

FEEDING DEVELOPMENT AND WHEN TO BE CONCERNED

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LEARNING OBJECTIVES:

- Define feeding disorders.
- Appropriately assess pediatric patients for challenges.
- Referral best practices
 - When to refer.....
 - What to refer for.....
 - Who to refer to.....

FUN FACTS:

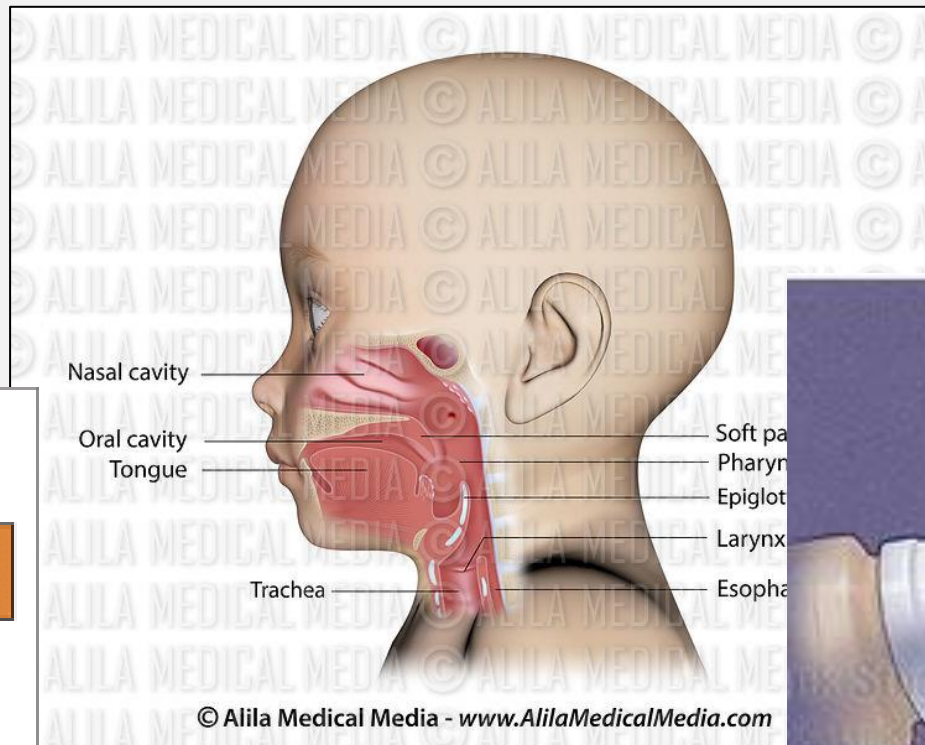
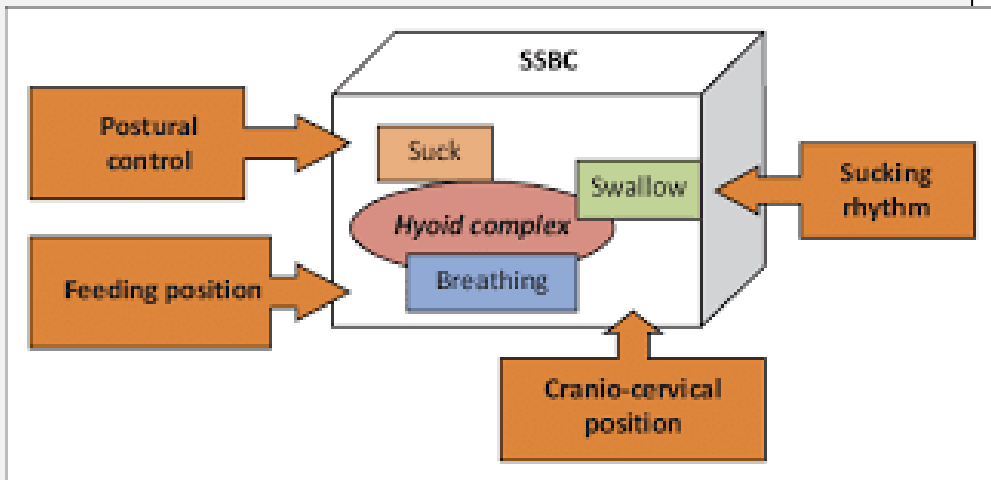
- Eating is more difficult than walking or talking.
- A single swallow requires the use of 26 muscles and 6 cranial nerves.
(Bass & Morrell, 1992)
- Eating is the only bodily task that requires the use of every organ and all of the senses.
- Feeding problems account for 3% of hospital admissions.
(Piazza & Carroll-Hernandez, 2004)
- The estimated cost of intensive treatment for feeding problems is approximately \$48,000 over two years.
(Barkmeier-Kraemer & Silverman, 2016)

TYPICAL FEEDING

- **Birth to 3 months**

Feeding cues, latches to nipple, sucks and swallows.

- Coordination of suck, swallow & breathe mechanisms.



TYPICAL FEEDING

- **4 to 6 months**

- Brings hands to the breast/bottle, brings hands or toys to mouth, starts to sit up in cradle position and holds breast or bottle during feeding, sits supported in high chair with straps and reclined.

- Hands to midline.
- Emerging visual motor control.
- Improved head control.



- Foods: breast milk and formula, infant cereal mixed with breast milk formula, smooth baby foods (purees) with no lumps

TYPICAL FEEDING

- **6 to 9 months**

- Holds head up when sitting upright, leans forward to receive foods, continue to need support in high chair, reaches for toys and food, picks up food with fingers, bring foods to mouth with hands and starts to feed self, tries to hold spoon, starts to drink from a cup, drools less, moves food around mouth using tongue, munches
 - Improved trunk control and abdominal strength.
 - Improved fine motor control and pincer grasp.
 - Improved oral motor coordination.
- Foods: breast milk and formula, smooth baby foods (purees) with some lumps (minced and moist), IDSSI level 5, soft, chewable, solid foods cut into strips like a pancake, toast, or cheese IDSSI level 6



TYPICAL FEEDING

- **9 to 12 months**

- Holds bottle or sippy cup with both hands, sits upright in highchair with minimal assistance, holds spoon during meal, feeds self with fingers

- Improved visual motor coordination.
- Emerging tongue lateralization to support separation of food within mouth while coordinating swallow of different textures.



- Foods: takes a small bite from a larger piece of food, begins chewing food on both sides of mouth, closes lips during swallow, breast milk or formula, small amounts of water ,soft, bite-sized foods like sliced banana, cheese cubes or pasta IDDSI level 6

5 BABY FOOD TIPS!

1 Evolution of textures.



First Spoons
 > Smooth purees








From 6 months
 > Thick purees



Around 8 or 9 months
 > Crushed pieces



Around 12 months
 > Small pieces

Baby's age	Developmental milestones	Food textures
Around 6 months old 	<ul style="list-style-type: none"> holds head up sits with little help begins chewing motion 	<ul style="list-style-type: none"> pureed smooth mashed 
	<ul style="list-style-type: none"> sits by themselves shows interest in feeding themselves starts to feed themselves with their hands 	<ul style="list-style-type: none"> lumpy minced grated 
		<ul style="list-style-type: none"> diced 
Around 12 months old	<ul style="list-style-type: none"> starts to feed themselves using their fingers tries to use a spoon to feed themselves bites and chews 	<ul style="list-style-type: none"> cut-up soft foods cut-up cooked foods 

TYPICAL FEEDING

- **12 to 18 months**

- Sits upright with feet on floor or on a flat surface, feeds self with utensils or fingers, drinks from sippy cup without help; can drink from an open cup and straw, uses tongue coordination to move food from side to side in mouth.



- * Improved hip and core strength.
- * Improved coordination of fine and gross skills.
- * Improved visual motor control / depth perception.

Food: Eats foods made of mixed consistencies IDDSI level 7



TYPICAL FEEDING

- **18 to 24 months**

- Sits without support, feeds self with fingers or utensils, drinks from a small cup with hands and has minimal spilling, consistently chews food on both sides of mouth, moves food around mouth, chews and swallows without spilling.

- Improved bimanual coordination.
- Fine motor skills with emerging skills such as coloring and stacking blocks.
- Climbing skills develop



- Food: Eats foods that require chewing, like chicken breast, child still requires adult to cut more challenging foods into smaller pieces to prevent choking
IDDSI Level 7

TYPICAL FEEDING

- **2 to 3 years**

- Feeds self with fork and spoon, although often still uses fingers, drinks from an open cup without spilling, chews all foods, including those with tougher textures, without gagging or choking.



- * Running and emerging jumping
- * Develops hand preference
- * Visual discrimination skills emerging.

- Food: eats most food textures like meat, but parents should avoid offering foods that carry a choking risk (popcorn, hotdogs or grapes). Child still requires adult to cut more challenging foods into smaller pieces to prevent choking IDDSI Level 7

EATING RED FLAGS

★ Will only eat when watching a screen or other distractions.

★ Baby refuses table food.

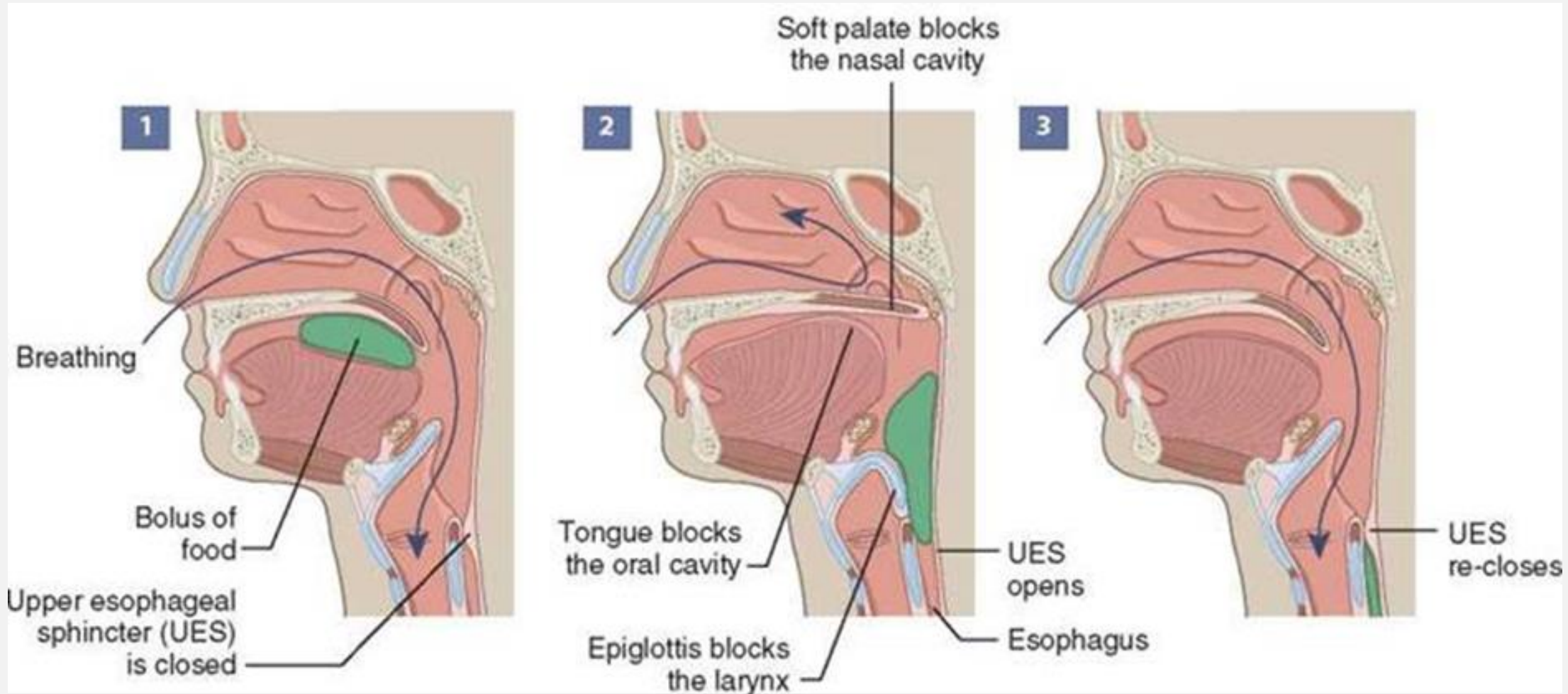
★ Doesn't mount on toys or chew on found items.



★ Baby or toddler won't feed themselves with their fingers and / or spoon or fork.

★ Gags, spits food out, or seems to choke repeatedly when trying to chew or swallow food.

FEEDING IS COMPLICATED



MYTH #1

- **Myth #1: Eating is the Body's number 1 priority.**

BREATHING is the Body's # 1 priority.

Without good oxygenation, eating difficult because we shut off our airway briefly with every swallow and our oxygen level decreases slightly (or we have to significantly increase our respiratory rate to maintain oxygen such that we are burning off any calories we take in).

POSTURAL STABILITY (“not falling on your head”) is actually Body priority number 2.

EATING is only Body priority number 3.

*** If either breathing or postural stability are compromised, eating may be resisted ***

MYTH #2

- **Myth #2: Eating is instinctive.**

Eating is only an instinctive drive for the first month of life.

From birth to 3-4 months of age, we have a set of primitive motor reflexes (e.g. rooting, sucking, swallowing) which help us eat while we lay down pathways in the brain for voluntary motor control over eating.

Between the end of the 5th or 6th months of life, these primitive motor reflexes “drop out” and eating is essentially a learned motor behavior after 6 months of age.

MYTH #3

- **Myth #3: Eating is easy.**

Eating is the **MOST** complex physical task that human beings engage in.

It is the **ONLY** human task which requires every one of your organ systems, and requires that all of those systems work correctly. In addition, EVERY muscle in the body is involved (one swallow for example, takes 26 muscles and 6 cranial nerves to coordinate).

Plus, eating is the ONLY task children do which requires simultaneous coordination of all 8 of our sensory systems. Learning, Development, Nutrition and the Environment also have to be integrated in to make sure a child eats correctly

MYTH #4

- **Myth #4: Eating is a two step process:**
 - **1 = you sit down**
 - **2 = you eat.**

There are actually about 25 steps for typically developing children.

There are 32 steps **or more** for children with feeding problems, in the process of learning to eat

MYTH #5

Myth #5: It is not appropriate to touch or play with your food.

Wearing your food is part of the normal developmental process of learning to eat it.

You can learn a great deal about the food, BEFORE it ever gets into your mouth, by touching it and playing with it first.

It is “play with a purpose” that teaches a child the “physics of the foods” before the foods ever get into their mouth.

*** Being messy is an important part of learning to eat. ***

MYTH #6

**Myth #6: If a child is hungry enough, he/she will eat.
They will not starve themselves.**

For the other 4-6% of the pediatric population who have feeding problems, they will “starve” themselves (usually inadvertently however).

For the majority of children with feeding difficulties, eating doesn't work and/or it hurts, and NO amount of hunger is going to overcome that fact.

Children are organized simply; if it hurts, don't do it. If it doesn't work; cry and/or run away.

Also, for children who have skill or medical problems with eating, their appetite often becomes suppressed over time, such that they **no longer respond correctly to appetite as a cue to eat enough calories.**

DEFINITION OF FEEDING DISORDERS

“Feeding Difficulties” is a broad term used to describe a variety of feeding OR mealtime behaviors perceived as problematic for a child or family.

A child with a feeding disorder may experience one or more of the following:

- Trouble eating
- Difficulty chewing & swallowing
- Choking, gagging or coughing
- Holding food in their cheek pockets or spitting food out
- Mashing or sucking on food
- Struggling with textures



A child with a feeding disorder does not consume enough food (or liquid or a broad variety of food) to gain weight and grow normally.

DEFINITION OF FEEDING DISORDERS

- Pediatric Feeding Disorder: Impaired oral intake that is not age appropriate, and is associated with medical, nutritional, feeding skill and/or psychosocial dysfunction.
 - **Medical:** Cardiorespiratory compromise during oral feeding, aspiration or recurrent aspiration pneumonitis
 - **Nutritional:** Malnutrition, specific nutrient deficiency or significantly restricted intake of one or more nutrient resulting from decreased dietary diversity, reliance on enteral feeds or oral supplements to sustain nutrition and/or hydration
 - **Feeding skills:** need of texture modification of liquid or food, use of modified position or equipment, use of modified feeding strategies
 - **Psychosocial:** active or passive avoidance behaviors by child when feeding or being fed, inappropriate caregiver management of child's feeding and/or nutrition needs, disruption of social functioning within a feeding context, disruption of caregiver-child relationship associated with feeding

DEFINITIONS OF FEED DISORDERS (CONT.)

- ARFID

- An eating for feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characters of food; concern about aversive consequences of eating) as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one (or more) of the following:
 - Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).
 - Significant nutritional deficiency
 - Dependence on enteral feeding or oral nutritional supplements
 - Marked interference with psychosocial functioning
- The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice
- The eating disturbance does not occur exclusively during the course of anorexia nervosa or bulimia nervosa, and there is no evidence of a disturbance in the way in which one's body weight or shape is experienced
- The eating disturbance is not attributable to a concurrent medical condition or not better explained by another mental disorder. When the eating disturbance occurs in the context of another condition or disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention. (American Psychiatric Association, 2022)

DIFFERENCES OF ARFID AND PFD

AN EATING FOR FEEDING DISTURBANCE

- Psychiatric/behavioral
- Replaced DSM-IV diagnosis of feeding disorder of infancy or early childhood
- Childhood and throughout the lifespan
- Psychiatric comorbidities, including anxiety disorders and obsessive-compulsive disorder

PEDIATRIC FEEDING DISORDER

- Multidisciplinary
- Designed to recognize multidisciplinary care across four core domains in the standard of care
- Early childhood
- Complex medical and developmental conditions

PREVALENCE OF FEEDING DISORDERS

- Conservative evaluations estimate that PFD affects more than 1 in 37 children under the age of 5 in the United States each year. (Kovacic et al., 2021)
- Estimated to be 30%-80% for children with developmental disorder. (Arvedson, 2008; Brackett et al., 2006; Lefton-Greif, 2008; Manikam & Perman, 2000)
- Oropharyngeal dysphagia and/or feeding dysfunction in children with cerebral palsy is estimated 50.4% for swallowing problems and 53.5% for feeding problems. (Speyer et al., 2019)
- Children with autism spectrum disorder increased odds of having a feeding problem by 2-5 times (food selectivity by texture, type, new food refusal and more overstuffing). (Seiverling et al., 2018)

TREATMENT

Oral motor:



Sensory:



Psychosocial:

WHEN TO REFER

- **As soon as there is a concern!**
 - Prolonged maladaptive behaviors are more resistant to change.
 - Sooner prevents additional psychological issues with feeding
 - INFANTS -
 - TODDLERS -
 - OLDER KIDS -

WHAT TO REFER FOR

- Delayed oral motor skills for expected foods.
- Difficulty with sensory processing with feeding process.
- Behavioral difficulties stemming from maladaptive psychosocial environments



WHERE TO REFER

- **Children's Therapy, Skagit Regional Clinics:** 360-814-2699
 - Ages: 0 - 18
 - Referral; SLP (Dysphagia, Sensory, Oral Motor)
 - OT (Sensory/Oral Motor)
- **Valley Kids:** Fax = 360-336-3492
 - Ages: 0 - 10+
 - Infants: PT (Oral Motor)
 - Older Children (1+): OT (Sensory)



*** Wait times for therapy vary based on acuity and can be from a day up to a few months. ***

*** Infants will be prioritized.. ***

WHERE TO REFER

- Swallow Study
 - **Children's Therapy, Skagit Regional Clinics:** [360-814-2699](tel:360-814-2699)
 - **Providence Children's Center:** [425-258-7311](tel:425-258-7311).
 - **Children's Hospital Feeding Specialist:** [206-987-0008](tel:206-987-0008).
- Nutritionist:
 - **Equip Health:** [\(855\) 534-2208](tel:855-534-2208)
 - Multidisciplinary team
 - ARFID
 - Accepts most insurance
 - **North Sound Nourishment & Recovery:** [\(206\) 981-5332](tel:206-981-5332)
 - Pediatric Nutrition (prenatal, infants and older kids).
 - Feeding disorders (older kids)
 - Only takes private insurance.

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