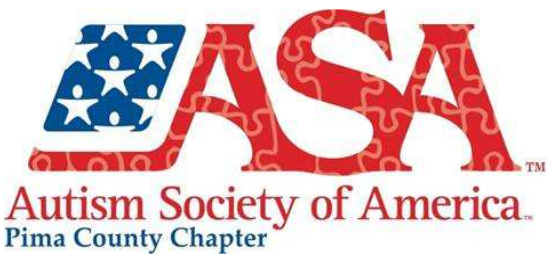
Resource Handbook for Parents (and professionals) of Young Children with Autism (or autistic-like tendencies) Who Struggle at Mealtimes

Created by: Deborah Vittner OTR/L, Mealtime Connections
Candidate for Master's of Public Health
Mel & Enid Zuckerman College of Public Health
University of Arizona

Contributions by: Marsha Dunn Klein MEd., OTR/L,
Mealtime Connections, LLC partners & staff, &
Parents of Children with Autism



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Foreword

By: Deborah Vittner OTR/L, Candidate for MPH

Thank you for taking the time to read this resource handbook. It may be necessary to read one section at a time and/or revisit the handbook as needed. I encourage you to reproduce the handbook as you wish and share it with anyone that needs the support.

One afternoon, Marsha and I were brainstorming ideas about what I could do for my public health Master's internship project with Mealtime Connections, LLC. The idea for the resource handbook came up, and I was immediately interested. Feeding issues among young children with autism is a public health issue. I have always been concerned about the increased prevalence of autism in our country, and I wanted to investigate why children with autism frequently struggle at mealtime and what the best strategies are to assist children with autism at mealtime.

Prior to working as an occupational therapist at Mealtime Connections, LLC, I did not know how to help children who struggled at mealtime. There is minimal information out there for therapists. Marsha and the partners at Mealtime Connections, LLC have taught me successful mealtime strategies that work for children with autism and other children. Parents need to be aware of the little research that has been done in the area of evidence-based interventions for children with autism with mealtime challenges, and parents should realize that more research on interventions needs to be performed.

The handbook offers a large amount of mealtime strategies that exist to help children with autism. As a result of a focus group, or discussion group, with pediatric occupational therapists and service coordinators, several content areas were chosen for this resource handbook. Parents of children with autism then prioritized the ten content areas that they wished to see in the handbook; these are the content areas represented in the following pages.

Whether the mealtime challenge is that your child eats only a few specific foods, eats only preferred textures, has a large amount of obsessive compulsive tendencies during mealtime, does not use a utensil correctly, etc., this handbook aims to provide you with strategies that may help in assisting your child. Not all strategies will be right for your child, and it will take problem solving with your child's professional team to determine the best strategies for your unique child.

This resource handbook is meant to be specifically targeted for parents, or caregivers, of young children with autism who struggle at mealtime. It became a secondary focus that this handbook could also be used to inform professionals of the problem and strategies that can be of assistance when working with children with autism. I use the terms "your child" throughout the handbook for ease in reading, and although this handbook is for caregivers, professionals, friends, etc., I refer to "parents" throughout the handbook. I wanted parents/caregivers to be the first priority.

Working as a pediatric occupational therapist in Tucson, many families have shown me hospitality in their home and trust and belief in the work that I do. I wish to offer a useful tool to families in this geographical area and beyond. The unconditional love and support that parents give to their children is incredibly inspiring. I aspire to be as good of a parent as many parents with whom I have worked.

Acknowledgements

I would like to thank numerous people for their contributions and continued support throughout this project. I wish to thank (in no particular order):

Parents for their time filling out the survey and speaking with me, open and honest sharing and thoughtful contributions to the project, and positive words of encouragement throughout the project which truly kept up my motivation and excitement about what I was creating.

Children for being themselves, teaching me life lessons, and making my job so enjoyable.

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Why Does My Child Eat This Way?

By: Deborah Vittner OTR/L, Candidate for MPH

The Problem

Feeding problems among children with Autism Spectrum Disorders (ASDs) are common, but research is still in its beginning stages.[1-2] The majority of research that exists on this topic is in the fields of psychology and behavior, which may limit the scope of analyzing this complex problem.[2] Studies show that 46%-89% of children with ASDs demonstrated difficulty at mealtime.[1] The fact that many children with ASDs have difficulty at mealtime warrants special attention in this area.

Presentation of the Problem

Selective eating, or food selectivity, is the most widely identified problem among children with ASDs.[1] Selective eating results in the rejection of particular foods. Children can range from mildly selective to severely selective, possibly eating only 2 or 3 very specific foods.[1] Children with ASDs have been shown to present with food selectivity by type of food (ie. French fries) or texture of food (ie. purees).[3-4]

Parent questionnaires were used in a large study to compare the eating habits of children with autism to those of children without the diagnosis of autism.[5] Results concluded that caregivers of children with autism reported more mealtime challenges including food refusal, a need for a particular utensil and presentation of foods, decreased acceptance of food textures, and a limited variety of foods.[5] Additionally, children with autism ate less foods in each food group than children without the diagnosis of autism even though both family groups ate roughly the same amount of foods in each food group.[5]

Potential Causes of the Problem

Unfortunately, the exact cause of mealtime challenges among children with autism is unknown. There is evidence that suggests the causes of feeding and nutritional problems among children with autism are behavioral refusal of foods or sensory-based challenges with various textures.[6] Additional potential causes of feeding challenges identified in this population include: attention to detail, perseveration, impulsivity, fear of the new (neophobia), sensory problems, gastrointestinal problems, difficulty with social rules and etiquette, parent anxiety, reinforcement of negative mealtime behaviors, problems with communication, and an expression of restricted interests and activities.[1] Difficulties with

transitions could make mealtimes challenging for children with autism, where the child is bombarded with constant stimuli and he/she is expected to sit still for long amount of time.[7]

It may be helpful to analyze why you think your child has difficulty during mealtimes. Discussing this with professionals that know your child may also prove to be helpful.

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Parent Mealtime Stories

By: Parents of Children with Autism Spectrum Disorder

Sensory Challenges: "Sensory and texture issues have been the toughest challenges for both of my children. My son only eats crunchy textures and has choking issues, and my daughter primarily eats mushy foods and smears foods on the back of her head if her fingers get soiled. Food preparation for opposite needs has been difficult because I have to make different foods to cater to each of their needs trying to introduce new foods slowly."

The Unexpected: "Eating out is always a challenge because my daughter has extremely inappropriate manners. For example, she stood on top of a table at a restaurant, opened a salt shaker and poured it over a waitress' head. This was not done with malicious intent, and she had a totally blank look and no response when she was made aware that this is not appropriate. Social stories help a great deal with such experiences for the next time, but sometimes you are totally caught by surprise and never suspect your child might do something like that."

Progress: "My daughter has been in food therapy since she was a baby. Now at the age of seven I am amazed how far she has come. In the beginning, she would gag when food was put in her mouth and now at age seven she eats and will explore many foods. From her years of food therapy, my daughter learned the polite responses and etiquette of what to say and do when you are served food, so for example she will say such things like 'mmmmm... delicious, tastes yummy, thank you very much for this yummy food to eat'. All the while she is saying this she does not eat a bite."

Social Etiquette: "One day, after a long summer at my daughter's camp, the teachers approached me and complimented me on how polite my daughter was in receiving her snack and what a 'great eater'. Of course I was shocked. After we all investigated this further, we realized that my daughter waited until all her peers were finished eating, then she would simply gather up her snack and without eating a bite would throw it away. I found this to be extremely intelligent. My daughter knew what to do and say that would be socially acceptable while respecting her own comfort level with food. My husband and I hope and feel that, as she continues to eat, it will become less and less stressful for her. We hope that she will get to a comfortable place to sincerely mean all the polite responses she has been telling people. Until then, we celebrate how far she has come and all the daily strides she continues to make."

Stretching from Familiar: "My son was, and continues to be, very resistant to trying any new foods, but I found by using a familiar word, "cracker", I was able to get him to go from accepting fish crackers to other kinds just by saying, "they are crackers". He has stretched to peanut butter sandwich crackers and even Teddy Grahams®. Even though those are technically cookies, he didn't know that! It has worked with "noodles" and "cereal" too. I just wish meat of any kind would fit into one of those categories! I'm still working on that."

Mealtime Connections

Mealtime Challenges and the Autism Spectrum

By: Marsha Dunn Klein MEd., OTR/L

Not all children diagnosed with Autism Spectrum Disorders have challenges with mealtimes, but those who do can affect the mealtime for the entire family.

The very aspects of mealtimes that make them enjoyable for most people can make them very challenging for the child with Autism Spectrum Disorder. Most of us look forward to gathering with family and friends for the socialization, communication and rich variety of sensations available during mealtimes. However, challenges with socialization, communication and processing of sensory information are central to the diagnosis of autism. In addition, change is difficult for these children. Many want things around them to be the same, in a certain order, and therefore transitions from one activity to the next can be overwhelming. The smells, tastes, touch, temperatures, sounds, visual appearances of mealtimes combined with the talking and socialization and the constantly changing environment can not only reduce enjoyment, but for many can lead to major stress or a desire to escape.

Mealtime characteristics

Common reactions to mealtimes for children on the spectrum who have mealtime challenges can be food refusal, extreme limitations in diet and disruptive behavior. From the family perspective, there is disruption because the child wants to eat the same foods from the same plates, prepared in the same way, with diminished tolerance for change. Change in any of the variables can cause refusals or tantrums. To avoid the total disruption to the family meals, many parents repeatedly serve the exact foods that the child can accept predictably. These often are the same very few foods, the same preparation and presentation, and even the same name brands.

From the child's perspective, there is a need for SAME. They may notice when any part of the meal changes. A highly sensitive sense of smell may let them know that the food is new, that it is prepared differently or is a different brand. The sensitive visual system alerts to change in presentation, changes in color, utensils, cups or plate. A highly sensitive sense of touch feels texture and temperature change. To further complicate eating, every bite taken off the plate makes the plate LOOK different. Every chew of the food makes the mouthful FEEL different. The child may constantly feel bombarded with change, change, change, CHANGE!

Narrow spectrum of food choices

For one child, the diet may be only baby food apricots, in the tall jar from Gerber's®. Another may eat any food as long as it is presented in a folded tortilla. Other children may eat any food as long as it is in a certain bowl and in a blended texture. Another child may eat waffles (a certain brand), pancakes (a certain brand), French fries and chicken nuggets (from a certain fast food chain) or milk (from a certain cup). Some parents have affectionately referred to their child's diet as the "Parentheses Diet" because the parenthetical descriptors are such a requirement to the diet. This diet tends towards shades of browns or whites, and may look less visually stimulating. Notice there are often no colors or big visual variations. Color specific, brand specific and presentation specific diets can cause significant challenges as parents strive to find any balance to the diet. Fruits and vegetables are commonly missing or scarce in these diets. It is often hard to know whether it is the color intensity, smell or flavor variable that triggers the refusal. We can describe the neophobia (fear of trying anything new), the dietary restrictions and mealtime quirks as a **personal logic.** Each child may have his own logic that parents may not understand. A small change in the food that others may not even notice can be very important to the child on the spectrum.

Feel Well

To complicate the whole process of eating for these children, there seems to be a higher incidence of gastrointestinal disorders for children on the autism spectrum. With communication challenges it may well be hard for parents to figure out the cause of the discomfort. Many families have seen mealtime improvement and changes in behavior and communication with special diets (such as gluten-free and casein-free diets) or special supplements. Each family will decide for themselves as they look at the "big picture" of their child's mealtime.

Is it sensory?

Absolutely, but perhaps not in the traditional sense. Mealtimes are sensory, but for many children on the autism spectrum the issues go well beyond sensory. Change. **Change** is hard for many of these children. Sensory change can be upsetting. They find a food that feels safe, and THAT is the food they want. Period. It may well be a certain texture, but it is the whole package of color, texture and taste that is the preference in many situations. A child who likes baby food apricots (Stage 2 Gerber®!) might not prefer that food because of the texture. Baby food pears, applesauce, plums may all be rejected

despite the similarity in texture because they are a different color, smell or jar. The rejection of the new food may come because the new food is simply NOT THE FAMILIAR, SAFE baby food apricots. Many children on the spectrum are excellent "Sensory Detectives". They can be incredibly capable of smelling a change in food (or food brand), seeing the slightest visual variation and feeling the most minute texture variation. They are not easily tricked!

Many families worry that the problem is strictly an oral motor problem. A child who eats only vanilla yogurt (Dannon brand®), cheese pizza (from Pizza Hut) and chicken nuggets (from MacDonald's) and soda has a variety of oral motor eating skills. The problem might not be a specific sensory problem (ie. texture), or a specific oral motor skill problem. The child may be saying, "I do not want anything NEW", rather than "I cannot chew that new food!" As we look at the complicated influences on the food choices these children adamantly make, it is probably an intricate combination of neophobia, sensory, oral motor experience and environment.

Keep options open

We need to reoffer foods that have been rejected. Many times we offer a child a new food and it is rejected. We take it off the "List" of foods to offer because we are looking for mealtime peace. If we continue to take each food off the list that the child rejects, we narrow the options each day and end up with a diet offering only a very few foods. By offering foods again and again with multiple exposures to new foods, we increase the chance of adding new food to the child's diet.

Multiple Food Exposure Opportunities

Typically developing toddlers may need multiple exposures, perhaps 10-12, to a new food before it is familiar enough to try (Leann Birch). Children on the autism spectrum may need considerably more exposures than that. Consider how we help people who have phobias, or irrational fears. We help that person gradually become comfortable with the feared item by tiny distant exposures to it until they become comfortable. When these children are afraid of new foods, we can incorporate many exposures to the new food in everyday activities without requiring them to actually eat the food. Eventually they may become familiar enough with it to try it.

Here are ways to provide multiple food exposures:

* Mealtime Jobs

Consider providing your child with age appropriate mealtime jobs where there can be active participation with foods and the whole mealtime routine. Planning menus, helping to grocery shop, preparing foods, setting the table, serving the foods and cleaning up are all mealtime jobs that give the child the chance to be near foods without the pressure to eat a whole plate of it. The experiences can start with safe non-food interactions such as picking out pictures of food in a magazine. There can be distant interactions where the child grocery shops and just puts food from the grocery shelf into the cart. Non-eating interactions can include the preparation, serving and cleaning up. Direct food interactions can include handing it to others, smelling, licking and tasting. The hope is that with multiple exposures and interactions with the food it will gradually be familiar enough to "try." (See Multiple Food Exposure Opportunities Handout)

* Food Play

Incorporate food into the play activities of the child. Food can be used in pretend play, the cargo for dump trucks or trains. Balls can be made out of grapefruit or cantaloupes. Onion rings can be stacked on a stacker. (See Food Play Handout)

* Food Academics

Food can be used in teaching colors, shapes and sizes and in teaching math concepts. Cookie cutters can be used with a variety of types of foods to make a variety of different shapes out of bread, cheese, and even some vegetables. Green and purple grapes can be sorted. Foods can be counted in a cupcake tin, or counted as they are strung on coffee stirrers. Thinking creatively, there may well be a way to incorporate food into most academic learning tasks! (See Food Academics Handout)

* Food Art

Food is an excellent medium for art projects. Children can finger paint or paint with brushes with wet foods such as yogurt or pudding. They can use colored crumbs to make a crumb picture on a coloring book page. Some fruits and vegetables can be used to make block print painting. Macaroni can be glued on a picture to make a design. (See Food Art Handout)

* Food Preparation

Children can assist in food preparation including set up, preparation and cleanup. Can the child help stir a drink, or put frozen fruit "ice cubes" into a drink? Could the child provide help in making that salad, or putting green beans into a pan? How about slicing cookies, or decorating a homemade pizza? Preparing foods helps the child get used to the smell, the touch, and maybe even the taste! (See Food Preparation Handout)

Re-Define "Try It"

When we ask someone to "Try It" we often mean," here is a mouthful, and I hope you like it!" For the very sensitive or neophobic child, trying a whole mouthful may be far too scary. We may need to break down "try it" into a series of tiny, more achievable steps for children on the autism spectrum and their parents to experience small steps of identifiable success. For some children, success may be just being in the **same room** as a new food. For others, trying it may mean licking it but not tasting it. There is a whole continuum of little steps that can be broken down into even tinier steps so children can succeed WHEREVER their starting point of trust. Here are just some of the options for "trying it."

Re-Define "Try It"
New food in the same room
Food on the dining table
See someone else eating the food
Food in a serving dish nearby
Smell the food
Touch the food through a utensil
Touch the food through napkin, cupcake paper or plastic wrap
Hand the food to others
Feed someone else (parents, sibling, family pet)
Serve the food
Have new food in a special bowl but not on the plate
Have the new food on the same plate as the meal, but use a divider plate
Remove the food from the plate or from touching the familiar food, appropriately
Use regular plate and allow new food to stay there
Kiss food
Lick food
Put food in mouth and take it out, appropriately
Put food in mouth and eat it

Stretch from Familiar

We try to help children build from their safe foods. We want to be sure that when we help a child try a new food, we start with many opportunities to be around it, and we consider redefining "try it." Additionally, we want to consider, "is it worth it?" Some families feel as though they have worked and worked to help their child like a snack food such as Cheetos® only to realize that food is not rounding out the diet well. Others have worked to help their child like a new cracker, only to realize it may be just another wheat product and perhaps they are not sure if wheat is digested well in their child. By asking "is it worth it?", parents can consider the big picture of their child's diet and mealtime experiences and determine if the choice makes sense.

When a child eats one main food, it can be challenging to try to change **that** food. Each decision to "try" foods for children with these challenges needs to be considered carefully. For some children, simply changing the cup the favorite milk is offered in can worry the child enough that the milk is refused altogether. This will be distressing for all. For other children, milk can more easily be the basis for introduction of a new flavor. We call the introduction of a change in the mealtime STRETCHING from the familiar. (See Stretch from Familiar Handout). It is a gradual method of helping the child handle a comfortable change in the mealtime, using aspects of the meal that are familiar. For example, Johnny likes apple juice. How could we help him S-T-R-E-T-C-H from there? Could he drink the familiar apple juice at a park instead of at the table, or from his favorite cup with a sticker added to the cup, or from a new cup altogether? Could he drink it from a lidded cup with a straw? (A lid is helpful as it reduces the smell as well as the visual changes that may occur and worry the child). Could we add an ice cube of a different juice so that he starts the drink with the familiar apple juice flavor and then the ice cube gradually melts to change the flavor in a less drastic way. (See Ice Cube Meltables Handout). Gradually more ice cubes could be added to increase the flavor concentration. As the child accepts and is familiar with the more concentrated flavor, perhaps yogurt ice cubes could be added, or a pureed fruit to stretch the initial apple juice into a smoothie. Could the stretch then move towards purees of the fruit, a vegetable/fruit drink (with avocado or carrot juice added) or towards popsicles?

Another child may start with waffles as a familiar food. Could we STRETCH from that familiar food by cutting the waffle in different shapes, or adding a small amount of a new ingredient to the mixture (like pureed applesauce or carrots), or using waffle strips as a dipper to dip in a new dip. (See Dips, Dippers and Dipping Cubes and Crumbs Handout).

When we help children STRETCH from their familiar foods, we can offer tiny changes in environment, or bowls and utensils, or shape, color, texture, food group or taste. Some children can take months to become familiar with a change and others can move through changes more comfortably. Each child is different and their relationship with food has its own PRIVATE LOGIC.

Lifelong skills

Our children with autism live in a world where people gather at mealtimes to eat. We would like to expand diets and increase the number of foods they find safe, but we also need to do that in an environment that is comfortable and in a way that teaches them the lifelong skills needed to be around foods. We can push a child to eat broccoli, but in the big picture of that child's life, we want to be teaching HOW to deal with situations where food is offered. -- how to say "no thank you" or eat a meal when an unfamiliar, worrisome food is offered. No, it is not okay to run from the table flapping hands or dump the plate full of food. But it is possible to help the child learn that they can appropriately remove that worrisome food and put it in a "looking bowl" or "tasting bowl" near the plate, or that it can be carefully wrapped in the napkin. We don't like all foods, and our children won't like all foods either. We just want them to be more comfortable with more foods, and to learn strategies to interact with foods, so they can eat what they like and politely ignore the rest. This takes time and this takes training and support.

Make mealtimes peaceful

We want to support families in an environment of peaceful mealtimes. When therapists recommend a strict mealtime protocol that creates stress or causes the child to be completely off balance (running from the table, throwing food, hiding under the table, tantrums and refusals), what are we achieving? We want to support family mealtimes and use strategies that help create family meals that are pleasant for all.

Multiple Food Exposure to Increase Familiarity

Safe Pretend Food or Non-food Interactions

- ♥ Looking at pictures of food (create food collage from magazine pictures)
- ♥ Reading books about food and eating
- ♥ Play with plastic foods
- ♥ Matching food pictures
- ♥ Watch a video (especially with favorite characters) about food and eating

Distant Food Interactions

- ♥ Help grocery shop
- ♥ Help put food in grocery cart
- ♥ Help put away groceries

Non Eating Food Interactions

- ♥ Food preparations
- ♥ Serving foods to others with spoons, tongs, forks, fingers
  (ask school team for your child to be a snacktime helper)
- ♥ Cooking, Clean up
- ♥ Incorporating food in play (example carrying food in dump truck,
  pretend play tea party with stuffed animals)
- ♥ Incorporating food in academic play (Using food items to count or do math,
  sort by shape or color, string, make art, learn the alphabet, and size)

Direct Food Interactions

- ♥ Sit at the table with food
- ♥ Have new foods in a looking bowl
- ♥ Having new foods on plate
- ♥ Put a new food near, touching or on a familiar food so child can
  remove it before eating familiar food.
- ♥ Hand food to someone with utensil
- ♥ Hand food to others with fingers
- ♥ Feed the family pet
- ♥ Kissing, licking, touching tongue with food
- ♥ Putting food in mouth and spitting it out in a particular place
- ♥ Eating a tiny taste of the food
- ♥ Eating the food
- ♥ Feed baby food to baby brother or sister or feed doll while parents feed sibling

Mealtime Jobs

Mealtime jobs are a great way to have children participate in meals

- ☐ Menu Planner
- ☐ Grocery Shopper
- ☐ Grocery "Put-away-er"
- ☐ Food Preparer (Stirrer, Chopper, Assembler)
- ☐ Recipe Maker (Make cookies, pudding, drinks)
- ☐ Appliance Operator
- ☐ Garnish" Putter"
- ☐ Table Setter
- ☐ Drink Pourer
- ☐ Dinner Bell (Call family to dinner)
- ☐ Food Server (with utensils or with fingers)
- ☐ Food Passer
- ☐ "Cleaner- Upper" (clearing, touching blowing food away)
- ☐ Plate Clearer
- ☐ Dish Washer
- ☐
- ☐
- ☐

Mealtime Connections LLC

"GO AHEAD…. PLAY WITH YOUR FOOD"

By: Kim Edwards, OTR/L and Robyn Lundeen, COTA/L

For years, kids have been listening to their parents well meaning requests to get a handle on mealtime etiquette. However, there are times when playing with food is the answer to mealtime questions. "Playing" with food can certainly be messy, wasteful and in some ways disrespectful to the cook who put in so much time and energy into the preparation. It is difficult to accept sauce on the shirt, pears in the hair, and pudding on the wallpaper, but playing with your food can be an important learning experience in more ways than one.

For many individual reasons, some children have difficulty with mealtimes. The sights, smells, sounds and touch and texture aspects of mealtimes can be especially challenging for children who have sensory processing difficulties. Some children with special medical or health care needs have had negative experiences with foods. Food allergies, gastroesophogeal reflux, nausea, diarrhea, constipation can all affect appetite and willingness to eat. Sometimes, children may not have the appropriate motor skills to manage certain foods, putting them at risk for overstuffing their mouth, choking, and gagging on the foods creating a scary and very emotional experience around mealtimes.

It is important to help children regain trust around food and around mealtime experiences. There are a variety of ways to help build this trust along a continuum of acceptance.

Preparation and Handling

Simple preparation and handling of the food can help some children adjust to an uncomfortable mealtime situation in a safe and unthreatening way. Have the child participate by:

- Choosing and handling food at the grocery store and then putting it away at home
- Washing fruits and vegetables
- Pushing buttons on the blender or food processor
- Scooping and pouring ingredients and helping mix
- Picking out the ingredients for salads or casseroles and placing in the bowl
- Setting the table, serving or passing out foods
- Using a pizza roller or rocker knife to help cut fruit or veggies for soups or salads
- Using a potato masher to mash cooked potatoes, sweet potatoes
- Feeding dolls, animals, others during play or tea party
- Helping make crumbs for pie crust or dirt cake
- Using a child safe knife to spread peanut butter, jelly, cream cheese on bread, crackers, etc
- Making pizza faces on English muffins with olive slices as eyes and bell pepper strips for mouth, etc.

Food Arts and Crafts

Be creative using food during arts and crafts activities.

- Use straws to blow at drops of grape juice, berry juice, etc or make spatter prints on paper
- Finger paint with pudding
- Use honey, ketchup, jelly to lips and kiss the paper making lip prints for cards or stationary
- Crush ripe or frozen berries in a baggie and use the colors as paints
- Do tongue painting by dipping tongue in kool-aid and wiggling on the paper
- Use peanut butter on pinecones with sunflower seeds to set out for the birds

Food as a Learning Tool

You can use food as a game or as a learning tool by:

- Sorting and matching colored Fruit Loops®, Goldfish® crackers, etc
- Making a sandwich puzzle and then putting it back together
- Stringing Cheerios®, Fruit Loops®, onion rings, etc on coffee stirrers, pretzel sticks, or licorice strings
- Using cookie cutter shapes with cheese slices, pancakes, bread into circles, squares and triangles
- Stacking crackers, cheese cubes, chicken nuggets, etc
- Slicing firm fruit and vegetables (strawberries, red potatoes, broccoli, mushrooms) lengthwise and dip into paint (ketchup, mustard, jelly) for stamp crafts
- Using broccoli and asparagus as paint brushes
- Using cookie or cracker crumbs with glue to create sand art
- Using a potatoes or apple to create body parts and faces with other foods (pretzel arms, licorice lips, olive nose, spaghetti hair, etc)
- Using graham cracker or Nilla® wafer crumbs, rice, and beans as a substitute for sand in a sandbox and hide toys or other food items like gummy worms, gold fish crackers, and dried fruit in the "sand".
- Playing with noodles: who can suck up a variety of noodles lengths the fastest?

Creative Food Presentation

Creative and fun food presentation takes the edge off of eating and turns the focus on the designs of novelty. Lots of great books and websites are available to help stimulate creativity and provide fun ideas for particular eaters.

- Dips and spreads are a great way to disguise "healthy" foods. Integrate with more accepted foods like bread, tortilla strips, crackers, or simply lick the tastes off of a utensil or a veggie stick.
- Ants on a log using celery sticks filled with cream cheese or peanut butter topped with raisins is a longtime favorite
- Potato, avocado, squash, orange, cantaloupe "boats" can be filled with a fun combination of food blends or salads

- Frozen fruit and fruit blends in homemade popsicles, Dixie® cups with sticks or ice cube trays with a ½ of a coffee stirrer as a handle are a hit in the summer.
- Colored or seasonal sprinkles on fruit, yogurt, pudding, cream cheese and crackers, peanut butter dips etc.
- Also, check out the following resources:
    - Feed Me, I'm Yours by Vicky Lansky
    - First Meals by Annabel Karmel
    - www.nutritionforkids.com/kidactivities (click on recipes)
    - www.familyfun.go.com
    - www.kidshealth.org
    - www.kidsfoodclub.org
    - www.bhg.com
    - www.parents.com

Novel Mealtime Place Settings

Mealtime tools such as crazy straws, cocktail forks, character forks and spoons, chopsticks, bowls with built in straws, toothpicks with umbrellas, and picnic playware can change up the routine and make it more fun to eat.

- Simple mouthing toys or baby teething toys can be dipped in a variety of flavors or textures.
- Using mini tea sets with dolls or teddy bears. Serving real food on the tiny trays can be more tolerable and better accepted
- Use a variety of straws for bubble blowing or sipping up soups, pureed textures, Jello®, etc.
- Chinese soup spoons can be used to fish for letters or creatures out of a soup
- Blended smoothies with fruit, veggies, yogurt are more fun through a crazy straw
- Soft cooked veggies, fruit, cheese cubes, diced chicken, beans, mini meatballs, avocado squares, mini tortellini or ravioli can be stabbed with toothpicks and dipped into a variety of sauces or dips.
- Kabobs are not only fun to assemble, but there are a variety of creative ways to eat them too.
- Tongs or learning chopsticks can be fun for picking up foods
- Have a special bowl to spit out new foods that the child might reject initially. Knowing that they can get rid of it makes trying it a little bit safer.

Get out of the kitchen!

- Go outside and have a watermelon seed spitting contest
- Carry eggs or grapes on a spoon for a relay race
- Use a mirror to apply ketchup, jelly, pudding lipstick for the girls
- Using straws, blow marshmallows, Kix® cereal, etc through a "goal", a "road", or an obstacle course taped to the floor or a coffee table

- Try straw drinking in a novel place such as on a ball, on a swing, in a tent or fort

So, playing with food and finding creative ways to interact with food can take the pressure off food interactions for those children who are having some sensory mealtime challenges. Make it fun!!

Food Academics

Emptying and Filling

- Food can be put in and taken out of bowls, measuring cups, pans, cupcake pans, different sized cups and containers

Stacking

- Crackers, bread, cheese are all easily stackable
- Layer crackers, cookies, sugar cubes with a frosting or sticky peanut butter or cream cheese to build a structure

Counting and Math

- Any foods can be counted. Try using a cupcake pan to count in a sequence
- "O's" cereals can be put on coffee stirrers and used as a counting stick

Colors

- Foods come in lots of sortable and identifiable colors
- Sort red and green cabbage, or green and purple grapes
- Dehydrated blueberries can be sorted from dehydrated cranberries

Shape Sorting

- Cookie cutters come in lots of different shapes
- Many crackers are circles, squares, rectangles, and octagonal. A shape sorter can be made out of a shoe box.
- Cereal shapes can be sorted
- Sandwiches can have a cookie cutter shape taken out of the middle and it becomes a Sandwich Puzzle!

Size Sorting

- Cookie cutter shapes come in different sizes. (Ex. Big and little hearts, or small medium and large circles) Many different shapes

Alphabet

- Soups, some frozen foods are alphabet shapes (ex Potatoes)
- Drawing alphabet shapes with a cooking brush and a puree

Pretend Play

- Children can use real food as props in pretend play
- Tea parties with stuffed toys or dolls or action figures

Scissor Play

- Flour tortillas make firm "paper" for cutting practice

Food Art

- Paint with brush or finger paint purees on a lamentated picture
- Crumb art
- String O's cereal into necklaces
- Homemade playdough creations

Food Art Ideas

Compiled by Robyn Lundeen, COTA

Food Painting and Recipes

Food "Paint"	Food "Brushes"
Pudding	Basting brushes
Yogurt	Tooth brushes
Berry juices	The "hairy" end of a green onion
Unset Jello®	Broccoli
Ketchup	Rolling cherry tomatoes or grapes in the "paint"
Mustard	Eye droppers
Pizza sauce	Drive little trucks and trains for tire tracks
Pureed fruits and veggies	Use a salad spinner with cut circles of paper in the bottom to make "spin art"
Frosting	

Finger Paint

½ c. cornstarch

3 T. sugar

½ t. salt

2 c. cold water

Food coloring

Cook over low heat 10-15 mins until smooth & thick. Cool, stir in coloring.

Peanut Butter Play dough

12 oz peanut butter

6 T. honey

½ c. nonfat dry milk powder

Combine, adding more powdered milk if too sticky

Stamps and Prints

♥ "Kiss Prints" using any food a child will apply to lip with finger, brush etc. (Use a mirror to help the child see the decorated lips and to kiss). Kiss prints can be made on paper or different textures. They can be made with flavored chapsticks, pureed foods, or with sprinkles.

♥ Use a potato masher dipped in ketchup and mustard to make prints

♥ Slice very ripe strawberries, cherries, and blackberries and make fruit prints

♥ Dip thumb or fingers in dark berry juice to make finger prints then decorate or turn them into "creatures"

Sculptures

Edible Art Sculpting Materials:

♥ Glues: peanut butter, honey, cream cheese, jelly, ketchup, mustard, mayonnaise, frostings, spreadable cheese, hummus

♥ Eyes and noses: peas, corn niblets, carrot rounds, black or green olives, seeds, raisins, cereals, beans

♥ Hair: broccoli, cauliflower, dill, parsley, curly pasta, green onion ends

♥ Arms & Legs: celery or carrots strips, pretzels, licorice laces, zucchini strips

♥ Mound mashed potatoes into a volcano and pour gravy for lava...watch it flow down the sides

♥ Create a "Mr. Potato Head" with a real potato and veggie features attached with toothpicks

♥ Make creatures using pretzels sticks, celery sticks, and big gum drops

♥ Make spider by spreading round crackers with peanut butter, placing pretzel sticks for legs, and topping with another peanut butter cracker. Use peanut butter for glue to attach raisin eyes.

♥ Make a mashed potato Snowman

♥ Create snakes & shapes with pretzel dough, and then bake

♥ Use straws and tiny gum drops to make sculptures

Straws and Blowing Art

♥ Put tiny drops of juices on paper and use straws to blow the drops into spider shapes

♥ Use straws to pick up pieces of colored tissues to place on contact paper for stained art

♥ Blow colorful crumbs (Trix®, Fruit Loops®) from hand or a small plate onto a paper spread with an edible "glue" (cream cheese, honey)

Other Ideas

♥ Make an Edible Mobile: Use cookie cutters to make shapes (cookies, edible clay, fruit leathers & roll ups, etc.) poke holes with toothpicks and tie to strings, then to a small dowel. Hang and enjoy.

♥ Necklaces: Make necklaces by stringing cereals, gummy life savers, pastas, etc. onto licorice laces or string.

♥ Put pancake batter into a Honey Bear® and let child make pancake shapes and designs (caution for heat)

♥ Use a dropper to drip juices or food color onto coffee filters, add an old fashioned slide clothespin to gather at the middle to make a butterfly

♥ Make peanut butter play dough or edible clay

♥ Use all sorts of gadgets for play and art with play dough and edible clay: put through garlic press, cut with safe scissors and pizza cutters, pound with meat tenderizer, etc. Form into sculptures or cut with cookie cutters to make ornaments.

♥ Make a "Rainbow Sandwich" by spreading Jellies of all different colors on white bread then slicing

Crumb Art

Using a food "glue", paint a picture, and then add crumbs for a "sand painting" effect. Crumb ideas can be bright colored cereals, crackers, dried veggies, nuts. Crumbs can be ground by hand, a food processor, coffee grinder, or pill crusher. Crumbs can also be ground by putting them in a baggie and pounded with toy hammers or driven over by toy trucks.

Engaging Your Child in Food Preparation

By: Deborah Vittner OTR/L, Candidate for MPH

Parents have acknowledged that engaging their child in meal preparation has been helpful in assisting the child feel comfortable around food. Engaging your child in a purposeful occupation can help him/her feel useful and boost self-esteem in the process. Offer appropriate supervision as needed, and have fun with your child! Gentle, but firm, guidance by hand-over-hand assistance can be offered to the child in all tasks. If your child feels uncomfortable, back off and take a step back to make the task achievable.

Many children with autism have challenges in the grocery store due to the overwhelming, multi-sensory nature of the grocery store. The fluorescent lights are bright, the smells are strong, and there are many people and overhead loud speakers to make the experience even more challenging sensorially for the child. Families have reported the use of a slightly weighted backpack (or a slightly weighted stuffed animal on his/her lap when sitting in the shopping cart seat) that can offer a calming influence throughout the child's body during grocery shopping. In addition, vibrating toys can be given to the child to hold for providing a calming influence.

For all kitchen tasks, offer a comfortable seat where the child's body is comfortably supported and upright (90 degree angle at the hips, knees, and ankles) with a table or tray at or slightly below elbow height (when elbows are at a 90 degree angle). Many children with autism have low tone, so it is important to support the body if hand, or fine motor, tasks are going to be expected of them.

When the child is able to touch foods and tolerate different smells:

1. Have your child assist during grocery shopping and place avocados, bananas, and lemons in the shopping cart.
2. If the child enjoys repetitive tasks, put those tasks to work! Have him/her take the ends off string beans, stems off spinach, or arrange foods on a plate in a creative manner.
3. If the child can operate a child safe knife appropriately, have him/her cut cucumbers, kiwi, or strawberries (something soft enough for effective cutting).
4. Have the child use cookie cutters to make shapes out of sandwiches, an omelet, and dough.

When the child has difficulty touching foods but can tolerate different smells:

1. Have your child assist during grocery shopping and place boxes of cereal, bags of vegetables, and cans of beans in the shopping cart. The child does not have to touch the food directly, but he/she is seeing and exploring the food in its packaging.
2. If your child enjoys repetitive tasks, put those tasks to work! Have him/her use fun tongs, a utensil, or a toothpick to place vegetables on a plate, stir foods, and push the button on a blender.

Implementing just the right challenge for your child is important and will instill trust in the parent-child relationship. The child's team can work with you on finding out what the right challenge is for your child and work from there.

Re-Define "Try It" (Page 1)

By Marsha Dunn Klein MEd., OTR/L

Many children who have sensory challenges are very cautious about trying new foods. We, as the grown ups in their lives, often find ourselves saying "just try it"…… or "try this food taste, or this food texture." Often very cautious children reject the food by turning away, pushing it away, gagging, crying or even vomiting. It becomes unpleasant for the child and the grown up!

Children who have limited experiences with foods, such as children who are fed by tube, can be worried about new food tastes and textures. Many times the limited experiences they have had have been scary, negative, or pressured. We want children to learn to eat orally, and when we say just "try it" we often mean "just try a mouthful and…swallow it!" For children who are really cautious, worried or inexperienced with new foods, taking a "mouthful" may be just plain too scary…too much! Children do need to have opportunities to interact with food, but we may need to redefine what we mean by **"try it"!**

"Try it" may need to include just being in the same room as the food, or being at the same dining table as the food. Perhaps trying it may just be smelling it! For many children that is the starting place to be celebrated. Bringing the food near the nose to smell it can help the child get "closer" to the flavor. The smell can help the child get used to the taste "from a distance".

"Try it" can mean touch it. Beginning touches may need to be with a spoon, or toy, but not yet with fingers. Some children need time to work up to touching with finger tips or hands! It may take a while for very cautious child to touch different textures.

Once a child is comfortable holding a food, she can hand it to someone else, or feed it to someone else. The very process of handing a food to someone else can be a distraction from a focus only on eating the food. The focus can be on the social and imitative process where the person being fed enthusiastically accepts the food gift. The textures the child feeds can be from wet to dry and lots of textures in between. And…….there is a beginning and an end to the holding. The child picks it up, holds it , gives it to someone else and is done. It is often less scary to handle a new or uncomfortable food texture when the child understands just how long she will need to have it in her hand. A beginning……. then an end. Gradually she can hold it for longer periods of time while she feeds Mom who is sitting across the room.

Mealtime Connections LLC

Re-Define "Try It" (Page 2)

Food can be served to others, fed to siblings, wrapped for a picnic, or put in a lunch box, or your child can become the little chef who helps make the salad, or put ingredients in a cake.

Children can bring the food to the lips to **"try it"** or they may let parents or siblings bring the food toward their face to "kiss" with it on the lips. Tasting from the lips gives the child a distance from which to try it. The child can decide to bring the flavor into the mouth and on the tongue, or can leave it only on the lips or wipe it off. The flavor, is closer to the mouth than just touching it. . Many foods can be used as food "lipsticks" or "chapstick" where the tastes is put on the lips. The child can lick it off the lips or smack lips as they are comfortable and may have fun looking at themselves in the mirror.

Licking the food is another way to "**try it**". Licking food requires a conscious effort to move the flavor past the lips and ON the tongue. Licking can give the child the opportunity to not only get the taste on the tongue, but also can leave a little food, wet or dry, liquid, puree, or crumbs on the tongue.

"**Try it**" can be putting a food in the mouth and then spitting it out….or putting it in and actually interacting with it with the tongue and cheeks and lips for swallowing. Some children enjoy the idea or putting food in their mouth, and then spitting it out in different containers. It becomes an "engineering challenge" rather than a tasting problem.

By **re-defining "try it"** we take some of the pressure off the child, and ourselves and we can begin to see forward progress toward more food interaction. Children can become comfortable with food tasting and begin to learn about their own taste and texture preferences….on their terms, at their own pace without PRESSURE to eat quantities. If we merely count bites that are taken and swallowed, we may become quite frustrated along with the child. When we only count bites eaten, it somehow seems to highlight the larger looming number of bites NOT eaten . When we redefine "**Try it**" we celebrate the little steps each child makes in the direction of greater food exploration and help the child build the confidence needed to venture into a world where others eat by mouth rather than tube!

How to say "Have another bite", without saying "Have another bite".

1. Describe properties
2. Describe your own interactions with the food
3. Model eating enjoyment
4. Create new way to try or interact with foods
5. Give choices
6. Combinations

Examples:

Can you give this to Mom?
Can you put on the plate?
Which do you want FIRST, this (banana) or this (grape)?
Do you want the BIG (cheese) or the LITTLE (cheese)?
Do you want your (smoothie) in THIS cup or THAT cup?
Which straw do you want to use with your drink?
Can you pick up that piece of waffle with THIS toothpick?
Can you make this cracker CRUNCH?
How LOUDLY (softly) can you crunch?
Which SIDE do you want to crunch that cracker on?
Which part of this HORSE SHAPE (*with a cookie cutter*) do you want to bite ?
Can you bite the horse's tail?
Yum, I like this pasta?
I can put MY pasta in this sauce!
I can lick these sprinkles off my (apple slice)!
Daddy, do you want some (cheese)?
Do you want to taste the (yogurt) off the spoon or the whistle?

Brainstorm other ideas: _____

_____

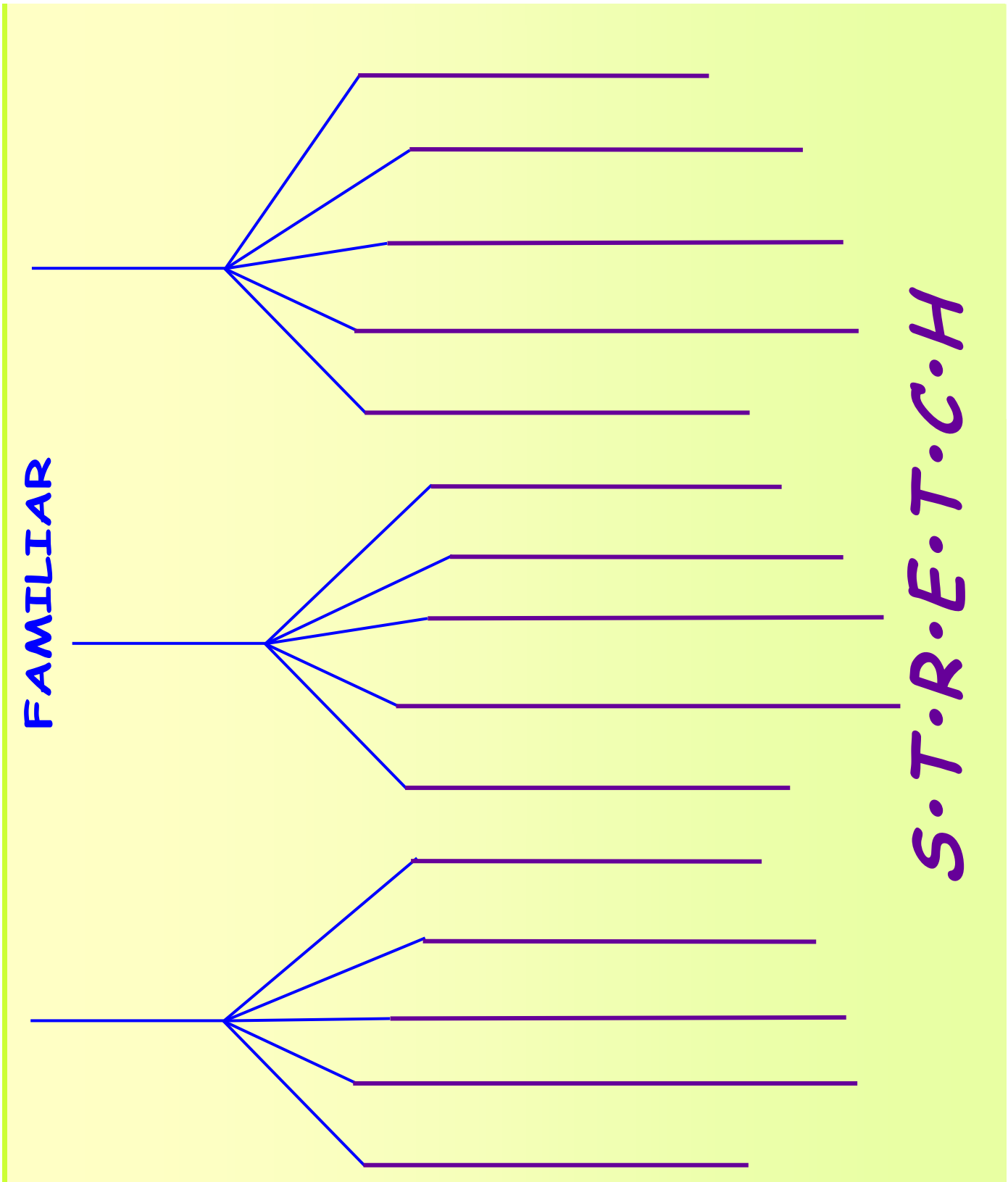
_____

_____

_____

_____

FAMILIAR → S·T·R·E·T·C·H



♥ Familiar Stretch Patterns ♥ Side A

FAMILIAR UTENSIL

- ☐ Stretch Flavor
- ☐ Stretch Texture
  - ☐ Liquid to nectar
  - ☐ Nectar to puree
  - ☐ Smooth puree to textured puree
  - ☐ Puree to soft lumpy puree
  - ☐ Puree to predictable lumps
  - ☐ Puree to unpredictable lumps
  - ☐ Binder foods to scatter foods
  - ☐ Wet to dry
  - ☐ Crumbs
  - ☐ Bitable Meltables
  - ☐ Solids
- ☐ Stretch Color
- ☐ Stretch Smell
- ☐ Stretch Temperature
- ☐ Stretch Shape
- ☐ Stretch Add Vibration
- ☐ Stretch Combinations
- ☐ Stretch Nutrition

FAMILIAR FLAVOR

- ☐ Stretch Utensil
  - ☐ Child's finger
  - ☐ Feeder finger
  - ☐ Toy
  - ☐ Spoon/cup texture
  - ☐ Spoon/cup size
  - ☐ Spoon/cup shape
  - ☐ Food "spoon"
  - ☐ Other "spoon/cup"
  - ☐ Stretch Add Vibration
- ☐ Stretch Temperature
- ☐ Stretch Texture
  - ☐ Liquid to nectar
  - ☐ Nectar to puree
  - ☐ Smooth puree to textured puree
  - ☐ Puree to soft lumpy puree
  - ☐ Puree to predictable lumps
  - ☐ Puree to unpredictable lumps
  - ☐ Binder foods to scatter foods
  - ☐ Wet to dry
  - ☐ Crumbs
  - ☐ Bitable Meltables
  - ☐ Solids
- ☐ Stretch Shape
- ☐ Stretch Combinations

FAMILIAR TEXTURE

- ☐ Stretch Utensil
  - ☐ Child's finger
  - ☐ Feeder finger
  - ☐ Toy
  - ☐ Spoon/cup texture
  - ☐ Spoon/cup size
  - ☐ Spoon/cup shape
  - ☐ Food "spoon"
  - ☐ Other "spoon/cup"
  - ☐ Stretch Add Vibration
- ☐ Stretch Flavor
- ☐ Stretch Temperature
- ☐ Stretch Color
- ☐ Stretch Texture
  - ☐ Liquid to nectar
  - ☐ Nectar to puree
  - ☐ Smooth puree to textured puree
  - ☐ Puree to soft lumpy puree
  - ☐ Puree to predictable lumps
  - ☐ Puree to unpredictable lumps
  - ☐ Binder foods to scatter foods
  - ☐ Wet to dry
  - ☐ Crumbs
  - ☐ Bitable Meltables
  - ☐ Solids
- ☐ Stretch Shape
- ☐ Stretch Nutrition
- ☐ Stretch Combinations

♥ Familiar Stretch Patterns ♥

Side B

FAMILIAR SHAPE

- ☐ Stretch Flavor
- ☐ Stretch Smell
- ☐ Stretch Color
- ☐ Stretch Texture
- ☐ Stretch Temperature
- ☐ Stretch Utensil
  - ☐ Stretch Spoon
  - ☐ Stretch Fingers
  - ☐ Stretch Fork
  - ☐ Stretch Other Utensil
- ☐ Stretch Vibration
- ☐ Stretch Color
- ☐ Stretch Nutrition
- ☐ Stretch Combinations

FAMILIAR TEMPERATURE

- ☐ Stretch Flavor
- ☐ Stretch Texture
  - ☐ Liquid to nectar
  - ☐ Nectar to puree
  - ☐ Smooth puree to textured puree
  - ☐ Puree to soft lumpy puree
  - ☐ Puree to predictable lumps
  - ☐ Puree to unpredictable lumps
  - ☐ Binder foods to scatter foods
  - ☐ Wet to dry
  - ☐ Crumbs
  - ☐ Bitable Meltables
  - ☐ Solids
- ☐ Stretch Color
- ☐ Stretch Utensils
  - ☐ Child's finger
  - ☐ Feeder finger
  - ☐ Toy
  - ☐ Spoon/cup texture
  - ☐ Spoon/cup size
  - ☐ Spoon/cup shape
  - ☐ Food "spoon"
  - ☐ Other "spoon/cup"
  - ☐ Stretch Add Vibration
- ☐ Stretch Shape
- ☐ Stretch Nutrition
- ☐ Stretch Combinations

FAMILIAR COLOR

- ☐ Stretch Flavor
- ☐ Stretch Texture
  - ☐ Liquid to nectar
  - ☐ Nectar to puree
  - ☐ Smooth puree to textured puree
  - ☐ Puree to soft lumpy puree
  - ☐ Puree to predictable lumps
  - ☐ Puree to unpredictable lumps
  - ☐ Binder foods to scatter foods
  - ☐ Wet to dry
  - ☐ Crumbs
  - ☐ Bitable Meltables
  - ☐ Solids
- ☐ Stretch Temperature
- ☐ Stretch Shape
- ☐ Stretch Utensil
  - ☐ Child's finger
  - ☐ Feeder finger
  - ☐ Toy
  - ☐ Spoon/cup texture
  - ☐ Spoon/cup size
  - ☐ Spoon/cup shape
  - ☐ Food "spoon"
  - ☐ Other "spoon/cup"
  - ☐ Stretch Add Vibration
- ☐ Stretch Nutrition
- ☐ Stretch Combinations

Ice Cube Meltables

Many children are extremely cautious about new flavors. Ice cube meltables can help! Try offering the child a liquid he enjoys and change the flavor slightly with an ice cube of a different flavor. For example, if the child likes applejuice, try making ice cubes out of pear juice or pear nectar. The child starts drinking the familiar apple juice and the new flavor emerges very slowly. The child who would have rejected the new pear juice flavor may well accept the slow diluted version of the new flavor. Gradually the child can be offered drinks with more than one flavor ice cube for increased flavor concentration.

Hints

- ♥ A lid on the cup with a straw can lessen the smell for children likely to reject the new flavor on the basis of a smell change.
- ♥ A lid can also reduce rejection from a drink that "looks" different!

Variation

- ♥ Ice cubes can be made in different creative shapes that can motivate the child.
- ♥ Frozen fruits can be used as ice cubes and can offer an opportunity to become familiar with a new fruit
- ♥ Different colored ice cubes combine to make different colors for children who enjoy the scientific aspects of food play (Ex. Red strawberry juice and yellow lemonade can make a pink colored drink.)

Flavor Stretches

- ♥ Juice stretches nicely to a nectar to a puree to a fruit or fruit and vegetable smoothie!
- ♥ Milk can be stretched to increase calories and vitamins with ice cubes on Instant Breakfast® or Ovaltine®

Dips, Dippers and Dipping Cubes and Crumbs! (Side A)

Novelty at the mealtime can increase a child's focus and motivation for the meal. Young children enjoy novel mealtime activities and they enjoy practicing with utensils. A dipper is a nice early "utensil" that allows the child to practice grasping and bringing food to the mouth. Children can use familiar dippers to try new dips. They can dip familiar dips with new dippers.

Creative Dippers

Spoons and forks	Chopsticks
Straws (cut in half)	Li'l Dipper ®
Coffee stirrers	Duospoon ®
Toothpicks/party picks (careful!)	Pretzels, crackers, cookies
Swizzle Sticks	Strips of raw or cooked veggies
Corn on the cob holders	Strips of fruit

Anything can be a dipper that is orally safe and can be dipped in a puree!

Creative Dips

Fruit purees	Guacamole
Veggie purees, pestos	Hummus
Cream cheese and fruit	Refried or blended beans
Sour cream based veggie dip	Blended or pureed soups
Whipped cream	Cheese sauce
Jam/Jelly	Salad dressings

Most any food can be blended into a puree and eaten with a dipper!

Dips, Dippers and Dipping Cubes and Crumbs! (Side B)

Creative Crumbs or Sprinkle Foods

Cracker or cookie crumbs	Finely grated cheese
Cereal crumbs	Nuts ground in coffee bean grinder
Crushed or ground dehydrated veggies or fruits	Sprinkles

Sprinkle foods are a food that are dipped into once the dip or wet food is on the dipper.
The task of dipping in wet food and then dipping in the sprinkles can be quite motivating for many children (and….the sprinkle food adds calories).

Dipping Cubes

Pureed fruits	Cheese sauce
Pureed veggies	Blended soups
Meat purees	Blended or refried beans
Combination meat an fruit puree (Ex. Ham and apricots, chicken and applesauce)	Blended tasty leftovers!

Many parents blend foods in advance and put them in an ice cube tray to freeze for later. They then defrost a cube as a mealtime dip. Parents have used many creative food
combinations.

The Art of Crumbing

Crumbs can help sensitive and cautious children make food texture transitions. Many of these children like purees but are worried about lumps. They like wet foods but not crunchy foods, or actually like crunchy foods, but easily bite off too much and then have difficulty controlling the food. Let us look at the different ways crumbs can be used to help children gain confidence and enjoyment in these texture transitions.

Where to start?
Make crumbs out of a food that is safe for your child. Notice that crumbs can be prepared in many different consistencies from fine to rough, smooth to sharper, even to uneven, and meltable to more lingering. On a continuum of crumb textures, even some fine crumbs can be refined down to more of a powder.

How to prepare crumbs
Many crunchy foods can be crushed with your fingers with more crushing making finer crumbs and less crushing making rougher or more uneven crumbs. Using graham crackers as an example, a little crushing makes bigger and uneven crumbs, whereas lots of crushing makes much more even and finer crumbs. Putting the food in a coffee bean grinder or using a mortar and pestle can help you make powders, or very refined crumbs.

How much?
Your child will let you know how many crumbs are comfortable. Some children can have a crumb or two mixed in with a favorite puree and will notice it immediately. The "noticing" may be an interest, or tongue or jaw movement change, or could be negative in a gagging or vomiting response. Other children can have a good sized pinch of crumbs put on a spoonful of food and will be fine and react by moving tongue and jaw in much more developmentally appropriate ways. We encourage parents to follow the child's lead…..watch the responses. Start with a tiny amount and build to greater amounts as your child responds comfortably.

How can crumbs be used?
Crumbs can be mixed **into pureed foods** to add texture. They can be sprinkled **on the puree** so they touch the palate. A spoonful of a familiar puree **can be dipped** in a pile of crumbs so they enter the mouth on the tongue. The spoonful can be dipped in the crumbs on the side of the spoon so the crumbs enter one side of the mouth. Each of these different placements can help the child notice a different part of the mouth and make appropriate adaptive responses. Because the crumbs are small, the fear factor can be decreased (for children and their parents) and confidence can develop as the amount of crumbs increases.

Crumb flavors
Many people use dried cereals and crackers as the basis for crumbs. Cheerios®, for example, make a nice, firm crumb. Fruit Loops® make a similar crumb but have a tangier flavor and colors to inspire. Many children like saltier foods. We have used Saltine® or Ritz® crackers for children who enjoy less sweet and more salty crackers, but the possibilities are unlimited.

Flavors can be more bland or neutral or much stronger. A plain rice cracker may be more neutral whereas a cheese version of the same cracker may be more flavorful. A stronger flavorful choice many families enjoy might include the soy, garlic, ranch or "flaming hot" version of the chips or crackers. Sweeter crackers with stronger flavors might include a gingersnap or anise cookie.

Some families prefer less cracker, chips and cookie crumbs and choose healthier food crumbs. Dehydrated peas or corn can crumb nicely in fingers or in a coffee bean grinder. For increased food value, we have ground nuts in a coffee bean grinder and used them as a higher caloric option. Thinking creatively as you walk through the grocery store, you will find all kinds of food groups that inspire crumbing.

In the category of crumbs, we have also included sprinkles and seeds. The cake sprinkles come in a variety of colors, "meltability", and sizes and textures. They can be great "crumbs" to add on favorite wet foods. Though the sprinkles have little nutritional value, their colors and shapes can be very motivating for children. The seeds, such as sesame seeds add still another texture, and visual experience.

Crumb dipping

Children often enjoy the novelty of dipping one food in another. Crumbs can be a creative way to expand dip play. Dip a spoon in a favorite wet food and then the child can independently re-dip the spoon into a pile of crumbs. When a child has a taste or texture of crumbs that is enjoyed, we can use that enjoyment to mask a new wet food flavor.

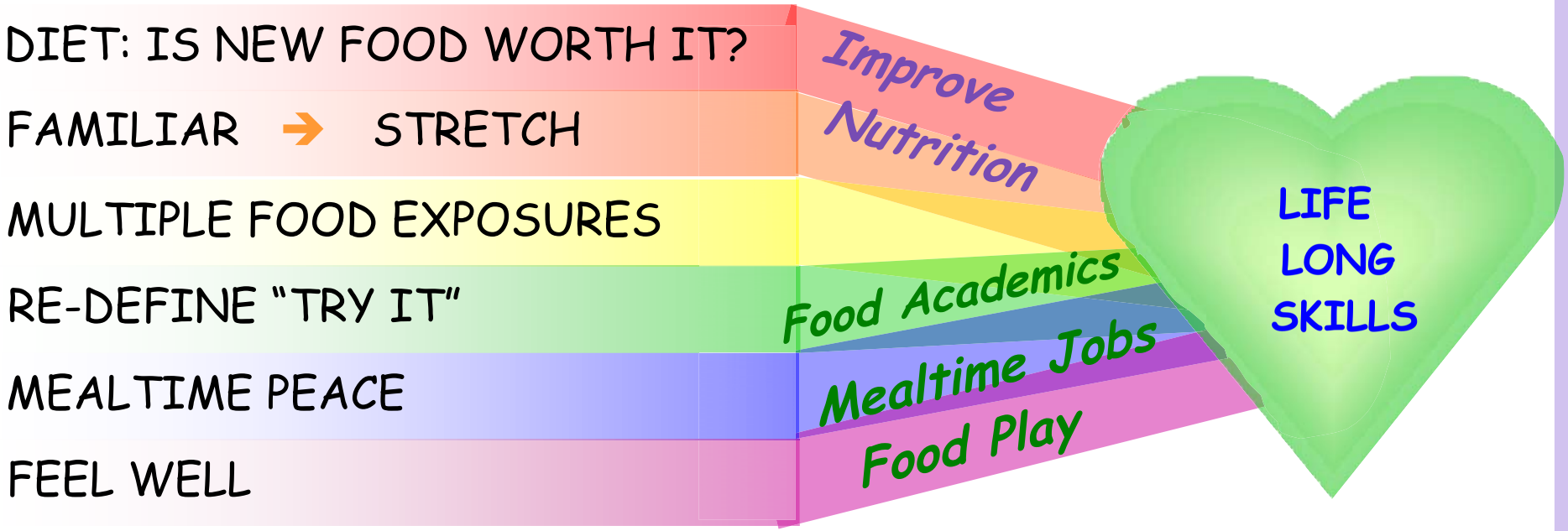
Creative crumb projects

For older children who are gaining confidence just being around the smells and textures of food, crumbs can be used in art projects. Children can help us make the crumbs and use them as a way to color a picture. A "sticky-food" is a food that is wet and allows the crumbs to stick to a laminated coloring book picture. We often have children paint the "sticky food" on the picture with a finger or paint brush and then "color" the picture with the crumbs……..and possibly taste the food along the way.

And finally, we can use crumbs for "crumb kisses". The child helps us crush the crumbs, then licks a finger, and sticks it in the crumbs. Then we all put our fingers on our lips as a "crumb kiss" and look at our decorated lips in the mirror, making kissing faces. Children who are comfortable with the crumbs can eat them off the lips, and children who are less comfortable, can wipe off the lips.

Be creative and follow your child's lead as you help your child enjoy crumbing

SPECTRUM MEALTIMES



Supporting Evidence of Mealtime Connections' Strategies

By: Deborah Vittner OTR/L, Candidate for MPH

An understanding of the child's typical development of food preferences is important when considering mealtime strategies that are appropriate for children with an ASD. It has been suggested in the research that, "the types of problematic eating and feeding behaviors exhibited by children with ASD are similar to those exhibited by typically developing children."[1(p1885)] Certain behaviors are typical, and the parent needs to be aware that the child is learning a new and important skill for life. Contrary to what you may think, eating is a learned behavior. Children learn through play; play is their occupation. In order to teach a child to accept new foods, play experiences can be used for teaching a new and important skill.

Suggested Strategies	Research Evidence
Strategies based on Typical Development	
Offer Multiple Food Exposures to Increase Familiarity with New Foods - Mealtime jobs - Food play - Food academics - Food art - Food preparation	Research suggests that a fear of new foods is reduced when various opportunities are given to consume that new food.[2] In typically developing young children, between 5 and 10 exposures to a new food were needed for developing a preference for the new food.[2] Many more attempts may be needed for children with an ASD.
Provide Opportunities for Your Child to Try a Diversity of Foods (Even Once Rejected Foods)	Parents who had specific preferences of food, or who also had a fear of new foods, tended to structure mealtimes so that new and uncommon foods were served less regularly than parents who did not show rigid preferences for new foods.[2] It is important to present a diversity of foods at mealtime.
Serve as a Good Role Model for Your Child	Among typically developing children, watching others eat a new food was found to lessen the fear of new foods.[2] Observing a friend choose and consume a formerly disliked food can increase a child's preference for that food.[2] More time and effort may be needed to assist your child with ASD overcome

	his/her challenges at mealtime.[1]
Try "Stretch from Familiar" Techniques	Research with typically developing infants showed that an infant's consumption of a new food will actually increase the chances that the infant will accept similar foods.[3] For example, a child may eat corn and carrots if the infant is fed peas.[3]
Sensory and Behaviorally-Based Strategies	
If your child is sensitive to small changes in textures, gradually increase the textures of foods. (Texture Fading)	Research showed that four children with food selectivity by texture responded positively to the texture fading of foods.[4] Texture fading is the gradual increase in texture over time. Texture fading was one of the strategies used in the study, and the study involved four children of various diagnoses (not including autism).
If your child is ready to try a new food, begin with small tastes of new foods. Mixtures of a preferred food (food that the child will eat) and a nonpreferred food (food that the child will not eat) can be tried. - Ice Cube Meltables - Sneaky Chef - Dips, Dippers and Dipping Cubes and Crumbs	A stimulus fading strategy was one component of a research study with children with autism which proved to be effective.[5] Stimulus fading is gradually increasing the amount of food consumed over time. Additionally, the simultaneous presentation of foods (a nonpreferred food with a preferred food) has proven to be an effective strategy for increasing a child's acceptance of new foods.[6]
Re-Define "Try It"	When working with children with obsessive and ritualistic behaviors, it is recommended that change be introduced gradually in an effort to lower distress to the child with autism.[7] A researcher stated the following when considering feeding interventions that assist children with ASDs. "Breaking down the learning of new behaviors into small changes that the children repeatedly experience before moving on to the next step could be beneficial… When trying to introduce new foods to these children

	(children with ASD) the initial step may simply be to place the new food on the table or nearby during meals. This step may need to be repeated numerous times so that children become used to the food. Step 2 may encompass trying to get the food closer to the child or having the child touch or smell the food. Both of these steps may require repeated exposure. In short, it may take many steps before a child with ASD would even taste the food and the actual number of steps required will vary from child to child, depending greatly on how capable s/he is of adjusting to change."[1(p 1885)]
Have structured mealtimes and snack to increase predictability of a mealtime routine and increase appetite.	One component in a research study showed limiting access to foods before mealtime proved to assist the child's willingness to try nonpreferred foods.[5]

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They Tell Me My Child Has Sensory Issues.

What Does That Mean?

By: Deborah Vittner OTR/L, Candidate for MPH and Marsha Dunn Klein MEd., OTR/L

Sensory processing problems are an abstract concept to understand; don't feel bad if it is a difficult concept for you to understand. Neuroscientists still do not fully understand this complex process in children with autism.[1] We speak about our five basic senses (touch or tactile, sight or visual, hearing or auditory, taste or gustatory, and smell or olfactory), and additional components to our sensory system include (body awareness, also known as proprioception, and balance, also known as the vestibular system).[2] Sensory processing problems are an impairment of the brain and not the actual sense organ. It is important to rule out a problem with the sense organ before a sensory processing problem can be assumed. For example, if you are concerned that your child may have a problem with his vision, you should consult an ophthalmologist, optometrist, or a functional vision specialist[2] in order to determine whether there is an issue with his/her eyes, or a sensory problem exists.

The theory of sensory integration was developed by A. Jean Ayres, Ph.D., occupational therapist; it describes our brain's ability to receive and process information for responding to our environment appropriately.[2] We explore and understand our environment through the use of our senses, and we react appropriately to what our senses are telling us. For example, when we feel a cup touch our lips during mealtime, our body responds by adapting our mouth around the cup to drink from it. It has been suggested that children with Autism Spectrum Disorders commonly have impairments in their sensory modulation.[3] These children often lack the ability to alter sensory information as needed to deliver a purposeful response.[3] Hyposensitivities, hypersensitivities, or changing sensitivities can result. Hyposensitivity is a low sensitivity to a given stimulus, whereas hypersensitivity is a high sensitivity to a stimulus. For example, a child who is hypersensitive to tactile stimuli may need to clean his hands directly after touching applesauce; this child may have difficulty filtering out this uncomfortable feeling on his hands in order to attend to the more important task at hand (eating). Ask your child's team more about your child's sensory sensitivities if you need clarification.

Due to the fact that our processing of sensory information is complicatedly interconnected[1], it is recommended that all strategies mentioned below be read and

problem solved with your child's sensory trained therapist in order to make the mealtime experience more manageable and enjoyable for your child. It must be mentioned that continued research is needed to determine if sensory-based interventions at mealtime are effective for children with autism. Anecdotal reports from parents of young children with autism communicate the effectiveness of these interventions.

The sensory components of mealtime are what make mealtimes enjoyable for most of us. Wow! That Indian food smells delicious, and a warm cup of tea on a cold day is perfect. For children with ASDs, these sensory components of food can be stressful and overwhelming. The following strategies may help your child during mealtimes.

Tactile Sensitivities

For the hypersensitive child:

1. Offer a damp or dry washcloth at every meal so that hands can be washed as needed to decrease the stress of touching some foods.
2. If a new food of a different smell, color, taste or texture is being tried, offer a "spit bowl" in the event that the food is too overwhelming for the child. This gives a safe "out" if the child is not quite ready for that food yet.
3. Move slowly when increasing the texture of foods. Adding a small amount of crumbs to a food can gradually prepare your child for an increased texture.[4]
4. Your child may prefer more neutral food temperatures instead of warm or cold foods.[5]

For the hyposensitive child:

1. Drinking applesauce, yogurt, or a thicker smoothie through a straw can actively contract the muscles around the mouth and help with concentration during mealtime.[6]
2. Your child may be unaware of food left on the face so verbal prompts, a mirror (if appropriate), or hand-over-hand assistance may be needed to assist your child notice and clean the face.

Visual Sensitivities

For the hypersensitive child:

1. Overly bright lights may serve as a distraction to your child. Adjust lights to provide a comfortable environment.
2. If your child is overly focused on a ceiling fan during mealtimes, you may want to use the air conditioner or another type of fan that doesn't serve as a distraction.
3. Try to decrease the amount of movement you or your family do around the table at mealtime. This may serve as a source of stress or distraction while eating.

For the hyposensitive child:

1. A bright placemat or colorful plates and bowls may capture the attention of your child during mealtime to attend to the plate and food.

Taste and Smell Sensitivities

For the hypersensitive child:

1. Make small changes in taste. Using ice cubes of particular fruit juices can be added to cups of water or other juices for a gradual change in taste.[4]
2. Place a cover over the child's cup if he is overly sensitive to the smell of new beverages as the lid will mask the visual and smell changes.[4]

For the hyposensitive child:

1. This child may enjoy more spicy and sour foods which offer a stronger sensory experience than more bland foods.
2. Encouraging your child to smell foods may help to engage your child in the mealtime experience.

Auditory Sensitivities

For the hypersensitive child:

1. Minimize or eliminate sound distractions like the television, radio, or loud voices at mealtimes.

2. Calming background music may assist your child during the rhythm of mealtime.[2]

For the hyposensitive child:

1. Mealtime songs may help prepare the child for mealtime.
2. The use of pictures in a book or visuals for communication during mealtime may be recommended by your child's speech and language pathologist.

Body awareness or Proprioceptive Sensitivities

1. The use of a more weighted cup or utensil could provide a better awareness to the joints and muscles of the child when picking objects up and bringing them to the mouth.[2]
2. A more supportive chair can provide the support needed for an improved sense of body awareness.
3. A weighted stuffed animal or blanket on the lap could provide a relaxing influence on the body to assist your child in sitting during mealtimes. Speak with your occupational or physical therapist to see if a weighted object is right for your child.
4. Crunchy foods, considering your child is able to swallow these foods, can offer an increased awareness of the jaw and mouth in space in order to assist the child to eat and alert the central nervous system.
5. If your child stuffs a large amount of food in the mouth for sensory input from this, cut your child's food in small pieces and/or encourage the child to take "Mouse Bites" of food.[4] You could also have the child pick up small pieces of food with a toothpick if they use the toothpick safely and correctly.
6. When a child has difficulty grasping a utensil for self-feeding, a built up handle may be used and/or hand-over-hand strategy which will help your child to better feel the utensil in the hand. Your occupational therapist will assist you to find the least invasive hand-over-hand strategy for your child and an adapted utensil as needed.

Vestibular System Sensitivities

1. If your child seeks frequent movement, a "Move 'N Sit" cushion or a therapy ball (for older children) may provide movement that they may require during mealtimes.[2]

2. Your child may have greater success sitting for mealtimes if movement experiences are given prior to meals.[2] These experiences could include riding a bicycle, jumping on a trampoline, or swinging on a swing. Your child's physical or occupational therapist can help you with this.

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Mealtime Strategies Used in Behavioral Research for Children with Autism

By: Deborah Vittner OTR/L, Candidate for MPH

Behavioral strategies for the treatment of selective eating and food refusal in children with autism should be implemented with a professional trained in typical and atypical child development and behavioral techniques. It is important that the behavioral strategies chosen are consistent with the values of the family, realistic for the child's caregiver, and realistic for a child's age and cognitive ability. Continued research is needed in this area to identify less invasive strategies and strategies that instill an internal love for eating a variety of foods. Five research studies were chosen to explain the most common behavioral treatment strategies for children with autism with food selectivity and food refusal.

Study 1

A recent study combined strategies using the manipulation of antecedent conditions, positive reinforcement procedures, and behavioral momentum in the home setting.[1]

Manipulation of Antecedent Conditions: The manipulation of antecedent conditions involves setting up a mealtime in a particular way in order to achieve the desired mealtime behavior. For example, the study presented foods to the child by using a three sectioned divided plate with two preferred foods and one nonpreferred food.[1] This strategy respected that this child with Pervasive Developmental Disorder did not wish to have his foods touching. In addition, a spinner was used with the child to spin the number of bites of the nonpreferred food that were expected of him during the meal.[1] The numbers on the spinner were gradually increased for a gradual increase in the consumption of a nonpreferred food. Incorporating something fun, like the spinner, during mealtime could relieve stress experienced by some children during mealtime. In addition, the child was given a clear expectation of what was expected of him during mealtime.

Positive Reinforcement: In positive reinforcement procedures, a desired stimulus (toy, fun activity, or preferred food) is given **after** the engagement in a desired behavior (eating a nonpreferred food); an increase in the desired behavior is likely to occur as a result of positive reinforcement.[2] In the study, a reward card was used with pictures of the child's favorite activities.[1] Prior to the presentation of foods, the child was asked to

choose an activity on the card in which he could engage contingent on eating the number of bites assigned.[1]

Behavioral Momentum: In behavioral momentum, preferred foods or activities are given directly before nonpreferred foods or activities are presented.[2]

Study 2

A review of studies found that differential reinforcement is a common strategy successfully used with children with autism.[2] Often a study will use differential reinforcement and name the strategy positive reinforcement, perhaps due to positive reinforcement being a more common term.

Differential Reinforcement: Differential reinforcement is positive reinforcement when the desired behavior is performed (eating a bite of nonpreferred food) in combination with the removal of reinforcement (not allowing the child to play a specific activity) for undesired behavior (food refusal).[2]

Study 3

One study used a combination of mild deprivation, the Premack intervention, and stimulus fading to improve food selectivity in young children with autism.[3]

Mild Deprivation: Children were not given preferred foods before a meal where nonpreferred foods would be offered.[3] This strategy serves to increase the appetite of the child for the presentation of new foods.

Premack Intervention: Following taking a bite of a nonpreferred food, a preferred food was given.[3] This intervention is based on the principle of positive reinforcement, using the preferred food as reinforcement.[3] It was stated to the child, "if you eat the (nonpreferred food), you can have some (preferred food)."[3] Behavioral momentum is the opposite of the Premack intervention.

Stimulus Fading: A small amount of nonpreferred food was presented on the spoon (3 grams or less), and as the child accepted the food, the amount of food was gradually increased.[3] This strategy has a sensory component in that tastes are being offered slowly.

Study 4

Simultaneous presentation and positive reinforcement proved to be effective in a study with children with autism.[4] Escape extinction procedures were also used in this study without positive results.

Simultaneous Presentation: Simultaneous presentation is the presentation of a preferred food in combination with a nonpreferred food item.[4] A small piece of broccoli was embedded in a small hole of an apple slice without the broccoli being visible to the child.[4] Another child had her preferred food (salad dressing) on top of her nonpreferred foods.[4] This method also has a sensory component in that the preferred taste is mixed with a nonpreferred food thereby gradually introducing the new taste to the child's diet. Although this procedure has been shown to be effective, it must be used with caution because instead of increasing preference for the nonpreferred food, this strategy may actually decrease preference for the already accepted food; for children who have an extremely limited diet, this strategy should be used with caution.[4]

Escape Extinction/Escape Prevention: Negative reinforcement is the guiding principle used in escape extinction procedures. Negative reinforcement is the removal of an undesired stimulus (a bite of nonpreferred food) with the requirement that a desired behavior (eating of the food) be performed.[2] An escape from the requirement of eating is not allowed in this strategy which makes the strategy controversial and invasive.[2] Despite the problems with escape extinction procedures, various studies use these strategies as part of their treatment package for children with autism with food selectivity and report their effectiveness for increasing a child's consumption of foods.[2,5-7] A power struggle between the caregiver and the child is inherent in these strategies , and long term effects of the potential trauma resulting from these strategies is unknown. It must be noted that the use of the controversial escape extinction procedure, using physical guidance and representation, proved not to be effective for a boy with multiple diagnoses including Pervasive Developmental Disorder.[4]

- **Nonremoval of the spoon:** In this strategy, a parent will hold a spoon in front of the child's mouth until the child consumes the food.[2] This strategy is often accompanied by positive reinforcement contingent on acceptance of the presented food.[2]

- **Physical guidance:** Physical guidance is also known as forced feeding.[3] This strategy is described as a parent or therapist placing light pressure on the mandibular joint (jaw) while the bite is placed in the child's mouth.[4]
- **Representation:** The continued presentation of expelled food until the food is ingested is representation.[4]

Study 5

Repeated taste exposures, stimulus fading, and escape prevention strategies proved to increase the variety of foods consumed by two children with autism during taste sessions.[5] The children were required to eat a bite of the nonpreferred food before they were allowed to leave their seat.[5] Following consumption of the bite, a timer was set for five minutes and the child was allowed to play until the next taste session occurred.[5] Inappropriate behaviors, including expulsion of food, screaming, and negative statements about the food, were seen among the children during taste sessions, and they were ignored during these times.[5] It was recommended that, "future research could develop less intensive versions of this intervention that could be implemented by therapists in outpatient settings or by parents at home".[5(p711)] This demonstrates the difficulty with the carryover of some behavioral strategies.

Repeated taste exposures: Repeated taste exposures in this study involved presenting nonpreferred food items on a rotating basis with five minute breaks in between.[5]

Analysis

The behavioral techniques in these studies can be considered as part of a total mealtime approach that also considers the carryover of behavioral techniques, family relationships, sensory issues, communication issues, and the neophobic issues of the child. Striving for a least restrictive environment for the child, while setting limits, is a difficult challenge for both parents and professionals.

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Parent to Parent Mealtime Strategies

By: Parents of Children with Autism Spectrum Disorder

"Think outside of the box and try new approaches when others don't seem to work out."

Offering Choices: "The best piece of advice I have is to TRY to give your child a choice between only 2 items. I use either the raw food or box to show them visually what choices I am giving them. They can respond either by touching, pointing, or saying the item they want. This tends to decrease the refusal to eat or tantrums...but as we all know it's never a guarantee."

Oral Motor Game: "The game we play to help with mouth motor skills, we've named "Mouse in the Mouth". This exercise is used to help teach your child to be able to move food around the mouth while chewing to help decrease choking and it also helps with increasing muscle tone which can help with pronunciation (I believe...since I'm just repeating what an OT person told me). The parent/caregiver/provider starts by taking her/his tongue (keeping it INSIDE your mouth the whole time) and poking the inside of one side of the cheek (so it looks like something is in your mouth). Then you prompt your child (to start, I used hand/over/hand) to push the cheek in. Once the child had done this you respond by saying "Oh! You GOT the Mouse!! "Squeak, Squeak!" (You may use any wonderful animal you so choose). Then you proceed to move your tongue to the other cheek and repeat the process. Next you stick your tongue in-between your top-front teeth and your upper lip and repeat the process of "getting the mouse". Finally you stick your tongue in-between your bottom-front teeth and your bottom lip and repeat process. Once you've shown the child each area a few times (and really ham-it up!), then you have them try to do it! Start out with just the cheeks since these are usually the easiest. We wind-up taking turns and making goofy mouse noises. I like this game because you can do it anytime and anywhere...and the kids really get a kick out of it too!!"

Going Out to Eat: "Bringing favorite toys, weighted blankets, and/or art supplies has been helpful to some degree when waiting for foods at a restaurant. Not allowing feeding to get off schedule and never going into public restaurants when the children are tired are two of the best deterrents from unexpected behavioral issues, but this is true of typically developing children too!"

Multimedia Approaches: "I utilize friends or people my daughter admires as role models to try new foods. I also refer to television shows and characters. We use 'Fruit Salad' from the Wiggles and Popeye the sailor who needs his spinach to grow strong. We review books that have pictures of foods in them too."

Tactile Sensitivity: "For my daughter who smears or brushed crumbs away, I have learned to always provide her with a wet paper towel next to her plate. Napkins did not work because she would shred them in a frenzy and throw them on the floor. Brawny® paper towels are the sturdiest and seem to have a texture that does not offend her."

Mealtime Schedule: "For my son, because he chokes and has other genetic components to his food issues, I have learned to schedule his meals and snacks precisely. He gets specific portions for breakfast, lunch, dinner, and two snacks each day provided at the same time. If we are out, I prepare the snacks ahead of time at home and carry them in Ziploc® bags or his Tupperware® Shrek container."

Using a Timer: "Setting a timer for limits on meals has been very helpful. I also use a timer for naps and time-outs to help the children prepare for changes."

Noticing the Positive: "I encourage the children to eat properly and applaud them when they remember positive steps on their own. For example, if my daughter eats well without fidgeting or smearing food, I let her know I am proud of her. If the children remember to bring their plates to the sink without being told, I applaud them and thank them for being such big helper for me."

Premack Intervention: "Giving the children a food they really like after they have tried a food they are being newly introduced to helps them explore. They are both very rigid, so it is best to switch things up a bit and get them out of their routines occasionally."

Cognitive Reasoning: "For children that can use cognitive reasoning, you can help the child to change his/her current thinking about food. You can do this by having the child journal about how the food makes them feel and how they can change their thinking about the food in order to try it."

Plastic vs. Metal and Ceramic: "My child does better with different colors of plastic spoons and bowls."

Taking Pictures: "When we took pictures of our son eating new foods, he was more engaged in trying new foods."

A Review of Nutrition and Gastrointestinal Issues For Children with Autism

By: Deborah Vittner OTR/L, Candidate for MPH

This section is not meant to overwhelm the parent about nutritional considerations for children with autism because encouraging a child to try a new food may be challenging enough. A parent should be aware, however, of basic nutrition requirements for children in order to know what foods could be introduced to your child during food preparation and mealtime experiences. Additionally, the mysteries surrounding the gastrointestinal problems in this population are discussed as well as the questions that families should ask themselves if a gluten-free, casein-free diet is going to be implemented.

Nutrition 101: A Balanced Diet

A comprehensive and interactive website developed by the United States Department of Agriculture, www.MyPyramid.gov, can be used to determine nutrition requirements for children and can inform parents on what foods contain what vitamins and minerals. Our tax dollars and a lot of research have been put into this website; we should put it to work!

- For Children ages 2-5 years: Click on "For Preschoolers (2-5yrs)" from the Subjects column to the left. From here, you can access growth chart comparisons by entering in your child's age and height. Tips for developing healthy eating habits and help for picky eaters can be accessed under the preschool section. Click on "My Pyramid Plan", and a customized plan for your child, with adequate caloric requirements, can be developed by entering the name, sex, age, and physical activity level of your child. On the same page where the plan is developed, you can scroll down and learn more about the specific food groups. Information on how to eat more of a food group, an explanation of serving sizes, and the foods considered in this food group can be obtained. Foods can also be viewed from the food gallery in each section which is a fun feature. Explore this website. There is tons of information here.
- For Children ages 6-11 years: Click on "For Kids (6-11yrs)" from the Subjects column to the left. A computer game, a kid's poster of the pyramid, a coloring page, and a kid's worksheet to track foods can be obtained here. "My Pyramid Plan" can be chosen from the Subjects column and the child's age, sex, weight, height, and physical activity can be entered to obtain an individual mealtime plan with caloric

requirements and serving sizes for each food group. Click on each food group, and click "learn more" to obtain more information on each food group. Foods can also be viewed from the food gallery in each section which is a fun feature. Explore this website. There is a great deal of information here.

Nutrients and Children with Autism

Many parents worry that their child is not receiving adequate vitamins and minerals in his/her diet. Some studies show that children with autism eat less than recommended amounts of vitamins and minerals, including vitamin C, vitamin D, various B vitamins, iron, and calcium, whereas other studies show that these children consume a diet with acceptable amounts of nutrients.[1]

The author of the article that showed that children with autism had similar nutrient intakes as typically developing children commented, "[P]arents should be encouraged to view the positive aspects of their children's diets and strive for an enjoyable mealtime experience for all family members."[1(p 1363)] Feeding therapy is warranted in many cases for children with autism, but implementing invasive measures to increase a child's diet quickly may not be appropriate or necessary.

If it is decided that adding a small amount of nonpreferred foods to preferred foods is appropriate for your child, the book, "The Sneaky Chef" by Missy Chase Lapine, can be useful. "The Sneaky Chef" is a book of creative recipes that sneak in healthy foods. The dishes, drinks, and desserts are both healthy and taste good.

Family Influence on the Child's Diet

A study found that, compared with other children, children with autism ate fewer fruits and vegetables, and their diets tended to contain more dairy products and starches.[2] Caregiver practices including permitting foods between meals, letting the child chose to eat foods other than those served, and not promoting the intake of fruits and vegetables on a daily basis were linked with eating less vegetables and more sweets.[2]

Another study showed that the food preferences of the family predicted the child's food preferences.[3] Families with a more limited diet tended to have a child with autism with greater selective eating.[3]

It is important for families to continue to offer a variety of foods at mealtimes, despite refused attempts, and examine their own food preferences that may be unintentionally limiting the child's diet.

Gastrointestinal Problems

Research looking at the connections between gastrointestinal problems and ASDs is in its beginning stages.[4] Gastrointestinal (GI) problems, including chronic diarrhea or constipation, have been estimated to occur in 46%-85% of children with ASDs.[4] Studies suggest that there appears to be an unknown cause of GI problems in these children that is not due to their limited diets.[5-6]

Often children who refuse foods have a current problem or past history of gastrointestinal symptoms.[7] One study showed that constipation was a problem among children with autism, and it is possible that constipation can continue the cycle of poor eating due to feelings of being full.[7] A child with chronic or recurrent stomach pains, vomiting, diarrhea, or constipation should have an evaluation from a gastroenterologist.[4]

The Gluten-Free, Casein-Free Diet: Practical Considerations

It is believed that some autistic symptoms are perhaps due to the action of opioid peptides, and these peptides develop because of the incomplete breakdown of foods containing gluten and casein.[8] If the child has intestines that are highly permeable, "leaky gut", these peptides can travel in the blood, attach themselves to the central nervous system (brain and spinal cord), and affect brain activity resulting in behavior changes.[8]

Rigorous scientific studies are underway to determine if gluten-free, casein-free (GFCF) diets are effective for children with ASDs.[4] Initial evidence suggests that the GFCF diet could improve the symptoms of autism, however all studies to date are critiqued due to small sample sizes and challenges with measuring behavior changes.[8] Other supplements may provide benefit to children with autism, but more research is needed in these areas.[9]

An exclusion diet obviously is not simple for parents to implement. Consultation with a Registered Dietitian (RD) is essential prior to the implementation of an exclusion diet and/or special supplements. The following should be considered to determine if it is appropriate for your child to undergo the GFCF diet.

1. What is the health of my child?[8]

2. Will regular monitoring, including weights, of my child occur?[8]
3. If your child is a very selective eater, would further limiting his diet reduce his ability to obtain proper nutrients?[8] Many times children with ASDs only eat foods that contain gluten or casein so further limiting the diet does not make sense until other foods are consistently accepted.

Families should ask themselves the following questions before beginning a GFCF diet.

1. Do we have the money to buy foods in the GFCF diet that are more expensive, and are these foods available to us in the grocery stores?[8]
2. Have we considered the additional time and work that it may take to prepare GFCF dishes?[8]
3. Will at least one family member be responsible for keeping exact daily records of foods eaten and behavior changes?[8]
4. Do we have a plan to ensure that the GFCF diet is being followed at home, school, and/or daycare?[8]
5. Do we know a parent or professional who has put the GFCF diet into practice and could offer realistic advice?[8]
6. Are there clinicians or researchers close by who can evaluate the GFCF diet and provide support?[8]

Parent Perspectives on Diets

A mother stated, "the two things I would suggest a parent do for an elimination diet is to REALLY learn all the different ways the item can be listed (ie. dairy can come in several forms- whey protein, calcium lactose, some caramel coloring, etc.). You may want to ask the doctor that suggested the diet to write a prescription for a dietitian consult. Secondly, I would ask the doctor how strictly you must adhere to the diet, what to do if you accidentally give your child the wrong food, when and what results you may see in your child, and how long do you have to follow the diet."

Said a parent, "unfortunately, mealtime and eating have been an ongoing issue for my son since 12 months of age. Introducing semi-soft and solid foods were not accepted by my son. He continued to breast-feed until 4 years old. I tried to wean, but my son would

begin self-inflicted starvation until I allowed him to nurse. I know now that my son probably has the "leaky gut" syndrome. We tried the Gluten-Free, Casein-Free Diet (GFCF). For my son, this diet did not help him. But with the help of an occupational therapist, who specialized in food and eating issues, my son now eats a varied diet and has completely weaned from breast-feeding."

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Ways to Reduce Mealtime Stress

By: Deborah Vittner OTR/L, Candidate for MPH

Many parents state that the most stressful aspect of mealtime is dealing with the child's rigid behaviors (including selective eating). The following tips can guide the parent in reducing mealtime stress.

1. **Establish clear and consistent rules during mealtime.**[1]
   The parent decides what, where, and when the child is fed[2] as well as how long the meal can go on for.[1] The responsibility of the child is to determine how much and whether he eats.[2]

2. **Introduce change one step at a time at mealtime.**[1]
   Offer change in small steps to obtain a longer-term goal with time.[3] Long-term success can be achieved by setting small steps to get there.[1]

3. **Determine the sources of stress for your child at mealtime and minimize them.**[1]
   Setting up a predictable mealtime routine for your child can reduce your child's stress.[1] In addition, making changes to your child's environment to reduce stress may be needed (ie. turning off the television during meals to increase attention and focus for mealtime).[1]

4. **Decrease unnecessary demands on your child during mealtime.**[1]
   Although it is necessary to provide your child with "just the right challenge" when teaching a new skill, it is not necessary to challenge your child in other ways while they are already being challenged to try new foods at mealtimes. For example, in a group discussion, one therapist stated that often children are forced to "use their words" at mealtime that perhaps parents should lessen this additional stress during the times that their child is already being challenged to try and explore a new food.

5. **Assist your child in dealing with change at mealtime.**[1]
   A structured environment is ideal for children with autism, however change is inevitable and necessary for your child.[1] Change is necessary to learn a new skill (eating a new food). Inform your child what is going to happen next.[1] Often verbal explanations are not adequate, and visual images are necessary.[1] It may be helpful

to use a daily schedule with pictures for when mealtimes are scheduled to occur or pictures of foods to show new foods that will be tried.

6. **Utilize the child's obsessions as reinforcers during mealtime as appropriate.**[1]
   Sometimes the child's obsessions (ie. toys, television characters, or activities) are limiting to the child and need to be appropriately eliminated from the child's routine, however sometimes the child's obsessions can be used to assist a child learn a new skill.[1] One parent stated that she would make references to Popeye eating spinach to grow big and strong so that her child would try bites of healthy vegetables.

7. **Always keep your child's strengths in mind during mealtime.**
   When your child receives extra support from therapists and medical professionals, it is easy to recognize that your child is different and has his/her limitations. Every child has strengths. Write a list of your child's strengths and keep it where you can see and/or easily access it. Add to the list as your child continues to learn and grow. Put the child's strengths to work at mealtime.

8. **"Perseverance is necessary and the best attitude is one of calm control, positively presenting a meal."**[3(p 509)]
   Foods may need to be introduced several times before the child will decide to take a bite. A parent can be creative about how they present food and use language that will appeal to the child. Linking the food to an already preferred food item can be advantageous.[3]

9. **Take a deep breath, relax, and be mindful during this mealtime experience.**

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Challenges with the Medical Community and How to Address Them

By: Deborah Vittner OTR/L, Candidate for MPH and Marsha Dunn Klein MEd., OTR/L

"Wait and See" Approach: It is common for doctors to implement the "wait and see approach"[1] when a child looks normal on the growth curve but takes in very few foods. If a doctor is not worried about the child's growth, then she/he is often not supporting the parent's worries about the child's nutrition or ability to take in new foods. Parents should follow their instincts and feel comfortable advocating for support in the area of feeding. Now that parents are aware that there is available support, it is easier to advocate for the specific services needed. It is recommended that feeding interventions be sought early.[1]

Medical Examinations: It is often challenging for children with autism to be examined medically. Tantrums, sensory sensitivities to the doctor's touch, and/or decreased communication are all limiting factors for the child. If a gastrointestinal (GI) issue is suspected, it may be difficult to get an accurate diagnosis due to the challenges of having these children examined medically. It may be worth problem-solving ways, with your child's team, to calm your child appropriately for necessary procedures to be performed.

Medications: Getting needed medication in a child with autism and feeding challenges is no easy task. Many families force-feed their child necessary medications. It may be beneficial to problem-solve ways, with your child's team, to assist your child in taking their medication without so much resistance. Ask your doctor if they have any ideas. Can the medication be added to a liked food or drink, can the medication be crushed, or can a creative way be developed to have your child take medication? One child liked to use a small, cocktail straw to drink his liquids. His medication was placed in a small cup with a cocktail straw, and now the child will drink all of his medication through this straw without any resistance.

Gluten-Free, Casein-Free Diet: Many doctors are recommending the gluten-free, casein free diet without considering the practical considerations for each individual family or child (mentioned previously). Perhaps the child only eats a few foods that all contain gluten or casein. More foods would need to be introduced to the child's diet before the GFCF diet would be able to be started. Additionally, evidence is needed to determine if the GFCF diet really does assist children with autism; families should not feel bad or guilty if they are unable to implement the diet at this time.

Dietitian Advice: Some families that seek the advice of a dietitian may not be able to implement an ideal diet due to their child not accepting certain foods. It is just as important for parents to ask the dietitian "how to" introduce more foods as well as "what" foods should be introduced. If the dietitian is unable to assist with the "how to" component, a referral should be made to a service provider who can assist with this important component.

Communication: Many parents report problems with communication between themselves and the medical community. Medical visits are often short in duration and stressful. Parents should write a list of questions they have for the doctor before the child's doctor visit. This will serve to organize parents' thoughts and not forget points that need to be discussed. Be open and honest with your doctor and advocate for what you want. One parent stated that you should never assume that the receptionist or nurse gives your message to the medical professional you are trying to reach. She states that it is necessary to be "persistent, positive, organized, and kind".

So Many Professionals: Your child may have many different professionals in his/her life and a very busy schedule of appointments. It is recommended to keep a file of professionals' business cards in case you need to contact them or remember the medical professionals seen. An agenda is important to avoid missing or duplicating appointments. A parent recommends researching pertinent medical topics and bringing written documentation to doctor visits. She further recommends having an updated medical record of your child and all evaluations or notes of providers that have seen your child. This documentation may be helpful to your doctor during visits.

Parent Perspectives on Advocacy:

"I have always been concerned with both of my boys (now 5 & 3 ASD) and their choking habit when eating," said a mother. "They both had very poor mouth motor skills. However, they both had "good" body weight and were healthy and had many other more pressing issues to deal with that made this frequently go to the bottom of the list for my occupational therapist (OT) to work on. I had NEVER heard of food therapy, and I so wished that I had. I heard of food therapy by word of mouth and that it was considered part of OT. I asked my service coordinator about my qualifying for this service. She did not think that we qualified since we were already receiving OT for other issues. I finally decided to press the subject with my DDD coordinator. I stressed that I still must watch my kids while they eat since choking does occur randomly. The coordinator did research

whether or not we qualified, which we did even with ongoing OT. As parents/caregivers of ASD children, live by the motto, "The squeaking wheel gets the oil!," she added.

A parent commented, "I have a 4-year-old son diagnosed with autism. Since his diagnosis, I have learned how to be a better advocate for my son. I read numerous books about autism. I began reading research on potential autism causes and various treatments. I gravitated to scientifically-backed data and results. I learned key phrases and words to use and to avoid while advocating for my son. I recommend to all parents of children with special needs to get educated about your child's diagnosis. Read, Read, Read….educate yourself about your child and their diagnosis, and probable outcome, so that you can positively influence your child's treatments and environment."

A mother stated, "don't let anyone make you feel they know more about your child than you do…you instinctually know. Even if you do not have the medical training or skills, you can learn and implement any techniques. Advocate for your child, NOT for your child's syndrome. It is very easy to get caught up and forget your child is a person who is your son or daughter. Enjoy being a parent and loving your child. Sometimes advocating means just being together and not doing anything else. They grow up really fast!"

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Challenges with the School Community and How to Address Them

By: Deborah Vittner OTR/L, Candidate for MPH, Marsha Dunn Klein MEd., OTR/L, &

Emily Areinoff, MA, OTR/L

Transition Realities: The Parent Information Network informs parents that the transition from Early Intervention (EI) services is easier if the parent is informed: "1) of the change in types of services from the medical model to the educational model; 2) that services will need to be based on an educational need rather than a therapeutic need; and 3) that the use of classifications or labels for the child will be commonplace."[1] These three factors tend to be the most challenging aspects during the transition from EI to the school district. Therapy services provided by the school are not intended to be all the services that your child may need; supplementary services may be needed outside of the school setting. Building partnerships and positive relationships are both the parent and the school community's responsibility.

Developing a Partnership: Before your child begins to receive services through the school, the school community will meet and evaluate your child as necessary. In these visits, the two parties can begin communicating to establish a partnership. The parent and school community can together devise a mutually satisfactory plan, or Individualized Education Program (IEP), for the best interest of the child. Collaboration between the two parties is essential in developing an adequate IEP.

Individualized Education Program Goals: Parents sometimes feel that they are not able to assist in creating IEP goals for the child, but parent contributions in goal setting are very important. Sometimes mealtime goals are not added to the IEP without a parent advocating for these goals. A mealtime goal is appropriate if it is within the school context. An example of a goal could be, "Pablo will sit and eat his snack for X minutes within proximity of other children." It is important for parents to ask how their child is doing at lunch and snack times. Parents can attend therapy sessions during mealtimes if it is arranged in advance.

Help the School Get to Know Your Child: Parents know their child best, and it is extremely helpful for the parent to inform the school professionals of the child's strengths and limitations. A toy or teddy bear may calm your child in times of distress, or specific words may assist him/her in attending to a task. Your child may have special learning or sensory needs that school professionals should know. One parent created a

book of her child with her child's likes, dislikes, abilities, and limitations (ie. "I need you to help me to bring the spoon to my mouth during mealtime"). This book was extremely useful for the school staff to get to know this unique and wonderful child. Assist your school community in getting to know your child and his/her talents in whatever manner you wish.

Maintaining Good Communication: A common method of communication between school professionals and parents is by way of a notebook that stays in the child's backpack and travels back and forth from home to school. Parents can be informed of the school day's activities and what the child has learned, and therapists can be informed of activities or strategies that seem to work at home. If you wish for mealtime activities to be recorded, you can communicate this in the notebook. Good communication between the two parties is so important for the benefit of the child!

Parent Perspective:

A mother stated, "I would suggest to any parent/caregiver to look into your rights for an IEP. This is the best forum to bring up your concerns for your child on every level. You may call an IEP meeting at any time with concerns you are having. Please try to be somewhat specific in your goals or needs in your IEP, because this becomes a legal binding document between your family and the school. I used this forum to express that my children do choke on their food because of their mouth motor issues. I requested that someone keep an eye on them during their snack time and lunches."

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Autism and Mealtime Resources in Tucson and Phoenix, Arizona

Compiled by: Deborah Vittner OTR/L

Disclaimer: The below services are not necessarily being endorsed by the author of this handbook. They are services that exist in Tucson and Phoenix related to the topic of interest.

Tucson:

Division of Developmental Disabilities: a Division of the Arizona Department of Economic Security https://egov.azdes.gov/cmsinternet/main.aspx?menu=96&id=2454

Services and supports help eligible individuals with developmental disabilities achieve self-sufficiency and independence. Supports are provided to family members and other caregivers as well. Services are tailored to meet individual needs at home and other community settings. Having a diagnosis of autism makes a child eligible for services, and if a young child is suspected to have a diagnosis of autism, they may also be eligible.

Tucson numbers:

Call the appropriate intake number and ask to work with an autism specialist:

Ages 0-3- 520-325-6495 services are provided by the Easter Seals Blake Foundation

Ages 3-6- 520-519-1676

Ages 6+- 520-519-1551

Tucson Alliance for Autism: www.tucsonallianceforautism.org

Kim Crooks, Director 520-319-5857

A collaboration of Autism Society of America - Pima County Chapter, Tucson Autism Community Center, and the University of Arizona Medical School, Psychiatry Dept and Speech, Language and Hearing Sciences.

Comprehensive autism evaluations, behavioral consultations (self pay), supportive services, and library services on Wednesdays 10am-12pm, the first Monday evening of each month 6pm-8pm, and Tuesdays and Thursdays. The Tucson Alliance for Autism offers a folder on general autism information and nutrition and biomedical information.

Autism Society of America, Pima County Chapter (ASA-PCC): www.tucsonautism.org

Peter Earhart – President 520-770-1541 president@tucsonautism.org

The ASA-PCC is committed to increasing autism awareness while assisting individuals and families affected by autism through advocacy, education, research, services, and support.

The ASA-PCC Autism Resource Library provides books and resources on mealtime challenges and the organization provides support through educational events and networking families together. All services are free of charge.

Mealtime Connections, LLC: www.mealtimeconnections.com

Marsha Dunn Klein OTR/L 520-829-9635

We provide pediatric occupational and speech therapy services in the home and the clinic. Our many therapists have had considerable experience supporting families with children on the autism spectrum who have mealtime challenges.

We focus on mealtime peace, and helping the child have positive food interactions, while teaching lifelong food interaction skills. Services are often covered by insurance.

FABAS, Inc.: www.fabasinc.org

Dr. Fernando Armendariz 520-795-2680

FABAS empowers parents by providing them with the latest behavior analytic techniques that they may use to help their children develop their full potential.

We provide parents with techniques that they may use during their daily activities to have the child gradually try more foods and expand the variety of items that they will consume.

These services are not yet covered by insurance but may soon be covered.

Phoenix:

Division of Developmental Disabilities: a Division of the Arizona Department of Economic Security https://egov.azdes.gov/cmsinternet/main.aspx?menu=96&id=2454

Services and supports help eligible individuals with developmental disabilities achieve self-sufficiency and independence. Supports are provided to family members and other caregivers as well. Services are tailored to meet individual needs at home and other community settings. Having a diagnosis of autism makes a child eligible for services, and if a young child is suspected to have a diagnosis of autism, they may also be eligible.

Call the appropriate intake number and ask to work with an autism specialist:

Ages 0-3- 602-277-8724

Ages 3+- 602-246-0546

The Garden of Eating: www.thegardenofeatingdiet.com; www.thehealthcookingcoach.com

Rachel Albert Matesz, Nutrition Educator & Health Cooking Coach

602-840-4556 chefrachel@thegardenofeatingdiet.com

Services: Cooking classes, consulting on special diets due to allergies, sells cookbooks, etc.

Rachel has more than 20 years of experience and is on the nutrition faculty at the Southwest Institute of Healing Art in Tempe

Gentry Pediatric Behavioral Services, PLLC: www.gentrypbs.com

Joseph Gentry, Ph.D., BCBA, Licensed Psychologist, Certified School Psychologist, Board Certified Behavior Analyst 602-312-2911

Gentry PBS provides a number of services to children and families throughout Arizona, including diagnostic evaluations (specializing in autism, AD/HD, anxiety and learning disabilities), school evaluations and training, IEP development and behavioral parent consultation.

Gentry PBS provide behavioral consultation to parents who have children learning to eat, and will help families and schools set up feeding programs for children with feeding difficulties.

Easter Seals Southwest Human Development:

www.eastersealssouthwesthumandevelopment.org 602-266-5976

Trudi Norman-Murch, Ph.D., CCC-SLP; Director, Services for Children with Disabilities
Torie Keyes-Hackett, Senior Program Manager, Infant Toddler Feeding Program

Easter Seals Southwest Human Development is a community-based human services agency providing services to young children and families at risk because of poverty, disabilities, health and mental health problems. We also provide training and technical assistance to professionals who address the needs of these populations.

We offer the full range of early intervention services to infants and toddlers with disabilities and their families (OT, SLP, PT, Developmental Instruction). This includes children on the autism spectrum. We also offer the Side-By-Side program for toddlers with ASD and their families: this is a transdisciplinary program which integrates center-based and home-based services. The center-based component includes a meal/snack time,

and is designed so as to address individual goals related to eating. The staff includes OTs, SLPs, a pediatric nutritionist, and psychologist who have special expertise in feeding problems. Finally, Easter Seals Southwest Human Development offers an Infant Toddler Feeding Team: transdisciplinary team-based assessment, care coordination, on-going intervention planning, and treatment are provided to young children and families. Children with autism or at-risk for autism are served by this feeding program.

We are covered by some insurance companies and are providers for the Arizona Division of Developmental Disabilities.

Southwest Autism Research and Resource Center (SARRC): www.autismcenter.org

Lori Vincent, BCBA 602-218-8221 Janet Kirwan, RN 602-218-8212

Main number for SARRC 602-340-8717

The mission of SARRC is to advance research and provide a lifetime of support for individuals with autism and their families.

We have library books, ABA, PRT, and research on mealtime struggles. Beginning in the summer of 2009, ABA, PRT and DTT are mandated by AZ Legislature to be covered.

P.O.P.S.I.C.L.E. Center, Inc.: www.popsicle.org

Parent Organized Partnerships Supporting Infants and Children Learning to Eat

Chris Linn, Executive Director 602-222-6222

Our mission is to support and educate families and the medical community to give children with feeding disturbances the best quality of life.

Services include: Social/emotional support for parents/caregivers (one founding mother has a child with autism), monthly parent support group meetings (includes, but not limited to, families who have children with autism), periodic workshops featuring nationally recognized feeding experts who understand the dynamics of children with autism

Insurance is not necessary for what we do. Services are free for parents.

Autism Society of America Greater Phoenix Chapter: http://www.phxautism.org/

Cynthia Macluskie- Parent Mentor, Susan Sunseri- Parent Mentor, Katie Wride- Parent Mentor

Our main phone number is 480-940-1093.

We provide parent and community support by providing knowledgeable parent mentors to answer questions and run support groups around the valley. Our services are free.

Melmed Center, PLLC: www.melmedcenter.com 480-443-0050

Dr. Raun Melmed is the medical director of the Melmed Center and a co-founder and the medical director of the Southwest Autism Research and Resource Center. He is an Adjunct Senior Researcher at the Translational Genomics Institute in Phoenix. Dr. Melmed has been instrumental in setting up nationally recognized physician training programs for the early identification of infants and toddlers with developmental and behavioral concerns and the early screening of autism spectrum disorders. He authored Autism: Early Intervention and is the co-author of Succeeding with Difficult Children. Dr. Melmed is an investigator in studies of novel therapeutic agents in the treatment of ADHD and autism as well as studies addressing family linkage, proteomics and gene expression in autism.

The Melmed Center provides a compassionate, state of the art approach to the assessment and treatment of behavioral, educational and developmental challenges in children and adults. Our multidisciplinary team includes developmental pediatricians, nurse practitioners, psychologists, counselors, occupational therapists, special educators, advocates and life coaches. Following evaluation, a comprehensive treatment plan is formulated and individualized to the child's and family's needs. We take insurance for several of our services.