LEVEL 2

WIC Certification Program

Preschool Module

State of Iowa Department of Health
and Human Services, WIC Program
321 E. 12th St., Des Moines, IA 50319
(515) 281-6650

IOWA WIC

STATE OF IOWA DEPARTMENT OF
Health AND Human
SERVICES

Table of Contents

Objectives of the Preschool Nutrition Module

After completing this module, the learner will be able to:

1. Identify why it is important to develop positive eating habits in children.

2. Recognize at least seven tips that can help parents and caregivers foster the development of their child's healthy eating habits.

3. Explain what to do about eating behavior issues that are common during the preschool years including introducing new foods, disliking foods, refusing to eat, playing with food, and "food jags."

4. State why serving sizes are smaller for young children than for adults, and explain why it is important to offer small amounts of a variety of foods at each meal.

5. Recognize the following components of each of the food groups as it applies to children, ages 1 through 5 years:
    - Foods contained within each food group
    - Some favorite foods of young children within each food group
    - Nutrients provided by each food group
    - Number of servings needed each day for children 1 through 5 years old to meet the nutritional needs of this age group

6. Identify foods not recommended for young children because of choking risk.

7. Explain the important role snacks play in the diet of a young child.

8. Identify ways to prevent and/or treat common nutritional concerns for preschool children including overweight, iron-deficiency anemia, dental caries, and inappropriate nutrition practices.

Section I: Eating Behavior

Goals of Good Nutrition

For purposes of this module, preschool age is considered 1 to 5 years of age.

The diets of young children are influenced by their growth rate, their physical maturity and development, their personality, and the eating environment created by the family. During these early years, many lifelong food habits, food preferences, and food dislikes are established.

For evidence-based recommendations and best practices for promoting healthy eating behaviors in children 2 to 8 years see the Healthy Eating Research report from the Robert Wood Johnson Foundation.

The following list represents the goals of adequate food and nutrition for the developing child:

- Reach optimal physical and mental growth
- Resist infection and disease
- Form good eating habits
- Develop motor skills
- Grow intellectually and mature psychologically
- Learn to socialize with others

> "A healthy feeding relationship between parent and child increases the child's chances of being well-nourished in the long term, and of having healthy attitudes about eating, about himself or herself, and about the world." *Ellyn Satter, RD, MS, MSSW Child of Mine.*

Developmental Snapshot of the Preschooler

Bright Futures in Practice: Nutrition 3rd Edition, cdc.gov, mayoclinic.org and healthychildren.org were used as reference sources for this module. The following is a summary of the development of a child one to five as they grow:

1 to 1½ Years

- Can bite off small pieces of food
- Uses a pincer grasp to pick up small pieces of food and put in mouth
- Can drink from a cup (but still may need help)
- Chews food using an up-and down motion
- May be leery of new foods, may look, smell, feel, and taste new foods but refuse to eat them
- Wants food that others are eating

1½ to 2 Years

- Will eat less. They may eat a lot one day and very little the next
- Likes to eat with their hands but should be provided with appropriate sized utensils and cups
- Usually eats only 1 or 2 foods at a meal
- Does best with routine
- Has favorite foods
- Gets distracted easily

2 to 3 Years

- Is able to hold a glass
- Can place a spoon straight into their mouth
- Spills a lot
- Can chew more foods
- Has definite likes and dislikes
- Will insist on doing things themselves
- Likes routine
- Dawdles during meals
- Has food jags (wants to eat only a particular food)
- Demand foods in certain shapes
- Likes to help in the kitchen

3 to 4 Years

- Holds a cup by its handle
- Is able to pour liquids from a small pitcher
- Can use a fork and push food onto a spoon
- Is able to chew most foods
- Has an increased appetite and interest in foods
- Will request favorite foods
- Likes foods in various shapes and colors
- Chooses which foods to eat
- Is influenced by television

- Will like to imitate the cook

4 to 5 Years

- Is able to use a knife and fork
- Can use a cup well
- Has an increased ability to feed himself
- Is able to serve them self from bowls and plates and pass food to others
- Is more interested in talking than in eating
- Continues to have food jags
- Can be motivated to eat (for example, by being told "You'll grow up to be tall like your father")
- Likes to help prepare food
- Is interested in where food comes from
- Peers have increasing influence

Developing Good Food Habits

Food habits are learned. Learning to develop positive eating habits and attitudes early on can shape food choices and nutrition status throughout a lifetime.

After the first year of life, the growth rate slows, yet there is a steady increase in body size. Along with the decrease in growth rate comes a decrease in appetite and an increased need for vitamins and minerals.

The continued slowing of growth speed, the development of fine and oral motor skills, and the development of independence affect diet and feeding.

Children may go through stages when they refuse certain foods, or request a limited variety of foods. If these situations are not handled well, serious eating problems can develop.

"If a struggle emerges about eating, a toddler will get so involved in the struggle and so upset that it overwhelms her need to eat. This observation is just as true of struggles about potty training, what to wear, school work, and so on. Throughout your child's growing-up years, it is important to matter-of-factly set the limits and avoid the emotional fireworks and struggles. Learning to do this with feeding will help you in other areas as well."

— Ellyn Satter, Child of Mine: Feeding with Love and Good Sense

Families help teach children cultural food patterns, what foods are desirable, how these foods are to be eaten, and manners while eating. Mealtime is a time for socialization with the family. Children observe the family members and mimic their attitudes toward food.

Parents, as well as caregivers, should be encouraged to prepare a wide variety of foods to provide the children with an opportunity to learn to like them. When introducing new foods,

offer them one at a time and serve them with another well-liked food. Furthermore, children may need to be offered the food many times, possibly 8-12 times, before he or she takes the first bite. For children to develop the tastes to eat a variety of foods, repeated tastes should be offered.

Caregivers can teach children healthy eating behaviors by:

- Being a positive role model and practicing healthy eating behaviors themselves
- Eating meals together as a family
- Understanding that children will like or dislike certain foods
- Letting their child decide whether to eat and how much
- Offering a variety of healthy foods and encouraging their child to try different ones
- Letting their child participate in food shopping and meal preparation
- Teaching their child where foods come from and how foods are grown (for example, plant a garden or visit a farm, orchard, or farmer's market)
- Not using food to reward, bribe, or punish their child

The eating environment must be comfortable and relaxed for children to develop healthy eating habits. Mealtime can be uncomfortable if children are not seated properly and securely, the utensils are too large for their small hands, or the surroundings are unpleasant.

Creating a Positive Eating Environment

The following conditions will provide a positive environment for the child to enjoy meals and form lifelong healthy eating habits:

- Use the child's favorite plate, bowl, cup, and eating utensils.
    - Plates and bowls: Sturdy and durable; "child-sized," with a lip that the child can use to push food against.
    - Spoons and forks: Small handle that fits easily in the child's hand, small blunt tips on spoons and forks; increase the size of utensils as the child develops.
    - Cups and glasses: Small enough to be easily grasped by the child yet sturdy enough to sit firmly on the table; unbreakable. Start with a training cup with a lid but not a spill proof valve. "Sippy" cups with spill proof valves are similar to baby bottles, the child has to suck not sip to drink and it does not teach them to form their mouth on the rim of a cup or glass.
    - Chair: One that will not tip and is positioned so that food can be easily reached.
- Serve meals and snacks on a set but flexible schedule.
- Let the child decide whether to eat and how much.
- Be patient and understand if the child makes a mess while he/she learns to feed herself.
- Resist the temptation to prepare a different meal if the child chooses not to eat.
- Give the child the opportunity to talk about their day.

- Praise the child for trying new foods and for practicing appropriate behavior at the table.
- Create a relaxed setting for meals. Put stresses of the day aside.
- Do not insist that the child eat all the foods on her plate before dessert. Consider serving dessert with the meal.

Common Questions & Answers

Q: *"How can you get a child to eat a healthy diet when the parents don't have good eating habits?"*

A: It can be difficult to address feeding issues when parents themselves have poor eating habits. It is difficult for parents to teach when they do not practice.

The situation may be an opportunity to improve the dietary habits of the entire family. Use the child's health as a motivator. Some parents may make small changes in their own diet if they think it will help their child to be healthier. They may agree to eat one vegetable at dinner if it will encourage their child to do the same. Suggest to a pregnant mom that she eat a variety of foods if she later wants her child to eat a variety of foods. Pregnancy is a time when many women are highly motivated to change for the sake of their baby's health.
If parents are unwilling to make any dietary changes then the situation is more difficult. Parents have to work harder in other ways to make up for their lack of an example. Here are some tips for creating a positive attitude towards food:

- A positive attitude about food is important. Vegetables are not "yucky." Instead they are "cool" and will help you grow big and strong.
- Parents can use examples outside of the family. Even an older sibling or daycare friend can be used as an example, "Sarah eats breakfast every day before school."
- Forcing and "preaching" about food must be avoided. How many of us still won't eat a certain food because it was forced upon us?
- Create an interest in foods. Reading books with vegetables as characters or allowing a child to make snacks with healthy foods may help to build interest.
- Help a child develop "ownership" of certain foods. Assigning the child the "important" task of planning a nutritious snack for the family may help.

Food Issues

Food issues during the preschool years are a common part of development. The following pages take common concerns parents bring up in WIC clinics and offer messages you can share with caregivers.

Common Questions and Answers

Q: *My 2-year-old's appetite has changed. Should I be worried?*

A: Children grow more slowly from ages 1-5 than they do during their first 12 months of life. Young children's appetites are usually smaller than those of babies. Children's appetites change a lot from day to day, even from meal to meal. If your child is energetic and growing, he is probably eating enough.

Q: *How much should I feed my child?*

A: Children usually eat small portions. Offer small portions, and let your child ask for more if she is still hungry. The amount of food from each food group depends on the age, gender, and level of physical activity of the child. (See the "Nutritional Recommendations" section for more information on portions and recommended servings.)

Q: *My child sometimes loses interest during meals and doesn't eat. What can I do?*

A: It is normal for children to lose interest in an activity, including eating, after a short time. They are also easily distracted. Try to reduce distractions (for example, television) during meals and snacks. Refrain from making a "scene". Explain that you will remove the food when the child is finished. Once the food is removed, there is no more until the next snack or meal. Routines are important to children and grazing throughout the day can reduce their appetite for the next meal. Serve scheduled meals and snacks.

Q: *What can I do about my picky eater?*

A: It is a common complaint to hear about children being picky eaters and not wanting to eat what the rest of the family eats. Children often do not like new foods. Children learn to like foods that are repeatedly offered. When a child rejects a food or all foods offered at a meal, the caregiver should accept the rejection, without offering to make a different meal for the child. To react or try to force the child to eat food is a way to guarantee that the child is not likely to change their eating behavior any time soon. The child should be asked to sit at the table and keep the family company until the end of the meal.

Look at your child's eating over time rather than at each meal. If your child is energetic and growing, he is probably eating enough. Offer your child food choices and let him decide. Continue to serve a new food even if your child has rejected it (may take multiple exposures to accept the new food). Let your child participate in food shopping and preparation. Do not use food to reward, bribe, or punish your child.

Q: *How should I handle food struggles with my child?*

A: Your child may struggle with you over food in an attempt to make decisions and become independent. Do not struggle with your child over food. Struggling over food may make her even more determined. Let your child decide whether to eat and how much.

Q: *My child wants to eat only peanut butter sandwiches. What should I do?*

A: Food jags in children (when children want to eat only a particular food) are common. Offer smaller servings of the favored food, along with other foods to ensure that your child eats a variety of foods. Jags rarely last long enough to be harmful. If your child is energetic and growing, he is probably eating enough.

Q: *How can I get my child to try new foods?*

A: Offer small portions of new foods—perhaps 1 or 2 tablespoons—and let your child ask for more. Introduce only one new food at a time. Allow plenty of time for the child to look at and examine the food. Encourage your child to try a new food, but don't force her to eat it. She probably won't try new foods if she is tired, irritable, or sick. Continue to serve a new food even if your child has rejected it. It may take several times before she accepts the food.

Serve your child's favorite foods along with new foods. She may be more willing to try new foods if her favorites are on her plate. Be a positive role model—eat new foods yourself. Introduce a new food in a neutral manner. Talk about the food's color, shape, size, aroma, and texture, but don't talk about whether it tastes good. Make trying new foods appealing by involving your child in shopping and preparing the food. Be creative. For example, cut foods into various shapes using cookie cutters and create fun names for foods (for example, "little trees" for broccoli).

Q: *How should I handle my child when he rejects a new food?*

A: Do not make an issue of the child's rejection. Remember it may take multiple exposures before he accepts the food. Try combining the food with other favorite foods. Prepare the food different ways (separately, raw, cooked, in a soup, etc.). Offer small servings of the food.

Allow children to have a few dislikes, as most adults do too.

SELF-CHECK: PRACTICE YOU KNOWLEDGE

The answers are located at the end of the Self-Check.

1. In the list below, put a check mark (✓) by the following phrases which are desirable qualities of eating utensils for young children:

   ____ Small, blunt-tipped spoons and forks
   ____ Sturdy, durable dishes
   ____ Plates and bowls with a "lip"
   ____ Small, unbreakable cups and glasses

Read the following statements concerning the development of food habits in young children. Place a "T" (for True) or an "F" (for False) in the space to the left of each of the following statements:

2. ____ Food habits acquired at an early age may influence later nutritional status.

3. ____ Food habits are inherited, not learned.

4. ____ Children tend to mimic the eating habits of their parents.

5. ____ Don't force children to eat; healthy children will eat when they are hungry.

6. ____ Children should be offered a variety of foods.

Circle the letter of the phrase(s) that correctly complete(s) the following statements. There may be more than one correct choice.

7. When introducing new food(s):

    a. Serve the new food several times, even if it was rejected previously.
    b. Give the child a large serving so he or she can taste it several times during the meal.
    c. Serve the food with another well-liked food.
    d. Instruct the child to eat all of it.
    e. Be a positive role model—eat new foods yourself.

8. If a child dislikes a certain food, some possible alternatives are:

    a. Prepare it a different way
    b. Serve only a small amount
    c. Combine the disliked food with some of his/her favorite foods.

9. When a child occasionally refuses to eat:

    a. Tell the child there will be no dessert unless his/her plate is clean.
    b. Do not struggle with the child—let the child decide whether to eat and how much.
    c. Punish the child.

10. If a child goes on a "food jag" (requesting one food often):

    a. Allow the child to have smaller servings of the favored food.
    b. Offer other foods to ensure the child eats a variety of foods.
    c. Refuse to give it to the child.

ANSWERS

1. You should have checked all four phrases.
2. True
3. False
4. True
5. True
6. True
7. a, c, e
8. a, b, c
9. b
10. a, b

Section II: Nutritional Recommendations

Children have specific nutritional needs in order to obtain optimal growth and development. Because no single food provides all the necessary nutrients and minerals for growth, it is important that children eat a variety of healthy foods daily.

What Foods Should A Child Eat Daily?

In the Iowa WIC Program we have the *Children's Feeding Guide* (pictured below) as an education handout. The Children's Feeding Guide shows the five food groups: Fruits, Vegetables, Grains, Protein Foods, and the Dairy Group. The foods in each of these groups are good sources of vitamins and minerals. Each food group has a recommended amount per day to eat based on age. The amounts given are suggested and younger children may eat smaller amounts, but more frequently; an older child needs larger servings, but less often. If parents want to know exactly how much their child needs from each food group, refer them to the interactive website www.ChooseMyPlate.gov. For children eating less than the amount listed on the Children's Feeding Guide, discuss ways parents can add in these foods into their diet.

A Word about Serving Sizes

Serving sizes are smaller for young children than for adults and they are usually about one-half the size of an adult portion. Children have small stomachs and will fill up faster with smaller amounts of food. In order to ensure that children obtain all the nutrients they need to grow and stay healthy, it is important to serve small amounts of a variety of foods at each meal. If given an adult-sized serving, such as an eight-ounce glass of milk, the child may fill up, losing his/her appetite for the other foods.

The following is a further discussion of the different food groups as they apply to children ages 1 to 5 years of age.

Dairy Group

At least two cups (16 ounces) of milk or the equivalent amount of milk products are necessary each day for the preschool child (2 ½ cups for children ages 4-8). These dairy products provide calcium, protein, riboflavin (B_2), Vitamin B_{12}, Vitamin D, zinc, and other nutrients.

Dairy Products	
Some Food Choices	**Typical Serving Size for Children**
Whole Milk*	½ cup
Fat free (skim)* or Low fat (1%)* Milk or Soy Milk	½ cup
Nonfat Powdered Milk*	3 tablespoons
Canned Evaporated*	¼ cup
Cheese – Natural	1 ounce
Cheese – Processed	1 ounce
Ice Cream or Frozen Yogurt	¾ cup
Buttermilk*	½ cup
Yogurt/Cottage Cheese	½ cup
	¾ cup
* It is recommended that children 1-2 years old drink only <u>whole milk</u> to ensure adequate fat intake for normal growth and brain development. At age 2, the switch can be made to low fat or fat free milk.	

Of course, drinking milk is not the only way for children to receive calcium in their diets. Some particular dairy favorites of young children are:

- Yogurt
- Milk
- Cheese Sticks
- Cottage Cheese
- Custards and Puddings

Although ice cream does provide calcium, the amount of calcium is lower in comparison with other dairy products. Also, ice cream is high in both fat and sugar. An occasional serving of ice cream is okay. Cream cheese is considered a fat. It is a poor source of protein and calcium, and is not considered a member of the dairy group.

Another way to get calcium in the diet is to add nonfat dry (powdered) milk to foods when cooking or baking. For example, add powdered milk to some of the child's favorite foods, like meatloaf, oatmeal, and cookies.

For children who can't/won't drink milk, there are other suggestions to offer, such as:

- Serve other calcium-rich foods such as broccoli, turnip greens, and collard greens
- Serve calcium-fortified foods (e.g., soy beverage, orange juice, tofu, oatmeal or cereals)
- Serve dairy foods for snacks, such as cheese, yogurt, and frozen yogurt

SELF-CHECK: PRACTICE YOU KNOWLEDGE

Fill in the blanks to correctly complete the statements:

1. Name at least two nutrients supplied by the dairy:

_____

_____

2. A two year old needs _____ cups of milk each day.
3. Two milk products which may be substituted for fluid milk are _____ and _____.
4. Serving sizes are _____ for young children than for adults.

ANSWERS

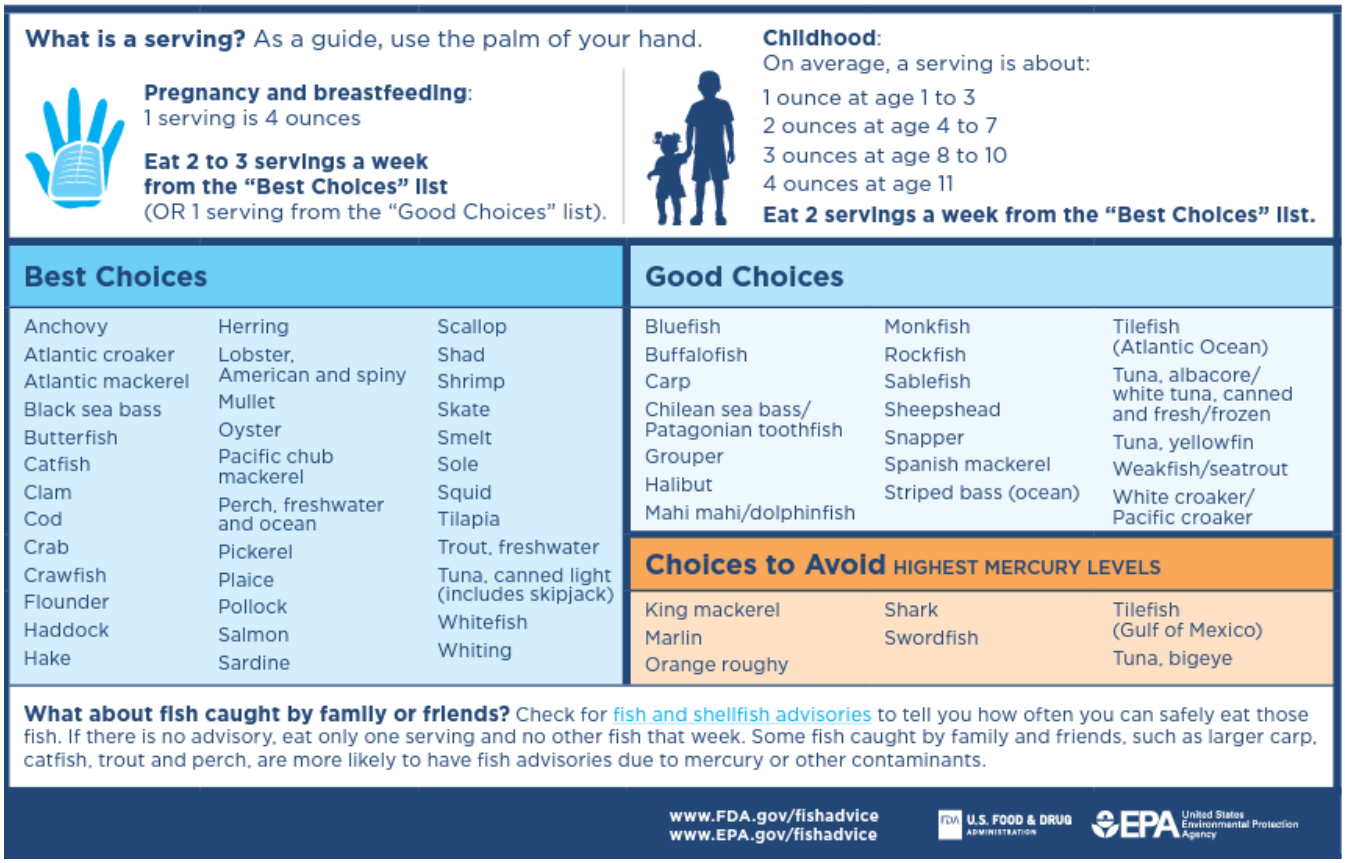
1. Any two of the following: Calcium, Protein, Riboflavin (Vitamin B_2), Vitamin B_{12}, Vitamin D, Zinc
2. Two
3. Any two of the following: yogurt, cheese, cottage cheese, custard, pudding, nonfat dry or evaporated whole milk (used in casseroles, soups, or alone)
4. Smaller or half the size

Protein Foods

Besides providing protein, meat and meat alternatives, provide iron, zinc, niacin (B_3) and other nutrients. Children aged two to five need 2 – 5 ounces of protein-rich foods each day.

Protein Foods	
Some Food Choices	**Typical Serving Size for Children**
Tuna Salad	¼ cup
Hot Dog*	1
Cooked Meat, Fish, and Poultry	1 ounce: ½ small hamburger ½ chicken leg ½ lean chop 1 slice meat
Egg	1
Nuts*	2 tablespoons
Seeds*	4 tablespoons
Sunflower	
Sesame	
Pumpkin	
Cooked Beans, Lentils, Dried Peas	½ cup
Peanut Butter*	2 tablespoons
Tofu	½ cup
* Caution: these foods can be choking hazards in young children.	

Fish is a part of a healthy eating pattern and provides key nutrients to support a child's brain development. The chart below shows serving sizes for children along with which fish are the best choices to serve and how often based on their mercury levels.



What is a serving? As a guide, use the palm of your hand.

Pregnancy and breastfeeding:
1 serving is 4 ounces

Eat 2 to 3 servings a week from the "Best Choices" list
(OR 1 serving from the "Good Choices" list).

Childhood:
On average, a serving is about:
1 ounce at age 1 to 3
2 ounces at age 4 to 7
3 ounces at age 8 to 10
4 ounces at age 11
Eat 2 servings a week from the "Best Choices" list.

Best Choices

Anchovy
Atlantic croaker
Atlantic mackerel
Black sea bass
Butterfish
Catfish
Clam
Cod
Crab
Crawfish
Flounder
Haddock
Hake
Herring
Lobster, American and spiny
Mullet
Oyster
Pacific chub mackerel
Perch, freshwater and ocean
Pickerel
Plaice
Pollock
Salmon
Sardine
Scallop
Shad
Shrimp
Skate
Smelt
Sole
Squid
Tilapia
Trout, freshwater
Tuna, canned light (includes skipjack)
Whitefish
Whiting

Good Choices

Bluefish
Buffalofish
Carp
Chilean sea bass/ Patagonian toothfish
Grouper
Halibut
Mahi mahi/dolphinfish
Monkfish
Rockfish
Sablefish
Sheepshead
Snapper
Spanish mackerel
Striped bass (ocean)
Tilefish (Atlantic Ocean)
Tuna, albacore/ white tuna, canned and fresh/frozen
Tuna, yellowfin
Weakfish/seatrout
White croaker/ Pacific croaker

Choices to Avoid HIGHEST MERCURY LEVELS

King mackerel
Marlin
Orange roughy
Shark
Swordfish
Tilefish (Gulf of Mexico)
Tuna, bigeye

What about fish caught by family or friends? Check for fish and shellfish advisories to tell you how often you can safely eat those fish. If there is no advisory, eat only one serving and no other fish that week. Some fish caught by family and friends, such as larger carp, catfish, trout and perch, are more likely to have fish advisories due to mercury or other contaminants.

www.FDA.gov/fishadvice
www.EPA.gov/fishadvice
U.S. FOOD & DRUG ADMINISTRATION
EPA United States Environmental Protection Agency

Remember that plant sources of protein, such as peanut butter, nuts, seeds, beans and lentils, are nutritious, tasty, and affordable. Offering a variety of protein options can help stretch animal proteins and give additional options if the texture of certain proteins are an issue. Note: Although dairy is not part of this food group, many dairy foods are great protein rich foods as well.

Some protein-rich foods that may be more readily accepted by children are:

- Meatloaf
- Baked Chicken
- Bean Burrito/taco
- Tuna Sandwiches
- Peanut Butter and celery

If your agency has a higher percentage of immigrants or refugees from another country, be sure to familiarize yourself with common foods for that culture. Don't forget to check out our Cultural Diversity toolkit found on the Iowa WIC Webportal Participant Centered Services section of the Resources page.

SELF-CHECK: PRACTICE YOU KNOWLEDGE

Fill in the blanks to correctly complete the statements:

1. _____ ounces of protein-rich foods are needed each day for 1 to 5 year olds.

2. Name two plant sources of protein:
   a.
   b.

3. Name two nutrients that protein-rich foods provide:
   a.
   b.

ANSWERS

1. 2-5
2. Peanut butter, nuts, seeds, tofu, dried beans and peas
3. Any two of the following: protein, zinc, iron, niacin

Grain Group

What does "enriched" mean?

You'll see the word "enriched" mostly on flour, breads, tortillas, and pasta. What this means is that during the refining process, valuable nutrients were lost. Manufacturers add back some of the lost nutrients, but fiber is not added back.

Whole grain or enriched bread, rice, pasta, and cereal products contain thiamin, riboflavin, folate, niacin (B_3) and iron. They also supply an inexpensive source of energy (calories). Whole grain products are preferable to enriched, and especially non-enriched products, as they have been minimally processed, so more nutrients remain in the product. Specifically, whole grain products contain many trace nutrients, as well as dietary fiber, which helps make us full and keeps things moving in the digestive tract. A diet that includes good sources of fiber may help prevent constipation. Children (1 -5 years old) need 3-5 ounces of grain products daily and half or more of these should come from whole grain sources.

How much fiber do children need?

A simple way to make sure children are getting enough fiber is by making healthful food choices. If your children are eating at least 5 servings of fruits and vegetables each day along with other foods that are good sources of fiber, they are likely getting enough. If caregivers are interested in numbers, one way to estimate needs according to the Nemours Foundation is to add 5 or 10 to the child's age. For example, a 5-year-old would need about 10-15 grams of fiber each day.

Grain Group	
Some Food Choices	**Typical Serving Size for Children**
Bread	½ slice
Naan Bread	1/8 – 1/3 slice
Tortilla (6")	½
English Muffin, Bagel	¼
Pancake/Waffle (5")	½
Roll, Muffin	½
Hot Dog/Hamburger Bun	¼
Cooked Hot Cereal	¼ cup
Cold Cereal	½ cup
Rice, Noodles, Pasta	¼ cup
Wheat Germ	2 tablespoons
Popcorn*	¾ cup
Crackers	1 graham 5 animal or wheat
* This food can cause choking in young children.	

The grain group is generally well liked by children. A few of the more readily accepted choices are:

- Cereal
- Pancakes
- Bread
- Tortillas
- Noodles

However, a few words of caution regarding the grain group:

- Encourage the use of lightly- or non-sugary cereals. WIC cereals are good choices.
- Limit sweet rolls, cookies, cakes, and other snack foods because they are high in fat and sugar, compared to the other nutrients provided by them.
- Limit added butter, oils, and margarine to rice, pasta, and bread.
- Use only small amounts of syrup and jelly on pancakes, waffles, or bread. Consider topping with naturally sweet foods like fruit.

SELF-CHECK: PRACTICE YOU KNOWLEDGE

1. Whole grain or enriched grain products in the diet are good sources of which of the following: (Circle all the correct answers.)
   Vitamin C B vitamins Iron
   Energy (Calories) Calcium

Fill in the blanks to accurately complete the statements.

2. _____, found in whole grain products, helps keep you full and prevent constipation.

3. Children, age 1 to 5 need _____ounces of grain products each day.

4. Name a favorite food for children from the grain group: _____

ANSWERS

1. Iron, B vitamins, and Energy (Calories)
2. Fiber
3. 3-5
4. Any of the following: cereal, pancakes, bread, tortillas or noodles

Fruit Group and Vegetable Group

Fruits and vegetables are good sources of Vitamins A and C. In addition, they provide Vitamin E, folate, iron, and fiber. It is important to provide a variety of colors of fruit and vegetables to children to ensure adequate intake of fiber, vitamins, and minerals.

A total of 1- 2 cups of vegetables and 1-1 ½ cups of fruits are the recommended daily amounts for the 1 to 5 year old:

- One serving per day of vegetables should be dark green
- One serving per day of vegetables should be orange
- The remaining vegetable servings can be from other vegetables
- Limit 100% fruit juice to no more than 4 oz. per day in toddlers 1 through 3 years of age, and no more than 4-6 oz. per day for children 4 through 6 years of age

Typical Serving Size for Children		
½ medium raw vegetable/fruit ¼ cup cooked vegetables	¼ cup raw vegetables/fruits ½ cup juice (4 oz.)	
(Exceptions to these serving sizes are indicated in parentheses after the foods in the following lists.)		
Dark Green Vegetables	**Orange Vegetables**	**Starchy Vegetables**
Broccoli	Carrots	Potatoes
Brussels Sprouts	Sweet Potatoes	Yam (Taro)
Collard Greens	Pumpkin	Corn*
Spinach	Squash	
Other Vegetables		
	Okra	Zucchini
Bamboo Shoots	Onion	Lettuce
Asparagus	Peas*	Mushrooms
Beets	Squash	Yucca (Cassava)
Bok Choy	Tomato	Cucumber
Cabbage	Turnip	Wax (Yellow) Beans
Eggplant		Celery*
Fruit		
Apple	Grapes*	Pears
Apricots	Honey Dew Melon	Plantain
Avocado		
Banana	Mango (¼)	Pineapple
Cantaloupe (⅛)	Persimmons	Raisins*
Cherries (Pitted)*	Papaya (¼)	Tangerine
	Peach	Watermelon
*These foods can cause choking in young children. Refer to the following section for more details on choking.		

Since children may prefer other foods to vegetables, careful preparation of vegetables is important. Children like bright colors and a variety of textures and shapes. Make vegetables appealing to children by serving them raw, or cutting them in different shapes, and not overcooking them.

However, some raw vegetables like raw carrots are not recommended because of possible choking. To minimize the possibility of choking on a food, it is recommended that young children eat cooked vegetables or tender-raw vegetables (such as dark green lettuce) and soft fresh fruits or canned fruits.

Favorite vegetables and fruits of young children may include: bananas, applesauce, peaches, or pears with yogurt or cottage cheese; orange or tangerine wedges (with seeds removed); cantaloupe and watermelon (with seeds removed); raw vegetables—broccoli, cauliflower, zucchini, cucumbers, etc., cut in different shapes and served with a dip; potatoes, vegetable soup; and well-cooked, but not mushy, vegetables. Serving spaghetti, lasagna, or other tomato-based casseroles is another way to get children to eat vegetables because of the tomato sauce.

Here are some other tips to get children to eat fruits and vegetables:

- Set a good example or be a role model for children by eating fruits and vegetables with meals and snacks
- Depending on their age, children can help shop for, clean, peel, or cut up fruit and vegetables
- While shopping, allow children to pick out a new fruit or vegetable to try later at home

Vitamin and Mineral Supplementation

Some parents may ask you if they should give their child a vitamin/mineral supplement.

Generally you can let them know that if their child is growing well and eating a variety of healthy foods, a supplement is probably not needed. You should also recommend caregivers talk to their health care provider about the need for supplements.

An Important Message about Choking

Many babies and children die each year from choking. Most choking-related deaths occur in children two years of age or younger. Inappropriate foods given to babies and young children, textures and shapes of some foods given, and lack of supervision during feeding have been cited as causes of food choking-related deaths.

Because children do not develop a full set of baby teeth until they are about 2 years of age, solid foods that require chewing should be modified by cooking and pureeing, mashing, finely chopping, or dicing to aid in chewing to help prevent blocking airways. Parents must also be cautious of choking hazards for children ages 2-5 years, as their rotary chewing motion continues to develop. Foods most often named as causing fatal choking are those that are

round or that have the ability to "ball up" in the airway because of their texture. Choking hazards for toddlers and preschoolers include:

- Hot dogs or sausages whole or sliced into rounds
- Raw carrots, grapes, and apple pieces
- Soft or doughy breads or biscuits
- Peanut butter given alone or spread too thick in sandwiches
- Popcorn
- Gum drops
- Nuts
- Seeds
- Beans, peas
- Chewing gum
- Round-shaped candies

To prevent food-related choking:

- Always supervise feeding of preschool-age children so you are aware of any difficulty they have in swallowing food. If a child is choking, he/she may not be able to make sound. A clear view of children's faces while eating is an important prevention measure.
- Children should be relaxed and calm before eating and during meals.
- Children should be seated (not lying down) while eating and should not return to play until the meal or snack is eaten.
- Modify shapes and textures of the foods most likely to cause choking. For example, cut hot dogs and sausage-shaped meats into two or more lengthwise pieces first, and then into smaller pieces. Cut whole grapes in half. Chop raw vegetables into thin strips. Lightly mash cooked beans and peas.
- Moisten smooth peanut butter with jelly, or applesauce. Another safe way to serve peanut butter is to spread a very thin layer of it on toast—it will melt on the toast.
- Beware of ingredients in foods which might cause choking, e.g., nuts in an oatmeal cookie.
- Avoid letting children eat in the car. Should a child choke in the car, the caregiver won't be able to help as they are driving.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Fill in the blanks for questions 1-4.

1. Vegetables and fruits are especially good sources of vitamins _____ and _____.

2. Certain raw vegetables and fruits, hot dogs, popcorn, nuts, and hard candies are among the list of foods that are <u>not</u> recommended for young children, as they might cause _____.

3. List two ways that certain foods can be changed or modified to prevent food-related choking in young children.

_____

_____

4. Children 1-5 years of age need a total of at least _____ cups of vegetables and _____ cups of fruits each day.

5. In the blank to the left of the sentence, put a "T" if the statement is true or "F" if it is false.

_____ Parents should force their children to eat their vegetables.

6. Name two tips to help children eat more fruits and vegetables.

_____

_____

7. Who should parents talk to about vitamin and mineral supplementation needs of their child?

_____

ANSWERS

1. Vitamin A, Vitamin C
2. Choking
3. Any two of the following are correct: Solid foods that require a lot of chewing can be:

   cooked, pureed, mashed, finely chopped, or diced; cut hot dogs into two or more lengthwise pieces; moisten smooth peanut butter with juice or applesauce; cut round-shaped foods such as raw carrots and grapes into small pieces.
4. 1-2 cups and 1-1 ½ cups
5. False. Parents should not overreact to a child's refusal to eat or to his/her food dislikes.
6. Tips to help children eat more fruits and vegetables: Caregivers act as a role model and eat fruits and vegetables themselves; have children help with shopping and preparation of vegetables; try preparing fruits and vegetables in different ways.
7. Their doctor

Meal Planning for Young Children

Meals should offer a variety of foods, not only for their different nutrients, but also to add interesting shapes, colors, textures, and flavors. Foods should be simply prepared. Limit using added sugar (all types), spicy seasonings, and fat (such as butter, margarine, sour cream, mayonnaise, cream cheese, and salad dressing).

The following is a sample meal pattern for young children. Study the meal pattern and familiarize yourself with the suggested food combinations that provide all the essential nutrients for children ages 1 to 5 years. Try to develop a menu with specific foods from this meal pattern.

Sample Meal Pattern		# of Servings
Breakfast	Fruit group Grain group Dairy group*	1 2 1
Snack	Dairy group* Grain group Fruit group or vegetable group	1 1 1
Noon Meal	Protein group Vegetable group Grain group Dairy group*	1 1-2 1 1
Snack	Dairy group* Grain group	1 1
Evening Meal	Protein group Vegetable group Fruit group Grain group Dairy group*	1 1-2 1 1 1
	* A serving of dairy in the above chart is ½ cup. Water should also be served throughout the day.	

What Should Children Drink?

Children may not let someone know when they are thirsty. Make sure to offer water often, especially between meals and snacks.

Children should consume about 2 cups (16 oz. total) of milk per day (2 ½ cups for children ages 4-8). That is about what the child's WIC food package provides. Drinking more than this may reduce the child's appetite for other healthy foods.

Children between the ages of 1 and 2 years of age should drink whole milk. Older children can drink low fat (1%) or fat-free milk.

Limit juice— No more than 4 oz. a day in toddlers 1 through 3 years of age, and no more than 4 to 6 oz. a day for children 4 through 6 years of age. Drinking more than this can reduce the child's appetite for other healthy foods. Serve juice in an open cup, not a bottle or sippy cup. Juice served in a bottle can cover the child's teeth with sugar for long periods of time and lead to early childhood caries.

Children shouldn't be allowed to sip on drinks that contain sugar (including milk and juice) throughout the day. That will increase the risk for tooth decay. Instead these drinks should be served with meals and snacks when saliva production is increased and can help neutralize the acid. Water should be served between meals and snacks when the child is thirsty.

Sports drinks, soda, energy drinks and fruit drinks provide sugar, excess calories, and few, if any, nutrients for young children. These extra calories can also reduce the child's appetite for other foods. Sports drinks, even the lower sugar varieties are not meant for young children. They often have higher amounts of sodium and potassium than young children need. Teas have tannins in them and should not be offered to preschoolers because it can interfere with iron absorption. Teas can also contain caffeine which children do not need. Teas may also stain a child's teeth.

Foods Children Like

Preschool-age children like simple meals. Finger foods—small, bite-sized pieces of food eaten with the fingers are popular; they are easy for the child to handle. Examples of some finger foods are: vegetable sticks, slices or sections of fruit, bread, crackers, meat strips, cheese, ready-to-eat cereals, and hard-cooked eggs. Also, bright colors and varied shapes of foods will catch and hold the child's interest.

Children may be sensitive to textures, flavors and temperatures. Check out the table below for suggestions on what to serve.

Meat	Hot Cereal, Mashed Potatoes	Raw Vegetables
Serve: Moist, Soft	Serve: Smooth	Serve: Crisp

Avoid: Dry or Tough	Avoid: Lumpy or Sticky	Avoid: Mushy

Cheese	Milk
Serve: Mild Flavor	Serve: Cold
Avoid: Spicy or Strong	Avoid: Very Hot/Very Cold

Common Questions and Answers

Q: *What would you say to a parent/caregiver who prepares at least two main choices at a meal to make sure there is a food her child will eat?*

A: This is actually an understandable situation. When preparing a meal we usually try to cook what people like. However, it can set up a situation where the caregiver becomes a short-order cook and the family does not get introduced to a variety of foods in their diet.

You can play an important role by reminding the caregivers not to limit their family's meals to only foods they know their child will like. First, encourage caregivers of young children to offer a variety of foods. Second, remind them that a child's likes and dislikes may change a lot; what is liked today may not be liked tomorrow. Third, provide ways to respond to a child's negative emotional reaction to certain foods on their plate.

One good strategy to recommend is to include one food the child likes with each meal (e.g., bread or fruit). When the child arrives at the table, engage the child in conversation, give them support in serving themselves, and take the focus off what is on the plate. If the child whines that they don't like the food choices, the caregiver can ask the food be tried. If the child refuses, the caregiver's response should not be to force the child to eat or make a big deal about it.

The child will have at least one food that she likes on the table so they won't go hungry. Caregivers should not break down and ask "What will you eat?" This is what sets up the role as the short-order cook. Additional suggestions to help introduce new foods to children include:

- Have the child help prepare a new food
- Serve the food with a known favorite
- Introduce one new food at a time
- Offer the food in a taste-size portion
- Allow the child time to examine (smell, feel) the food
- Explore the food with the child by talking about how it is made or grown
- Be casual if food is refused; offer it again at a later date
- Have the caregiver enjoy the food

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

1. In the list below, put a check mark (√) in the blank next to the foods and methods of food preparation which are appealing to young children:

   ____bite-sized pieces of food
   ____bright-colored foods
   ____dry meat
   ____very hot food
   ____crisp vegetables
   ____very spicy food

In the blank to the left of the statement, put a "T" if the statement is true, or an "F" if the statement is false.

2. ____ Caregivers should offer at least 12 ounces of juice a day to their child.

3. ____Sports drinks are an appropriate beverage for young children.

ANSWERS

1. You should have checked (√): bite-sized pieces of food; bright-colored foods; and crisp vegetables.
2. False. Caregivers should offer no more than 4-6 ounces a day of juice, depending on age, if at all.
3. False. Sports drinks are inappropriate for young children.

Snacks

Snacks play an important role in the diet of a young child. Snacks can supplement meals, providing nutrients which were not eaten at mealtime. For example, a child who does not drink milk at lunch could be served cheese and crackers for his/her afternoon snack. In this way, snacks can be planned to meet almost any nutrition need.

Timing is important so that a snack is offered when children are hungry, but not so late that it spoils their appetite for the next meal. Snacks are often served 2-3 hours before a meal. Snacks can be simple. Create a "snack spot" in the refrigerator or a corner in the cupboard where snacks are kept.

A good snack contains:

- Food from one or more of the food groups, such as:
  - Peanut butter and bananas
  - Ready-to-eat cereal and milk
  - Apples and crackers
  - Cottage cheese and peaches
- Food that is low in added sugar
- Small amounts of food that don't spoil the appetite for meals

Here are some suggestions for snacks which supplement meals:

<u>To add protein</u>:
Offer some hard-cooked eggs, chunks of tuna, pieces of cheese, or slices of leftover meat. Serve crackers with a thin layer of peanut butter, hummus, or cheese. Let the child use their fingers to eat these snacks.

<u>To add fruits and vegetables:</u>
Serve fruit raw. Cut the rind off melon and serve wedges the child can pick up. Peaches, cantaloupe, or orange slices are another way to add Vitamin A to snack time. Try serving small pieces of broccoli and carrots with cottage cheese or ranch dip. Many children prefer raw vegetables to cooked ones. Besides the veggies already mentioned, you might try raw green beans, snap peas, green (or any other color) pepper slices, and spinach, chard, or other greens.

Common Questions and Answers:

Q: *When are appropriate snack times?*

A: "Snack Time!" These words can be magic to a child's ear. Yet parents' thoughts around snacking, such as "snacks spoil appetites," "snack foods are bad," and "children can't have snacks if they didn't eat meals," can take the fun and benefits out of a healthy snack.

Healthy snacks are the safety net when children are too tired, ill, upset, or distracted during the mealtime. Looking at the big picture, children will usually eat 3-4 times out of the 5-6 times they are offered food. Therefore, it isn't so scary or frustrating when a child refuses to eat if there is a planned snack in 2-3 hours.

An Important Reminder about Sugar

Some parents believe sugar causes hyperactivity in their children. In hopes of calming the child, the parent will limit sugar-containing foods. However, there is no reliable evidence linking sugar to hyperactivity. There are many foods containing sugar that also contain caffeine as well, such as, chocolate candies and certain soda drinks. It may be the caffeine which affects the child's behavior.

Most children are overactive at times. Any number of things could cause the behavior. Being limited to the house with no exercise might cause a child to become hyperactive. Or, just a desire for attention might lead to acting out behavior. Very often the culprit is the exciting situation where the sugary foods are provided; e.g., Halloween and birthday parties.

Common Questions and Answers:
Q: *What can a parent/caregiver do with a child who will not sit long enough to eat a meal, just a few bites?*

A: This can be a real problem for caregivers and can happen when children are too engaged in play or other activities to stop and eat. Here are a few suggestions to offer:

- Set regular times for meals and snacks; children do better when they have structure and limits.
- Prepare the child for mealtime. Let them know that "lunch will be ready in five minutes."
- Get rid of distractions. Turn off the TV, music or remove other items that distract a child.
- Set the table attractively and join children at the table.

Often children enjoy playing the "I don't want to eat" game. Parents can make the situation worse by trying to force feed them. If a child refuses to eat, parents can tell them, "That's okay, you don't have to eat. Just sit here and keep us company while we eat." Then, wait until the next planned meal or snack to offer any other food or drink (except water which should always be available). Children should understand that it is their choice to eat, but that the consequence may mean waiting for a planned snack later. Ensure them that children won't starve by missing a meal, and chances are they will be ready to eat and eat well at the next meal.

Additionally, it may be helpful if children are not allowed to continue playing while everyone else eats, or to take food from the table and eat it elsewhere. It might be more pleasant at the table without the child; however, it doesn't help the child learn acceptable mealtime behavior.

Q: *Why is it better for a child to have 3 meals and 2-3 snacks than to graze all day long? (How does it affect caloric intake, especially for a child with inadequate growth?)*

A: Grazing puts a child at a disadvantage for the following reasons. The child may:

- Not learn to understand their internal cues for hunger and satiety
- Learn to overeat
- Eat food out of boredom
- Not consume a daily balance of nutrients
- Be at to a greater risk of cavities

What We See

A parent may come to your office and proudly tell you that their toddler can now open the refrigerator and help himself to whatever, whenever they want to eat. The parent may be very content because their child is showing some independence with eating and yet, you may cringe because you know that grazing is not healthy.

What We Know

We are raising a generation of nibblers, in fact, it is documented that some children eat up to 14 times a day. If grazing becomes a habit, it can lead to the misuse of food (such as for entertainment when bored or distraction when upset) and it can prevent children from learning their internal cues for hunger and fullness. Young children must learn to tell when they are hungry from when they are bored, etc. Failure to learn these differences can lead to eating when not hungry and perhaps to overeating. We also know that children who are allowed to graze often drink more juice and other beverages containing sugar and may not get enough of a variety of foods. So, how do you respond to the parent?

Parents take pride in their child's new ability to help themselves. We should acknowledge and recognize this exciting milestone with them. You may want to ask what other acts of independence their child has made. Let them know that while independence is healthy, grazing is not.

Here are some tips to share with parents:

Meals and snacks should be planned. Encourage parents to plan snacks so that when the time comes and the child is hungry, a snack is ready. Planned snacks can provide more variety of foods, and can decrease the time a child has to pause and decide what they want for a snack (for example, favorite food). Allowing a child to be hungry between meal and snack times increases the chances of trying new foods.

Meals and snacks should be offered at designated times and places. If a parent gives a snack any time a child begs, or if the child helps himself to a snack from the refrigerator and runs

around with the food, the child will not learn about eating when hungry. Children should have a snack and be done with it. Furthermore, frequent nibbling can increase the chance of cavities because of the constant presence of food on the teeth.

Limit the outside cues that might remind the child to eat. Help the parent to identify outside cues such as a cookie jar on the counter or the television (if the child is permitted to eat in front of the TV) that may prompt a child to want to eat.

Remember that the goal is not to cut down on eating, but to make eating important and worthwhile.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

In the blank to the left of the statement, put a "T" if the statement is true or an "F" if the statement is false.

____Snacks can be nutritious supplements to the preschooler's diet.

Name two good snacks from each of the following groups of food:

Dairy Group

a.
b.

Vegetables and Fruits Group

a.
b.

Grain Group

a.
b.

Protein Group

a.
b.

ANSWERS

1. True. Snacks can be nutritious additions to the diet. Snacks should be served in small amounts so that appetite for meals won't be spoiled.
2. Any foods listed in the appropriate charts of the five food groups or any foods suggested in the section on "snacks" are correct answers.

The Vegetarian Child

Children who are raised as vegetarians and develop a good understanding of vegetarian eating patterns can establish life-long healthy eating habits. You can support parents of vegetarian children by sharing nutrition information to help ensure that an adequate variety of food is offered for optimal growth and development.

There are many types of vegetarianism. The three most common types of vegetarians are:

- Lacto-ovo: These individuals follow a diet that consists of grains, legumes, nuts, seeds, fruits, vegetables, dairy products, and eggs. Meat, poultry, and fish are not consumed.
- Lacto: These individuals follow a diet similar to lacto-ovo vegetarians except eggs are also avoided.
- Vegan: These individuals follow a diet that consists of grains, legumes, nuts, seeds, fruits, and vegetables. Meat, poultry, fish, eggs, dairy products, and foods with even small amounts of animal products are avoided.

When menu planning and eating patterns are adequate, these three types of vegetarian children can grow similarly to non-vegetarian children. Poor growth is seen primarily in children with very restricted diets and/or poorly planned vegetarian diets.

For the caregiver who identifies their child as a vegetarian, you will need to assess what foods the caregiver is offering and what foods they are avoiding. This will give you an idea of which nutrients or food groups the child's diet may be lacking.

Certain nutrients need extra consideration with the vegetarian child. These include energy, protein, calcium, zinc, iron, Vitamin D, and Vitamin B_{12}.

Energy needs are sometimes difficult to meet if the child is eating a diet high in fiber and bulk. You can encourage caregivers to reduce some of the child's fiber intake by suggesting serving some refined grains and peeling fruits and vegetables. To boost energy intake, you can recommend plant fat sources such as nuts and nut butters, seeds and avocados. Vegetarian children who consume dairy products can have some of their energy needs met from the fat in dairy products.

Protein needs can be supplied from plant sources alone, however they are considered an incomplete protein source because they have some but not all of the amino acids to form a complete protein. As long as a variety of protein containing plant foods are eaten over the course of the day, adequate amounts of essential and non-essential amino acids will be supplied. These amino acids combine to form protein in the body. Examples of protein containing plant foods are grains (barley, cornmeal, couscous, millet, oats, quinoa, and rice), legumes (canned or dried beans offered on WIC), soy products (soy milk, tofu, and soy hot dogs), imitation meat products, nuts and seeds (walnuts, peanuts, pine nuts, sunflower seeds), dairy products, and eggs.

The lacto-ovo vegetarian child typically receives adequate amounts of calcium because they consume dairy products. For vegan children to receive adequate calcium they must consume other good, non-dairy sources of calcium. These include foods such as calcium fortified soy milk and orange juice, tofu prepared with calcium, dark leafy greens, such as collard greens, kale, and mustard greens.

Iron can be a concern in the vegetarian diet and good food sources include dried fruits, spinach and legumes. Since Vitamin C promotes iron absorption, foods like citrus fruits, broccoli, strawberries and cabbage should be eaten at the same times as iron rich foods.

Vegetarians need more zinc than non-vegetarians because the body does not absorb this mineral as easy from plants as it does from animal products. Vegetarians who eat dairy products will find them a good source of zinc. Zinc can be found in whole grains, legumes, wheat germ, and soy products.

Vitamin B_{12} is a concern primarily for vegan children because it is found mainly in animal products, including dairy products. Sources of Vitamin B_{12} for the vegan child include Vitamin B_{12} fortified foods such as some brands of soy milk, imitation meat products, fortified nutritional yeast, and breakfast cereals. Families of vegan children may want to talk with their health care provider to see if a B_{12} supplement is needed.

Desserts

While snacks are eaten between meals, desserts are typically eaten at the end of a meal. Even though desserts are sweet, they don't have to add only "empty calories." Desserts, like snacks, can also be nutritious, supplying necessary nutrients to the child's diet. Examples of nutritious desserts are: fruit, frozen fruit juice on a stick, frozen yogurt, fruit-and-nut breads.

Common Questions and Answers

Q: *What advice would you give the parent who states, "He eats much better at a meal when I tell him he can have candy when he's done.*

A: Coaxing a child to eat more with a promise of a sweet treat or dessert may encourage a child to overeat both at mealtime and again when having the treat. When food is used as a reward for finishing a meal you are teaching the child that the dessert or treat is the only really desirable part of the meal. For example, giving dessert for eating broccoli teaches a child to like dessert more and broccoli less.

Some desserts can be nutritious, such as yogurt with fresh fruit. A serving of dessert can be served with the rest of the meal or at the end of the meal. All family members should be allowed to choose whether or not they want dessert. The main point is to keep the focus off any one food being a "reward."

Although desserts can be nutritious, it may be a good habit to not provide desserts after every meal. It is easy to develop a "sweet tooth" by offering one or two desserts per day. If children are given desserts often, they will expect them, demand them, and then, eating desserts will become a habit. Desserts do tend to be higher in calories than other foods, and establishing this habit may encourage overeating and lead to a problem of overweight in the child. Habits established early in life are hard to break, so it is best to offer desserts only sometimes.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

For questions 1-3, put "T" in the blank to the left of the statement if the statement is true, or "F" in the blank if it is false.

1. ____ Offering desserts after every meal may establish a difficult habit to break.

2. ____ Children should be rewarded with dessert after they clean their plates.

3. ____ Some desserts can be nutritious and a healthy part of the overall diet.

4. List two nutritious desserts:
   a.
   b.

5. List three plant sources of protein:
   a.
   b.
   c.

ANSWERS

1. True. The dessert "habit" is hard to break.
2. False. Desserts should not be used to bribe or reward.
3. True.
4. Any two of the following: fruit, frozen fruit juice on a stick, custard, pudding frozen yogurt, fruit-and-nut breads.
5. Any three of the following: grains, legumes, soy products, meat analogs, nuts, and seeds.

Section III: Inappropriate Nutrition Practices for Children

Now that you have learned about the nutritional and developmental needs of the preschool child and a few positive feeding practices, we can now look at nutrition risk factors (NRFs) relating to inappropriate feeding practices. You will assign risk factors for children related to impaired nutrient intake, disease, or health problems.

The format for this section includes the number associated with the risk factor, the definition, background information, and your role in counseling and advising participants and caregivers.

Nutrition Practice NRF's

NRF 425A (Low Risk) - Routinely feeding inappropriate beverages as the primary milk source

Definition: Examples of inappropriate beverages as primary milk source:

- Fat-free or 1%, 2% milks between 12 and 24 months of age (unless overweight or obesity is a concern)
- Sweetened condensed milk
- Goat's milk, sheep's milk, imitation or substitute milks (that are unfortified or inadequately fortified), or other "homemade concoctions".

Background information:

Goat's milk, sheep's milk, imitation milks, and substitute milks (that are unfortified or inadequately fortified) do not contain nutrients in amounts appropriate as a primary milk source for children. Fat-free and 1% or 2% milks are not recommended for children from 1 to 2 years of age because of the lower calorie density compared with whole-fat products. The low-calorie, low-fat content of these milks requires an increase in caloric intake to meet energy needs. Children under two using reduced fat milk gain weight at a slower growth rate, lose body fat as evidenced by skin fold thickness, lose energy reserves, and are at risk of inadequate intake of essential fatty acids.

Your Role:

- Determine what types of milk are being provided to the child and why.
- Explain reduced fat milks are not recommended for children less than 2-years of age because of the need for fat and cholesterol during the first years that is important for brain development. Instruct caregivers to offer whole milk to children 1 to 2 years of age. Any type of reduced fat milk is acceptable for older children.
- Explain that sweetened condensed milk should be used for cooking purposes only.
- Provide information to caregivers regarding the fact that other types of milk substitutes often do not contain adequate amounts of required nutrients.

NRF 425B (Low Risk) - Routinely feeding a child any sugar containing fluids

Definition: Examples of sugar-containing fluids:

- Soda/soft drinks
- Gelatin water
- Corn syrup solutions
- Sweetened tea

Background Information:

Routine consumption of sugar containing fluids is the major dietary factor affecting dental caries prevalence and progression. Consumption of foods high in sugar also increases the risk of early childhood overweight and obesity.

Your Role:

- Complete a thorough assessment of what the child drinks on a routine basis.
- Address caregiver concerns first. Perhaps the parent is feeding a sweetened beverage because the child won't drink milk or water.
- Explain the association between sugar sweetened beverages and dental caries.
- Explain that sugar containing fluids contain significant amounts of "empty" calories and can contribute to excess weight.
- Sports drinks are not needed; not made for children.
- Encourage caregivers to offer water frequently during the day.

NRF 425C (Low Risk) - Routinely using nursing bottles, cups, or pacifiers improperly

Definition:

- Using a bottle to feed fruit juice or diluted cereal or other solid foods.
- Allowing the child to fall asleep or put to bed with a bottle at naps or bedtime.
- Allowing the child to use the bottle without restrictions (e.g., walking around with a bottle) or as a pacifier.
- Use of a bottle for feeding or drinking beyond 14 months of age.
- Using a pacifier dipped in sweet agents such as sugar, honey, or syrups.
- Allowing a child to carry around and drink throughout the day from a covered training cup.

Background information:

As discussed in the dental section of this module, the fermentation of carbohydrates on the surface of teeth produces acids that demineralize and destroy the tooth's enamel. This leads to tooth decay. If inappropriate use of nursing bottles, cups, or pacifiers persist, the child is at risk of toothaches, costly dental treatment, loss of primary teeth, and development lags on eating and chewing. Solid foods such as cereal should not be put into a bottle for feeding.

Your Role:

- Complete a thorough assessment of what the child has in a bottle and how they are being fed with a bottle.
- Assess if a pacifier is used and if sweet agents are added.
- Ask questions to determine when the caregiver is planning on weaning the child from the bottle.

- Find out if the caregiver understands the importance of weaning the child at a young age (by 14 months of age).
- Provide information if the caregiver does not know the risks of late weaning.
- Explain the association between prolonged bottle use in children and the risk of tooth decay.

NRF 425D (Low Risk) - Routinely using feeding practices that disregard the developmental needs or stages of the child

Definition:
- Inability to recognize, insensitivity to, or disregarding the child's cues for hunger and satiety (e.g., forcing a child to eat a certain type and/or amount of food or beverage or ignoring a hungry child's request for appropriate foods).
- Feeding foods of inappropriate consistency, size, or shape that put a child at risk of choking.
- Not supporting a child's need for growing independence with self-feeding (e.g., solely spoon-feeding a child who is able and ready to finger feed and/or try self-feeding with appropriate utensils).
- Feeding child foods with inappropriate textures based on his/her developmental stages (e.g., feeding primarily pureed or liquid foods when the infant is ready and capable of eating mashed, chopped or appropriate finger foods).

Background information:
The interactions and communication between a caregiver and child during feeding and eating influence a child's ability to progress in eating skills and consume a nutritionally adequate diet. A dysfunctional feeding relationship, which could be characterized by a caregiver misinterpreting, ignoring, or overruling a young child's innate capability to regulate food intake based on hunger, appetite and satiety, can result in poor dietary intake and impaired growth. Parents who constantly attempt to control their children's food intake may give children few opportunities to learn to control their own food intake. This could result in inadequate or excessive food intake, future problems with food regulation, and problems with growth and nutritional status. Children should not be offered baby foods or pureed foods unless they have a medical condition that affects their feeding ability.

Your Role:
- Complete a thorough assessment of what types of foods are offered to the child on a regular basis
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Children must learn age-appropriate feeding skills and learn to consume a variety of textures in order to develop normally.
- Discuss with caregivers the importance of developing eating skills.
- Parents choose the foods provided, where and when; children decide how much.

NRF 425E (High Risk) - Feeding foods to a child that could be contaminated with harmful microorganisms

Definition: Examples of potentially harmful foods for a child:

- Unpasteurized fruit or vegetable juice
- Unpasteurized dairy products or soft cheeses such as feta, Brie, Camembert, blue-veined, and Mexican-style cheese
- Raw or undercooked meat, fish, poultry, or eggs
- Raw vegetable sprouts (alfalfa, clover, bean, and radish)
- Deli meats, hot dogs, and processed meats (avoid unless heated until steaming hot)

Background information:

All foods listed with NRF 425E have been implicated in selected outbreaks of food-borne illness. These foods can contain harmful bacteria that put children at risk for contracting serious food-borne illnesses, such as Salmonella, Listeria, and E. coli.

Your Role:

- Advise to consult a healthcare provider if the child has symptoms of food-borne illnesses.
- Complete a thorough assessment as to whether the foods listed are offered to the child.
- Provide the caregiver with information regarding:
  - Do not drink unpasteurized fruit or vegetables juices. Look on the label to ensure that it is labeled pasteurized.
  - Do not drink raw milk or eat foods made with unpasteurized milk.
  - Do not eat soft cheese such as feta, Brie, Camembert, blue-veined cheeses and Mexican style cheese such as queso blanco, queso fresco, or Panela unless made with pasteurized milk.
  - Fully cook meat, poultry and seafood. Use a meat thermometer to ensure meats are cooked to safe temperatures.
  - Do not eat raw sprouts.
  - Heat hot dogs, luncheon and deli meats to steaming hot before eating.

NRF 425F (High Risk) - Routinely feeding a diet very low in calories and/or essential nutrients

Definition: Examples:

- Vegan diet
- Macrobiotic diet
- Other diets that are very low in calories and/or essential nutrients.

Background information:

Highly restrictive diets prevent adequate intake of nutrients, interfere with growth and development, and may lead to other adverse physiological effects. Well-balanced vegetarian diets with dairy products and eggs are generally associated with good health. However, strict vegan diets may be inadequate in calories, Vitamin B12, Vitamin D, calcium, iron, protein and

essential amino acids needed for growth and development. The more limited the diet, the greater the health risk.

Your Role:

- Complete a thorough assessment of the child's diet.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Ask caregiver why they chose to place their child on a diet low in calories and what they know about the diet.
- Emphasize need for nutrients that are eliminated or reduced by the restriction; suggest alternative foods.
- Recommend the caregiver discuss child's dietary practices with their healthcare provider.

NRF 425G (Low Risk) - Feeding dietary supplements with potentially harmful consequences

Definition: Examples of dietary supplements which when fed in excess of recommended dosage may be toxic or have harmful consequences:

- Single or multi-vitamins
- Mineral supplements
- Herbal or botanical supplements/remedies/teas

Background information:

A child consuming inappropriate or excessive amounts of single or multivitamins or mineral or herbal remedies not prescribed by a physician is at risk for a variety of adverse effects including harmful nutrient interactions, toxicity, and teratogenicity.

Your Role:

- Complete a thorough assessment of dietary supplements and teas/remedies that are provided to the child.
- Follow physician recommendations regarding vitamin and mineral supplements.
- Ask caregivers who share that they provide additional supplements to their children, not at the direction of their physician, what they have heard about the supplement.
- Provide general advice regarding the risks associated with excessive supplement use. Recommend the caregiver discuss the supplementation with the primary care physician.
- Avoid teas, remedies and supplements that are potentially harmful.

NRF 425H (Low Risk) - Routinely not providing dietary supplements recognized as essential by national public health policy when a child's diet alone cannot meet nutrient requirements

Definition:

- Providing children less than 36 months of age less than 0.25 mg of fluoride daily when the water supply contains less than 0.3 ppm fluoride.
- Providing children 36-60 months of ages less than 0.50 mg of fluoride daily when the water supply contains less than 0.3 ppm fluoride.
- Not providing 400 IU of Vitamin D per day if a child consumes less than 1 liter (or 1 quart) of Vitamin D fortified milk or formula.

Background information:
Fluoride is found naturally in water and helps prevent and even reverse the early stages of tooth decay. Fluoride supplements may be of benefit in reducing dental decay for children living in fluoride-deficient areas. Vitamin D is an essential nutrient in bone health. The best sources of Vitamin D are direct exposure of skin to sunlight, fortified milk, fish oils, egg yolk, liver and Vitamin D supplements.

Your Role:
- Ask the caregiver what type of water their child drinks (city, well, bottled, etc.)
- Visit https://nccd.cdc.gov/DOH_MWF/Default/Default.aspx to learn the fluoridation level of the water supply in your service area(s).
- For those participants with personal well water, ask if their water has been treated and tested. If the answer is "no" or "I don't know" recommend the caregiver to talk with their doctor or dentist. Have well water checked if fluoride content is unknown.
- Most bottled waters lack fluoride, but fluoridated bottled water is available. If fluoride is added, the manufacturer is required to list the amount.
- Make a referral to the dentist and/or health care provider for fluoride supplementation recommendations.
- If children are not receiving enough Vitamin D through food or supplements, then assign NRF 425H and encourage parents to discuss supplementation with their health care provider.

NRF 425I (High Risk) Routine ingestion of nonfood items (pica)
Definition: Examples of inappropriate nonfood items: Ashes, carpet fibers, cigarettes or cigarette butts, clay, dust, foam rubber, paint chips, soil and starch (laundry or cornstarch).

Background information:
Pica is the craving for or ingestion of nonfood substances. Pica is linked to lead poisoning, anemia, excess calories or displacement of calories, gastric and small bowel obstructions, as well as parasitic infections (for example, if dirt is ingested). It can also contribute to nutrient deficiencies by either inhibiting absorption or by displacing nutrient-dense foods.

Your Role:
- Collect information on what nonfood substances the child consumes, finding out if the practice is linked to cultural beliefs, assessing the child's dietary intake, providing information about the concerns related to pica, and assisting the caregiver in developing a plan to modify the child's behavior.

NRF 428 (Low Risk) - Dietary Risk Associated with Complementary Feeding Practices (For children < 2 years of age after a complete nutrition assessment has been performed and no other risks are identified)

Definition: A child ≥ 12 to < 24 months of age who has begun to or is expected to begin to 1) Consume complementary foods and beverages, 2) Eat independently, 3) Be weaned from breast milk or infant formula, or 4) Transition from a diet based on infant/toddler foods to be based on the *Dietary Guidelines for Americans*, and is at risk of inappropriate complementary feeding.

Your Role: This risk factor should only be assigned if no other risk factors apply.

Section IV: Growth and Weight Related Concerns in Children

One of the main functions of the WIC Program is to monitor stature and weight status of participants. Childhood is a critical time for normal growth and development and nutrition plays a key role in the process. By tracking the changes in stature and weight over time, a clear picture is obtained in the overall health of the child. Both over and under nutrition are health concerns that need to be addressed. This section covers growth and weight related concerns in preschool children.

Birth Weight:

Children born with a low or very low birth weight need optimal nutrient intake to survive, to meet the needs of an extended period of relatively rapid growth after they are born and complete their growth and development. For children, this risk factor is only risked prior to 24 months of age.

NRF 141A (High Risk) - Low Birth Weight

Definition:

- Child ≥ 12 months to < 24 months of age; that had a birth weight of ≤ 5 pounds 8 ounces (≤ 2500 grams)

NRF 141B (High Risk) - Very Low Birth Weight

Definition:

- Child ≥ 12 months to < 24 months of age; that had a birth weight of ≤ 3 pounds 5 ounces (≤ 1500 grams)

Your Role:

- Obtain accurate birth measurements.
- Work with the PCP to determine the best practices for feeding breast milk and/or formula past one year of age
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Talk with the caregiver about eating behaviors, food habits, and physical activity to promote healthy food habits.
- Listen to the caregiver to learn what they would like to work on and devise a plan.

Short Stature and At Risk of Short Stature

Abnormal short stature in children is widely recognized as a response to a limited nutrient supply at the cellular level. Short stature is related to a lack of total dietary energy and to poor dietary quality that provides inadequate protein, particularly animal protein and inadequate amounts of certain nutrients such as zinc, Vitamin A, iron, copper, iodine, calcium, and phosphorus.

NRF 121A (Low Risk) - At Risk of Short Stature

Definition:
- Child ≥ 12 months to < 24 months of age; > 2.3rd percentile and ≤ 5th percentile length-for-age
- Child 2-5 years; > 5th percentile and ≤ 10th percentile height -for-age

NRF 121B (Low Risk) - Short Stature

Definition:
- Child ≥ 12 months to < 24 months of age; ≤ 2.3rd percentile length-for-age
- Child 2-5 years; ≤ 5th percentile height-for-age

Your Role:
- Obtain accurate length and height measurements.
- If nutritional inadequacies are present, dialogue with the caregiver to identify factors that might be contributing to poor intake such as chronic illness.
- Review healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Discuss eating behaviors and food habits that promote a healthy appetite such as regular meal/snack times.
- You may also ask the height of a child's biological parents to consider as it could be a variable that may help explain short stature in some infants and children.

Underweight and at Risk of Underweight

Participation in WIC has been associated with improved growth in both weight and height in children. A child determined to be underweight at WIC certification should be monitored at regular intervals during the certification as determined by the WIC CPA.

NRF 103A (High Risk) - At Risk of Underweight

Definition:
- Child ≥ 12 months to < 24 months of age; >2.3rd percentile and ≤ 5th percentile weight-for-length
- Child 2-5 years; > 5th and ≤ 10th percentile BMI-for -age

NRF 103B (High Risk) – Underweight

Definition:
- Child ≥ 12 months to < 24 months of age; ≤ 2nd percentile weight for length
- Child 2-5 years and is ≤ 5th percentile BMI-for age

Inadequate Growth

Failure to thrive and inadequate growth in children are serious medical concerns that can relate to nutrition related practices. The presence of failure to thrive (FTT) must be diagnosed, documented and/or reported by a primary care provider. FTT is a serious growth problem with an often complex cause.

Your Role:

- Obtain accurate height and weight measurements.
- Discuss with the caregiver factors that might be contributing to or directly causing the child to be underweight, such as illness.
- Explain to the caregiver the causes and potential problems of being underweight.
- Discuss general eating behaviors/issues that can lead to inadequate caloric intake.
- Review healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Discuss eating behaviors and food habits which promote a healthy appetite such as regular meal/snack time, creating a calm, relaxed meal atmosphere, and not using food as a bribe.
- Listen to the caregiver to learn what they would like to work on.
- Work together with the caregiver to tailor the plan.
- Once the plan has been developed to a comfort level for the caregiver, confirm the caregiver understands and agrees with the plan.

Overweight and Obesity

Background: Overweight and obesity are major health problems in the United States and childhood obesity puts children at risk for health problems. Children of families on lower incomes are more affected by obesity. Excess body weight causes many health problems that limit a person's quality of life, increases risk of chronic diseases, and causes huge medical costs for the United States. During 2000-2010, the prevalence of obesity among WIC children aged 2-4 years increased significantly from 14.0 percent in 2000 to 15.9 percent in 2010. The good news is national obesity prevalence among WIC children is trending downward. In 2014 the rate was 14.5 percent and in 2016 the rate was 13.9.

The bad news is as of 2017, Iowa currently ranks seventh in the nation for adult obesity, up from 13th place, according to the latest Behavioral Risk Factor Surveillance System (BRFSS) data. According to Focus data, as of December 2020 11.08% of our WIC children two years and older were obese and another 14.08% of infants and children are considered overweight or at risk for overweight.

Obesity results from a complex combination of many factors related to genetics, lifestyle behaviors, and the environment we live in. These factors impact critical periods in the life course that determine a child's risk of obesity: the period before a mom becomes pregnant, during pregnancy, and during the earliest years of a child's life.

Obesity for children in the WIC Program is defined as a BMI for age or weight for stature greater than or equal to the 95th percentile for children ages 2-5 years.

Overweight for children in the WIC Program is defined as a BMI for age or weight for stature ≥85th and < 95th percentile for children ages 2-5 years.

Nobody wants to be overweight, especially children. Children don't typically think about the health consequences of being overweight, but they experience emotional pain related to negative perceptions of obesity by society.
When a group of children were shown a picture of an overweight child and asked to describe the child they presented an image of someone who was lazy, unmotivated, not very bright, and not much fun. They said the child was not someone they would want as a friend. Television, movies, and magazines tell us through their pictures that all the really intelligent, energetic, attractive, fun people are normal weight or on the thin side. For a child, the psychological and social costs of being overweight can be painful.

Besides social difficulties, overweight and obesity can cause physical problems for children. One in five overweight children experience health problems related to their weight. These include high blood pressure, high blood cholesterol or high triglycerides (types of blood fats that can cause heart disease when their levels are too high), diabetes, joint problems, difficulty moving, trouble sleeping, and trouble breathing. These conditions not only cause problems for the child, but also start the development of heart disease, diabetes, and cancer they are likely to experience later in childhood or as adults. Because children do not often die from heart disease the assumption is that high blood pressure or high blood cholesterol do not matter for a child. Increasing amounts of research show that heart disease starts in early childhood though the effects may not be seen until adulthood.

Overweight children have a strong tendency to grow up to be overweight adults. Most people understand the health consequences of being an overweight adult. Unfortunately, it is very difficult to get adults to change their eating and activity habits and to achieve a healthy weight for life. The best approach for solving the obesity epidemic is prevention. This means teaching children healthy food and activity habits. It is much easier for a child to develop good food and activity habits than it is to change the food and activity habits of an adult.

When we think about developing eating habits early in life, we are not just talking about manners or using a knife or fork correctly. We are also referring to why, when, and what children eat. A baby or child who is exposed to a limited number of foods while growing up might only eat a limited number of foods as an adult. A child, who learns to graze throughout the day, eating for reasons not related to hunger, will likely continue to do so as an adult. A child who learns to eat when he is bored as a reward will find that foods meet many of their psychological needs as adults. Food behaviors and habits are very difficult to change as adults. They are much easier to change when a child is young; particularly at the ages children are enrolled in WIC! The younger the child the easier it is to change habits.

Related Nutrition Risk Factors:

NRF 113 (High Risk) – Obese

Definition:

- ≥ 95th percentile BMI for children ages 2-5 years.

NRF 114 (Low Risk) - Overweight

Definition: Overweight

- Child 2-5 years: ≥ 85th percentile and < 95th percentile BMI-for-age

NRF 115 (Low Risk) - High Weight-for-Length

Definition:

- Child ≥ 12 months to < 24 months of age; ≥ 97.7th percentile weight-for-length

WIC's Role with Overweight Children

Many factors contribute to a person being overweight; some cannot be changed, but many can. Our role in WIC is to help participants with what they can change. The focus of WIC is NOT on the child's weight, but on the behaviors and habits that may contribute to the child being overweight. By changing food and activity behaviors of a child, it is hoped that the child may gradually grow into their weight. The real goal is to teach children to have healthy habits for a healthy life.

When working with the caregiver of a child, talk about the health benefits from a balanced diet and being physically active. It is important not to single the child out as a "problem" or a reason for change. Rarely are the food or activity habits of a child a problem just for them. The entire family often needs to look at changing their habits. Look at the diet and activity habits of the family and discuss:

- How childhood is the time to establish good food habits that will impact the health of the child both now and later in life.
- How children need fruits and vegetables for vitamins and minerals that will help them to grow and develop, and to stay healthier when they are exposed to illnesses.
- How a variety of foods make a child more likely to eat a healthy diet.
- The benefits to the family if they can turn the television off and eat dinner with family conversation.
- The heart-healthy benefits of physical activity for the entire family.

Changes in family eating and activity habits can be difficult. Remember to start with very small changes. Ask the caregiver what she thinks can be changed with respect to the family's eating habits. Think of very concrete and small changes that the entire family can make. Ask the caregiver if she thinks the changes are possible and what some of the roadblocks are to making the change.

Children whose BMI-for-age is between the 85th and 95th percentile are considered "overweight" and are low risk in the WIC Program. The WIC CPA generally provides the nutrition and healthy lifestyles education to prevent further weight gain. There may be times when a low risk child should be followed up by the WIC Dietitian even when their BMI-for-age is below the 95th percentile. If the child has shown a rapid increase in weight for length (2 full channels in a 6-month period), if the child is having health difficulties because of their

weight, or if the parent has concerns about the child's weight you may want to check with the WIC Dietitian to see if the child should be followed up on.

When a child's BMI-for-age is greater than or equal to the 95th percentile they are assigned NRF #113-Obese, a high risk NRF. These children must see a WIC Dietitian at least once during their certification. Children with a BMI-for-age greater than or equal to the 95th percentile may have medical or physical problems as a result of their obese condition. The WIC Dietitian will assess the child and determine a course of action.

It is important when referring children to the WIC Dietitian to make the child and the caregiver feel good about the referral. Explain to the caregiver that all kids grow at different rates and that some grow faster than others. Try to help the caregiver to understand that a follow up with a WIC Dietitian is an extra benefit of the WIC Program. The WIC Dietitian can supply more specific information, assessment, and answer questions.

Lifestyle Habits Associated with Overweight

Listed below are some of the nutrition, activity, and lifestyle habits that may contribute to overweight and obesity.

- Use of a bottle. Bottle use is not recommended beyond the age of 14 months. Some children who are still on the bottle may be overweight because they are consuming too much milk in addition to food. Often giving up the bottle will resolve the overweight condition.
- Excess caloric beverages. When a child is given too many caloric beverages (milk, juice, sports drinks, soda, fruit drinks) these added calories can cause the child to become overweight (some children lose weight with these added beverages because they stop eating meals, others become overweight because they eat meals, snacks, and the beverages). Limiting milk and juice to the recommended amounts and offering water in place of other beverages may be helpful. This is also good for the child's teeth and helps them get a more nutritionally-balanced diet.
- Diet low in fruits and vegetables. Fruits and vegetables contain many nutrients and other substances needed by the body. Many research studies show that diets high in fruits and vegetables help prevent many other diseases including heart disease and cancer. Fruits and vegetables contain nutrients that are important for healthy skin, good eyesight, a good immune system, and healthy bones. Diets high in fruits and vegetables also tend to be lower in calories.
- Excess desserts and "junk foods." Cakes, cookies, pie, candy, and chips can add large numbers of calories to a person's daily food intake. It is unreasonable and unrealistic to suggest that a child should never eat these foods or the child should not eat these foods while the rest of the family does. The key is to offer these foods in moderation.
- Frequency of eating out at restaurants or consuming fast food. The more a child eats out or consumes fast food, the more foods they will eat that are high in fat, sugar, and calories. Encourage parents to make healthy choices when eating outside the

home by choosing foods such as milk versus soda or juice, grilled versus fried chicken, apple wedges versus French fries.

- Consumption of excessive portion sizes. Children are often served portion sizes much larger than the recommended serving size. For example, a child may be provided a 16 oz. portion of juice, but in reality that is 4 servings! It is important to review with caregivers the recommended serving size for their child so that they do not consume excess calories that can lead to an overweight child.
- Inconsistent availability of food. A child needs three meals a day plus 2-3 snacks. A child should not be restricted to less than this even if they are overweight. Food should not be available any time the child wants to eat. This makes junk food too tempting since it can be eaten to resolve boredom or to satisfy other needs.
- Lack of meal structure. Families who have structured meals tend to eat healthier diets. They are more likely to have a cooked meal with vegetables and other healthy foods. When the family eats without some sort of schedule, they may tend to eat more fast foods and junk foods that are high in calories.
- Food as reward, punishment, or to relieve boredom. When foods are used to reward, punish, and relieve boredom a child starts to eat for emotional reasons rather than because they are hungry or need nutrients.
- Unresponsive feeding practices. Adults have the responsibility to decide what healthy foods will be served and when. Children have the responsibility to choose if and how much to eat. Forcing children to eat when they are not hungry interferes with their ability to determine whether they are hungry or full.
- Lack of sleep: Poor sleep habits resulting in too little sleep may result in changes in metabolism which results in appetite changes and weight gain.
- Too much screen or television time: Excessive screen time is a problem for three reasons: 1) It is a sedentary activity, 2) television commercials expose children to marketing of unhealthy foods, 3) unnecessary snacking occurs.
- Lack of physical activity: For many reasons, children are not as active as they should be. While many children consume too many calories from sources that contain little nutrition, they also burn fewer calories if they are less active.

Physical Activity

While WIC is primarily a nutrition program, physical activity is an important part of health. In terms of overweight, it may be as important to set goals around increasing activity level as it is to change food habits. When talking to the caregiver, look for barriers to activity. Here are some examples:

- How much screen time does the child get? If the child is watching television or on a phone or tablet for several hours per day then you may want to suggest limiting screen time. Be prepared though to help the caregiver think of other ways to fill time for the child. Many caregivers use screens as a babysitter when they are overwhelmed or need time off.
    - How much time does the child spend confined to a playpen? Again because a parent may be stressed for time or energy they may keep the child in a playpen as a form of relief. Again try to think of other ways to help this caregiver. Are there ways to make parts of the house more childproof?

  - What kinds of games does the child like to play? Encourage games that are more active.
  - What is the parent's attitude about play? Playtime is important for a child's development both physically and mentally. Talk with the parents about how important play is for the development of their child. Encourage caregivers to enjoy playing with their child.

- Does the family live in an area where it's safe to play outside or do they have access to a yard or nearby park?

One framework WIC promotes in this area is 5 2 1 0 Healthy Choices Count. 5 2 1 0 Healthy Choices Count is an evidenced based prevention framework with a goal to increase physical activity and healthy eating through policy and environmental change. More information and tools to use with your clients can be found at their website.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Fill in the blank to complete the following statement:

1. Obesity in children may be defined when BMI-for-Age is plotted on a growth chart. A weight for height equal to or above the ____the percentile may indicate obesity.

Place a "T" (for True) and an "F" (for False) in the space to the left of the following statement.

2. _____ Inappropriate eating patterns and too little activity are the most common reasons why people become and remain overweight.

3. List four habits that are associated with overweight:
   a.
   b.
   c.
   d.

ANSWERS

1. A child who's BMI-for-age is <u>equal to or greater than the 95th percentile</u> may be considered obese.

2. True

3. Any four: use of a bottle after 14 months of age; drinking excess calories from beverages; consuming a high-fat diet or excess desserts; frequency of eating out; consumption of excessive portion sizes; poor meal structure or lack of meal structure; inconsistent availability of food, use of food as a reward or punishment.

Section V: Iron Deficiency

Iron Deficiency

Iron is important in the formation of healthy red blood cells. It combines with protein to form hemoglobin, which is the red substance in the blood that transports oxygen to the cells and carbon dioxide away from the cells.

If iron deficiency exists, a condition called anemia can occur. Symptoms of anemia include fatigue, pale appearance, loss of appetite, and sometimes an increased frequency of colds and other infections. Anemia can be detected by a simple hemoglobin screening.

Iron-deficiency anemia is the most common nutritional deficiency in children from 6 months to 3 years of age. It is especially common among low-income preschool children.

Cause

A common cause of iron-deficiency anemia in the 1 to 2- year-old is due to too much milk intake. Milk is a poor source of dietary iron. However, some parents encourage their children to drink more milk, especially when the child isn't eating that much food. This combination of eating too little while drinking more milk may contribute to the development of iron-deficiency anemia since calcium interferes with iron absorption. After two to three years of age, a lack of iron-rich foods in the diet is usually the cause of iron-deficiency anemia. Another potential cause of anemia is lead poisoning since like calcium, lead competes with iron for absorption in the body.

Treatment

Some tips for you when talking with caregivers:

- Encourage iron-rich foods such as lean meats, fish, poultry, whole grain and iron-fortified cereals and breads, fortified noodles/pasta, dark green leafy vegetables, and beans and peas.
- Remember one way to increase the absorption of iron from plant sources (vegetables and grains) is to eat a Vitamin C-rich food at the same meal. For example, serve orange slices or orange juice along with iron-fortified cereal at breakfast.
- Encourage the use of WIC cereals for mealtime and snacks.
- Discourage the use of tea since it blocks iron absorption.
- Discourage drinking more than 24 ounces of milk a day since milk is a poor source of iron.
- Encourage weaning from a bottle to cup.
- Limit iron-poor foods (soft drinks, candy, pastries, and snack foods).

Related Nutrition Risk Factors:

NRF 201 (High Risk) - Low Hemoglobin/Low Hematocrit

Focus will automatically assign this risk factor based on the information entered into the Blood panel of Focus. Children identified with low hemoglobin are considered high risk (NRF 201).

Definition:

- Children 12 months <24 months of age with a hemoglobin level <11.0 gms.
- Children 24 months – 5 years old with a hemoglobin level <11.1 gms.

Your Role:

- Verify the child has been screened and tested for lead poisoning.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Identify if the child is consuming an excessive amount of milk or eating foods low in iron.
- Talk with the caregiver about iron.
- Find out what they know about iron, e.g., iron's importance and food sources.
- Identify ways to incorporate iron into the diet. Encourage the use of WIC iron-fortified cereals and protein foods.
- Explain the relationship between non-heme iron and the ability of Vitamin C to enhance absorption if meats are not routinely eaten.
- Listen to the caregiver to learn what they would like to work on.
- Negotiate a plan that works toward healthier feeding habits.
- Find out what might or might not be helpful with carrying out the plan.
- Work together with the caregiver to tailor the plan.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.

NRF 211 (High Risk) - Elevated Blood Lead Levels

Lead poisoning occurs in children primarily because of their hand-to-mouth activities. The most common cause of lead poisoning is dust and chips from old paint. Other sources are dust, soil, jewelry and ceramics. The effects of lead poisoning are debilitating. Adequate nutrient intake is known to decrease children's susceptibility to the toxic effects of lead.

Definition:

- Blood lead level of ≥ 5 ug/deciliter within the past twelve months.

Your Role:

- Ensure the diet is high in calcium, iron, and Vitamin C and that regular meals and snacks are offered. Lead is better absorbed on an empty stomach.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group to caregivers who report an elevated lead level for the child.
- Educate parents on how to avoid environmental lead exposure.
- Assess history of lead testing and referring children for testing, encouraging parents/caregivers to be assertive when requesting a test.
- Assigning nutrition risk factors to lead affected children.

Medical Conditions

See the NRF tables for a complete listing of all of WIC's medical conditions. A medical problem is a nutrition risk factor if it causes, contributes to, or results from an inability to obtain adequate nutrition for growth and development of the child or the maintenance of health.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

1. Two common dietary causes of iron-deficiency anemia are:

   a.
   b.

2. Three suggestions for parents in helping to prevent iron-deficiency anemia in their preschool-age children are:

   a.
   b.
   c.

3. Which of the following are common causes of lead poisoning? (Circle the letter(s) of the correct answer.)

   a. jewelry
   b. ceramics
   c. soil
   d. dust and paint chips

ANSWERS

1. Common dietary causes of iron deficiency anemia are:
    a. Excessive milk intake- The combination of eating too little while drinking more milk may contribute to the development of iron-deficiency anemia since calcium interferes with iron absorption.
    b. Low intake of iron-rich foods.
2. Three suggestions for parents in helping to prevent iron-deficiency anemia in their preschool-age children are:
    a. Limit daily milk intake to a maximum of 24 ounces.
    b. Limit iron-poor foods (soft drinks, candy, pastries, and snack foods).
    c. Increased intake of iron-rich foods (whole grain and iron-enriched cereal products, dark green leafy vegetables, meats, dried beans and peas, dried fruit); encourage consumption of a good Vitamin C source when eating high-iron plant foods to increase iron absorption.
3. Which of the following are common causes of lead poisoning?

    a,b,c,d

Section VI: Oral Health in Children

Good oral health allows children the ability to eat well, grow and thrive, concentrate on learning, feel positive about their appearance, and improve social interactions, thus contributing to overall well-being. Most people will have two sets of teeth during their lifetime. The first set of teeth begins to form well before birth. The twenty primary (first) teeth will begin to come through the gums when a child is between four and eight months old. The lower front teeth usually appear first. By 2½ years of age, most children have all twenty primary teeth.

There are thirty-two permanent (or second teeth). Permanent teeth begin to erupt when the child is between 6 and 13 years old. The four wisdom teeth do not appear until early adulthood. Good oral hygiene and consistent care is needed for all teeth.

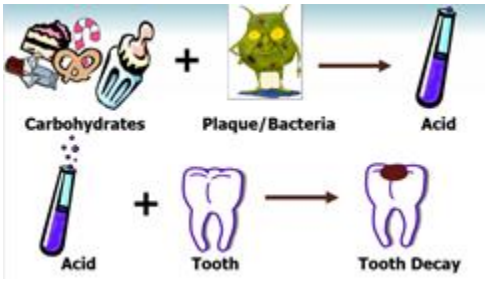
Oral Disease and Tooth Decay

Oral disease, also known as tooth decay, has complicated causes with no single solution. Many factors affect a child's susceptibility, including the mother or primary caregiver's oral health, the family's preventive practices, access to dental insurance, care close to home, and community water fluoridation. Individual diet choices, bacteria levels in the mouth, and the child's overall health also matter. So does each child's history of oral disease. Previous tooth decay is a predictor of future dental problems.

Dental caries, commonly called "cavities," is the decay of the tooth. Dental caries are the most common chronic disease in children. Dental caries and their treatment can be painful, expensive, and can result in the loss of teeth. Tooth decay in childhood can lead to pain, difficulty in eating, speech problems and possibly crooked permanent teeth.

Tooth decay is an infectious and transmissible disease. The bacteria, *Streptococcus mutans,* cause tooth decay. Babies do not have this bacteria when they are born, but they can get it from parents or caregivers. Parents and caregivers should avoid saliva-sharing activities, such as sharing eating utensils or a toothbrush with a child, or licking/sucking on a child's hands, pacifier, or bottle or pre-chewing food. These practices should be discouraged to avoid sharing cavity causing bacteria.

The bacteria in the mouth breaks down dietary carbohydrates, producing acid that attacks the tooth. These acids can remove minerals from the tooth causing the enamel to weaken and decay.



Every time carbohydrates are introduced into the mouth there is an acid attack which continues 20 minutes after the food is gone. If the food is sticky and stays in the mouth longer, the acid attack lasts longer. The more times you introduce a carbohydrate the more acid attacks. Sticky carbohydrates aren't just caramels, but can also be foods such as dried fruit, which stay on the teeth longer. Pop drinkers often have a continuous acid attack when they sip on pop all day. As opposed to someone drinking a sports drink, with equal amounts of sugar, but they drink it all in 5 minutes.

Whether or not this process destroys the enamel will depend on the natural hardness of the tooth, the strength of the acids, and the length of time the acids are exposed to the teeth. The greatest damage is done within the first twenty minutes after eating. Enamel is broken down after repeated acid exposures, thus allowing bacterial access to the body of the tooth. The resulting cavity is actually a bacterial infection. This can happen within a few months in primary teeth.

Gingivitis

Gingivitis is another dental problem for young children caused by bacterial plaque. Plaque acts as an irritant to the gums causing them to swell and bleed. Gingivitis is reversible with good oral hygiene.

Preventing Tooth Decay/Cavities

Bacteria are always present in the mouth. Food particles left on the teeth after eating provide energy for bacteria to grow. Following these guidelines may prevent cavities:

- Brush teeth thoroughly twice per day (morning and night) or as directed by a dentist or physician. Children need help brushing until they are 7 or 8. It is important that parents know to "Lift the Child's Lip" to better brush the four top teeth and look for early signs of cavities (white spots) for young children.
- Brush for at least two minutes. Plaque is sticky and difficult to see. Plaque can lead to cavities and gingivitis.
- Replace the child's toothbrush every 3 – 6 months when bristles begin to bend.
- Brush with a smear of fluoridated toothpaste until the child is 3 years old. This should be no bigger than a grain of rice. Use a pea sized amount for children over 3 years old. If children swallow a very small amount of toothpaste this will not be harmful. But a whole tube of toothpaste can be harmful, which is why it is important to keep the tube out of the reach of children.
- Regular exposure to small amounts of fluoride is important for everyone – for most people, using fluoridated water and toothpaste with fluoride is sufficient. Many municipal water sources contain fluoride. If the family has well water, suggest they have their water test for fluoride. The fluoride level of public water systems in Iowa is available on the CDC's My Water's Fluoride webpage: https://nccd.cdc.gov/DOH_MWF
- Families who do not have fluoride in their drinking water should be referred to a dentist for fluoride treatments or supplements.
- Flossing should begin when the child's teeth touch. For some this isn't until they get their permanent teeth and for some it begins with their baby teeth. Parents must help floss until a child is at least 8-9 years old. Flossing teeth once a day will:
    - Dislodge food from between teeth
    - Helps remove plaque
    - Helps to prevent gingivitis

Healthy Habits:

- Wean children from the bottle beginning at 7 months and completely by their first birthday. Toddlers who are put to bed with a bottle of milk, juice, or sweetened drink

can develop tooth decay. The sugar in these beverages pools around the teeth leading to cavities.

- Wean children from finger sucking beginning at age 4 so that the sucking will have stopped entirely by the time the first permanent teeth erupt. Most children stop sucking on thumbs, fingers, or pacifiers on their own between the ages of 2 and 4 years – and there is no harm done to their teeth or jaws. Damage to the teeth or jaw occurs due to the force with which a child sucks his or her fingers.
- Avoid snacking on foods high in sugar, especially between meals. Avoid snacks that contain sugar and stick to the teeth, like gumdrops.
- Limit sweet drinks such as soda, Kool-Aid, punch, and juice. Sipping on juice throughout the day is as harmful for teeth as any other sweet drink. Only put water in cups between meals.
- Eat snacks that are not as likely to promote tooth decay. Select snack foods from the dairy, fruit, vegetable, or protein foods. Vegetables stimulate saliva production which helps wash away some of the food particles from the teeth.
- Brush after each meal or snack. If this is not possible, rinse the mouth out with water to remove food particles.
- Visit the dentist regularly. The American Dental Association and the American Academy of Pediatric Dentistry recommend that children have their first visit within 6 months of the eruption of the first tooth or by age 1. If the child hasn't yet seen the dentist, arrange for an appointment as soon as possible. For help locating a dentist contact the local I-Smile™ Coordinator for that county.

The I-Smile Dental Home Initiative

- The I-Smile™ dental home initiative connects Iowa children and families with dental, medical, and community resources to ensure a lifetime of health and wellness. There is an I-Smile™ Coordinator working through the local Maternal, Child and Adolescent Health Agency in all 99 counties. Many I-Smile™ coordinators, hygienists or nurses work in WIC to provide education, oral screens, and fluoride varnish applications for children. I-Smile™ Coordinators are also a great resource to assist families in finding a dentist or a payment source for dental care.
- The ultimate goal of I-Smile™ is for all children, from the age of 1, to receive early and regular preventive dental care, including treatment when needed.
- The I-Smile™ Coordinator in your area can be found on the I-Smile™ website: https://ismile.idph.iowa.gov/

For more information and additional links see the Iowa Department of Public Health Bureau of Oral and Health Delivery Systems webpage: https://idph.iowa.gov/ohds

For more information on oral health, click on the link below to access the AAP Pediatric Guide to Oral Health Flip Chart and Reference Guide produced by The American Academy of Pediatrics. American Academy of Pediatrics, Pediatric Oral Health Materials and Resources can be found at: https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Oral-Health/Pages/Oral-Health.aspx

Common Questions and Answers:

Q: *How do you respond to a parent who chooses to keep a child on the bottle because of the mess the child makes with a cup?*

A: Often children are ready to give up the bottle long before the parents are. This sometimes happens with children whose parents don't want them to "grow up too fast," or, as in this case, parents who are afraid the child will make a mess.

Dangers

Explain to the parents the dangers of keeping the child on the bottle too long. Staying on the bottle too long can hurt the child's teeth, which can affect the adult teeth. You may be able to show these "dangers" with the stories and pictures of children with early childhood caries.

"Dealing with the "Mess"

Since the biggest issue seems to be the mess, ask the parent to brainstorm with you ways to reduce the mess while using a cup. Most likely they *know* what they can do. If needed, offer a few suggestions: "Do you think you could give your child an empty cup to hold? That way he can get used to the feel of a cup before you put liquids in it." Or, relate stories of other clients' success such as, "Last week I talked to a mom who's going through what you are. She put a plastic mat under the high chair, put a bib on her child, and gave him a cup. That way there was very little mess."

Parents might come up with other suggestions such as limiting eating and drinking to one area of the house (i.e., at the child's high chair or the kitchen table) or removing the cup when the child is finished. Offer support and encouragement. Assure the parent that the messy stage won't last forever. Whatever approach you take, however, avoid making the parent defensive. Keep in mind that your role is to offer suggestions and help.

Related Nutrition Risk Factors:

NRF 381 (Low Risk) - Oral Health Condition

Definition:

Oral health conditions include, but are not limited to:

- Dental caries, often referred to as "cavities" or "tooth decay"
- Periodontal diseases (stages include gingivitis and periodontitis)
- Tooth loss, ineffectively replaced teeth or oral infections which impair the ability to ingest food in adequate quantity or quality

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

Read through the following statements and put a check mark (√) in front of those statements that are true for 1-3.

1. ____ Teeth perform important functions of providing shape to the face and mouth, assisting in pronunciation of words, and enabling chewing of food.

2. ____ The primary teeth begin to come through when a baby is between 4 and 8 months old.

3. Which are proper guidelines for cleaning the teeth of a preschooler?

   a.____ Brush the teeth at least twice a day.
   b. ____ As soon as teeth appear, children can use a small amount of fluoridated toothpaste.
   c. ____ Teach children how to brush their own teeth at one year and allow them to do so.
   d. ____ Floss once a day.

4. Plaque is the name given to the colonies of _____ that adhere to teeth.

5. Plaque and sugar form acid which attacks the _____ causing _____.

6. Which is the most important factor in the relationship of sugar to dental disease?

   a.The total amount of sugar eaten per day.
   b. The number of times sugar-containing food is eaten per day.
   c.The form in which the sugar is eaten
   d. All of the above

ANSWERS

1. True
2. True
3. a, b, and d are True
4. Bacteria
5. Tooth, cavities
6. The correct answer is "**all of the above.**" The amount, frequency, and form of the sugar eaten are factors in the relationship of sugar to dental disease.

Section VII: Social Indicators of Nutritional Need

Some children are at nutritional risk based upon their living situations and/or the ability of the caregiver to take care of themselves and their family. Situations where the WIC Program identifies children as being at nutritional risk based on social indicators include homelessness, migrancy, the inability of the caregiver to make appropriate feeding decisions, or recent placement in foster care. Generally in situations where shelter is temporary, a person is less able to ensure that she has access to adequate nutritious food, food storage, and cooking facilities.

Related nutrition risk factors

These are all low risk.

NRF 801 (Low Risk) – Homelessness

Definition:
A child who lacks a fixed and regular nighttime residence; or whose primary nighttime residence is: A supervised publicly or privately operated shelter (including a welfare hotel, a congregate shelter, or a shelter for victims of domestic violence) designated to provide temporary living accommodations; an institution that provides a temporary residence for individuals intended to be institutionalized; a temporary accommodation in the residence of another individual not exceeding 365 days; or a public or private place not designed, or ordinarily used as, a regular sleeping accommodation for human beings.

Your Role:
- Providing effective and appropriate nutrition education to homeless persons requires that you have an understanding of the participant's transient lifestyle. It is important to identify the caregiver's ability to provide regular healthy meals to the child. Because a participant may only be enrolled for a short period of time, ongoing, long-term education goals may not be appropriate.

NRF 802 (Low Risk) – Migrancy

Definition:

A child whose family's principal employment is in agriculture on a seasonal basis, who has been employed within the last 24 months, and who establishes, for the purposes of such employment, a temporary abode.

Your Role:
- Help the participant find food resources in their community. Discuss how to use the eWIC card, what foods can be purchased through WIC and how to use the foods.

NRF 902 (Low Risk) – Infant/Child of Primary Caregiver with Limited Ability to Make Appropriate Feeding Decisions and/or Prepare Food

Definition:

Child whose primary caregiver is assessed to have a limited ability to make appropriate feeding decisions and/or prepare food. Examples may include but are not limited to:

- Currently using or having a history of abusing alcohol or other drugs.
- Mentally disabled/delayed and/or have a mental illness, such as clinical depression.
- Intellectual disability.
- Physically disabled to a degree which restricts or limits food preparation abilities.
- ≤ 17 years of age.

Your Role:

- Discuss with the caregiver ways the WIC Program can assist in meeting the participant's nutritional needs.
- Provide education, referrals, and coordinate services to help the caregiver develop the skills and locate the resources to assist her/him in caring for the child.

NRF 901(Low Risk) – Recipient of Abuse

Definition

Battering or child abuse/neglect within the past 6 months as self-reported by parent/guardian or documented by a social worker, health care provider, or on other appropriate documents, or as reported through consultation with a social worker, health care provider, or other appropriate personnel.

- Battering refers to violent physical assaults on women.
- Child abuse/neglect refers to any recent act or failure to act resulting in imminent risk of serious harm, death, serious physical or emotional harm, sexual abuse, or exploitation of an infant or child by a parent or caretaker.

NRF 903 (Low Risk) - Foster Care

Definition:

Entering the foster care system during the previous 6 months OR moving from one foster home to another foster home during the previous 6 months.

Your Role:

- Foster children have a high frequency of mental and physical problems that are often the result of abuse and neglect happening before foster care. They are often more likely to have inadequate nutrition. Provide a baseline nutritional assessment of the participant and provide nutrition education, as well as make referrals to resources to support the foster parent and participant's ability to be healthy.

NRF 904 (Low Risk) - Environmental Tobacco Smoke Exposure (ETS)

Definition:

Environmental tobacco smoke (ETS) exposure is defined (for WIC eligibility purposes) as exposure to smoke from tobacco products inside enclosed areas, like the home, place of child care, etc. ETS is also known as secondhand, passive, or involuntary smoke (1). The ETS definition also includes the exposure to the aerosol from electronic nicotine delivery system

Your Role:

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Provide information about the specific risks involved with secondhand smoke.
- Discuss ways that the caregiver can protect the child from second and thirdhand smoke (i.e. smoke outside; don't smoke in the car, change clothes, wash hands etc.).
- Listen to the caregiver to learn what they would like to work on.

SELF-CHECK: PRACTICE YOUR KNOWLEDGE

1. Put a check (√) next to the nutrition risk factors for children 2 years and older.

    a. ____Anemia
    b. ____Underweight
    c. ____Overweight
    d. ____Failure to Meet Dietary Guidelines
    e. ____Pica
    f. ____Substance Abuse
    g. ____Complications of Delivery
    h. ____Medical Conditions
    i. ____Prematurity
    j. ____Low birth weight
    k. ____Short stature
    l. ____Slowed or faltering growth
    m. ____Migrancy

Place a "T" for true or an "F" for false in the space to the left of each of the following statements:

2. ____ Children who are at the 85th percentile BMI-for-age are considered high risk.

3. ____ Children who are below the 5th percentile BMI-for-age are considered low risk.

ANSWERS

1. a, b, c, d, e, h, k, and m should be checked.
2. False. Low risk
3. False. This is a high risk condition.

Section VIII: Case Studies

The following are four case studies which present different situations involving eating behavior challenges with preschool children. Read the case studies and the education suggestions for the participants.

Case Study #1

Valentina is an active, energetic 2½-year-old child seen at your WIC clinic. Her height, weight, and hemoglobin are normal. Her mom Roberta complains that Valentina is a very picky eater and will hardly eat anything. In particular, she will not eat vegetables. Roberta complains that the only way she can get Valentina to eat her vegetables is to tell her she can have her favorite dessert if she eats all the vegetables on her plate.

The positive education that could be given to Valentina's mom includes:

- Reassure Roberta that Valentina's growth is *normal* and that it is common for preschoolers to be picky about their food. After a child reaches one year of age, changes in her food intake occur. The child's rate of growth slows down and her appetite decreases or is erratic. Thus, Valentina may not seem to be eating much because she is not growing as rapidly now and does not need as much food for her weight as when she was growing more rapidly. Also, you may want to remind Roberta that Valentina's serving size is different from an adult's serving size.
- Encourage Roberta to *continue* to offer vegetables, prepare them in a variety of ways, and set an example for Valentina by eating and enjoying vegetables. Reassure her that children often need to be exposed to new foods a number of times before they decide to eat them.
- Try serving raw vegetables with low-fat dips, or offer a vegetable main dish, such as broccoli cheese casserole.
- Roberta could try "disguising" vegetables in dishes like omelets or pizza or tomato-based dishes, or in breads and muffins (like pumpkin bread, zucchini bread, or carrot muffins).

Discuss with Valentina's mom:

- Bribing Valentina with dessert to get her to eat her vegetables may be encouraging her to overeat. It also may be reinforcing the idea to Valentina that vegetables are bad and sweets are good.
- Valentina should have "between meal" snack times that are established and consistent. It may be that she is allowed to snack throughout the day. Then, when it comes to mealtimes, she is not hungry and only eats a little.

NOTE: If height and/or weight should begin to drop out of normal range, or she has other symptoms of illness, Valentina may need to be checked by her health care provider to see why her appetite is so poor.

Case Study #2

The Pollard family sits down to dinner one night. The Pollard family includes Tony and Gina and their two children, Samantha (28 months) and Beau (7 years). The dinner meal that night consists of noodles, hamburger patties, and carrots. The children are each given a glass of milk. Gina knows from past experience that Samantha doesn't like cooked carrots, but she does like noodles and milk and will generally eat hamburgers. Toward the end of the meal, Samantha hasn't eaten much. She has eaten some noodles and has drank half her milk, but she hasn't touched her meat or carrots. She starts to fidget and play with her food. Tony lets her leave the table to go play. If Gina described this situation to you in the WIC clinic the next day, what would be an appropriate response you could give her?

The following are appropriate responses you could give Gina:

- Tell Gina that she did well by including at least two things in the meal she knew Samantha would eat, and that she didn't limit the menu to only those things she likes.
- Reassure Gina that Samantha probably wasn't very hungry.
- Tell her that she did well by not offering to fix Samantha something else for dinner when she refused the hamburger and carrots.
- Encourage Samantha if she is done with her dinner, that's fine, but that she can stay at the table to talk with the rest of the family.

Case Study #3

A father complains to you that all his 3-year-old son Damian eats is sweets. Below are positive education tips to share with Damian's father:

- Try to help Dad realize that parents are in charge of what foods are available in the home and that maybe he is buying too many sweets.
- Help Dad determine whether he is using sweets as a reward with his son.
- Make "sweets" something nutritious like peanut butter, fruit, or yogurt.
- Find out what other nutritious foods Damian likes and encourage Dad to make them available at home.

Case Study #4

Mr. and Mrs. Rodriguez come into your WIC clinic for their nutrition education appointment. They complain that they have been trying to follow your advice about serving well-balanced

meals; but that their 2-year-old Juan is so active that he won't sit down at the table and ends up missing a lot of meals.

The education points you could discuss with the Rodriguez's are:

- It's reasonable for parents to insist that all family members come to the table at mealtime, at least for a while, whether they want to eat or not.
- A brief rest period before meals might help Juan calm down, (e.g., reading or looking at a book).
- Help the parents determine whether there are distractions (such as TV or loud music) that may be making it hard for Juan to settle down.
- Help them determine if Juan is getting snacks that are being served too close to mealtime.

Training Activity

Now that you have completed this module, please take the Preschool Module on-line post-test located on the Web Portal Training Personnel page. **Good Luck!**

References:

1. "*Obesity Among WIC-Enrolled Young Children*" https://www.cdc.gov/obesity/data/obesity-among-WIC-enrolled-young-children.html. Accessed: September 4, 2020
2. Story, M. Holt, K. Sofka D. Wooldridge N. 3rd edition 2011. *Bright Futures in Practice:* Nutrition American Academy of Pediatrics with the US Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health
3. "*How to Get Your Child to Eat More Fruits & Veggies*" https://www.healthychildren.org/English/healthy-living/nutrition/Pages/How-to-Get-Your-Child-to-Eat-More-Fruits-and-Veggies.aspx Accessed: September 4, 2020
4. "*Vegetarian diet: How to get the best nutrition*" https://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/vegetarian-diet/art-20046446 Accessed September 4, 2020
5. "*Fiber*" https://kidshealth.org/en/parents/fiber.html Accessed: December 30, 2020
6. "*From baby bottle to cup, choose training cups carefully, use them temporarily*" Journal of American Dental Association Volume 135, March 2004, p.387
7. "*Adult Obesity*" Iowa Public Health Tracking Portal https://tracking.idph.iowa.gov/Health/Obesity/Adult-Obesity Accessed: December 30, 2020
8. Satter, Ellen MS, RD, CICSW, BCD "*Child of Mine: Feeding with Love and Good Sense*" Bull Publishing, Revised March 2001.
9. "*USDA MyPlate*" www.ChooseMyPlate.gov
10. "*Healthy Eating for Preschoolers*" USDA FNS-451 Revised December 2016. https://wicworks.fns.usda.gov/resources/healthy-eating-preschoolers
11. "*Infant Nutrition and Feeding A Guide for use in the Special Supplemental Nutrition Program for Women, Infants and Children*." USDA FNS-826 April 2019.
12. "*My Water's Fluoride*" Centers for Disease Control and Prevention https://nccd.cdc.gov/DOH_MWF/Default/Default.aspx
13. Healthiest State Initiative, "*5 2 1 0 Healthy Choices Count*" http://www.iowahealthieststate.com/resources/individuals/5210/
14. "*Advice about Eating Fish*" https://www.fda.gov/food/consumers/advice-about-eating-fish Accessed September 20, 2022
15. "*Ages 2-8 Feeding Recommendations*" Healthy Eating Research, Robert Wood Johnson Foundation; https://healthyeatingresearch.org/tips-for-families/ages-2-8-feeding-recommendations/ Accessed September 20, 2022