



Preschool Child Nutrition Module

Level II: WIC Certification Program



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Objectives of the Preschool Child Nutrition Module

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

1. Identify the reason why it is important to develop positive food patterns in children.
2. Recognize at least seven tips which can help parents foster the development of their child's healthy eating habits.
3. Explain what to do about the following eating behavior issues that are common during the preschool years: introducing new foods, disliking foods, refusing to eat, dawdling or playing with food, "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 group
 - Some favorite foods of young children within each 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 from a list of foods those foods not recommended for young children because they might cause choking.
7. Explain the important role snacks play in the diet of a young child.
8. Identify ways to prevent and/or treat these common nutritional concerns for preschool children: overweight, iron-deficiency anemia, dental caries and inappropriate nutrition practices.

Section 1: Eating Behavior

Goals of Good Nutrition

For purposes of this module, preschool age is considered to be from 1 to 5 years of age. During these years, young children go through many changes which can influence the amount of food they eat, the way the food is eaten, and their food preferences.

The diets of young children are influenced by their growth rate, their physical maturity and development, and their personality development. During these early years, many lifelong food habits, food preferences, and food dislikes are established. Parents, caregivers, other family members, and the child's eating environment help shape the child's attitude and behavior toward food.

The goals of good nutrition for the preschool child are based not only on his/her physical development, but also on all aspects of the child's development. The following list represents the goals of adequate food and nutrition for the developing child. The nutrients in food and the eating process should help the child to:

- *Attain 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. 1991*

Developmental Snapshot of the Preschooler

Story, M. Holt, K. Sofka D. eds. 2000. *Bright Futures in Practice: Nutrition* Arlington, VA: National Center for Education in maternal and Child Health. Information found on pages 3, 4, 5,6,11 and 12 of this module was adopted from this resource. This tool provides the following summary of the abilities of the preschooler as he/she grows.

1 to 1½ Years

- The child will grasp and release foods with his fingers.
- He will be able to hold a spoon but won't be able to use it very well.
- He will be able to turn a spoon in his mouth.
- He will be able to use a cup but will have difficulty letting go of it.
- He will want food that others are eating.

1½ to 2 Years

- The child will eat less.
- She will like to eat with her hands.
- She will like trying foods of various textures.
- She will like routine.
- She will have favorite foods.
- She will get distracted easily.

2 to 3 Years

- The child will be able to hold a glass.
- He will be able to place a spoon straight into his mouth.
- He will spill a lot.
- He will be able to chew more foods.
- He will have definite likes and dislikes.
- He will insist on doing things himself.
- He will like routine.
- He will dawdle during meals.
- He will have food jags (when he wants to eat only a particular food).
- He will demand foods in certain shapes.
- He will like to help in the kitchen.

3 to 4 Years

- The child will be able to hold a cup by its handle.
- She will be able to pour liquids from a small pitcher.
- She will be able to use a fork.
- She will be able to chew most foods.
- She will have increased appetite and interest in foods.
- She will request favorite foods.
- She will like foods in various shapes and colors.
- She will choose which foods to eat.
- She will be influenced by television.
- She will like to imitate the cook.

4 to 5 Years

- The child will be able to use a knife and fork.
- He will be able to use a cup well.
- He will have increased ability to feed himself.
- He will be more interested in talking than in eating.
- He will continue to have food jags.
- He can be motivated to eat (for example, by being told "You'll grow up to be tall like your father").
- He will like to help prepare food.
- He will be interested in where food comes from.
- Peers will increasingly influence him.

Development of Food Habits

Food habits are learned. Learning to develop positive food patterns from early on is an important goal since these early food habits and attitudes can affect food choices later on in life and, therefore, one's nutritional status throughout a lifetime. For this reason, it is important for WIC staff to convey to caregivers the benefits of establishing healthy eating habits for preschool-age children.

After a child reaches 1 year of age, changes in his/her food intake occur. At this time the child's growth rate slows down. The child's total energy requirements (per pound) are less than during the first year, and his/her appetite decreases. WIC staff can reassure the caregiver that this change in appetite is normal.

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

It is in the family that children learn cultural food patterns, what foods are desirable, how these foods are to be eaten, and the rules of conduct while eating. Mealtime is a time for socialization with the family. Children observe the family members and imitate 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 repeated exposure to a new food 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 in order for children to develop healthy eating habits. Mealtime can be uncomfortable if the preschoolers are not seated properly and securely, the utensils are inappropriate, or the surroundings are unpleasant.

“Children use the table as a stage for showing their independence. Sometimes, food isn't the issue at all. The eating process is just one more way children learn about the world.”

“Well-meaning parents, grand-parents, and caregivers often think the worst of a child who skips a meal or won't eat any vegetables. Keep the big picture in mind. Offer healthful, nourishing meals on a daily basis. Over time, children will get everything they need to grow and develop normally. Plenty of variety and a relaxed, happy atmosphere at mealtime are the ingredients for a well-fed child.”

American Dietetic Association
Pamphlet, excerpts
“Feeding Kids Right Isn't Always Easy.”
Revised 1996

Creating a Positive Eating Environment

The following considerations will provide a positive environment for the child to enjoy meals and begin forming lifelong food patterns:

- 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. Use cups with regular rims rather than "sippy" cups and straws which do not teach the child to form their mouth on the rim of a cup or glass.
 - Chair: One that won't tip and is positioned so that food can be easily reached.
- Serve meals and snacks on a predictable but flexible schedule.
- Let the child decide whether to eat and how much.
- Be patient and understanding if the child makes a mess while she learns to feed herself.
- Give the child the opportunity to share the events of the 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. Actions do speak louder than words.

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 learn to 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.

Parents often worry about children overeating unhealthy treats, so they often hide them or put them on a high shelf where they cannot access them. This can encourage eating problems, as restricting foods can make children want the food more. Encourage parents not to bring foods into the house that they need to restrict, but to buy and provide healthy snacks and give children access to these foods.

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 example.

- 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. TV ads for milk (the mustache commercials) are great examples. Even an older sibling or popular neighbor can be used as an example. "Sarah eats breakfast every day before school."
- Coercion and "preaching" about food must be avoided. How many of us still won't eat a certain food because it was forced upon us?

Section 1: Eating Behavior

- Create an interest in foods. Think of how Popeye cartoons were created to get kids to eat spinach. Reading books with vegetables as characters or allowing a child to make garnishes 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.

While example is the best teacher, it is not always available. Parents who want their kids to eat well need to consider making at least small changes in their own diets. Other strategies require a positive attitude and a display of interest by the parents.

Food Issues

Food issues during the preschool years are a common part of the maturation process. Parents and other caregivers must be encouraged to deal with the problems appropriately to avoid making mealtime an unpleasant situation for all. In general, caregivers should ignore negative behaviors and reinforce positive behaviors. The following pages take common concerns parents bring up in WIC clinics and offer messages WIC staff 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. Please see the “Nutritional Recommendations” section for more information on portions and recommended servings.

Q: *My child sometimes dawdles during meals. 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. 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 are naturally “neophobic” (they do not like new foods at first exposure). Children learn to like foods that are repeatedly offered. When a child rejects a food or all foods offered at a meal, the parent should accept the rejection. To react or try to force the child to consume 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.

“Adults often view a child’s odd food and eating behaviors as a problem. Childhood food binges, food strikes, and other unusual habits are usually a part of normal development.”

*American Dietetic Association
Pamphlet, excerpts
“Feeding Kids Right Isn’t Always
Easy,” revised 1996*

Section 1: Eating Behavior

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.

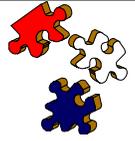
Serve your child's favorite foods along with new foods. She may be more willing to try new foods if her favorites are on her plate. Be a positive role model—eat new foods yourself. Introduce a new food in a neutral manner. Talk about the food's color, shape, size, aroma, and texture, but don't talk about 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 s/he rejects a new food?*

A: Refrain from making 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 #1

The following begins a series of **Self-Checks** that occur throughout this module. As you come to each Self-Check, complete it right away. The answers are located at the end of the module.

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 imitate the eating habits of their parents.
5. Don’t force children to eat; healthy children will eat when they are hungry.
4. 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

Section 2: 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 Colorado WIC Program we have the *Nutrition Guide for Children Age 1 to 5* as an education tool. The Nutrition Guide is made up of five food groups: Milk, Meat, Vegetable, Fruit, and Grain 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. 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 Nutrition Guide, discuss ways parents can incorporate 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.

Children's Nutrition Guide

for children 1 – 5 years old

Food Group	Amount per day*	What counts as 1 cup or 1 ounce	Examples
 VEGETABLE	1 – 1½ cups	What counts as 1 cup: 1 cup raw, cooked, or canned 1 cup vegetable juice 2 cups raw leafy vegetables Typical serving size: ¼ cup	<p>Vary your veggies Dark Green: Broccoli, Brussels sprouts, leaf lettuce, spinach Orange: Carrots, sweet potatoes, pumpkin, squash (acorn or butternut) Starchy: Potatoes, yams, and corn Other: Eggplant, tomatoes, peppers, mushrooms, onions, cauliflower, cabbage, greens beans, zucchini</p> <p>Nutrition Tip: Eat dark green and orange vegetables every day. Try fresh, frozen, or canned vegetables.</p>
 FRUIT	1 – 1½ cups	What counts as 1 cup: 1 cup raw or 1 small piece 1 cup canned 1 cup 100% juice ½ cup dried fruit Typical serving size: ¼ cup	<p>Focus on fruits Oranges, grapefruit, citrus juices, melons, berries</p> <p>Apples, bananas, pears, plums, grapes, pineapple, peaches, apricots, applesauce, 100% juice, raisins, other dried fruit**</p> <p>Nutrition Tip: Encourage whole fruit instead of juice, and serve fresh fruit that is in season.</p>
 MILK	2 cups	What counts as 1 cup: 1 cup milk or yogurt 1½ oz cheese 1 cup pudding 2 cups cottage cheese Typical serving size: ½ cup (4oz milk)	<p>Get your calcium-rich foods Milk, yogurt, cheese, cottage cheese Milk-based soups, pudding, ice milk, frozen yogurt</p> <p>Nutrition Tip: Serve whole milk to 1 year olds, but switch to fat-free (skim) or low-fat (1%) milk after your child turns 2.</p>
 GRAIN	3 – 5 ounces	What counts as 1 ounce: 1 slice bread or 6" tortilla 1 cup ready-to-eat cereal ½ cup cooked rice, pasta, or cereal 5 to 7 crackers Typical serving size: ½ oz	<p>Make half your grains whole 100% whole grain bread, cereal, crackers, and pasta Rice, noodles, tortillas, oatmeal, bagels, English muffins, popcorn**</p> <p>Nutrition Tip: Just because bread is brown doesn't mean it's whole grain. Look for the words "whole wheat" or "whole grain" before the first ingredient, or "100% whole" grain or wheat on the label.</p>
 MEAT	2 – 4 ounces	What counts as 1 ounce: 1 oz meat, poultry, or fish ¼ cup cooked beans or peas 1 egg 1 Tbsp peanut butter or ½ oz nuts Typical serving size: 1 – 2 oz	<p>Go lean with protein Lean beef, pork, chicken, or turkey Fish including canned salmon and tuna (limit canned tuna to 6oz/week) Split peas, pinto beans, black beans, kidney beans, lentils, other beans Eggs, peanut butter, nuts, seeds**</p> <p>Nutrition Tip: Peanut butter sticks to the mouth and may be hard to swallow. Do not let your child eat peanut butter from a spoon. Instead, spread it thinly on bread, crackers, or toast.</p>

*Younger children typically eat toward the lower end of the range. Serving size increases with age or activity level.

**Children 1-4 years old should not be given foods that may cause choking. Do not give hard candy, nuts, seeds, raisins, popcorn, whole grapes, corn chips, fruit with pits, and raw vegetables like carrots. Cut foods such as hot dogs and carrots into short strips, and cut grapes into 4 pieces.

Section 2: Nutritional Recommendations

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

Milk Group

At least two cups (16 ounces) of milk or the equivalent amount of milk products are necessary each day for the preschool child. These dairy products provide calcium, protein, riboflavin (a B vitamin), vitamin B₁₂, vitamin D, zinc, and other nutrients.

Milk and Milk Products	
Some Food Choices	Typical Serving Size for Children
Whole Milk	½ cup
Skim* or Lowfat* Milk	½ cup
Nonfat Powdered Milk*	3 tablespoons
Canned Evaporated Milk*	¼ cup
Cheese – Natural	1 ounce
Cheese – Processed	1 ounce
Ice Cream or Frozen Yogurt	¾ cup
Buttermilk*	½ cup
Yogurt	½ cup
Cottage Cheese	¾ cup

**Delay use of these products until child is 2 years of age. It is recommended that children 1-2 years old drink only whole milk to ensure adequate fat intake. However, the American Academy of Pediatrics recommends that parents consider using reduced-fat dairy foods, such as reduced-fat (2%) milk, for children as young as one to two years old that are overweight or have a family history of obesity, CVD or dyslipidemia.*

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 and Cottage Cheese
- ★ Custards and Puddings

Although ice cream and ice milk do 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 or ice milk is appropriate.

Cream cheese is identified as a fat. It is a poor source of protein and calcium, and is not to be considered a member of the milk, yogurt, and cheese group.

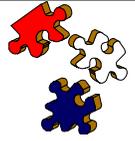
Another way to get calcium in the diet is to add nonfat dry (powdered) milk to foods when cooking or baking. For example, add powdered milk to some of the child's favorite foods, like meatloaf, oatmeal, and cookies.

Section 2: Nutritional Recommendations

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

- Serve flavored milk (e.g., strawberry).
- Serve other calcium-rich foods such as tofu, if processed with calcium sulfate, broccoli, and turnip greens.
- Serve calcium-fortified foods (e.g., orange juice or cereals).
- Serve dairy foods for snacks, such as cheese, yogurt, and frozen yogurt.

NOTE: *In the event that a child is suspected not to tolerate milk and milk products, refer the child to the WIC RD/RN for follow up. (Symptoms of milk intolerance include flatulence, boating, abdominal cramping and pain, and diarrhea.)*



SELF CHECK #2

Fill in the blanks to correctly complete the statements:

1. Name at least two nutrients supplied by the milk, yogurt, and cheese group:

2. A 1 to 5 year old child needs at least _____ 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.

Meat Group

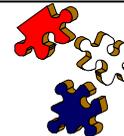
Meat and meat alternatives, besides providing protein, provide iron, zinc, niacin (B vitamin), and other nutrients.

Meat	
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
<i>* These foods can cause choking in young children.</i>	

Remember that vegetable sources of protein, such as peanut butter or dried beans and peas, are nutritious, tasty, and economical.

Some protein-rich foods that are often popular with children are:

- ★ Meatloaf
- ★ Chicken
- ★ Bean Burrito
- ★ Tuna
- ★ Hamburgers
- ★ Peanut Butter



SELF CHECK #3

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 vegetables sources of protein:
 - a. _____
 - b. _____
3. Name two nutrients that protein-rich foods provide:
 - a. _____
 - b. _____
4. Two protein-rich foods that are often popular with children are _____ and _____.

Grain Group

Whole grain or enriched bread, rice, pasta, and cereal products contain thiamin, riboflavin, folate, and niacin (B vitamins), 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 regulate digestion and elimination. Intakes above a child’s age plus 5 grams of fiber/day should be avoided for most children. Children over 3 years of age can safely consume their age plus 5 grams of fiber/day (e.g., a 3-year-old can safely consume 3 [age] + 5 grams = 8 grams of fiber/day).

Bread, Cereal, Rice and Pasta Group	
Some Food Choices	Typical Serving Size for Children
Bread	½ 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
Popped Corn*	¾ cup
Crackers	1 graham 5 animal or wheat

** This food can cause choking in young children.*

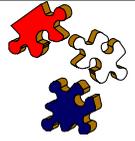
The bread, cereal, rice, and pasta group is generally well liked. A few of the popular choices of preschoolers are:

- ★ Cereal
- ★ Pancakes
- ★ Bread
- ★ Tortillas
- ★ Crackers

However, a few words of caution regarding the bread, cereal, rice, and pasta group:

1. Encourage the use of lightly- or non-sugared cereals.
 - Limit sweet rolls, cookies, cakes, and other snack foods because they are excessively high in fat and sugar, compared to the other nutrients provided by them.
2. Limit additions of butter, oils, and margarine to rice, pasta and bread.
3. Use only small amounts of syrup and jelly on pancakes, waffles, or bread.

Adding sugars and fats to the grain foods modifies an otherwise nutritious grain food to a less nutrient dense food.



SELF CHECK #4

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

Energy (Calories)
Iron

Calcium

Fill in the blanks to accurately complete the statements.

2. _____, found in whole grain products, helps regulate digestion and elimination.
3. Children, 1 to 5, need _____ ounces of grain products each day.
4. Name a favorite food for children from the grain group:

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

- One serving of vegetables should be dark green.
- One serving of vegetables should be orange.
- The remaining vegetable servings can be from other vegetables
- Limit juice to 4-6 oz per day and serve 100% fruit juice.

Typical Serving Size for Children		
½ medium raw vegetable/fruit		¼ cup raw vegetables/fruits
¼ cup cooked vegetables		½ cup juice
(Exceptions to these serving sizes are indicated in parentheses after the foods in the following lists.)		
<u>Dark Green Vegetables</u>		<u>Orange Vegetables</u>
Broccoli		Carrots
Brussels sprouts		Sweet Potatoes
Collard greens		Pumpkin
Spinach		Squash
<u>Other Vegetables</u>		<u>Starchy Vegetables</u>
avocado	okra	potatoes
bamboo shoots	onion	yam (taro)
asparagus	peas*	corn*
beets	squash	
bok choy	tomato	
cabbage	malanga (tanier)	
eggplant	turnip	
celery*	wax (yellow) beans	
cucumber	yucca (cassava)	
mushrooms	zucchini	
lettuce		
<u>Fruit</u>		
apple	grapes*	pears
apricots	honey dew melon	plantain
banana	mango (¼)	pineapple
cantaloupe (⅓)	persimmons	raisins*
cherries (pitted)*	papaya (¼)	tangerine
grape juice	peach	watermelon
<p><i>*These foods can cause choking in young children. Refer to the following section for more details on choking.</i></p>		

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.

Section 2: Nutritional Recommendations

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.

As mentioned before, parents should not overreact to a child's refusal to eat, or to his/her food dislikes. The child should be encouraged to try the vegetable again at a later date. Preparing the food in a different way may also improve the child's acceptance. Above all, parents should avoid using bribery to make their children eat vegetables.

Favorite vegetables and fruits of young children include the following: fruit juice and frozen fruit juice on a stick; 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 caregivers may ask WIC staff if they should give their child a vitamin/mineral supplement.

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

An Important Message about Choking

Many infants and children die each year from choking. Most choking-related deaths occur in children two years of age or younger. Inappropriate foods given to infants 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.

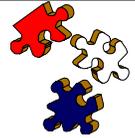
Because children do not develop a full set of baby teeth until they are about 2 years of age, solid foods that require chewing should be modified by cooking and pureeing, mashing, finely chopping, or dicing to aid in chewing to help prevent blocking airways. Foods most often named as causing fatal choking are those that are round or cylindrical in shape or that have the ability to “ball up” in the airway because of their texture.

Examples of such foods that might cause choking include:

- Whole hot dogs and other sausage-shaped meats
- Hot dogs or sausages sliced into rounds, like quarters
- Raw carrots, grapes and apple pieces
- Hot bread-type biscuits
- Peanut butter given alone or in sandwiches
- Fruits with pits, such as cherries
- Popcorn
- Gum drops
- Nuts
- Seeds
- Beans, peas
- Chewing gum
- Round-shaped candies

To prevent food-related choking:

- ✓ Always supervise feeding times of preschool-age children so you are aware of any difficulty they have in swallowing food.
- ✓ 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, hot dogs and sausage-shaped meats into two or more lengthwise pieces first, and then into smaller pieces. Cut whole grape in half. Chop raw vegetables into thin strips.
- ✓ Moisten smooth peanut butter with juice, 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 #5

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 not 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 each of vegetables and 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?

Meal Planning for Young Children

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

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.

<u>Sample Meal Pattern</u>		# of Servings
Breakfast	Fruit group	1
	Bread, cereal, rice, and pasta group	2
	Milk, yogurt, and cheese group	1-2
Snack*	Milk, yogurt, and cheese group	1
	Bread, cereal, rice, and pasta group	1
	Fruit group or vegetable group	1
Noon Meal	Meat, poultry, fish, dry beans, eggs, and nuts group	1
	Vegetable group	1
	Fruit group	1
	Bread, cereal, rice, and pasta group	1
	Milk, yogurt, and cheese group	1
Snack*	Milk, yogurt, and cheese group	1
	Bread, cereal, rice, and pasta group	1
Evening Meal	Meat, poultry, fish, dry beans, eggs, and nuts group	1
	Vegetable group	1
	Fruit group	1
	Bread, cereal, rice, and pasta group	1
	Milk, yogurt, and cheese group	1

*Snacks are discussed in detail later.

What Should Children Drink?

Children may not indicate 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 (approximately what the child’s WIC food package provides). Drinking more than this may reduce the child’s appetite for other healthy foods.

Most children younger than 2 years of age should drink whole milk Older children can drink reduced-fat milks.

Offer juice in small amounts—4 to 6 oz. per day. (Drinking more than this can reduce the child’s appetite for other healthy foods.) Serve your child juice in a cup, not a bottle. Juice served in a bottle can cover the child’s teeth with sugar for long periods of time and contribute to early childhood caries.

Sports drinks, soda, and fruit drinks provide 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 are not intended for young children and are for athletes. Soda and fruit drinks can be offered in small amounts as an occasional drink.

Section 2: Nutritional Recommendations

Teas should not be offered to preschoolers as they have no nutritive value. Also, tea contains tannic acid that can stain a child’s teeth and interfere with iron absorption.

Foods Children Like

Preschool-age children like simple meals, with the foods separated from each other. “Finger foods”—small, bite-sized pieces of food eaten with the fingers—are popular; they are easy for the child to handle and aid in coordinating self-feeding skills. Examples of some finger foods are: vegetable sticks, slices or sections of fruit, bread, crackers, meat strips, cheese cubes, ready-to-eat cereals, and hard-cooked egg. Also, bright colors and varied shapes of foods will catch and hold the child’s interest.

Children have sensitive taste buds; therefore, salt, sugar, pepper, and other seasonings should be used in moderation or not at all. If the rest of the family prefers highly seasoned food, advise the parent to dish up the young child’s food before adding more seasoning.

If the above principles of food preparation are observed, children are more likely to enjoy learning to eat a variety of nutritious foods.

Children are excellent judges of well-prepared food. Textures, flavors, and temperatures of foods should be served as listed below:

Food Example	Favorable Qualities	Unfavorable Qualities
Meat	Moist, Soft	Dry or Tough
Hot Cereal, Mashed Potatoes	Smooth	Lumpy or Sticky
Raw Vegetables	Crisp	Mushy
Cheese	Mild Flavor	Spicy or Strong
Milk	Moderate Temperature	Very Hot/Very Cold

Common Questions and Answers

Q: *What would you say to a mother who prepares at least two entrees 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.

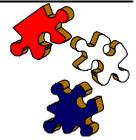
WIC staff can play an important role by reminding WIC caregivers not to limit their family’s meals to only foods they know their child will like. First, encourage parents and caregivers of young children to offer a variety of foods. Second, remind them that a child’s likes and dislikes may change a lot; 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 her support in getting herself served, and take the focus off what is on the plate. If the child whines that she doesn’t like the food choices, the caregiver can ask that the food be tried. If the child refuses, the caregiver can respond “Oh, okay,” and not insist the child eat.

Section 2: Nutritional Recommendations

The child will have at least one food that she likes and maybe milk on the table so she 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
- ✓ be casual if food is refused; offer it again at a later date
- ✓ have the adult or parent enjoy the food



SELF CHECK #6

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:

- mixed dishes (several foods mixed together)
- 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. Juice can be a nutritious drink and caregivers should offer at least 12 ounces to their child daily.
3. Sports drinks are an appropriate beverage for young children.

Snacks

Are snacks always “junk foods,” “empty calorie” foods, and generally non-nutritious food? No! In fact, snacks can 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.

A good snack contains:

- Food from one or more of the food groups, such as:
 - fruit, whole grain cereals, ready-to-eat cereals, crackers or bread, fruit juice, frozen fruit juice on a stick, milk, peanut butter, yogurt, cheese, and cottage cheese
- Food that is low in sugar
- Small amounts of food that don't spoil the appetite for meals

The following snack foods are not recommended for young children because they can cause choking: grapes, nuts, seeds, popcorn, raisins, berries, hard candy, peanut butter sandwiches, and certain raw vegetables, like carrots.

Use Snacks to Improve Food Habits

Some mothers feel frustrated or worried when their children reject certain, vital food groups. However, this anxiety may easily aggravate the situation they need to change. Quite possibly the problem can be avoided, at least in part, by the use of snacks between meals.

Children's snacks can be planned to meet almost any nutrition problem. For example, they can be the means by which vitamin C is added to the diet of the child who refuses juice for breakfast, or protein for the child who is too tired or too excited at dinnertime to eat his meat. They can also be the mean by which fast-growing youngsters are offered urgently needed calories in the nutritious forms needed for growth. Furthermore, snacks may be a more successful way to introduce new foods.

Some Children Need Snacks

Some children have the capacity to go easily from one meal to the next without hunger. Others actually experience real hunger within two to three hours after eating, especially if they happen to be growing rapidly. If a nutritious snack is not offered at this point, soft drinks, candy, or some other non-nutritious item may eventually satisfy this hunger. *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.*

Planning for Snacks

Planning means deciding:

- what the special needs of your family are
- how snacks can add to their diet
- when would be the best time to offer snacks

Planning also means considering your time and energy. If fixing something special is going to leave you irritated and frustrated when that special snack isn't eaten, then plan simple foods which may be stored away if not eaten. Having a “snack spot” in the refrigerator or a corner in the cupboard where snacks are kept may be the answer.

Section 2: Nutritional Recommendations

Here are some suggestions for snacks which supplement meals:

To add protein:

Offer some hard-cooked eggs, chunks of tuna, pieces of cheese, or slices of leftover meat. Serve crackers with peanut butter, tuna, or cheese. Let the child use their fingers to eat these snacks.

To add fruits and vegetables:

Serve fruit raw or in a cup, cut the rind off melon and serve wedges that may be picked up with the fingers. Peaches, small chunks of cantaloupe or orange slices are another way to add vitamin A to snack time. Try serving small pieces of broccoli and carrots with a creamed cottage cheese or ranch dip.. Many children prefer raw vegetables to cooked, and they may particularly resist cooked vegetables at dinner. If these children will eat raw vegetables at snack time, then they don't need cooked vegetables at dinner. Besides the ones already mentioned, you might try raw green beans, snap peas, green 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 health snack.

Snacks may be the single most helpful concept to empower the feeding relationship. 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 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.

What Healthy Snacks Are and What They Are Not

Snacks have structure, a planned time, and place. They are nutritious and contain a variety of foods. Snacks are low in sugar, fat, and salt. Snacks have a defined amount of each item.

It is best when snacks are eaten sitting down in one place with other people. Children should not get food from the kitchen at will or eat from the container (such as a box of cereal or crackers). The serving should be defined.

Routine snacks are not chips, cookies, candy, Kool-Aid, pop, French fries, etc., as these are empty calories and will not boost the nutrient intake and cannot replace foods not eaten at other times. Snacks are planned small meals and are not rewards for eating or withheld as punishment for not eating or doing a specific activity.

An Important Reminder

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 sharing a link between sugar and hyperactivity. There are many foods containing sugar that also contain caffeine as well, e.g., chocolate candies, 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 "wild." Or, just a desire for attention might lead to acting out behavior. Very often the villain is the exciting situation where the sugary foods are provided; e.g., Halloween and birthday parties.

Section 2: Nutritional Recommendations

Q: *What can a parent do with a “hyperactive” child who will not sit long enough to eat a meal, just a few bites?*

A: This can be a real problem for some parents and can happen not only with “hyperactive” children, but also with children who are too engrossed in play or other activities to stop and eat. Here are a few suggestions to offer parents:

- 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, radio, 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 parents 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, children should not be 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 use food inappropriately.
- not consume a daily balance of nutrients, and
- be exposed to a greater risk of cavities.

What We See

A parent may come in to your office and proudly tell you that their toddler can now open the refrigerator and help himself to whatever, whenever he wants 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 to discriminate these differences can lead to inappropriate eating and perhaps to overeating. We also know that children who are permitted to graze often drink more juice and other caloric beverages and can set themselves up for an inadequate intake 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.

Section 2: Nutritional Recommendations

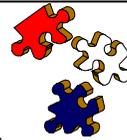
Here are some tips to share with parents:

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 (i.e., 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 deliberate eating. Children should have a snack and be done with it. Furthermore, frequent nibbling can increase the incidence of cavities because of the constant presence of food particles on the teeth.

Limit the external cues that might remind the child to eat. Help the parent to identify external 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 #7

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.

1. ____ Snacks can be nutritious supplements to the preschooler’s diet.

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

Milk, Yogurt, and Cheese Group

- a.
- b.

Vegetables and Fruits

- a.
- b.

Bread, Cereal, Rice, and Pasta Group

- a.
- b.

Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group

- a.
- b.

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. WIC staff can support caregivers of vegetarian children by sharing sound nutrition information to help ensure that an adequate variety of food is offered for optimal growth and development.

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

1. 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 typically avoided.
2. Lacto: These individuals follow a diet similar to lacto-ovo vegetarians except eggs are also avoided.
3. 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, such as the macrobiotic diet (which excludes meat, poultry, possibly fish, dairy products, eggs, some vegetables, and tropical fruits) and/or poorly planned vegetarian diets.

For the caregiver who identifies their child as a vegetarian, WIC staff will need to assess what foods the caregiver is offering and what foods they are avoiding. This will present staff with 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, and vitamin B₁₂.

Energy needs are sometimes difficult to meet if the child is eating a diet high in fiber and bulk. Staff 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, staff can recommend additional use of it in the forms of nuts and nut butters (e.g., peanuts, peanut butter, almonds, almond butter, seeds (e.g., sesame 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. If a variety of plant foods are eaten over the course of the day, adequate amounts of essential and non-essential amino acids will be supplied. Examples of protein containing plant foods are grains (e.g., barley, cornmeal, couscous, millet, oats, quinoa, and rice), legumes (e.g., canned or dried beans offered on WIC), soy products (e.g., soy milk, tofu, and soy hot dogs), imitation meat products, nuts and seeds (e.g., 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 included foods such as calcium fortified soy milk and orange juice, tofu prepared with calcium, dark leafy greens that are low in oxalic acid (can inhibit absorption of calcium), such as collard greens, kale, and mustard greens.

Vitamin B₁₂ is a concern primarily for vegan children because it is found mainly in animal products, including dairy products. Sources of vitamin B₁₂ for the vegan child include vitamin B₁₂ fortified foods such as some brands of soy milk, imitation meat products, fortified nutritional yeast (Red Star Vegetarian Support Formula), and breakfast cereals.

Desserts

While snacks are eaten between meals, desserts are typically eaten at the end of a meal. Even though desserts are characteristically sweet, they don't have to contribute 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, custard, pudding, ice cream, ice milk, frozen yogurt, fruit-and-nut breads, muffins, and some homemade cookies (such as oatmeal cookies with nuts and raisins).

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 a 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 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, rewarding with dessert for eating broccoli teaches a child to like dessert more and broccoli less.

Some desserts can be nutritious, such as puddings, oatmeal or peanut butter cookies, or 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 permitted to choose whether or not they want dessert. The main point is to keep the focus off any one food being a "reward."

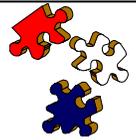
Although desserts can be nutritious, the wise parent will not offer desserts after every meal. It is easy to develop an insatiable "sweet tooth" by offering one or two desserts per day. If children are given desserts often, they will expect them, demand them, and then, eating desserts will become a habit.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

Calories

The *Nutrition Guide for Children Age 1 to 5* represents the minimum amount of food needed on an average daily basis to supply adequate nutrients. In no way should the guide be used to enforce or restrict a certain amount of food that a child is given to eat. Children should be offered nutritious meals and snacks from the basic food groups, and then be allowed to eat the amount to satisfy their hunger.

Additional calories can also be obtained occasionally from foods such as margarine, mayonnaise, salad dressings, cream cheese, and desserts.

A child's own appetite and growth are the best indicators of adequate caloric intake. If a child's weight and height are within the normal range and the child generally eats the foods specified in the Nutrition Guide, calculating calories is unnecessary.



SELF CHECK # 8

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. ____ A child’s weight and height are the best indicators of adequate caloric intake.
4. List two nutritious desserts:
 - a.
 - b.
5. List three plant sources of protein:
 - a.
 - b.
 - c.

Part 3: Nutritional Concerns and Problems

Three of the most prevalent nutritional problems for children are **overweight, iron-deficiency anemia, and dental caries**. These problems have negative short- and long-term effects on children and are considered common public health problems. Since efforts at treatment of these problems can be unsuccessful, uncomfortable, time-consuming, and expensive, it is important for health care providers to attempt to prevent their occurrence.

Overweight

Background: Overweight is a major health problem in the United States. Overweight causes many health problems that limit a person's quality of life, results in major diseases, and causes enormous medical costs for the United States. Data from the NHANES survey (2003–2006) indicate that approximately 12.4 percent of children age 2 to 5 and 17 percent of children age 6 to 11 were overweight. Overweight for children in the WIC Program is defined as a BMI for age greater than or equal to the 95th percentile (only for children greater than 24 months of age).

Nobody wants to be overweight, especially not kids. Children don't think about the health consequences of overweight, but they are often painfully aware of the social costs of being overweight. Our society tends to look down on people who are overweight.

Think for a minute about how you or a friend would describe a person who is overweight. 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 exceedingly painful.

Besides social difficulties overweight can cause physical problems for children. One in five overweight children already has 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, difficulty moving, trouble sleeping, and trouble breathing. These conditions not only cause problems for the child, but also start the progression of heart disease, diabetes and cancer that they are likely to experience 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.

The food habits you learn when you are young do not have so much to do with whether you use a napkin when you eat or whether you know how to use a knife or fork correctly. The food habits you learn when you are young have more to do with why and what you eat. An infant or child who is exposed to a limited number of foods while growing up is probably only going to eat a limited number of foods as an adult. A child, who learns to graze through the day, eating at whim, will likely continue to do so as an adult. A child who learns to eat for boredom or who is used to getting food 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.

While there is a tendency for overweight children to grow to become overweight adults there is one exception that is important to remember. Children who are overweight under the age of 2 years are no more likely to grow up to be overweight adults than any other normal weight infant or child. It would be inappropriate to counsel a caregiver about her overweight one year old. Instead this can be an opportunity to assess if their child is eating a balanced diet and developing healthy eating habits. For example, an 18-month old child may be over the 95th weight-for-height because they drink large amounts of juice all day or because they are fed too many treats. While the child may not have a tendency to grow up to be overweight these habits have other health consequences and should be addressed.

The longer a child remains overweight the greater the chance they will grow up to be an overweight adult. While a two-year-old has little probability of growing up to be an overweight adult, a 14-year-old overweight child has a significant probability of becoming an overweight adult. Early prevention is the key to solving the overweight epidemic. If children can make changes to their habits at a young age the likelihood of them growing up to be overweight adults is decreased. Changes to diet and physical activity patterns are much easier for a young child than they are for an adult.

WIC's Role with Overweight Children

What causes a person to be overweight? There are many factors contributing to overweight; some cannot be changed, but many can. Our role in WIC is to help participants work with the factors that 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. The goal is to help children develop habits that make them healthier. Our goal is NOT to help children lose weight. 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.

WIC makes overweight a low risk nutrition risk factor when a child's BMI for age is greater than or equal to the 85th percentile to less than the 95th percentile, or "at risk of becoming overweight." If the child's BMI-for-age is greater than or equal to the 95th percentile or "overweight" it is considered a high risk NRF. Outside of WIC many researchers and government agencies refer to BMI for age at the 95th percentile or greater as "obesity." Because of the negative connotations associated with the terms "obesity" and "obese" we choose not to use these terms for children in WIC. A WIC child should never be referred to as "obese."

Let children know that people come in unique sizes and shapes. Never criticize a child's size.

Children whose BMI-for-age is between the 85th and 95th percentile are considered "at risk for overweight" and are low risk in the WIC Program. The WIC educator generally provides the nutrition education. There may be times when a low risk child should be referred to the RD or RN 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 RD/RN to see if the child should be referred for assessment by the RD/RN.

Overweight is not something that you do; it is the result of what you do. So the focus is on the eating and activity habits of the child and family, not the child's weight.

Section 3: Nutritional Concerns and Problems

When working with the caregiver of a child, talk about the health benefits from a balanced diet and being physically active. 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; and
- the heart-healthy benefits of physical activity for the entire family.

Put Focus on the Family

It is important not to single the child out as a “problem” or a reason for change. Rarely are the food habits of a child a problem just for them. The entire family often needs to look at changing their food habits. It is not pleasant for a child to have to sit at the table and eat low fat foods with vegetables when the rest of the family is eating all kinds of fatty foods and no vegetables. This only reinforces to the child that they have a problem. It is really the family’s eating patterns that are the problem so why single out only the child. The entire family can develop healthy eating patterns.

Changes in family eating habits can be difficult. Remember to start with very small changes. Ask the parent 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 to making the change are.

Broad Goal	Improved Goal
Will eat 5 fruits and vegetables per day.	• Will offer family one vegetable at dinner each night.
Family will eat dinner together.	• Will offer child a piece of fruit for their afternoon snack each day.
	• Family will eat dinner together on Tuesdays and Sundays at the table without the television on.

Habits Associated with Overweight

Listed below are some of the dietary habits that are often associated with overweight. Discuss with the caregiver the eating habits of the child and the environment in which they eat. Ask the caregiver questions to get more information if needed.

- Use of an infant bottle. Infant 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 discontinuing 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 to get a more nutritionally-balanced diet.
- Diet low in fruits and vegetables. Fruits and vegetables contain many nutrients and other substance needed by the body. Many research studies indicate that diets high in fruits and vegetables help prevent a whole host of 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 that the child should not eat these foods while the rest of the family does. The key is to offer these foods in moderation.

Section 3: Nutritional Concerns and Problems

- 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, 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. Hunger does not help a child to learn better food habits. Food should be offered in three meals and 2-3 snacks per day. Food should not be available at anytime 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. Meal structure can be very important. Does the family eat meals together? Do they eat at the table? Do they eat while watching television? Is mealtime pleasant? Mealtime can be very important for a family if they make it a pleasant time when they interact as a family. It can do a lot of good for family dynamics. 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 erratically they tend to eat more fast foods and convenience 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 psychological benefits rather than because they are hungry or need nutrients. Some parents need help to find other ways to reward their child and to keep them entertained.

Goal Setting

When trying to help the caregiver set a goal related to diet, try to find small changes they can make. Gradually, over time, many small changes can add up to big changes in diet. Do not use weight loss as a sign of success. When the family accomplishes a goal praise them for the success even if the child is continuing to gain weight. The goal is to improve food habits not to decrease weight. If a child’s weight is continuing to gain without any signs of slowing, the child may need to be referred to the WIC RD/RN.

One word of caution, occasionally a family may not be able to make any changes because of major chaos in the home. This kind of chaos is not so much about schedules as about the interactions of family members. Caregivers are at their wits end; there is a great deal of fighting in the family, financial resources are chaotic, etc. In such cases it may be very difficult for the family to make changes to improve their food habits. Refer such families to the WIC RD/RN who will likely refer the family to a social worker or psychologist.

Physical Activity

Besides food habits the other part of being overweight has to do with a person’s activity level. Overweight children tend to be more sedentary. While WIC is primarily a nutrition program, physical activity is a very important part of health. In terms of overweight it may be as important to set goals around increasing activity level (or limiting inactivity) as it is to change food habits. When talking to the caregiver or when reviewing the health questionnaire, look for barriers to activity. Here are some examples:

- How much television does the child watch? If the child is watching television for several hours per day then you may want to suggest limiting television. Be prepared though to help the caregiver think of other ways to fill time for the child. Many caregivers use television as a babysitter when they are overwhelmed or need time off.

The American Academy of Pediatrics recommends that a child not watch more than 1-2 hours of television per day and that children under 2 years of age not watch television at all.

Section 3: Nutritional Concerns and Problems

- How much time does the child spend confined to a car seat or playpen? Again because a parent may be stressed for time or spare energy they may confine the child to a carrier or playpen as a form of relief. Again try to think of alternatives 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? Sometimes parents need to be given "permission" to play with their kids. Playtime is important for a child's development both physically and mentally. Because our society puts so much emphasis on work and being productive, parents may be reluctant to take valuable time to play with their child. Talk with the parents about how important play is for the development of their child. Let them that it is not just okay, but a very positive part of being a parent. Encourage them to enjoy playing with their child.

Sometimes the easiest way to make a child more active is to limit inactivity such as television, computer games, riding in the car or staying inside.

Types of activity which are not appropriate for a child (under 5 years of age) include competitive sports, as well as muscle (like weight lifting) and endurance (like running) building exercises. Children need play-type activities. Left on their own children will generally be active and play. Help parents to break down barriers that prevent a child from being playful and active.

Remember the following points when working with the caregivers of overweight children:

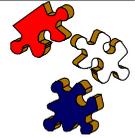
- ✓ Focus on their food and activity behaviors and not on their weight.
- ✓ Try to make changes that involve the entire family. The child should not feel singled out.
- ✓ Suggest small changes that are realistic and agreeable to the family.
- ✓ Encourage physical activity as well as changes to the diet.
- ✓ Focus on traits other than appearance when talking to children.
- ✓ When the child is gaining weight very rapidly, having health problems as a result of their weight, when the mom has serious concerns about the child's weight, or when change seems unlikely due to family chaos consult with your WIC RD/RN to see what action should be taken.

When a child's BMI-for-age is greater than or equal to the 95th percentile they are assigned NRF #113-Overweight, a high risk NRF. These children are referred to the WIC professional after the initial visit. The WIC RD/ RN will assess the child and determine a course of action.

Children with weight-for-height over the 95th may have medical or physical problems as a result of their overweight condition. It is the responsibility of the WIC RD/ RN to assess these children and determine a course of action. In many cases the issues will be similar to those for children who are at risk for overweight. For some the issues may be more complex and require more intervention. While it is rare, some children may be extremely overweight because of metabolic problems. These children need to be evaluated by the WIC RD/RN and referred to a physician who specializes in metabolic problems.

It is important when referring children to the WIC RD/RN to make the child and the caregiver feel good about the referral. They should not be made to feel that their child is defective, that the parent or child has failed in some way, or that they are being "punished" for having an overweight child. Explain to the caregiver that all kids grow at different rates and that some grow faster than others. Each child has a different weight that is right for them. The WIC RD/RN can better assess the child's growth. Try to help the caregiver to understand that an appointment with the WIC RD/RN is an extra benefit of the WIC Program. The WIC RD/RN can supply more specific information, assessment, and answer questions.

NOTE: *Local staff members agree that by referring to the high risk counselor by name versus "WIC RD/RN" helps keep caregivers from feeling like they are being punished. As an example staff might say, "At your next visit you will see Mary. Mary will discuss with you more information around Jaden's nutrition and growth."*



SELF CHECK #9

Fill in the blank to accurately complete the following statement:

1. Overweight in children may be defined when BMI-for-Age are plotted on a growth chart. A weight for height equal to or above the ____th percentile may indicate overweight.

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 insufficient 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.

Iron Deficiente Anemia

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. When the body has an adequate supply of iron, there is also an increased resistance to infection.

If **iron deficiency** exists, a condition call **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 blood test (hematocrit or hemoglobin screening) that requires only a prick of the finger.

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

Cause

A common cause of iron-deficiency anemia in the 1 to 2 year old is due to excessive milk intake. Milk is a poor source of dietary iron. However, some parents encourage their children to drink more milk, especially when the child's consumption of solid foods decreases. This combination of low intake of solid foods and excessive intake of milk may contribute to the development of iron-deficiency anemia. After two to three years of age, a lack of iron-rich foods in the diet is usually the cause of iron-deficiency anemia.

Prevention

Prevention of iron-deficiency in children may be accomplished by counseling parents/caregivers to modify the child's diet by limiting foods that are both low in iron and high in calories, while substituting more iron-rich foods. Specific suggestions are as follows:

- ✓ Since milk is such a poor source of dietary iron, milk intake should generally not exceed 24 ounces daily. Encourage weaning to a cup if the child is still consuming milk in bottles.
- ✓ Encourage the eating of iron-rich foods such as lean meats, fish, poultry, whole grain and iron-fortified cereals and breads, fortified noodles/spaghetti, dark green leafy vegetables, and dried beans and peas.
- ✓ Iron from animal sources is better absorbed by the body than iron from plant sources. A good source of vitamin C (like orange juice) or a meat product consumed with an iron-rich plant food increases the absorption of iron from that plant food. A word about eggs: even though eggs are from an animal source, the iron in them is poorly absorbed unless they are eaten along with a vitamin C source (e.g., citrus fruits or juices, broccoli, green pepper, strawberries).

Section 3: Nutritional Concerns and Problems

Children aged 1-5 years old need 10 mg of iron daily. The chart below presents the amount of iron contained in child-sized portions of certain foods.

Milligrams (mg) of Iron in Child-sized Servings of . . .

Highly fortified cereals, ready-to-eat* (1 oz = ½ to ¾ cup)	18.0 mg
Cooked dried beans (1/2 cup)	2.6 mg
Beef liver (1 oz)	2.5 mg
Chicken liver (1 oz)	2.4 mg
Egg (1)	1.1 mg
Lean red meat (1 oz)	1.0 mg
Peas, mixed vegetables (1/4 cup)	.75 mg
Collards, mustard greens (1/4 cup)	0.6 mg
Bologna, beef (1 slice)	0.5 mg
Dried prunes (2)	0.4 mg
Whole wheat bread (1/2 slice)	0.38 mg
Broiled chicken (1 oz)	0.38 mg
Peanut butter (1 Tablespoon)	0.3 mg
Other fruits and vegetables	0.25 mg
Milk (1/2 cup)	trace

*Iron fortification is different for each cereal. READ THE LABEL to find out the amount contained in a box of cereal.

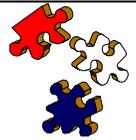
Treatment

One of the nutritional risk criteria for certification in the WIC Program is iron-deficiency anemia. Iron-deficiency anemia can be detected by either a hematocrit or hemoglobin test. Once a participant has been identified as anemic, he and his caregivers will need counseling and treatment.

If the low hemoglobin\hematocrit is severe enough to put the child in the high-risk category, then he must be referred to the WIC RD/RN. If it is not severely low, then the educator handles the counseling.

Some tips for you when counseling the caregivers of these children include:

- **Encourage** the use of good animal sources of iron, e.g., lean red meats. Remember that iron from animal sources is well absorbed by the body.
 - **Encourage** the use of non-animal sources of iron, e.g., legumes, grains, and certain vegetables. Remember that one way to increase the absorption of iron from meals containing vegetables and grains is to eat a vitamin C-rich food at the same meal. For example, serve orange juice along with iron-fortified cereal at breakfast.
 - **Encourage** the use of WIC cereals for mealtime and snacks.
- X **Discourage** the use of tea since it has no nutritive value and interferes with iron absorption.
X **Discourage** a daily milk intake that is greater than 24 ounces since milk is such a poor source of iron.
X **Discourage** the use of unfortified snack foods such as baked goods, soft drinks, candy, cookies and chips.



SELF CHECK #10

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 contains the most iron? (Circle the letter of the correct answer.)
 - a. one egg
 - b. one slice whole wheat bread
 - c. $\frac{1}{2}$ cup of “greens”
 - d. one ounce of a highly fortified cereal, e.g., a WIC cereal.

Dental Concerns

Teeth are a very visible and important part of a person. They give shape and expression to the face and mouth; they assist in the pronunciation of words; and they permit chewing of food.

Let's first discuss the growth and development of teeth and then the causes of tooth decay.

Each person normally will have two sets of teeth during his lifetime. The first set of teeth begins to form well before birth. In fact the twenty primary (first) teeth will begin to come through the gums when a child is between four and eight months old. The lower teeth usually appear first. By 2½ years of age, most children have all twenty primary teeth.

There are thirty-two permanent (or second teeth). Twenty of them replace the first teeth when the child is somewhere between 6 and 13 years old. Twelve additional teeth also erupt through the gums at this time. The four wisdom teeth do not appear until early adulthood. The permanent teeth must last a lifetime, so consistent care is needed for them.

Dental Caries

Dental caries, commonly called "cavities," consist of the progressive decay of the tooth. Dental caries are the most prevalent disease for all age groups beyond infancy. Dental caries and their treatment can be painful, expensive, and can result in the loss of teeth. Tooth decay in childhood can lead to crooked permanent teeth and speech problems. Other children may tease children with these problems.

Cause

The bacteria, *Streptococcus mutans*, cause tooth decay. People who don't take good care of their teeth have an increased amount of the bacteria in their mouths and are more likely to spread the bacteria to someone else. Children are often exposed to the bacteria during their infancy. Caregivers spread the bacteria to their infant's mouth (such as spoons, pacifiers, toothbrushes).

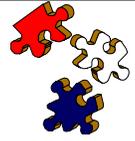
The bacteria in the mouth then break down dietary carbohydrates, producing acid that attacks the tooth. These acids can remove minerals from the tooth causing the enamel to weaken and decay. The carbohydrates that can readily cause tooth decay are simple sugars and, in particular, the "sticky" type—sweets that will stick to the teeth.

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.

Periodontal Disease

Periodontal (gum) disease is another type of dental problem. This affects a large proportion of the world's population. Periodontal disease results in the destruction of both the connective tissues that attach the tooth to the bone and the bone itself.

One of the factors that is known to cause periodontal disease is bacterial plaque. Plaque acts as an irritant to the gums causing them to swell and bleed. If the plaque is not removed, it collects on the teeth below the gum line and develops pockets where infection can occur. It is this infection which leads to the eventual destruction of the supportive bone.



SELF CHECK #11

Read through the following statements and put a check mark (✓) in front of those statements that are true.

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 develop when an infant is between 4 and 8 months old.
3. ____ The only purpose which primary teeth serve is to allow the child to eat solid food.
4. ____ Adults generally have 32 teeth.

SELF CHECK #12

1. What are the two kinds of dental problems discussed here?
_____ and _____
2. Plaque is the name given to the colonies of _____ that adhere to teeth.
3. Plaque and sugar form acid which attacks the _____ causing _____.
4. Plaque also irritates the _____ causing _____ and _____ which may lead to the formation of pockets where infection can occur.

How to Control Bacteria

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

Proper cleaning of teeth:

- ✓ Brush the teeth, or at least rinse the mouth, after each meal or at least twice a day.
- ✓ Brush for at least two minutes. Plaque is sticky and difficult to see. Unless time is spent brushing, plaque will be left on teeth and can mix with minerals in the saliva to form calculus (tartar). Tartar can't be brushed off but must be removed by the dentist.
- ✓ After age 24 months, children can begin brushing with fluoridated toothpaste. Only a peas-sized amount is needed. Fluoride is necessary to keep teeth strong, but too much can cause mottling (graying) of teeth. Most municipal water sources contain fluoride. If the family has well water, suggest they have their water test for fluoride. Families who rely on bottled water should be referred to a dentist for fluoride treatments or supplements. Families can contact their local water treatment facility to learn about the fluoridation of the community water supply.
- ✓ Parent/caregiver should actually perform the brushing and flossing of teeth until the child is effective with the toothbrush. This usually is until the age of seven or older. Flossing with unwaxed floss once a day will:
 - Dislodge food particles from between teeth
 - Help remove plaque
 - Control plaque build-up
 - Stimulate the gums, helping to prevent gum disease
- ✓ Caregivers should lift the child's lip and check their teeth at least once a month (if white spots or dark areas are forming, the child needs to be seen by the dentist right away).

Healthy Habits:

- ✓ Wean children from the bottle completely by 14-months of age. 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 and the bacteria act upon it. Breastfeeding does not lead to dental caries but actually lowers the risk of tooth decay.
- ✓ Clean the mouth after each meal.
- ✓ Read labels. The ingredients are listed on labels with the ingredient in the highest percentage first. The further down the list sugar appears the better. Remember, too, that there are many different kinds of sugar. Corn syrup, honey, dextrose, fructose, sucrose, lactose, laevulose, and molasses are all different names of various sugars. They will be separated on a label, but they all add up to SUGAR.
- ✓ Avoid snacking on foods high in sugar, particularly between meals. Avoid snacks that contain sugar and stick to the teeth, like gum drops, and raisins.
- ✓ Serve sweets directly after mealtime, if you are going to serve sweets, so that children can conveniently brush their teeth afterwards. In other words, try to limit the number of times each day that teeth are exposed to sugar.
- ✓ Eat snacks that are not as likely to promote tooth decay. Select snack foods from the meat group or fruit and vegetable group. Vegetables, particularly stimulate saliva production which helps wash away some of the food particles from the teeth. In addition, the fiber in fruits and vegetables can assist in loosening food stuck to teeth.
- ✓ Ideally, after each meal or snack, try to brush and floss. If this is not possible, rinse the mouth out with water to remove food particles.
- ✓ Check with your dentist or doctor to see if fluoride supplements or treatments are needed.
- ✓ Visit the dentist by one year of age. If the family dentist is reluctant to see a young child, refer clients to a pediatric dentist. For Help locating a dentist call the Family Healthline at 303-692-2229 (Metro Denver) or 1-800-688-7777 (throughout Colorado). You can also email a family Healthline specialist at cdphe.psdrequests@state.co.us

Healthy drinking habits:

- ✓ 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.
- ✓ Do not put a child to bed with a bottle.

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. Children who stay on the bottle too long often drink too much milk. Drinking too much milk can reduce the child's appetite for other foods and this often leads to low-iron levels in the blood. You may be able to illustrate 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, prompt with 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.

Role of Sugar in Dental Disease

As previously discussed, simple sugars are the carbohydrates that plaque will most readily use to form acid. Recent studies on animals have shown that all sugars are cariogenic (cavity-producing). That means that table sugar; brown sugar, molasses, sorghum, corn syrup, honey, and the sugar found in fruits and milk are all cariogenic. A table listing foods and their sugar content is located on the next page.

It has been found that it's not only the amount of sugar eaten, but also the frequency of eating, the length of time the sugar stays in the mouth, and the form of the sugary food (i.e., liquid or sticky candy) that affects cavity production. The more often a person eats sugar, the more often acids form on the teeth. Dentists estimate that every time a person eats, acids will act upon the tooth enamel for twenty minutes. A food containing sugar will increase the strength of the acid and, therefore, increase the chance of damage to the tooth enamel. Similarly, the longer a sugary food stays in contact with the teeth the greater the chance there is for acid to form. With this in mind, a soft drink taken during a short period of time may cause fewer dental problems than a hard candy that remains in the mouth for a prolonged period of time, feeding the bacteria and prolonging the acid attack on the tooth enamel. Chewing candies (such as toffee or caramels) are particularly detrimental to oral health because they contain large quantities of sugar and exist in a sticky consistency that is difficult to remove from the teeth.

Section 3: Nutritional Concerns and Problems

Remember that frequency is also a factor. Consider that a slowly sipped cup of sugared coffee may be more hazardous than a quickly swallowed solid food like a sugared donut because of the frequency of attack. For the same reason, five sticks of gum chewed all at once may be less damaging than five sticks chewed individually throughout the day. It should be mentioned here that starch, another form of carbohydrate found in foods such as breads, cereals, and potatoes, will break down to form a type of sugar. Because it takes longer for starches to break down, the starch will usually be in the stomach before it is changed into a sugar. However, if the starch is a consistency which sticks tightly to the teeth (like potato chips), it might be broken down to sugar in the mouth, thereby contributing the energy the bacteria needs to form plaque. Because much of the fiber is removed, white bread tends to have a consistency which readily sticks to the teeth. Other breads and cereals also can stick to teeth, although to a lesser extent.

**So You Think You Don't Eat
Much Sugar??**

Here are the approximate amounts of refined sugar (added sugar, in addition to the sugar naturally present) hidden in popular foods.

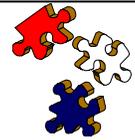
As mentioned earlier, the sugar in milk and fruits is just as cariogenic as table sugar and honey, but the foods in which they are contained have many vitamins and minerals necessary for dental health. In addition, the consistency of foods is such that they do not easily stick to the teeth and, therefore, don't provide a ready supply of energy for bacteria. There are exceptions such as bananas or dried fruits. Bananas, a good source of potassium, are also cariogenic because of their sticky nature.

Food Item	Portion Size	Approximate sugar content in teaspoonfuls of granulated sugar
Orangeade	1-8 oz glass	5
Soda pop	1-8 oz bottle	5
Angel food cake	1-4 oz piece	7
Cheese cake	1-4 oz piece	2
Chocolate cake-iced	1-4 oz piece	10
Cup cake-iced	1	6
Chocolate cookies	1	1 ½
Fig Newton	1	5
Ginger snaps	1	3
Oatmeal cookies	1	2
Sugar cookies	1	1 ½
Donut-glazed	1	6
Candy bar	1-1 ½ oz	2 ½
Fudge	1 oz square	4 ½
Hard candy	4 oz	20
Lifesavers	1	¼
Peanut brittle	1 oz	3 ½
Canned peaches	2 halves & 1 T syrup	3 ½
Ice cream sundae	1	7
Jelly/jam	1 T	10
Apple pie	1 slice-average	4
Cherry pie	1 slice	5
Cream pie	1 slice	4
Pumpkin pie	1 slice	3
Chocolate pudding	½	3
Brown sugar	1 T	3
Granulated sugar	1 T	3
Honey	1 T	3
Maple syrup	1 T	5
Molasses	1 T	3 ½
Icing	1 oz	5

Adapted from a table by the Makers of Calcident Tablets

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Dried fruits are a good source of minerals and a fair source of vitamins, but they may contain as much as 70 percent sugar. In the drying process, the water is removed to make the fruit a more concentrated source of sugar. Additionally, the change causes the starch in fruits to become sugar. Due to the change in consistency and high sugar content, dried fruits are considered to be cariogenic.



SELF CHECK #13

Circle the correct answer for each question:

1. Which are proper guidelines for cleaning the teeth of a preschooler?
 - a. Brush the teeth at least twice a day.
 - b. After age one, children can use fluoridated toothpaste.
 - c. Instruct children how to brush their own teeth at one year and allow them to do so.
 - d. Floss once a day.

2. Which sugar is the most cariogenic?
 - a. table sugar
 - b. natural sugar in fruit
 - c. honey
 - d. molasses
 - e. corn syrup
 - f. all of the above

3. 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

4. List at least 3 healthy habits for preventing dental problems.
 - a.
 - b.
 - c.

Nutrition Protocols for Preschool Children

The following are the counseling protocols for children at certification and follow-up visits.

Normal Child Protocol

Assessment at Certification Visits

- A. Complete a thorough nutrition assessment through measurements, Compass – Nutrition Interview and discussion in the following areas:
 - 1) Growth Measurements: Check the weight and standing height (or recumbent length, whichever is appropriate for age).
 - 2) Iron Status (Hemoglobin)
 - 3) Health/Medical History (as diagnosed by a physician and health concerns, allergies, disabilities, etc)
 - 4) Nutrition Practices
 - 5) Lifestyle (physical activity and substance use/abuse)
 - 6) Personal (culture, family, education, living situation and income)
- B. Assess immunization record for children less than 25 months of age and verbally assess immunization status for children over 25 months of age.
- C. Check if lead screening has been completed.
- D. Assign appropriate Nutrition Risk Factors (NRFs)

Counseling Points

- A. Explain reasons for WIC eligibility and their rights and responsibilities (WIC Program Rights and Responsibilities).
- B. Discuss child's growth and healthy weight.
- C. Prioritize nutrition concerns identified through the nutrition assessment. Counsel on only one or two points at each contact based on participant's NRFs and issues of highest concern.
- D. Developmental stages of child based on age (refer to *WIC Protocol Manual, Child section*).
- E. Explain that successful child feeding depends on a division of responsibility between parent and child.
 - 1. Parents are responsible for:
 - choosing what food comes into the house.
 - making and presenting meals
 - deciding timing and food at snacks.
 - 2. Children are responsible for:
 - how much is eaten.
 - whether food is eaten.
- F. Encourage, as appropriate:
 - 1. Variety of foods from each food group.
 - 2. Offer 3 meals and 2-3 healthy snacks per day.
 - 3. Offer child-sized portions; a serving is about 1 tablespoon of food per year of age (for each food group) or half that of an adults.
 - 4. Increased variety and texture of solid foods as child progresses toward greater self-feeding and acquires more teeth.
 - 5. Self-feeding, including use of a cup and spoon.
 - 6. Putting only formula, milk, or water in the bottle.

7. Total weaning from the bottle by 12 or 14 months and transition to a cup. Sippy cups and those that require the child to suck to get the liquid can promote tooth decay in the same manner as bottles do.
 8. Take care of child's teeth; wipe gums, brush teeth, schedule dental exams every 6 months.
 9. Physical activity/play
 10. Limit TV, video games, and computer time.
- G. Discourage, as appropriate:
1. Taking the bottle to bed.
 2. Sweet liquids such as Kool-Aid and soda pops.
 3. Skim or low fat milks before 2 years.
 4. Use of more than 3 cups (or one quart) of milk daily.
 5. More than 4-6 ounces of juice per day.
- H. Explain that the nutrient needs of young children are very high:
1. There is little room for high calorie, low nutrient-dense (low in vitamins and minerals) food on a daily basis.
 2. Discourage cakes, pies, chips, donuts, and other high sugar or high fat foods.
- I. Discourage exposing child to secondhand tobacco smoke which can cause breathing difficulties and more respiratory and ear infections.

Behavior Change Goal Setting

Help parent/caregiver prioritize nutrition concerns and identify 1-2 nutrition or feeding changes that the participant/parent is willing to make to improve the child's nutrition issues. Goals should be based on stage of change.

Referral

- A. Schedule with RD/RN within one month for high-risk nutrition risk factors as needed.
- B. Clinic or physician for well childcare, including immunizations and lead testing.
- C. Other community services as appropriate and available, such as Medicaid, SNAP, TANF, and parenting classes.

Document

Document referrals made, pamphlets provided, client comments/follow up on goals and referrals, assessment, counseling, behavior change goals and plan.

Follow up at Next Visit

A. Low-Risk Participants

1. Review behavior change goals from previous visit. Praise parent/caregiver and child on any attempted change.
2. Reinforce good principles of child nutrition including guidance that will help parents anticipate their child's developmental feeding and nutritional needs.
3. Follow up on referrals as appropriate.
4. Schedule with RD/RN within one month, as needed, for newly-identified high-risk nutrition risk factors.

B. High-Risk Participants

RD/RN must provide counseling following the *High and Moderate Risk Nutrition Management Protocols*. Participants newly identified as high risk must be scheduled with the RD/RN within one month of high-risk determination.

Nutrition Risk Factors for Preschool Children

To be eligible for the WIC Program, children must have a nutrition risk factor. These risk factors affect a child's nutrition needs and his/her food intake. For example, a child who takes a bottle to bed is considered at nutritional risk. This is because if the child lies flat in bed with the bottle, the milk or other liquid can come back up in his throat, enter the Eustachian tube, and cause an earache, which may lead to an infection. Except for water, prolonged contact with other liquids throughout the night may cause extensive decay of the teeth or baby bottle tooth decay.

A child with a nutritional risk has an increased chance of health problems and poor growth. Therefore, it is extremely important that we understand the nutritional risks of children and how to identify them.

There are some children who will be considered high risk. They are at greater risk than the others. An example of this is a child who is gaining weight too slowly. High risk children need in-depth nutrition counseling and education. All high-risk participants must be referred to the WIC RD/RN as outlined by the State's high-risk protocols.

The nutritional risks for children are explained on the following pages. They are labeled low or high risk according to the State WIC Program's risk protocols. Some background information and education tips are provided as guidelines for educator staff.

Nutrition Risk Factors List

Underweight

Code: 103B

Risk: High Risk - Requires a referral to the WIC RD/RN

Priority: 3, Objective Risk

Definition: Weight for length less than or equal to the 5th percentile (only for children <24 months of age). High risk and requires a referral to WIC RD/RN.

At Risk of Becoming Underweight

Code: 103A

Risk: Low Risk

Priority: 3, Objective Risk

Definition: Weight for length greater than the 5th percentile to less than or equal to the 10th percentile. (Only for children <24 months of age)

Background information and education suggestions:

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss with the caregiver factors that might be contributing to or directly causing the child to be underweight, such as illness.
- Let caregiver know it may be normal growth for the child if they have always tracked on the same percentiles.
- 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.
- Negotiate a plan that works toward healthier eating habits.

Section 3: Nutritional Concerns and Problems

- Find out what might or might not be helpful with carrying out the plan.
- 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.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Confirm the follow up.

Overweight

Code: 113

Risk: High Risk – Requires a referral to the RD/RN

Priority: 3

Definition: BMI-for-age greater than or equal to the 95th percentile (only for children \geq 24 months of age).

At Risk of Becoming Overweight

Code: 114

Risk: Low Risk

Priority: 3

Definition: BMI-for-age greater than the 85th percentile to less than the 95th percentile (only for children \geq 24 months of age) – or - if the mother was on WIC during her pregnancy risking is also based on the mother's pre-pregnancy BMI.

Background information and education suggestions:

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Determine if the child's nutrient needs are met, if intake is excessive or inadequate in any food group.
- Evaluate when and where the child eats and how the quantity the child eats is decided.
- Discuss child's activity patterns and screen time with caregiver.
- Assess the child's interest, participation, and opportunities to play.
- Assist in identifying short term goals to result in dietary and activity changes such as incorporating structure to meals or family physical activity daily.
- Listen to the caregiver to learn what they would like to work on.
- Negotiate a plan that works toward healthier eating habits.
- Find out what might or might not be helpful with carrying out the plan.
- 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.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Confirm the follow up.

Short Stature

Code: 121B

Risk: Low Risk

Priority: 3

Definition: Length-for-age less than or equal to the 5th percentile. When the child is <24 months of age, this risk factor is based on adjusted for gestational age, when applicable.

At Risk for Short Stature

Code: 121A

Risk: Low Risk

Priority: 3

Definition: Length-for-age greater than the 5th percentile to less than or equal to the 10th percentile. When the child is <24 months of age, this risk factor is based on adjusted for gestational age, when applicable.

Background information and education suggestions:

Short stature may be from normal variation or from health and nutritional deficiencies over a long period of time. The first years of life are marked by rapid growth in stature so nutritional deficiencies at that time can affect growth.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- 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.
- Staff may also ask the height of child's biological parents to consider as a variable that may help explain some short stature.

Inadequate of Potentially Inadequate Growth

Code: 135

Risk: Low Risk for Children unless they meet the definition for needing additional assessment by the RD/RN. If the child meets the definition for needing additional assessment, then the child must be marked High Risk.

Priority: 3

Definition: Any weight gain less than the expected weigh gain using the "Weight Gain Tables" using current weight and the most recent previous weight (as permitted by the tables).

Further assessment and counseling is required by the WIC RD/RN within 30 days when the following conditions are also present:

- Growth drops two channels in 6 months or less for weight for age, length/height for age, or weight for length/height, or BMI for age.
- Weight loss or no weight gain between two weights taken at least 3 months apart and not greater than 6 months.
- Both weight for age and length for age are less than the 5th percentile.

Background information and education suggestions:

Inappropriately low weight-for-height is an indication of recent under nutrition. WIC can provide supplemental foods, nutrition education, and health referrals to improve weight gain.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss with the caregiver factors that might be contributing to or directly causing the child to not be gaining weight adequately, such as illness, feeding issues, etc.
- Discuss general eating behaviors/issues which can lead to inadequate caloric or nutrient 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 that promote a healthy appetite such as regular meal/snack times, 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.
- 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.
- Once the plan has been developed to a comfort level for the caregiver, confirm the caregiver understands and agrees with the plan.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Confirm the follow up.

Low Birth Weight

Code: 141A

Risk: Low Risk

Priority: 3

Definition: Birth weight of 5½ pounds (2500 grams) or less (less than 24 months of age only).

Very Low Birth Weight

Code: 141B

Risk: Low Risk

Priority: 3

Definition: Birth weight of less than or equal to 3 pounds 5 ounces or less than or equal to 1500 grams (less than 24 months of age only).

Background information and education suggestions:

Children less than 24 months of age who were born with a low or very low birth weight often need extra nutrients to catch up on growth and development.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Dialogue 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.
- 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 find solution.
- Once the plan has been developed to a comfort level for the caregiver, confirm the caregiver understands and agrees with the plan.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Confirm the follow up

Low Hemoglobin\Low Hematocrit

Code: 201

Risk: Low Risk

Priority: 3

Definition: Refer to "Hematocrit or Hemoglobin Levels Indicating Risk" table.

Severely Low Hemoglobin\Low Hematocrit

Code: 201B

Risk: High Risk - Requires a referral to the WIC RD/RN

Priority: 3

Definition: Hemoglobin or Hematocrit levels low enough to necessitate a medical referral per the Standards for Severe Anemia table.

Background information and education suggestions:

The greatest risk to children with low hemoglobin\hematocrit (mild and severe) is a delay in mental and motor development. Children with a low hemoglobin\hematocrit are less successful on specific cognitive processes than children with adequate iron stores.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- 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 and snacking on or eating foods low in iron.
- Dialogue 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.

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- 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.
- Once the plan has been developed to a comfort level for the caregiver, confirm the caregiver understands and agrees with the plan.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Confirm the follow up

Elevated Blood Lead Levels

Code: 211

Risk: High Risk - Requires a referral to the WIC RD/RN

Priority: 3

Definition: Blood lead level of greater than or equal to 10 micrograms/deciliter within the past twelve months.

Background information and education suggestions:

Lead poisoning occurs in children primarily because of their hand-to-mouth activities. Young children, who are permitted to play in the dirt and habitually put their fingers/thumb in their mouth, should be instructed to wash their hands frequently. Additionally, living in a house that was built before 1950 can put a child at risk for lead poisoning. The effects of lead poisoning are debilitating. Adequate nutrient intake is known to decrease children's susceptibility to the toxic effects of lead.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Ensure the diet is high in calcium and iron and that regular meals and snacks are offered. Lead is better absorbed on an empty stomach.
- Staff can 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.
- Staff should also refer the caregiver to lead treatment programs, if appropriate.

Exposure to Environmental Smoke

Code: 904

Risk: Low Risk

Priority: 3

Definition: Exposure to smoke from tobacco products inside the home.

Background information and education suggestions:

Secondhand smoke contains more than 4,000 chemicals, including 50 cancer-causing poisons. Breathing secondhand smoke is harmful to a child's health. Children who breathe the poisons found in secondhand smoke are more likely to have asthma attacks, ear infections, allergies, wheezing and coughing spells, bronchitis and pneumonia. The poisons in secondhand smoke can also lead to childhood asthma, Sudden Infant Death Syndrome (SIDS) and behavior and learning problems in children.

- 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 hand smoke (i.e. smoke outside, don't smoke in the car, etc)
- Listen to the caregiver to learn what they would like to work on.

Medical Conditions

Code: (See following list)

Risk: High Risk

Priority: 3

Definition: Below is a list of medical conditions that may put a child at nutritional risk for the WIC Program. All medical conditions must be diagnosed by a physician or someone working under physician's orders (with a few exceptions).

Section 3: Nutritional Concerns and Problems

The WIC caregiver must bring in written documentation of the diagnosis or may report the diagnosis was by a physician. The exceptions for diagnosis are for the conditions of Lactose Intolerance, Eating Disorder, and Dental Problems which can be diagnosed as a risk factor by the WIC RD/RN.

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.

The list of medical conditions and their ASPENS codes include:

- 341 -Nutrient Deficiency Disease
- 342 -Gastrointestinal Disease
- 343 -Diabetes Mellitus
- 344 -Thyroid Disorder
- 345 -Hypertension and Prehypertension
- 346 -Renal Disease
- 347 -Cancer or Cancer treatment
- 348 -Central Nervous System Disorder
- 349 -Genetic/Congenital Disorder
- 351 -Inborn Error of Metabolism
- 352 -Infectious Disease (excluding RSV)
- 353 -Food Allergies
- 354 -Celiac Disease
- 355 -Lactose Intolerance
- 358 -Eating Disorder
- 359 -Major Surgery or Burns (excluding C-Section)
- 360 -Juvenile Rheumatoid Arthritis
- 360 -Lupus Erythematosus
- 360- -Cardio Respiratory Disease
- 360 -Heart Disease
- 360 -Cystic Fibrosis
- 360 -Asthma (requiring daily medication)
- 361 -Clinical Depression
- 362 -Developmental, Sensory, or Motor Delays
- 381 -Dental Problems – chronic
- 134 -Failure to Thrive
- 151 -Small for Gestational Age (children < 2 years of age)
- 382 -Fetal Alcohol Syndrome
- 336 -Fetal Growth Restriction (pregnant)
- 363 -Pre-diabetes

Background information and education suggestions:

Some of these medical conditions interfere with eating a large variety of foods such as a wheat allergy (which may prevent eating not only many foods from the grain group, but many other foods containing wheat). Other conditions change the need for nutrients or energy so that they are significantly above or below the normal requirement for the participant's age and condition. Examples of these conditions include severe burns, cancer, heart disease, and some kinds of cerebral palsy. Some medical conditions require special diets, varied timing for when to start solids, nutrition supplements, eating equipment, or medications. For example, a special diet is usually prescribed for diabetes and certain metabolic disorders. Participants with cystic fibrosis and celiac disease often use nutritional supplements and medications. Participants with severe cerebral palsy or cleft palate may use specially adapted eating utensils.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Ask questions to find out if the child requires a special diet.
- Staff may also need to inquire about the eating environment, food resources, and lifestyle as necessary.
- Staff can provide information specific to the child's needs and provide a tailored food package if appropriate.

Section 3: Nutritional Concerns and Problems

- For some conditions, paraprofessional staff may choose to collect information and refer the caregiver to the high-risk counselor to provide all the nutrition education and counseling.

Common Questions and Answers:

Q: *How does the division of responsibility work for children with special needs? Can elements of it be used with children who are ill and children who may not be growing well?*

A: **“The division of responsibility”**

Let’s review what this is. Parents and care providers are responsible for *what, when, and where* foods are provided. Children are responsible for *how much* and even *whether they eat or not*. Adults should choose nutritious food, maintain a structure for meals and snacks, and make eating times pleasant.

This works very well for healthy children who are learning new skills and showing their independence. Research shows children determine how much food they need and will over time eat a variety of food when the adult has offered a wide variety of nutritious food with planned meals and snacks. This approach can avoid many battles over food and allow the child to feel in control of and trust their own appetite.

Other Factors to Consider

However, for children who have a serious or frequent illness or who are not following the expected growth or developmental stages for eating, many other factors need to be considered. It is alarming if an infant or young child is not growing and the caregiver reports the child refuses food and has difficulty eating such as gagging, choking, or difficulty swallowing. It is inappropriate to tell this caregiver that her only responsibility is “to provide what, when, and where and if the child wants to eat, they will.” There may very well be a physical reason for why the child is having difficulty. This child must have follow up with the WIC RD/RN to assess additional information regarding feeding, growth history, and medical care. The child may need a referral to their physician. Additional feeding evaluations with an occupational or physical therapist may be needed.

If it is determined the child does have specific physical difficulties affecting the mechanics of eating, or medications affecting appetite, etc., the WIC RD/RN can provide specific ideas to increase calories and nutrients so each bite is power-packed. This helps the total calorie and nutrient intake to be close to the child’s needs even if the child only takes a few bites or sips. This helps the parent to relax and not feel the need to “force feed.”

Force Feeding

And, now what if this child with special needs refuses to take even these few bites? Scary! This situation can really frighten the caregiver and may concern the WIC staff. Let’s ask ourselves, “Should anyone force a child to eat, even if it is for the child’s best interest?” The answer is NO! It doesn’t work to force a child to eat. It will only make the child continue to refuse and may even make the child develop an aversion to eating or having anything around their mouth (tactile defensive). Forcing food interferes with the child’s progression with eating, enjoyment when eating, and willingness to experiment with new foods or textures.

Monitor Growth and Refer for Evaluation and Resources

It is important for WIC to monitor the growth and feeding issues for children with special needs and developmental delays. WIC must provide additional referrals if a child continues to show poor growth, have an inadequate diet, and the eating problems continue. Sometimes more aggressive intervention is needed with feeding evaluations, feeding clinics, physical therapy, tube feedings, special supplements, and additional metabolic and neurological testing. Referrals to the child’s physician, the Health Care Program for Children with Special Needs (HCP), and the Early Childhood Intervention Programs for children birth to three years of age can often help a family find the evaluation and resources needed.

Routinely feeding inappropriate beverages as the primary milk source

Code: 425A

Risk: Low Risk

Priority: 5

Definition:

- ✓ Non-fat or reduced-fat milks (between 12 and 24 months of age only) or sweetened condensed milk.
- ✓ Imitation or substitute milks (such as inadequate or unfortified rice- or soy-based beverages, non-dairy creamer), or other “homemade concoctions”.

Background information and education suggestions:

Goat’s milk, sheep’s milk, imitation milks and substitute milks do not contain nutrients in amounts appropriate as a primary milk source for children. Non-fat and reduced-fat milks are not recommended for use with 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 that increased volume be consumed to satisfy caloric 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.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child’s age group.
- Determine why the type of milk is being provided to the child if not appropriate.
- 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 mental 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
- If reduced fat milk has been recommended by a health care provider for a 12-24 month old child, this risk does not apply.

Routinely feeding a child any sugar containing fluids

Code: 425B

Risk: Low Risk

Priority: 5

Definition: Routinely providing soda, soft drinks, fruit juice, gelatin water, corn syrup solutions, sweetened tea, etc.

Background information and education suggestions:

Routine juice consumption at higher levels by children has been correlated with overweight, poor growth, and gastro-intestinal problems. Excessive juice consumption can also negatively affect the appetite for other foods. Consumption of foods high in sugar also increases the risk of early childhood caries and tooth decay.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Address caregiver concerns first. Perhaps the parent is feeding juice because the child won’t drink milk or water.
- Instruct parents to serve juice in a cup and limit consumption to 4-6 ounces per day.
- Excess juice may spoil the appetite for other foods and cause poor appetite, tooth decay, or diarrhea.
- Sports drinks are not needed; not made for children.
- Limit soda, Kool-aid, fruit drinks, punch.
- Do not offer tea. Tea has no nutritive value. Tannic acid in tea can stain a child’s teeth and interfere with iron absorption.
- Offer water between meals and snacks.

Routinely using nursing bottles, cups, or pacifiers improperly

Code: 425C

Risk: Low Risk

Priority: 5

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 and education suggestions:

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 the bottle/cup/pacifier persists, the child is at risk of toothaches, costly dental treatment, loss of primary teeth, and development lags on eating and chewing. As the child grows older if the inappropriate use of nursing bottles/cups/pacifiers continues, there is a risk to decay of the permanent teeth.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- 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.
- Assist the caregiver in developing a weaning plan that will work best for the home situation and the health of the child.
- Provide a handout if appropriate and desired.

Routinely using feeding practices that disregard the developmental needs or stages of the child.

Code: 425D

Risk: Low Risk

Priority: 5

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 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 finer 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 and education suggestions:

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 consistently attempt to control their children's food intake may give children few opportunities to learn to control their own food intake.

Section 3: Nutritional Concerns and Problems

This could result in inadequate or excessive food intake, future problems with food regulation, and problems with growth and nutritional status. Instead of using approaches of bribery, rigid control, struggles, or short-order cooking to manage eating, a healthier approach is for parents to provide nutritious, safe foods at regular meals and snacks, allowing children to decide how much, if any, they eat.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- 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.
- Offer ideas to change the family's approach for feeding their child to one where the child can take a more active role in feeding himself.
- Parents choose the foods provided, where and when; children decide how much.

Feeding foods to a child that could be contaminated with harmful microorganisms

Code: 425E

Risk: Low Risk

Priority: 5

Definition:

- ✓ 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 and education suggestions:

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 O157.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- Discuss healthy eating habits for children and recommend types of foods and quantities appropriate for the child's age group.
- Do not drink unpasteurized fruit or vegetables juices. Look on 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.
- Advise to consult health care provider if child has symptoms of food-borne illnesses.

Routinely feeding a diet very low in calories and/or essential nutrients

Code: 425F

Risk: Low Risk

Priority: 5

Definition:

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

Background information and education suggestions:

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.

- Complete a thorough nutrition assessment as outlined in normal child protocols.
- 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.
- Diets are not recommended for children.
- Encourage 3 meals and 2 to 3 health snacks per day.
- Negotiate a plan that works toward healthier habits for the entire family.
- Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
- Recommend the caregiver discuss child's dietary practices with MD.
- Confirm the follow up.

Feeding dietary supplements with potentially harmful consequences

Code: 425G

Risk: Low Risk

Priority: 5

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 and education suggestions:

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.

- Follow physician recommendations regarding vitamin and mineral supplements.
- WIC staff should ask caregivers who report 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.
- Suggest ideas of food sources that contain the nutrients the caregiver is seeking for the child in the interim.
- Avoid teas, remedies and supplements that are potentially harmful.

Routinely not providing dietary supplements recognized as essential by national public health policy when a child's diet alone cannot meet nutrient requirements

Code: 425H

Risk: Low Risk

Priority: 5

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 400IU of vitamin D per day through food or supplements

Background information and education suggestions:

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, live and vitamin D supplements.

- Ask the caregiver what type of water their child drinks (city, well, bottled, etc.)
- Each local agency should contact their health department to learn the fluoridation level in their municipal water supply and the geographical region it encompasses.
- 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” risk CH and 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 manufacture 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.

Note: *Continue to recommend the dairy intake documented on the Children’s Nutrition Guide.*

Routine ingestion of nonfood items (Pica)

Code: 425I

Risk: Low Risk

Priority: 5

Definition: Current or recent craving for or ingestion of nonfood items, such as ashes, carpet fibers, cigarettes or cigarette butts, clay, dust, foam rubber, paint chips, soil, or starch (laundry or cornstarch).

Background information and education suggestions:

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.

- WIC staff can assist caregivers of children with pica by collecting 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.

Dietary Risk Associated with Complementary Feeding Practices (For children < 2 years of age)

Code: 428

Risk: Low Risk

Priority: 5

Definition: A child 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, is at risk of inappropriate complementary feeding.

Failure to Meet Dietary Guidelines for Americans (For children > 2 years of age)

Code: 401

Risk: Low Risk

Priority: 5

Definition: Children who meet the eligibility requirements of income, categorical, and residency status may be presumed to be at nutritional risk based on failure to meet Dietary Guidelines for Americans.

For this criterion, failure to meet Dietary guidelines is defined as consuming fewer than the recommended number of servings from one or more of the basic food groups (grains, fruits, vegetables, milk products, and meat or beans) based on an individual’s estimated energy needs.

Section 3: Nutritional Concerns and Problems

NOTE: 428 and 401 should only be risked when no other risk factors apply to the child. The WIC computer system, Compass, will not allow the assignment 428 and 401 with other NRFs.

Background information and education suggestions:

Children with inadequate diets are at risk for nutrient deficiencies. Over time, chronic nutrient deficiencies can lead to serious deficiency diseases such as rickets (vitamin D deficiency) and anemia (iron deficiency). Less optimal nutrient intakes can impact an individual's long-term health outcomes. The child WIC food packages provide supplementary nutrients to improve diet quality.

- When educating caregivers of children with inadequate diets or nutritional intake, ask questions to determine if the family has access to an adequate food supply.
- Tailor the education based on what the caregiver shares with you regarding why the child consumes what they do.
 - For example, does the caregiver make food choices based on picky eating habits of the child?
 - Does the caregiver offer and consume a variety of foods?
 - Focus on healthy short term benefits of eating a balanced diet, emphasize eating foods rather than nutrients, build on positive eating behaviors, discuss how to make healthy food choices in a variety of settings, introduce concepts of a balanced diet, and also help parents to understand that children do not always eat the same amount every day.
 - Reassure their caregivers that children usually eat enough foods to meet their nutrient needs.
 - Negotiate a plan that works toward healthier eating habits.
 - Find out what might or might not be helpful with carrying out the plan.
 - 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.
 - Provide the caregiver with a related pamphlet to help reinforce the message if appropriate and desired.
 - Confirm the follow up.

Homelessness

Code: 801

Risk: Low Risk

Priority: 5

Definition: A child who lacks a fixed and regular night time residence; or whose primary night time 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.

Background information and education suggestions:

Providing effective and appropriate nutrition education to homeless persons requires that staff 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-terms education goals may not be appropriate.

Priority topics to be covered include:

how to use the WIC check, what are WIC allowable foods, and referral to other services.

Migrancy

Code: 802

Risk: Low Risk

Priority: 5

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.

Background information and education suggestions:

Data on health and/or nutritional status of migrants indicate significantly higher rates of malnutrition (anemia and underweight) and parasitic disease than the general U.S. population. Migrant farm workers often come from areas where their access to health care is poor. For children this limited access may mean delayed immunizations. Many migrants have participated in WIC Programs in other states where food delivery, allowable foods, and the design of the check are very different. Therefore, priority topics for education should include identifying affordable food resources in their community, how to use the WIC check, allowable WIC foods, and how to use the foods.

Primary Caregiver with Limited Ability to Make Feeding Decisions and/or Prepare Food

Code: 902

Risk: Low Risk

Priority: 5

Definition: Child whose primary caregiver is assessed to have a limited ability to make appropriate feeding decisions and/or prepare food. Examples may include individuals who are:

- ✓ mentally disabled/delayed and/or have a mental illness such as clinical depression (diagnosed by a physician or licensed psychologist);
- ✓ physically disabled to a degree that restricts or limits food preparation abilities;
- ✓ currently using or have a history of abusing alcohol or other drugs.

Background information and education suggestions:

Cognitive limitation in a caregiver has been identified as a risk factor for poor growth, as well as abuse and neglect. The mentally disabled caregiver may not have the parenting skills to promote beneficial feeding interactions with a child. Follow the normal child protocols to identify nutritional needs.

- Discuss with the caregiver ways the WIC Program can assist in meeting the participant's nutritional needs.
- WIC staff can 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.

Foster Care

Code: 903

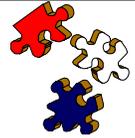
Risk: Low Risk

Priority: 5

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.

Background information and education suggestions:

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. WIC staff can 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. Follow the normal child protocols to identify nutritional needs and education topics.



SELF CHECK #14

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. Inadequate or Potentially Inadequate 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 weight-for-height are considered low risk.

Part 4: Case Studies

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

When you are finished reading these case studies, you will be given an opportunity to test your skills by doing the practical activity which involves an in-depth look at another fictitious case study. (Preschool Nutrition Module Post Test)

Case Study #1

Mary Ambrose is an active, energetic 2½-year-old child enrolled in your WIC clinic. Her height, weight, and hemoglobin are normal. Her mother complains that Mary is a very picky eater and will hardly eat anything. In particular, Mary will not eat vegetables. Mary's mother complains that the only way she can get Mary 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 Mary's mother includes:

- ✓ Reassure Mary's mother that Mary'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, Mary 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 Mary's mother that Mary's serving size is different from an adult's serving size.
- ✓ Encourage Mary's mother to *continue* to offer vegetables, prepare them in a variety of ways, and set an example for Mary 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 lowfat dips, or offer a vegetable main dish, such as broccoli cheese casserole.
- ✓ Mary's mother 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 Mary's mother:

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

This is NOT a good response:

- ⊗ Tell Mary's mother that because Mary is a preschooler she is growing very fast and she should be eating a lot every day.

NOTE: *If height and/or weight should begin to drop out of normal range, or she has other symptoms of illness, Mary may need to be checked by her health care provider to see why her appetite is so poor. Refer her to the RD/RN for further assessment.*

Case Study #2

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

The following are appropriate responses you could give Mrs. Pollard:

- ✓ Tell Mrs. Pollard that she did well by including at least two things in the meal she knew Sandra would eat, and that she didn't limit the menu to only those things Sandra likes.
- ✓ Reassure Mrs. Pollard that Sandra probably wasn't very hungry.
- ✓ Tell Mrs. Pollard that she did well by not offering to fix Sandra something else for dinner when she refused the hamburger and carrots.
- ✓ Encourage Sandra 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.

This is NOT a good response:

⊗ Tell Mrs. Pollard that she should have made Sandra sit at the table until she had eaten her hamburger and carrots, because otherwise her intake at the meal was very inadequate. Tell Mrs. Pollard to promise Sandra dessert if she eats her hamburger and carrots next time.

Case Study #3

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

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

This is NOT a good response:

⊗ Tell Jason's father that he should never keep sweets in the house.

Case Study #4

Mr. and Mrs. Eastman 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 30-month-old Jennifer is so active that she won't sit down at the table and ends up missing a lot of meals.

The education points you could discuss with the Eastmans 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 Jennifer 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 Jennifer to settle down.
- ✓ Help the parents determine if Jennifer is getting snacks that are being served too close to mealtime.

These are NOT good responses:

- ⓧ Jennifer must be hyperactive since she won't sit at the table and should be seen by their family doctor.
- ⓧ Jennifer's hyperactivity must be caused by too many additives in her food and she should be put on a strict diet.



Congratulations!

You have just finished your study of Preschool Child Nutrition.
You have certainly learned a lot of facts in this module!
We hope you will use this information in a positive way
to help your own children and your WIC participants.

You are now ready to complete the Preschool Nutrition Post Test.

Preschool Nutrition Module Self-Check Answers

Self-Check #1

1. You should have checked all four phrases.
2. True
3. False—Food habits are learned, not inherited.
4. True
5. True
6. True
7. a, c, e
8. a, b, c
9. b
10. a, b

Self-Check #2

1. Any two of the following: Calcium, Protein, Riboflavin, Vitamin B₁₂, Vitamin D, Zinc two
2. Any two of the following: yogurt, cheese, cottage cheese, custard, pudding, nonfat dry or evaporated whole milk (used in casseroles, soups, or alone)
3. Smaller or half the size

Self-Check #3

1. 2-4
2. peanut butter, dried beans and peas
3. Any two of the following: protein, zinc, iron, niacin (there are other acceptable answers not covered in this module).
4. Any two of the following: peanut butter, tuna, meatloaf, dried beans, hamburgers, chicken.

Self-Check #4

1. You should have circled Iron, B Vitamins, and Energy (Calories).
2. Fiber regulates digestion and elimination.
3. 3-5 ounces of grain products are needed daily for 1 to 5 year olds.
4. Any of the following: cereal, pancakes, bread, tortillas or crackers

Self-Check #5

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:
 - a) cooked,
 - b) pureed,
 - c) mashed,
 - d) finely chopped, or
 - e) diced;
 - f) cut hot dogs into two or more lengthwise pieces;
 - g) moisten smooth peanut butter with juice or applesauce;
 - h) cut round-shaped foods such as raw carrots and grapes into small pieces.

Self-Check #5 (Continued)

4. 1 ½ cups
5. False. Parents should not over-react 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

Self-Check #6

1. You should have checked (V): bite-sized pieces of food; bright-colored foods; and crisp vegetables.
2. False. Caregivers should offer no more than 4-8 ounces a day.
3. False. Sports drinks are inappropriate for young children.

Self-Check #7

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.

Self-Check #8

1. True. The dessert "habit" is hard to break.
2. False. Desserts should not be used to bribe or reward.
3. True. If a child's weight for height are within the normal range, and the child generally eats the foods specified in the food guide then there are probably enough calories in his/her diet.
4. Any two of the following: fruit, frozen fruit juice on a stick, custard, pudding, ice cream, ice milk, frozen yogurt, fruit-and-nut breads, muffins, homemade cookies, e.g., oatmeal cookies.
5. Any three of the following: grains, legumes, soy products, meat analogs, nuts, and seeds.

Self-Check #9

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

Self-Check #10

1. Common dietary causes of iron deficiency anemia are:
 - a) Excessive milk intake and consequently a low intake of solid foods
 - b) Low intake of iron-rich foods (and therefore a high intake of iron-poor foods).
2.
 - a) Limit daily milk intake to a maximum of 24 ounces.
 - b) Limit iron-poor foods (soft drinks, candy, pastries, 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.
 - d)

Self-Check #11

If you checked statements 1 and 4 you are correct! The primary teeth erupt when an infant is usually around 4 to 8 months old, but they begin to develop before birth. Besides enabling a child to chew solid food, the primary teeth also hold the shape of the mouth so that the permanent teeth have space to come in correctly and help the child's speech.

Self-Check #12

1. Dental caries or cavities and periodontal or gum disease are the two types of dental problems.
2. Colonies of bacteria (otherwise known as plaque) stick to the teeth.
3. Plaque + sugar = acid, which attacks the tooth (enamel) causing cavities (infection).
4. Plaque also acts as an irritant to the gums causing bleeding and swelling which may lead to the formation of pockets where infection can occur.

Self-Check #13

1. a, d
2. If you circled "**all of the above**" you are correct. Remember that all sugars are cariogenic.
3. Again, 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.
4. Any 3 listed under Healthy Habits.

Self-Check #14

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