


Feeding Therapy for Failure to Thrive

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Disclosure Statement

- Janelle Myers, OT CNT – Speaker
 - Has declared no commercial interests or conflict; therefore has nothing to disclose.

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Objectives

Provide	Provide an Overview of Failure to Thrive
Identify	Identify how therapy can play a role in Failure to Thrive
Learn	Learn about the evaluation and treatment process
Understand	Understand how to acquire therapy support for your patients

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feeding ourselves & our loved ones

- Food is strongly equated with love and acceptance in most cultures.
- When children reject food that is prepared and offered by a caring parent, many parents feel personally rejected
- Poorly growing children and their families need sensitive support. ⁹

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There are other proposed terms instead of FTT

- More appropriately emphasize problem with weight gain
- Perceived to be less negative or alarming
- Less potentially critical of parents or caregivers

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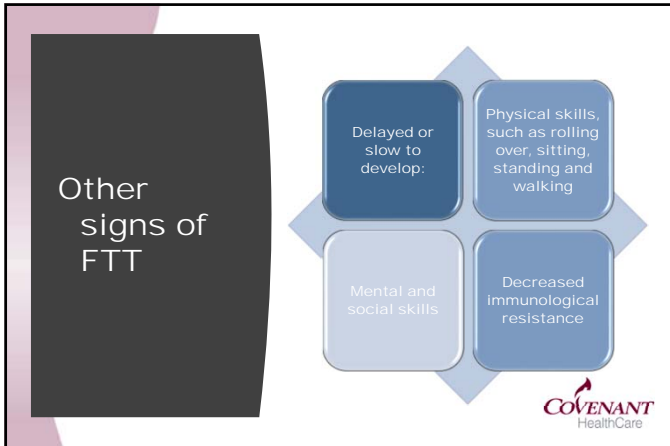
How is FTT defined

- Infants or children who exhibit symptoms that may include
 - weight falls lower than the third percentile (as outlined in standard growth charts)
 - weight for height is less than fifth percentile
 - growing may have slowed or stopped after a previously established growth curve

In general, the rate of change in weight and height may be more important than the actual measurements.

Causes range from inappropriate feeding practices to serious underlying illness. ⁹

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Prevalence

- Varied based on the population studied and recognition criteria used³
- Rate of detection depends on the vigilance of the individual physicians⁶
- United States⁵
 - Up to 10% of children in primary care
 - Approximately 5% of children hospitalized

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- Children with FTT have a higher incidence of developmental delay.³
- Prolonged malnutrition can negatively impact growth potential and cognitive development.^{1,2}
- Children who had persistent feeding difficulties went on to have significant delays in motor, language and behavior milestones at 18 and 30 months of age.⁹
- Early Identification and management is critical.³

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Hunger and Satiety

- These sensations may be different in children with feeding issues.
- See study Kasese-Hara, et. al. (2002)¹²
- Children offered a drink with varying calories, then a meal. Typical children adjust their intake, those with "feeding issues" did not adjust.

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Where does therapy come in?

Inadequate caloric intake	Inadequate nutrient absorption	Increased metabolism
Gastroesophageal reflux Inadequate breast milk supply or ineffective latching Incorrect formula preparation Mechanical feeding difficulties (e.g., cleft lip or palate) Neglect or abuse Poor feeding habits Poor oral neuromotor coordination	Anemia, iron deficiency Irritable bowel syndrome Celiac disease Chronic gastrointestinal conditions (e.g., irritable bowel syndrome), infections Cystic fibrosis Inborn errors of metabolism Milk protein allergy Pancreatic cholestatic conditions	Chronic infection (e.g., human immunodeficiency virus infection, AIDS, tuberculosis) Chronic lung disease of prematurity Congenital heart disease Hyperthyroidism Inflammatory conditions (e.g., asthma, inflammatory bowel disease) Malignancy Renal failure

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Feeding Therapist role

- Help rule out "other" reasons for poor nutrition
- Provide Intervention to address deficits
- "Many children with feeding difficulties eat a small amount of food at mealtime because of difficulties with physical coordination or sensory processing."⁹

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Evaluation

- Motor function
- Feeding skills assessment
- Behaviors and learning




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Evaluation Focus: Motor System

- Screen the motor system to look specifically at
 - Posture
 - Strength
 - Coordination
- Importance of developmental age vs chronological age



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Why we need to ensure postural stability


The body's second priority - to protect the brain	Stability supports the body's first priority - breathing!
Stability allows for better hand to mouth coordination of fine motor / tactile manipulation of the food	Stability allows for range of motion in the jaw for chewing.

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Children with low muscle tone or weakness

- Things you want to watch for:
 - Slouch while sitting
 - Prop while sitting
 - Joint lock / fix (especially LEs- watch for crossing legs)
 - Slide out from underneath table
 - Prefer to stand and eat
 - Appear stronger than they are because of joint locking



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Deficits in coordination

- May affect safety
- Decrease efficiency for calorie intake

Baseline motor function is an important building block for successful feedings!

- Who else can help?




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Evaluation Focus: Feeding Assessment

- Physical assessment of
 - oral motor skills
 - pre-feeding skill development
 - oral feeding
 - swallowing
 - sensory function
- Diet History
- Feeding environment and interactions



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Oral Motor Assessment

- Tongue
 - Assess function including: activation, lateralization, cupping, position, restrictions
- Jaw
 - Assess structure/size and function including: excursion, depression, tone
- Cheeks
 - Assess function including: strength, range of motion, and activation
- Lips
 - Assess function including: strength, range of motion, and activation
- Palate
 - Assess for cleft/anomaly

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Swallow Assessment

- Swallow and safety / physiologic symptoms
 - Cervical auscultation
 - Repeat or delayed swallows
 - Pharyngeal retention
 - Guarding
 - Aspiration
- Bottle qualities, utensils and recommendations

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Sensory Assessment

- Eating is the most difficult sensory task that children can do.
 - Sight, Sound, Touch, Taste, Smell are all changed with every chew as molecules are broken.
 - Sense of Balance changes as head shifts with every chew.
 - Proprioception changes as the pressures are different as chewing progresses.



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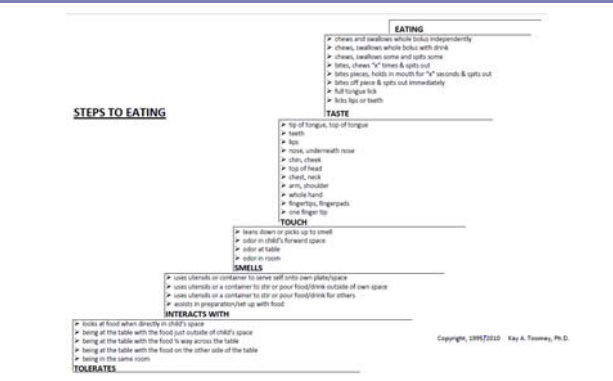
Sensory Processing Abilities

- What is the child's sensory profile?
- Tactile defensiveness is very common
- Systematic desensitization approach
- Steps to feeding with each food





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STEPS TO EATING

EATING

- chews and swallows while looks independently
- chews, swallows while looks with drink
- chews, swallows some and spits some
- takes, chews "X" times & spits out
- takes pieces, holds in mouth for "X" seconds & spits out
- takes off piece & spits out immediately
- full tongue back
- kicks lips or teeth

TASTE

- tip of tongue, top of tongue
- teeth
- lips
- nose, underneath nose
- chin, cheek
- top of head
- chest, neck
- arms, shoulder
- whole hand
- fingers, fingertips
- one finger tip

TOUCH

- leans down or picks up to smell
- color on child's forehead space
- color at table
- color in room

SMELLS

- uses chemicals or container to serve self into own plate/space
- uses chemicals or a container to stir or pour food/drink outside of own space
- uses chemicals or a container to stir or pour food/drink for others
- avoids to pour/stir/put up with food

INTERACTS WITH

- looks at food when directly in child's space
- being at the table with the food out outside of child's space
- being at the table with the food to wisp across the table
- being at the table with the food on the other side of the table
- being in the same room


TOLERATES

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Evaluation Focus: Behaviors and Learning

- Quality of readiness to feed
 - Active vs passive feeding
 - State regulation
- Stability and stress cues / Aversion
- Age related issues
- Past experiences




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Learning theory – how do we help them learn the skills


Remember classical conditioning?

- Step one : unconditioned stimulus (UCS) > unconditioned response (UCR)
 - Food powder > salivation
- Step two: UCS + conditioned stimulus > UCR
 - Powder + bell > salivation
- Step three: CS > conditioned response (CR)
 - bell > salivation





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Application to feeding issues



- Step 1: UCS > UCR
 - Nausea > appetite suppression
 - Pain / discomfort > withdrawal / escape
- Step 2: UCS + CS > UCR
 - Pain + food > withdrawal
- Step 3: CS > CR



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Behavior and consequences

Behavior → desirable consequence → behavior increases

Eating	praise	eats more
Eating	imitate	eats more
Refusal	attention	refuses more


Behavior → Undesirable consequence → behavior decreases

Eating	chokes	less eating
Eating	yelled at	less eating
Eating	scrapes face to clean	less eating




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Interventions




- Modeling
- Parent education
- Beckman oral motor
- Sensory integration
- Systematic desensitization
- Exercises
- Structured play
- Learning activities



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PM&R Services Inpatient

- Harrison Pediatric Unit
 - Occupational Therapy
 - Speech Therapy
 - Physical Therapy
- 7 days a week
- Epic order for
 - OT Eval/Plan/Implement/Treat
 - SLP Bedside Swallow Eval/Plan/Implement/Treat
 - PT Eval/Plan/Implement/Treat



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Swallow Study

- Modified Barium Swallow Study (MBS)
 - XR MODIF BA Swallow w/ Speech Tx
 - Focuses on structure and function of oral, pharyngeal, and esophageal phases of swallowing.
 - Not typically used for diagnosing reflux or structural anomalies.
 - Patient must be taking some volume orally to attempt the study.
 - Preferably order SLP bedside eval first

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PM&R services

Outpatient

Michigan Campus

- Occupational Therapy
- Speech Therapy
- Physical Therapy

Phone: 989-583-2752



Fax: 989-583-2844



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Outpatient referral process

- Epic referral to inbasket
 - SLP and OT eval/plan/implement/treat
 - Comment: Feeding Program
- Hand written script should include
 - "SLP and OT eval/plan/implement/treat Feeding Program"
 - Treatment diagnoses





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Treatment Diagnosis



- Feeding difficulties [R63.3]
- Oral aversion [R63.3]
- Dysphagia ([R13.10-R13.19]) >based on deficit location
- Hypotonia [R29.898]
- Feeding by G-tube [Z93.1]
- Low body weight due to inadequate caloric intake [R63.6]



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- Applying the US Census Bureau's 2017 population estimates, over 2.3 million children under the age of 5 experience severe pediatric feeding disorder annually.¹¹





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References

1. Mackner LM, Starr RH Jr, Black MM. The cumulative effect of neglect and failure to thrive on cognitive functioning. *Child Abuse Negl.* 1997; 21 (7): 691-700
2. Emond AM, Blair PS, Emmett PM, Drewett RF. Weight faltering in infancy and IQ levels at 8 years in the Avon Longitudinal Study of Parents and Children. *Pediatrics.* 2007; 120 (4): e1051-e1058
3. Homan G. Failure to Thrive: A Practical Guide. *American Family Physician.* 2016;94 (4): 295-298.
4. Heneghan JA, Moses J, Lidskyk, et al. A 3-month old with failure to thrive and persistent vomiting. *Pediatrics.* 2017; 140(5): e20170668
5. Yoo SD, Hwang EH, Yee YJ, Park JH. Clinical characteristics of failure to thrive in infant and toddler: organic vs. nonorganic. *Pediatr Gastroenterol Hepatol Nutr.* 2013; 16 (4): 261-268.
6. Black MM, Dubowitz H, Kishnakumar A, Starr RH Jr. Early intervention and recovery among children with failure to thrive: follow-up at age 8. *Pediatrics.* 2007; 120(1):59-69.
7. Motion S, Northstone K, Edmond A. Persistent early feeding difficulties and subsequent growth and developmental outcomes. *Ambulatory Child Health.* 2009; 7: 231-237
8. Johns Hopkins Medicine. Failure to Thrive. <https://www.hopkinsmedicine.org/health/life-conditions/pediatrics/failure-to-thrive-90.P02297>
9. Morris SE, Dunn Klein M. *Pre-Feeding Skills*. Second Edition. 2000. Therapy Skill Builders
10. Vandahm K. *Pediatric Feeding Disorders: Evaluation and Treatment*. 2012. Therago, Inc.
11. Manikam R, Perman JA. Pediatric feeding disorder. *J Clin Gastroenterol.* 2000;30(1):34-46. Reau NR, Senturia YD, Leballly SA, Christoffel KK. Infant and toddler feeding patterns and problems: normative data and a new direction. *Pediatric Practice Research Group. J Dev Behav Pediatr.* 1996; 17(3): 149-153.
12. Kasese-Hara M, Wright C, Drewett R. Energy compensation in young children who fail to thrive. *Journal of Child Psychology & Psychiatry & Allied Disciplines.* 2002 43(4), 449-456

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Thank you!

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