



# EITI Newsletter

Early Intervention Training Institute

Summer 2016

Rose F. Kennedy Center, University Center for Excellence in Developmental Disabilities

## WHEN A CHILD CAN'T "JUST EAT IT"

Keith Ayoob, EdD, RD, FADN

Ida Barresi, MA, CCC-SLP

Leon Kirschner, OTR

### INTRODUCTION

Feeding your child a meal you prepared can be one of the great joys of parenting. However, when a child has difficulties with aspects of the feeding process, meal times can be unpleasant for both the child and the caregiver. Common complaints about a child's feeding habits from caregivers include:

- "She doesn't chew anything so we just give her baby food."
- "We tried giving him a cup but everything dribbles out, so we give him the bottle."
- "I have to put everything in the blender or he won't eat it."
- "She likes meat but she chews it and spits it out."
- "Mashed potatoes are what he likes best so that's mostly what we give him."

Sometimes a feeding problem exists without the caregiver's awareness, especially if the infant or child is taking in enough calories and nutrition to grow properly. However, if the texture of the child's diet or the feeding practices of the caregiver are not consistent with the developmental needs of the child, this may signal a feeding issue that needs attention. One example of this is when a child gets so many bottles or glasses of liquids, perhaps because drinking can be easier than chewing food, that the child has no appetite for meals. This preference for drinking versus chewing, even if the child is capable of chewing, can also translate into behavioral issues, such as when a parent complains of having to chase the child around the room in order to feed him/her.

Even common feeding problems, if left unaddressed, can impact nutritional status and affect developmental issues such as growth, weight gain, and speech and language. Because feeding issues in children with special needs are complicated, treating them often demands an "it takes a village" or interdisciplinary

approach. At the Children's Evaluation and Rehabilitation Center, our Feeding Team utilizes the expertise of a speech therapist, an occupational therapist, and a dietitian/nutritionist, each of whom brings a unique and essential perspective to feeding intervention. The child's pediatrician, a gastroenterologist and dentist may need to be consulted as well.

### DIAGNOSES WHERE FEEDING PROBLEMS ARE COMMON

All children with special needs should be screened for feeding problems, but some diagnoses should put clinicians and health professionals on alert for them.

Central nervous system disorders, for example, such as any form of cerebral palsy, raise a red flag for feeding issues. Such children may have low or elevated tone of their muscles including the muscles of their mouths, which can affect that child's ability to take in enough nourishment orally to support adequate growth and development. Excessive tone in a child with spastic cerebral palsy, for instance, could cause the upper lip to pull back excessively and prevent the child from adequately removing food from a spoon.

Certain genetic disorders, are associated with low tone (e.g Down Syndrome) which limits the child's ability to use the tongue to move food around the mouth, form a bolus, and properly swallow food, resulting in inadequate intake. In addition, fine motor problems often affect how children learn to manipulate feeding utensils. These children tend to be slow to acquire feeding skills and feeding therapy may be indicated for an extended period of time.

Children with oral sensitivity may also be poor feeders but for different reasons. Oral hypo-sensitivity limits the sensory input and provides little motivation for the child to use oral motor skills, whereas oral hypersensitivity may cause food to be experienced as "painful" or "threatening".

### CLASSIFIED FEEDING DISORDERS

Suzanne Evans Morris and Marsha Dunn Klein classified feeding disorders into 5 distinct groups: structurally based, motor based, sensory based, experientially based and a combination.

Children with **structurally based feeding disorders** have problems with the structures that are needed for feeding (cleft lip/palate, abnormal bite, highly arched palate, etc.). These children may need multiple surgeries which changes the physical organization of the mouth and may lead to hypersensitivity. Essentially, the child has a new mouth that works differently from the old one. These experiences can result in children being protective of their mouths.

Children with **motor based feeding disorders**, among the most common, often have difficulties with postural tone, alignment and movement of their bodies. Muscle tone can be either high, low or fluctuating. There are often problems with timing and using muscles together in movement. With **Sensory-Based Feeding Problems**, children often have difficulty processing the intensity and multitude of stimuli in the environment. There may be dysfunction of nerves in the brain which may affect smell and taste. Some children under- or over-react to the environment (noise, light, distractions, etc.) and oral sensory information. Children considered by caregivers as "picky eaters" may actually be avoiding sensations. "Slow" or "sloppy" eaters may dislike the feeling of food in their mouths or on their lips or may suffer from a lack of awareness.

**Experientially-based feeding disorders** are characterized by the behavioral choices children make in order to feel safe and comfortable. Some behaviors have their root in physical, sensory or structural feeding problems, but the behavior has become habitual. Others choose not to eat because they have memories of unpleasant eating experiences. Children who have been tube-fed and have not received oral motor stimulation may develop aversive reactions to food. In other children, the efforts of an anxious parent who tries to force-feed them in an attempt to increase oral intake may unwittingly aggravate the child's oral sensitivity.

These are simple categorizations, but no feeding disorder is simple. Feeding therapy involves working with a child in order to figure out what is currently preventing them from effectively eating.

### **FUNCTIONS OF ORAL STRUCTURES**

**Jaw:** Provides a stable platform for the other structures so that these structures can operate from a secure base. The jaw's ability to open and close the mouth also serves to produce suction when needed.

**Lips:** Together with the tongue, help form the frontal seal around a utensil or nipple, and provide stability to the same.

**Cheeks:** Properly toned cheek muscles can help return food being chewed back to the center of the tongue to form a bolus. When cheeks have low-tone, food easily falls into the cheek pockets.

**Hard palate:** Helps to compress solid textures or a nipple in conjunction with the tongue. Also helps maintain the nipple in the mouth during suckling.

**Soft palate:** Helps create the back seal in the mouth together with the tongue. During swallowing, the soft palate elevates to seal off the nasal cavity and prevent food from backing up into the nose.

Proper dental health is critical to proper feeding. Healthy dentition is necessary for effective chewing. Certain disease processes and/or the presence of numerous dental caries can make feeding painful or uncomfortable, impeding both food intake and comfort during feeding. Children who are extremely sensitive intra-orally may resist any input in their mouth, including toothbrushing, resulting in poor oral hygiene. Painful, inflamed gums do not welcome the edges of solid foods, so the child may persist with pureed textures long after solids should have been tolerated.

### **CRITERIA FOR REFERRAL**

There can be many reasons why a child should be referred for a feeding evaluation. Among the more common ones are:

**Failure to meet normal feeding milestones (see box)**

#### **DEVELOPMENTAL FEEDING MILESTONES**

##### **4-6 months**

Suckle in anticipation of spoon  
Still with poor coordination of suck, swallow, breathing

##### **7-9 months**

Cup drinking with unstable jaw  
Some vertical chewing  
Lip closure following semi-solids  
Suck/swallow reflex, gag reflex  
In/out tongue movement

##### **10-12 months**

Cleans lower lip with teeth  
Side-to-side tongue movement,  
Begins rotary chewing ("grinding" motion)  
Controlled bite on a soft cookie

##### **13-15 months**

Lip closure during chewing, independent lip and tongue movements  
May bite on cup to stabilize jaw

##### **16-18 months**

Controlled bite without associated head movements  
Good control of liquid

##### **19-24 months**

Uses tongue to clean lips  
Chews meat with rotary chewing  
Can drink in long sequences

### **Dysfunction with chewing or swallowing**

Children with various central nervous system impairments are at highest risk for swallowing problems. A child with a known swallowing dysfunction should be considered for a feeding evaluation, once medical

clearance has been provided by the referring physician. This is usually based upon results of a swallowing study to confirm that oral feeding is not contraindicated. If, during therapy, the child were to develop “wet breathing” or gurgling sounds during breathing this child would be at risk for aspirating food into the airway creating possible aspiration pneumonia. A re-clearance for oral feeding would be indicated for these children.

### **Gastrostomy and nasogastric tube-fed children**

Any child fed via gastrostomy (tube directly into the stomach) or nasogastric tube (tube inserted through the nose which enters the stomach) with the intention of transitioning to oral feeding needs a feeding evaluation and feeding therapy. The first year of life is critical to acquiring feeding skills but also for making the association between oral feeding and satiety (feeling full). When this link is interrupted and concomitant feeding therapy is not provided, the child can miss the opportunity to learn that appetites are sated by oral feedings. Tube feeding cannot be discontinued until the child can demonstrate feeding competence and adequate intake (growth) from oral feedings, pointing out the importance of feeding therapy and daily practice at home.

### **FEEDING SKILL ISSUE OR FEEDING BEHAVIOR ISSUE?**

What may appear to be a feeding skill issue may also include feeding behavior problems. Many caregivers feel that providing calories and nutrition are the priority with less emphasis given to the development of feeding skills. For example, the caregiver may not be concerned with the advancement of textures (from liquids to semisolids to solids), thinking that their child will acquire these skills on their own. These two issues (inadequate feeding skill/behavior issue) have considerable overlap, which reinforces the importance of considering a multi-disciplinary team feeding evaluation with a speech therapist, occupational therapist and a behavior-oriented registered dietitian/nutritionist.

### **FEEDING INTERVENTION**

#### **Assessment basics**

Even after a child has been referred for feeding therapy, medical clearance is necessary to ensure that oral feeding is indicated for the child. A medical history is also necessary because clinical evaluations are only 50-60% accurate in detecting aspiration (Splaingard, et al 1988). Issues such as reflux or constipation, can negatively impact desire for food or ability to take oral feedings. Certain prescribed medications may have side effects such as: dry mouth, inflamed gums, bad taste, etc. which make for an unpleasant feeding experience. It is also important to clarify if a caretaker is giving their child nutritional or herbal supplements as well.

### **Feeding history**

A good feeding history from the child’s most consistent caregiver provides a wealth of useful information, including whether feeding problems have been lifelong or recently emerging. It is important to clarify the main concern of the caretaker when it comes to feeding their child as this can influence goal setting and the interventions provided.

It is important to watch the child’s usual caregiver feeding the child a typical meal in the usual setting. If this is not possible, the caregiver should bring foods typically given to the child, along with their usual feeding utensils, enabling the clinician to observe the feeding practices of the caregiver and the response of the child. Observing the child during feeding also allows the clinician to note the type of caretaker/child interaction, to measure the speed and length of the meal and to determine whether the feeding experience is positive for the child. It is this interaction between child and caregiver, the mechanics of feeding the child and the feeding environment which shapes the feeding experience. The closer your observation is to the real feeding experience, the easier it will be to diagnose the feeding problems.

### **Positioning**

Positioning is a key element of feeding. Head stability is important for safe and proper feeding. If the head is extending back on the neck, this position closes the esophagus (or throat) and opens the trachea (the airway), making aspiration of food into the airway more likely. This position also makes swallowing difficult. Sometimes head control must be addressed by providing stability via device or parent handling. A stable head is also needed for a mobile jaw (for chewing) and a mobile tongue (to move food around) However, even if the child has relative head stability, it is important to look at generalized body posture, as posture in each part of the body affects the others. Ideal feeding position is to have the hips and spine at a 90° angle and a similar angle at the knees and at the ankles. Both feet should be on a firm surface and the head and neck erect, not tilted.

Other important issues when assessing feeding:

- Note whether or not the child attempts to feed himself with the spoon.
- Does he open his mouth to anticipate the spoon?
- How does he remove food from the spoon?
- Does he prefer one side over the other or move food in his mouth once it is there? How many consecutive chews occur?
- How long does food stay in the mouth before being swallowed?
- Is there residual food in the mouth between spoonfuls? Are multiple swallows required before the mouth is empty?

Remember to consider the influence of the feeding environment. Is the child distracted by things going on in the room? Are spoonfuls offered too quickly? Some feeding difficulties may be caregiver-driven and not related to the child's capabilities.

### **STRATEGIES FOR SUCCESSFUL INTERVENTION**

As with evaluation, always start "where the child is". We discourage forced feeding as it creates a negative meal association. Instead, begin feeding with playing. Games and exercises that involve feeding toys or touching food can help a caregiver bring food closer to the mouth. If the child will tolerate only pureed foods, start there and slowly add texture. When the child needs to return to a more familiar food, go back with them, keeping feeding as relaxing as possible.

Clinical feeding therapy happens only one or two sessions per week and the bulk of progress occurs only if the techniques in sessions are carried over at home. Therefore it is essential to train caregivers to properly practice feeding techniques at home and have the caregiver demonstrate their understanding of the "homework" before the session is finished. At the next session have the caregiver demonstrate what has been practiced at home. Successful feeding therapy is as much about family training as it is about the child

developing skills. Change and carryover only happen when therapists and families are "partners".

### **SUMMARY**

Proper feeding is a complex activity that, to be successful, requires engagement of body systems and the mind, as well as a supportive environment. Intervention requires a thorough evaluation of the child's feeding skills and the barriers to the normal feeding process. Interventions should be based on the findings of reports, observation and when necessary, on specific impairment-oriented testing. Most importantly, feeding intervention must have a family-centered team approach.

### **References**

1. Morris, SE and Klein, MD. *Pre-Feeding Skills: A Comprehensive Resource for Mealtime Development*. Therapy Skill Builders, 2000.
2. Wolf, LS and Glass, RP. *Feeding and Swallowing Disorders in Infancy: Assessment and Management*. Therapy Skill Builders, 1992.
3. Splaingard ML, Hutchins B, Sulton LD, Chaudhuri G. Aspiration in rehabilitation patients: videofluoroscopy vs bedside clinical assessment. *Arch Phys Med Rehabil*. 1988 Aug;69(8):637-40.

---

Copyright © 2016

## **EARLY INTERVENTION TRAINING INSTITUTE**

### **ROSE F. KENNEDY CENTER UNIVERSITY CENTER FOR EXCELLENCE IN DEVELOPMENTAL DISABILITIES MONTEFIORE MEDICAL CENTER ALBERT EINSTEIN COLLEGE OF MEDICINE**

1225 Morris Park Avenue  
Bronx, New York 10461  
Telephone: 718-839-7162 • 718-839-7067 • Fax: 718-904-1162

[www.einstein.yu.edu/cerc](http://www.einstein.yu.edu/cerc)  
Click on "Education, Research, & Community Programs"

The Early Intervention Training Institute is funded by the Administration on Developmental Disabilities, U.S. Department of Human Services.