

# Interventions for Toddlers and School-Aged Children with Feeding Difficulties

Kerry Pearl, MS, CCC-SLP

Adapted from Pamela Dodrill, PhD, CCC-SLP

# Before you begin...

- Clinical Feeding Evaluation
  - Caregiver interview
    - Caregiver goals
    - Medical History
    - Feeding history

# Before you begin...

- Clinical feeding evaluation
  - Oral mechanism exam

Target	Elicitation	Observations
Facial Symmetry	Have subject look straight at you	Are all facial features symmetrical?
Lips	Smile Pucker Open Close tight Puff up cheeks, hold against resistance	Look for symmetrical movements, extent of movements, ability to close lips completely, and hold against resistance
Tongue	Stick straight out Left Right Left and Right quickly Elevation Retraction Protrusion & lateral movement against resistance (with tongue blade)	Look for symmetry and range of motion. Look at size of tongue and for evidence of fasciculations. Assess ability to exert force against resistance. Assess coordination of fast movements
Oral Cavity	Open wide	Look at teeth, tongue, hard and soft palate. Look for evidence of lesions, atrophy, or missing structures. Also observe jaw excursion, listen for "clicks," watch for lateral shifts
Velum	Say "ah" Elicit gag reflex by touching anterior faucial arches, posterior faucial arches, or base of tongue. Elicit gag on both sides	Watch for extent and symmetry of velar elevation and pharyngeal constriction.
Voice	Maximum Phonation Time s:z ratio Pitch glides	Listen for vocal intensity, pitch, and quality. Note especially breathiness or gurgles

Adapted from <http://www.apstate.edu/~clarkhm/cd5673/oralmech.htm>

# Before you begin...

## – Assessment

- Oral motor skills
- Oral sensory responses
- Swallow function
- Self-feeding
- Developmental feeding skills
- Developmental status
- Mealtime behaviors

## – Stimulability

## – Consider child's current diet

## – Motivation

# Skill Development

- Progression of textures
  - Liquids Only: Breastmilk or Formula
  - Smooth Stage 1 baby pureed foods (Or when bringing hands to mouth)
  - Homemade Purees and Stage 2 baby foods (smooth, not lumpy – NO mixed texture/stage 3 babyfood),
  - Dissolvable solids/ beginner table foods/ soft mashable foods
  - Intermediate table foods (can be mixed texture if chewing skills are adequate)
  - Mature table foods



## Typical Progression of Textures

0-4 months	Liquids Only: Breastmilk or Formula
4-6 months (Or when bringing hands to mouth)	Smooth Stage 1 baby pureed foods
6-8 months	Homemade Purees and Stage 2 baby foods (smooth, not lumpy – NO mixed texture/stage 3 babyfood), Hard teething foods* (under close adult supervision)
6-9 months (Or when holding head up)	Dissolvable solids/ beginner table foods/ soft mashable foods
9-12 months	Intermediate table foods (can be mixed texture if chewing skills are adequate)
12-18 months*	Mature table foods

\*Infants and toddlers require close adult supervision at all times while eating, particularly with high-choke foods including chewy meats, grapes, raw carrots, apple, celery, hard candy, popcorn, nuts, corn chips, etc.

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**Hard Teething Foods** *(should be offered to infants in a mesh feeding bag, under close adult supervision)*  
*These foods are to practice biting and munching; not for swallowing - stick shape works best*

Teething biscuits, dried fruit strips (papaya, mango), frozen foods (bagel strips, melons), raw vegetables if no teeth yet (carrots sticks, celery sticks), licorice, crisp tender vegetables (asparagus, green beans), very chewy foods that don't break apart (pizza crust, Slim Jims, beef jerky)

### Crunchy Dissolvable Foods

*These foods should dissolve easily in the mouth with little chewing.*  
*Stick-shaped works best for lateral placement on the molar chewing surface*

Freeze dried fruits, Gerber Lil' Crunchies, Snikiddy baked fries, baby Mum-Mums, Plum Organics Little Yums, graham crackers, Club crackers, yogurt melts, Veggie straws/stix, Wise, Jax or Cheetos baked cheese puffs, Gerber star puffs, Happy Puffs, Snap pea crisps, Snikiddy puffed corn balls, Kix cereal, Pirate's booty, NOT cheerios

### Beginner Table foods/Soft Mashable Foods

*These foods need only "mushing"; no need for mature chewing yet – avoid mixed textures*

Avocado, beans, tofu, shredded or sliced cheese, soft cooked/steamed vegetables (carrots, potatoes, squash, beets), canned fruit, soft fresh fruit (banana, papaya, kiwi), eggs (avoid egg white until 12 mo), pound cake, banana bread, muffins, donuts, pancakes, taco meat, crock pot stew or soup

### Intermediate Table Foods

*Good chewing skills are needed to eat these foods or kids may gag easily*

Cheerios, Goldfish crackers, Pasta, bread, soft sandwiches, chicken nuggets, fish, roast chicken, deli meat, mac n cheese, soup and contents, lasagna, meatballs, diced hot dogs, French fries

### Difficult, Tough or Chewy Foods

*Chewing should be mastered at this stage, always provide adult supervision*

Steak, pizza crust, rice, raisins, hard crust on bread, fresh fruits and vegetables, sandwiches with both soft and hard ingredients, fruit leather, pretzel rods, tortilla chips, bagels, hard granola bars



# Intervention

- Consider which model to use
  - Operant conditioning
  - Systematic desensitization
  - \* Parent training component

# Chewing

- Mesh feeder bag
- Dissolvable solids
  - Lateral placement





# Chewing

- Chewy tubes
  - Dip in puree
  - Small pieces of dissolvable solids inside



- Progressively thickening puree

# Feeding Environment

- Appropriate seating



- Routine
- Clear instructions
- Visual schedule

# Transition to Therapy

- Discuss goals for *current* therapy with caregivers
  - Expand variety vs. increase volume vs. other
- Food list – preventing food jags
- Who provides the food?

# Transition to Therapy

- Assess where the child's current status
- Know where you want the child to be
  - By the end of this block
  - Overall
- Consider the whole picture
  - Nutrition
  - Oral skills
  - Motor skills
  - Sensory processing
  - Cognitive skills
- Be realistic and concrete

# Feeding Therapy: Where to start

- Diagnostic feeding therapy
  - What therapy approaches does the child respond to?
  - How to the various strategies align with parent goals

# Feeding Therapy: Where to Start?

- Identify a goal
  - Expand variety, improve chewing, increase ingested volume, increase independence with eating, improve efficiency with eating, accept a new method of delivery for drinking
- Identify objectives to work towards goal

# Types of Feeding Therapy: Goals

## Operant Conditioning

- Child must have the skills but needs to get over their fear.
- “Cannonball!”

## Sensory Desensitization

- Allows child to develop necessary skills while gradually adapting
- One step at a time

# Behaviors

- Consider every behavior is a direct response to some stimuli
  - What can we change about the environment to improve organization and establish a calm state?
    - Sensory preparation before meals
      - Washing hands
      - Wiping table
      - Pushing chairs in (heavy work!)
    - Consider all senses
      - Reduce stimuli if necessary



# Feeding Therapy

## Systematic Desensitization

- Focus on changing meal time behavior
  - Improved willingness to try foods
  - Less stress around foods
  - Not volume driven!
- Model and play!
- Internally driven

# Sensory Desensitization- Strategies

- 2-4 kids, may also be individual
- Modeling only!
- Positive reinforcement- attention, praise
- Consequence- ignore behavior, redirection
- Present 10 foods per session
- Parents present foods at home and focus on modeling, describing sensory properties etc.

# Sensory Desensitization

- Use of play during exposure to a graduated hierarchy of stimulus
- Goal to stay as calm as they progress through the small steps towards end goal
- Sessions build on each other
- Clinician should move back a step in the hierarchy but to previous step if child becomes stressed to re-establish calmness prior to moving forward

# Sensory Desensitization

- External vs. Internal motivation
- Basic Concepts!
- Prepare us to eat the food
- Social modeling and positive reinforcement

## STEPS TO EATING

### **EATING**

- chews and swallows whole bolus independently
- chews, swallows whole bolus with drink
- chews, swallows some and spits some
- bites, chews “x” times & spits out
- bites pieces, holds in mouth for “x” seconds & spits out
- bites off piece & spits out immediately
- full tongue lick
- licks lips or teeth

### **TASTE**

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

### **TOUCH**

- leans down or picks up to smell
- odor in child’s forward space
- odor at table
- odor in room

### **SMELLS**

- uses utensils or container to serve self onto own plate/space
- uses utensils or a container to stir or pour food/drink outside of own space
- uses utensils or a container to stir or pour food/drink for others
- assists in preparation/set up with food

### **INTERACTS WITH**

- looks at food when directly in child’s space
- being at the table with the food just outside of child’s space
- being at the table with the food ½ way 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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# Sensory Desensitization

- Tolerate/Look
- Interact
- Smell
- Touch
- Taste
- Eat

# Operant Conditioning Therapy

- Focus on changing meal time behavior
  - Expand variety of accepted foods
  - Improve overall ingested volume
  - Target specific behavior or skill
- Classical conditioning
- Prompt and reward
- Externally driven

# Operant Conditioning

- In operant conditioning, the behavior becomes linked to the prompt and the reinforcer
  - provide clear instructions on what to do
  - provide reinforcement that is immediate and specific ('good eating' , 'nice big bite')
  - Initially, when establishing a new behavior, prompting and reinforcement is done 1:1
  - Gradually, you need to fade the prompts and reinforcement schedule (1:1. 2:1, 3:1 etc), then use intermittently
  - Using object reinforcers



# Feeding Therapy

## Systematic Desensitization

- Child determines how much is eaten
- Goals:
  - Increased willingness to interact with foods
  - Increased range of foods accepted

## Operant Conditioning

- Feeder determines how much is eaten (externally driven)
- Goals:
  - Improved volumes taken
  - Reduced number of refusal behaviors
  - Improve self-feeding

# Operant Conditioning

- Individual therapy only
- Verbal and visual prompts
- Positive reinforcement – attention, praise, 1:1 object reinforcement- faded
- Consequence- ignore behavior, visual time out, verbal instruction/redirection, hand-over-hand to redirect behavior
- Usually 3 foods/session. May be different for each session
- Very clearly outlined “homework”

# Operant Conditioning- Strategies

- Start with easiest or most preferred food
- If needed, alternate preferred/non-preferred- make a “pattern”
- Try to end on preferred food
- Clinician and child have access to spoon.
  - “You can do it or I can help you.”
- Begin with bites but may progress along sensory hierarchy if necessary.
- Forced choices

# Operant Conditioning

- Reinforcers must be reinforcing!
  - Consider the child’s sensory profile
- Caution:
  - Reinforcement vs. Distraction vs. Coaxing
- Fading reinforcements
- “Flooding”

# Operant Conditioning- Strategies

- Monitor
  - Bites taken
  - Volume consumed
  - Refusal behaviors
  - Sensory reactions
  - Self-feeding

# Feeding Therapy: Which approach is right?

- Operant Conditioning vs. Sensory Desensitization
- Child's current skills
- Family
  - Goals (variety vs. volume, etc.)
  - Travel
  - Sensory profiles

# Feeding Therapy

- Clinician goals
  - Short term vs. Long term
- Big Picture
  - Nutrition
  - Oral skills
  - Sensory processing
- Important to be clear with family
- Be aware of unintentionally reinforcing negative behaviors

# Feeding Therapy

- Important to involve parents when possible
  - Watching outside of room
- Gradually increase parent role once in room



# Goals

- Child will tolerate 80% of tastes of novel/non-preferred foods without evidence of sensory reactions across three consecutive sessions.
- Child will expand accepted repertoire to include 3 fruits and/or vegetables by the end of this therapy term.
- Child will demonstrate vertical munch chewing in 4/5 opportunities with crunchy dissolvable solids across three consecutive sessions.
- Child will tolerate sitting at the table with family for 5 minutes without evidence of refusal behaviors by the end of the therapy term.
- Child will generalize 50% of the foods targeted in therapy to the home environment by the end of the therapy term.

# Barriers to Progress

- Consider behavior as communicative
- Helpful to rule out any underlying discomfort prior to starting therapy
- Consider further evaluation when necessary
  - GI
  - ORL
  - Behavioral psychology

# Therapy Techniques

- Establish a routine
  - Include activities that promote sensory modulation when possible
  - Visual schedule if increased structure is necessary
  - Help child identify “To Do” list
  - Visual reinforcement schedule

\*Consider progression of tasks

# Feeding Therapy- Generalization

- Have parents/primary caregiver participate when possible
- Take a video
- Vary the environment within school or clinic
- Fade external reinforcements

# Parents: How can I help?

- Works towards maximizing meal time structure at home
  - Clear expectations
  - “Learning Plate”
  - Changing language
  - Provide opportunities for exposure outside of eating

# Questions?



[Kerry.Pearl@childrens.harvard.edu](mailto:Kerry.Pearl@childrens.harvard.edu)