

Interventions for Children with ASD with Feeding Disorders

University of Louisville
Autism Center
at Kosair Charities

jwwarr01@louisville.edu

2012 Autism Institute



Objectives

- Understand the impact and frequency of feeding problems upon children with autism.
- Identify the essential components of a thorough assessment of feeding.
- Discuss goals and learn techniques for feeding therapy.
- Identify the skills needed for effective parent/professional collaboration in treatment of feeding issues.

Team Members

Grace Kuravackel, PhD
Diana Pantalos MS, RD, LD
Jocelyn Warren M.Ed, OTR/L

Snack time....

Yummy, Yummy!!!!



Defining Feeding Disorder



DSM-IVTR Feeding Disorder definition

- Persistent failure to eat adequately as reflected in failure to gain weight or weight loss for greater than 1 month
 - Not GI or general medical condition
 - Not accounted by mental disorder such as rumination
 - Not lack of food in the home
 - Onset before age 6

Symptoms of Feeding Disorders

- Limited food selection – less than 20 different foods, limited food groups
- Averse reaction to new foods
- Food jags
- Feeding skills inconsistent with child's developmental age

Autism

- Impairments in reciprocal social interaction
- Impairments in communication skills
- Restricted, repetitive, limited, and stereotyped patterns of behaviors

Feeding Disorders

Variations in ingestive behavior that are sufficiently divergent from the norm to result in personal or familial distress, social or developmental risk, or negative health consequences.

(Kedesdy & Budd, 2001)

Up to 25% of typical children and up to 80% of children with developmental disabilities have feeding disorders.

(Manikam & Perman, 2000)

Feeding Obstacles for Children with Autism

- Social interaction surrounding food
- Repetitive patterns in food preferences
- Opportunities for varied food experiences
- Communication about food
 - Hunger and satiety
 - Food preferences

Symptoms of feeding disorders in children with *autism*

- Limited food selection (57%*)
- Limited *food groups* (72%*)
- Averse reaction to *new foods*
- Food *jags*
- Feeding *skills* inconsistent with child's developmental age (23.2% have oral motor problems*)

*percentages from parent report of 175 children with autism and feeding problems. Schreck, & Williams 2005

Food Jags

- Insistence on eating the same foods in the same manner over long periods of time
- Child will eventually tire of the food and not replace it. Food variety increasingly narrows



Problem Eating Behaviors

- Trying new foods (69%)
- Taking medicine (62%)
- Eating new foods (60%)
- Mouthing objects (56%)
- Rituals surrounding (46%)
- Insisting on routine (44%)

(Williams, Dalrymple & Neal 2000)

Review of studies has shown that between 46% and 89% of children with autism spectrum disorders have a feeding disorder.

Ledford & Gast 2006



Feeding Disorders in the School System

Occupational Therapy

- *Resource Manual for Educationally Related Occupational Therapy and Physical Therapy in Kentucky Public Schools* includes Activities of Daily Living in the defined areas of school occupation. Feeding and eating is defined as an area within Activities of Daily Living.

Defining Feeding

- Feeding is the term used to describe the process of providing for and supporting oneself or another individual in adequate, nutritionally efficient eating.
(AOTA, 2006)

Defining Eating

- Eating is defined as carrying out the coordinated tasks and actions of eating food that has been served, and consuming it in culturally acceptable ways. In addition, eating includes cutting or breaking food into pieces, opening bottles and cans, using eating implements, and bringing food to the mouth.
(AOTA, 2006)

Defining swallowing

- Swallowing involves more physical, reflexive, and cognitive skills and is a complex process in which food or fluid or saliva is moved from the mouth through the pharynx and esophagus into the stomach.
(AOTA, 2006)

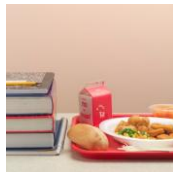
Speech – school guidelines

- Educational Relevance
 - Students must be safe from choking or aspiration while eating at school
 - Students must be adequately nourished and hydrated (to access the curriculum)
 - Students must be sufficiently healthy to maximize attendance
 - Students must eat efficiently so they can eat with peers in a safe and timely mannerASHA, 2007

Modifications in School Meals

Changes in

- Special diet restrictions
- Allergies or intolerances
 - What to substitute?
- Texture
- Feeding equipment
- Feeding schedule



Implementing School Meal Changes



- Get a school menu
- Use school foods when possible
- Make plans for other days
- Lunch from home?

Don't forget breakfast!



Implementing Meal Changes at School

Talk to teacher, possibly cafeteria manager
Offer to supply special products if needed



Plan ahead for special occasions

Implementing Meal Changes

Ask about required forms for meal changes

School system specific?

Generic form available:

See Resources

Physician signature required yearly

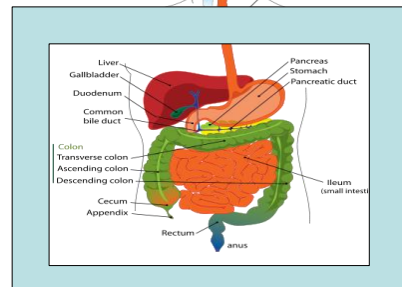


Very specialized medical diets may qualify as "Other Health Impairment"

Causes of Feeding Disorders

- Medical concerns
- Oral motor issues
- Sensory differences
- Behavioral factors

The Gastro-Intestinal Tract



Medical problems related to feeding disorders

- Prematurity
- Prolonged hospitalization
- Craniofacial abnormalities
- Respiratory problems
- Allergies
- Dental caries
- GI problems

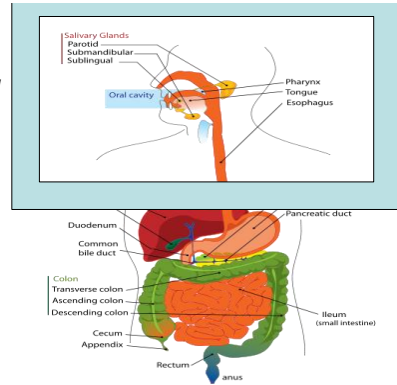
Gastrointestinal Concerns

- Pain with feeding
- Reflux
- Early fullness
- Diarrhea
- Constipation

When to see the doctor

- History of or current reflux
- Complaints of pain with eating
- When eating gets full too quickly
- Vomiting
- Anemia
- Bad breath
- Pain or strain with bowel movement
- Constipation
- Diarrhea
- Frequent bowel accidents
- Poor weight gain or weight loss

The Gastro-Intestinal Tract



How eating is accomplished

- **Teeth** – bite and chew food
- **Tongue** – collect food into a bolus
– Pushes food to back of the mouth
- **Swallow** – triggered by presence of food
- **Throat** – windpipe is protected as bolus is swept down and into the esophagus
- **Esophageal** – food moves down and into the stomach

Symptoms of feeding issues in the mouth

- Long feeding times (30 min+)
- Difficulty chewing
- Food stuck in palate
- Multiple/inefficient swallows
- Wet Sounds
- Difficulty managing mixed food textures

When to see a speech therapist

- Consistent Gagging/Coughing
- History of pneumonia
- Drooling/pocketing of food/food stuck
- Multiple/inefficient swallows
- Has trouble eating tough foods



Nutritional Consequences of Feeding Disorders

Acute

- Deficit of any nutrient
- Nutritional risks
 - poor growth
 - brain development
 - metabolic processes
 - bone health
 - immune status

Nutritional Consequences of Feeding Disorders

Chronic

Long term effects of nutrient deficiencies

Development of (poor) food habits which may last a lifetime

Risk of chronic disease

Nutritional Evaluation of Children with Feeding Disorders

- Nutritional Status
 - Weight / height / growth
 - Lab values
 - Appearance

When to see a Registered Dietitian

- Growth or weight issues
- Very limited diets
- Medically restricted diets
 - Complex allergies
 - Food intolerances
- Risk of nutrient deficiencies
- Use of formula or tube feedings

Food



It's not Nutrition unless you eat it!

Behaviorally Based Disorders

- Disruptive behaviors
- Anxiety
- Parent-child interaction issues
- Developmental concerns

When to see a Psychologist

- History of anxiety in family, leading to avoidance of various activities also including food.
- Rigidity regarding food, obsessive/compulsive behaviors associated with eating
- Family dynamics that contribute to restricted eating patterns.
- Child skill level.

Complete Food Summary List

Food – sensory properties

- Visual – color, shape
- Textures – mixed, soft chewy, hard chewy, crunchy, smooth
- Tastes - sweet, sour, bitter, salty, spicy
- Temperature – hot, cold, room temperature
- Do you see any trends with what your child eats?

Feeding Evaluation

- Interview
- Nutritional evaluation
- Feeding observation
- Oral Structure and function evaluation
- Team planning
- Feedback



Interview

- Current Status
 - Diagnosis, Feeding Concerns
- Social History
 - Family relations, feeding environment
- Medical History
 - Prenatal, perinatal, infant & childhood
 - Sleep patterns, ear infections, allergies

Interview (continued)

- Feeding & Swallowing History
 - Medical procedures impacting oral experiences ie. Feeding tubes, assisted ventilation
 - Experiences effecting feeding patterns ie. Prolonged hospitalization, prematurity
 - Aversive behaviors associated with eating
 - Communication associated with eating

Nutritional Evaluation

- 3-Day food diary or usual daily intake
- Nutritional adequacy
- Meal pattern: grazing vs defined meals
- Hunger/Satiety cycle
- Feeding Environment
- Self-feeding skills and opportunities
- Food allergies and intolerances
- Bowel and bladder function

Feeding Observation

- Motor Skills – postural stability, muscle tone, strength, endurance, range of motion and coordination of both oral area and whole body
- Child/parent interaction
- Self-care skills – use of utensils, opening containers, washing hands
- Sensory processing skills – food preferences, touching/smelling/looking at food
- Ingestion of food in a coordinated efficient manner

Oral Structure and Function Evaluation

- Size and symmetry of oral structures
- Strength and tonicity of structures
- Range and coordination of oral movements

Team Planning

- Based on findings of all team members
- Further testing
- Home environment
- Nutritional adequacy
- Food variety
- Diffuse stress at mealtime
- Therapy

Making a Treatment Plan

- Family/team meeting
 - Review findings
 - Review treatment plan
 - Family input
 - Follow-up discussion



Therapy Settings

- Feeding Therapy with team members
- Coordination with school or community therapists
- Intensive Feeding Therapy Program

Interventions



Oral Motor Therapy

- Positioning
- Pacing of feeding
- Placement of food
- Oral stimulation
- Build tone and strength
- Provide support as needed

Behavioral

- Limit setting
- Division of Labor
- General parenting tips
- Feeding Environment

Mealtime Structure

- Mealtime setting
 - Location
 - Distractions
 - Stress
- Hunger planning/ appetite management
- Food access
- Balancing calorie sources

Behavior Therapy

- **Teach new skills to child**
- **Teach new skills to parent(s)**

Skill Training- Child

- **Sitting**
- **Waiting**
- **Biting**
- **Chewing**
- **Swallowing**

Skill Training-Parent(s)

- **Appropriate expectations**
- **Set limits**
- **Make healthy choices**
- **Tolerate child's negative affect**
- **Skillful use of consequences**

Behavior Change Technology

- Positive reinforcement
- Negative reinforcement
- Punishment
- Prompts
- Modeling
- Shaping
- Chaining
- Escape Extinction

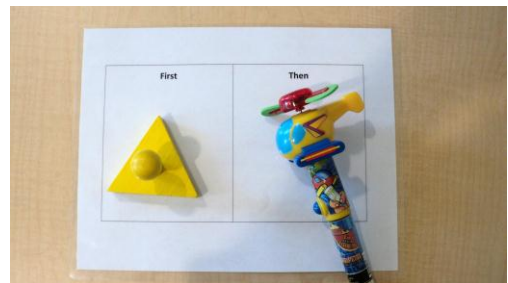
Prompts

- Verbal – may need to decrease verbal prompts
- Visual – good role models, visual schedule, reward systems
- Physical – LIGHT physical guidance

Visual Schedule



First/Then Board



Reinforcers

- Reinforcer assessment
- Fade reinforcement – initially get reward after every bite....every 2 bites....every 4 bites...after the meal....



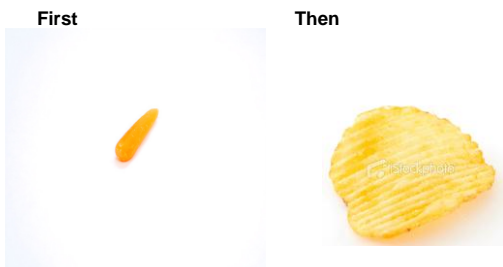
Positive Reinforcement

- The presentation of a consequence (stimulus) immediately following a behavior (response) that results in the likelihood that the behavior will be repeated.

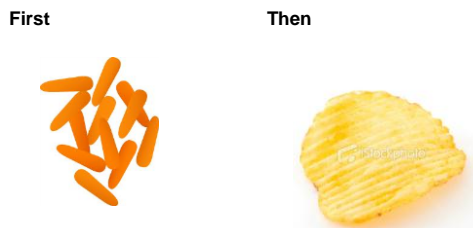
Work/Reward

- **Make sure child understands work/reward**
- **Make sure the reward is HIGHLY desired – therapists have cool toys, may try introducing new foods on the swing, trampoline, etc**
- **Reward needs to be given immediately**
- **First/Then boards**
- **“Good Job” chart to earn reward**

First/Then Board

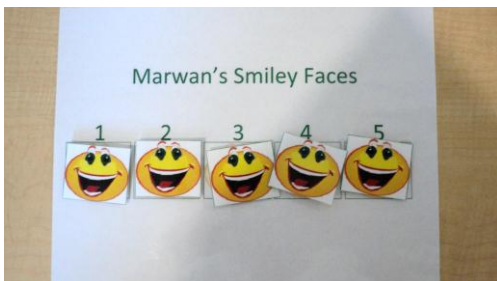


First/Then Board



Modeling

- The desired response is displayed for child to imitate.



Pairing Preferred Food with Non-Preferred Food

Example: dipping cookie in applesauce, very small piece of lunch meat between 2 crackers

Pairing preferred with non-preferred



Systematic Desensitization

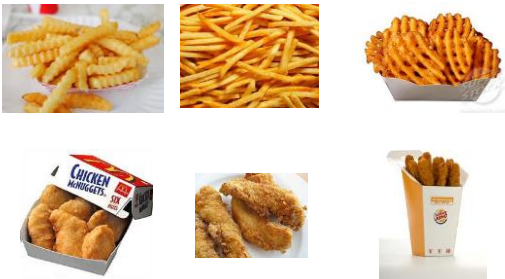
Using a step approach to get new foods closer and closer to the mouth and finally eaten

How to prevent/break food jags

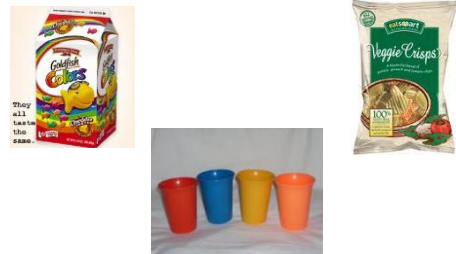
- Preventing or breaking a food jag:
 - Food/meal rotation
 - Changing shape, color, taste, and finally texture



Change shape



Change color



Change taste



Change texture



Any questions?



Our favorite food items



Therapy services

- Cincinnati Children's Feeding Clinic
- Regional Child Development Clinic
 - Bowling Green
- St. Mary's Center for Children
 - Evansville, IN

Resources

Websites and Newsletters

Ellyn Satter Associates www.EllynSatter.com

Mealtimes www.new-vis.com

POPSICLE (Parent Organized Partnerships Supporting Infants and Children Learning to Eat) www.popsicle.org

- Satter, E. (1987). *How To Get Your Child To Eat...But Not Too Much*. Boulder, CO: Bull.
- Toomey, K. (2002). *When Children Won't Eat: The SOS Approach to Feeding*. Denver: Toomey and Associates.
- Ernsperger, L. & Stegen-Hanson, T. (2004). *Just Take A Bite*. Arlington, TX: Future Horizons.
- School Form: www.fns.usda.gov/cnd/guidance/special_dietary_needs.pdf

Products

PDP Products
www.pdppro.com

Super Duper
Publications
www.superduperinc.com

Talk Tools
www.talktools.net

Jump-In www.jump-in-products.com

Practice Guidelines

- American Occupational Therapy Association. (2006). Specialized knowledge and skills in eating, feeding, and swallowing for occupational therapy practice. Draft VIII – October 2006 to be printed in AJOT
- American Speech-Language Hearing Association (2007). *Guidelines for Speech-Language Pathologists Providing Swallowing and Feeding Services in Schools* (Guidelines). Available from www.asha.org/policy.

References

- Kedesdy, H. & Budd, S. (2001). *Childhood Feeding Disorders*. Baltimore: Paul H. Brookes Publishing., Inc.
- Ledford, R. & Gast, G. (2001). Feeding Problems in Children with Autism Spectrum Disorders: A Review. *Focus on Autism and Other Developmental Disabilities*, 21 (3), 153-166.
- Hall, K. (2001). *Pediatric Dysphagia*. DeKalb, IL: Singular
- Manikam, R. & Perman, J. (2000). Pediatric Feeding Disorders. *Journal of Clinical Gastroenterology*, 30 (1), 34-46.
- Fishbein, M., Cox, S., Swenny, C., Mogren, C., Walbert, L., & Fraker, C. (2006). Food Chaining: A systematic approach for the treatment of children with feeding aversion. *Nutrition in Clinical Practice*, 21 (2), 182-184.