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Pediatric Feeding and Eating

Introduction

An occupational therapist's scope of practice for feeding and eating varies depending on the child's concerns. Children with medical needs may need modified diets and adaptive tools to assist with feeding. Kids with sensory problems may benefit from desensitization to reduce tactile defensiveness and improve tolerance of various food textures. An OT's intervention in pediatric feeding and eating can overlap with the role of a speech-language pathologist. The differentiation between the two is essential for understanding how OTs can effectively help children in this area.

Section 1: Background of Pediatric Feeding Concerns [1-3]

Pediatric feeding concerns are prevalent for kids of all ages. Studies show that up to 40% of typically-developing children experience feeding concerns at some point. However, with a growing number of infants being born prematurely (pre-term), it is expected that therapists and other providers will see a rise in the incidence of more complex feeding-related issues. The prevalence of feeding concerns skyrockets for children diagnosed with developmental disabilities, as 70-90% of kids in this category struggle with feeding concerns throughout their infancy and childhood.

To be effective and evidence-based when treating such a fragile and often medically-complex population, occupational therapists should be well-versed in the causes and mechanisms of feeding disorders. The profession lends itself to being very aware of multi-factorial issues for various diagnoses, especially with pediatric feeding concerns. Therapists cannot always address each one of the causes of feeding concerns, which is why they should be able to work within a diverse treatment team to address a child's feeding issues (and their family's concerns). Some of the causes of pediatric feeding concerns include:

- Tone issues affecting the mouth, tongue, and esophagus (either hypotonia or hypertonia)
- Temperament and overall disposition (low adaptability, easily distressed, poor attention)
- The uncomfortable or intolerable dynamic between parent and child leads to increased stress from both parties
- Pain or discomfort (which can be related to many issues ranging from allergies to

medical conditions like reflux to anxiety causing an underactive or overactive swallow reflex)

- History of nasogastric tubes (NG tubes), surgeries related to the mouth and/or throat, or ventilator insertion
- Sensory sensitivities such as overstimulation from textures, smells, and tastes of food
- Developmental delays that prevent the full integration or presence of vital reflexes; examples include the suck-swallow-breathe reflex that assists with bottle-feeding and breastfeeding as an infant and the gag reflex, which keeps a child from choking by stopping the swallowing process when a particular area of the back of the mouth is touched
- Weak oral motor skills (known as dysphagia)
- A history of vomiting, choking, gagging, or struggling to breathe when eating
- Delayed gastric emptying (which occurs when the stomach does not pass food through to the intestines quickly enough, causing an exaggerated sense of fullness or abdominal discomfort)
- Toothaches or more complex dental issues
- Medical conditions such as seizures or infections of the respiratory system, ears, or sinuses
- Behavioral conditions such as Autism Spectrum Disorder, which cause a child to display specific rigid preferences, tendencies, and routines that may not mesh well with the standard feeding process taught by parents
- Poor attention, which can be due to conditions like Attention Deficit-Hyperactivity Disorder (ADHD) or an overstimulating environment or changes to routine

The occurrence of feeding problems in all children between the ages of 1 and 4 is 26%. In this category, children more commonly had feeding concerns around year 2. Concerns were also generally seen more often in boys when compared to girls, but this was not necessarily consistent across the entire category. In most research, when early intervention occurs, it appears that feeding concerns decline during years 3 and 4.

Research also shows that there are four main categories of children with feeding

difficulties:

- Minimal appetite, which can be divided into:
    - A normally-developing child with a poor interest in feeding or eating
    - An active child who shows little interest in feeding or eating
    - A depressed or anxious child with little interest in feeding or eating
    - Poor appetite resulting from inflammatory or metabolic health concerns
- Picky eating (also known as highly selective intake)
- Infants who struggle to self-soothe or who experience pain when eating, which causes difficulty taking a bottle or breastfeeding
- An exaggerated fear of coming into contact with or eating certain foods

When children grow to become toddlers and even a bit older, their feeding concerns may progress to the point of food refusals rather than lack of engagement or interest in food. When food refusals are the main feeding-related concern, they can typically be placed into one of five categories:

- Refusal due to medical condition(s)
- Refusal secondary to fear of food and/or eating
- Food refusals stemming from increased autonomy
- Selective food refusal
- Food refusal based on learned tendencies or behaviors

From a medical model standpoint, children whose feeding concerns fall into one of the four main categories may receive medications, trial tube feeding, or get referred to other providers such as nutritionists, lactation counselors, speech therapists, or occupational therapists. When looking at the latter categories of food-based refusals, these are all specific concerns that require different treatment approaches from occupational therapists.

Section 1 Personal Reflection

How might an OT's treatment for a child who demonstrates food-based refusals differ from treatment for medical issues related to feeding?

Section 1 Key Words

Developmental disabilities - An impairment in behavior, motor skills, language, or learning that develops during childhood

Dysphagia - Difficulty swallowing that causes someone to take more time or exert themselves while feeding

Medical model - A paradigm in healthcare that involves treating most conditions as if their root cause is primarily physical

Nasogastric tube - A tube that runs from the nose to the stomach and carries food and medicine; some people receive all of their food this route since they cannot tolerate traditional feeding techniques but, for other people, nasogastric tubes may be medically necessary for them to get more calories; often abbreviated NG tube

Premature - A term used to describe a pregnancy that did not last the entire 40-week term; for example, a premature delivery refers to a baby that was born before 37 weeks gestation

Section 2: Basics of Feeding [4-7]

For therapists to effectively help infants and children with feeding, eating, and swallowing difficulties (or disorders), therapists must know the basics of each approach and grasp the mechanisms of feeding. This will help them better classify a patient's deficits, develop appropriate goals, and craft an individualized treatment plan.

Feeding (self-feeding, for older children and adults) refers to the physical act of bringing food to the mouth. For infants, the act of feeding includes bottle-feeding, breastfeeding, or a combination of both. This progresses to feeding oneself using fingers and eventually using utensils for toddlers.

Swallowing is the process of food and liquid going from the mouth to the esophagus to the stomach. There are four typical phases of swallowing: the oral-preparatory phase

(sometimes known as the pre-oral stage), the oral stage, the pharyngeal stage, and the esophageal stage. While specific actions and mechanisms are characteristic of each stage, they are dynamic and blend to a certain degree due to the involvement of the same structures. Children who have an emotional response to eating may struggle as early as this stage. This involves anticipation of the food, which triggers the salivary glands to produce saliva and requires a child to prepare themselves (including their appetite) for food. The oral stage involves chewing to break down food into smaller parts and can be more easily digested by the gastrointestinal tract. As the tongue contracts and relaxes, it pushes food against the roof of the mouth (the soft palate). This continual motion eventually forms a semi-large mass of food, called a bolus. When the person is ready, this bolus pushes toward the back of the mouth, where it enters the throat. Once the bolus is in this position, it triggers the glossopharyngeal nerve, which plays a big part in the subsequent two involuntary phases of swallowing.

The next phase is the pharyngeal, characterized by involuntary muscle contractions that push the bolus from the middle of the throat (the oropharynx portion of the pharynx) to the esophagus. The vagus nerve and four other cranial nerves govern these involuntary movements with the glossopharyngeal nerve. Once the bolus is in the esophagus, it enters the esophageal phase. The bolus moves from the esophagus to the stomach during this last phase to continue digestion.

After the four basic stages of swallowing, a bolus travels to the stomach, small intestine, and large intestine before being passed out of the body. Along the way, these organs help break down the food into smaller usable parts through some of the following mechanisms:

- Propulsion, also known as peristalsis, occurs in each part of the GI tract from the esophagus to the large intestine. Swallowing in the throat is also a type of propulsion.
- Chemical digestion via digestive enzymes such as pepsin, lipase, and hydrochloric acid; occurs primarily in the stomach and small intestine, but the salivary glands in the mouth play a small role in chemically breaking down food.
- Mechanical digestion, which begins with chewing in the mouth, stomach-churning, and circular muscle contractions (called segmentation) in the small intestine

Each of these steps allows us to absorb our food and drink, taking water and nutrients away to nourish the body.

Eating is another basic term that is often used interchangeably with feeding. Eating includes mechanical consumption of liquid and food in the mouth via chewing and tongue movement. So, if someone mentions a concern related to eating, they refer to an issue with the oral phase of swallowing. Colloquially, most people refer to feeding when they use eating since feeding brings food to the mouth before consumption.

Developmental stages are the next aspect of feeding intervention for kids. While therapists need to know how a child's feeding skills should develop from birth onward, there are also many associated skills that children will need to engage in feeding effectively. For example, sensory integration, cognition, language/communication, and motor skills all play a part in the feeding process.

In utero

- Sucking and swallowing reflexes are present
- Demonstrates a dislike of bitter tastes
- Shows a preference for sweet tastes

Birth

- A child should be able to open their mouth and bring their hand up to it to suck on their fingers or fist (especially when hungry)
- Uses facial expressions to indicate likes and dislikes
- Will open their mouth in response to an adult opening their mouth
- Imitates facial expressions
- At two weeks old, a child can open their mouth for a bottle (which eventually progresses to a spoon)
- Preference for strong tastes (such as spices) due to familiarity with amniotic fluid
- Continued preference for sweet foods and calorie-dense snacks
- Preference for certain smells they are familiar with
- Rooting reflex in the presence of a nipple

- They can somewhat regulate their calories by rejecting milk if they are full

Two months

- Holds objects
- Can manipulate food from a spoon to the back of their mouth
- Preference for strong tastes usually continues if the child still drinks milk
- Has some internal cues for hunger and fullness

Three months

- Holds objects and puts them in their mouth
- Can recognize when others feel pleasure or disgust based on facial expressions
- Improved head control
- Sucking capabilities are no longer reflexive and instead volitional
- Can keep their body semi-flexed when feeding

Four months

- Visually explores objects while holding and mouthing them
- Can respond appropriately to certain events (such as games)
- Some imitation of movement
- Will open their mouth when presented with food or a spoon
- Can move their head some distance toward the spoon with their mouth open
- Starts to hold food items and bring them to their mouth
- Complementary foods (that are solid) are introduced in addition to pureed foods and formula or breast milk
- Can balance intake between complementary foods and milk

- Good time for parents to introduce new foods since children more readily accept them during this phase
- Will gag at foods they dislike and turn away from the spoon if they don't want it
- Food preferences begin to emerge
- Can manipulate mashed and pureed foods

5-8 months

- Gag reflex declines but is still present through adulthood
- Can move food from side to side within their mouth
- Supported sitting
- At seven months, the start of lip closure when clearing a spoon
- At eight months, they will begin to drink from a closed cup with spillage

Six months

- They can begin to tolerate lumpy solid foods or pureed foods with soft masses
- Will bite and dissolve food in their mouth
- Soft chews begin to develop as opposed to sucking reflexes
- Front teeth will start to appear
- By this time, the rooting, palmomental, and phasic bite reflexes integrate
- Will refuse meals if they are in a stressful environment
- Lateral tongue and diagonal jaw movements develop, which leads to rotary chewing

Nine months

- Demonstrates an interest in self-feeding
- Understands that foods that look similar will taste the same

- Can eat pureed/mashed food with hard lumps
- Tries spoon-feeding with improved accuracy and less spillage
- Most teeth have erupted so they can bite into more solid foods
- Unsupported sitting
- Weight shifting due to increased trunk rotation
- Uses a pincer grasp with finger and thumb to begin to manipulate small objects
- Begins to use words (not always related) for food they want
- Will point to the food they want
- Improved strength and coordination when chewing soft lumps of food
- Able to keep most food in their mouth when feeding

Ten months

- Will change their behavior based on others' facial expressions

12 months

- Can drink from a closed cup without spilling or dropping
- Starts to drink from an open cup
- Can chew without gagging
- Will say the word for known foods when requesting it
- Can engage in sensory recognition of food (recognizes its smell, taste, and look)
- Chewing abilities are still developing, but they can tolerate most food textures
- Throws food or says 'no' if they don't want it
- Children begin to co-feed, where parents give some bites, and the child takes others on their own

15 months

- Will imitate adult eating preferences
- Food rejection may become more common
- Can feed themselves with a spoon
- Moves away from where the food is if they don't want it

1.5 years

- Can drink from an open cup without spilling or dropping

Two years

- Can eat most of the same food as the family during mealtime
- Preferences identified at this time typically persist through adulthood
- Begins to eat more significant portions

Three years

- Will imitate eating behaviors of peers
- Will eat less if pressured too much
- Improved fork skills
- Uses fingers to fill a spoon
- One-handed cup holding and drinking
- May respond to bodily prompts to overeat if they are stressed, bored, or upset
- Shows growing preference for restricted foods such as candy or other junk food

In addition to knowing the appropriate development of a child, it is also essential for therapists to be well-versed in red flags related to feeding and eating. This allows them to educate parents on what may be considered abnormal versus normal.

Therapists must accurately relay this information so parents can understand the

difference between behaviors that are a safety risk and behaviors that indicate a mild feeding concern. For example, any signs of aspiration are a safety risk because a child could get food in their lungs and subsequently develop an infection.

The following are feeding signs and symptoms that are considered red flags. Therapists must provide education on these signs to the parents of children they treat since some of these are emergencies:

- Hoarse or gurgly voice
- Watery eyes when eating
- Stiff, arched back when feeding
- Overstuffing food in their mouth
- Food that gets stuck in the throat
- Low-grade fever shortly after eating
- Leaking food or drink from the mouth
- Meals that consistently last 40 minutes or more
- Changes in breathing patterns or respiratory congestion
- Skin changes after eating (rashes, hives, patches, bumps, etc.)
- Coughing, gagging, choking, vomiting, or spitting up when feeding
- Weight or height gain that is notably slower or less than their peers
- Keeping or holding food in their mouth for longer than 30-60 seconds
- Making numerous gulping or swallowing noises without fully swallowing
- Increased irritability and difficulty self-soothing just before or after feeding
- Elimination difficulties (constipation, loose stool, or diarrhea) for several days
- Frequent bouts of pneumonia, bronchitis, or other upper respiratory infections
- An intense aversion to trying new foods as evidenced by behaviors such as crying, yelling, pushing food away, closing their mouth, blocking utensils from entering their mouth, etc.

Pneumonia and similar conditions place a child at risk for aspiration, a health concern involving food or other objects entering the airway, and traveling to the lungs. For this reason, any sign that points toward aspiration is considered an emergency. A raspy or breathy voice, coughing, gagging, choking, vomiting, low-grade fever, excessive gulping with incomplete swallowing, and watery eyes when feeding are indications of aspiration that need to be addressed immediately. Difficulty breathing during or shortly after eating is another tell-tale sign of aspiration.

If a child has an arched back or is irritable during the feeding process, they may have gas, nausea, or stomach discomfort. The leakage of food from the mouth (along with drooling) usually results from weak oral motor skills.

It is not uncommon for children to experience constipation and other digestive changes from time to time. However, persistent constipation can mean that a child is not getting enough fiber to eliminate properly. Ongoing diarrhea could result in bacterial infection, food intolerance, or even an allergy. Children can also experience rashes, hives, etc., after consuming food that they are allergic to or cannot tolerate.

Children who demonstrate signs of an allergic reaction or aspiration need emergency treatment to ensure their safety. Children who experience feeding concerns with no known cause (such as low weight gain or overly short stature) require intervention from other healthcare professionals, such as nutritionists, nurses, speech-language pathologists, and pediatricians. Therapists should refer children to another professional if their concerns are outside their scope of practice.

The cause of feeding concerns can be medical. Conditions such as malabsorption, acidosis, and renal insufficiency, can be the root of the problem. When this is the case, children are especially at risk of a symptom called 'failure to thrive,' which describes significantly slowed physical development in an infant or child. The only way to effectively manage failure to thrive is to identify and treat the underlying medical condition(s) that cause it. As a result, children with failure to thrive may receive nutritional supplements or a regimented diet to help resolve this concern. Adults or elderly individuals may also be diagnosed with failure to thrive. The treatment is similar for adults, but failure to thrive in those populations is often due to conditions like dementia, a brain injury, or cancer.

Section 2 Personal Reflection

From an occupational therapist’s perspective, why might a child have difficulty gaining

weight?

Section 2 Key Words

Aspiration pneumonia - In a basic sense, aspiration refers to an inward breath or inhale; related to feeding, aspiration is an infection that develops when food or other debris enters the airway from the mouth or the stomach and travels to the lungs; aspiration pneumonia is an emergency since this infection can worsen if not treated by antibiotics and oxygen therapy

Bolus - A small, round clump of food that is formed by the teeth and tongue just before a person swallows

Co-feeding - The feeding process for a child 10 and 12 months old that involves parents giving a child some bites and a child taking some bites themselves (using fingers or utensils)

Complementary foods - Solid foods that are given to a child in small amounts starting at four months old; at this time, a child is still mainly drinking formula, breast milk, and/or pureed foods, but they begin to eat some soft solid foods, which are known as complementary foods in this case

Esophageal phase - The fourth phase of feeding involves using the tongue to push a bolus down the esophagus using peristaltic movements

Laryngopharynx - The lower part of the throat located at the neck. The rear part of the laryngopharynx branches off into the esophagus. The front part of the laryngopharynx branches off into the larynx (also known as the voice box)

Nasopharynx - The upper part of the throat located behind the nose

Oral phase - The second phase of feeding involves swallowing the bolus that the mouth has produced and having it enter the first upper part of the throat

Oropharynx - The middle part of the throat located behind the mouth

Palmomental reflex - An involuntary contraction of the chin muscle in response to being touched by the thumb; this reflex should integrate by six months.

Peristalsis - Involuntary, wave-like muscle contractions that are present in canals within the body (the intestines, throat, stomach, etc.); this functions to move materials within

muscular canals forward and outward

Pharyngeal phase - The third phase of feeding involves pushing a bolus from the middle of the throat to the esophagus

Phasic bite reflex - An involuntary reflex that causes a child to bite vertically (up and down) in response to pressure on their gums; this reflex should integrate by six months of age

Pre-oral phase - The first phase of feeding involves chewing, salivating, and using the teeth and tongue to mechanically break down large pieces of food and form them into small lumps called boluses; this is also the first step of metabolism since the salivary glands begin to chemically break down food; this phase is also known as the buccal phase or the deglutition phase

Rooting reflex - An involuntary reflex that causes a child to turn their head toward a person when the side of their mouth or head is stroked; this reflex should integrate by six months of age

Segmentation - Circular muscle contractions that are specifically present in the small intestine and assist with the digestive process

Section 3: Occupational Therapy's Role in Feeding [5-7]

Feeding, eating, and swallowing are basic activities of daily living (ADLs), especially since they are essential to someone's survival and well-being. OTs can address various physical, emotional, environmental, psychosocial, and cultural concerns related to feeding deficits. The areas in which an occupational therapist can help with feeding include:

- Caregiver education (parent or even teacher training, in some cases)
- Oral-motor strengthening exercises
- Compensatory strategies for feeding and swallowing
- Environmental modifications (changing how meals are presented, prepared, or put together)
- Development of feeding routines

- Reward systems (positive and negative reinforcement)
- Postural adjustments and positioning
- Adaptive equipment and assistive devices

As an occupational therapist, the goal of intervention is to ensure that a child is consistently engaging in safe and productive feeding. This means occupational therapists help children gain strength, use adaptive equipment, and grow the oral motor skills necessary to eat without choking, aspirating, or developing other medical concerns. But it doesn't end there since occupational therapists also focus on a child's participation and involvement in this process.

Toward the beginning of a child's life, encouraging participation will come from keeping a child alert and awake enough to engage their swallow reflex and take a bottle effectively. As a child grows older, this might mean different positioning and some fundamental strengthening to allow a child to use their arms to hold a bottle and feed themselves. This then usually progresses to using their fingers more purposefully to pick up their food one item at a time and eat it. Toddlers will then learn how to accurately and ergonomically use utensils to move their food from their plate or table to their mouth.

As you can see, the mechanisms of eating (a child moving food to their mouth) fall under the scope of practice of an occupational therapist. But when it comes to the act of feeding, there may be some overlap as to what falls under the umbrella of speech-language pathology, nutrition, and medical intervention versus what falls under the umbrella of occupational therapy intervention.

One of the main differentiations between feeding intervention for occupational therapy and feeding intervention for speech-language pathology is that OTs work on getting patients to go through the motions needed to feed themselves. For example, holding a bottle and eventually bringing their arm to their mouth while holding a utensil. On the other hand, speech therapists work more on strengthening the mouth, tongue, and lip structures.

Pediatricians are primary care doctors who treat children. They can refer parents to specialists to assist a child with feeding concerns. Pediatricians will usually make referrals to other pediatricians who have expertise in helping children with developmental difficulties or delays in certain areas. These doctors are called developmental pediatricians. These specialized providers can assist children with

medical issues that led to feeding and eating concerns. Pediatricians can address health concerns such as low weight and height, which usually result indirectly from feeding issues. These doctors can also medically or surgically treat conditions such as cleft palate, gastroesophageal reflux disorder (GERD), and children who need a feeding tube put into place.

On the other hand, pediatric nutritionists ensure that a child's diet provides the nutrients they need. Depending on how severe a child's feeding concerns are, a nutritionist's intervention may vary. Recommendations for a child with minor feeding concerns may include adding certain food items or supplements, such as protein shakes. But a child with more severe nutritional deficiencies and complex medical needs may require total parenteral nutrition, also known as intravenous (IV) feeding therapy. A gastroenterologist can also be a helpful provider to consult for children with severe feeding concerns or nutritional deficits, especially those with an unknown origin.

Physical therapists may also play a part in treating a child with feeding concerns. While they may not directly address feeding problems and therapy during their treatment sessions, they can assist with other areas that help a child properly learn how to feed themselves or participate in feeding. Physical therapists work with children to build core stability and upper extremity strength and achieve an ergonomic and symmetrical body position to allow safe and efficient feeding.

Each of these providers plays a big part in the continuum of care for a child with feeding concerns. The process usually starts with a parent reporting feeding difficulties to their child's pediatrician. Suppose the problem appears to be related to trouble swallowing, potential aspiration, or dysphagia. In that case, the doctor will usually order a Modified Barium Swallow Study, also known as an MBSS or a videofluoroscopic swallow study (VFSS). This study uses barium sulfate mixed with various food and drink products that a child consumes. A child goes through an imaging procedure while consuming these products, allowing doctors to understand better how each internal structure relates to swallowing functions. The MBSS allows the professional to view body parts such as the esophagus during swallowing. The child is given a variety of textures and consistencies to see how the digestive system responds to each. Specifically, an MBSS views the following structures and functions:

- Lip closure
- Chewing skills
- Ability to manipulate and push the bolus forward with the tongue

- Range of motion of the tongue and epiglottis
- The route food takes (from the mouth to the esophagus or the mouth to the airways, if aspiration occurs)

The results of an MBSS relay important information to doctors (as well as therapists and nutritionists) regarding what a child can safely eat. The findings from an MBSS allow healthcare providers such as nutritionists and speech-language pathologists to give appropriate, individualized diet recommendations to parents and others involved in the child's care. Since dysphagia care is a specialized area of practice, occupational therapists and speech-language pathologists who wish to perform MBSSs need additional training in the process.

Regarding occupational therapy treatment, practitioners have enough training to assist a child with any part of feeding difficulties. Some of the later steps in the process are best addressed by a speech-language pathologist. But still, occupational therapists are expected to provide additional education and insight into improving the quality of feeding skills.

Section 3 Personal Reflection

How can an occupational therapist work with other members of a feeding therapy team to provide comprehensive care to a child with medical feeding concerns?

Section 3 Key Words

Cleft palate - A congenital deformity that prevents the tissue on the roof of the mouth from fully forming and joining together; this causes a child to experience difficulty sucking, swallowing, breathing, and eating; cleft palate (and a similar deformity called cleft lip) can only be treated via surgery

Epiglottis - A flap of cartilage on top of the trachea that prevents food from entering the airway

Developmental pediatrician - A specialized doctor who treats children who have developmental delays and are struggling to meet their milestones

Dysphagia - A general term that refers to difficulty swallowing; dysphagia can result from environmental issues such as taking bites that are too large, having a dry mouth,

or not chewing well enough, but it can also stem from medical problems that cause changes to the musculature in the throat and mouth

Gastroesophageal Reflux Disease (GERD) - A digestive disorder that causes acid and food to bubble up from the stomach and enter the esophagus, causing a burning sensation in the chest and throat; pain usually worsens after eating and can cause children to react strongly to particular (or most) foods

Total parenteral nutrition (TPN) - A fluid mixture that provides all of a person's nutrients and is injected intravenously; this is given to people with severe nutritional deficiencies who are otherwise unable to eat, possibly due to being on a ventilator or if they are unable to be tube fed

Section 4: Occupational Therapy Feeding Assessment [5-15, 22]

The occupational profile is an integral part of all occupational therapy evaluations. This is especially the case for feeding evaluations. Therapists must be sure to glean all of the information they can from the parents before beginning intervention. While therapists gain valuable and often unique information from structured observation and standardized testing, parents have insight into how their child behaves in the home, in the community, and beyond. So therapists must include all of this information in the profile to give a comprehensive look into the child's feeding-related needs.

Therapists should be sure to ask parents about mealtime routines, including:

- What time the child usually eats
- How many times a day the child eats
- Where in the home the child eats (what room and what type of furniture they are on)
- Other places the child is willing or unwilling to eat in (restaurants, family or friends' homes, school, daycare, etc.)
- Whether the child is offered or given food that is different from the rest of the family, if the child is of an age where solid foods are appropriate
- How the child indicates they are hungry or full
- If the child has begun using utensils yet, based on their age

- If the family eats together
- If TV and other screens are allowed during meals
- How snacks are structured
- What foods are available at what time of day (if the child has open access to the kitchen or pantry)

Another recommendation is to have parents bring a food diary that lists all of the food and drink products (meals and snacks included) that their child has consumed in the last three days. Suppose the therapist evaluates the child at a clinic specializing solely in feeding therapy. In that case, it may also be the protocol for the parents to bring several food samples of their child's most desired or preferred food and the food that causes them to display the most substantial negative response. While a parent's verbal report of their child's response can help therapists understand how a child reacts to certain foods, having the foods allows therapists to present it to the child and gauge their reaction in real-time. When this exercise is part of the evaluation, it is also recommended that parents not feed their child for 2 to 3 hours before the appointment. This allows therapists to see a child's reaction since they will likely be hungry when the food is offered.

Motor and social skills are other components of the occupational therapy evaluation that parents might have less insight into. Therapists can assess a child's motor and social skills by structured observation of them engaging in feeding. Still, they can also complete standardized assessments that compare a child's feeding-related skills to their peers. Some of the following assessments can provide therapists with the information needed to determine a child's motor, self-care, and social skills as they pertain to feeding:

- The Neonatal Oral-Motor Assessment Scale (NOMAS)
    - The NOMAS is a visual scale used on children from birth until almost one year to determine their ability to perform nutritive and non-nutritive sucking.
- Do-Eat Test
    - This test is for children 5 to 8 years old. The Do-Eat involves functional observation of three sequential, related ADL tasks to determine how children with ADHD, learning disabilities, motor planning disorders, and

more perform during feeding-related tasks.

- Vineland Adaptive Behavior Scales
    - This is a semi-structured interview that gauges the self-care and self-help skills from birth to age 90.
    - The Vineland is beneficial to determine a child's feeding abilities if they live with Autism Spectrum Disorder, intellectual disabilities, and developmental delays.

Other assessments that determine a child's general motor and social skills, but not particular to feeding, include:

- Bayley Scales of Infant Development
    - This observational tool identifies potential developmental delays in children one-month-old to 3.5 years old.
- Sensory Profile
    - The Sensory Profile is a self-report checklist used to identify sensory concerns across seven input areas (tactile, auditory, visual, olfactory, gustatory, movement, and proprioception). Sensory processing is a big part of feeding, so this can shed some light on what types of food-related sensory input is most difficult to tolerate.
    - There is an adult version, but there are many other versions intended for a pediatric population: an infant version for children from 0 to 6 months old, a toddler version for children from 7 months to 3 years old, and a child version from 3 to 15 years old.
- Miller Assessment for Preschoolers
    - This assessment is for children between two years, nine months, and five years, eight months old. It is used to assess cognitive, behavioral, and motor functioning, which can provide valuable information about a child's ability to self-feed.
- Peabody Developmental Motor Scale

    - The Peabody is a well-known evaluation tool that tests children's gross and fine motor skills from 0 to 5. This assessment gives therapists a view of what motor skills may be impacting a child's feeding.

- Pediatric Evaluation of Disability Inventory
    - The PEDI is an assessment for children six months to 7 years old. It consists partially of caregiver reports and a structured interview to tell therapists about the child's performance of self-care tasks, mobility tasks, and social scenarios.

- Sensory Integration and Praxis Tests
    - Another sensory assessment, the SIPT, also views a child's motor planning and visual perception skills. It is intended for kids ages 4 to 8 and looks at their ability to learn new skills, sequence, and successfully execute them as expected.

- Bruininks-Oseretsky Test of Motor Proficiency
    - The BOT is intended for children ages 4 to 21 and gives therapists a comprehensive look at a child's fine and gross motor skills across the board—this aids in goal creation to improve strength and motion, which assists with feeding.

Because children may behave differently depending on where they are, it's important to get parents' input on how a child responds to mealtime and feeding when eating at school, daycare, restaurants, the homes of family or friends, etc. It is ideal if a therapist can view a child in each place to get to the root of the problem. This will give therapists an idea if the child might be overstimulated in unfamiliar places, if they are not getting the individualized support they need in public, or if emotional responses (such as fear or embarrassment) present that interfere with their ability to eat.

Section 4 Personal Reflection

If a therapist cannot observe a child feeding across multiple settings, how can they request or gain access to this information?

Section 5: Occupational Therapy Feeding Treatment [16-21]

Feeding therapy will look different for each child, depending on their specific concerns. But many therapists prefer to use certain approaches to govern how they implement feeding therapy. One example is the "Get Permission" approach, which is an evidence-based way for therapists to provide sensitive and responsive feeding therapy. The principles of this approach state that therapists:

- View feeding as a relationship
- Have a role that involves giving both parents and children viable options for mealtime success
- Must collaborate equally with parents and other providers
- Need to encourage children to feel well and be confident to eat well
- Should first focus on forming developmentally-appropriate experiences to cultivate developmentally-appropriate feeding habits
- Always need to read a child's cues and make adjustments as needed
- Are encouraged to celebrate mealtimes
- Must determine the path of therapy, and children are responsible for setting the pace

These principles can guide a therapist's actions by teaching parents about pediatric feeding and taking children through feeding therapy. In terms of specific interventions, occupational therapists have a range of options depending on a child's needs. The literature provides a variety of interventions to promote feeding and eating.

A 2020 meta-analysis with evidence to support interventions in feeding and eating supported giving children repeated exposure to non-preferred foods. Five Level I studies were used to create this evidence base. The same study demonstrated moderate-strength evidence in favor of non-nutritive sucking in infants increased the volume of milk.

Three main themes emerged from a 2013 systematic review on children with feeding difficulties: behavioral, parent-directed, educational, and physiological interventions. Behavior interventions included positive reinforcement, physical guidance, shaping,

and differential attention. Children with various feeding challenges benefit from behavioral interventions to increase acceptance of different foods, gain weight, improve nutritional intake, and promote self-feeding. The study demonstrated similar outcomes for parent-directed educational interventions with family-centered options resulting in the best outcomes.

Preparatory physiological methods show moderate to strong evidence, including skin-to-skin contact, non-nutritive sucking, and breastfeeding for infants. Development of feeding skills with oral and olfactory stimulation, such as the use of tactile input or with non-nutritive sucking, are indicated. There is also strong to moderate support for therapeutic techniques such as positioning, oral stimulation, oral support, pacing, manipulating feeding methods, and adaptive equipment.

In one qualitative study about feeding patterns of children with autism spectrum disorder, researchers video-recorded family mealtime interactions and analyzed the findings with qualitative content analysis. Results showed that parent strategies focused more on sharing time and space than promoting new eating behaviors. Therapists should tailor feeding interventions to individual family needs, and goals should show consideration for the whole child.

Interventions for the Oral Phase of Feeding

One of the most common interventions for the oral feeding phase is positioning. Therapists should encourage proper alignment at a child's hips, knees, and ankles. Practitioners should place the child's knees and ankles at 90 degrees while their hips are flexed slightly more than 90 degrees to prevent posterior pelvic thrust, which is common with some kids who have feeding concerns. Children should remain in the up right vertical plane when feeding while they keep their heads and neck in neutral.

Therapy should first and foremost focus on assuming an ergonomic position while feeding if the child cannot do so. Depending on the child, this may involve strengthening the head and trunk to improve the function of the upper digestive tract and respiratory system. This allows a child to safely and efficiently eat without choking or putting themselves at risk for aspiration. Therapy might also address tone management by decreasing the impact of low or high tone in the head, neck, or trunk.

As for younger children who are still breast or bottle feeding, these same body parts should also align. Several positions may be suitable. The cradle hold is one of the most common positions, as it involves cradling the baby as you usually would while they have access to the breast or bottle. In this position, the parent's hands rest on top of one another on the baby's back. The cross-cradle position is similar, except the parent's arms are more folded, so their hands lie across their opposite forearm. The football (or rugby ball) hold is more common among mothers who recently had a C-section or those who have larger breasts since this gives the baby more access to the breast without resting them on the mother's abdomen. When seated, the mother should place the baby alongside while extending their shoulder and fully flexing their elbow to hold the baby in place. The mother should then use a pillow to support the baby's head on top of their legs. Several other breastfeeding options are available, but some of the most common and accessible ones allow improved feeding for mother and child.

Occupational therapists have a significant role in the oral phase since the other stages don't occur unless a child completes this initial phase. Therapists can train children to take proper bite sizes, which they can gauge based on the size of a child's pinky nail. This will help with the later stages, prevent choking and compensate for issues such as stuffing due to sensory concerns.

Environmental modifications can also help children feel more comfortable during mealtimes. This usually means having the entire family at the table, talking about non-food-related things, serving family-style meals and side dishes, eliminating criticism, rules, and judgment from the mealtime. Parents can create fantasy situations or stories based on their child's favorite character or TV show. Another helpful tip is to remove distractions such as screens and allow your child to drink milk or water alongside their meal. These tips will make the child more comfortable with the feeding process.

This is also a good chance for therapists to address emotional responses that may interfere with feeding. Food-based refusals can often stem from strong sensory reactions to food, but they can also occur due to problematic behaviors. Therapists can do this using behavior modification techniques such as differential attention, shaping, fading, backward chaining, and escape extinction.

Differential attention refers to ignoring negative behavior in an attempt to extinguish it. You must then wait and give positive attention to appropriate behaviors. Adults should not use this approach in response to unsafe behaviors such as those leading to aspiration or choking. Shaping is a way to slowly reinforce positive behaviors and build them up to larger ones. In the realm of feeding, an example of shaping is rewarding a child for trying one bite of food, then rewarding them for eating one-quarter of their meal, then rewarding them for eating half of their meal, and so on. Fading is a type of behavior modification that many therapists unknowingly use. To improve a child's independence in feeding, therapists should gradually provide less cueing and structure to allow for food exploration, skill-based learning, and greater autonomy. Backward chaining is a way for therapists to encourage improved learning by breaking down the individual parts of a task and teaching them to a child backward. For example, if a therapist teaches a child to make a peanut butter and jelly sandwich, they would start by showing a completed sandwich. They will then open it up and instruct the child on how the jelly and peanut butter are individually spread on the bread. Escape extinction is a way of minimizing a child's refusal to eat by eliminating negative reinforcement. If a therapist (or parent) wishes to do this, they should structure the environment and plan out their meals so that the child cannot say no. For example, if you place a plate in front of a child containing one non-preferred food, they are far more likely to say no. Instead, you can extinguish this refusal by offering the child two food choices and not allowing them to choose something else.

Therapists looking to improve a child's ability to use utensils should be sure the child has appropriate fine motor skills to use utensils. Once they address fine motor dexterity, the therapist should trial utensils with a child. It's best to begin with small utensils that have appropriately small handles. It's also advised to start with a spoon rather than a fork. A small spoon should be paired with a shallow bowl so a child can focus on learning to use the spoon rather than navigating an overly large bowl. Once the child demonstrates improvements in using a spoon, therapists can progress to a fork and a knife. It's best to introduce one utensil at a time for the sake of the learning process and skill retention. Suppose children are not yet ready to use these utensils with real food. In that case, therapists can incorporate them into therapy sessions in other ways to help develop their grasp pattern on utensils. For example, they can use a separate pair to cut and manipulate play-doh. Another good option is to practice using measuring cups to transfer water and other materials (perhaps in a sensory bin). This helps children strengthen their forearm muscles and work on moving from supination to pronation when using a spoon and moving it to and from their mouth. Therapists can incorporate similar activities to strengthen a child's fine motor skills and strength regarding utensil

usage.

Some children may not work well with standard child's utensils, so adaptive equipment can assist in the oral phase of feeding. Children with feeding concerns may benefit from some of the following devices:

- Cups with lids
- Various-sized straws
- Small utensils with thick handles
- Offset utensils
- Steady spoons intended for use by children with tremors
- Suctioned bowls
- Universal cuffs with utensil attachments
- Rocker knives
- Plate guards
- Flexi-cups
- Z-vibe soft-tip spoons
- Divided plates
- Tray plates
- High wall plates
- Rolled edge bowls
- Suctioned, divided placemats
- Scooper plates
- Fresh food feeder
- Pacifiers to encourage non-nutritive sucking
- Specialized brushes to reduce oral-motor defensiveness

Similarly, the equipment can help mothers and children who have difficulty with breastfeeding:

- Slow-flow nipples
- Wraparound nursing pillow
- Pregnancy pillow
- Twin nursing pillow
- L-shaped posture pillows
- Natural boost nursing pillow
- Nursing posture pillow
- Breast milk baby bottle

This is also a good time for therapists to introduce strengthening exercises that target the lips, jaw, cheek, and tongue. This will improve the quality of a child's chewing and cause them to experience less fatigue during mealtime. Exercises can target tongue extension, lateral flexion of the tongue, circular jaw movement, lateral jaw movement, lip retraction, lip protrusion, and lip press. There is a range of activities that might be part of occupational therapy sessions, and they can even be given to parents as a home program. Some examples include:

- Blowing bubbles
- Licking popsicles or lollipops
- Doing activities that involve making funny faces like kissy faces while looking in the mirror
- Playing licorice stick tug-of-war
    - Child holds one end of the stick in their mouth between their tongue and the roof of their mouth while the therapist has the other end. The therapist must tell the child to repeatedly move the stick to the right and left.
- Using a kazoo, whistle, or harmonica
- Counting teeth with their tongue

- Using a vibrating toothbrush or soft bristle brush on teeth and tongue
- Humming songs or tunes, especially those with the words “la, la, la, la, la”
- Touching tongue to the tip of the nose
- Blowing raspberries and doing air kisses
- Doing a juice squeeze
    - The therapist should pour fruit juice on a wad of gauze and roll it up into a small ball. The child should keep it in the middle of their mouth while using their tongue to squeeze it and get as much juice out as they can. Therapists should be sure the child is not at risk of aspirating and is old enough to understand they can’t swallow the gauze.
- Training in the use of various-sized straws to improve oral motor control and strength
- Using oral motor chews as a fidget
- Relay race blowing a tissue or piece of paper across the table with a straw or their mouth
- Biting on a vibrating toy or a small handheld massager
- Using a z-vibe (with supervision)
- Straw rockets that slide the rocket up when they blow on them
- Cotton ball soccer (blowing a cotton ball across a playing field or table with a straw)
- Catching goldfish (using a straw to suck goldfish crackers up with their mouth)
- Using a mesh bag to chew on semi-solid food using mainly the tongue
- Eating chewy foods like fruit jerky, beef jerky, licorice, or chewy granola bars
- Seeing how long they can hold a carrot stick between their teeth using only their lips
- Experimenting with thicker food (like milkshakes) to strengthen the mouth
- Using their mouth and tongue to get food out of small containers or off the

corner of their mouth (yogurt, pudding, and applesauce is suitable for this, both because of their consistency and the size containers they come in)

Hand-to-mouth coordination is another essential skill that can aid a child's ability to successfully participate in the oral phase of feeding. The following list details some activities and exercises that focus on this skill. Many of these activities also address fine motor skills, which are equally as important when teaching a child to self-feed and use utensils:

- Ball rolling
- Swinging ball activities
- Sports that involve tracking a ball (tennis, soccer, basketball, ping pong)
- Games with a yo-yo
- Relay race
- Bean bag or balloon toss
- Wallball
- 1-person game of toss and catch while standing in a circle
- Activities that involve weaving, threading, lacing, and beading
- Bop-it
- Simon says
- Connect the dot games
- Water bottle or sand pouring
- Bowling
- Puzzles
- Pillow fights
- Making collages by cutting and gluing small paper/pictures on larger paper
- Dribbling a ball on a course or maze
- Jumping rope

- Egg and spoon race
- Finger painting

Parent Education

An essential part of success in the oral feeding phase is carryover, which means a therapist should provide a robust home program and parent education for each child. Carryover is the only way a child will find success in self-feeding, so parents must know how they can encourage consistently healthy feeding habits in their child.

Therapists should educate parents on the importance of modeling healthy eating for their children. It's not necessarily required that parents eat every food that their child does (or is expected to eat). However, social modeling is powerful, so it helps children feel safer and less threatened if their parents are casually and naturally eating non-preferred foods. The same goes for mealtime behaviors. If children see their parents sitting down at the table with their family without any screens and having a relaxed time eating and talking with others, it will help encourage this same behavior.

As we mentioned, easy-flowing conversation during the feeding process is also crucial. During meals, parents should avoid any talk of criticism, judgment, or punishment surrounding food. Similarly, parents should not fixate on a discussion about food, such as what will happen if and when they eat or what they are expected to eat tomorrow, etc. They should focus on creating and sustaining a relaxed environment where their child can feel comfortable feeding themselves and being around food. This will only make the child more fearful and averse to meals and the foods present.

One of the best ways to minimize challenging behaviors of any kind is by establishing a routine. Routines are important, so children know what to expect. It will only increase their fear and negative responses to food if they are caught off guard by something that scares them. Children should not be forced to eat certain foods, and adults should not punish them for not eating. This also applies to staying at the table after others have finished their meals. Punishment will only make a child more adamant in their refusals. Therapists should educate parents to gauge their child's readiness and present some changes in their food when they appear to be more accepting. Bribing is another technique that is not effective for children with feeding concerns of any kind.

Instead, therapists should provide education surrounding the idea of hunger to both parents and children. Parents should have an idea of how to sense when their child is

hungry, and children should be able to show signs (either by speaking or otherwise) when they are hungry and want food. Once parents recognize these signs and both parties are on the same page, the process will become smooth.

Family mealtimes are an important routine for healthy feeding habits. Not only because they offer some distraction from food and the opportunity for social modeling, but also because they make a child with feeding concerns feel more supported during what can be a scary time. It’s helpful when parents serve meals family-style so that children can have the opportunity to try a little bit of each food item if they are willing to. If not, it gives them the chance to tolerate new food items on their plate without eating them.

Parents should avoid eliminating certain foods from their child's diets and consistently introduce healthy foods. This not only gives the child more chances to try new items, but it teaches them that food just won't disappear if they refuse it. Tendencies change over time, so a child that refuses broccoli one day may end up preferring it several months down the road when it is presented to the next. This may happen if a parent takes the time to slowly build up to it by preparing foods similar to broccoli.

This is an excellent time to teach parents about food bridges and jags. Food jags are a term used to refer to one or a minimal number of foods that a child eats nearly exclusively. This is not a good practice since it often means a child has trouble branching out from this set of foods. Typical food jags for kids include cereal, bread, plain pasta, crackers, and cookies. Parents can help kids try other foods outside of this group by utilizing food bridges, which entails making slight changes to foods to encourage variety. For example, if a child likes pasta with only butter, parents can try preparing it somewhat differently each time. Maybe they can put some salt on the pasta instead of butter. If the child tolerates this well, the parents can then try a drizzle of olive oil the next time. If this goes well, parents can try adding only a tiny amount of salad dressing that contains pepper. Then they can try sprinkling just a small amount of black pepper to the pasta instead. Eventually, this teaches your child to tolerate more variation in their food, even if it's about the same food item. Parents are encouraged to do this with taste, temperature, texture, shape, smell, color, and even food brands. Temperature is usually a safe place to start since those changes are more subtle. Take it slow, since making too many changes too fast can have the opposite effect and make the child averse to the food. Once children are more comfortable and the therapist gives the okay, it's encouraged for parents to offer more choices by switching up how, what, where, and when their child eats.

When a child demonstrates preferred foods, parents should not offer them these foods

every day to avoid creating a food jag. It's best to provide them every other day and add new foods for variety. Parents can promote their child's success regarding new food items by encouraging them to try one bite without eating the entire food item or an entire meal. This is a much better way to help the child gradually work their way up to eating more. Food-based play is another great way for parents to make mealtime more fun. Many parents think of this as too distracting and that their kids won't eat if they're only playing. But it's possible to have a little of both. Parents can create backstories for the food, for example, calling broccoli 'little trees.' Parents can help their kids build roads or slides out of rice or mashed potatoes and let other foods ride down the bridge to get to their mouths. There are many opportunities in this area. Parents often know their child's likes and dislikes well enough to develop stories and games that work.

Another way to break down the barriers for kids and certain foods is by letting them help in the process. This can include teaching them where food comes from by showing them videos or reading them books about how food is grown or manufactured. But you can also let children help in preparing meals at any age. Younger kids can help gather and sort ingredients or do other simple tasks like taking peas out of the pod. They can even help with mixing and stirring ingredients together. Older kids can help prepare ingredients, make grocery lists, help shop for ingredients, read and follow recipes, and even assist with baking and cooking on the stovetop. This is an excellent way to get their hands dirty, so they know every ingredient part of their food.

Parents should understand that food should not be viewed as a reward. This is an unhealthy habit that can lead kids to overeat non-nutritious but preferred foods like cake, cookies, crackers, and candy along with soda—the best way to encourage your child to eat more healthy foods on their own pace.

Interventions for the Pharyngeal Phase of Feeding

Due to their scope of practice, occupational therapists don't address this feeding phase quite as often. It usually falls under speech-language pathology treatment, but occupational therapists can still play a part. They can assist in educating parents and teaching kids about oral motor strengthening activities. Exercises and games should specifically target cheek strength and lateral movement of the tongue. This helps prevent pocketing and keeps food in contact with the teeth for more efficient chewing. Activities should also incorporate jaw motion and strength to improve lip movement and lip closure/seal.

Therapists should especially emphasize parent education here. Parents should be educated to monitor their children during this phase and watch for signs of regurgitation through the nose or pocketing. Regurgitation can lead to aspiration, and pocketing can cause a child to choke due to impaired oral motor awareness. Therapists should address the latter concern through sensory strategies, while aspiration needs medical treatment.

This is also when therapists can assist children transitioning from tube feeding to oral feeding. Speech-language pathologists have the most prominent role there, as they do more concentrated work to strengthen musculature in preparation for oral feeding. However, occupational therapists can help both parents and children to adjust to the transition better and learn the foundational skills related to eating.

Interventions for the Esophageal Phase of Feeding

Again, occupational therapists don't often play a significant role in treating children with esophageal concerns related to feeding. However, therapists can still impact a child with this feeding concern. Occupational therapists treating a child with these concerns might:

- Look for signs of aspiration, such as watering eyes, irritability, and coughing, which will especially be noticeable when food reaches the esophagus; therapists should also educate parents to be aware of these signs if they arise while a child is feeding at home
- Take a child's oxygen saturation levels, temperature, and other vitals before and after mealtimes/snack times to ensure their condition is stable, and they tolerated the feeding well
- Use a stethoscope to monitor heart sounds in the neck, also called cervical auscultations, to gauge whether blood is still circulating in the area of the throat
- Assist in performing an MBSS/VFSS to determine the actual cause of a child's esophageal feeding concerns; this also involves documenting and disseminating information clearly to the rest of the treatment team as well as developing occupational therapy treatment goals and sessions accordingly

Occupational therapy treatment might not always be indicated in this phase of feeding. Medical management and treatment from a speech-language pathologist may be the

best line of action. But all of these measures together can give therapists a clearer picture of whether a child needs treatment to avoid aspiration in the future.

Section 5 Personal Reflection

How might an occupational therapist go about assessing and later treating a mother who is having difficulty breastfeeding her 1-year-old child?

Section 5 Key Words

Backward chaining - A teaching method that involves instructing someone of a task's steps in reverse order; this is intended for those with motor planning deficits or learning disabilities

Behavior modification - A type of intervention that focuses on changing behaviors through a variety of methods; some examples include biofeedback, progressive muscle relaxation, and reinforcement styles

Cervical auscultation - Heart sounds produced from blood flow in the upper neck; they can be monitored by using a stethoscope against the neck and throat

Cradle hold - A breastfeeding position that involves cradling and holding the baby with the arm that's on the same side as the breast that's in use

Cross-cradle hold - A breastfeeding position that involves cradling and holding the baby with the arm that is opposite the breast that's in use

Differential attention - A behavior modification technique that involves ignoring negative behaviors to stop them from occurring in the future

Escape extinction - A behavior modification technique that involves eliminating negative reinforcement to minimize refusal

Fading - A behavior modification technique that involves gradually providing less cueing and support to increase independence

Food bridges - The process of slowly making changes to a child's food leading up to offering them a new, but comparable food

Food jags - One or several preferred and comfortable foods that a child almost

exclusively eats; children are usually highly selective outside of this group of foods

Rugby ball hold - A breastfeeding position that involves placing the baby along the mother's side while they extend their shoulder and fully flex their elbow to keep the baby in place; this is recommended for women with larger breasts or those who recently had a C-section and cannot accommodate other positions

Shaping - A behavior modification technique that involves slowly reinforcing positive behaviors and building this up to strengthen larger ones

Section 6: Case Study

A 4-year-old boy presents to an occupational therapist with an intense fear of eating. Mom reports that he runs away from the table at mealtime and hides in the house. He closes his eyes when new food is simply presented on the table (not on his plate). She reports that he only eats rice and cereal when he is hungry. The doctors report that his growth is equivalent to that of his peers and that he does not need nutritional supplementation at this time. Mom says her two older children had some feeding issues when they were this age and she still considers them to be “picky eaters” now. Due to the kids’ extracurricular activities, mom reports meals are served whenever someone is hungry. She has been offering him 4 to 5 different meals each night, but notes that most are met with the same response and refusal.

1. What standardized assessment might this child benefit from based on the above information?
2. Based on the information above, what treatment areas might an occupational therapist want to explore as the root cause of this child’s feeding concerns?
3. What recommendations should this therapist give to the child’s parents?

Section 7: Case Study Review

This section will review the previously presented case studies. Responses will guide the clinician through a discussion of potential answers and encourage reflection.

1. What standardized assessment might this child benefit from based on the above information?

It would be suitable for an occupational therapist to complete the Sensory Profile on this child. While the mother did not report any overt or general sensory deficits, some patterns may arise once the therapist interprets the completed checklist.

2. What might an occupational therapist want to ask his parents based on the information above?

   The occupational therapist should ask the child's parents about his behavior with other textures. The therapist can ask parents how the child responds to different clothing fabrics, clothing tags, mud, dirt, sand, glue, and play-doh. They can also inquire whether the child has ever mouthed objects or sucked on his fingers. These questions can give the therapist important information about the child's sensory processing abilities since this might be the root cause of his feeding concerns.

3. What recommendations should this therapist give to the child's parents?

   The therapist should educate the parents on the importance of serving meals family-style, eating together, eliminating screens from the table, and modeling healthy eating habits. The parents should be reminded that the child will get two choices for dinner each night and will not eat if they cannot choose one of them. The therapist should also instruct the parents on positive dinnertime talk, the elimination of punishments, and the importance of trying one bite versus eating the entire meal.

Section 8: Case Study

A 10-year-old girl with a history of malabsorption and G-tube placement from ages 4 to 7 begins restricting her food intake due to reports of nausea and difficulty breathing when eating. Parents report no recent medical emergencies, no instances of choking, and that the patient has been compliant with her current aftercare plan since her team updated it two years ago.

1. What is the best course of action for an occupational therapist to take?
2. What sort of education can an occupational therapist provide to the parents in this situation?

Section 9: Case Study Review

This section will review the previously presented case studies. Responses will guide the clinician through a discussion of potential answers and encourage reflection.

1. What is the best course of action for an occupational therapist to take?

   Without completing a full evaluation, the above information could mean that this child has already aspirated and food is in her airways. Since aspiration can lead to choking, pneumonia, and other health concerns, this concern is considered an emergency. The occupational therapist should instruct the parents to take their child to the doctor or seek emergency medical care if their doctor is not available.

2. What sort of education can an occupational therapist provide to the parents in this situation?

   An occupational therapist should educate the parents on the signs and symptoms of aspiration. Parents should know what it looks like when a child has a raspy or breathy voice, coughing, gagging, choking, vomiting, low-grade fever, excessive gulping, difficulty breathing during/shortly after feeding, trouble swallowing, and watering eyes when feeding. Therapists should also educate them on responding when these signs and symptoms arise. Therapists should instruct parents on the gravity of the situation, and that aspiration is unsafe and considered a medical emergency. Therapists should also inform parents about the risks of untreated aspiration, including respiratory infections, permanent lung damage, aspiration pneumonia, and swelling of the lungs.

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