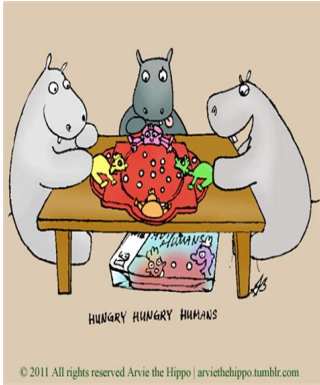




Hungry, Hungry Hippos

Picky eaters versus problem feeders



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32nd Annual SPIN Conference



Who are the hungry hippos....



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Do these sound familiar...



My child only eats Plum Organic pureed pumpkin and banana



What should I do? Tiana gagged everytime we fed her babyfood



Noah only wants to drink his bottle and threw a tantrum when sat down to eat solids



My child always gags and spits up when I try to feed him rice cereal



Johnny will not drink out of a cup, but he is gonna be three



Gracie does not like to touch her food. She is very clean and neat.







Will my child grow out of this?




Picky eater? Problem feeder?



Possible causes to picky eater and sensory feeder

-  Oral sensorimotor immaturity and/or dysfunction
-  GI issues : persistent GERD at an earlier age
-  Sensory processing disorder
-  Underlying dysphagia – persistent choking or micro aspiration

-  Complex medical history:
 - complex cardiac condition,
 - history of extreme prematurity with chronic lung disease
 - Respiratory system compromised with tracheostomy, micrognathia
 - G-tube dependent with need for slow feeds, lack of physical sensation of hunger and thirst
 - Short gut syndrome

Possible Signs of a Feeding/Swallowing Disorder



Arches his/her back or stiffens when feeding



Cries or fusses when feeding.



Has trouble breathing while eating and drinking. Sounds congested and gurgles



Refuses to eat or drink



Eats only certain textures, such as soft food or crunchy food



Takes a long time to eat



Has problems chewing



Coughs or gags during meals



Frequent spit-ups









not able to gain weight adequately



Fatigues easily during feeding, e.g., Prader-Willi syndrome, low muscle tone, Cardiac

What is SOS Approach to Feeding (Sequential Oral Sensory):

-  Designed to assess and address all the factors involved in feeding difficulties – examines and treats the “whole child”
-  Philosophically based on the idea that “the child is always right” – the child is doing what works for him/her
-  Allows the child to play with food with the purpose of teaching about food with the goal of eating it eventually
-  Build skills and increase food repertoire in a playful and non-stressful way
-  Wearing your food is part of the process of learning to eat that food – it helps increase a child’s comfort level by exploring different properties of the foods, including the color, shape, texture, smell and taste
-  Parent education and involvement are an essential part of this feeding program

Feeding relates to...



All organs



All Muscles



All Senses



Learning (style, capacity, history)



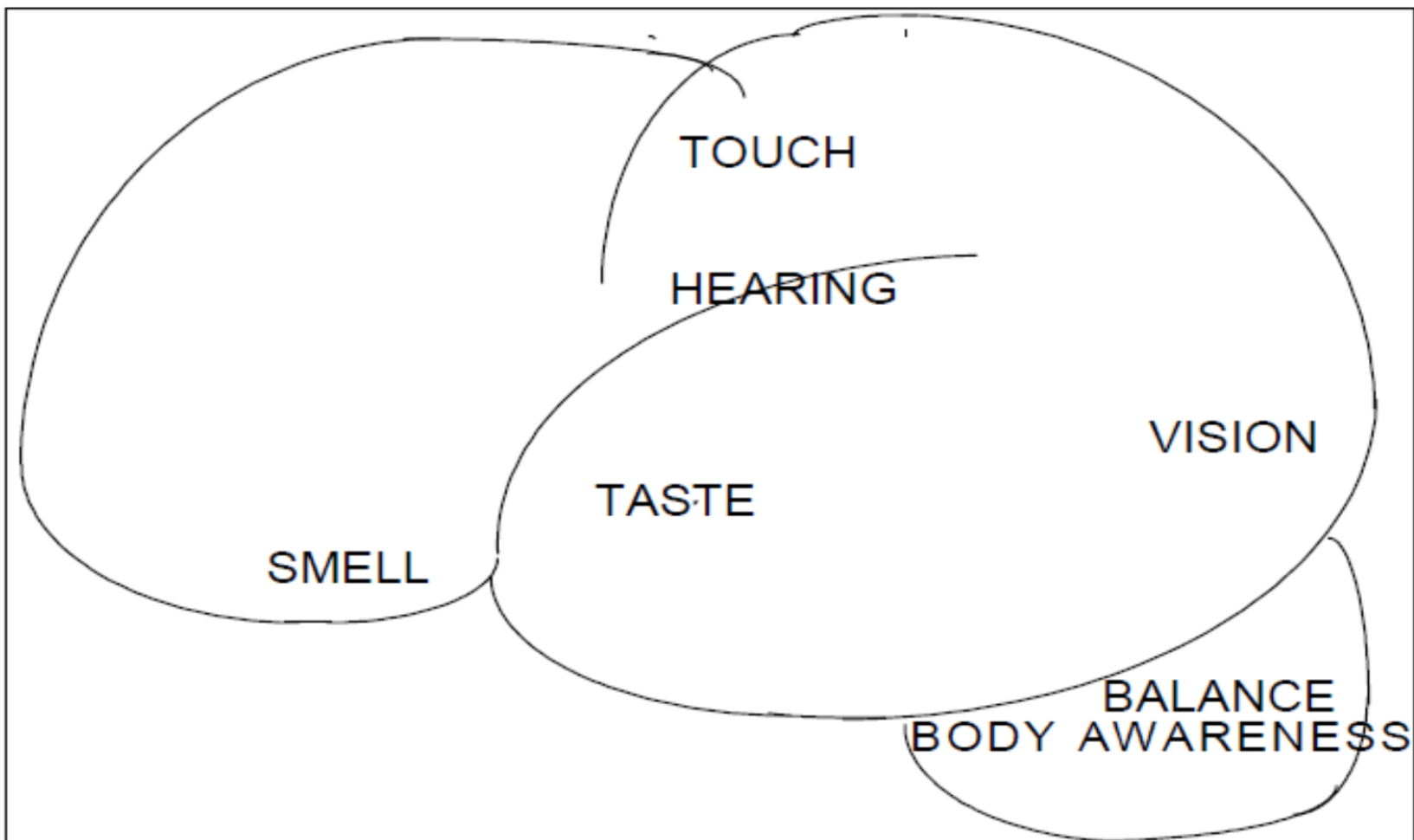
Development



Nutritional Status



Environment





Eating is not a 2 step process- it is a 25 –
step process that begins with sensory
integration



Eating is the most difficult sensory tasks
that children do



EATING

- chews and swallows whole bolus independently
- chews, swallows whole bolus with drink
- chews, swallows some and spits some
- bites, chews "x" times & spits out
- bites pieces, holds in mouth for "x" seconds & spits out
- bites off piece & spits out immediately
- full tongue lick
- licks lips or teeth

STEPS TO EATING



TASTE

- tip of tongue, top of tongue
- teeth
- lips
- nose, underneath nose
- chin, cheek
- top of head
- chest, neck
- arm, shoulder
- whole hand
- fingertips, fingerpads
- one finger tip



TOUCH

- leans down or picks up to smell
- odor in child's forward space
- odor at table
- odor in room



SMELLS

- uses utensils or container to serve self onto own plate/space
- uses utensils or a container to stir or pour food/drink outside of own space
- uses utensils or a container to stir or pour food/drink for others
- assists in preparation/set up with food



INTERACTS WITH

- looks at food when directly in child's space
- being at the table with the food just outside of child's space
- being at the table with the food ½ way across the table
- being at the table with the food on the other side of the table
- being in the same room

TOLERATES





Deborah : “taste like persimmon but it’s dark”

Kimi : “yeah...like persimmon”

Jordan : “ pretty good” “ let me taste some more”

Suzy : “what is that?” “kind of taste like sweet potato”

Mel : “only a little.”

Caroline : “ no thank you”

Leni : “nope”

Cognitive Development – Piaget



Birth to 2/3 years = Sensorimotor

- Understanding of the world is based on physical experience
- symbiosis with primary caregiver



2/3 years to 5/7 years = PreOperational Thinking

- Pre-logical and magical thinking
- Connections between events are made based on closeness in time (aren't necessary true)



5/7 years to 9/11 years = Concrete Operations

- Logical thinking
- still can not complete “reverse operations”
- black and white thinking, rule-based



9/11 years and on = Formal Operations

- abstract thought
- can reverse an “operation” directly in the mind versus needing to act on the world
- very narcissistic. They think that they are the ones who come up with the big
- thoughts

Emotional vs. Stress Response



What we believe impacts the decision making process for treatment



If we believe the child has an emotional or behavioral problem, we will try to control and “fix” the child

If we believe the child is having a stress response because they cannot manage the task, we will teach the skills in a manner that respects the child’s readiness for the task

Marsha Dunn Klein (2010)

Cognitive Functioning and Stress



When we are distressed/stressed, we drop to the next lowest level of cognitive functioning



When we begin treatment with families, assume they are functioning cognitively in Concrete Operations



Write down all recommendations



Draw pictures



Use “body based” teaching experiences



It takes 6 – 8 weeks, once a week intervention in order to establish a relationship to come back up a level in cognitive function

How Infants and Young Children Learn about Food



Familiarization through exposure: tastes, variety, texture, visual exposure.



Associative learning.



Observational learning.



Categorization.

Exposure: taste, variety, texture, and visual



Repeated exposure has been demonstrated to be effective in encouraging infants to consume more of a target food during the weaning period.



Exposure to specific tastes early in life is associated with later taste preferences.



Repeated exposure can also increase infants' intake of an initially disliked food.



Exposing an infant or young child to a variety of foods at a young age is effective in promoting liking and intake of both exposed foods and other new foods.



By manipulating the presentation of vegetables within meals and days, demonstrated that both within-meal and between-meal variety enhance 6-month-olds' acceptance of a new (non-exposed) vegetable.



At 6 years of age, children who had been exposed to the high-variety intervention were more willing to taste new vegetables and liked and consumed more of these.

Associative learning



Flavor-flavor learning: pairing of a new or disliked food with a familiar and liked taste.



Flavor-nutrient learning: paired with high-energy dense ingredients to enhance post-ingestive satiety signals.



Contamination: association of a new food with a disliked food.



Reward: association of a food with praise.

Observational learning



Observational learning from adult models has been shown to occur from 14 months of age, while peer modeling has been shown to be effective from about 2 years of age.



Studies show that children's food repertoires are similar to those of their families until at least 8 years of age.



Parental modeling as a determinant of children's liking of vegetables.

Categorization



The ability to recognize a food by its shape and color is important to toddlers.



Children prefer foods to be presented separately rather than combined with other foods or hidden in sauce, and who reject foods whose appearance differs to a familiar preparation.








Knowing the name of a food might impact on its familiarity, and hence on liking.

Step 1: Tolerate



- 🍅 Being in the same room
- 🍅 Being at the table with food on the other side of the table
- 🍅 Being at the table with food 1/2 way across the table
- 🍅 Being at the table with the food approximately in front of the child
- 🍅 Looks at food when directly in front of child

Strategies:

-  Describe the properties of the food while it is in front of you.
-  You manipulate food in a creative/educational way near/in front of child.
-  Child watches food preparation because it is interesting.
-  Food is passed in front of child; directly in front of face.
-  Place food on a napkin or table next to child and move closer to child as tolerates (without drawing attention to this, over the course of the meal) place food on edge of plate and move closer as tolerates.

Step 2: Interaction



Assists in preparation/set up with food.











Uses utensils or a container to stir or pour food/drink.



Uses utensils or container to serve self.



Strategies:

-  Have child pass food container to another.
-  Have child serve self or another family member with a utensil.
-  Child helps with food preparation using utensils.
-  Child stirs with a utensil or other food (e.g. pretzel rod).
-  Child manipulates outer wrapper.
-  Child pushes one food with another food (making a train).
-  Child puts one food into another (making faces, making b-day cakes with candles).
-  Child blows on food to tip it over or move along the plate/surface.

Step 3: Smell



Odor in room.



Odor at table.









Odor directly in front of child.



Leans down or picks up to smell.



Strategies:

-  Have child in kitchen while food is being cooked.
-  Helps prepare foods with utensils or hands.
-  Peeling, cutting, stirring.
-  Waving food in front of face (mimicking fans, airplanes, wiggle worms, “teaching physics of food”).
-  Bringing the food near the nose (make mustaches, whiskers, beards, lipstick, clown noses).
-  Model leaning down and exaggerating smelling (“Hmmm...Ahhh”).

Step 4: Touch



Fingertips, finger pads



Whole hand



Chest, shoulder



Top of head



Chin, cheek



Nose, underneath nose



Lips



Teeth



Tip of tongue, full tongue



Strategies:



Building with food (making trains, steps, bridges, rainbows, letters, shapes)



Painting with foods (shapes, letters, pictures, faces, etc)



Driving foods and driving foods under other foods (peanuts make great boats and cars)



Inch worm up the hand, arm, shoulder, cheeks, etc



Driving to the cave (mouth)



Kissing foods, foods kissing you













Pretending the food is lipstick, rubbing food on lips



Flicking onto plate, into bowl



Serving yourself with your hands

-  Sticking the food to parts of the body (forehead, cheek, hand, nose, chin) scraping with hands into trash; throwing away foods on the table
-  Making food into objects you can wear (earrings, glasses, necklace, bows in hair, rings, etc.)
-  Smashing, crunching, breaking, ripping, tearing with hands
-  Cookie cutters
-  Give food hugs
-  Tapping the food on the teeth
-  Balancing the food on your nose
-  Hanging the food from lower lip
-  Holding food on/above your upper lip with no hands
-  Sliding down the slide/ski slope (= your nose)

Step 5: Taste









🥥 Licks lips, tongue licks food, bites off piece & spits out immediately.

🥥 Bites piece, holds in mouth for “X” seconds & spits out bites, chews “X” times & spits out.

🥥 Chews, partially swallows, chews, swallows with drink, chews and swallows independently.



Strategies:

-  Being a puppy with a bone
-  Holding food in teeth, no hands
-  Kissing food
-  Driving into mouth
-  Blowing out of mouth
-  Hold in teeth then push out with tongue
-  Licking (“make it wet, like a puppy does”, lick it like an ice-cream cone)
-  Listen to the noises it makes when biting/crunching

- 🍊 Imitate brushing teeth with food
- 🍊 Making a popping noise pulling foods out of mouth
- 🍊 Exaggerated chewing with noise and head movement
- 🍊 Licking food from fingers
- 🍊 Hold bite of food in back teeth, spit out
- 🍊 Bite off small pieces, then spit out quickly
- 🍊 Touch to tip of tongue fast
- 🍊 Playing peek-a-boo on tongue
- 🍊 Counting chews
- 🍊 “1, 2, 3” everyone licks, bites etc.

Step 6: Eating

Feeding guidelines: 2-3 years



Calories	Milk/Dairy	Meat/beans	Fruits	Vegetables	Grains	Oil
1000kcal	2 cups	2 oz.	1 cup	1 cup	3 oz.	14 g

Meal and Snack Pattern A

(1000 calorie Daily Food Plan)

Breakfast

1 ounce Grains
½ cup Fruit
½ cup Dairy*

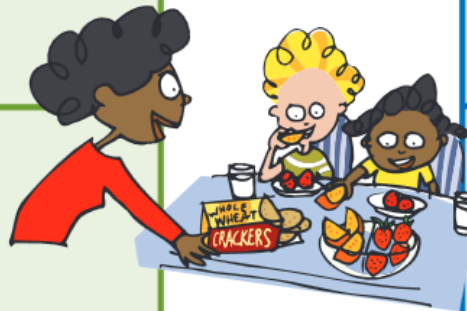


Morning Snack

½ ounce Grains
½ cup Fruit

Lunch

1 ounce Grains
¼ cup Vegetables
½ cup Dairy*
1 ounce Protein Foods



Afternoon Snack

¼ cup Vegetables
½ cup Dairy*

Dinner

½ ounce Grains
½ cup Vegetables
½ cup Dairy*
1 ounce Protein Foods



Meal and Snack Pattern B

(1000 calorie Daily Food Plan)

Breakfast

1 ounce Grains
½ cup Dairy*
1 ounce Protein Foods

Morning Snack

½ cup Fruit
½ cup Dairy*

Lunch

1 ounce Grains
¼ cup Vegetables
½ cup Dairy*



Afternoon Snack

¼ cup Vegetables
½ cup Fruit

Dinner

1 ounce Grains
½ cup Vegetables
½ cup Dairy*
1 ounce Protein Foods

*Offer your child fat-free or low-fat [milk](#), [yogurt](#), and [cheese](#).

Feeding guidelines: 4-8 years



	Calories	Milk/Dairy	Meat	Fruits	Vegetables	Grains	Oil
Female	1200kcal	2 cups	3 oz.	1.5 cups	1 cup	4 oz.	17-18 g
Male	1400kcal	2 cups	4 oz.	1.5 cups	1.5 cups	5 oz.	17-18 g

Meal and Snack Pattern A

(1200 calorie Daily Food Plan)

Breakfast

1 ounce Grains
½ cup Fruit
½ cup Dairy*



Morning Snack

1 ounce Grains
½ cup Fruit

Lunch

1 ounce Grains
½ cup Vegetables
½ cup Dairy*
1 ounce Protein Foods

Afternoon Snack

½ cup Vegetables
½ cup Dairy*

Dinner

1 ounce Grains
½ cup Vegetables
1 cup Dairy*
2 ounces Protein Foods



Meal and Snack Pattern B

(1200 calorie Daily Food Plan)

Breakfast

1 ounce Grains
½ cup Dairy*
1 ounce Protein Foods

Morning Snack

½ cup Fruit
½ cup Dairy*

Lunch

2 ounces Grains
½ cup Vegetables
½ cup Dairy*



Afternoon Snack

½ cup Vegetables
½ cup Fruit

Dinner

1 ounce Grains
½ cup Vegetables
1 cup Dairy*
2 ounces Protein Foods

*Offer your child fat-free or low-fat **milk, yogurt, and cheese.**

Meal and Snack Pattern A

(1400 calorie Daily Food Plan)

Breakfast

- 1 ounce Grains
- ½ cup Fruit
- ½ cup Dairy*



Morning Snack

- 1 ounce Grains
- ½ cup Fruit
- 1 ounce Protein Foods

Lunch

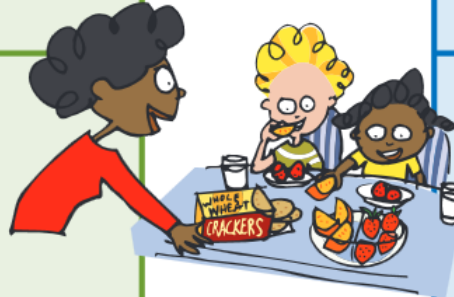
- 1 ounce Grains
- ½ cup Vegetables
- ½ cup Fruit
- ½ cup Dairy*
- 1 ounce Protein Foods

Afternoon Snack

- ½ cup Vegetables
- ½ cup Dairy*

Dinner

- 2 ounces Grains
- ½ cup Vegetables
- 1 cup Dairy*
- 2 ounces Protein Foods



Meal and Snack Pattern B

(1400 calorie Daily Food Plan)

Breakfast

- 1 ounce Grains
- ½ cup Dairy*
- 1 ounce Protein Foods

Morning Snack

- ½ cup Fruit
- ½ cup Dairy*

Lunch

- 2 ounces Grains
- ½ cup Vegetables
- ½ cup Fruit
- ½ cup Dairy*



Afternoon Snack

- ½ cup Vegetables
- ½ cup Fruit
- 1 ounce Protein Foods




Dinner


- 2 ounces Grains
- ½ cup Vegetables
- 1 cup Dairy*
- 2 ounces Protein Foods

Feeding guidelines: 9-13 years







	Calories	Milk/Dairy	Meat	Fruits	Vegetables	Grains	Oil
Female	1600kcal	3 cups	3 oz.	1.5 cups	2 cup	5 oz.	20-22 g
Male	1800kcal	3 cups	5 oz.	1.5 cups	2.5 cups	6 oz.	20-22 g

Meal and Snack Pattern A	
(1600 calorie Daily Food Plan)	
<p>Breakfast</p> <p>1 ounce Grains ½ cup Fruit ½ cup Dairy*</p>	
<p>Morning Snack</p> <p>1 ounce Grains ½ cup Fruit 1 ounce Protein Foods</p>	
<p>Lunch</p> <p>1 ounce Grains ½ cup Vegetables ½ cup Fruit ½ cup Dairy* 1 ounce Protein Foods</p>	
<p>Afternoon Snack</p> <p>½ cup Vegetables ½ cup Dairy*</p>	
<p>Dinner</p> <p>2 ounces Grains 1 cup Vegetables 1 cup Dairy* 3 ounces Protein Foods</p>	

Meal and Snack Pattern B	
(1600 calorie Daily Food Plan)	
<p>Breakfast</p> <p>1 ounce Grains ½ cup Dairy* 1 ounce Protein Foods</p>	
<p>Morning Snack</p> <p>½ cup Fruit ½ cup Dairy*</p>	
<p>Lunch</p> <p>2 ounces Grains ½ cup Vegetables ½ cup Fruit ½ cup Dairy*</p>	
<p>Afternoon Snack</p> <p>½ cup Vegetables ½ cup Fruit 1 ounce Protein Foods</p>	
<p>Dinner</p> <p>2 ounces Grains 1 cup Vegetables 1 cup Dairy* 3 ounces Protein Foods</p>	

*Offer your child fat-free or low-fat [milk](#), [yogurt](#), and [cheese](#).

1800 CALORIE MEAL PLAN

Meal	Sample Meal 1	Sample Meal 2
Breakfast		
 <p>2 Starch 1.5 Fruit 1 Milk</p>	<p>1 cup bran flakes 6 oz banana 8 oz 1% milk</p>	<p>1 slice wheat toast 1/2 cup oatmeal 2 tsp no-sugar-added jam 1 cup blueberries 1 cup fat-free yogurt</p>
Lunch		
 <p>2 Starch 1 Fruit 1 Vegetable 3 Meat 2 Fat 1 Milk</p>	<p>2 slices wheat bread 3 oz lean sliced ham Mustard as desired Lettuce as desired 1 slice tomato 1 Tbsp reduced-fat mayonnaise 1 cup raw carrots 1 apple 1 cup fat-free yogurt 10 peanuts</p>	<p>2 slices white bread 3 oz sliced turkey Mustard as desired Lettuce as desired 1 pickle 1 cup cherry tomatoes 2 Tbsp reduced-fat mayonnaise 1 cup sliced cantaloupe 10 oz smoothie</p>
Dinner		
 <p>3 Starch 1 Fruit 4 Vegetable 3 Meat 3 Fat</p>	<p>1 small dinner roll 2 tsp margarine 2/3 cup rice 1 cup cooked broccoli 1/2 cup cooked squash 3 oz baked chicken Salad greens as desired 1 cup raw vegetables on salad 2 Tbsp reduced-fat salad dressing 1.25 cup whole strawberries</p>	<p>1 small dinner roll 2 tsp margarine 1 cup corn 1 cup cooked squash 1 cup green beans 3 oz grilled or broiled flank steak 2 pecans, diced, on green beans 3/4 cup pineapple</p>
Snack		
 <p>1 Starch 1 Milk</p>	<p>3 cups popcorn, low fat/no butter 1 packet sugar-free hot cocoa, mix & water</p>	<p>3/4 oz pretzels 8 oz 1% milk</p>
TOTAL DAILY SERVINGS		
8 Starch; 3.5 Fruit; 3 Milk; 5 Vegetables; 6 Meat; 5 Fat.		



Take Home Messages



People aren't choosing to dislike food.



How to resent the pattern of likes and dislike:



Nonjudgement



Continue to try things in different ways



8-15 exposures are needed to enhance new food acceptance.



Pleasant, fun mealtimes help establish a life-long healthy relationship with foods!

Resources

- **Core Nutrition Messages (USDA):** www.fns.usda.gov/core-nutrition
- **Kids Eat Right (Academy of Nutrition and Dietetics and its Foundation):**
<https://www.eatright.org/for-kids>
- **MyPlate Kid's Place (USDA):** www.choosemyplate.gov/kids
- **Let's Move Child Care (The Nemours Foundation):**
www.healthykidshealthyfuture.org

Questions

