

Caregiver Training in Pediatric Feeding Disorders

Caitlin Kirkwood, Ph.D., BCBA-D

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Thanks to our partners



CENTER
FOR PEDIATRIC
BEHAVIORAL HEALTH



Thanks to my co-authors



Cathleen Piazza,
Ph.D., LP, BCBA



Kathryn Peterson,
Ph.D., BCBA-D



Melanie Bachmeyer,
Ph.D., LP, BCBA-D



Vivian Ibañez,
Ph.D., BCBA-D



Jaime Crowley,
M.Ed., BCBA

Feeding Behavior



Typical and Disordered Feeding

Age	Typical	Disordered
Birth	Bottle or breast milk	Struggle with acceptance
4-6 months	Pureed baby foods	Reject baby foods
12 months	Mashed table foods	Fail to transition
18 months	Picky eating	Refusal behavior, more restrictive
18 months +	Peers, numerous locations, hunger cues	Insensitive to peers, specific locations, lack of hunger cues

Feeding Behavior

- Three consecutive months of weight loss
- Diagnosed with dehydration or malnutrition that results in emergency treatment
- Nasogastric tube with no increase in oral calories for three consecutive months

Feeding Behavior

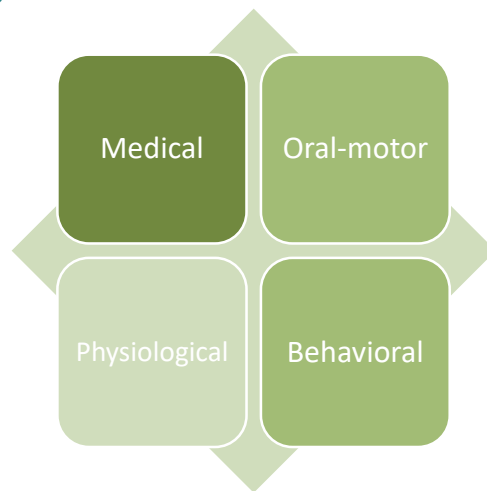
- Meal lengths over 30 minutes

Etiology



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Feeding Behavior

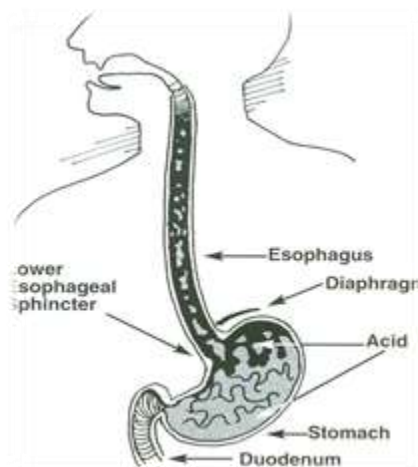


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Medical

- 60% of children
- Causes eating to be painful
 - Gastroesophageal reflux disease
 - Prematurity
 - Genetic disorders
 - Oncological conditions
 - Orlo-motor and congenital abnormalities
 - Respiratory and heart conditions or infection

Medical: Reflux



Medical

- Causes eating to be painful
- Medical problems “masked”
 - Constipation
 - Vomiting
 - Diarrhea
 - Food allergies or intolerances

Medical: Gastroesophageal Dysfunction

- Motility
- Chronic vomiting
- Reflux
- Allergies or intolerances
- Diarrhea or constipation

Medical: Food Allergies and Intolerances

- Milk
- Eggs
- Peanuts
- Soy
- Wheat
- Tree nuts
- Fish
- Shellfish

Food Allergies

- Immune system reaction
- Affects numerous organs
- Reaction can be severe or life-threatening

Food Intolerances

- Less serious
- Limited to digestive problems

Oral Motor

- 40% of children
- Missed opportunities to practice
 - Weak suck
 - Choking and gagging
 - Tongue thrust and failure to lateralize
 - Wet vocal sounds

Oral Motor

- Arching or stiffening of the body
- Difficulty chewing, breast feeding, sucking, or coordinating the bolus inside the mouth
- Excessive drooling or food/liquid coming out of the mouth or nose
- Coughing or gagging at meals
- Difficulty coordinating breathing with eating or drinking
- Increased stiffness during meals
- Gurgly, hoarse, or breathy voice quality
- Frequent vomiting
- Recurring pneumonia or respiratory infection

Oral-Motor Skills

- Choking
- Aspiration or penetration
- Pneumonia or respiratory infection

Physiological

- Lack of hunger cues
- Tolerate lower calorie levels

Behavioral

- Inappropriate mealtime behavior
 - Turning the head or body
 - Pushing away the food, utensil, or feeder
 - Covering the mouth

Feeding Behavior

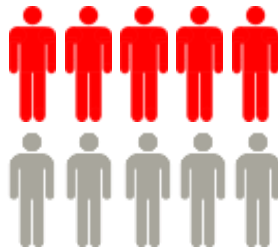


Pediatric Feeding Disorder

- Child fails to maintain nutritional status due to
 - Insufficient quantity  Food refusal
 - Insufficient variety  Food selectivity

Food Selectivity

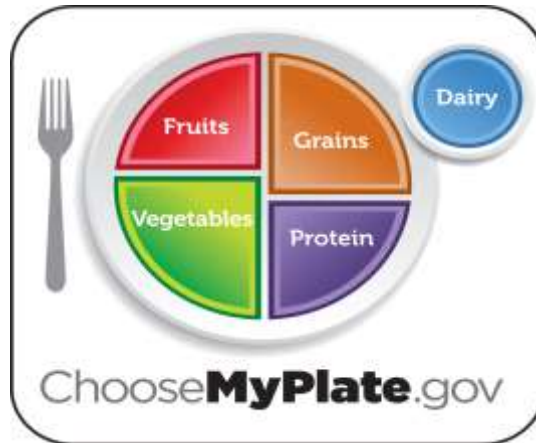
Feeding Problems in Children



Feeding Behavior



Feeding Behavior



Feeding Problems in Children with ASD

- Up to 80% of children with ASD exhibit food selectivity
- Fewer foods from all food groups

Restrictive and Repetitive Behavior

B. Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following, currently or by history (examples are illustrative, not exhaustive; see text):

- A. Stereotyped or repetitive motor movements, use of objects, or speech (e.g., simple motor stereotypes, lining up toys or flipping objects, echolalia, idiosyncratic phrases).
- B. **Insistence on sameness, inflexible adherence to routines**, or ritualized patterns of verbal or nonverbal behavior (e.g., **extreme distress at small changes**, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take same route or eat same food every day).
- C. **Highly restricted, fixated interests that are abnormal in intensity or focus** (e.g., strong attachment to or preoccupation with unusual objects, **excessively circumscribed or perseverative interests**).
- D. Hyper- or hyporeactivity to sensory input or unusual interest in sensory aspects of the environment (e.g. apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, visual fascination with lights or movement).

Food Selectivity as Resistance to Change

- Specific mealtime routines or conditions
- Excessive problem behavior in the presence of novel foods

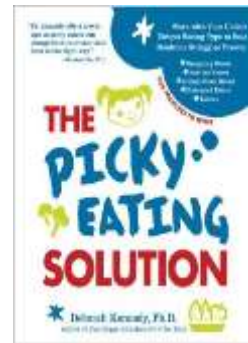
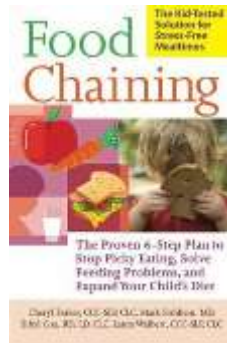
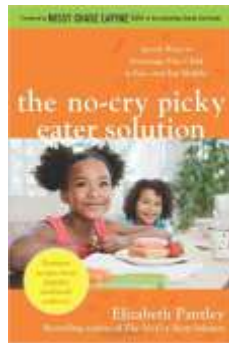
Consequences of Food Selectivity

- Learning and behavior problems
- Severe health problems

Consequences of Food Selectivity

- Family stress, anxiety, and maternal depression
- Lack of self-confidence

Caregiver Resources



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<p>Journal of Clinical Child Psychology, 1996, 25, 323-332</p>	<p>Journal of Clinical Child Psychology, 1996, 25, 333-342</p>	<p>Journal of Clinical Child Psychology, 1996, 25, 343-352</p>
<p>AN ALTERNATING TREATMENTS COMPARISON OF TWO INTENSIVE INTERVENTIONS FOR FOOD REFUSAL</p> <p>William H. Anderson, Marianne E. Ewing, Peter S. Fisher, Jeremy Smith, and Wanda Swanson</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study compared two intensive interventions for food refusal in a sample of 10 children with specific feeding problems. The first intervention was based on the principles of escape extinction and differential reinforcement. The second intervention was based on the principles of escape extinction and differential reinforcement, with the addition of a stimulus control procedure. Results indicated that both interventions were effective in reducing food refusal, with the second intervention showing superior results in the long term.</p>	<p>FUNCTIONAL ANALYSIS OF SUBSTANTIAL EATING ANXIETY</p> <p>Christine C. Paoletti and Wanda W. Swanson</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study conducted a functional analysis of eating anxiety in a sample of 10 children. Results indicated that eating anxiety was maintained by escape extinction and differential reinforcement. The study also found that eating anxiety was associated with a variety of other behaviors, including social withdrawal and self-harm.</p>	<p>ON THE RELATIVE CONTRIBUTIONS OF POSITIVE REINFORCEMENT AND ESCAPE EXTINCTION IN THE TREATMENT OF FOOD REFUSAL</p> <p>Christine C. Paoletti</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study compared the relative contributions of positive reinforcement and escape extinction in the treatment of food refusal in a sample of 10 children. Results indicated that positive reinforcement was more effective than escape extinction in reducing food refusal.</p>
<p>Journal of Clinical Child Psychology, 2001, 30, 311-325</p>	<p>Journal of Clinical Child Psychology, 2001, 30, 326-335</p>	<p>Journal of Clinical Child Psychology, 2001, 30, 336-345</p>
<p>PARENTAL USE OF ESCAPE EXTINCTION AND DIFFERENTIAL REINFORCEMENT TO TREAT FOOD SELECTIVITY</p> <p>Cynthia M. Anderson and Kimberly McMillan</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study examined the use of escape extinction and differential reinforcement by parents in the treatment of food selectivity in a sample of 10 children. Results indicated that parents used escape extinction more frequently than differential reinforcement, and that both interventions were effective in reducing food selectivity.</p>	<p>CRANKING UPSTATED INDIAN EXPANSION AND WEIGHT PROTECTION: AN INTERVENTION FOR THE TREATMENT OF WEIGHT LOSS PROBLEMS</p> <p>Christine C. Paoletti and Wanda W. Swanson</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study conducted an intervention for weight loss problems in a sample of 10 children. Results indicated that the intervention was effective in increasing weight and reducing weight loss problems.</p>	<p>ON THE RELATIVE CONTRIBUTIONS OF POSITIVE REINFORCEMENT AND ESCAPE EXTINCTION IN THE TREATMENT OF FOOD REFUSAL</p> <p>Christine C. Paoletti</p> <p>University of North Carolina at Wilmington</p> <p>Abstract: This study compared the relative contributions of positive reinforcement and escape extinction in the treatment of food refusal in a sample of 10 children. Results indicated that positive reinforcement was more effective than escape extinction in reducing food refusal.</p>

Other Treatments

- Vitamin supplementation
- Nutritional counseling

Benoit, Wang, & Zlotkin (2000)

Nutritional Counseling	Behavioral Intervention
No decreased tube feedings	Decreased tube feedings
25% dropped out	Increased oral consumption of energy requirements at follow up

Other Treatments

- Vitamin supplementation
- Nutritional counseling
- “Wait and see”
 - Ineffective
 - Early intervention is critical

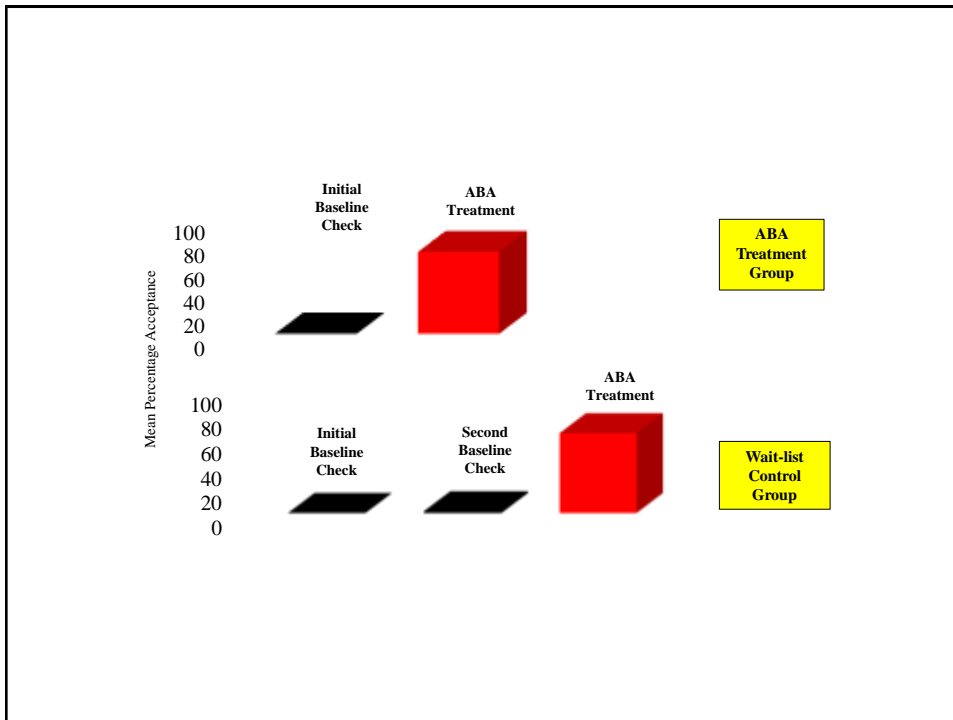


Babbitt, Hoch, Coe, Krell, Hackbert (1994); Peterson, Piazza, Ibanez, & Fisher (in press); Schreck & Williams (2006); Winick (1969); Woods & Wetherby (2003)

Peterson, Piazza, Ibañez, & Fisher (*in press*)

- Randomized controlled trial to compare efficacy of applied behavior analysis to a wait-list control group
- Children with ASD and food selectivity





Other Treatments

- Vitamin supplementation
- Nutritional counseling
- “Wait and see”
 - Ineffective
 - Early intervention is critical
- Other treatment approaches

Sequential Oral Sensory



A COMPARISON OF A MODIFIED SEQUENTIAL ORAL SENSORY APPROACH TO AN APPLIED BEHAVIOR-ANALYTIC APPROACH IN THE TREATMENT OF FOOD SELECTIVITY IN CHILDREN WITH AUTISM SPECTRUM DISORDERS

KATHRYN M. PETERSON, CATHLEEN C. PIAZZA, AND VALERIE M. VOLKERT

UNIVERSITY OF NEBRASKA MEDICAL CENTER'S MINOR-MUNYER INSTITUTE

Treatments of pediatric feeding disorders based on applied behavior analysis (ABA) have the most empirical support in the research literature (Volkert & Piazza, 2012); however, professionals often recommend, and caregivers often use, treatments that have limited empirical support. In the current investigation, we compared a modified sequential oral sensory approach (M-SOS; Benson, Padke, Gannon, & Muñoz, 2013) to an ABA approach for the treatment of the food selectivity of 6 children with autism. We randomly assigned 3 children to ABA and 3 children to M-SOS and compared the effects of treatment in a multiple baseline design across novel, healthy target foods. We used a multielement design to assess treatment generalization. Consumption of target foods increased for children who received ABA, but not for children who received M-SOS. We subsequently implemented ABA with the children for whom M-SOS was not effective and observed a potential treatment generalization effect during ABA when M-SOS preceded ABA.

Key words: applied behavior analysis, escape extinction, feeding disorders, modified sequential oral sensory, oral-motor skills, sensory integration, sequential oral sensory, sequential oral sensory training, SOS, systematic desensitization

Peterson, Piazza, & Volkert (2016)

M-SOS	ABA
James	Greg
Jerry	Sam
Barry	Bryce

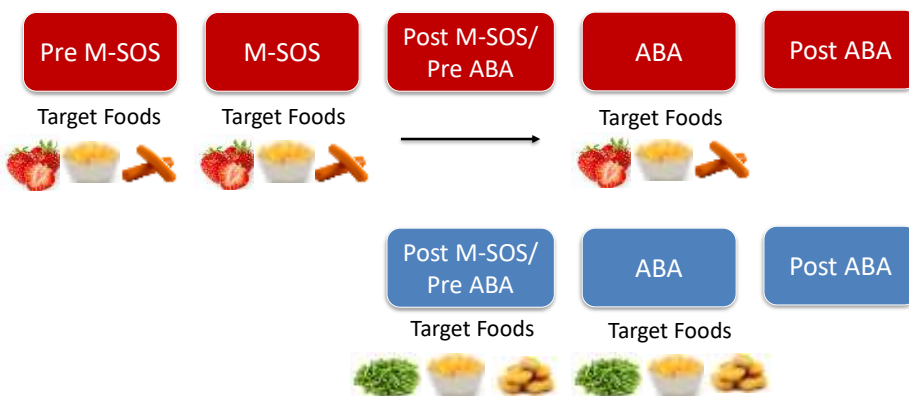
Peterson, Piazza, & Volkert (2016)

- Lack of discrimination
- Carryover effects
- Desensitization effect

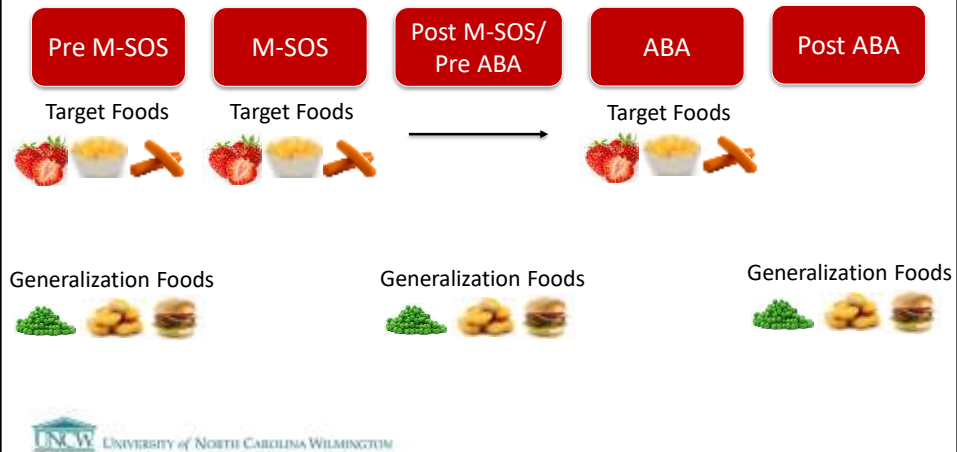
Peterson, Kirkwood, Ibañez, Crowley, Ney, & Piazza (*in preparation*)

- Replicate and extend findings of Peterson et al. (2016)
- Assess potential generalization effects of M-SOS

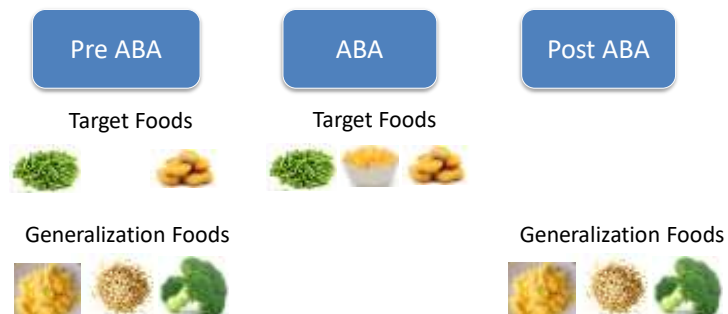
Generalization Assessment



Generalization Assessment



Generalization Assessment



Overall Findings

M-SOS	ABA
Matt	Alan
Wade	Sara
Brad	Kade

Overall Findings: Generalization

Peterson, Piazza, & Volkert
(2016)

M-SOS	ABA
James	Greg
Jerry	Sam
Barry	Bryce

Peterson, Kirkwood, Ibañez,
Crowley, Ney, & Piazza
(*in preparation*)

M-SOS	ABA
Matt	Alan
Wade	Sara
Brad	Kade

Conclusions

- No treatment generalization
- Programming for generalization
- ABA treatment necessary



Assessment:

Initial Evaluation



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Interdisciplinary Evaluation

- **Medicine:** Rule out physical causes of feeding problem
- **Nutrition:** Evaluate adequacy of current intake
- **Social Work:** Evaluate family stressors
- **Speech or Occupational Therapy:** Evaluate oral-motor status and safety
- **Psychology or Behavior Analysis:** Assess contribution of environmental factors



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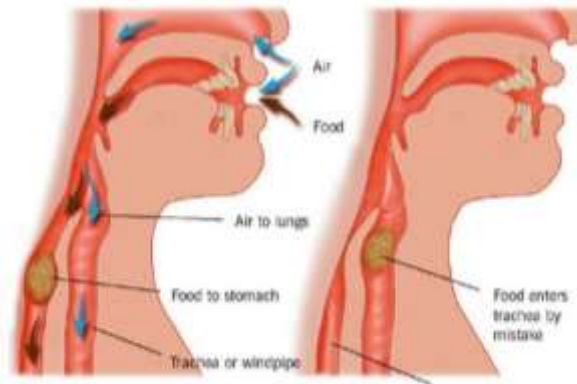
Medicine



Nutrition

Caloric Needs	Nutritional Needs
Height, weight, and age	Diet macro- and micro- analysis
Activity level	Medical considerations
Calorie goal	Nutrition goals
Tube reductions	Food allergies and intolerances

Oral-Motor Skills

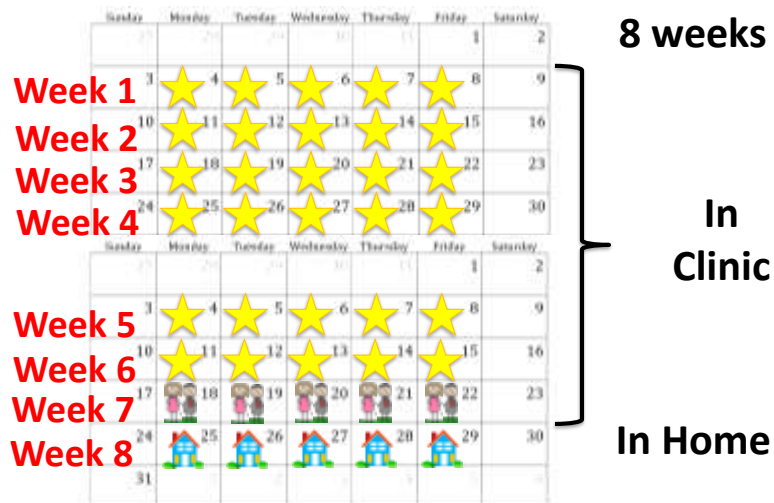


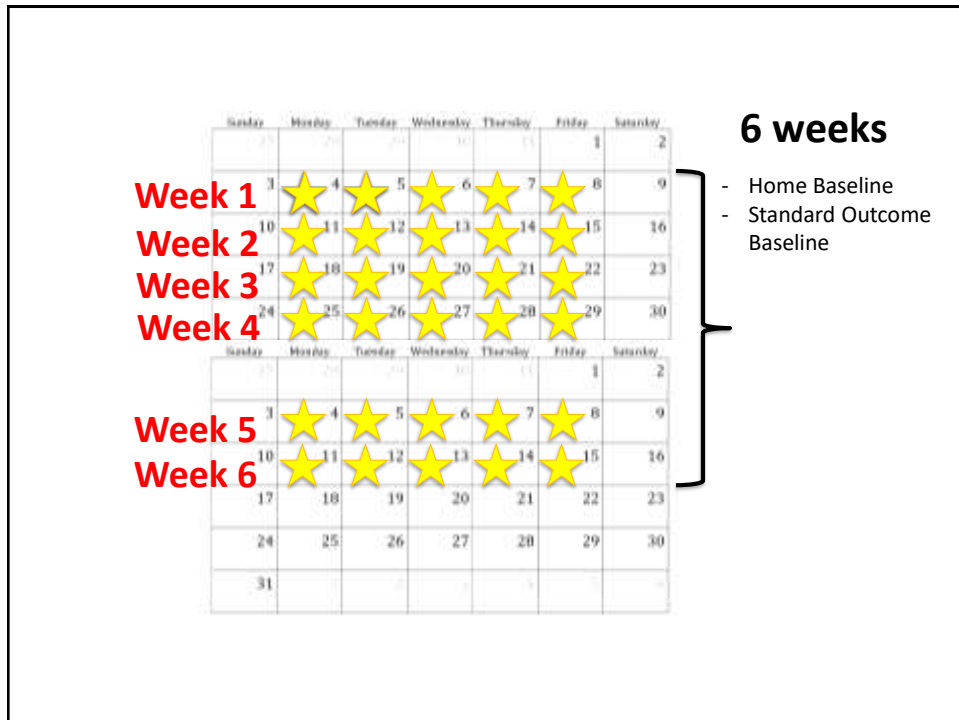
Psychologist or Behavior Analyst

- What is the child currently doing?
- Is this typical feeding behavior for the child's age or development?
- Can we use our empirically supported treatments to improve the mealtime?

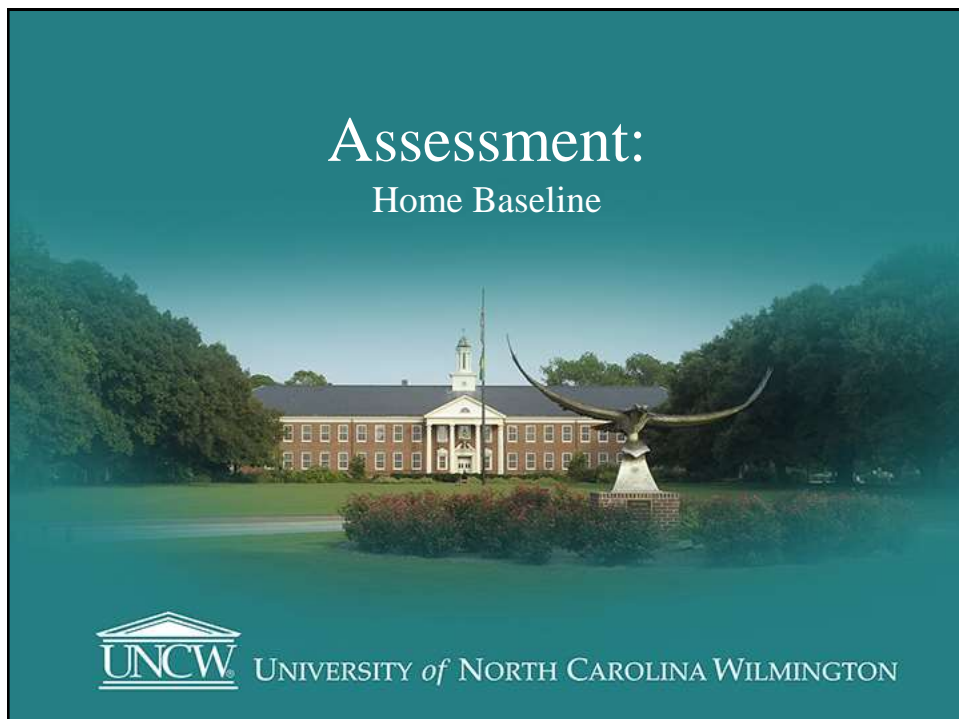
Psychologist or Behavior Analyst

- Medical and feeding history
- Direct observation of natural meals and structured meals
- Recommended level of service based on severity and availability or referral





Assessment: Home Baseline



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Purpose

- Observe child and caregiver behavior
- Identify antecedents and consequences
- Inform later assessments

Setup

- Conditions:
 - Preferred foods and liquids
 - Nonpreferred or novel foods and liquids
- Items used in the home
- End when the family would typically end or after 10 min

Data Collection

- Checklist
- Videotape sessions



Assessment: Standard Outcome Baseline



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Purpose

- Child and caregiver behavior when we
 - Add structure to the mealtime context
 - Vary response effort associated with eating and drinking
- Assess oral-motor skills

Purpose

- Provides information for future assessments
 - Bolus size
 - Texture
 - Pace of bites or drinks
 - Test conditions of functional analysis

Benefits

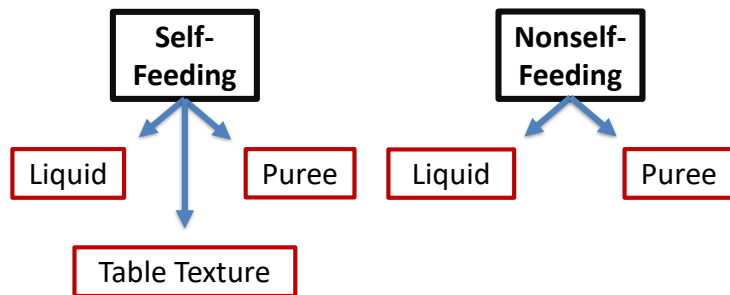
- Repeatedly measure progress over time
- Compare across children
- Basis for goal development

Adding Structure

- Consistent bolus size
- Standard foods and drinks
- Fixed-time 30 s bite or drink presentation
- Mouth check

Altering Response Effort

- Feeding formats:
 - Self
 - Nonself
- Food formats:
 - Purees
 - Table textures
 - Liquids



Conducting the SOBL

- Randomize the order of the two liquid conditions
- Run the liquid conditions during the child's scheduled liquid meals
- Finish one condition (e.g., at least three sessions) before moving on to the next

Conducting the SOBL

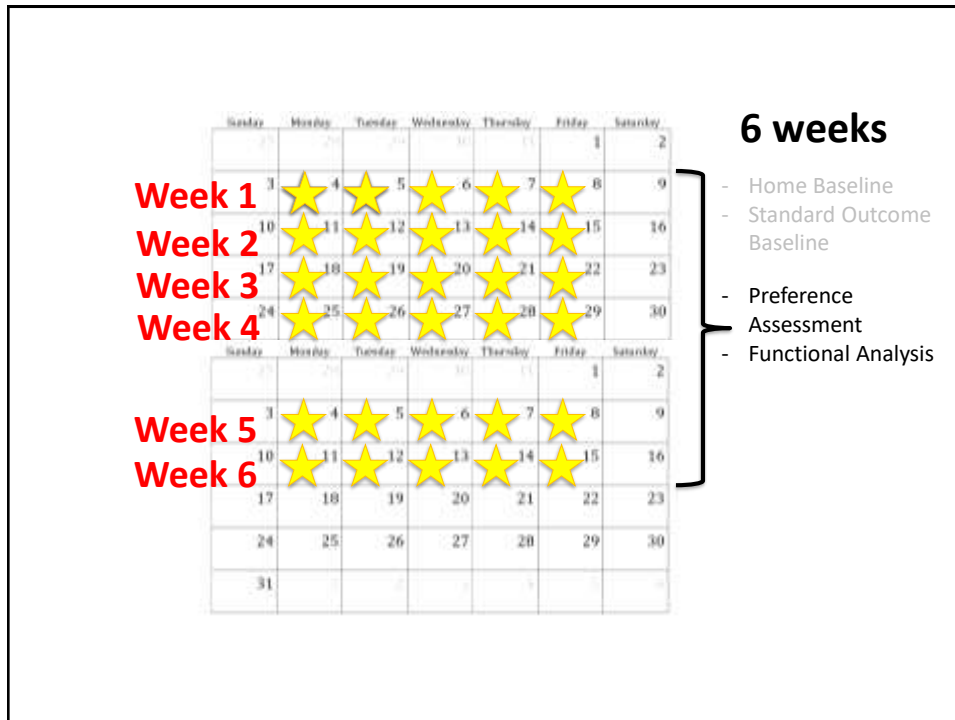
- Randomize the order of conditions involving food
- Run those conditions during the child's scheduled solid meals
- Finish one condition before moving to the next

Caregiver Instructions

- Appropriate bolus size
- Single bite presentations
 - In front of the child during self sessions
 - At the child's lips during nonself sessions
- Present a new bite every 30 s

Caregiver Instructions

- Conduct a mouth clean 30 s after acceptance
- Present next bite
- Respond to appropriate and inappropriate mealtime behavior as you would at home



Assessment: Preference Assessments



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Types

- Free operant
- Paired stimuli
- Multiple stimuli

Free Operant

- Tells us how much time is spent with each item when given unlimited access
 - More time = higher preference

Paired Choice

- Tells us ranking of items
- Items are presented in pairs and the client is asked to choose between each item
- All items are paired with all other items at least once

Multiple Stimuli

- Three or more items presented
- With or without replacement

Goals



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Goals

- Individual
- Observable
- Measurable



Example: Increase total oral intake to 50% of calorie needs.



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Goals

Child Behavior

- Active acceptance
- Mouth clean
- Decrease inappropriate mealtime behavior
- Self-feeding and self-drinking
- Chewing
- Increase age-appropriate portions
- Increase oral intake and variety
- Decrease tube feedings

Caregiver Behavior

- Correct protocol implementation
- Correct prompts and consequences
- Correct use of praise and attention

Example: Caregiver will implement the procedure with over 90% integrity across prompts, consequences, and utensil placement.



Mealtime Structure



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Mealtime Structure

- Creates a predictable environment for the child
- Clear expectations
- Allows for systematic evaluation

Danny's Day-Treatment Schedule

9:00-9:45: Meal 1 (Breakfast)

9:45-10:30 Break

10:30-11:00: Meal 2 (Snack)

11:00-11:45 Break

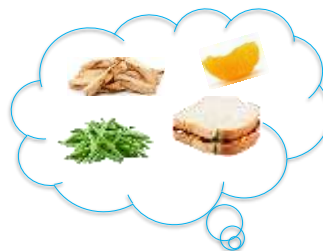
11:45-12:30: Meal 3 (Lunch)

12:30-3:00 Break (nap, free feed)

3:00-3:30: Meal 4 (Snack 2)

3:30-4:00 Break

4:00-4:45: Meal 5 (Dinner)



Identify Foods

- Food type
- Food texture
- Specify foods by name, food group, brand, and recipe
- Precisely describe how you prepare the foods

Identify Foods: Recipe

Food Name	Brand	Canned or Frozen	Amount (g)	Amount & Type of Liquid (oz)
Cut Green Beans	HyVee	Canned	226	None

Identify Foods: Additives

- Consult a speech therapist for swallowing difficulties
- Consult a dietician or nutritionist for food weight gain or poor nutrition

Identify Foods: Texture



Identify Foods: Type



Identify Utensils

- Solids
- Liquids
- Oral-motor deficits

Utensils: Solids

- Rubber- coated baby spoons
- Small and large maroon spoons



Utensils: Liquids

- Flexible materials
- Prevents occlusion of child's face
- Facilitates transition to larger bolus



Utensils: Liquids



Mealtime Structure



5-bite session



10-min session cap

Seating



Booster Seat



Tumble Form



Adult Chair



Special Tomato Chair



Toddler Chair

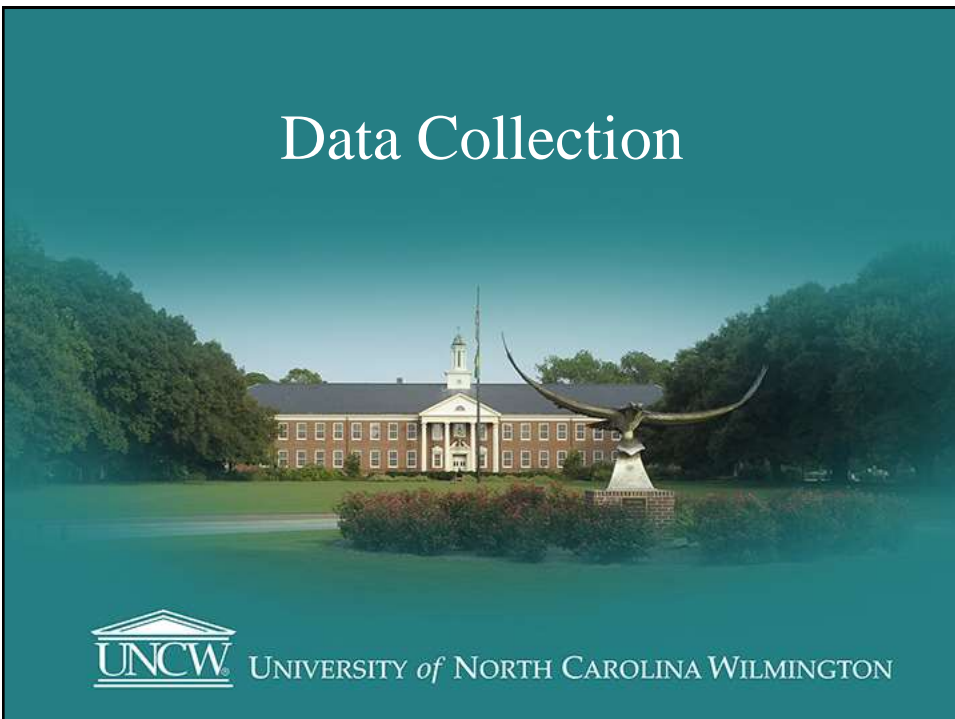


Highchair



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Data Collection



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Dependent Variables

- Concise, detailed definition of behavior

Dependent Variables

Child Behavior

- Active acceptance
- Expulsion
- Mouth clean or pack
- Cough, gag, vomit
- Inappropriate mealtime behavior
- Negative Vocalizations
- Chews

Feeder Behavior

- Utensil placement
- Prompts
- Praise for appropriate mealtime behavior
- Attention for inappropriate mealtime behavior

Assessment:

Functional Behavior Assessments



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Types


- Indirect assessment
- Descriptive assessment
- Functional analysis



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Cooper, Heron & Heward (2007)

Type	Description	Advantages	Disadvantages
Indirect assessment	Structured interviews, rating scales, checklists, or questionnaires	Easy to conduct and helpful for hypothesis formulation	Limited in accuracy

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Cooper, Heron & Heward (2007)

Type	Description	Advantages	Disadvantages
Descriptive assessment	Observation in the natural environment	Can observe in natural environment and easy to implement	Does not provide information on functional relations

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Cooper, Heron & Heward (2007)

Type	Description	Advantages	Disadvantages
Functional analysis	Systematically manipulate environmental events	Identify conditions under which inappropriate behavior occurs	Time, resources, and expertise to implement and interpret

Functional Analysis



vs.



vs.



vs.

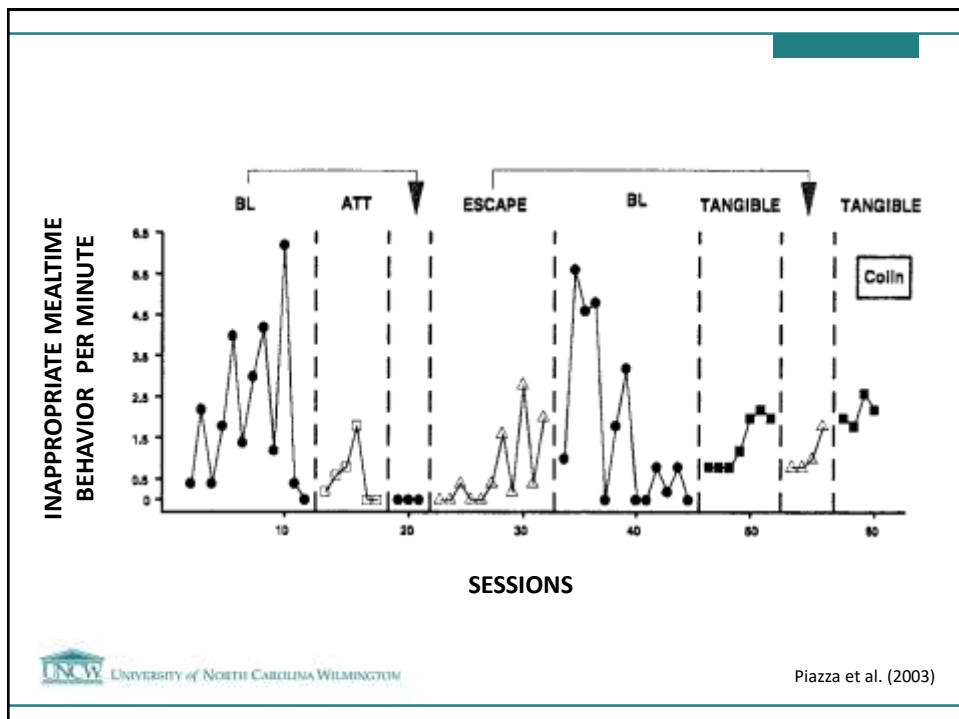
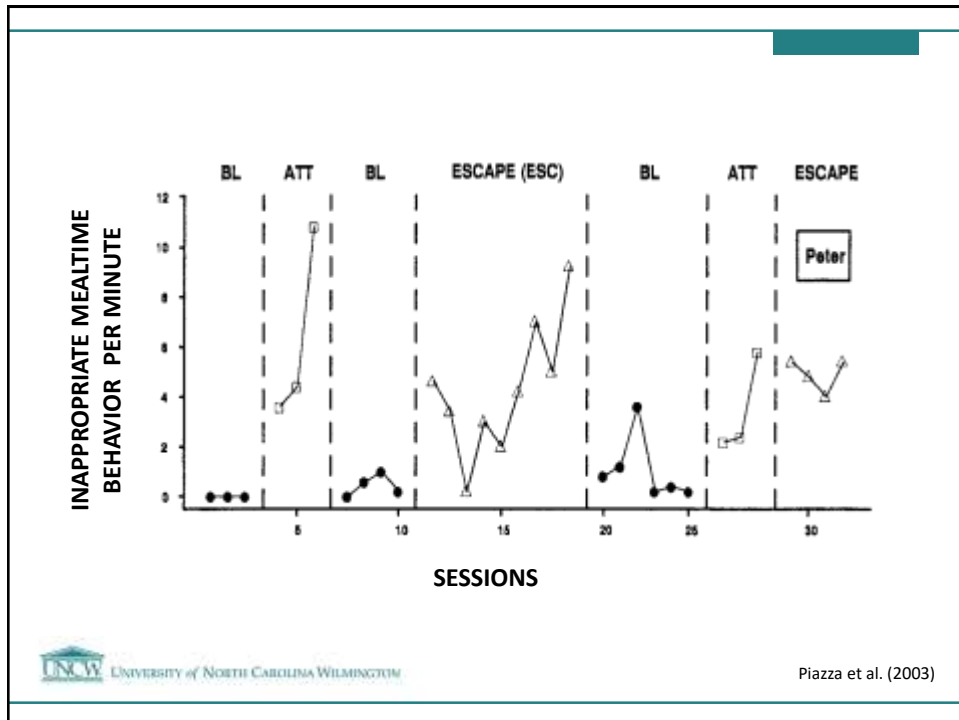


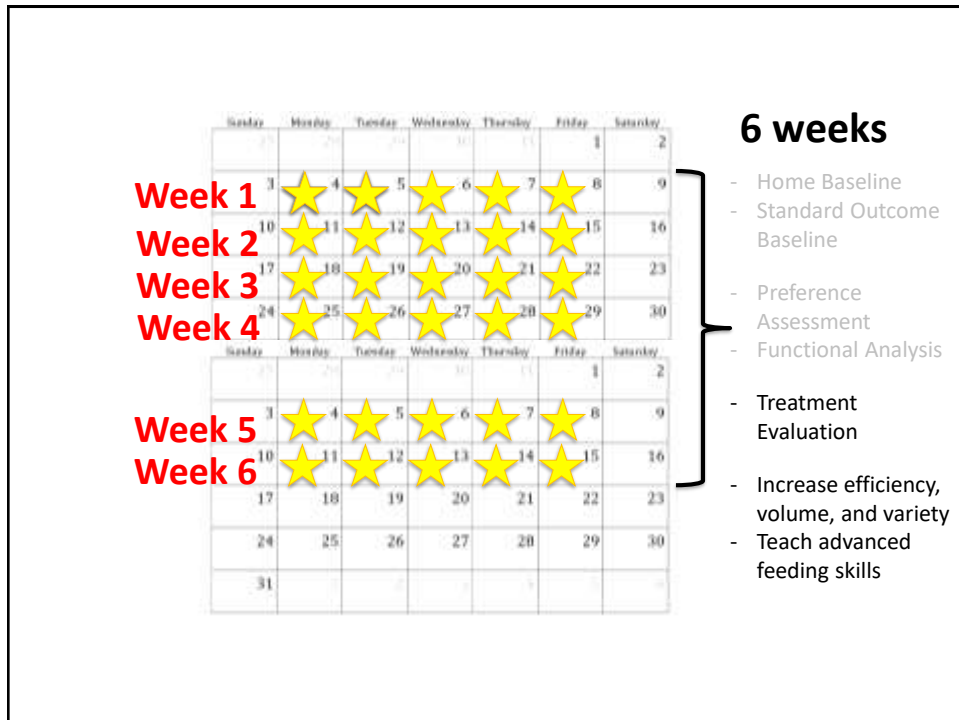
Functional Analysis



Piazza et al. (2003)

Condition	Consequences for Inappropriate Mealtime Behavior	Bite Presentation
Escape	30 s of escape	Removed for 20 s
Attention	30 s of attention	Remained at midline
Tangible	30 s of access to tangibles	Remained at midline
Control	No differential consequences	Remained at midline





Reinforcement-Based Treatment



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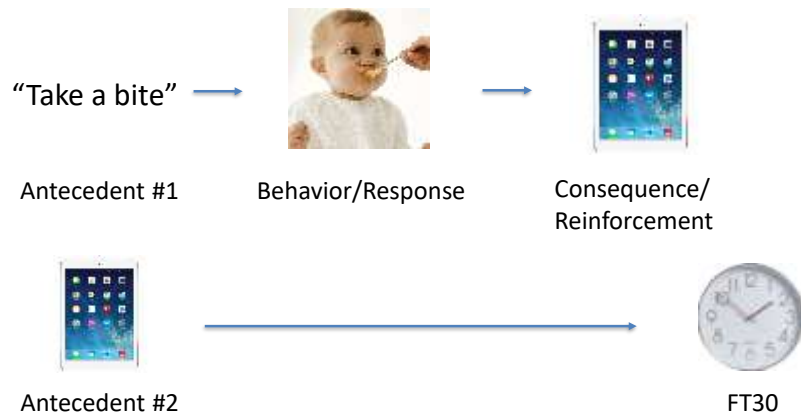
Differential Reinforcement of Alternative Behavior

- Positive reinforcement
- A response is followed immediately by the presentation of a stimulus
- Increase in the probability of a future occurrence of that response

Differential Negative Reinforcement of Alternative Behavior

- Negative reinforcement
- Termination, reduction, or delay of a stimulus following a response
- Increase in the probability of a future occurrence of the response

Noncontingent Reinforcement



Noncontingent Reinforcement

- Stimuli with well-known reinforcing properties delivered at a set time, independent of behavior
- Reinforcers that maintain problem behavior are freely available
- Easy to implement and a more enjoyable learning environment

Using Reinforcement Effectively

- Achievable initial criterion
- Quality
- Magnitude
- Gradually shift reinforcers
- Reinforce every occurrence
- Immediacy
- Consistency



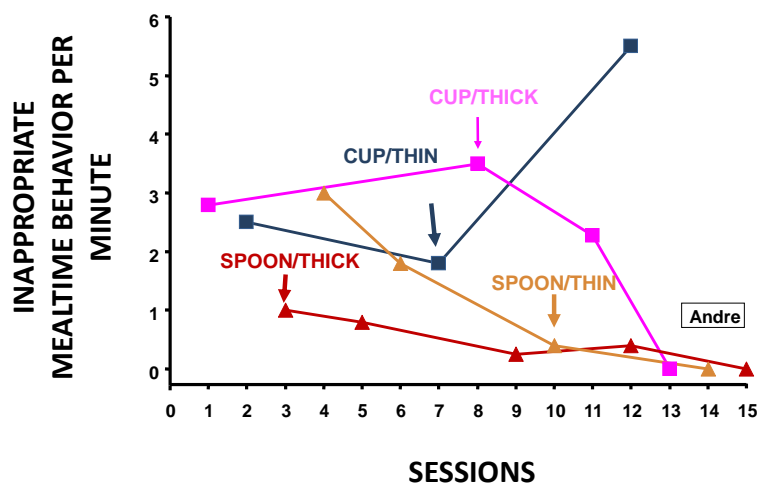
Fading-Based Treatment



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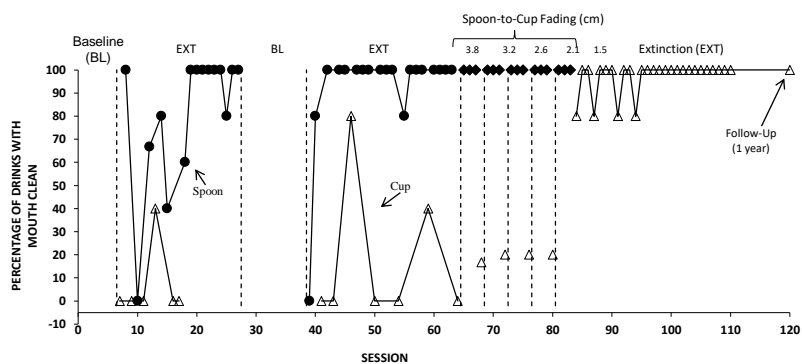
Fading

- Identify what the child can currently do
- Gradually change what you expect the child to do



2. Spoon-to-cup Fading

- Use when the child will accept liquids from a spoon but will not accept liquids from a cup



3. Cup-to-spoon Fading

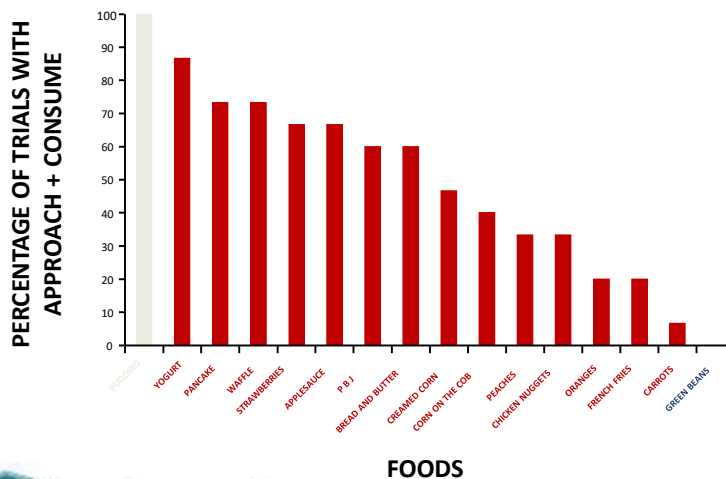
- Use when the child will accept liquids from a cup but will not accept solids from a spoon

4. Bite Fading

- Use when the child will accept a variety of foods but only in spoon amounts

5. Blending

- Use when the child eats at least three foods reliably and has no weight concerns
- Solids or liquids



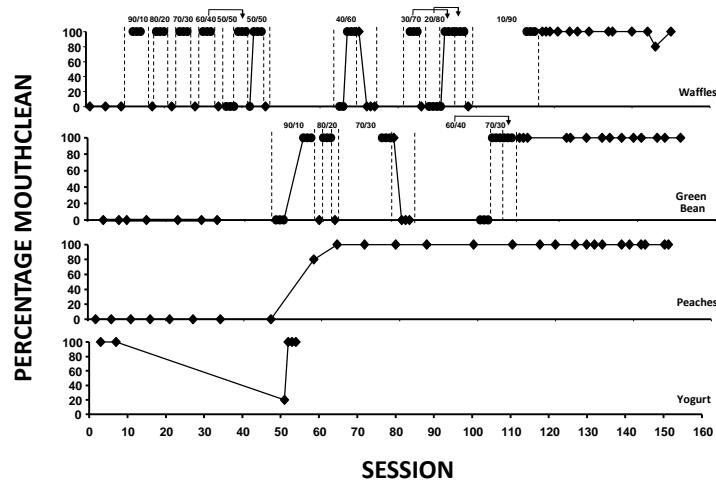
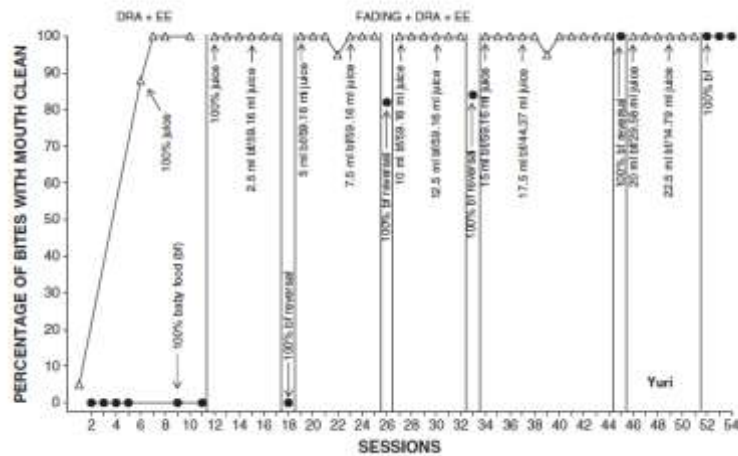


Table 1. Liquid to baby food fading.

Fading step	Nectar-consistency ^a apple juice (mL)	Stage 2 baby food (g)
1	59.2	00.0
2	59.2	02.5
3	59.2	05.0
4	59.2	07.5
5	59.2	10.0
6	59.2	12.5
7	59.2	15.0
8	44.4	17.5
9	29.6	20.0
10	14.8	22.5
11	00.0	25.0

^aThe formula for making the nectar-consistency apple juice was 59.2 mL of apple juice mixed with 6.2 cc of Thick-It. The therapist then mixed the nectar-consistency apple juice with Stage 2 baby food in the proportions indicated earlier.



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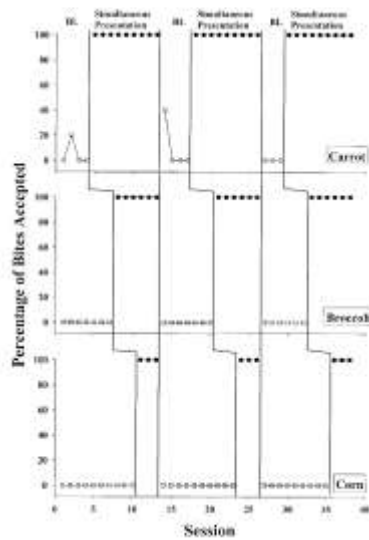
Bachmeyer, Gulotta, & Piazza (2013)

6. Simultaneous Presentation

- Use when the child eats at least three foods reliably and has no weight concerns
- Present a preferred food with a nonpreferred or novel food



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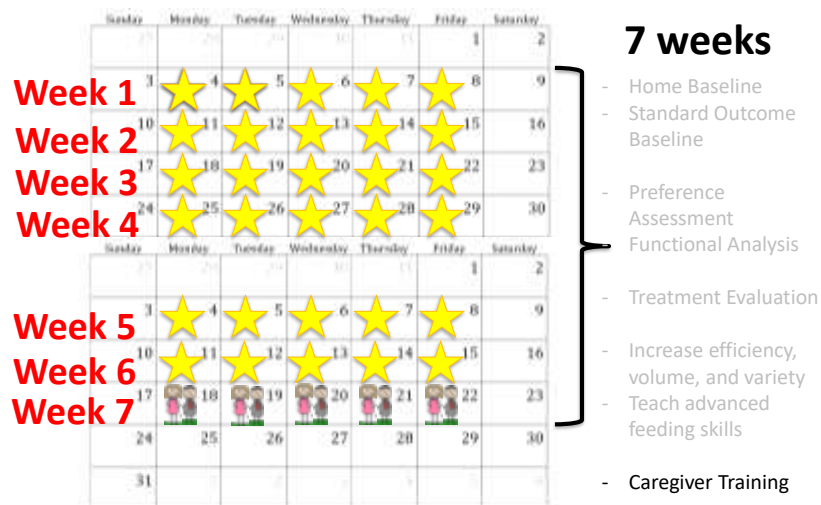


7. Stimulus Fading

- Use when the child is not consistently consuming a food group or enough of a food

8. Demand Fading

- Use when the child engage in high rates of problem behavior
 - Even if target behavior are in the child's repertoire
- Begin with a step the child completes consistently and in the absence of problem behavior



Caregiver Training



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1. Protocol Review



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2. Meal Observation



3. Fade Caregiver



4. Caregiver Feeds with In-Vivo Feedback in Booth



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5. Caregiver Feeds with In-Vivo Feedback in Room



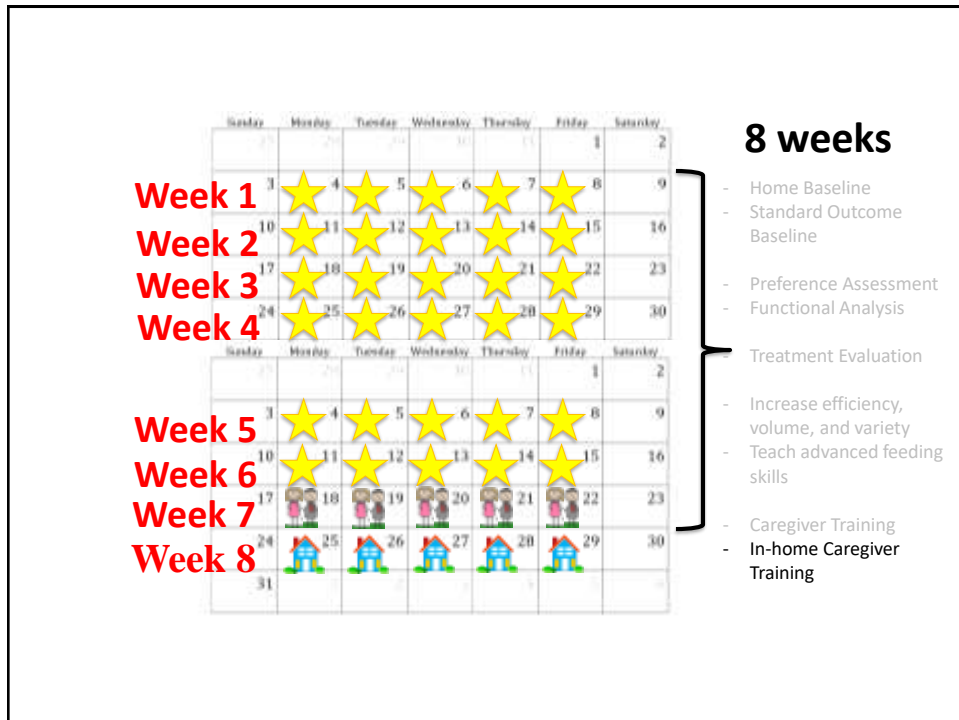
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6. Caregiver Feeds Independently

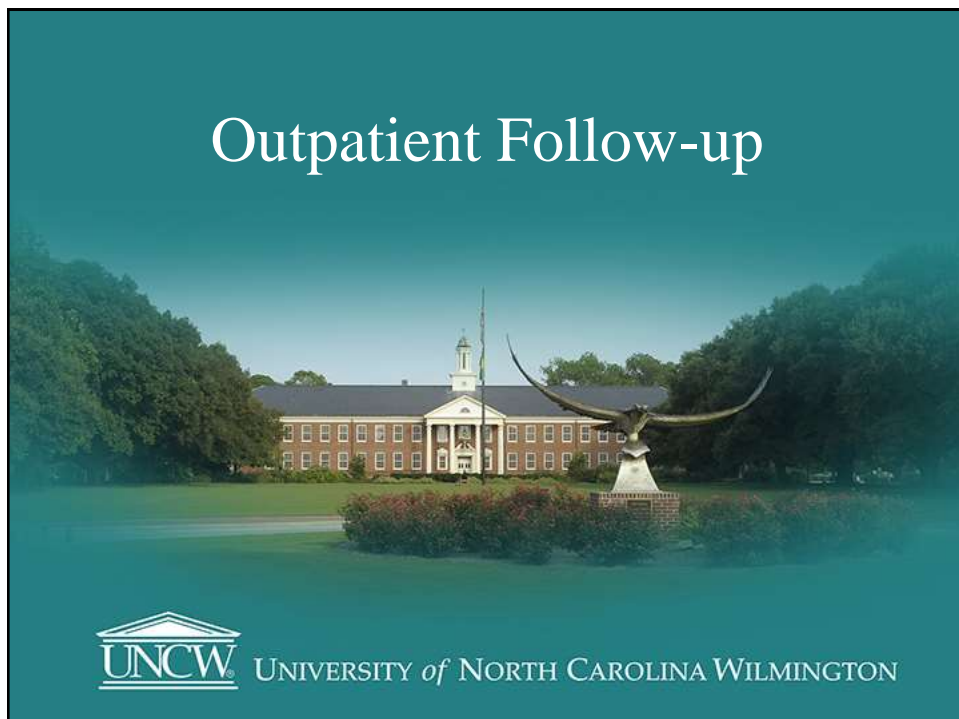


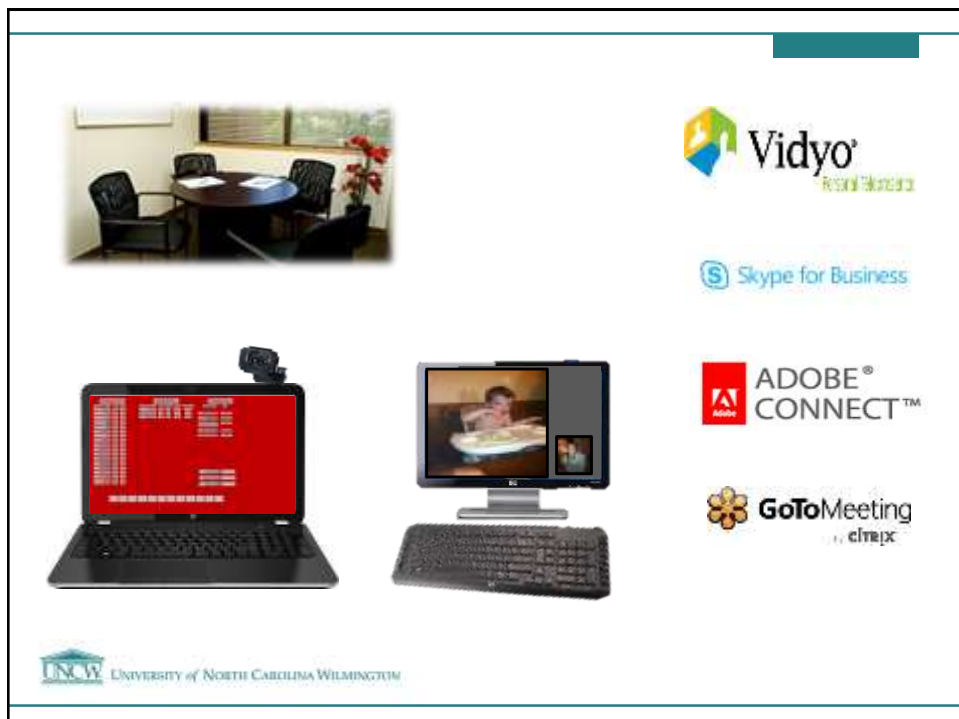
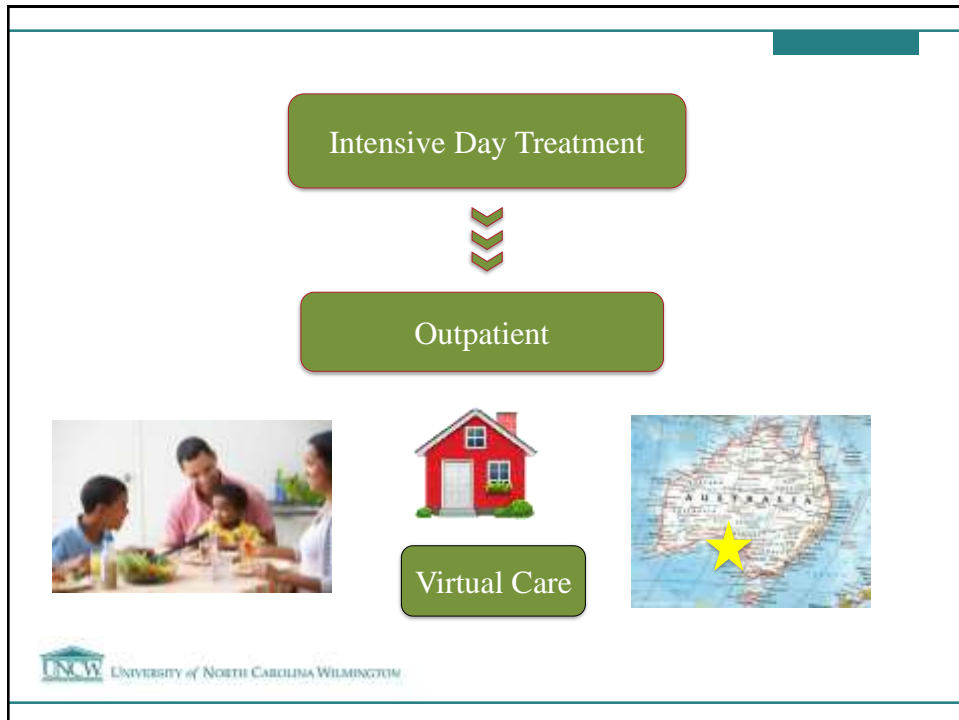
7. Food Preparation Training





Outpatient Follow-up



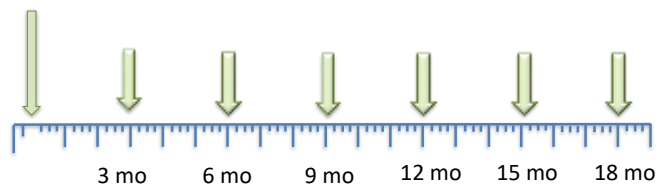


Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

**Outpatient
Follow-up**

End Day
Treatment
Admission

Assess Goals



Goal Period	In Clinic Follow-up		Virtual Care Follow-up	
	# of kids	Goals met (mean)	# of kids	Goals met (mean)
3 months	36	93%	19	98%
6 months	28	93%	13	94%
9 months	20	96%	10	91%
12 months	22	92%	9	95%
15 months	13	92%	10	98%
18 months	6	98%	4	98%

Limitations and Future Directions

- More sensitive treatment integrity measures
- More caregiver training evaluations

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TRAINING PARENTS TO IMPLEMENT PEDIATRIC FEEDING PROTOCOLS

MICHAEL M. MUELLER, CATHERINE C. PIZZET,
JAMES W. MOORE, AND MICHAEL E. KELLEY

MARCUA AND GEORGE BRIDGES INSTITUTES AND
JOHN JOHNS UNIVERSITY SCHOOL OF MEDICINE

AND

STEPHANIE A. BETHKE, ANGELA E. PHUETT,
AMANDA J. OBERKORFF, AND STACY A. LAYER

MARCUA INSTITUTE

Five different multicomponent training packages were evaluated to increase the treatment integrity of parents implementing pediatric feeding protocols. In Study 1 we exposed 3 parents to a training package that consisted of written protocols (baseline), verbal instructions, therapist modeling, and rehearsal training. Results suggested that the package was successful in increasing treatment integrity of the feeding protocols to high levels. Study 2 investigated three different parent-training packages comprised of components used in Study 1. Two parents were exposed to written protocols, verbal instructions, and modeling; 2 parents were exposed to written protocols, verbal instructions, and rehearsal; and 2 parents were exposed to written protocols and verbal instructions. Results of Study 2 showed that each parent-training package produced very high treatment integrity. Follow-up data in the clinic and home for 5 participants suggested that the results were durable for up to 3 months. These results demonstrate a first step in the transfer and application of research findings into routine clinical practice because we evaluated several methods for training parents to implement behavioral feeding protocols, and we demonstrated that these methods resulted in high levels of treatment integrity in a controlled clinical setting.

DESCRIPTORS: parent training, pediatric feeding disorders, translational research, treatment integrity



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Limitations and Future Directions

- More sensitive treatment integrity measures
- More caregiver training evaluations
- Component analysis of training packages
- Caregiver training through virtual-care technologies



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Virtual Care Training

PROS	CONS
✓ Saves time and costs	✓ Technology problems
✓ Less hassle	✓ Difficulty with observation
✓ Natural environment	✓ Licensure
✓ Easily accessible	✓ No physical support or clinic resources
✓ Protection from illness	✓ Medical, oral-motor concerns

Limitations and Future Directions

- More sensitive treatment integrity measures
- More caregiver training evaluations
- Component analysis of training packages
- Caregiver training through virtual-care technologies
- Long-term follow-up

Future Directions

- Why does food selectivity emerge?
- Why is it so prevalent in children with ASD?



cakirkwood9@gmail.com



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