



PEDIATRIC FEEDING EVALUATION & PROFILES

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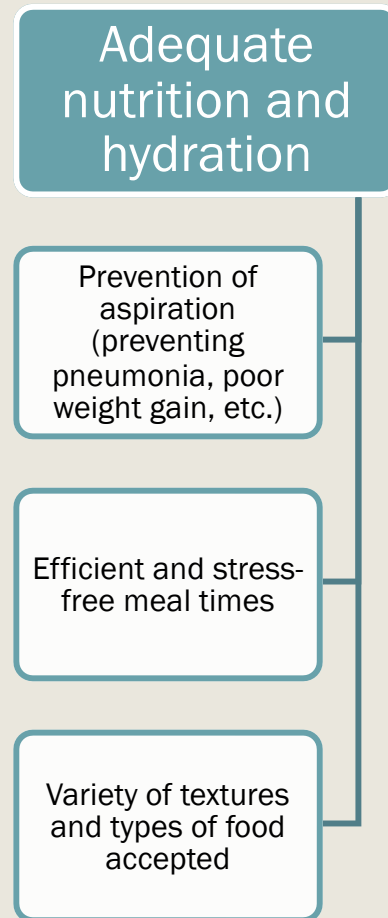
Feeding Experience

- Pediatric Feeding Specialization from Louisiana State University
- Clinical placements at
 - *PEDIATRIA (Day nursing facility for medically fragile infants and children (birth-3))*
 - *Louisiana Speech and Feeding Specialists (Private Practice)*
 - *LSU Feeding Clinic*
 - *Baton Rouge Cleft Lip and Palate Panel*
 - *Neuro Trauma Intensive Care Unit of Baton Rouge Our Lady of the Lake Hospital*

Feeding Impacts

- Estimated reports of the incidence and prevalence of pediatric feeding/swallowing impairment vary widely (Arvedson, 2008; Lefton-Greif, 2008).
- It has been reported that 25%-45% of typically developing children demonstrate feeding and swallowing problems (Arvedson, 2008; Bernard-Bonnin, 2006; Brackett, Arvedson, & Manno, 2006; Burklow, Phelps, Schultz, McConnell, & Rudolph, 1998; Lefton-Greif, 2008; Linscheid, 2006; Manikam & Perman, 2000; Rudolph & Link, 2002).
- Prevalence is estimated to be 30%-80% for children with developmental disorders (Arvedson, 2008; Brackett, Arvedson, & Manno, 2006; Lefton-Greif, 2008; Manikam & Perman, 2000).
- Significant feeding problems resulting in severe consequences (e.g., growth failure, susceptibility to chronic illness) have been reported to occur in 3%-10% of children, with a higher prevalence found in children with physical disabilities (26%-90%) and medical illness and prematurity (10%-49%); (Manikam & Perman, 2000).
- It is reported that the prevalence of pediatric dysphagia is increasing due to improved survival rates of children born prematurely, with low birth weight, and with complex medical conditions (Arvedson, 2008; Lefton-Greif, 2008).

Goals of Feeding Intervention



Who Needs an Clinical Evaluation of Feeding and Swallowing?

- How long does it take to feed the child?
- Is the child totally dependent on others for feeding? Does the child do some assisted feeding or some independent feeding?
- Does the child refuse food?
- Are mealtimes stressful?
- Has the child slowed or stopped gaining weight in the previous 2–3 months?
- Are there any signs of respiratory distress?
- Does the child vomit regularly?
- Does the child get irritable or become lethargic during mealtimes?

Team Approach

- Family/Caregiver
 - *Feeding Matters Infant and Child Feeding Questionnaire*
 - <http://questionnaire.feedingmatters.org/questionnaire>
- SLP
- One or more physician (pediatrician, neonatologist, physiatrist, otolaryngologist, pulmonologist, endocrinologist, neurologist, neurosurgeon, cardiac surgeon, gastroenterologist, etc.)
- Registered Dietician
- Nurse or nurse practitioner
- Occupational Therapist
- Psychologist
- Social Worker
- Board Certified Lactation Consultant
- Physical Therapist



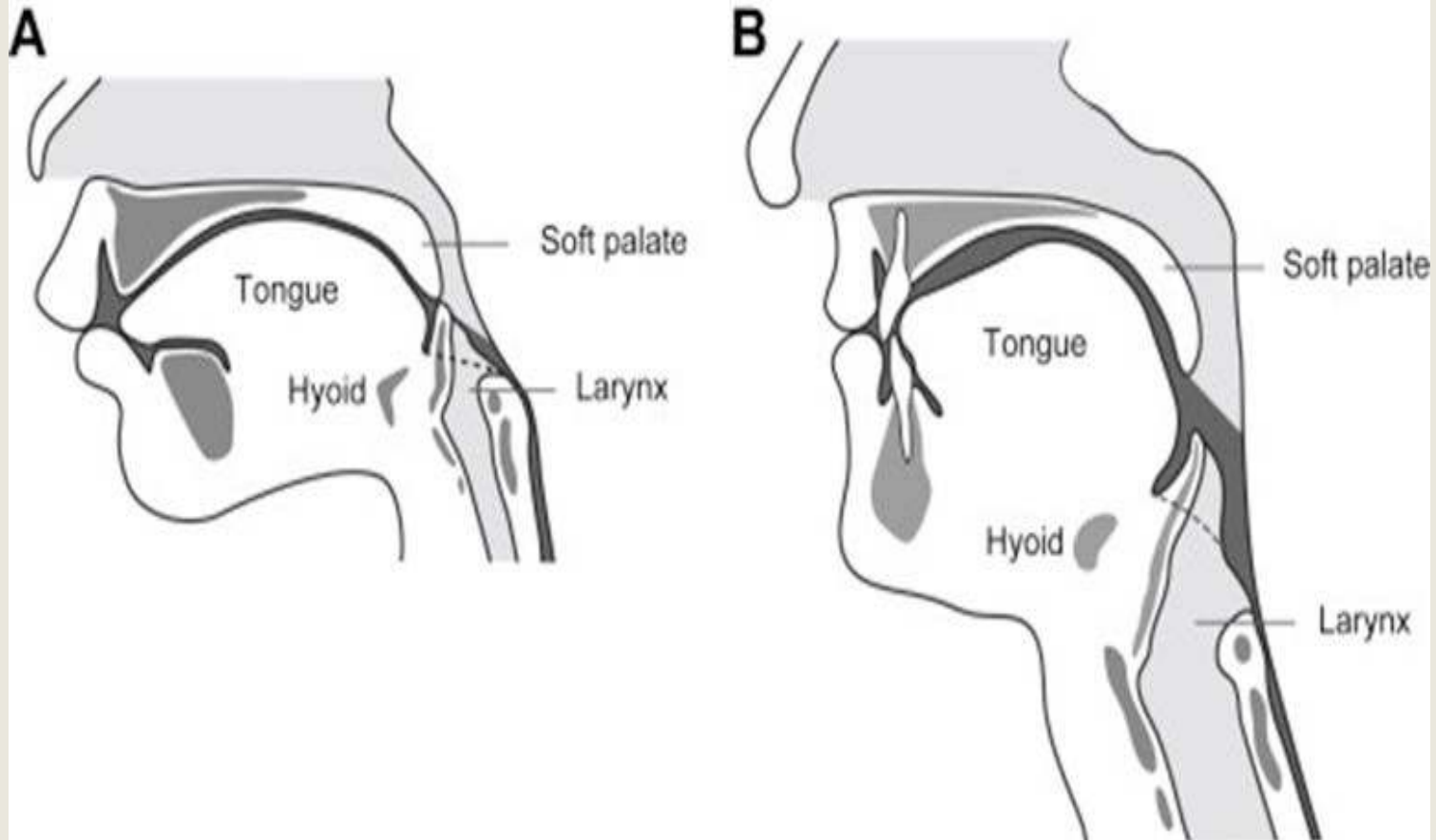
Purpose of Comprehensive Clinical Evaluation

- Enables clinicians to:
 - *Identify possible underlying etiologies*
 - *Formulate hypotheses about nature and severity of feeding/swallowing disorder*
 - *Establish a baseline of behaviors*
 - *Introduce therapeutic modifications*
 - *Investigate feeding options that are safe and sensitive to family and cultural differences*
 - *Determine if instrumental assessment is warranted*
 - *Assess readiness or ability of patient to participate in instrumental procedures*

Clinical Evaluation

- Case History
- Assessment of overall physical, social, behavioral, and communicative development
- Observation of the child eating or being fed by a family member or caregiver
- Structural assessment of face, jaw, lips, tongue, hard and soft palate, oral pharynx, and oral mucosa
- Functional assessment of muscles and structures used in swallowing, including symmetry, sensation, strength, tone, range and rate of motion, and coordination of movement
- Observation of head-neck control, posture, developmental postural and oral reflexes, and involuntary movements noted in the context of the child's developmental level
- Case Hx and Feeding and Swallowing Evaluation Form Uploaded to One Drive

Child/Adult Anatomical differences



Many Layers of Feeding

- Important to identify and understand the specific areas that interfere with feeding skill advancement
 - *Tone*
 - *Posture*
 - *Sensory Motor Development*
 - *Medical Concerns*
 - *Learned Behavior*

Feeding Trial – Oral Pharyngeal Competency

- VFSS revealed silent aspiration for all but 2 (94%) of the children who aspirated. The finding emphasizes that with CNS damage, the probability of a cough response to aspiration is low
- Impaired swallowing safety is a typical result of poor sensation, timing, coordination, and strength.
- Atypical sensitivity and tone interferes with the efficiency and effectiveness of motor patterns of safe swallow patterns

(Arvedson, Rogers, Buck, Smart & Msall, 1994)

- Should observe for
 - *Color*
 - *Respiration*
 - *Demeanor*

Types of Feeding Disorders

- Physiological

- *Medical disorders, particularly those involving*

- Neurological
 - Craniofacial
 - Gastroenterological
 - Pulmonary
 - Metabolic Systems

- Developmental

- *Failure to develop mature skills for feeding/swallowing activities at expected milestone ages*

- Behavioral

- *Disorders involving:*

- Motivation for eating and/or engaging in other appropriate feeding/swallowing activities
 - The social and interactive aspects of engaging in feeding activities

Feeding Disorder Profiles

(Adapted from Wolf & Glass, 1992 and Angela Mansokillo MS CCC-SLP, BRS-S)

- Cluster of Symptoms and History
- Aid in determining/understanding underlying etiologies

Feeding Disorder Profiles

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■ **PHARYNGEAL DYSPHAGIA**

- *Non-nutritive suck better than nutritive suck, poor management of secretions, history of pulmonary problems, respiration changes with feeding, may have already had a VFSS with confirmed aspiration and delayed pharyngeal response*

■ **DISORDERED STATE/AROUSAL**

- *Sleepy baby, poor cues regarding when to feed, difficulty with feeding transitions (ie change in texture or temperature), agitated, cries a lot, sleeps poorly, difficulty with initiation of sucking, poor rhythm*

■ **ORAL MOTOR CONTROL**

- *Parent says “they have tried everything”, history of frequent changes of nipple, history of enlarging hole in nipple, difficulty initiating sucking, speech and articulation problems, not coordinated across all textures, food loss out of mouth or oral residue, accept teething toys but has difficulty organizing to bite*

Feeding Disorder Profiles

(Adapted from Wolf & Glass, 1992 and Angela Mansokillo MS CCC-SLP, BRS-S)

■ **GI DISORDERS**

- *Frequently spitting up, vomiting, agitated, excessive crying, or fussiness after feed, posturing in extension, patterns after /during feeding (sandifer sign), draws knees up to chest with crying, sleeps poorly, facial grimacing and continues to swallow after feed.*

■ **ENDURANCE**

- *Sleepy baby, falls asleep prior to taking full feed, sweating, many colds, chronic nasal congestion, sucking becomes disorganized in middle of feeding, slow sucking rhythm, feeding lasts longer than 30 minutes, poor weight gain*

■ **COORDINATION OF SUCKING/SWALLOWING/BREATHING**

- *likes spoon better than nipple and cup better than bottle, chronic nasal congestion, uneven sucking rhythm, forgetting to breathe, coughing, choking, takes solids better b/c it gives them time to coordinate and process, fatigue is not necessarily from sucking but from breathing and swallowing*

Feeding Disorder Profiles

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■ **VOCAL FOLD FUNCTION**

- *Abnormal cry, hoarse cry, breathiness, stridor, gagging, coughing, choking, history of intubation, cardiac surgery and/or cranial nerve damage*

■ **CAREGIVER/CHILD INTERACTION**

- *Baby is fed too often or too infrequently, not provided with adequate time to feed, poorly positioned, loosely held, bottle gets propped, limited interaction between baby and caregiver*

■ **BEHAVIORAL**

- *Food refusal, food selectivity, sometimes a hx of tube feeding, mealtime tantrums, disruptive behaviors at meal times, excessive feeding time, need to r/o medical issues b/c moms are scared*

Feeding Disorder Profiles

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■ **DISORDERD SENSORY RESPONSES**

- *Excessive gagging, nipple specific, specific preferences (nipple, texture, temp.) and difficulty with transitions, especially to spoon, history of tube feedings, minimal oral play or oral exploration:*
 - hypo: diminished responses, craves highly textured and spicy foods, overstuffs, drools, can have impaired suck and chew*
 - hyper: excessive reaction to any input, abnormal reflex pattern, high muscle tone, limited diet*

■ **PHYSIOLOGICAL RESPONSE**

- *Color changes, baby forgets to breathe, sweats, medical history of apnea and/or bradycardia with feeding, developmentally not ready to feed*

ASHA NOMS

(for children at least 3 years of age)

- Level 1: not able to eat anything safely by mouth
- Level 2 nutrition and hydration met by non-oral means. Child may take textures orally in therapy
- Level 3 some non-oral feeding, plus oral feeding with consistent max assistance
- Level 4 swallow is safe with pureed, moderate assistance; may need oral nutritional supplements, no tube feedings
- Level 5 swallow is safe with modified/chopped table foods, minimal assistance. Total oral feedings
- Level 6 swallow is safe with typical table foods, occasional minimal assistance. Child may avoid specific food items or may need additional time.
- Level 7 swallow is safe and efficient for all consistencies; rarely need monitoring more than expected for age-matched peers.

Resources

- Feeding Matters Infant and Child Feeding Questionnaire
 - <http://questionnaire.feedingmatters.org/questionnaire>
- Recipes for every texture/nutrient
 - <https://www.feedingmatters.org/recipes>
- Great website for therapy techniques
 - <http://www.new-vis.com/index.htm>

Operational Definitions

- Feeding disorders: Problems in a broad range of eating activities that may or may not be accompanied by a difficulty with swallowing food and liquid. Feeding disorders may be characterized by food refusal, disruptive mealtime behavior, rigid food preferences, less than optimal growth, and failure to master self-feeding skills expected for developmental levels.
- Swallowing disorders (dysphagia): Problems in one or more phases of the swallow that include (1) oral phase: (a) bolus formation (from time food or liquid enters the mouth until it begins to move over the tongue in the oral cavity), and (b) oral (transit of bolus posteriorly over the tongue ending with initiation (trigger) of the pharyngeal swallow); (2) initiation of the swallow (under voluntary neural control); (3) pharyngeal phase (involuntary neural control) from the initiation of the swallow to end when the bolus moves through the cricopharyngeal juncture into the esophagus); and (4) esophageal phase (begins with opening of the upper esophageal sphincter through the lower esophageal sphincter). Particular concern relates to timing and coordination deficits that may result in aspiration.
- Aspiration: Passage of any material (e.g., food, liquid, saliva) below the level of the true vocal folds into the trachea.
- Silent aspiration: No cough, choke, or other signs of problems when food or liquid enters the trachea.

UP NEXT

- Referral
- Treatment
 - *Cue based feeding*
 - *Food chaining*
 - *Oral motor exercises*
 - *Sensory stimulation*
 - *Behavioral intervention*
 - *Home Programs*
- Diet Recommendations