

# A Little PEP Goes a Long Way in the Treatment of Pediatric Feeding Disorders

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## Abstract

*Feeding disorder in young children is a growing concern, particularly feeding challenges with sensory and/or behavioral underpinning. These feeding disorders are characterized by food refusal, anxiety when presented with novel foods, failure to advance to textured foods, and inappropriate mealtime behaviors. The Positive Eating Program (PEP) was developed to remediate feeding disorders by providing rich experiences in food vocabulary, positive sensory nonfood and food activities, and structured and predictable through trials.*

Feeding is one of the most crucial skills that infants and toddlers learn; however, it is not always without difficulties (Kerwin, 1999; Toomey & Ross, 2011). It is estimated that approximately 25% of typically developing children exhibit signs of a feeding problem, up to 75% of children with a developmental delay experience feeding challenges, and as many as 95% of children with autism spectrum disorder (ASD) experience feeding problems (Provost, Crow, Osbourn, McClain, & Skipper, 2010; Schreck, Williams, & Smith, 2004; Silverman, 2010; Suarez, Nelson, & Curtis, 2014). Children with autism may have significantly more difficulties with feeding as a result of impairments in communication, social interaction, and repetitive and/or restrictive behaviors. As a result of these challenges, children with autism exhibit stronger food preferences than typically developing children. Food preferences may include electing to eat foods that share a similar color, eating only a specific brand of food or limiting food group, and/or particular texture (Lockner, Crowe, & Skipper, 2008). While we may expect children with autism to present with feeding challenges, children without autism also exhibit specific food preferences resulting in a range of feeding challenges.

Mild feeding challenges typically resolve without intervention while a significant feeding issue can lead to nutritional deficiency, weight loss or weight gain, and risk of illness (Laud, Girolami, Boscoe, & Gulotta, 2009). There is growing concern for children who demonstrate feeding challenges, which manifest gradually over time. The reluctance for these children to add new foods, textures, and tastes to their food inventory results in long-term nutritional challenges, weight deficiencies, parental anxiety and frustration, and decreased participation in social eating environments (e.g., restaurants, family gatherings, and school; Bruns & Thompson, 2011; Chatoor, 2002; Davis, Bruce, Cocjin, Mousa, & Hyman, 2010; Linscheid, 2006). In addition, sensory and behavioral issues (i.e., tantrums when presented with new foods, resistance to mealtime routines, dislike of smell and sight of foods, etc.) increase.

Factors that contribute to feeding problems are complex and often intertwined, including physiological impairment (such as cleft lip and/or palate and cerebral palsy), reinforcement of

inappropriate feeding behaviors by caregivers, cognitive and behavioral abnormalities, hypersensitivity and/or hyposensitivity to sensory stimuli (i.e., taste, smells, and texture of foods), and GI disorders such as gastroesophageal reflux contribute to feeding impairment. Each of these factors may result in food “fear” and ultimately, food refusal (Laud et al., 2009). Given the complexity of feeding development, often the etiology of feeding challenges is multifactorial (Aldridge, Dovey, Martin, & Meyers, 2010; Bruns & Thompson, 2011; Davis et al., 2010; Laud et al., 2009; Silverman, 2010). Physiological etiologies are more frequently recognized and interventions are readily available. In contrast, sensory and behavioral etiologies are often unclear as are intervention strategies.

Children diagnosed with medical conditions such as prematurity, gastroesophageal reflux disease (GERD), pulmonary illnesses, and neurologic illnesses often experience pain as a result of their illness or as a result of the treatment. In addition, early illnesses interfere with critical periods of development and interrupt a child’s exposure to food stimuli that is required for normal feeding development. Pain, fear, and anxiety during early feeding exposures contribute to challenging feeding behaviors throughout childhood. Negative feeding experiences may occur as a result of illness, treatment for an illness, or at the hand of well-intentioned caregivers who force-feed infants and young children.

Young children communicate through nonverbal behaviors. If early attempts to communicate poor tolerance of feeding are not respected, fear and anxiety turn into avoidance and refusal, as children learn to control their environment through extreme behaviors. For example, GI disorders may include problems such as GERD or irritations such as upset stomach, diarrhea, vomiting, and constipation. Young children and/or children with language impairment or ASD who suffer from GI problems experience difficulty in communicating their discomfort; and often, this inability to express their discomfort may manifest itself as a refusal of foods and other behaviors, such as aggression or avoidance of the feeding environment.

When faced with an infant or young child who displays a feeding problem, physiological and medical illnesses need to be ruled out. Understanding the nature of a feeding problem is critical for effective management. Sensory processing deficits secondary to medical illnesses may evolve over time into behavioral feeding problems. As such, gathering information about a child’s medical and developmental history is paramount in assessing and managing feeding problems that may or may not threaten nutrition, growth, and cognition.

Feeding specialists must understand food selectivity (i.e., fear and resistance) as a result of a young child’s underlying sensory difficulties, and resulting behaviorally based challenges. The range of problems associated with food selectivity may include inappropriate mealtime behavior (e.g., refusing to sit at table, throwing food), lack of self-feeding, food sensitivity, failure to advance textures, food refusal, and/or oral motor immaturity (Kerwin, 1999; Laud et al., 2009). This article will briefly describe sensory and behavioral factors in feeding disorders. A novel approach developed by Teresa Boggs, speech-language pathologist (SLP), at the East Tennessee State University (ETSU) Speech and Language Clinic to address these specific feeding challenges for children with and without a diagnosis of autism will be described.

## **Sensory Factors**

Children with sensory challenges may overrespond, or under respond to food, which results in a significant impact on nutrition and mealtime behaviors. Children with sensory feeding disorders often limit the types of foods they are willing to eat in order to avoid uncomfortable and sometimes painful sensory experiences. Avoidance is particularly common when children with sensory challenges are introduced to new foods. Negative responses may be triggered by fear of foods that have a specific appearance, taste, texture, temperature, or smell. Aversive reactions include grimacing, spitting, gagging, and/or vomiting when novel foods are presented. Interestingly, these same children may have no aversive behaviors when consuming preferred “safe” foods.

Jean Ayres' (1971) theory on Sensory Integration provides insight on how inefficient processing of sensory information from the body or the child's environment may impede the child's ability to understand sensory information and respond appropriately. Sensory processing is defined as the ability to balance the flow of sensory information transferred to the central nervous system. Children who lack the ability to integrate and process sensory information may not consistently discriminate between primary and secondary sources of sensory input. This inability to discriminate creates a bombardment of sensory input, which results in overstimulation, anxiety, and fear (Ernsperger & Stegen-Hanson, 2004). Sensory overstimulation triggers a fight or flight response within the sympathetic nervous system, which triggers extreme over-reactions to sensation from one or more of the seven sensory systems (i.e., tactile, vestibular, auditory, proprioceptive, gustatory, olfactory, and visual; Suarez et al., 2014). In order for children to eat, sensory information processed in the mouth must be sufficient to control and manipulate food without negative reaction to texture, taste, and temperature (Davis et al., 2010). Children may have deficits in sensory processing with preserved oral motor function. Thus, difficulties with sensory processing may set up food aversions that are not directly related to deficits in oral motor skill.

Children with sensory processing deficits often overrespond to the presence of food triggering avoidance. Young children who are overstimulated by the auditory, visual, gustatory and olfactory senses perceive mealtime as an unpleasant and overwhelming venture. During meals, the child is surrounded by a myriad of sensory stimuli in their environment such as the smell of food, the sounds of the kitchen, and competing visual stimuli of the home. This overload for children with sensory challenges contributes to responses such as aggression, attempts to escape, or the refusal to participate in the mealtime routine. Novel environments add an additional layer of anxiety because they bring unexpected, unfamiliar, and terrifying new sensory stimuli. New environments may include the school cafeteria, restaurant, or a large family gathering. When faced with such experiences, mealtime challenges often escalate.

## **Behavioral Factors**

Sensory deficits may trigger behavioral responses, or behavioral responses may manifest out of learned responses. Behavioral challenges further complicate the mealtime and feeding behaviors. Behaviors may include refusal to sit at the table or to self-feed even when able to do so for preferred foods. Negative behaviors include throwing food, crying or screaming when presented with non-preferred foods, or vomiting to avoid meals. Twachtman-Reilly, Amaral, and Zebrowski (2008) describe four neurologically-based characteristics that influence behavioral feeding issues (e.g., repetitive behaviors, executive functioning skills, fear and/or anxiety, and decreased communication). The aforementioned challenges may be contributing factors for children with and without ASD. Children who seek repetitive and ritualistic behaviors may require a specific manner of food preparation, demand particular routines around mealtime, and/or consume only selected foods based on color, texture, taste, or smell. Some children adhere to particular feeding "rules," such as only being able to eat while listening to music, or only consuming chicken tenders if prepared in the same manner. When ritualistic routines are violated, behavioral challenges may occur.

Coordinating complex tasks such as meal preparation, eating, and cleaning up after a meal may be particularly difficult for a child with deficits in executive function. Without the ability to plan and view the environment as flexible, children struggle with managing dynamic mealtime activities. In order to reduce unpredictability during feeding experiences, children with rigid thinking stick to familiar foods and routines (Twachtman-Reilly et al., 2008). However, when environments are predictable and familiar fear is minimized.

Finally, given the social nature and public contexts of feeding experiences, children with and without language impairments may exhibit disruptive feeding behaviors, further limiting their opportunities for social communication. The child's lack of understanding of the language or reduced understanding of the social context may exacerbate feeding challenges.

Feeding disorders may have a multitude of contributory factors and it is imperative that feeding disorders with a medical, oral-motor or digestive nature be ruled out and/or treated first. As food refusal is the primary symptom of feeding disorders that are sensory and/or behaviorally based, SLPs may additionally need to distinguish them from each other. Speech-language pathologists (SLPs) must recognize that a sensory-based feeding disorder may appear behavioral in nature as children have learned “behaviors” to avoid unpleasant sensory stimuli. Food refusal may be sensory, behavioral, or result from a combination of both with indistinguishable characteristics. Children who experience sensory avoidance/reaction to foods will benefit from a variety of positive sensory experiences related to the feeding process. Similarly, children with behavioral challenges related to food will benefit from predictable and positive strategies to address their reaction to mealtime routines. The PEP strives to address both sensory and behaviorally-based feeding challenges by establishing positive and consistent mealtime routines, increasing the understanding of food vocabulary, and providing both nonfood and food sensory activities before food trials while implementing food trials that incorporate preferred and non-preferred food.

### ***Positive Eating Program (PEP)***

The Positive Eating Program (PEP) is a framework used to provide feeding intervention for children at the ETSU Nave Language Center. The program is designed for young children with and without ASD. The PEP aims to rehabilitate behavioral and/or sensory-based feeding difficulties. Children are supported and guided through rich experiences that increase their food vocabulary and awareness while decreasing their resistance to nonfood and food textures. Desensitization occurs as children are supported during predictable play activities that incorporate nonfood and novel food stimuli to establish acceptable mealtime routines. Establishing predictable routines and limiting overstimulation helps children learn to accept novel foods. To maximize the potential for acceptance and facilitate generalization to home, school, and community environments, PEP provides comprehensive parent and caregiver training.

The PEP is based on an understanding that children with sensory and/or behavioral feeding challenges need additional support to learn to eat new foods. Learning about new foods must occur in a child-centered, positive, and nonthreatening manner. Facilitating positive experiences with food allows children the opportunities to safely explore novel foods. The Nave Language Center, in which the PEP is conducted, is designed to resemble a home environment with child-centered rooms that invite play. Opportunities are provided for children a minimal of two hours per week using an individualized focused plan. As children progress in the PEP, peers, siblings, and parents/caregivers participate in activities to facilitate generalization of learned behaviors. After 12–15 weeks of intervention, children and families begin documenting new feeding behaviors at home during a 3 to 4 week break. Based upon degree of generalization, the child’s goals and activities are revised and a new 12–15 week cycle of intervention begins.

### ***Phases of the Positive Eating Program (PEP)***

The PEP program classifies activities into the following phases: food awareness, nonfood sensory play, food sensory play, and structured and predictable food trials. Developmentally appropriate activities are designed which consider the child’s language and learning style, their responses to sensory stimuli, and their responses to the mealtime routine. Each therapy session is structured to be highly predictable for the child with 10–15 minutes allocated for each phase of the therapy session. Therapy sessions progress using a hierarchical approach that gradually increases the expectation for interaction with food. For example, nonfood sensory play (i.e., playdough, foam, and sensory bins) is used to support the sensory skills needed to accept food play. During each phase, the child’s level of resistance to the activity and level of support provided by the clinician are measured. Each phase of the program is designed to address a specific purpose.



## **Food Awareness**

The purpose of food awareness is to increase the child's knowledge of food vocabulary. Limited experiences with novel foods and high levels of resistance to novel foods often results in insufficient vocabulary skills needed for children to predict food characteristics. Food vocabulary may include naming foods, classifying foods into food groups, and/or understanding food attributes (i.e., sweet, crunchy, soft, sticky). It is important to have an accurate description of the child's language skills in order to design an effective feeding intervention program.

During food awareness activities, children are taught words that describe various foods. Using this vocabulary, children are encouraged to comment on nonfood and food items so they learn to predict the taste and texture of novel foods. For example, if a child's preferred food is chips, the clinician would say "chips are crunchy" or "I can hear you chew". Then, when the novel food (e.g., cheese crackers) is presented, the same descriptions are presented. For example, "cheese crackers are similar to chips...", "they are crunchy", or "can you hear me crunch a cheese cracker". If a child "knows" the characteristic of a food before they are asked to try it, their level of anxiety decreases and their willingness to accept the new food increases. Food awareness experiences may also include physical activities in a sensory gym. At the Nave Language Center, a ball pit is creatively named vegetable soup. Plastic vegetables are hidden in a ball pit and children seek out specific vegetable during play. Stories related to food and musical songs are additional activities used to build a child's awareness of food. Children with higher language skills create food diaries, in which they list or draw pictures of foods that they have tried, have not tried, or foods they are eating at home. They may play games that categorize foods by type or discuss healthy versus unhealthy food choices. As children increase their knowledge of food, decreased resistance to novel food is expected.

## **Sensory Nonfood Play**

The purpose of nonfood sensory exploration is to decrease sensitivity to nonfood activities (i.e., Play-Doh, glitter, dirt, paint, etc.). Children with sensory feeding challenges are often uncomfortable and avoid "messy play" or have had limited experience with this type of play. A performance hierarchy is used to encourage the child to first look at stimuli, then smell (if applicable), then touch with fingertips, then fingers, and then whole hand. In addition, the number of sensory elements is manipulated to increase or decrease the level of difficulty for each therapeutic task. The levels are easy, easy/moderate, moderate, moderate/challenging, and challenging nonfood sensory play. The sensory activity rubric provides guidelines for the type of nonfood sensory activity chosen for the day (see Appendix A for details). An easy activity limits the need to process sensory information. Therefore, the tasks are "clean" with no particular smell and use a hard texture (i.e., playing in dry beans or rice). A moderately challenging nonfood sensory activity increases the number of sensory elements. For example, textures are mixed requiring the child to alternate between clean and messy play (i.e., playing with clay or using a glue stick on small objects). The most challenging types of nonfood sensory activities incorporate multiple senses during play. For example, play may include soft textures that are messy and/or have distinct smells such as playing in shaving cream, or with wet and dry noodles.

The quality of a child's exploration is measured by the amount of resistance and the amount of support needed during each activity. Level of resistance is determined based upon the number, frequency, concurrency, and/or type of resistant behaviors presented (e.g., hands covering mouth, head turn, facial grimace, throwing items, and pushing the clinician's hand away). Minimum resistance is recorded when a child is mostly cooperative with only isolated instances of one negative behavior noted. Moderate resistance is noted when a child is somewhat cooperative with two to three resistant behaviors noted either concurrently or repeatedly with additional presentations of the same item. Maximum resistance is recorded when a child is uncooperative with more than three negative behaviors noted either concurrently or repeatedly with additional presentations of the same item or when he/she pushes the clinician's hand away. The level of assistance is

determined based upon the degree of physical assistance, or verbal prompting a child requires to facilitate participation in treatment activities (see Appendix B for details). Sensory nonfood activities are modified to continually challenge but not overwhelm a child's sensory processing systems.

## ***Sensory Food Play***

The purpose of sensory food exploration is similar to nonfood sensory play, except the child is using real food during the play activity. Foods used for sensory play depend on a child's tolerance for managing multiple sensory elements during nonfood sensory activities. Clinicians may choose to use food items that are targets for food trials. For example, if a child will be expected to bring grapes to his/her lips during food trials, grapes might be used during sensory play. The child is encouraged to roll, bounce, cut, and squish grapes during sensory food activities. Additional sensory food experiences may include peeling tangerines, cutting watermelon, or making pizza dough. Children may create "food art" by using novel foods to create shapes or pictures. For example, children may use grapes and strawberries to make a fruit face or use pretzels and marshmallows to create a play structure. During sensory food play, children are not required to eat the target food, but are encouraged to explore the food, while incorporating newly learned vocabulary to comment. Allowing children to touch, prepare, and explore real food prepares them for eating food by decreasing anxiety and increasing positive exposures.

Once children reach higher levels of tolerance, clinicians may combine nonfood sensory and food sensory activities. For example, children may help plant and harvest herbs, fruits, and vegetables during the warmer seasons. Planting provides opportunities for children to touch novel foods and experience different textures such as touching wet and dry dirt while increasing food vocabulary.

## ***Food Trials***

The purpose of food trials is to establish appropriate mealtime behaviors while increasing the acceptance of novel foods. After food awareness, nonfood and sensory food play, the child participates in a food trial. In each food trial, a novel or non-preferred food is presented alongside with one preferred food. A hierarchy similar to that published by Toomey and Ross (2011) is followed during food trials. Children are expected to look at, touch, smell, place to lips (kiss), place to teeth, and make a bite mark on the food stimuli. A second hierarchy is used once a child demonstrates mastery of this hierarchy. The second hierarchy requires a child place multiple bite marks on target foods, hold a food in his/her mouth, chew a food (the child is allowed to spit it out), and then chew and swallow target foods. A third hierarchy focuses on increasing portion size in incremental steps from 1/8 cup to 1 cup. During initial food trials, small portions are given to help alleviate anxiety. Clinicians serve as role models by consuming the preferred and novel foods alongside the child. Additionally, a nutritionist will assist clinicians with selecting foods with high nutritional value. Thus, fruits and/or vegetables are consistent parts of the food trials.

Target foods are selected based on the child's current food inventory and parental input as to what foods they want the child to eat. Food Chaining<sup>®</sup> (Fraker, Walbert, & Cox, 2007) is an important component of the PEP program. Food Chaining<sup>®</sup> involves changing a small aspect of the food each time it is presented (e.g., the color, texture, taste, and/or shape) in order to help the child increase the variety of foods consumed. For example, if the child exhibits a food jag (eating one food prepared the same way over a long period of time) by only eating McDonald's chicken nuggets, the clinician might work toward helping the child accept similar foods, such as fried chicken tenders, followed by baked and breaded chicken tenders, and eventually moving to grilled chicken tenders. Food Chaining<sup>®</sup> allows children to expand on their food repertoire by using preferred foods as a starting point. The PEP uses a low anxiety approach to feeding. Children are progressively exposed to predictable foods to provide opportunities for them to integrate small changes in sensory properties of food. As children are able to integrate sensory information

of subtle changes, tolerance and acceptance increases. As tolerance increases, children advance through the feeding hierarchy.

## ***Student Training and Data Collection***

Graduate students enrolled in clinical practicum at the Nave Language Center participate in a two-week orientation to learn the knowledge and skills needed to serve children with sensory feeding disorders. Students learn the principals of the PEP, stages of cognitive and language development, Food Chaining<sup>®</sup>, and positive methods to desensitize children to new foods. As part of the training, students review video examples of behaviors that suggest poor tolerance of the sensory properties of food. Faculty guide students as they learn to interpret behavior and adjusted the challenge based upon the child's level of processing ability. To ensure continuity of care across student clinicians, video clips are collected and reviewed throughout the treatment sessions. Training videos also help students learn how to document levels of acceptance and resistance.

Data for each therapeutic intervention task is collected and recorded. Predesigned data sheets are used to help student clinician's record progress. Data sheets reflect each child's level of resistance and level clinician support required for success. See Appendix C for an example of a PEP data collection sheet for hierarchy number one. For example, a child who exhibits a severe food aversion may have a target goal that measures the number of times he/she will be expected to touch a particular food with hand-over-hand assistance, before displaying a maximally resistant behaviors (i.e., screaming, hitting, kicking, or gagging). In this case, increased food acceptance is measured by the number of times he/she touches the food. Level of support is measured by the decreased need for hand-over-hand assistance. Number and frequency of occurrence for resistant behaviors are calculated to determine level of resistance. Once the child masters touching the target food independently with minimal resistance, the goal is advanced. The new goal would target his/her ability to smell, put food to lips (kiss), and place food on tongue (lick) the target food. Each stage must be mastered with reduced anxiety before moving to the next phase.

Ultimately, the goal of the PEP program is to facilitate generalization of appropriate feeding behaviors to the home environment. Parental assistance and support is needed to foster generalization. Parents and/or caregivers are given daily assignments to facilitate the generalization. These assignments are chosen based upon the phase in which the child is displaying the most success. At the beginning of intervention, parents are most often completing a variety of food awareness and nonfood sensory play activities at home and providing feedback to the clinicians.

## ***Addressing Challenging Behaviors***

The PEP addresses behavioral challenges and undesired actions without resorting to implementing "time out" or by creating situations that are aversive to the child (i.e., negative reinforcement/extinction). Conversely, clinicians create a calm, supportive, and predictable environment with established routines. Routines are established using social stories and/or visual schedules. Ignoring undesirable behavior, such as yelling, is often successful in decreasing the frequency of occurrence. The PEP uses natural consequences to modify behavior. For example, when a child throws food during food trials, they are expected to assist with clean up. Clinicians who maintain a sense of calm and offer a child breaks when he/she is experiencing significant anxiety are often successful in managing resistant behaviors. Removing certain environmental stimuli or decreasing the number of sensory elements in the environment calms children who are over stimulated. For example, turning off the lights in the room, decreasing verbal directions, and limiting quick movements during activities may be effective in calming a child. When a child uses appropriate mealtime behaviors, appropriate rewards may be used to reinforce the desired behaviors. Rewards may include verbal praise, enthusiasm, and/or offering preferred foods.

## Conclusion

The PEP holistically addresses a child's feeding difficulties by engaging him/her in a variety of rich sensory activities in a supportive, calm, encouraging, and predictable environment. In stark contrast to many of the applied behavioral analysis approaches, the PEP program focuses on creating positive food experiences. Children are never forced to eat or swallow foods. Rather children are guided through a series of hierarchical sensory experiences that lead to swallowing new foods without anxiety. The steps and outcomes in the PEP are often incremental with the primary focus on fostering positive eating and feeding experiences for the child. As a result, children associate eating with positive rather than traumatic experiences. The PEP is a holistic intervention model that provides valuable experiences based on food-related vocabulary, mealtime routines, and desensitization to food and nonfood stimuli in a predictable, supportive, encouraging, and safe environment.

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## Appendix A. Positive Eating Program (PEP): Sensory Activity Rubric.

	Easy	Easy/Moderate	Moderate	Moderate/Challenging	Challenging
<b>Texture</b>	Hard Texture	Less Hard/Mixed texture	Mixed Texture	Mixed/Soft Texture	Soft Texture
<b>Number of Sensory Elements</b>	One Element (simple)	One-two elements	Two Elements (Moderate)	Two-three elements	Multiple Elements (Complex)
<b>Messy &amp; Smell</b>	Clean/ no particular smell	Clean/ slightly messy; light smell	Alternating Messiness	Alternating Messiness/ Messy; more significant smell	Messy/ smells
<b>Sample Activities (The activity level can be adjusted to increase or decrease complexity of task)</b>	<ul style="list-style-type: none"> <li>○ Preparing snack (passing out Goldfish</li> <li>○ Tearing paper</li> <li>○ Dry beans</li> <li>○ Rice</li> <li>○ Sensory tubs</li> </ul>	<ul style="list-style-type: none"> <li>○ Feathers</li> <li>○ Glue Stick</li> <li>○ Sensory bag</li> <li>○ Sensory tub</li> </ul>	<ul style="list-style-type: none"> <li>○ Preparing snack (cutting apples)</li> <li>○ Putting on lotion</li> <li>○ Cotton balls</li> <li>○ Sand play</li> <li>○ Playdough</li> <li>○ Glue stick with small objects</li> </ul>	<ul style="list-style-type: none"> <li>○ Preparing snack (peeling orange)</li> <li>○ Water beads</li> <li>○ Finger paint</li> <li>○ Elmer's glue</li> <li>○ Water play/sponges</li> <li>○ Cloud dough</li> </ul>	<ul style="list-style-type: none"> <li>○ Messy food play</li> <li>○ Shaving cream</li> <li>○ Planting seeds</li> <li>○ Slime/goop</li> <li>○ Wet noodles</li> </ul>

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## Appendix B. Level of Support for Positive Eating Program (PEP).

<b>Minimal</b>	<b>Moderate</b>	<b>Maximal</b>
<p>Only one means of support is provided:</p> <ol style="list-style-type: none"> <li>1. Visual</li> <li>2. Verbal</li> <li>3. Tactile</li> </ol>	<p>Two means of support are provided. This can be a combination of any two or the use of one support used twice:</p> <ol style="list-style-type: none"> <li>1. Visual</li> <li>2. Verbal</li> <li>3. Tactile</li> </ol>	<p>Three means of support are provided:</p> <ol style="list-style-type: none"> <li>1. Visual</li> <li>2. Verbal</li> <li>3. Tactile</li> </ol> <ul style="list-style-type: none"> <li>• Maximal support also included imitation &amp; hand-over-hand assistance.</li> </ul>

### EXAMPLES OF SUPPORT

<b>Visual</b>	<b>Verbal</b>	<b>Tactile</b>
<ol style="list-style-type: none"> <li>1. Pictures</li> <li>2. Written words</li> <li>3. Giving visual choices</li> <li>4. Exaggerated facial expression</li> <li>5. Model the action</li> <li>6. Schedule</li> <li>7. Sign language</li> <li>8. Dry erase board</li> <li>9. Social story</li> <li>10. Drawing</li> </ol>	<ol style="list-style-type: none"> <li>1. Model- What you want them to do. (i.e. "Put food to lips.")</li> <li>2. Mand-saying, "Put food to lips."</li> <li>3. Restructuring/Clarifying command or question- asking it in a different way.</li> <li>4. Repetition of command/question/ statement/etc. after providing a wait time.</li> <li>5. Changing intonation- being more deliberate and exaggerating in tone.</li> <li>6. Providing verbal choices.</li> </ol>	<ol style="list-style-type: none"> <li>1. Guiding their finger to help them attend to task. (Touch guide).</li> <li>2. Using object for transitional aid. Giving them something to hold/carry to maintain attention/interest. Hand-over-hand guidance.</li> <li>3. Using your body to provide support to help with their awareness. (For example, having client sit on lap during food trials. Hand-under-hand guidance.</li> </ol>

*\*Revised 9/8/14*

## Appendix C. Positive Eating Program Clinic Data Collection Level One.

Client:

Clinician:

Date:

### Food 1:

Mode	1	2	3	4	5	6	7	8	9	10	Support	Resistance	%
Lips													
Teeth													
Lick/Tongue													
Bite													

### Food 2:

Mode	1	2	3	4	5	6	7	8	9	10	Support	Resistance	%
Lips													
Teeth													
Lick													
Bite													

### Food 3:

Mode	1	2	3	4	5	6	7	8	9	10	Support	Resistance	%
Lips													
Teeth													
Lick													
Bite													

### Level of Resistance

*Minimum resistance (min res):* Child is mostly cooperative, only isolated instances of one negative behavior, lasting less than 2 minutes, noted.

*Moderate resistance (mod res):* Child was somewhat cooperative, exhibiting challenging behavioral episodes of less than 5 minutes long, with one or two behaviors noted.

*Maximum resistance (max res)* when he was uncooperative, with challenging behavioral episodes of more than 5 minutes long, with more than two behaviors noted (e.g, kicking, hitting, crying, screaming, and pushing away from the table).

+ = Correct

- = Incorrect (Refusal)

\*Revised 9/8/14