



Feeding Tubes and Pediatric Feeding Disorders: Friends Not Foes

Michelle L. W. Dawson,
MS CCC-SLP, CLC, BCS-S
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Disclosures

***Non-Financial Disclosures:**
Michelle Dawson is a volunteer with Feeding Matters, National Foundation of Swallowing Disorders (NFOSD), a Board of Trustee Member with the Communication Disorders Foundation of VA (CDF), Convention Committee member and Co-Chair of the Dysphagia Special Interest Group for the Speech-Language-Hearing Association of Virginia (SHAV), a former Treasurer with the Council of State Association Presidents (CSAP), and a Past President with South Carolina Speech, Language, and Hearing Association (SCSHA). She is a current member of both American Board of Swallowing and Swallowing Disorders (ABSSD), ASHA, ASHA SIG 13, NFOSD, SCSHA, SHAV, and the Dysphagia Research Society (DRS). Michelle also volunteers with ASHA as the Topic Chair for ASHA 2023 and 2024 Conventions for Pediatric Feeding and Swallowing Disorders Track.

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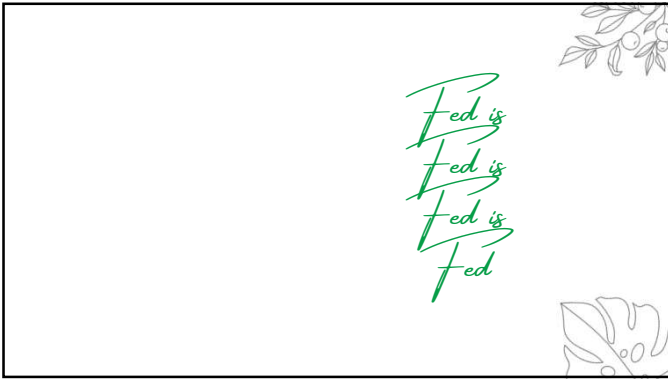
Agenda

- What is a Feeding Tube and Why?
- Alternate Forms of Nourishment
- Role of the Gastroenterologist
- Role of the Registered Dietitian
- Case Studies and Questions

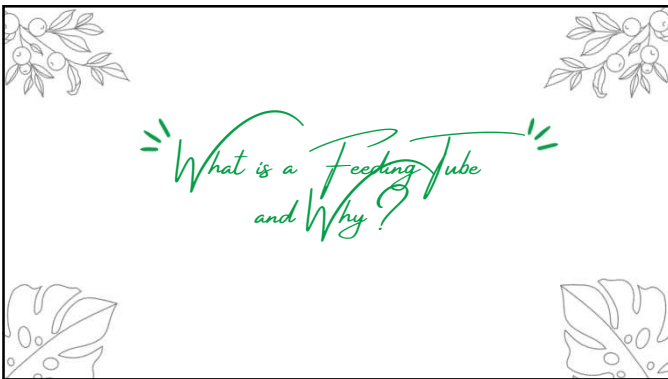
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What and Why?

"Enteral tube feeding allows patients with a functional gastrointestinal (GI tract) to receive vital nutrients, calories, and medications" and "can be used to provide symptom relief"

(Stayner et al, 2012)

"Malnutrition can have long-term effects on growth and development, especially brain development in the first few years of life."

Does my child need a feeding tube? Feeding Tube Awareness Foundation, (2020, September 10). Retrieved May 26, 2022, from <https://www.feedingtubeawareness.org/does-my-child-need-a-feeding-tube/>

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The Why:

*Alternatives to PO (per os) are warranted for our pediatric populations for a variety of reasons:

- *Prematurity
- *Craniofacial abnormalities (Cleft)
- *Cardio/Cardiopulmonary disorders
- *Metabolic disorders
- *Neurologic disorders
- *Neuromuscular disorders
- *Gastrointestinal disorders
- *Failure to Thrive
- *Diseases that require increased energy
- *Severe Allergies

Patient.info/doctor/peg-feeding-tubes-indications-and-management

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So, what does this look like?

Who on my caseload could benefit? *CLINICAL INDICATIONS*

How do I have this conversation?

What if the part of the team says, "Yes", but the Caregivers say, "NO"?

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Favorite Resources

- Dysphagia Outreach Project
- Feeding Matters
- Feeding Tube Awareness Foundation
- NoTube
- "Patients & Providers for Medical Nutrition Equity"

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Alternate Forms of Nourishment

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<p><i>Enteral</i></p> <p>Refers to the delivery of a nutrition directly into the GI tract: stomach, duodenum, or jejunum</p>	<p><i>Parenteral</i></p> <p>Refers to nutrition being delivered into the vein</p>
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Nasal Placement

<p>NG Tube or Nasogastric Tube</p> <ul style="list-style-type: none"> • Most commonly used form of enteral feeding • Indicated for less than 4-6 week time frame* • Inserted into the nose, runs down the PPW, into the esophagus, ending in the stomach 	<p>ND Tube or Nasoduodenal Tube</p> <ul style="list-style-type: none"> • Terminates in the duodenum (first portion of the small intestine immediately following the stomach) • Indicated for patients that need a brief period of stomach rest
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Nasal Placement

NJ Tube or Nasojejunal Tube

- Terminates in the jejunum portion of the small intestine (duodenum-jejunum-ileum)
- Indicated for patients that need a brief period of rest to their upper GI tract

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Complications from Nasal Placement

<ul style="list-style-type: none"> • "Aspiration by proxy" (Metheny 2007) • Aspiration • Perforation of esophagus • Perforation of stomach • Perforation of lungs/pneumothorax • Granulomas 	<ul style="list-style-type: none"> • Block/inhibit nasal breathing • Reflux esophagitis • Pressure ulcers • Sinus infections • Upper Respiratory Infections • Tube blockage • Tube displacement
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Implications for Pediatric Dysphagia

- Discomfort or Odynophagia with PO trials due to:
 - Globus sensation
 - Oral aversions/defensiveness
 - Damage to tissues
 - GERD
- Diminished hunger cues
- Development of PO reflexes/skills

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Gastric Placement

- PEG (Percutaneous endoscopic gastrostomy) is a specific type of long g-tube
- However, PEG is often used to describe all types of G-tubes
- Indicated for Pts that will require enteral form of nourishment in excess of 4-6 weeks

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Gastric Placement

<p>G Tube or Gastrostomy Tube</p> <ul style="list-style-type: none"> • Placed surgically either laproscopically or endoscopically • Placed into the stomach and anchored against the abdominal wall 	<p>G-J Tube or Gastro-jejunostomy Tube</p> <ul style="list-style-type: none"> • Placed like a G-Tube, but has an extension into the second portion of the small intestine (jejunum) for nourishment to be delivered there • It has two "ports" or openings with "G" opening to allow air to be vented and "J" for nourishment
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Complications from Gastric Placement

- Site/Wound infections/Bleeding
- Granulomas
- Fistulas
- Vomiting/diarrhea
- Necrosis
- Perforation of stomach/intestines
- Dislodged tube
- Blocked tube
- Tube leakage
- Pneumonia
- GI Pain
- **Feeding Tube Dependency**

(Fortunato et al, 2010), (Cj), 2015) (Wilken et al, 2015)

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Implications for Pediatric Dysphagia

- Feeding Tube Dependency
- Caregiver force feeding
- Underdevelopment of oral motor skills necessary for consumption of food and liquid
- Underdevelopment/recognition of hunger cues

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Jejunum Placement

Duodenum
Jejunum
Ileum

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Why Go So Low?

- "Postpyloric access is indicated only in clinical conditions in which aspiration, gastroparesis, gastric outlet obstruction, or previous gastric surgery precludes gastric feeding, or when early postoperative feeding after major abdominal surgery is planned" (ESPGHAN et al, 2010)
- "When gastric motility is significantly impaired, it is generally agreed that transpyloric feedings may afford some degree of protection against aspiration" (Metheny, 2007)

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Complications from J-tube Placement

- Difficulty securing in location, significantly more likely to leak
- Increased risk for granulomas due to irritation from leakage
- Increased risk for diarrhea
- Perforation of small bowel and fistulas

Feedingtubeawareness.org
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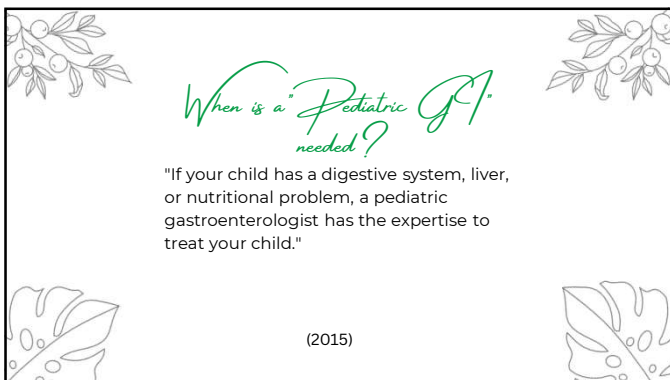
Implications for Pediatric Dysphagia

- Are they safe for PO trials?
- MD script
- Allergies?
- Registered Dietician recommendations
- What is the long term plan?
- Hunger Cues?
- Developmentally appropriate?

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GI Assessments

- Abdominal ultrasound
- Abdominal/chest x-ray
- Biopsies in conjunction with other assessments
- Blood tests
- BRAVO pH Test
- Colonoscopy
- CT Scan
- Esophagogastroduodenoscopy (EGD)
- Esophagram
- Gastric Emptying Study
- Lower GI Series
- Stool Studies
- Upper GI Series

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GI s/s

- c/o emesis or excessive "spitting-up"
- c/o not gaining weight or "failure to thrive"
- c/o "not hungry"
- c/o halitosis
- c/o infrequent bowel movement
- c/o and s/s of changes in bowel consistency after introduction of new food(s) and/or changes in formula(s)
- s/s of pain or discomfort with PO intake, or shortly thereafter
- PMH of GI following, d/c, changes in fxn

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Role of the Registered Dietitian

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When is a *Pediatric RD* needed?

If your child has food allergens, food restrictions, slow to gain weight, obese, FTT, medical etiology (cardiac, cancer, etc), or need guidance on a healthier lifestyle.

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Potentially needs an *RD*

- Aerodigestive Disorders
- Anorexia
- Avoidant Restrictive Food Intake Disorder (ARFID)
- Bulimia
- Celiac disease
- Chron's disease
- Delayed Gastric Emptying/Motility Disorders
- Diabetes
- Epilepsy Disorders
- Failure to Thrive (FTT)
- Feeding Tube Dependency
- Food Protein-Induced Enterocolitis Syndrome (FPIES)
- Gastroesophageal Reflux Disease (GERD)
- Hirschsprug's Disease
- Malabsorption
- Neonatal Abstinence Syndrome (NAS)
- Non-Accidental Trauma (NAT)
- Oropharyngeal Dysphagia
- Pediatric Feeding Disorder (PFD)

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RD s/s

- c/o several different formal changes
- c/o and s/s of FTT or slow weight gain
- Concerns for excessive weight gain
- Severely limited variety in PO intake
- Second opinion on formula(s)

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References

Dawson, M. L. W. (2021). Chasing the Swallow: Truth, science, and hope for pediatric feeding and swallowing disorders. Self published.

What is a pediatric gastroenterologist? HealthyChildren.org. (2015, November). Retrieved March 2, 2023, from <https://www.healthychildren.org/English/family-life/health-management/pediatric-specialists/Pages/What-is-a-Pediatric-Gastroenterologist.aspx>

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