

PRINCIPLES OF CAREGIVING

FUNDAMENTALS

SECTION ELEVEN - NUTRITION & FOOD PREPARATION

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OBJECTIVES:

1. Describe and explain basic concepts of nutrition and hydration.
2. Explain the importance of observing consumer rights in regard to food preferences.
3. Describe basic principles of menu planning and explain how to read food labels.
4. Identify and explain food safety techniques for preparing and storing food.
5. Describe special diets.

KEY TERMS:

| | |
|-------------------|-----------|
| Calorie | Nutrients |
| Fluid intake | Portion |
| Foodborne illness | Serving |
| Food label | Thaw rule |
| Hydration | |



A. BASIC NUTRITION

1. Role and Importance of Nutrition

If you have good eating habits and are well nourished, you will have all the nutrients you need for energy and good health. The eating habits of a lifetime can have a great effect on an older person. Many health problems common among older people are related to lifelong diet patterns. These include heart disease, diabetes, stroke, high blood pressure, osteoporosis (thinning bones), atherosclerosis (fatty deposits in blood vessels), and digestive problems. Good nutrition is important in the care of ill and frail persons. **It speeds up healing, recovery from illness, and helps maintain health.**

Consumers have individual preferences for certain foods. They may need a certain diet. Some have food allergies, and others may need more time chewing the food. Be observant. Ask questions, and be respectful of the consumer's wishes. Special diets will be discussed later in this chapter.

2. Essential Nutrients

| Nutrients | Food Sources | Body Uses Them For: |
|---------------|---|---|
| Proteins | Meat, poultry, fish, eggs, cheese, milk, peas, nuts | Growth and strength, cell repair, builds bones and body tissue |
| Carbohydrates | Breads, cereals, rice, pasta, potatoes, corn, fruits, sugars, flour | Energy |
| Fats | Butter, margarine, oil, ice cream, dressings, meats, nuts, mayonnaise | Energy, protection of body organs, nerves, cells |
| Vitamins | Fruits and Vegetables, milk, liver, cereals, breads | Growth, healing, resistance to sickness healthy skin, eyes, teeth, gums, hair and bones |
| Minerals | Milk, cheese, yogurt, green leafy vegetables, meat, eggs, breads, cereals | Bones teeth, blood, nerves, muscles |
| Water | Water and other liquids | More than half of the human body is made up of water. Water carries nutrients to the cells, flushes wastes from the cells, and regulates body temperature |
| Fiber | Raw fruits and vegetables, whole grain cereals | Digestion, getting rid of wastes |

3. Hydration

Water is important because it prevents dehydration, reduces stress on the kidneys, and helps maintain regular bowel functions.

An adequate amount of daily water intake is by far the most important of all the dietary requirements for the body and is essential to life. A person may live for several weeks without food, but can only survive for a few days without water. That is because our bodies are 55% to 75% water, and we lose about 10 cups of water each day through sweating, going to the bathroom, and breathing.

The amount of water we lose each day increases when the temperature is higher.

Increased fluid intake is required for people who:

- Experience heavy sweating/perspiration
- Use tranquilizers, anti-convulsants, or some behavioral health medications
- Experience heavy drooling
- Experience Urinary Tract Infections (kidney and bladder)

Dehydration: signs and symptoms

- Dry skin, especially around mouth/lips and mucous membranes
- Less skin flexibility/elasticity
- Dark, concentrated urine with decreased urination
- Less/absent sweating
- Leads to electrolyte imbalance, delirium, even death if untreated

To encourage an individual to drink fluids:

- Have water within reach, encourage intake
- Use other fluids as well, such as shakes, fruit drinks, soups, puddings, and gelatins
- Avoid caffeine and sugar in fluids, if possible, since caffeine and sugar are dehydrating to the body. If you drink a lot of coffee, cola (even diet cola), and other similar liquids, you need to drink more water than the average person.

People who are on diuretics (“water pills”) often do not like to drink water. They feel it makes them have to go to the bathroom more frequently. However, not drinking enough fluids will send a feedback message to retain fluids. This makes the condition being treated even worse. Diuretics are often used to treat cardiovascular problems.

B. MENU PLANNING

1. Consumer Rights

Consumer rights dictate that the consumer has the choice of which foods he/she prefers to eat and choice of meal times. However, what happens if the consumer wants to eat something that is not on their prescribed diet?

The DCW should try to negotiate with the consumer in order to follow the diet. For example, if the consumer is diabetic and is demanding chocolate cake, maybe the consumer can have a small piece and freeze the rest. If problems still persist or if you have any questions, contact your supervisor.

General Guidelines:

- a. **Note any food allergies. Some food allergies can cause anaphylactic shock which can quickly lead to death.**
- b. **Note any special diet orders** and plan and prepare the meal according to the dietary restrictions
- c. Make sure client uses good oral hygiene and assist if needed. Poor dental hygiene can lead to inflammation of the gums and sensitive teeth causing pain and difficulty with chewing. It also can decrease the person's appetite.
- d. Make sure dental appliances such as dentures and bridges fit and are used properly.

Cultural and Religious Issues:

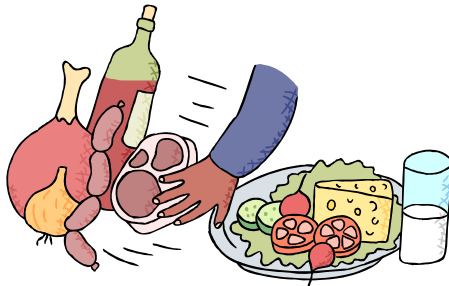
Most people have food they like and foods they don't like. Some food preferences relate to what each person ate while growing up. Cultural and religious traditions also can influence what foods people prefer to eat or avoid. For example, people of the Muslim faith do not eat pork or in many Asian cultures rice is included with most meals. **It's best to ask and not assume anything about what someone wants to eat.** Typically, the DCW can respond sensibly to preferences, unless whole classes of important foods are ruled out. If you have any questions, talk to your supervisor.

2. Food Groups

- **Breads and cereals** are a good source of fiber, vitamins, and minerals. Whole grain products such as whole wheat bread, oatmeal, and brown rice are good choices. Look for dry breakfast cereals that are low in sugar
- **Fruits and vegetables** are good sources of fiber and are generally low in fat. Include dark leafy greens and yellow or orange vegetables in the daily diet as these are rich in vitamins, minerals, and cancer-preventing chemicals. Citrus fruits/juices such as oranges, grapefruits, and tangerines are rich sources of vitamin C.

Section Eleven: Nutrition and Food Preparation

- **Proteins, animal** (beef, pork, poultry, fish, and eggs) and/or **vegetable proteins** (beans, lentils, nuts, and seeds) need to be included in the diet daily. Look for lean meats and trim off visible fat.
- **Dairy products** are good sources of calcium and protein. Unless being underweight is a concern, choose fat free milk and low-fat cheese. If milk causes diarrhea or gas, yogurt or cheese may be acceptable or try enzyme-treated milk (Lactaid)
- **Fats and sweets** should be limited to small amounts.



3. Food Labels

Most packaged food has a food label. It lists the calories per serving and specific nutrients. An example of a food label is on the next page. Look at the sample labels as you read the following explanations.

- Ingredients are listed in descending order by volume or weight (most to least).
- The number of calories in a serving and the calories from fat are listed.
- Vitamins and minerals are only listed if there is enough in the food to make it significant.
- Percent Daily Values are based on a 2,000 calorie diet. Many people are on lower calorie diets.
- Total fat, cholesterol, sodium, total carbohydrate and dietary fiber are given both as numbers in grams and percentages of Daily Value.
- You may also want to compare the labels to see which foods are high in fat, good sources of vitamin C, are any high in cholesterol? High in fat? Which has the lowest sugar? Etc.

The recommendations for the daily intake of total fat, saturated fat, cholesterol, and sodium are:

- total fat: less than 65 grams or 30% of caloric intake
- saturated fat: less than 20 grams
- cholesterol: less than 300 mg
- sodium: less than 2,400 mg

The two labels on the next page are very similar. The one on the left is for reduced fat milk; the one on the right is for non-fat milk. Study the circled numbers to see the difference.

Section Eleven: Nutrition and Food Preparation

Reduced Fat Milk (2%)

| Nutrition Facts | |
|--|-------------------------|
| Serving Size 1 cup (236ml) | |
| Servings Per Container 1 | |
| Amount Per Serving | |
| Calories 120 | Calories from Fat 45 |
| % Daily Value* | |
| Total Fat 5g | 8% |
| Saturated Fat 3g | 15% |
| Trans Fat 0g | |
| Cholesterol 20mg | 7% |
| Sodium 120mg | 5% |
| Total Carbohydrate 11g | 4% |
| Dietary Fiber 0g | 0% |
| Sugars 11g | |
| Protein 9g | 17% |
| Vitamin A 10% | Vitamin C 4% |
| Calcium 30% | Iron 0% • Vitamin D 25% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. | |

Nonfat Milk

| Nutrition Facts | |
|--|-------------------------|
| Serving Size 1 cup (236ml) | |
| Servings Per Container 1 | |
| Amount Per Serving | |
| Calories 80 | Calories from Fat 0 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| Trans Fat 0g | |
| Cholesterol Less than 5mg | 0% |
| Sodium 120mg | 5% |
| Total Carbohydrate 11g | 4% |
| Dietary Fiber 0g | 0% |
| Sugars 11g | |
| Protein 9g | 17% |
| Vitamin A 10% | Vitamin C 4% |
| Calcium 30% | Iron 0% • Vitamin D 25% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. | |

Note that the amount of nutrients and protein per serving stays the same but the calories, fat percentage, and cholesterol is decreased with the Nonfat Milk

(Adapted from "How to Understand and Use the Nutrition Facts Label", U.S. Food and Drug Administration, <http://www.cfsan.fda.gov/~dms/foodlab.html>.)

4. Portions and Servings

For many people, a portion is the amount of food they can put on a plate. Over time, people get used to certain portion sizes. Some eat large portions, others eat small portions. In nutrition, it is important to think of portions in a standard size. These are called **servings**. If a meal plan suggests 2 servings of vegetables, then that could be 1 cup of raw leafy vegetables plus ½ cup of other chopped vegetable. Serving sizes are not related to a person's hunger or appetite. A serving is a standard amount of food.

Examples of various food serving sizes are listed below. If you eat a larger portion, count it as more than one serving. For example, eating a whole bagel from a bakery (usually a large bagel) would equal four servings of bread.

Section Eleven: Nutrition and Food Preparation

Milk, Yogurt, and Cheese

| | |
|------------------------------|---------------------------------|
| 1 cup of milk or yogurt | 1 ½ ounces of natural cheese |
| 2 ounces of processed cheese | 1 ½ cups of ice cream, ice milk |
| 2 cups cottage cheese | |

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

| | |
|--|---------------------------|
| 2-3 ounces of cooked lean meat, poultry, or fish | ½ cup of cooked dry beans |
| 2 Tablespoons of peanut butter | 1/3 cup of nuts |
| 2 slices of bologna (1oz) | 1 egg |

Vegetables

| | |
|-------------------------------|---|
| 1 cup of raw leafy vegetables | ½ cup other vegetables, cooked or chopped raw |
| ¾ cup of vegetable juice | 10 French fries |

Fruit

| | |
|---|----------------------|
| 1 medium apple, banana, orange | ¾ cup of fruit juice |
| ½ cup of chopped, cooked, or canned fruit | ¼ whole avocado |

Bread, Cereal, Rice, and Pasta

| | | |
|-------------------------------------|--------------------------------|-----------------|
| 1 slice of bread | 1 ounce of ready-to-eat cereal | ½ med. Doughnut |
| 4 sm. Crackers | ½ small bagel | 4" pancake |
| ½ cup cooked cereal, rice, or pasta | | |

C. FOOD SAFETY

1. Foodborne Illness

A foodborne illness is a sickness caused by eating contaminated food, sometimes called food poisoning. The very young and the very old are at increased risk for food borne illnesses for different reasons:

- The immune system is not as efficient.
- Stomach acid decreases with aging.
- Underlying conditions such as diabetes, cancer treatments, kidney disease, HIV/AIDS, and a history of an organ transplant increase the risk for illness.



To reduce the risk of illness from bacteria in food, individuals who are at greatest risk are advised not to eat:

- Raw fin fish and shellfish, including oysters, clams, mussels, and scallops.
- Raw or unpasteurized milk or cheese, and soft cheese (Brie, Camembert).
- Raw or lightly cooked egg or egg products including salad dressings, cookie or cake batter, sauces, and beverages such as eggnog (Foods made from commercially pasteurized eggs are safe to eat).
- Raw meat or poultry.
- Raw sprouts (alfalfa, clover, and radish).
- Unpasteurized or untreated fruit or vegetable juice. (These juices will carry a warning.)

Recognizing Food borne illness:

- a. The bacteria in unsafe food are hard to detect. Often the individual cannot see, smell or taste the bacteria.
- b. Food borne bacteria may take 20 minutes to six weeks to make you ill depending on the type of bacteria.
- c. Symptoms of food borne illness may be confused with other types of illness, but are usually nausea, vomiting, diarrhea, or a fever, headache, and body aches.

2. Food Preparation

a. Cleaning surfaces, dishes and equipment

- Use only clean utensils for tasting food.
- Thoroughly clean all dishes, utensils and work surfaces with soap and water after each use.
- Use bleach solution (1:10) to clean cutting boards, knives, counter tops, sink, meat grinders, blenders and can openers.
- To sanitize dishes and utensils water must be **at least 170F**.
- If a dishwasher is used, do not open the door to stop the dry cycle. The dry cycle is an effective sanitizer.
- Sponges used to clean the kitchen where food is prepared should NOT be used to clean up bathroom-type spills. Dirty looking sponges should not be used to wash dishes or clean food preparation areas.
- Sponges can be disinfected by soaking in a bleach solution (1:10) for five minutes (any longer and the sponges may disintegrate).
- Clean the inside of the refrigerator with soap and water to control molds.

b. Washing and preparing food

Wash your hands in soapy water before preparing food.

If possible, have two cutting boards; one for raw meat, poultry and fish, and the other for vegetable and cooked foods. A hard nonporous (e.g., acrylic) cutting board is better than a wooden one for preventing the spread of bacteria. Thoroughly wash boards with soap and water and rinse with diluted bleach solution.

Preparing vegetables

- Fresh vegetables should be eaten soon after being purchased.
- Vegetables should be washed in running water, but not left to soak.
- Some veggies such as potatoes need scrubbing to remove the dirt. It is better not to peel such vegetables, because nutritional value will be lost.
- Avoid boiling vegetables because nutrients will end up in the water. Instead you can microwave, steam, or stir-fry vegetables in water or a little bit of oil.

- Frying vegetables (or any other items) can improve taste, but excess oil adds calories.

c. Defrosting meat

There are three safe methods to thaw frozen meat (the “Thaw Law”):

- Leave it in the refrigerator.
- Place the frozen food in a watertight plastic bag under cold water and change the water often.
- Microwave the meat. Follow the manufacturer’s directions.

Caution: It is NOT a safe practice to thaw meat, poultry or fish on the kitchen counter. Bacteria can multiply rapidly at room temperature.

3. Storage

a. Two-hour rule

It is important to chill foods. Did You Know? At room temperature, bacteria in food can double every 20 minutes.

So remember the 2-hour rule. *Discard (throw away) any perishable foods left at room temperature longer than 2 hours.* When temperatures are above 90°F, discard food after 1 hour!

Therefore, the DCW should store leftovers in the refrigerator or freezer immediately after the meal.

Storing meat-- Store fresh or thawed raw meat, poultry and fish in the refrigerator. Store cooked meat or poultry products in the freezer if you want to keep them longer than a few days.

Caution: Do not rely on reheating to make leftovers safe. Staph bacteria produce a toxin that is not destroyed by heating.

Canned food-- If a commercially canned food shows any sign of spoilage—bulging can, leakage, spurting liquid, off-odor, or mold—throw it out. **DO NOT TASTE IT.**

Remember: Leftovers need to be tossed after three days.

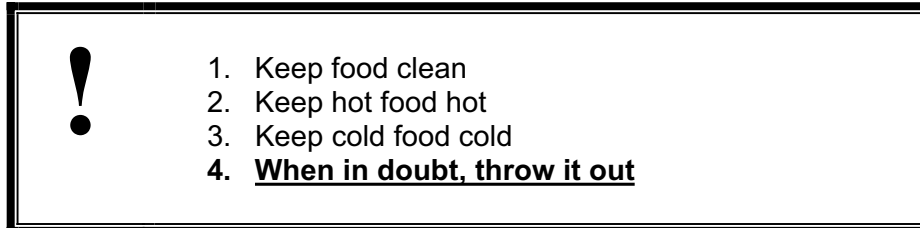
b. Refrigerator and freezer temperatures

- Refrigerator temperatures should be kept at 40 degrees or less
- Freezer temperatures should be kept at 0 degrees or less.
- Check temperatures with a gauge. Don’t rely on the refrigerator dials.

c. Open boxes

Insect and Rodent Droppings and Dirt

- Avoid storing foods in cabinets that are under sinks, drains or water pipes.
- Wash the tops of cans and jars with soap and water before opening
- All open containers should be stored in a dated closable container within four hours of opening, stored a minimum of four inches off the floor



D. SPECIAL NEEDS AND DIETS

1. General Guidelines

Use fresh foods. Fresh foods have more flavor, color and texture than canned or frozen foods. Additionally, processed, packaged foods often have extra salt, sugar, and/or fat, and may have decreased amounts of vitamins and minerals.

Prepare cut, chopped, or pureed foods for special diets from the regular menu. In general, a well-balanced meal can be served to all persons including those on diabetic, low-salt, low-fat or other similar special diets.

2. Low-fat/Low-salt – A Heart Healthy Diet

Every Day You Should Have:

- 8 to 10 percent of total calories from saturated fat
- 30 percent or less of total calories from fat
- Less than 300 milligrams (mg) of dietary cholesterol
- No more than 2400 milligrams (mg) of sodium



To reduce sodium/salt intake in your diet:

- Choose low- or reduced-sodium, or no-salt-added versions of foods and condiments when available.
- Choose fresh, frozen, or canned (low-sodium or no-salt-added) vegetables.
- Use fresh poultry, fish, and lean meat, rather than canned or processed types.
- Use spices instead of salt. In cooking and at the table, flavor foods with herbs, spices, lemon, lime, vinegar, or salt-free seasoning blends.

3. Diabetic Diet

There have been many changes recently in diabetic diets. Current diabetic management includes counting carbohydrates. Concentrated sugars can be eaten as long as their portion size and frequency are limited. Specific dietary guidelines should be obtained from the consumer's physician. Ask your supervisor if dietary guidelines are available for the person.

4. Modified Diet

You can change the texture, or puree foods to accommodate an individual's problems chewing or swallowing. Sometimes it helps just to cut the food into small bite sizes.

For individuals who have had a stroke:

- Sometimes a thickener is added to liquids to reduce choking on liquids
- Encourage chewing on the unaffected side of his/her mouth

E. TIPS FOR MENUS AND SHOPPING

Weekly planning saves time for the DCW and saves money for the consumer. There is not as much impulse buying. Planning menus with the consumer and the family gives the individuals control over food preferences and fosters independence.

1. Organize the list into groups found in the same area of the store, such as meat, dairy, etc.
2. Check prices in the newspaper and clip coupons-- read labels and compare store brands
3. Don't buy large quantities if they cannot be stored, handled or used before expiration date.
4. Do not shop sale items if you don't normally use item and cannot store it. **A bargain you can't use is no bargain.**
5. Buy easy-to-prepare foods for times when you are not there to cook. Note special diets.
6. Consider buying smaller portions in the deli instead of preparing large quantities and throwing it away.
7. Consider freezing bread and cheese and take out only the amount that is needed.
8. Eggs have the same nutritional content whether they are jumbo or small, brown or white.
9. Cheaper cuts of meat have same nutritional content—ground beef, for example.
10. When buying poultry, compare prices on parts or whole chicken and decide savings based on how it will be prepared.
11. Consider how much freezer space the consumer has and buy larger quantities to freeze. Wrap pieces or portions individually in freezer wrap before freezing. Be sure to label and date items.
12. Make sure meats and fish are fresh. Look at the color and smell the item.
13. Don't buy damaged canned items.
14. Purchase perishable foods last. Don't let ice cream melt while shopping

F. FOOD LABEL ACTIVITY



Directions: Divide into small groups. Each group will be given a food label. Read the label and answer the following questions. Be prepared to share information from the food label with the class.

Name of Food: _____

1. How many servings does your package contain?

How many calories per serving?

When eating this food, do you think a person normally eats more or less than the serving size?

2. What is the main ingredient of your food?

How do you know?

3. Would you serve this food to someone who is trying to:
Reduce his or her cholesterol? Why or why not?

Increase fiber? Why or why not?

Limit salt (sodium)? Why or why not?

4. What food group or groups does this food belong to on the Food Guide Pyramid?

5. Is this food a good source of any vitamins and minerals? If yes, list them:

Limit salt (sodium)? Why or why not?

(Used with permission from: California Department of Developmental Services Direct Care Worker Training)