EXPANDING CHILDREN'S DIETS

THE ISSUES

Children with sensory-based feeding difficulties frequently limit the types of food and liquid that they are willing to eat. Problems with sensory regulation and sensory defensiveness lead toward many uncomfortable surprises that become associated with food and mealtimes.

THE PRINCIPLES

Children need to learn about new foods in an unthreatening way. They need a great deal of exposure to a food before they will consider tasting it or eating it. Mealtimes frequently are associated with expectations for eating and drinking. Many children are on guard and spend a great deal of energy protecting themselves from new sensory experiences that feel dangerous. Comfort and safety are the most important aspects of the mealtime. When children feel safe and comfortable, they are more willing to risk and participate in new experiences.

Feelings of comfort and safety are based upon adequate sensory processing and gastrointestinal comfort. When these two areas are not functioning efficiently, children will spend more energy protecting themselves than learning about new foods. They will limit their food choices to a narrow group of familiar foods that they have experienced as “safe”. Mealtime programs that are successful incorporate overall strategies to improve sensory processing and integration and reduce gastrointestinal reflux and discomfort.

Adequate nutrition comes from eating a wide variety of foods. Mealtime programs that place a stronger focus on expanding dietary choices than on increasing dietary amount will have greater long-range success.

THE GUIDELINES

Incorporate Strategies for Normalizing Sensory Processing Before and During Encounters with Food

Activities that provide specific types of sensory input can support sensory organization and reduce sensory defensiveness. This includes movement through space or vestibular input. Slow swinging, for example, can be used as a transition between more active activities,

prior to mealtimes or activities like tooth brushing to help prevent sensory defensiveness and overload, and as a quiet, organizing activity when a child is listening to a story or receiving a tube feeding.

Jumping and bouncing also provide vestibular input. In addition, they provide the sensory input into the joints that is called proprioceptive stimulation. Proprioceptive input is organizing for many children, and can help reduce sensory defensiveness when provided before food exploration and mealtimes. It also helps children who have low tone and reduced postural stability gain better steadiness for more controlled movements. Other activities that provide strong input into the joints and muscles include pushing (the swing, a wheelbarrow, or stroller), carrying (boxes, pile of laundry, pillows), somersaults, hanging upside down, climbing stairs or hills, and marching.

Firm hugs and hiding under piles of pillows provides the sensory input to the skin known as deep touch-pressure input. Roughhousing, rolling up in a blanket, and sleeping under piles of covers also provide this kind of sensory stimulation.

Specific types of sound and music are also highly organizing for the nervous system. The use of music containing specific binaural beats known as Hemi-Sync has been particularly helpful for children with sensory processing difficulties. When this type of music is used in the background during sensory exploration and mealtimes, many children experience more focused attention, reduced sensory defensiveness, and greater openness to new experiences.

Observe the child very carefully when introducing these types of stimulation. Sensory stimulation should never be imposed on a child. Some children become more disorganized with vestibular input and do not like swinging and bouncing. Others lack the overall motor control to engage in self-generated activities that provide strong input to the joints and muscles. Still others may find background music distracting or disorienting. Observe the types of activities that the child seeks and enjoys. Expand ways in which the child can receive the types of sensory input associated with these activities. Introduce sensory activities at specific times during the day as a sensory diet that can help the child attain and maintain greater sensory comfort throughout the day. When the sensory system is functioning more normally, children will be more open to making new discoveries about the sensations that accompany eating and drinking.

Build on What the Child Knows and Accepts

Make a list of the foods and liquids that the child currently accepts and likes. Organize these by sensory properties such as taste, texture, color, or smell. For example, does the child eat mostly foods that are crisp or crunchy? Foods that have a strong taste? Foods that are bland? Foods that are sweet? Foods that are soft and smooth? Foods with similar colors?

Make a list of other foods in the same categories. For example, a child who eats potato chips and pretzels may accept other crisp, salty foods more easily than foods that are soft or bland. Corn chips and crackers could be introduced to the diet. Bread could be introduced as toast, or sandwiches could be created on crackers rather than soft bread.

A child who eats soft smooth foods such as pureed applesauce or bananas may accept another white fruit such as pears or a mixed fruit such as bananas and pineapple more easily than green beans. In this example the pears are in the white, sweet fruit group. The primary change is a slight difference in the sweet taste. Green beans are very different in both color and taste and may represent too drastic a change for the very sensitive or suspicious child.

Create new combinations from two foods that the child usually likes and accepts. For example, a child who likes popcorn, corn chips, and cheese may accept popcorn with melted cheese or Nachos (melted cheese over large corn chips). The child who likes the taste of a smooth mango puree and a peach puree, may enjoy a blend of mango and peach.

Make Very Small Changes as New Foods are Introduced

Small, gradual changes are always easier to accept than large or sudden changes. We experience this guideline in all areas of our lives. When changes in the sensory properties of food (i.e. color, taste, texture, smell, and temperature) are made too rapidly, many children “just say NO”! To prevent this from happening and support the child's success, make very tiny changes in the new foods that you offer.

One of the simplest changes is to introduce a new brand or variety of a food that the child accepts. There are very slight differences in taste or texture in different brands. These may be very subtle, or very noticeable to a specific child.

Introduce different types of food that the child accepts. Yellow cheese could be Mild Cheddar, Medium Cheddar, Sharp Cheddar, Colby, or Longhorn. White cheese could be Swiss, Gruyere, or Mozzarella.

Apples come in sweet, tart, firm, and soft variations. Applesauce comes in sweetened, unsweetened and cinnamon applesauce. Pretzels can be long and thin, short and fat, or round.

Make bridges toward totally new foods based on taste, texture, and color. For example, a yellow apple and a yellow pear have many similarities but a few important differences in taste and texture. A child who eats apples may have an easier time moving to pears than to strawberries. A child who eats strawberry yogurt may transition easily to raspberry yogurt.

Build Familiarity with New Sensations and New Foods through Play

Children learn to make friends with new foods by playing with them. When they stir, pat, smear, pour, and make designs with an unfamiliar food, they experience the sensory qualities of that food. What color is it? What does it smell like? What does it feel like on the hands? Is it smooth or does it have some texture? Is it wet or dry? They may add other sensations to their play as they lick a finger or take a small taste from the spoon used for stirring. Gradually they develop the comfort to explore the food with the mouth as they begin to eat small amounts.

When food play is separate from the child's meal, children know that they are not expected to taste or eat the food. This gives them confidence and greater willingness to experience the food in other ways. Food play can begin with pretend foods such as a soft plastic apple or plastic slices of bread and cheese. The child can explore these foods with the lips and tongue or pretend to feed them to a doll or stuffed animal. A real apple, bread, or cheese can be introduced into the play as the child becomes more comfortable and accepting of real food. Strips or small cubes of cheese can become the eyes, nose, mouth, and hair on an apple face or on a piece of bread. A boat could be hollowed out of a cucumber or zucchini with an older child. The emphasis is entirely on the familiarization that comes through play. If adults try to convince children to take a bite of the food, they may become suspicious that the adult has an ulterior motive. They begin to perceive the situation as another trick to get them to eat rather than enjoyable food exploration.

Some children need the opportunity to stir and mix food and smear it on the highchair tray as a preparation for taking a spoonful. Small amounts of food play at mealtimes are very appropriate for young children who missed this stage of development when they were infants. Once the child has become familiar with the food through play,

introduce it as part of the meal.

Help Children Feel Physically and Emotionally Safe with Textured Foods

Lumpy foods or solid foods that must be chewed can be very frightening to children. As they become more afraid and feel pressure from adults, they increase tension in their face and mouth. They clench the jaw or pull back the tongue. They may open the mouth a tiny amount. They may freeze and stop moving the tongue as soon as they feel the food touch it. The tension and lack of mouth movement increases the child's sensory discomfort. Pieces of food may sit on the back of the tongue and trigger a gag. The child panics and decides that this type of food is dangerous and must be avoided in the future.

Typically developing infants spend many months exploring toys with the mouth. They sense the toy's firmness by repeatedly biting into it. They feel shape and size with the lips and tongue. As they learn to push the toy around in the mouth with the tongue, they discriminate the lumps and bumps of surface texture. As they do this, they feel very safe because the lumps and bumps don't come off. They don't have to be manipulated in the mouth and swallowed. When they encounter lumps in food or bite off a piece of cookie or cheese, they have had experience with textures in toys so they are not afraid. They know they can handle the new experience with foods.

It is important for children with feeding difficulties to have experience exploring toys or objects with the mouth. Many children miss this stage of infant development. They may avoid mouthing their hands or toys because they are uncomfortable with mouth stimulation. Or, they may have engaged in a more generalized random mouthing that did not include exploration with greater sensory awareness.

Children need to know that they can get pieces of food out of their mouths. Adults can help them use their fingers to remove a piece of food, learn to spit the food into a bowl with good lip and tongue control, and gather small pieces of food together for swallowing by using a smooth food that binds or sticks the pieces together. Smooth applesauce could be paired with chunky applesauce. Blenderized spaghetti sauce could be use to bind together pieces of pasta that are stuck on the tongue. Some children learn to clear their mouths by taking small drinks between bites.

Many children can learn to bite off a piece of food and spit it out immediately. As this becomes comfortable, they may progress to

holding the food in the mouth or moving it around the mouth before spitting it out. Gradually they will learn to chew it briefly without swallowing and then swallow small amounts as they chew. Through confidence, comfort, and experience they master chewing and swallowing foods easily and independently.

When children know that they can get the food out of the mouth when they need to, they are much more likely to put it into the mouth. If they feel threatened or unsafe, they will fight any attempt to put the spoon or food in the mouth.

Build Acceptance through Gradual Repeated Exposure to the Food

All children need repeated exposure to a new food before they are comfortable eating it. Studies have shown that children without a history of feeding difficulties are more likely to eat new foods that they have seen or played with many times. They see the food on someone else's plate or in a serving bowl. They smell it as it is cooking and while they are sitting at the table. They may play with macaroni and cheese on the high chair tray or chase pieces of carrot around the plate with a finger long before they would consider putting the strange food in their mouth.

Some children need to begin by listening to a story or looking at a picture book about the food. Others may have trouble being in the same room with the food. They may have developed such strongly aversive responses that they will scream or vomit as soon as they smell or see the food. It is important to identify the type of relationship with the new food that feels safe to the child and slowly increase the child's involvement with the food. Some children will become upset and want to leave the table if a new food is placed in front of them. If the food is on the other side of the table, it is okay. Gradually the food can be moved closer and closer until it is in a dish in front of the child. As this is accepted, the food can be placed on the child' plate. This progression is usually more successful if the food has been included in food play that is separate from the child's mealtime. Introduce a new food at the meal after the child has explored aspects of it during the food play and exploration. For example, cut-up pears at the meal could follow play with boats made of pear halves floated in the bath tub.

Many adults will offer the child a new food once or twice. When the child refuses to eat it, the food is placed on the does-not-like-it list and is never offered again. Since this happens when most new foods are presented the list of possible foods shrinks, and the child and parent settle with a diet of 4 or 5 foods that are acceptable. When food is

offered many times without pressure to eat it, the child becomes familiar with its sight, smell, feel and taste. Curiosity and hunger may encourage the child to take a few bites and eventually incorporate the food into an expanded diet.

Build Interest and Involvement with Food and Mealtime Preparation

Young children love to imitate their parents as they wash the table, vacuum the floor, stir a cake mix or stack the laundry. When children are cautious or suspicious about new foods, they may avoid the kitchen and miss out on many aspects of food and mealtime preparation. This may happen because cooking smells are offensive or children are afraid that adults will push them into tasting or eating the food.

Even very young children can carry their plate or bowl to the table when it is time for lunch or take the bowl to the kitchen sink or dishwasher when they have finished eating. This helps them understand where the food came from and that meals have a clear beginning and end. At the beginning of the meal, the child can scoop the food from a serving dish or baby food jar into his own bowl. Older children can help cook the meal for the family or plant vegetables in the garden or grow herbs in a small pot in the window. Caring for the plants and watching the vegetable grow create a stronger interest in cooking and eating the food.

Offer Foods with High Nutritional Value

Children with sensory-based feeding issues are often picky eaters who will eat only a small number of foods. They may become stuck in eating foods with similar sensory or nutritional characteristics. For example, one child might drink milk, and eat yogurt and cheese, limiting intake to dairy products. Another child might live on cookies, bread, and white rice, a very limited refined carbohydrate diet. Fruits and vegetables are often missing from children's diets. Because many children like sweet tastes, parents will offer them candy and sweet deserts to entice the child to eat or learn to chew. Because children with sensory issues have difficulty with change, they can get addicted easily to these super-sweet foods and refuse more nutritious foods. If the child prefers sweeter foods, begin with a vegetable like carrots or sweet potato or add maple syrup to some vegetables, fruits or cereals. This offers a less intense sweetener that provides both nutrients and high quality calories. Some children like the intense tastes provided by carbonated beverages. Instead of giving the child soda pop, mix a favorite fruit juice with carbonated mineral water. Pieces of vegetable

or meat can be dipped into spicy condiments such as barbecue sauce, salad dressing, or salsa. Children can chew on crunchy carrot sticks or pickles at the beginning of the meal to wake up the mouth. Herbs and spices can be added to foods to increase the intensity of their sensory input. Children need dietary variety to get the calories and nutrients required for growth. Nutritional supplements can be added to the diet with the guidance of a qualified dietitian or physician. High quality food supplements, such as a dehydrated fruit and vegetable powder, can be blended with foods the child accepts.

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