coughing
  - Change in respiration
  - Choking
  - Gagging
  - Changes in vocal quality
  - Color changes
  - Multiple swallows
- Vocal quality
- Incidence of silent aspiration
  - Newman, Keckley, Petersen, & Hammer, 2001
  - Arvedson, Rodgers, Buck, Smart, & Msall, 1994
- Importance of history in making determination for instrumental assessment
- Baseline measure

### **Videofluoroscopic Swallowing Study**

- Child ingests barium and swallowing is captured through x-ray onto video
- Can view all phases of the swallow; frequently limited to oral, pharyngeal
- “Gold-standard” for assessment of penetration and aspiration
- Aspiration before, during, after all swallows
- Limitations
  - Radiation
  - Have to swallow
  - Compliance
  - No information about secretion management

\*\*\* A moment in time

- Referrals
  - Concerns with swallowing dysfunction
    - Based on clinical evaluation, medical history, both, OR...
  - Child has to participate, may need to discuss trials with the physician prior to the study

### **Fiberoptic Endoscopic Evaluation of Swallowing**

- Small endoscope passed through the nose into pharynx
- Direct observation of structures before and after the swallow
- Brief moment of white out with each swallow
- Secretion management
- Disadvantages
  - Compliance
  - White-out
  - Pharyngeal phase only
- Advantages
  - Secretions
  - Anatomy
  - No radiation

### **Related Conditions**

- GERD
- Eosinophilic Esophagitis
- Sensory Integration Disorders

### **GERD**

- Gastric contents into the esophagus
- Most common gastroenterological problem in infants (up to 50%)
- Continuum of normal  
(Arguin, & Swartz, 2004)
- Complications
  - Poor weight gain
  - Esophagitis
  - Respiratory problems
  - Dysphagia
  - Changes in development
- Signs and Symptoms
  - Excessive crying/ irritability
  - Poor sleep
  - Poor weight gain
  - Persistent respiratory problems
  - Esophagitis
  - Eructation (burp)
  - Spontaneous swallows not during eating, may follow burp
  - Wet vocal quality
- Diagnosis
  - MD, DO
  - Upper GI
  - pH probe
  - Esophageal endoscopy and/or biopsy
- Management
  - Positioning

- Medication
- Schedule
- Formula
  - Changes
  - Thickening
- Surgical
- Influence on feeding
  - Poor feeders
    - Mathisen et al., 1999
- Refer back to the pediatrician or GI

### **Eosinophilic Esophagitis**

- Eosinophilic esophagitis vs. esophagitis
- Diagnosis
  - Endoscopy
  - Histology

(Pentiuk, Miller, & Kaul, 2007)

- Signs/symptoms
  - Feeding problems (food refusal, oral aversion)
  - Poor weight gain
  - Vomiting
  - Abdominal pain
  - Allergies
  - Asthma
  - Eczema
- Treatment
  - Pharmacological
  - Source of allergies
- Refer back to the pediatrician or GI

### **Sensory Integration Disorder**

- Hyporesponsive
  - Poor awareness of food in mouth, may overstuff
  - Crave texture
- Sensory defensiveness
  - Hyperreactive responses
    - Avoiding texture
    - Finger splay
    - Gag
    - Avoidance of touch on face

### **Summary of Evaluation**

- Case History
- Clinical Evaluation
  - Instrumental Evaluation
- Referrals

### **Recommendations**

- Therapy
  - Speech/Dysphagia
  - Occupational
- Psychology
- Dietician

- Physicians

### **Specific Therapy Goals**

- Improving feeding behaviors
  - Need to facilitate oral motor patterns
- Improving oral motor skills
- Instrumental assessment
  - Difficult to make recommendations related to swallowing

### **Instrumental Evaluation Results**

- If penetration or aspiration, is it silent?
- Implementing recommendations
- Continue to monitor skills
  - Discrepancies

### **Goal Setting**

- Safety
- What are functional, educationally relevant goals?
- Developmentally appropriate
  - Motor skills
  - Cognitive skills
- Behavior/feeding
- Oral sensorimotor skills
- Pharyngeal swallowing
  - Facilitate safe swallow

### **Treatment of Oral Sensorimotor Disorders**

- What is the underlying etiology?
- What is impacting oral sensorimotor skills?
  - Have to go back to normal development

### **Treatment of Oral Sensorimotor Skills**

- Stability
- Spoon feeding
- Biting and chewing
- Cup drinking

### **Stability**

- Goal
  - Neutral head, neck, and trunk position
  - Pelvis flexed
  - Shoulders stable and depressed
  - Hips at 90°
  - Neutral feet
- Hypertonic children need assistance with inhibition of tone to promote trunk stability
- Hypotonic children require overall postural stability and alignment
- Have to have it!
  - If you don't, provide it
    - Towel rolls
    - Inserts
    - Adaptive seating
      - Tumbleform chair
      - Rifton chair

- Teaming

## **Stability**

- Jaw stability
  - Dependent on head, trunk stability
  - In typical children develops through oral experiences
  - Facilitate oral experiences!
- Treatment Goals
  - Mouthing
  - Biting
    - Anterior lateral progression
  - Resistance activities with biting
- Referral for OT and/or PT
- Specific activities
  - “Old MacDonald,” animals
    - Tug-of-war
  - “Happy and You Know It”
  - Teeth marks
  - “No hands” (licorice, straws, anything)
  - Cups with no hands

## **Lip Closure**

- Typical pattern
  - Minimal closure
  - Upper lip assists
  - Upper and lower lip
- Etiology
  - Tone
  - Weakness
  - Cranial nerve deficit?
- Tone activities
  - Hyper-
  - Hypo-
- Whistles
  - Shape
- Cups
  - Nosey cup, cut out cup
- Straws (Morris & Klein, 1987)

## **Spoon Feeding**

- Bolus formation and posterior transfer
  - Anterior tongue movement
    - Jaw strength and stability
    - External support
    - Spoons
    - Lip closure patterns and/or sucking (Morris & Klein, 1987)

## **Biting**

- Normal patterns
  - Anterior to posterior
  - Extraneous movement to more controlled
- Treatment
  - Jaw strength and stability
  - “No hand biting”

- Shoot the food
- Animals
- Bobbing for...
- Lateral placement
  - Teeth mark
  - “strong side teeth”

### **Chewing**

- For mature chewing patterns, need developed tongue movements and experience to develop patterns
- Tongue movements
  - Suckling
  - Sucking
  - Mashing
  - Lateralization
  - Diagonal transfer
    - Contribute to rotary chew
- Chewing Patterns
  - Refines until 8 years of age (Gisel, 1988)
- Munching pattern
  - Anterior placement to lateral placement
  - Counting
  - Singing
  - Teeth marks
  - Animals
  - Dinosaurs
- Diagonal/Rotary
  - Coordinated movement
  - 1) Tongue lateralization
    - Initial food placement
    - Hide and seek
    - Push on the finger
    - Race the fish
  - 2) Movement pattern
    - Back and forth movement
      - Directly understand

### **Cup Drinking**

- Cup drinking (open cup)
  - Suckling
  - Sucking with biting on cup for stabilization
  - Sucking without biting

(Morris & Klein, 2000)

- Jaw stability/strength
- Lip closure
  - Nosey/cut out cup
    - Puree    thick liquid    thinner liquid
  - Touch cup to lip and remove
  - Jaw support

- Suck

(Morris & Klein, 1997)

### **Straw Drinking**

- Safety
  - Bolus size, coordination of respiration
- Juice box or squeeze bottle

- Thicker liquids
- Added benefit is lip closure

### **Sources for Oral Motor Exercises**

- The Source for Pediatric Dysphagia (Sweigert, 1998)
- Pre-Feeding Skills, Second Edition (Morris & Klein, 2000)
- Pre-Feeding Skills (Morris & Klein, 1997)

### **Treatment of Oral Sensorimotor Disorders**

- Very few studies examining efficacy
  - Gisel et al., 1994
    - Children with CP
    - O-M exercises, 3 groups
    - Improvement in oral motor skills
      - All skills, difference in chewing
  - Gisel et al., 1995
    - Children with CP
    - Outcome measure=growth
    - Children with aspiration vs. without
    - O-M skills increased, not growth measures

### **Treatment of Oral Sensorimotor Disorders**

- Gisel et al., 1996
  - Children with CP
  - Outcome measures= o-m skills, reducing aspiration
  - Improvement in o-m skills, did not reduce mealtime, qualitative differences in swallow function
- Tarbell & Allaire, 2002
  - 83 children, all tube-fed
  - Five different groups
  - Various interventions to wean
  - Reduced percentage of oral feeding
  - Several weaned from tube at 5-7 months post-discharge

### **Treatment of Pharyngeal Disorders**

- Children are different than adults
- NPO
  - Considerations for therapy
- Positioning
  - Flexion vs. extension
  - Neutral head position

### **Treatment of Pharyngeal Disorders**

- Texture changes
  - Thickening (next slide)
  - Puree or thicker only
  - Know why changes are needed or recommended
- Alternating solids and liquids
- Slowing flow rate and limiting bolus size
- Electrical stimulation (Freed, Freed, Chatburn, & Christian, 2001)

### **Thickened Liquids**

- Thin
- Nectar
- Honey
- Pudding-like

- Why are we thickening

### **Behavioral Strategies for the SLP**

- SLPs and behavior
- Role of psychology

### **Behavioral Interventions**

- This can be challenging for SLPs
- Different techniques
  - Positive reinforcement
  - Negative reinforcement
  - Differential attention
  - Extinction
  - Punishment
  - Swallow induction training (Kerwin, 1999; Kedesdy & Budd, 1998)

### **Behavior and SLPs**

- Positive Reinforcement
- Differential Attention
- Importance of understanding Negative Reinforcement

### **Systematic Desensitization**

- Steps to Eating© (Toomey & Ross, 2004)
- Hierarchy
  - Tolerate to Eating
- Pair with positive reinforcement

### **Behavioral Interventions**

- More research than oral motor techniques
- Outcome studies are based on psychological intervention principles, specifically behavior modification techniques
- Kerwin, 1999
  - Empirical review of studies on children with feeding disorders
  - Three main areas emerged as effective for treating feeding disorders: 1) positive reinforcement, 2) extinction, and 3) swallow induction training
- Limited information and evidence related to improving oral motor skills and/or safety of swallowing

### **General Behavioral Strategies**

- Structure the environment
  - Appropriate stimulation
  - Consistent structure
- Establish a trusting relationship with the child
- Use all resources available

### **Other Treatment Principles**

- No wiping, teach the child to do it themselves
- No force feeding
- ALWAYS end on a positive note
- “All done bowl”

### **Role of Modeling**

- Research clearly shows children as young as 9 months learn better from peers
- Have to do whatever you expect them to do... How else do they know to do it?

### **Social Influences**

- Use peers if you can!
- What is the social situation in the classroom and how can you facilitate success within this setting?
- Group therapy

## **Texture Progression**

- SAFETY
- Different Classifications
  - Developmental Food Continuum (Toomey & Ross, 2004)
  - National Dysphagia Diet (National Dysphagia Diet Task Force, 2002)
  - Developmental progression described by Morris & Klein (2000)
  - Commercial products (Stage 1, Stage 2, Stage 3)

## **Alternative Words**

- Pureed
- Ground
- Chopped
- Mashed
- Bite-size

## **Texture Progression**

- What textures were trialed at the evaluation?
- Not necessarily this order (alternative classifications)
  - Puree
  - Meltable
  - Soft but need chewing, “mechanical soft”
  - Hard foods
  - Chewy
  - Mixed textures
- Most efficient pattern!

## **Texture Examples (Toomey & Ross)**

- Puree
- Hard Munchable
- Meltable Hard Solids
- Soft cubes
- Soft mechanical
- Mixed textures

## **Introducing New Foods**

- Connect food properties
  - Change is BAD--- go for the good
- DO NOT hide one food in another

## **General Treatment Principles**

- Maintain a consistent routine
- MODEL EATING (OR THE STEPS TO EATING) YOURSELF
- Provide the child with an opportunity to be successful
- Use “you can” language
- Connect food properties
- FULL TEAM education and involvement is an ESSENTIAL component

## **Principles for Individual Treatment**

- MODEL EATING (OR ANY OTHER STEP TO EATING) YOURSELF
- Teach others to model eating at snack, lunch
- Have a variety of foods on hand, you may move quickly through some of them
- Play with food in non-threatening ways
- Know the child well... what do they need to stimulate or calm prior to eating?

## Group Therapy

- Routine
  - Sensory Activity
  - Circle Time (oral awareness and alerting)
  - Oral Alerting
  - Mealtime/Snacktime
  - Team Education

## Pros and Cons of Group Therapy

- Pros
  - Peer models
  - Prep time
  - Social language experience
  - Opportunity to work with other disciplines/ professionals
- Cons
  - Peer models
  - Prep time
  - Difficult to manage diversity of the group
  - Less one-on-one therapy time
  - Supplies

## Additional Tips

- Empower families to understand the rationale of therapy and CARRYOVER
  - Harder in educational setting but necessary
- State, up front, you may require written documentation to safely participate in therapy experiences
- Organization is key
- Limit the number of children in each group
- Continue to educate yourself

## Goals Related to Pharyngeal Phase

- Are you monitoring or treating?
- Examples
  - XX will complete feeding at school without any signs/symptoms of swallowing dysfunction for 5/5 meals
  - Can be specific to a texture
  - XX will participate in school meals using --- cup without any s/s of swallow dysfunction

## Oral Motor Goals

- Can be specific for repetitions, time
- Can also be specific to foods (e.g. use rotary pattern x4, with specific textures, etc.)
- Can be specific to a mealtime activity (e.g. will eat --- amount of food while participating in lunchtime with peers)

## Behavioral Goals

- Can you write with other team members
  - Can write specific to hierarchy or a specific behavioral treatment
  - E.g. will tolerate food on placemat 2 minutes
  - Will touch food 3x/session
  - Will tolerate sitting at table with peers while food placed on table

## Some Additional Thoughts

- Have a plan
  - Process
  - Team
  - competency
- Document, document, document

- Work with the family

### **Previous Studies of Impact of Feeding and Swallowing Disorders on Caregivers/Families**

- Previous studies of children with tubes and/or cerebral palsy have reported:
  - Difficulty working with and communicating with professionals (Rouse, Herrington, Assey, Baker, & Golden, 2002; Craig, Scambler, & Spitz, 2003; Franklin & Rodger, 2003)
  - Emotional distress (Franklin & Rodger, 2003; Rouse, Herrington, Assey, Baker, & Golden, 2002)
  - Chronic stress (Franklin & Rodger, 2003)
  - Strained parent-child relationships (Franklin & Rodger, 2003)
  - Limited social opportunities for the family and child (Craig et al., 2003)
  - Increased parenting responsibilities (Franklin & Rodger, 2003)

### **Relevance to Education**

- Why is dysphagia important in the schools?

### **Is Dysphagia a Covered SLP Service?**

- Assistance to States for the Education of Children with Disabilities and Preschool Grants for Children with Disabilities; Final Rule, 156, Fed. Reg. 46576 (2006) (to be codified at 34, C.F.R. § 300 & 301)
  - Definition of OHI
  - Speech language pathology services...
    - “We believe that the definition is sufficiently broad to include services for other health impairments, such as dysphagia...”

### **ASHA Guidelines (ASHA, 2007)**

- On the ASHA website
- Developed to provide guidelines for SLPs in the schools
  - Acknowledge there are significant needs

### **Recap of Schools Survey**

- (ASHA 2006; Owre, 2006)
  - 10.2% SLPs in schools dysphagia on caseload
  - 3.5 children per caseload
  - Barriers
    - Liability concerns
    - Educational relevance
    - Lack of experience

### **Educational Relevance**

- Safety
- Physical well being and energy
- Health
- Efficiency and ability to complete activities

### **Legal Issues**

- IDEA 2004
- Multiple court cases
  - Not directly on point but supportive
  - Includes a case from Ohio
- Licensure board

### **Ethical Issues**

- Scope of practice
  - Assessment and/or treatment
- Competency

	<b>Goal is to increase a behavior</b>	<b>Goal is to decrease or eliminate a behavior</b>	<b>Therapist introduces a stimulus</b>	<b>Therapist removes a stimulus</b>
<b>Positive reinforcement</b>	yes	no	desired stimulus	no
<b>Negative reinforcement</b>	yes	no	no	non-desired stimulus
<b>Differential attention (positive reinforcement + ignoring)</b>	yes	no	desired stimulus	no
<b>Extinction</b>	no	yes	no	non-desired stimulus
<b>Punishment</b>	no	yes	non-desired stimulus	no