West Virginia Speech Language Hearing Association -2019

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Functional Approach to Feeding Assessment and Intervention: An Interdisciplinary Forum

MARSHALL

WestVirginiaUniversity
CENTER FOR EXCELLENCE IN DISABILITIES

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None

Know More...Grow More

Like many states, West Virginia is experiencing more children diagnosed with autism, greater survival rates of premature infants, and more infants born addicted to opioids. These children and families need assistance with all domains of development, including feeding and swallowing. (Holland et al., 2018)

Providers across all disciplines are called to further develop knowledge and skills in this specialized population.

Access to this specialized services can be challenging in rural areas

Cassie, Angel, Diane and I collaborated and attended Camp Gizmo in 2018 and evaluated 21 children in two days. Most of the children were being followed by providers close to home. It was following Camp Gizmo, that we were asked to present our Assessment Protocol.

The Challenge: We did not have one!

There is not **ONE** Protocol to follow

Course Objectives

1) Identify the components of a thorough feeding assessment involving all milestones and all developmental domains

2) Identify the roles of all professionals on the feeding team and recognize when to refer to other disciplines

3) Develop a list of resources to utilize in their assessment and intervention with children and their families who have feeding disorders

4) Develop a feeding plan of care with presented case studies

A team approach is necessary for appropriately diagnosing and managing pediatric feeding and swallowing disorders, as the severity and complexity of these disorders vary widely in this population (McComish et al., 2016). The SLP who specializes in feeding and swallowing disorders typically leads the professional care team in the clinical or educational setting.

Additional medical and rehabilitation specialists may be included, depending on the type of facility, the professional expertise needed, and the specific population being served.

Pediatric Feeding Disorder: Definition & Framework

"impaired oral intake that is not age-appropriate, and is associated with medical, nutritional, feeding skill, and/or psychosocial dysfunction."

(World Health Organization *International Classification of Functioning, Disability, & Health*, 2019)

Four domains must be considered for diagnosis:

1. medical
2. psychosocial
3. feeding-skills
4. nutritional status

Benefits of Interdisciplinary Feeding Assessments

- Collaboration is evidence-based best practice
- Families report poor organization of feeding treatment

Feeding Evaluation should assess:

- Medical Status
- Sensory Needs
- Oral motor feeding/ functional feeding skills
- Behavior

Team members may include

- **family and/or caregivers;**
- **dietitian;**
- lactation consultant (infants);
- nurse (clinical and/or school);
- Speech pathologist
- occupational therapist;
- physician (e.g., pediatrician, neonatologist, otolaryngologist, gastroenterologist);
- **physical therapist;**
- **psychologist;**
- **social worker;**
- classroom teacher;
- BCBA, and
- classroom teaching assistant.

"Collaboration has no hierarchy. The Sun collaborates with soil to bring flowers on the earth."

-Amit Ray, Enlightenment Step by Step

Feeding Milestones

Birth to 3 months

- Tongue takes up much of oral cavity
- More anterior resting tongue position
- Suckle, intrinsitic/extrinstic tongue pattern
- Focus on stability
- Semi-reclined positioning
- Suck-swallow-breathe coordination

3 to 6 months

- Brings hands together on bottle or breast
- Begins to suckle puree from spoon (4- 6 months)
- Suck begins to include more up/down tongue movement
- Semi-reclined position

6 to 9 months

- Oral sensory exploration
- More upright position
- Phasic bite and release
- Lips close to strip puree from spoon
- Tongue lateralization
- Munching masticiation pattern emerges
- Success with cup
- Mechanical soft or mashed foods
- Grabs the spoon during feeding
- Exploring self-feeding solids

Feeding Milestones

9 to 12 months

- Self-feeding with fingers
- Controlled bite
- Upright positioning
- Emerging rotary mastication pattern
- Expanding texture acceptance
- Specifically reaching for spoon
- Drinks from cup with support
- Success taking drinks from a cup

12 - 18 months

- Closed mouth posture for chewing
- Success with spoon (13-15 months)
- Holds and tips bottle or cup independently
- Transition to independent cup drinking
- Most tablefoods
  - Chopped/minced meats
  - No raw vegetables
  - Small chopped or diced fruits

Feeding Milestones

18 to 24 months

- Primarily self-feeds
- More precise oral movements
- Accepting wide range of textures

24 to 36 months

- Holds cups with one hand
- Open cup without spillage
- Pokes food with fork
- Feeds self
- Wide range of solids

Red Flags During Feeding Development

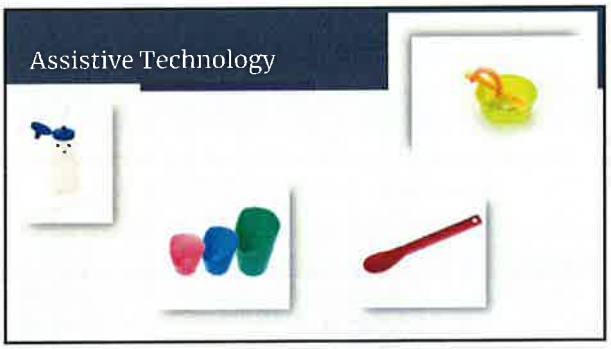
- Skill regression
- Meals longer than 30 min
- Poor growth
- Difficulty transitioning from one milestone to another, such as:
  - extended bottle use
  - relying only on liquids past 12 months
- Coughing, choking, gagging, and/or drooling
- No success with spoon feeding by 6 months
- Not accepting any table foods by 10 months
- Hx of severe reflux
- Hx of pnemonia
- Spitting/ vomiting during meals

Assessment & Treatment Modalities

- Oral Peripheral Exam
- Functional Feeding Assessment
- Instrumental Assessments

- Positioning
- Diet modifications
- Oral motor treatment
- Behavioral strategies

Assistive Technology



MULTIDISCIPLINARY ASSESSMENT RESOURCES

Assessment Protocols to consider

ASHA Practice Portal (Clinical Topics / Professional Issues /Client - patient Handouts / Tools and Templates)	Pediatric Feeding Assessment - liquids only Pediatric Feeding Assessment- Liquids, puree, solids
The Feeding Flock (newborn - 7 years old)	The Feeding Flock
International Dysphagia Diet Standardization Initiative (Forget the NND)	IDDSI
Ellyn Satter (see milestones- think stages/skills rather than ages)	Ellyn Satter Institute
Feeding Matters (parent / professional questionnaire)	https://www.feedingmatters.org

The BEST ASSESSMENT RESOURCE/ARTICLE

We can focus on domains of development now; later, read for additional content.

Arvedson, Joan C. Ph.D, Swallowing and Feeding in Infants and young Children, GI Motility Online (2006) doi:10.1038/gimo17
https://www.nature.com/gimo/contents/pt1/full/gimo17.html#relatedcontent

When to refer to a DIETITIAN

- Food allergies or intolerances are present
- Gastrointestinal issues are known
- Poor growth or gains, falling off the growth curve
- Malnutrition
- Child requires Medical Nutrition Therapy (MNT) secondary to other diagnoses
- Supplements/Medical Foods are required orally
- Feeding tubes are in place or may be required
- Disabilities are present that may alter metabolic needs
- Extreme food selectivity or ARFID

Helpful Resources from the Dietitian

Calorie Needs
https://fnic.nal.usda.gov/fnic/dri-calculator/

Interactive Growth Charts
http://www.medcalc.com/growth/

Information for providers and families/ interactive games
Choosemyplate.gov

When to refer to a SOCIAL WORKER

- First, what is Social Worker?
  - The National Association of Social Work defines it as "The professional activity of helping individuals, families, groups or communities enhance or restore their capacity for social functioning or creating societal conditions favorable to that goal. (1973)
- SW role in a feeding assessment:
  - Connect families with needed social and medical resources which may include financial supports
  - Assist with the delivery of difficulty or sensitive diagnostic-related information
  - Assist team with the social emotional part of gathering developmental information
  - Provide mentoring to SW students and other graduate students as needed.

Helpful Resources from the SOCIAL WORKER

- Title XIX Waiver https://dhhr.wv.gov/bms/Programs/WaiverPrograms/IDDW/Pages/default.aspx
- Supplemental Security Income: https://www.ssa.gov/legislation/Attachment%20for%20SSA%20Testimony%207_25_12%20Human%20Resources%20Sub%20Hearing.pdf
- Children with Disabilities Community Services Program: https://dhhr.wv.gov/bms/Programs/CDCSP/Pages/default.aspx
- Medicaid/CHIP: https://dhhr.wv.gov/bms/Members/Apply/Pages/default.aspx
- Children with Special Health Care Needs: https://www.wvdhhr.org/cshcn/
- CED programs: BLIS, Positive Behavior Support, Assistive Technology: http://www.cedwvu.org/
- Referral to WVU specialties such as genetics, neurology, gastroenterology, orthopedics and others depending on child's needs: https://wvumedicine.org/ruby-memorial-hospital/referring-physicians/

When to refer to a PHYSICAL THERAPIST

- First, what is PT and who provides this service?
  - PTs are healthcare professionals who use treatment techniques to: promote the ability to move, reduce pain, restore function, and prevent disability. (apta.org)
- PT's role in a feeding assessment:
  - Identify if gross or fine motor delay impacts the child's ability to feed themselves
  - Identify if sensory integration deficits impact the child's ability to feed themselves
  - Identify if muscular strength, endurance, coordination, or postural deficits impact the child's ability to feed themselves
  - Identify the child's need for adaptive equipment which will enhance their ability to feed themselves

When to Refer:

- Gross or fine motor milestones have not been met at an age-appropriate time
- Child presents with sensory integration deficits in any domain
- The child has decreased strength, endurance or coordination
  - Esp in upper extremities or trunk, but could be in all limbs
- The child but would benefit from adaptive equipment to address one of the above

When to refer to a PHYSICAL THERAPIST

Milestones to Look For:

- 5-6 Months: Ability to Roll
- 6 Month: Independent Sitting
- 9 Months: Creeping, Reaching and Grasping with palmar, 3 Jaw chuck or pincer grasp
- 12-15 months: Walking, Self-Feeding with pincer grasp
- 18 Months: Scooping with a Spoon
- 2 Years: Running, Jumping, Stair Climbing, Drinking from an open cup
- 36 Months: Using Spoon and Fork, Toilet Trained, Beginning to Dress Self

When to refer to a PHYSICAL THERAPIST

Sensory Integration Red Flags:

- Becomes aggressive with touch
- Complains about: teeth brushing, hair brushing, washing face, bath time
- Avoids certain types of clothing
- Avoids messy play: sand, soap, mud, water, slime, play-doh
- Craves movement: spinning, rocking, crashing
- W-sits, hypotonic, easily fatigued
- Eats a "pattern" of foods: color, texture, temperature, etc...

Helpful Resources from the Physical Therapist

Assessment Tools:

Sensory Profile - 2:

https://www.pearsonclinical.com/therapy/products/100000822/sensory-profile-2.html

Ages and Stages Questionnaires:

https://agesandstages.com/

Helpful Websites:

Pathways

https://pathways.org/

Sensory Processing Disorder Checklist:

https://www.sensory-processing-disorder.com/sensory-processing-disorder-checklist.html

Assistive Technology Professional:

https://www.resna.org/member-directory/individual?data=1&search_by&search_key=&state=WV&country=&areas_of_practice=0&certification=0&training=0&setting=0&public_service=0&sort_1=&sort_2=

When to refer to a PSYCHOLOGIST

Psychologists can be helpful in all feeding evaluations and should be part of your assessment team.

Some specific areas to involve psychologists include:

- Anxiety
- Behavioral component - defiance or oppositionality
- Difficulty with transitions
- Short attention span
- Assistance to PT and OT in treating sensory issues
- Behavior modification strategies

Some specific behavior modification strategies include:

- Restoring a sense of control by giving choices
- Using a positive reinforcement system to increase positive feeding behaviors
  - These require knowledge of specific behavioral principles for effective implementation
  - Sticker chart
  - Very specific enthusiastic praise
- Being clear about expectations: When/Then statements
- Implementing distraction techniques
- Making food fun
- Shaping procedures to gradually build confidence in and comfort with eating

Helpful Resources from the Psychologist

Helpful Websites:

Behavioral Concerns:

CDC: Essentials for Parenting Toddlers & Preschoolers

- Communicating with your child
- Creating Structure and Rules
- Giving Directions
- Also includes videos

https://www.cdc.gov/parents/essentials/videos/index.html

Helpful Websites:

- Anxiety-Based Feeding Concerns:
  - Food Bytes
  - 10-Step Plan to Help a Child Who is Anxious at Mealtimes

https://feedingbytes.com/2018/06/10-step-plan-to-help-a-child-who-is-anxious-at-mealtimes/

When to refer to an ABA THERAPIST

First, what is ABA and who provides this service?

- ABA observes events that precede and follow a specific behavior. This information allows the therapist to create a path toward decreasing problematic behavior and increasing desired behavior.
- BCBA, BCaBA, RBT

Refer when...

- Problem behavior exceeds what you are comfortable with.
- Problem behavior does not decrease after multiple sessions.
- You are having trouble motivating a child to participate in feeding trials
- Child doesn't have prerequisite skills to work on feeding

ABA Therapy: How can they help?

- Manage and decrease difficult behaviors
  - Hitting, kicking, biting, pinching, spitting
  - Self-injury
  - Elopement
  - Property destruction
  - PICA
- Increase desired behaviors:
  - Teaching prerequisite skills
  - Increasing time at the table
  - Increasing number of bites taken
  - Increasing size of bite
- How we can do this
  - Create motivation with positive reinforcement
  - Complete preference assessments to find reinforcers
  - Create token systems, activity schedules, ect.
  - Create behavior plans that can be used across disciplines

Case Study: Jakobi

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WVU CED Feeding & Swallowing Clinic

Morgan Alexander, BS Graduate Clinician
Sarah Gamble, BS Graduate Clinician

Medical Background Information

- Medical Info
  - Underweight
  - Born at 37 weeks
  - Stayed in NICU for 21 days
  - NG Tube in NICU
  - Currently receiving PT, OT, SLP services
  - Unable to smell
  - Adenoids and lingual tonsils removed
- Diagnoses:
  - Infantile Scoliosis
  - Hypotonia
  - Hypoglycemia
  - Speech Delay
  - Cognitive Delay
  - High Blood Pressure

Feeding Background Information

- Currently Eating:
  - Mac and cheese
  - Cheese quesadilla
  - Pancakes
- Family's Feeding Goals:
  - Add meal variety and texture
  - Decrease choking and gagging
  - Improve self feeding skills
- Feeding Information
  - 45 minutes per meal
  - Only feeds himself preferred foods
  - Difficulty chewing
  - Difficulty with a cup
  - Refuses and gags on new foods

Functional Multidisciplinary Feeding Assessment

- Social work determined family's psychosocial needs
- Dietitian analyzed Jakobi's current diet and nutrition
- Observed Jakobi eating prefered food and oral peripheral exam
- Developed behavior approach with BCBA
- Gradual exposure to non-prefered food
- Reinforcements!!!!

Jakobi's Success in Clinic

Team Diagnosis and Recommendations

- Behavioral feeding disorder
- Target vitamin deficiency
- Safe to eat non-prefered foods
- Continue gradual food exposures
  - Use rewards!!!
- Family meals

Follow Up

- Two new foods added to diet
- Mom able to ask questions and clear up confusion

Case Study: Ethan

MU Feeding and Swallowing Clinic

Jamie Mulraney, B.S
Graduate Clinician

Ethan's Bio:

Medical Information:

- Around age 2 Unspecified TBI (suspected abuse)
- Additional Medical Diagnoses:
  - ASD
  - ADHD
  - PTSD
  - Sensory Integration Disorder

Additional Information:

- Lives with grandparents and father, (mother deceased)
- Attends Ironton Open Door school
- Severe Receptive/Expressive Language Disorder
- Severe Social Pragmatic Disorders
- Attends Social Language Group at MUSHC 1 time per week

Feeding Background Information

- food jags
- limited food inventory
- gagging at sight/smell of food
- refusal to use utensils
- heightened anxiety around food
- refuses some foods at home, yet will eat them at school

At the time of the Feeding Evaluation

- Ethan now 16 years old
- Preferred foods:
  - Pizza, chips, cookies, hotdogs, donuts, corndogs

Note: Many foods were brand specific

Behaviors during meal times

- "Throwing a fit," refusal

Family goals:

- Eat more variety of foods
- Use utensils

Functional Multidisciplinary Feeding Assessment

- Oral mechanism examination
- Observation of Ethan eating a preferred food -pizza
- Observation of presentation of non-preferred foods
- Physical Therapist observed and reported information on Ethan's strength, range on motion/tone, ADLs, and sensory integration
- Dietician observed and reported information on Ethan's nutrition, diet and weight. Provided insight to why Ethan has difficulty sleeping and is constipated

Team Diagnosis and Recommendations

- **Mild-Moderate sensory based feeding disorder**
  - Characterized by: routinized mealtimes, food inventory primarily of neutral colored foods/void of fruits/vegetables and puree foods, utensil refusal, and food jags
- Consider nutritional supplements
- Outpatient occupational therapy services
- Formal feeding therapy

→ **Desensitization and Food Chaining with focus on decreasing anxiety, and independence with food preparation (Psychosocial Aspect)**

Success in Therapy

- Tried over **FIFTY** new foods
- Added about **TWENTY** new foods to his food inventory
- Increase in family involvement during meal times
- Started occupational therapy services at an outpatient clinic

Since the beginning of feeding therapy, Ethan has tried the following foods:

French fries, Cake, Hamburger, Jell-O, Spaghetti, Milkshake, Chicken fajita, Brownies, Biscuit Pudding, Chicken and noodles, Frosting, Poptarts, Graham crackers, Pizza with pepperoni, Turkey, Ham, Ham sub Chicken nuggets, Whipped cream, Iced caramel cappuccino Sugar cookies, Apple cider, muffins, Triple berry muffins, Black olives, Raisins, Black beans, Apples, Oranges, Mint chocolate chip ice cream, Broccoli, Chicken and broccoli casserole, Red, white and blue jell-o, Blueberries, Strawberries, Raspberries, Red peppers, Blackberry jam, Blackberry yogurt, Beets, Prunes, Plums, Campbell's chicken noodle soup, Blackberries, Cherry Poptart, Pineapple Mango Lemon pudding, tortilla pizza, Cottage cheese, Swiss cheese, Strawberry Frappe, Shamrock Shake, Cotton candy, Walnuts, Pepperoni, Chocolate pudding, Waffles and syrup, Chick-fil-a chicken nuggets, Chick-fil-a French fries, McDonald's chicken nuggets, McDonald's French fries, McDonald's chocolate milkshake, Biscuits Sausage Sour cream and onion chips, Chocolate brownie

Success in Therapy

Foods in Inventory Initially

- Pizza (only cheese but then took cheese off)
- Chips (only Snyder's BBQ)
- Cookies
- Hotdogs
- Donuts
- Corndogs

Foods in Inventory Presently

- Blueberry Poptarts
- Frosting
- Dirt cake
- Chicken and noodles
- Blueberry muffins
- Apple cider muffins
- Pretzels with peanut butter
- McDonald's chicken nugget
- McDonald's French fries
- McDonald's chocolate milkshake
- Chick-fil-a French fries
- Chick-fil-a chicken nuggets
- Fruit snacks

Videos of Ethan

First day in feeding therapy First session

- Much anxiety
- Leaving the room
- Pushing food away
- Little family involvement

Recent day in feeding therapy Session before spring break

- More willing to engage in food
- Walked to kitchen independently
- Eating non preferred foods
- Family reporting new foods Ethan is eating at home
- Much more family involvement in therapy

Feeding App for "Homework"

http://learnplayeat.com/

Q and A

REFERENCES

American Speech-Language Hearing Association (1997-2018). Pediatric Dysphagia. www.asha.org

Arvedson, Joan C. Ph.D. Swallowing and Feeding in Infants and young Children, GI Motility Online (2006) doi:10.1038/gimo17 https://www.nature.com/gimo/contents/pt1/full/gimo17.html#relatedcontent

Brackett, K., Hall, C., Kelly, M., McComish, C., Powell, V., & Wallace, S., (2016). Interdisciplinary feeding team: A medical, motor, behavioral approach to complex pediatric feeding problems. *The American Journal of Maternal/Child Nursing 41(4), 230-236.*

Browne, J., Cohen, S. S., Delaney, A. L., Dodrill, P., Feuling, M. B., Gisel, E., Goday, P. S., Huh, S. Y., Kenzer, A., Kessler, D. B., Kraus de Camargo, O., Lukens, C. T., Noel, R. J., Phalen, J. A., & Silverman, A. (2014). Pediatric feeding disorder: Consensus definition and conceptual framework. *Journal of Pediatric Gastroenterology and Nutrition 58(1), 124-129.*

Holland, P., Casto, A., Tiano, J. Mason, A., (2018) Interprofessional Group Addresses Unmet Community Feeding Need. *The ASHA Leader 41(12), 34-36*