Treating Food Selectivity in Children: A Behavioral and Sensory Approach

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IPRC
International Pediatric Rehabilitation Collaborative

About Our Presenters

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Objectives

- Define food selectivity as it relates to feeding problems in children,
- Discuss the roles of different team members in a multidisciplinary team approach,
- Describe treatment approaches related to food selectivity,
- Identify strategies to maximize caregiver/family participation and their understanding of selective feeding disorders.

Commonly Used Terminology

- Feeding Disorder
- Picky eaters
- Avoidant Restrictive Food Intake Disorder (ARFID)
- Food Selectivity

Feeding Disorder

According to the American Academy of Pediatrics, a Feeding Disorder is defined as:

- Any condition in which a child has an inability or difficulty eating or drinking sufficient quantities to maintain optimal nutritional status, regardless of cause
- Growth may be unaffected
- Between 3%-10% of children are affected

Prevalence

- 80% of children with developmental disabilities (Manikam & Perman, 2000)
- 40-70% of children with chronic medical conditions (Davis, Bruce, Cocjin, Mousa, & Hyman, 2010)
- 70% of children with autism (Twachtman-Reilly, Amaral, & Zebrowski, 2008)

Picky Eaters-
Typically Not Seen For Treatment

- Tends to be transient
- Common phase of development with preschool children
- Usually diminishes at age 6 years
  Cano, Tiemeier, Van Hoeken, Tharner, Jaddoe, Hofman, Verhulst, Hoek 2014
- Children tend to be of normal weight
  Norris, Spettige Katzman 2016
- Prevalence peaks between 2-6 years
  Norris, Spettige Katzman 2016

Avoidant Restrictive Food Intake Disorder: ARFID

Modification to DSM IV-TR

ARFID was previously called Feeding Disorder of Infancy or Early Childhood and had 4 criteria. All had to be met.

- A. Feeding disturbance as manifested by persistent failure to eat adequately with significant failure to gain weight or significant loss of weight over at least 1 month.
- B. The disturbance is not due to an associated gastrointestinal or other general medical condition (e.g., esophageal reflux).
- C. The disturbance is not better accounted for by another mental disorder (e.g., Rumination Disorder) or by lack of available food.
- D. The onset is before age 6 years.

Avoidant Restrictive Food Intake Disorder: ARFID

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5):

A. An Eating or feeding disturbance (e.g., apparent lack of interest in eating or food; avoidance based on the sensory characteristics 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*:

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.

Avoidant Restrictive Food Intake Disorder: ARFID

B. The disturbance is not better explained by lack of available food or by an associated culturally sanctioned practice.

C. 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.

D. 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 mental disorder, the severity of the eating disturbance exceeds that routinely associated with the condition or disorder and warrants additional clinical attention.

Food Selectivity

Definition:

- Food refusal resulting in a diet inappropriate for age
- Limited food repertoire resulting in poor nutritional content
- Limited food repertoire resulting in interference with the child's social adjustment
- High frequency of single food intake Bandini, Anderson, Curtin, Cermak, Evans, Scampini, Maslin, Must 2010
- Elimination of two or more food groups
- Associated with increased parental stress Cano,Tiemeier, Van Hoeken,Tharner,Jaddoe,Hofman,Verhulst,Hoek 2014

Publications

- Managing Feeding Problems and Feeding Disorders; Pediatrics in Review, American Academy of Pediatrics 2013
- Behavioral and Physiological Factors Associated With Selective Eating in Children With Autism Spectrum Disorders; The American Journal of Occupational Therapy 2015
- Update on eating disorders: current perspectives on avoidant/restrictive food intake disorder in children and youth- Neuropsychiatric Disease and Treatment 2016
- Early Predictors of Childhood Restrictive Eating: A Population –Based Study, Journal of Developmental Pediatrics 2016
- Laboratory Food Acceptance in Children with Autism Spectrum Disorder Compared with Children with Typical Development; The American Journal of Occupational Therapy, 2017
- Don’t pressure your picky Eater-it doesn’t work; CNN July 2018

Common Feeding Problems

- Low calories consumed
- Delayed oral motor skills
- Swallowing difficulties
- Mealtime tantrums
- Tube dependence
- Excessive mealtime duration

Common Feeding Problems
"Not Just a Picky Eater"

- Food selectivity by texture
- Food selectivity by brand
- Food selectivity by appearance
- Refusal to eat the family meal
- Refusal to accept novel foods
- Rigid mealtime routines
- Elimination of previously accepted foods

Factors That May Contribute to Food Selectivity

- Medical (Allergies, Intolerance, GI issues, etc.)
- Concentration on details
- Communication difficulties
- Reinforcement of atypical eating patterns
- Sensory responses
- Anxiety/phobia

Feeding Difficulties

Few feeding problems have a single etiology.

Most arise from a combined medical, oral motor, sensory, and behavioral etiologies.

Rehabilitative Approach Incorporating Interdisciplinary Care

Effective treatment is dependent upon effective team functioning.

Evaluation and Treatment

Feeding Clinic

- Interdisciplinary team

Outpatient

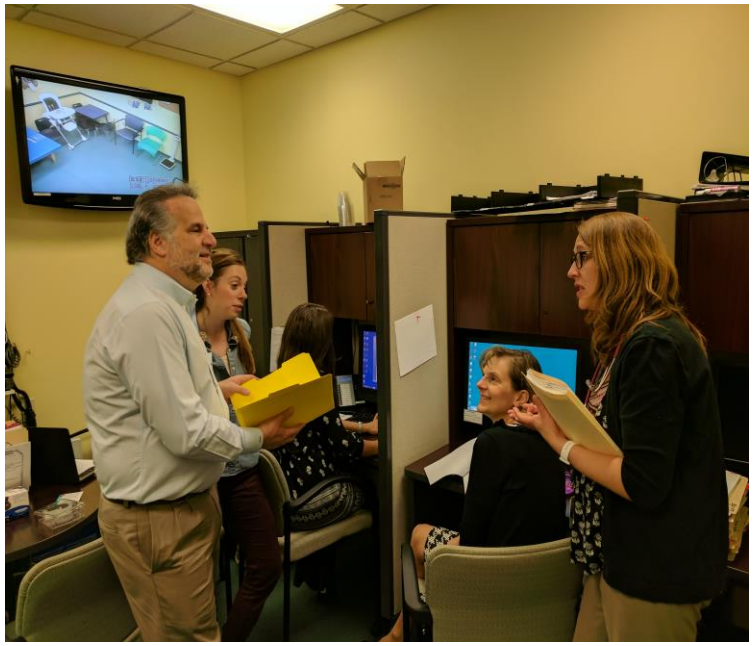
- Specialty Clinics-GI, pulmonary, ENT, Nutrition
- Weekly OT,SLP, psychology or combined behavioral and oral motor treatment sessions
- Home and school visits

Feeding Group

- 12 weeks
- Psychology/SLP/OT
- Parents/children
- Food selectivity group

Feeding Day Program

- 6 weeks/ Monday-Friday
- Three treatment meals per day
- Interdisciplinary team



Medical Management:
Physicians, Nurse Practitioners, Nurses, Dentists

- Provide care to patients with known or suspected medical problems that may interfere with feeding
- Evaluate the need for diagnostic testing to ensure patients are able to consume solids and liquids safely
- Assess for food allergies and other medical barriers for the safe consumption of foods
- Collaborate with dietitian to manage diet, monitor weight, and provide ongoing education regarding nutrition
- Prescribe and adjust medications as needed to treat medical conditions of the gastrointestinal tract
- Provide families with ongoing communication and education regarding patient's condition and recommended treatments

Nutritional Management: Dieticians

- Monitor nutritional status for obesity, overweight, and malnutrition
- Focus on micronutritionts such as calcium, vitamin D, iron, vitamin C, and Zinc
- Monitor calorie intake by analyzing three day food records
- Monitor rate of weight gain or loss
- Provide nutritional education to families regarding age appropriate portion sizes, reading food labels, growth charts, GT schedules and GT recipes
- Monitor nutrition support (tube feedings)
- Manage allergy menus/dietary restriction menus
- Provide education to team regarding current nutritional topics

Community Resources: Social Work

- Provides support to the families
- Assess for risks to the patient
- Financial support through grants for medical necessities
- Education and support of the program
- Assistance utilizing community resources
- Aid families with connecting to community programs to reduce food insecurities, energy deficiencies, housing needs, and transportation hardships

Therapy Management: OT/SLP/PT

- Evaluate oral motor skills
- Evaluate pharyngeal function (VFSS/FEES)
- Evaluate the need for adaptive equipment
- Promote self feeding skills
- Expand variety of foods
- Evaluate motor planning, assess posture and sensory motor impairments related to feeding

Oral Motor Skills

Oral phase

- chewing skills
- lateral transfer skills

Pharyngeal phase

- frequent coughing
- frequent respiratory illness
- effortful swallow

Preferred texture

- pureed/smooth: (yogurt/pudding/baby foods)
- crunchy: (crackers/chips/snack foods)
- soft solids: (pasta/bread/cheese/table foods)

Self Feeding Skills

- Preference for finger feeding
- Resistance to feeding with utensils
- Fine motor delay
- Motor impairment
- Adaptive equipment

Sensory Responses

Hyposensitivity

A reduced reaction to a specific food than would be expected

- Reduced feeling of food in the mouth
- Messy eaters
- Food pocketing
- Overstuffing

Hypersensitivity

A stronger reaction to a specific food than would be expected

- Taste of food can be strong or unpleasant

What textures cause gagging?
What textures are refused?
What bite size can be managed? Ex: crumb vs age appropriate
Where can the bite be placed?

Publications

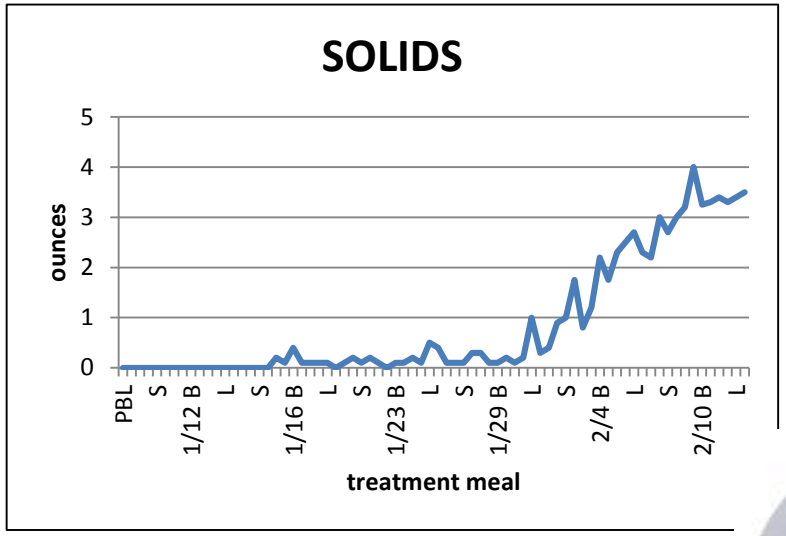
- Sensory Processing in Children With and Without Autism: A Comparative Study Using the Short Sensory Profile American Journal of Occupational Therapy (2007)

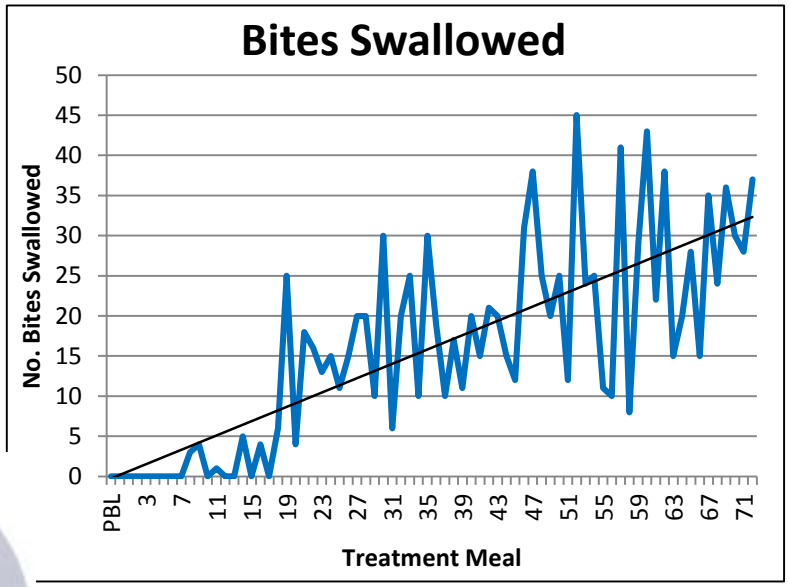
- Physiological and Behavioral Differences in Sensory Processing: a comparison of children with Autism Spectrum Disorder and Sensory Modulation Disorder Frontiers in Integrative Neuroscience (2009)

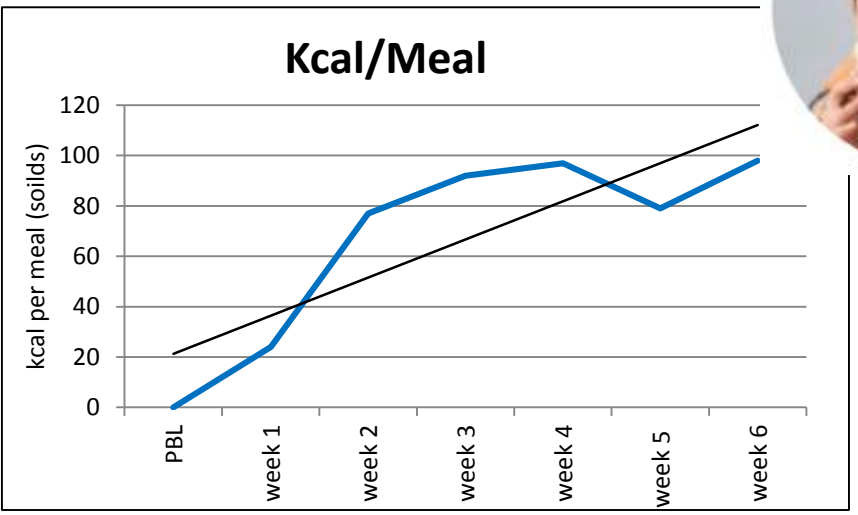
- Food Selectivity and Sensory Sensitivity in Children with Autism Spectrum Disorders; Journal of the American Dietetic Association (2010)

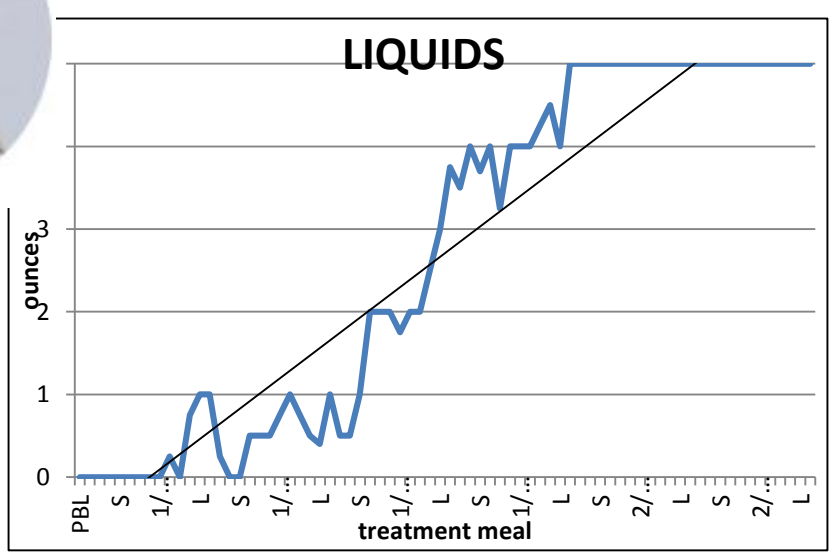
- Sensory Processing Difficulties in Toddlers with Nonorganic Failure to Thrive and Feeding Problems, Journal of Pediatric Gastroenterology and Nutrition (2015)

Data Collection



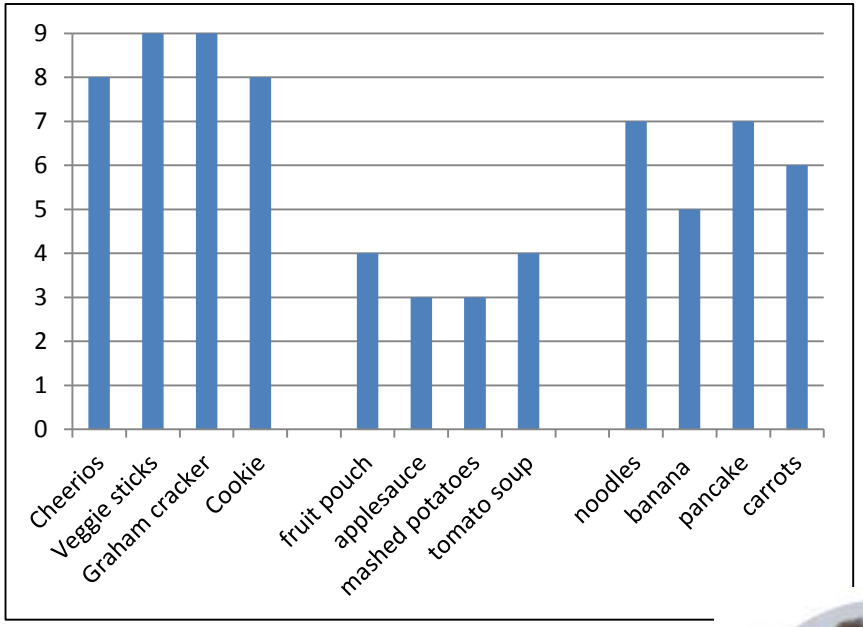






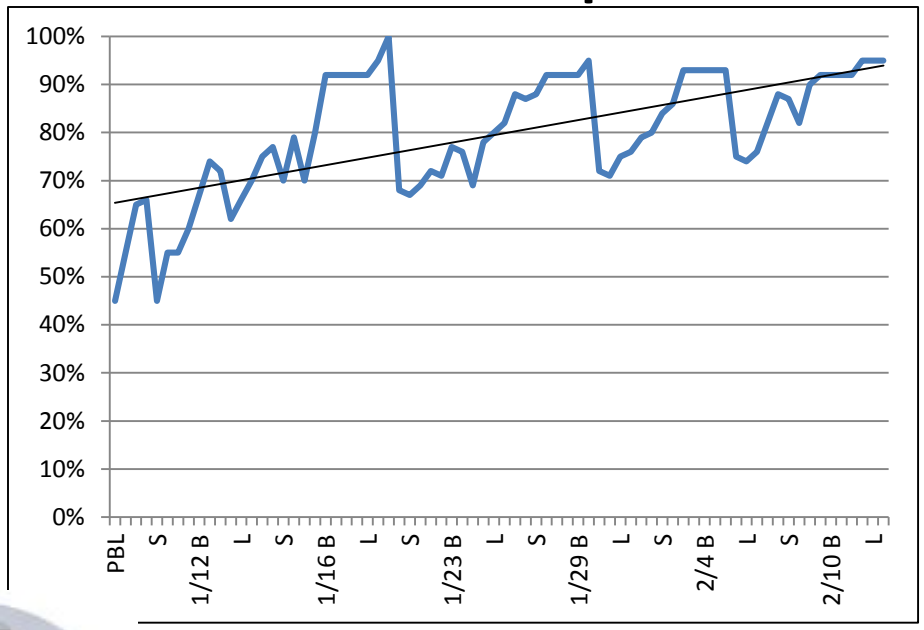
Data Collection

Novel foods



1=touch
2=smell
3=kiss
4=lick
5=tap teeth
6=bite into
7=bite/expel
8=chew/expel
9=swallow

Mealtime compliance



Behavioral Management: Psychologists

- Identify factors that influence food acceptance and food refusal behaviors
- Reduce mealtime-related anxiety
- Increase motivation to eat and comply with mealtime requests
- Decrease disruptive mealtime behaviors
- Educate caregivers on behavioral management techniques

Development of Food Selectivity

Two Differing Hypotheses

Product of Non-compliant/ Disruptive Mealtime Behaviors

(LaRue et. al., 2011)

Product of Phobic Responses to Novel foods

(Tanner & Andreone, 2015)

Non-Compliant/Disruptive Mealtime Behaviors

The heart wants what it wants, and…

Non-Compliant/Disruptive Mealtime Behaviors

…doesn’t want what it doesn’t want!

Non-Compliant/Disruptive Mealtime Behaviors

Operant Conditioning

	Add Something to environment	Subtract Something from environment
Increase frequency of target behavior	Positive Reinforcement	Negative Reinforcement
Decrease frequency of target behavior	Positive Punishment	Negative Punishment

Non-Compliant/Disruptive Mealtime Behaviors

Caregivers positively reinforce disruptive behaviors by offering preferred foods.

Children negatively reinforce parent's behavior by having a tantrum until parents give in.

Non-Compliant/Disruptive Mealtime Behaviors

Treatment – Escape Extinction
(a.k.a. non-removal of spoon)

Non-Compliant/Disruptive Mealtime Behaviors

Treatment – Escape Extinction often coupled with Differential Reinforcement of Alternative Behaviors (a.k.a. positive reinforcement)

Phobic Response to Novel Foods

Intensity of avoidant and emotional responding to novel foods resembles specific phobia

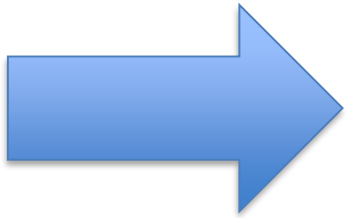
(Wolitzky-Taylor et al., 2007)

Phobic Response to Novel Foods

Classical Conditioning

Unconditioned Stimuli → Unconditioned Response

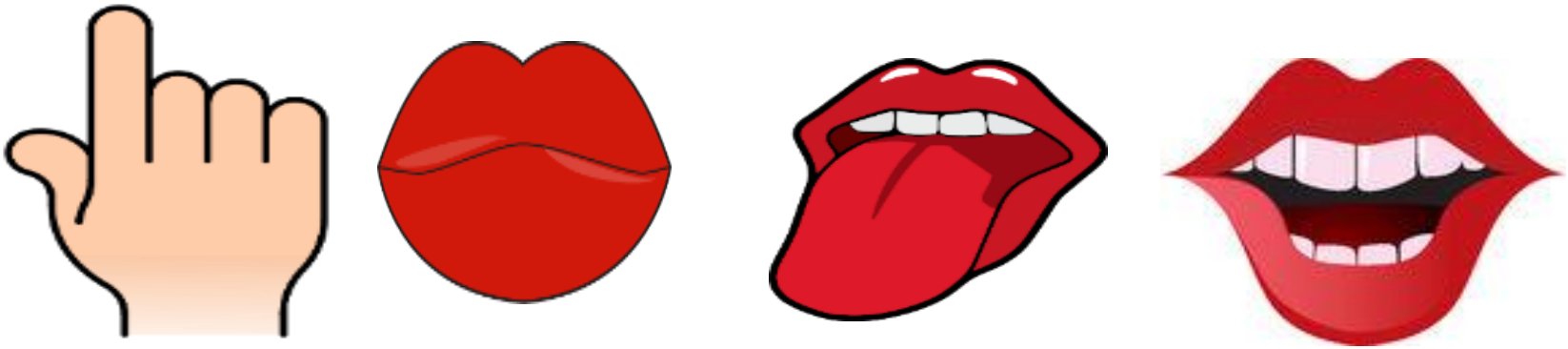
Phobic Response to Novel Foods



Classical Conditioning

Conditioned Stimuli → Conditioned Response

Phobic Response to Novel Foods



Fear Hierarchy

Treatment – Systematic Desensitization
(Exposure Therapy)

Phobic Response to Novel Foods

Fear Hierarchy

Treatment – Systematic Desensitization
(Exposure Therapy)

Phobic Response to Novel Foods

Counter-conditioning aversive responding to novel foods.

Treatment – Systematic Desensitization (Exposure Therapy)

What Reinforcement to Use?

* **Individualized treatment plan**

- Social attention
- Small toys
- Toys with pieces for turn taking (puzzles, memory cards, board games)
- Screen time
- Escape to end the meal
- Preferred food
- Stickers charts
- In the meal reward vs end of the meal reward
- Distraction vs contingent use of toys

Strategies to Maximize Caregiver/Family Participation

- Caregiver training component. Successful completion of the program requires caregivers to participate in at least 8 meals.
- Biweekly meetings with caregivers about progress towards long term goals.
- Replicate family meals. Parents encouraged to bring siblings to treatment meals.
- Social work helps provide access to affordable lodging for families traveling from a distance.

Parent-Child Interaction During Meals

Sometimes difficult parent-child interactions can limit progress.

- Start caregiver training early to allow for more coaching during meals.
- Gradually fade therapist support.
- Bug in ear allows therapists to coach parent from outside of the treatment room.

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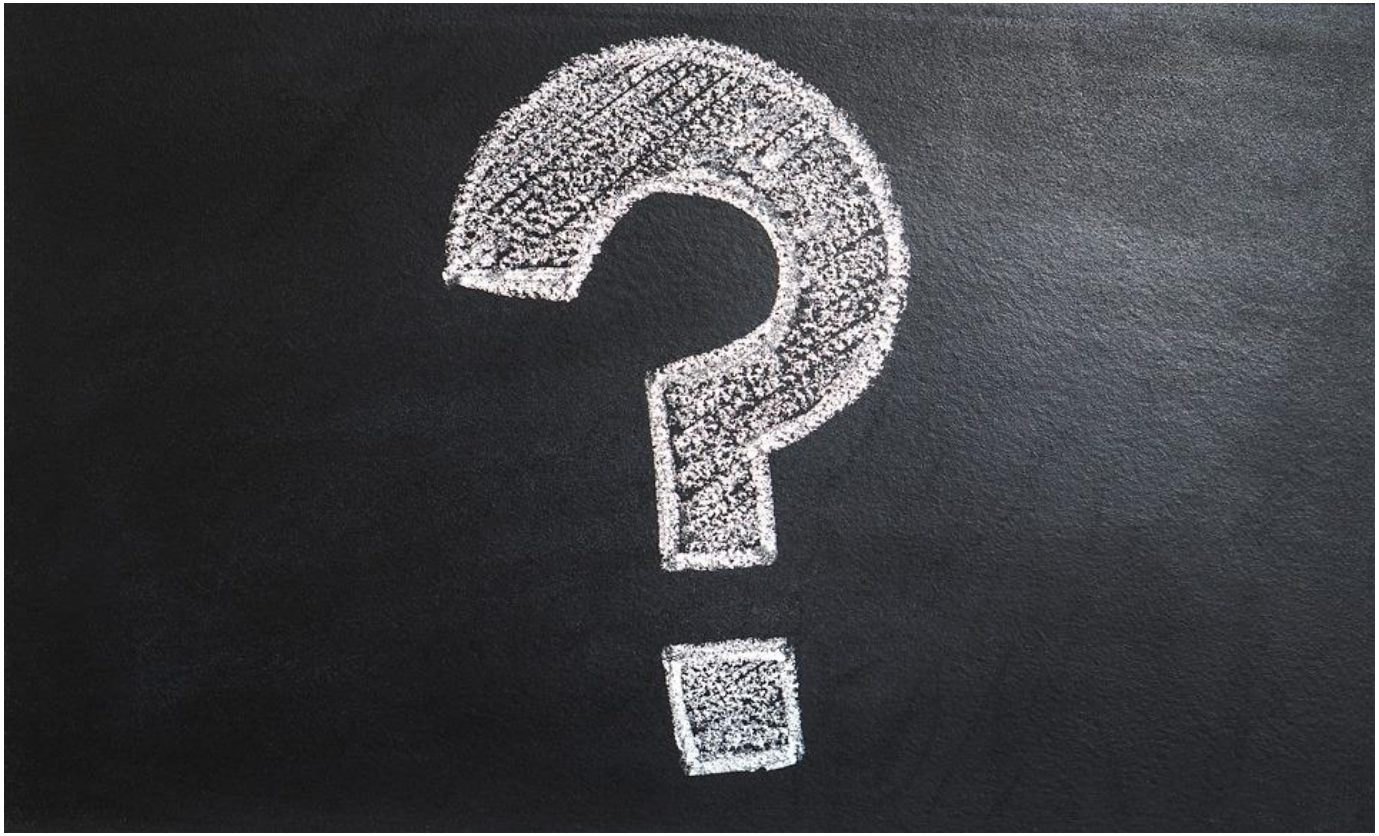
Questions?



Group Discussion Questions (Optional)

1. What approach does my team currently use for treating children with sensory and selective feeding issues?
2. How can our team approach be improved?
3. Who is involved on our team? Who takes the lead? Is anyone missing from our team?
4. What strategies have we learned that we can implement into treatment?
5. Are there any additional items that would be helpful to include in our documentation or data collection?
6. How can we better engage families and caregivers in the process? How do we assess their understanding?

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