Learner Outcomes

- Integrate 5 management factors to address feeding problems in children with ASD.
- Explain sensory food aversion and devise effective treatment plans.
- Describe the impact of biological, sensory, and environmental stress on feeding skills in children with ASD.

Autism Spectrum Disorder

- up to 75% have severe food aversions
- More restricted range of foods
- Higher rate of food refusal
- More stringent “requirements” at mealtime
- Cyclical fluctuations in volume and variety of foods consumed
Critical Period

Behavioral

Physical

Morris & Klein; 2000

Underlying Physiological

- Sensory Processing Differences
  - Sensory over-responsivity
  - Sensory under-responsivity
  - Sensory seeking
- Gastrointestinal Differences
  - GERD
  - Constipation/Diarrhea
  - Food Allergy/Intolerance
  - Stress related DGE/loss of appetite
  - Malabsorption

Sensory Responses to Food in ASD

<table>
<thead>
<tr>
<th>Hyperresponsive</th>
<th>Hyporesponsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditory</td>
<td>Unaware of sounds-spacey, lengthy meal times</td>
</tr>
<tr>
<td>Visual</td>
<td>Unaware of relevant visual input-overfocused on irrelevant visual features of food or plate, inattentive to finish meal</td>
</tr>
<tr>
<td>Gustatory</td>
<td>Poor taste discrimination-crave strong flavors, lick or taste inedible objects</td>
</tr>
<tr>
<td>Olfactory</td>
<td>Unaware of strong odors-disinterest unless smell enhanced</td>
</tr>
</tbody>
</table>

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Sensory Responses (con’t)

<table>
<thead>
<tr>
<th>Sensory Modality</th>
<th>Hyperresponsive</th>
<th>Hyporesponsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile</td>
<td>Overly sensitive to tactile input—dislike messiness around mouth, prefer neutral temps, food refusal</td>
<td>Unaware of touch and differences in food textures—unaware of messiness, food stuffing, pocketing, mouthing inedibles</td>
</tr>
<tr>
<td>Vestibular</td>
<td>Overly sensitive to movement or change in head position—poor coordination for utensil use, fearful in unsupported sitting</td>
<td>Seeks high levels of movement input—poor posture, high activity level, fidgety</td>
</tr>
<tr>
<td>Proprioceptive</td>
<td>Poor body awareness and grading force—messiness, poor jaw gradation and hand to mouth movements</td>
<td>same</td>
</tr>
</tbody>
</table>

Sensory Food Aversion

- Consistent food refusal for at least 1 month
- Onset at time of food/drink transition
- Refusal after 1 episode—generalization
- Reluctant with new foods—no difficulty with preferred foods
- Dietary deficiencies
- Not related to trauma, food allergies or other medical illness

Behavioral

- Obsessive/Compulsive Tendencies
- Inflexibility/Rigidity
- Executive Functioning
- Impaired interaction/communication
The A.E.I.O.U. Approach

5-Step Approach to Management

1. Rule Out Medical Reasons
   - Consult Pediatrician
   - Suspect GERD, Allergies/Intolerances
   - Refer to Specialists
   - Comprehensive History
   - Minimize medical influences

2. Establish Environmental Support
   - Caregiver “Buy-In”; Communication
   - Resources/Support
   - Learning Environment
   - Structure/Schedule/Exposure
   - Consider hunger/satiety cycles
Environmental Supports

To address predictability, social demands, interaction/communication:

- Visual schedules
- Social stories
- “Mealtime Stories”
- Use of timer, use of breaks
- Consistent beginning and end routines
- Follow mealtime with a preferred activity

Resources:
- icontalk.com (Barbara Bloomfield)
- usevisualstrategies.com (Linda Hodgdon)
- Photo CD; Time Timer; Books
- schKidules.com

- Mealtime Stories
  A Guide for Feeding Therapists
  By Maggie Tai Tucker, MDT
  and Mary Seiler, MDT

  • Maggie Tai Tucker
5-Step Approach to Management

3. Address Postural Stability/Positioning

4. Address Sensory Processing and aversive conditioning
   - Normalize response to sensory stimuli

Sensory Processing

- Reduce Stress
- Sensory Preparation
  - Gross Motor Preparation
  - Other Sensory Preparation-Consult OT
- Sensory Transitions
  - Visual strategies/predictability
  - Desensitization Approaches
- Peer Modeling; Video Modeling

5. Address Oral-Motor and Feeding Skills
   - Normalize the feeding experience
   - Consider child’s autonomy/independence
   - Consider child’s skill level
   - Consider modifications (food, equipment)
   - Target skill deficits

   **Teach Expulsion!**
Nutrition

- Upgrading the diet
  - Gradually decrease juice/milk in diet
  - Gradually increase protein in diet
  - Wean from high sugar, simple carb, low fiber diet and soda
- Add healthy fats
  - Nuts, seeds, olive oil, butter, flaxseed oil, avocado
- Increase water intake
  - 6mo-10 yrs 2/3 body weight in oz.
  - Over 10 yrs 1/2 body weight in oz.

Super Foods

- Fruit nectars
- Vegetable juices
- Banana
- Berries
- Papaya
- Cantaloupe
- Orange
- Mango
- Squash
- Sweet potato
- Carrot
- Squash
- Kale
- Spinach
- Chick peas
- Kidney beans
- Sunflower/flax seeds
- Nuts
- Eggs
- Turkey
- Fish
- Ancient grains (quinoa, millet, amaranth, rice)
- Whole grains (if tolerated)
- Lentils
- Ancient grains (quinoa, millet, amaranth, rice)
- Whole grains (if tolerated)
- Lentils

The End!

From survival...to stability...to success...to significance... (S.R. Covey; 1997)
Selected References:


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Resources

Sensory Processing Disorders

• www.sensory-processing-disorder.com
• www.sensorystreet.com
• www.alertprogram.com How Does Your Engine Run
• www.out-of-sync-child.com Carol Stock Kranowitz
• www.sensorycraver.com
• www.SPDFoundation.net Lucy Jane Miller
• www.stressfreekids.com

Nutrition

• www.autism-diet-online.com
• www.AutismNDI.com
• www.autism.com
• www.autismspeaks.org
• www.gfcfdiet.com
• www.foodallergykitchen.com
• www.glutenfree.com
• www.godairyfree.org