



Multidisciplinary Approach to Evaluation and Treatment of Pediatric Feeding Disorders

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Disclosures

None

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Objectives

1. Understand the definitions of Pediatric Feeding Disorders and ARFID
2. Describe the Benefits of Multidisciplinary Care
3. Describe Assessment of Each of the Major Disciplines
 - a. Nutrition
 - b. Medical Assessment
 - c. Speech and Language Assessment
 - d. Psychology & Social Work
4. Discuss other possibilities for collaborations
5. Discuss tools and resources

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Case - JR

- Ex 36 week GA late preterm infant
- Respiratory failure from RSV in the neonatal period
- Then recurrent pneumonia
- Chronic vomiting
- Multiple food allergies, asthma and idiopathic urticaria

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Definition of Pediatric Feeding Disorder

A. Disturbance in oral intake of nutrients, inappropriate for age for at least 2 weeks and associated with at least one of the following:

1. **Medical** dysfunction – aspiration, cardiorespiratory compromise
2. **Nutritional** dysfunction – deficiencies/reliance on enteral feeds and/or oral supplements
3. **Feeding Skill** dysfunction – Need for modified texture, position, strategies
4. **Psychosocial** dysfunction – avoidance behaviors, disruption of social functioning and/or caregiver/child relationship associated with feeding



B. Absence of the cognitive processes c/w eating disorders and pattern of oral intake is not due to a lack of food or congruent with cultural norms

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Goday PS, Huh SY, Silverman A, Lukens CT, Dodrill P, Cohen SS, et al. Pediatric Feeding Disorder: Consensus Definition and Conceptual Framework. *J Pediatr Gastroenterol Nutr.* 2019;68(1):124-129.

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Avoidant/Restrictive Food Intake Disorder (ARFID) - DSM5

An eating or feeding disturbance...as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one or more of the following:

1. Significant weight loss (or failure to achieve expected weight gain or faltering growth in children).
2. Significant nutritional deficiency.
3. Dependence on enteral feeding or oral nutritional supplements.
4. Marked interference with psychosocial functioning.

The rise of Arfid: the truth about the eating disorder that made a teenager go blind

People with avoidant/restrictive food intake disorder will eat only a very limited range of foods and may have significant phobias. It's a long way from simply being a picky eater



▲ Prof Keith Williams treated one boy whose diet consists of water, apples, cheese puffs and Pringles. Photograph: Mariyna/Getty Images/Stockphoto

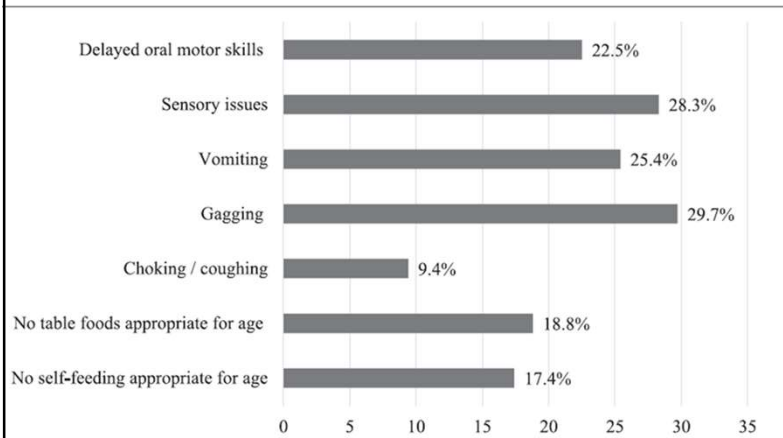
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<https://www.theguardian.com/lifeandstyle/2019/sep/06/the-rise-of-arfid-the-truth-about-the-eating-disorder-that-made-a-teenager-go-blind>

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Multidisciplinary Assessment of PFD: Reasons for Referral

Feeding characteristics in children referred to multidisciplinary care for growth faltering

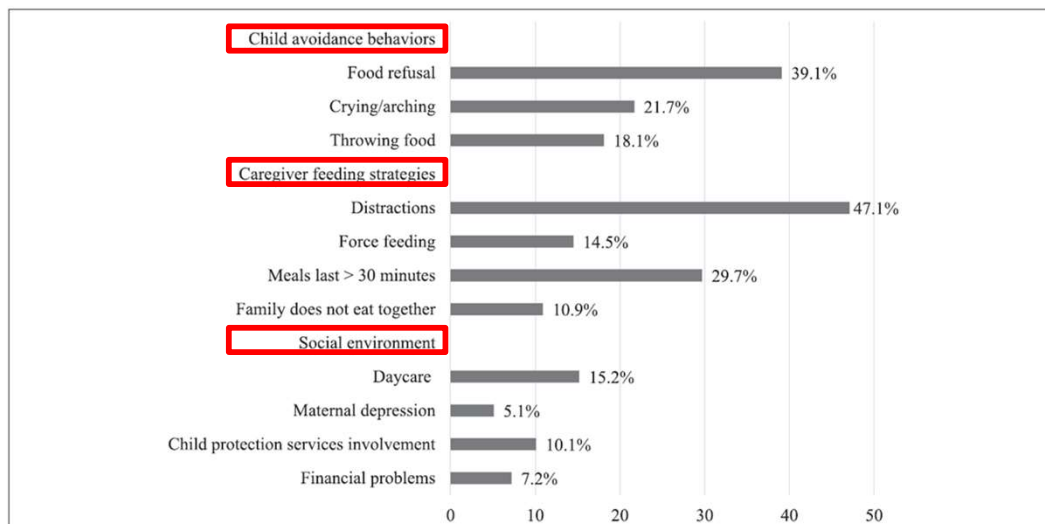


Cartoon by Jack Maypole

Mazze N, Cory E, Gardner J, et al. Biopsychosocial Factors in Children Referred With Failure to Thrive: Modern Characterization for Multidisciplinary Care. *Glob Pediatr Health*. 2019;6:2333794X19858526. Published 2019 Jun 19.
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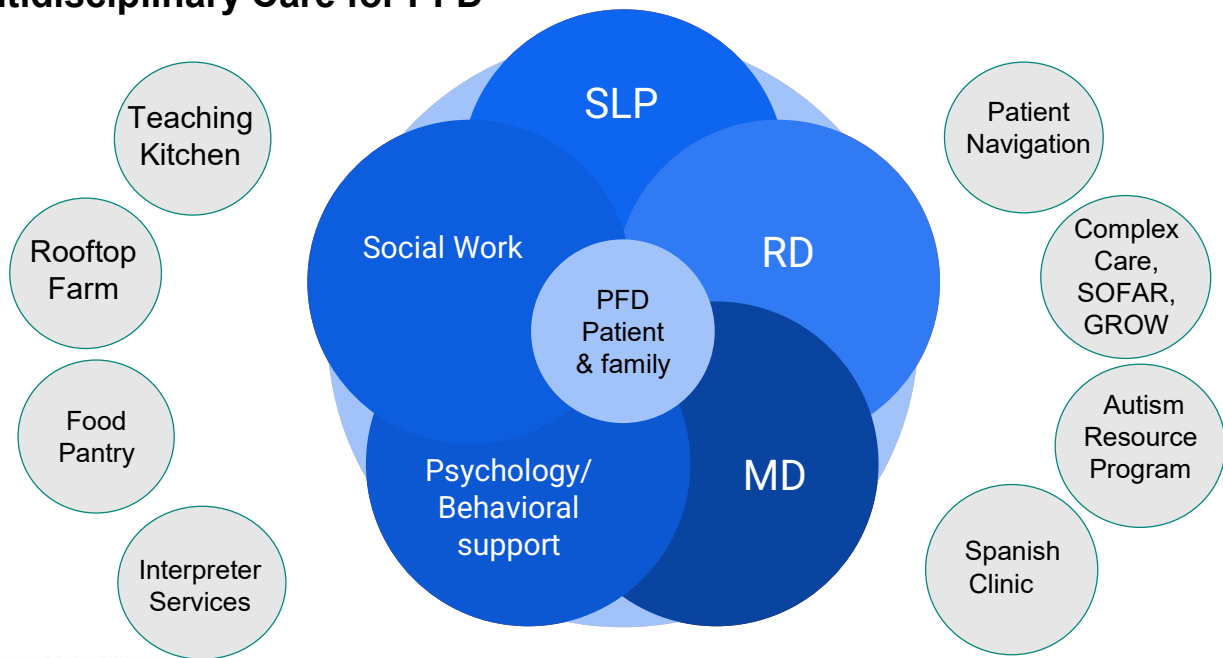
Psychosocial aspects – interplay of “organic” and “nonorganic”



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Mazze N, Cory E, Gardner J, Alexanian-Farr M, Mutch C, Marcus S, et al. Biopsychosocial Factors in Children Referred With Failure to Thrive: Modern Characterization for Multidisciplinary Care. *Glob Pediatr Health*. 2019;6:2333794X19858526.

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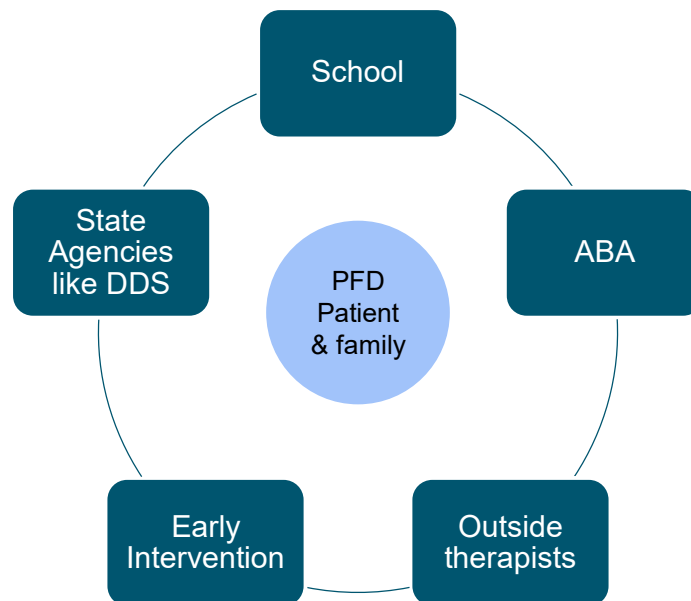
Multidisciplinary Care for PFD



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Connecting with Community Resources

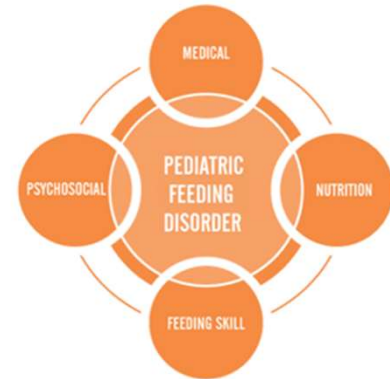


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Benefits of Multidisciplinary Care

- Core disciplines across programs included
 - psychology
 - nutrition
 - medicine
 - speech-language pathology/occupational therapy.
- Meta-analysis showed results including 71% tube weaned, and treatment gains endured following discharge
- Caregiver stress, child mealtime behaviors, weight, and caloric intake improved significantly following treatment in the intensive feeding program, regardless of category (tube dependent, liquid dependent, or food selective)
- Multidisciplinary programs associated with increased oral intake, improved mealtime behaviors, and reduced parenting stress

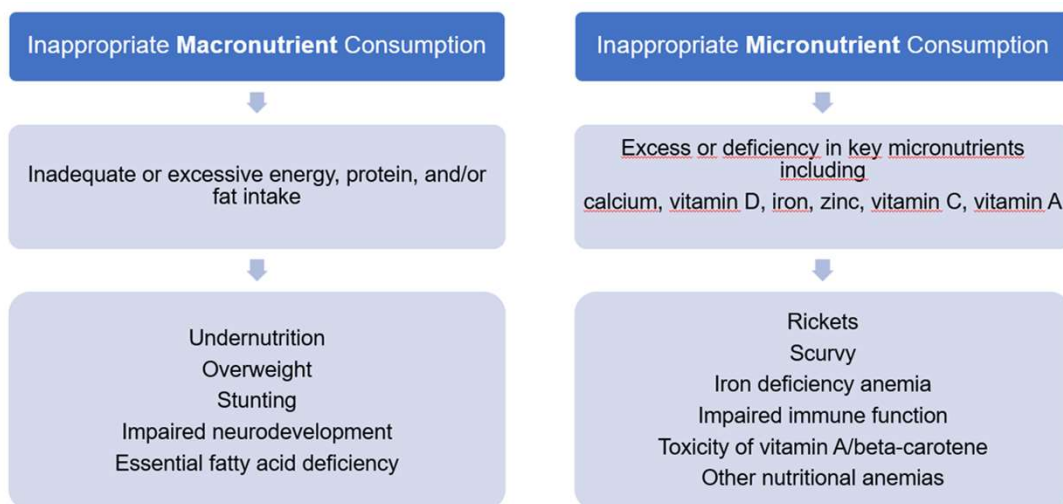


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Sharp WG, Volkert VM, Scatell L, McCracken CE, McElhanon B. A Systematic Review and Meta-Analysis of Intensive Multidisciplinary Intervention for Pediatric Feeding Disorders: How Standard Is the Standard of Care? *J Pediatr*. 2017;181:116-124 e114.
Greer AJ, Gulotta CS, Masler EA, Laud RB. Caregiver stress and outcomes of children with pediatric feeding disorders treated in an intensive interdisciplinary program. *J Pediatr Psychol*. 2008;33(6):612-620.

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Nutritional Assessment



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Macronutrient Deficiencies

ANTHROPOMETRIC MEASUREMENT	MILD MALNUTRITION	MODERATE MALNUTRITION	SEVERE MALNUTRITION
Single data point			
Weight-for-height/BMI z score	-1 to -1.9	-2 to -2.9	≤ -3
Length/height z score	No data	No data	≤ -3
Mid-upper arm circumference z score	-1 to -1.9	2 to -2.9	≤ -3
Multiple data points			
Weight gain velocity (age <2 y)	<75% of the norm ^a for expected weight gain ^b	<50% of the norm ^a for expected weight gain ^b	<25% of the norm ^a for expected weight gain ^b
Weight loss (age 2–20 y)	5% usual body weight	7.5% usual body weight	10% usual body weight
Deceleration of weight-for-length/height z score	Decline of 1 z score	Decline of 2 z scores	Decline of 3 z scores

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Guo S, Roche AF, Fomon SJ, et al. Reference data on gains in weight and length during the first two years of life. *J Pediatr*. 1991;119(3):355–362. World Health Organization data for patients younger than 2 years are available at <https://www.who.int/tools/child-growth-standards/standards>. Margot N. Tang, Soukaina Adolphe, Stephen R. Rogers, Deborah A. Frank; Failure to Thrive or Growth Faltering: Medical, Developmental/Behavioral, Nutritional, and Social Dimensions. *Pediatr Rev* November 2021; 42 (11): 590–603

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Multiple Micronutrient Deficiencies can be present even with normal BMI and in patients taking oral supplements

NUTRIENT INTAKE AMONG CHILDREN WITH PEDIATRIC FEEDING DISORDERS REFERRED TO A MULTIDISCIPLINARY FEEDING PROGRAM. Jessica Brown¹, Kelsey Childs¹, Shonda Brown¹, Mitchell Katz² 1 Clinical Nutrition and Lactation, CHOC Children's Hospital, Orange, CA; 2 Gastroenterology, CHOC Children's Hospital, Orange, CA. NASPGHAN 2020.

DIETARY DIVERSITY IN PEDIATRIC FEEDING DISORDER. Mary Feuling¹, Megan Van Hoon¹, Julia Hilbrands¹, Volume 71, Supplement 1 S208 Matthew Edwards¹, Danielle Schneider¹, Kimberly Allen², Shonda Brown³, Rashelle Berry⁴, Christine Sullivan⁵, Alan Silverman⁶, Praveen Goday⁶ 1 Clinical Nutrition, Children's Wisconsin, Waukesha, WI; 2 Peyton Manning Children's Hospital Center for Children, Evansville, IN; 3 CHOC Children's, Orange, CA; 4 Children's Healthcare of Atlanta, Atlanta, GA; 5 Children's Hospital of Philadelphia, Philadelphia, PA; 6 Medical College of Wisconsin, Milwaukee, WI

- Program 1: Nutrient inadequacies included potassium (88%), fiber (90%), vitamin D (78%), linoleic acid (36%), vitamin K (35%), α -linolenic acid (30%), vitamin E (29%), calcium (24%), and iron (20%)
- Program 2: Vitamin D in 88%, calcium in 60%, iron in 48%, vitamin A in 42.7%, zinc in 32%, vitamin C in 30.7%, and vitamin B12 in 26.7% of children.
- Most consumed excess sugar, especially if taking oral supplements
- Children consuming high-calorie beverages in both studies were less likely to be low micronutrient consumption except (in latter) vitamins A and D

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Endoscopic Findings in Children with Feeding Difficulties

Article

Esophageal, Gastric, and Duodenal Histologic Findings in Patients with Feeding Difficulties

Jensen Edwards ^{1,2}, Craig Friesen ^{1,3}, Amy Issa ^{1,3} and Sarah Edwards ^{1,3,*}

Table 2. Frequencies of EGD biopsy findings.

Pathology	Total Patients (%)
Esophagitis	132 (40)
Reflux (1–14 eosinophils/hpf)	96 (72.7)
EoE (≥ 15 /hpf)	36 (27.3)
Gastritis	111 (33.6)
Chronic	67 (60.4)
Acute	3 (2.7)
Eosinophilic	35 (31.5)
<i>H. pylori</i>	6 (5.4)
Duodenitis	50 (15.2)
Chronic	10 (20)
Acute	5 (10)
Eosinophilic	35 (70)

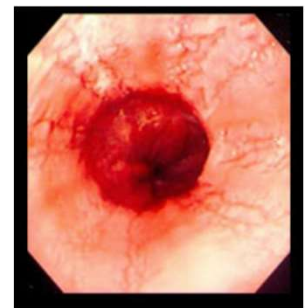
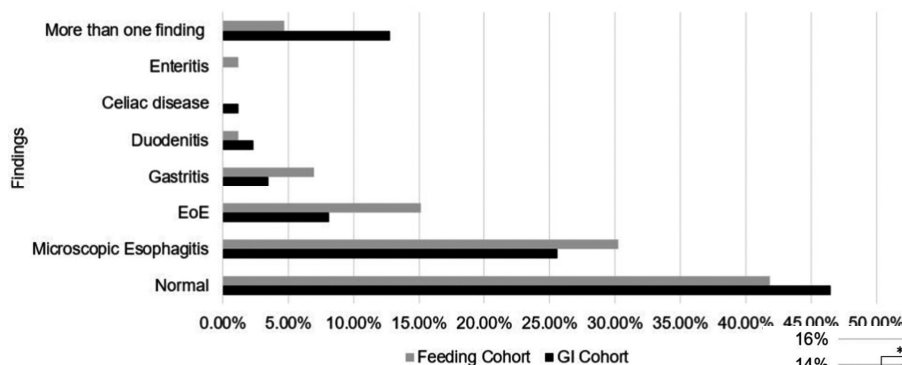
hpf = high power field (400x); EoE = eosinophilic esophagitis.

- 50.2% of the 330 patients had an EGD
- 61.21% had an abnormal pathology in at least one site.
- Symptoms were poor predictors of pathology

Edwards J, Friesen C, Issa A, Edwards S. Esophageal, Gastric, and Duodenal Histologic Findings in Patients with Feeding Difficulties. *Nutrients*. 2020 Sep 15;12(9):2822. doi: 10.3390/nu12092822. PMID: 32942680.

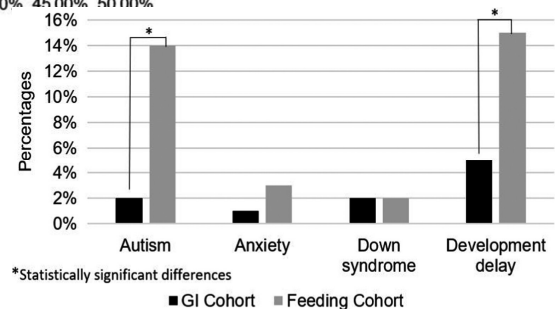
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Endoscopic Findings in Children with Feeding Difficulties



Robinson R, Placone N, Katz M, Ornelas E. Upper Gastrointestinal Endoscopy with biopsy in paediatric feeding disorders. *Acta Paediatr*. 2021 Oct;110(10):2856-2861. doi: 10.1111/apa.15987. Epub 2021 Jun 28. PMID: 34133806. Photo: <https://choc.org/programs-services/eosinophilic-esophagitis/eoe/>

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Feeding Disorders in Children With Autism Spectrum Disorders Are Associated With Eosinophilic Esophagitis

^{*†}Theresa A. Heifert, ^{*}Apryl Susi, ^{*}Elizabeth Hisle-Gorman, [‡]Christine R. Erdie-Lalena, ^{*}Gregory Gorman, [‡]Steve B. Min, and ^{*}Cade M. Nylund

TABLE 2. Incidence, unadjusted, and adjusted odds ratios for diagnosis of eosinophilic esophagitis

	Total number	Number with eosinophilic esophagitis	Unadjusted model odds ratios (95% confidence interval)	Multivariable model odds ratios (95% confidence interval)
ASD and Feeding Disorder Status				
ASD with feeding disorder	2584	79	19.37 (11.97, 31.35)	17.44 (10.15, 29.98)
ASD without feeding disorder	42,702	104	2.06 (1.64, 2.59)	2.04 (1.60, 2.61)
No ASD with feeding disorder	1333	40	22.77 (11.74, 44.17)	17.49 (8.46, 36.14)
No ASD without feeding disorder	225,097	273	Reference	Reference
Atopic disorders				
Allergic rhinitis	14,696	119	6.06 (4.56, 8.06)	4.25 (3.02, 6.00)
Eczema	56,848	227	3.17 (2.57, 3.90)	2.26 (1.77, 2.90)
Asthma	5775	35	2.98 (1.94, 4.57)	1.90 (1.12, 3.23)
Food allergy	8650	82	5.56 (4.01, 7.70)	2.68 (1.79, 3.99)

The multivariable model includes all variables listed in the table.
ASD = autism spectrum disorders.

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Even after treating GI pathology, feeding therapy is critical

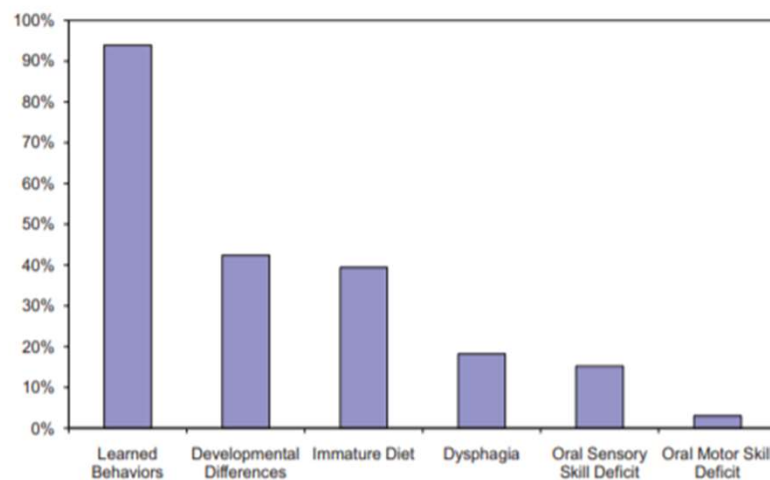


TABLE 3 Patients Demonstrated a Variety of Learned FDs

Learned FD	% of Patients
Low variety intake	90.9
Food refusal	87.9
Requires prompting to eat	87.9
Poor acceptance of new foods	84.8
Low volume of intake	81.8
Unstructured mealtimes	81.8
Inconsistent patterns of eating	78.8
Grazing	78.8
Easily distracted from eating	60.6
Prolonged feeding times	57.6
Holding food in mouth	27.3
Spitting food	27.3

Mukherjee V, et al. Feeding dysfunction in children with eosinophilic gastrointestinal diseases. *Pediatrics* 2012;129:677.

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SLP Assessment in Multidisciplinary Evaluations

- SLP obtains a comprehensive report from the family regarding mealtime routines, behaviors, feeding and swallowing skill, and family goals
- Assess the child's feeding skills:
 - Evaluate oral motor skills for feeding (chewing, spoon-feeding, bottle/cup drinking)
 - Observe the child's reactions to presentation of novel foods and probe stimulability to various types of feeding therapy techniques including systematic desensitization and operant conditioning
 - Clinically assess pharyngeal swallow function
- Identify clinical diagnoses such as Pediatric Feeding Disorder, Oropharyngeal Dysphagia
- Work alongside RD, GI, and family to identify feeding goals

Pharyngeal dysphagia

Overt clinical signs concerning for aspiration

Subtle signs of aspiration

Pharyngeal motility

- Complaints of foods "getting stuck"
 - Oral motor deficits vs. Pharyngeal weakness vs. Underlying GI etiology

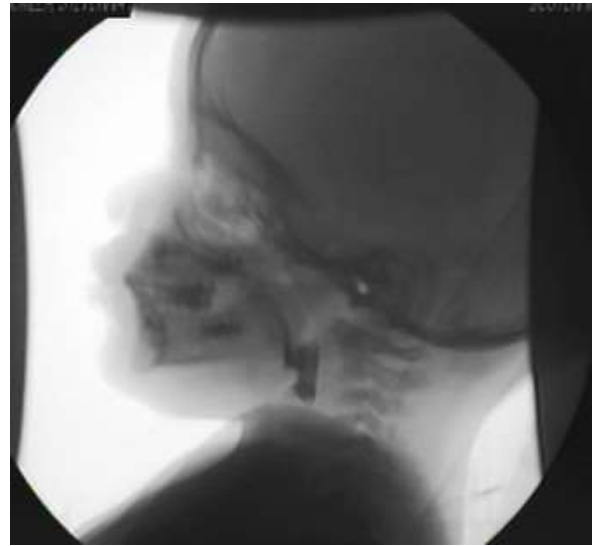
Suspicion based on case history

- Chronic Wheezing/poorly responsive asthma
- Noisy breathing or wheezing
- Recurring lung or upper respiratory infections
- Oral aversion
- Cyanosis/BRUE
- More subtle stress cues

Pharyngeal dysphagia

Who is at risk for silent aspiration?

- Premature infants
- Laryngeal cleft
- Laryngomalacia
- Unilateral vocal cord paralysis
- Developmental delay
- Diffuse hypotonia
- Epilepsy/seizures
- Genetic syndromes
- Congenital heart disease
- Chronic respiratory illnesses
- Asthma
- ALTE/BRUE patients



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(Velayutham P, Irace AL, Kawai K, Dodrill P, Perez J, Londahl M, Mundy L, Dombrowski ND, Rahbar R. Silent aspiration: Who is at risk? Laryngoscope. 2018 Aug;128(8):1952-1957. doi: 10.1002/lary.27070. Epub 2017 Dec 27. PMID: 29280496.)
Duncan DR, DiFilippo C, Kane M, Lurie M, McSweeney ME, Rosen RL. Overlapping Symptoms of Gastroesophageal Reflux and Aspiration Highlight the Limitations of Validated Questionnaires. J Pediatr Gastroenterol Nutr. 2021 Mar 1;72(3):372-377. doi: 10.1097/MPG.0000000000002987. PMID: 33264182; PMCID: PMC9765758.

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Feeding Therapy – Lessons from BMC SLPs

- Support groups that were held as part of a grant-funded project identified that families were seeking concrete recommendations and next steps in feeding support
 - Provide customized handouts on current and future goals
- Work with families to create functional and manageable at-home action items
- Example:
 - Practice play-based interactions that were modeled in clinic 3x per week for 15 minutes each apart from mealtimes.
 - Offer milk in a sippy cup instead of bottle 1x per day during snack time.
 - Structure mealtimes to include 3 meals and 2 snacks per day.

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Adapted from Slides by Kerry Pearl CCC-SLP and Kim Boscodoss CCC-SLP

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Case - JR

- EGD x3 2016, 2018 (triple scopes) and 2023 all normal
- MBS 2019: “ oropharyngeal dysphagia characterized by incomplete laryngeal vestibule closure resulting in episodes of moderately deep laryngeal penetration with single sips of thin liquid. Although this did not result in aspiration today, results were limited to only single sips of thin liquid and are not representative of continuous drinking at home. Given report of frequent coughing with thin liquid and frequent upper respiratory exacerbations, recommend an empirical trial of nectar thick liquids.”

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Feeding Therapy Toolkits

- Provide a supply of developmentally appropriate solid foods and/or purees as a starter pack
- Offer handouts in 5 different languages (English, Spanish, Haitian Creole, Portuguese, Vietnamese)
- Handouts include the Stages of Oral Feeding with picture examples
 - Individualize handouts based on the child’s current oral motor skills and provide guidance on next steps
- Examples provided include diverse and culturally relevant foods for BMC’s patient population (e.g., sos pwa, fufu, rice and beans)

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Feeding Therapy Resources



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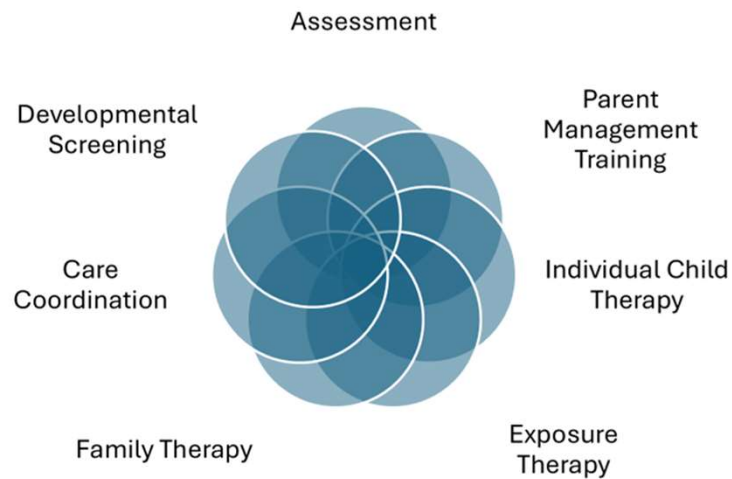
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Behavioral Support

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Roles of Feeding Psychologist



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Adapted slide courtesy of Dr. Ryan Davidson

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Behavioral Medicine Modes of Care



Intensive Programming

- Inpatient intensive program for ~3 weeks
- Outpatient intensive program: 3-5 days a week for 6-8 weeks

Outpatient Therapy Model

- Weekly to every other week exposure therapy (virtual or in person)

Parent Management/Family Systems

- ~Monthly parent sessions following initial evaluation with patient

Consultative Model

- Joins with multidisciplinary team visits ~quarterly

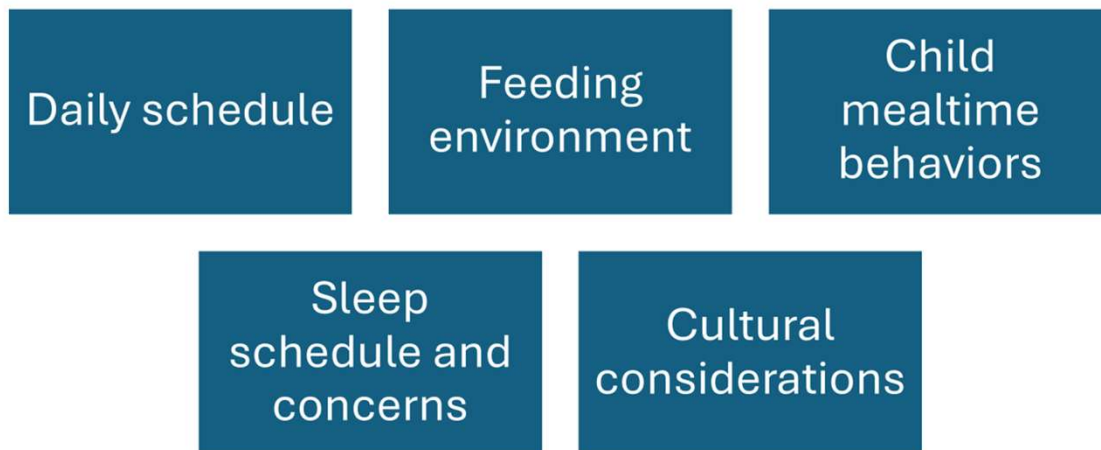
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Slide courtesy of Dr. Ryan Davidson

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Assessment of Feeding Concerns: Behavioral



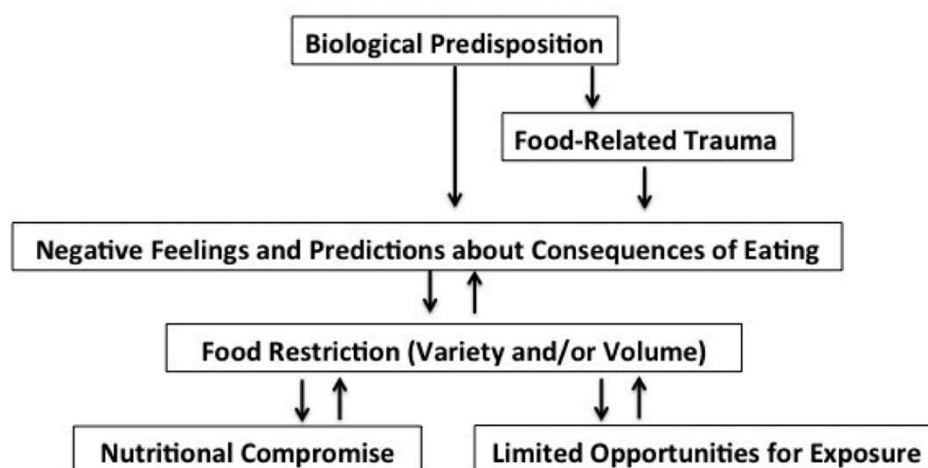
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Slide courtesy of Dr. Ryan Davidson

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Cognitive-behavioral model of ARFID



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(Thomas et al., 2018)

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Autism Spectrum Disorder (ASD) & ARFID

Children with ASD experience significantly more feeding problems than their peers (OR = 5.1)

Examples of core DSM-5 autism symptoms manifesting as feeding problems:

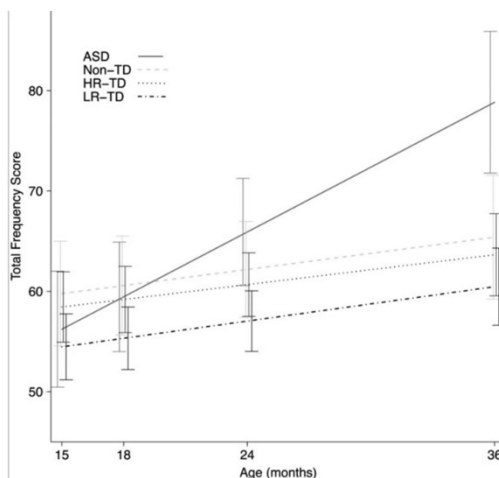
Excessive adherence to routines, resistance to change, and ritualized patterns of behavior	- Repeatedly accepts very small variety of foods - Only accepts milk in specific bottle - Stops accepting food when label changes
Hypo- or hyper-reactivity to sensory input	- Over-stuffing mouth - Mouthing non-food items - Avoidance of foods with specific colors, textures, smells, temperature

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(Sharp et al., 2013)

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ASD Often Presents with Early Feeding Difficulty



Alan Emond, Pauline Emmett, Colin Steer, Jean Golding. Feeding Symptoms, Dietary Patterns, and Growth in Young Children With Autism Spectrum Disorders. *Pediatrics* August 2010; 126 (2): e337–e342. doi:10.1542/peds.2009-2391

Ashley K, Steinfeld MB, Young GS, Ozonoff S. Onset, Trajectory, and Pattern of Feeding Difficulties in Toddlers Later Diagnosed with Autism. *J Dev Behav Pediatr*. 2020 Apr;41(3):165-171. doi: 10.1097/DBP.0000000000000757. PMID: 31800528; PMCID: PMC7125017.

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TABLE 1 Feeding Symptoms in Children With ASDs and Controls up to 54 Months

	Children With ASDs, % (n)	Controls, % (n)	OR (95% CI)	P
Slow feeding				
1 mo	47.3 (35)	40.0 (4894)	1.35 (0.85–2.14)	.20
6 mo	40.6 (28)	30.7 (3497)	1.66 (1.02–2.69)	.04
Pooled estimate	—	—	1.49 (1.06–2.08)	.02
Interaction with age	—	—	—	.55
Acceptance of solids				
0–3 mo	61.8 (42)	72.8 (8183)	0.60 (0.35–1.03)	—
4 mo	29.4 (20)	23.2 (2606)	1 (reference)	—
≥5 mo	8.8 (6)	4.0 (451)	1.93 (0.77–4.87)	.004
Very difficult to feed				
15 mo	8.1 (6)	3.4 (374)	2.71 (1.16–6.31)	.02
24 mo	15.5 (11)	4.5 (467)	3.67 (1.91–7.05)	<.001
38 mo	11.9 (8)	5.1 (515)	2.40 (1.14–5.07)	.02
54 mo	26.2 (17)	10.0 (961)	2.90 (1.66–5.07)	<.001
Pooled estimate	—	—	2.92 (2.08–4.09)	<.001
Interaction with age	—	—	—	.86
Very choosy				
15 mo	9.5 (7)	5.4 (595)	1.92 (0.87–4.21)	.10
24 mo	20.0 (14)	9.5 (979)	2.45 (1.36–4.43)	.003
38 mo	28.4 (19)	14.5 (1451)	2.23 (1.30–3.81)	.003
54 mo	37.5 (24)	13.9 (1324)	3.47 (2.08–5.79)	<.001
Pooled estimate	—	—	2.55 (1.91–3.40)	<.001
Interaction with age	—	—	—	.54
Pica				
38 mo	12.3 (8)	2.3 (226)	6.09 (2.85–13.01)	<.001
54 mo	12.5 (8)	0.7 (68)	21.37 (9.59–47.61)	<.001
Pooled estimate	—	—	9.82 (5.66–17.03)	<.001
Interaction with age	—	—	—	.03

— indicates not applicable.

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Multidisciplinary Assessment of PFD: Psychosocial Context

Take a moment to imagine walking in these shoes

A woman with two children and carrying bags walk on a street to leave Ukraine after crossing the Slovak-Ukrainian border in Ubia, eastern Slovakia, close to the Ukrainian city of Welykyj Beresnyj, on Feb. 25, 2022, following Russia's invasion of the Ukraine. (Peter Lazari/AFP via Getty Images)

A migrant mother seeking asylum in the U.S. kisses her daughter as she prepares to cross the Rio Grande river into the U.S., after leaving the makeshift migrant camp in Braulio Fernandez Ecological Park, in Ciudad Acuna, Mexico. REUTERS/Go Nakamura

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<https://www.independent.co.uk/news/world/americas/rio-grande-river-mexico-texas-us-immigration-trump-honduras-border-patrol-a8952651.html>

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Pediatric Feeding Disorders in the Setting of Recent Immigration

- Malnutrition
- Feeding delays due to long periods without food, just breastfeeding
- Admission for multiple infections in the setting of travel and malnutrition
- Aspiration in the setting of extreme deconditioning and illness
- Developmental delays (environmental factors, malnutrition)

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Understanding Our Patients' Perspectives

Chilling Effect? Post-Election Health Care Use by Undocumented and Mixed-Status Families

Kathleen R. Page, M.D., and Sarah Polk, M.D., M.H.S.

- Fear of accessing health services
- Fear of accessing public assistance programs like WIC and SNAP that impact health outcomes
- Not only undocumented but also mixed-status families

Page KR, Polk S. Chilling Effect? Post-Election Health Care Use by Undocumented and Mixed-Status Families. N Engl J Med. 2017 Mar 23;376(12):e20. doi: 10.1056/NEJMp1700829. Epub 2017 Mar 8. PMID: 28273008.

<https://www.npr.org/2022/01/21/1073162105/biden-limits-ice-immigrant-advocates>
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Understanding Our Patients' Barriers to Care

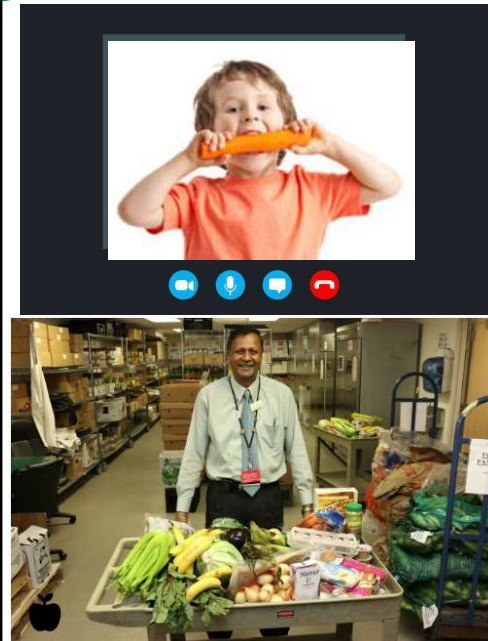
Racism and implicit bias
Language
Health insurance
Transportation/Housing/Energy
Education/Health Literacy



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Pantry and Teaching Kitchen Collaboration



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Resources and Collaboration: Preventative Food Pantry

- First hospital-based therapeutic Food Pantry in the country
- Aims to address nutrition-related illness and undernutrition for our low income patients
- Families can visit 2x per month, receive 3-4 days worth of food for the household with each visit
- Fresh fruits, vegetables, meats, grains. Food options are preselected based on a family's dietary restrictions or needs.
- Staff are fluent in four languages
- Located next to BMC WIC office
- Food bags for Food Explorers ready for pickup

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Case Study: J.D.

- Required most foods pureed up until 4 years of age (blended fruits/vegetables with Pediasure).
- Solid food intake included 5 foods: Doritos, pringles, crackers, fruit loops, goldfish
- Pushes foods away, cries, or runs away and labeled foods as “yucky”
- At school, he showed interest in foods his peers were eating
- Benefited from play-based interactions with novel foods with inclusion of systematic desensitization as well as operant conditioning
- Enrolled in Food Explorers – LOVED the rooftop farm
- Developmental evaluation

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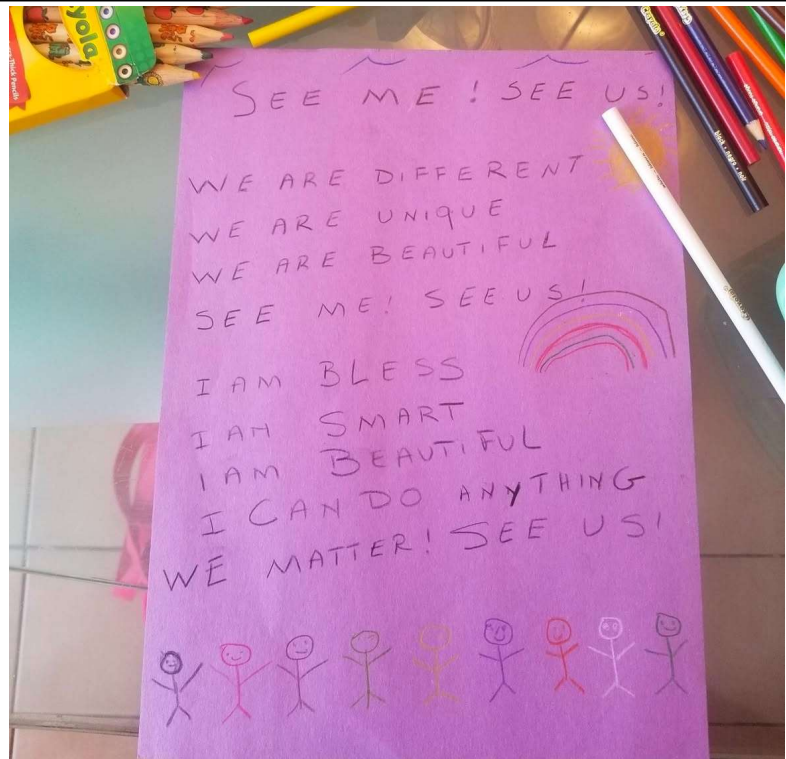


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Case Study: J.D.

Diagnosed with autism

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Resources

- Feeding Matters
 - Infant and Child Screeners, feeding therapists
- Ellyn Satter – Ages and Stages
- Oley Foundation



To en
throu

ABOUT | MEET MEMBERS | RESOURCES | ENTERAL DONATIONS

Feeding Tube Awareness Week: Tell Others

Feeding Tube Awareness Week, February 2-8, 2025

Download the 2025 Feeding Tube Awareness Toolkit
Oley created this toolkit to make it easy for you to help raise awareness and non

Event Schedule

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Child feeding ages and stages

On this page

- Birth to 3 months: Feeding your newborn
- 2 to 6 months: Feeding your infant
- 5 to 9 months: Feeding your older baby
- 7 to 15 months: Feeding your almost toddler
- 11 to 36 months: Feeding your toddler
- 3 to 6 years: Feeding your preschooler
- 6 to 12 years: Feeding your school-age child
- 12 to 17 years: Feeding your adolescent



ARE MEALTIMES A STRUGGLE?

It could be pediatric feeding disorder (PFD).

PFD impacts 1 in 37 children. It is more prevalent than autism and cerebral palsy.

Engelmann, S. & B. S. (2017). Prevalence of Pediatric Feeding Disorder: A National Prevalence Study. The Journal of Pediatrics (2017), doi: https://doi.org/10.1016/j.jpeds.2017.07.047

WHAT IS PFD?

- Not eating what is typical for age
- Often gagging, choking during eating
- Stressful mealtimes for families
- A history of feeding challenges

PFD DEFINITION & DIAGNOSTIC CRITERIA

Pediatric feeding disorder (PFD) is impaired oral intake that is not age-appropriate and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction.



SCREEN EARLY & OFTEN

The Infant & Child Feeding Questionnaire® 6 Question Screener

6 QUESTION SUBSET

1. Does your baby/child let you know when he is hungry?	Yes	No
2. Do you think your baby/child eats enough?	Yes	No
3. How many minutes does it usually take to feed your baby/child?	<5	5-30 >30
4. Do you have to do anything special to help your baby/child eat?	Yes	No
5. Does your baby/child let you know when he is full?	Yes	No
6. Based on the questions above, do you have concerns about your baby/child's feeding?	Yes	No

Red flags: 1: No 2: No 3: <5 or >30 4: Yes 5: No 6: Yes
If two or more red flags are present, assess for PFD.

RESOURCES



Diagnostic
Toolkit



Family
Support



When to
Refer

NEW CODES FOR PFD

R63.31 Pediatric feeding disorder, acute
R63.32 Pediatric feeding disorder, chronic

www.feedingmatters.org

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Summary of Multidisciplinary Care

- Nutrition collaboration especially in cases of very selective feeding and/or allergies, tube weaning, need for intensive counseling
- Importance of collaboration with speech and language pathologist and OT to help with aspiration, dysphagia and delays, sensory-based feeding disorders
- Psychologists to assist with behavior, anxiety, autism-related sensory difficulties and communication
- Social work, Navigators to help with support and resources
- Communication among many providers
- Joy of working in a multidisciplinary team

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Patient Characterization for PFD: 4 Domains

TABLE 1. Summary PFD CRF content by domain and subdomain.

Domain	# Subdomains	Topic	Description
Medical	3	1.1: Pregnancy and Birth	Specifies pregnancy and birth data regarding gestational age, whether the child required support in a neonatal intensive care unit (NICU), and if intubation was used to support breathing
		1.2: Medical Diagnoses	Includes conditions that potentially prohibit safe consumption of food (eg, aspiration) or delay or subvert the acquisition of feeding skill (eg, congenital heart disease)
		1.3: Diagnostic Procedures	Identifies diagnostic procedures and tests commonly employed to determine swallow safety (eg, swallow study), underlying pathology (eg, EGD) or organic conditions (eg, MRI) that may impact feeding
See Figures, Supplemental Digital Content 3: Medical Domain Case Report Form and Supplemental Digital Content 4: Medical Domain Case Report Form Protocol			
Nutritional	8*	2.1: Primary Source of Nutrition	Focuses on the patient's current source(s) of nutrition, including tube feeding, drinking formula, and/or oral food consumption
		2.2: Use of Supplementation	Specifies whether the patient requires supplementation (eg, feeding tube; oral formula) and the percent of daily needs associated with supplementation
		2.3: Evidence of Dependence on Supplementation	Involves further scrutiny regarding whether patient is dependent on the supplementation to promote growth, address nutritional needs and/or support hydration, as well as source of supplementation
		2.4: Dietary diversity	Focuses on whether the diet involves items from all food groups, as well as provides an estimate of the variety within each group
		2.5: Evidence of Nutritional Deficiency	Identifies whether the patient shows evidence of nutritional deficiency and the source of the evidence (ie, laboratory analysis; diet recall)
		2.6: Dietary Adequacy by Nutrient	Specifies dietary adequacy by nutrient relative to dietary reference intake (DRI), with a recommended risk of nutrient inadequacy set at < 80% of DRI
		2.7: Anthropometric Parameters	Focuses on weight, height, and body-mass-index (BMI) with further scrutiny regarding potential signs of malnutrition based on established guidelines ¹⁾
		2.8: Growth Curve Analysis	When two or more data points are available, assessment of potential malnutrition can involve growth curve analysis, including weight gain velocity decline, significant weight loss (ie, > 5% over 3 months), and deceleration in weight for length/height
See Figures, Supplemental Digital Content 5: Nutrition Domain Case Report Form and Supplemental Digital Content 6: Nutrition Domain Case Report Form Protocol			
Feeding Skill	8	3.1 Past Therapeutic Support	Focuses on information about past therapeutic support and identifies the provider type (eg, speech-language pathologist) and estimated duration of previous treatment
		3.2 Meal Duration	Identifies the average duration of meals (in minutes) as estimated by the caregiver
		3.3 Age Typical Diet	Involves a clinician estimate regarding whether the child is consuming an age typical diet in terms of food texture and liquid viscosity
		3.4 Current Food Texture	Focuses on whether the patient's diet involves foods that require mastication, if texture modification is required due to potential neuromuscular concerns, and the type of modification employed during meals (eg, fork mashed; puree)
		3.5 Modified Feeding	Identifies modified feeding support in terms of positioning and/or special equipment utilized to permit safe or efficient eating, such as special chairs, high chairs, or feeding devices

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TABLE 1. Continued

Domain	# Subdomains	Topic	Description
Figure, Supplemental Digital Content 7: Feeding Skill Domain Case Report Form and Supplemental Digital Content 8: Feeding Skill Domain Case Report Form Protocol			
Psychosocial	5	4.1 Child Avoidance Behaviors	Focuses on barriers to achieving a nutritionally complete diet, including both active and/or passive food refusal
		4.2 Ineffective Caregiver Management Strategies	Assesses caregiver strategies aimed at improving a child's mealtime behavior, which is referred to as ineffective due to lack of resolution of the feeding dysfunction
		4.3 Disruptions in Social Functioning	Identifies the impact of feeding dysfunction on the patient's social functioning, including lack of participation in family meals, limiting participation in social events, and/or restriction in eating location
		4.4 Disruption in Parent-Child Relationship	Determines whether and how the feeding dysfunction affects the caregiver-child relationship, including poor mealtime interactions, disengagement by the child or caregiver from the meal, and caregiver stress associated with presenting foods or conducting meals
		4.5 Behavioral/Developmental Complexity	Items serve as a proxy for a child's behavioral and/or developmental functioning (as reflected by a history of receiving therapeutic and/or educational support), as well as assesses caregiver concern about the presence of problem behavior outside of meals

Supplemental Digital Content 9: Psychosocial Domain Case Report Form and Supplemental Digital Content 10: Psychosocial Domain Case Report Form Protocol

* Subdomains span two broad nutrition topics: current pattern of dietary intake and anthropometric parameters

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