



Module 8

Nutrition and Food Handling

Lesson 1

Nutrition

Lesson 2

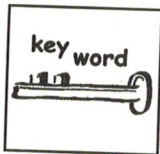
Food Handling

Personal Care Skills Covered

Assisting a Client to Eat



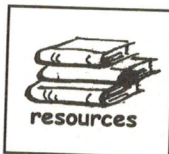
Icons to help guide you



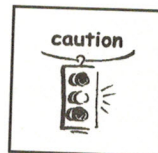
A word to remember



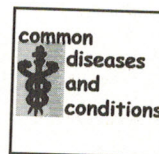
Something to report



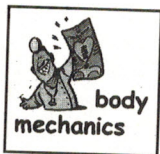
See the Resource Directory



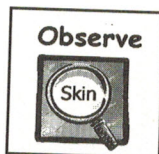
Beware or be careful



See the Common Diseases section



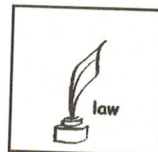
Use proper body mechanics



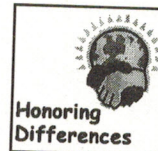
Observe skin



Classroom exercise



Something in the law



Be alert and respectful

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Nutrition



Nutrition Basics

Assisting a Client with Eating

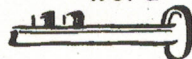
Special Diets

Water, the Forgotten Nutrient

What you will learn in this module:

1. The basics of nutrition.
2. How to read food labels and use them to make healthy food choices for shopping and meal planning.
3. Signs of poor nutrition and when to report.
4. How to assist a client with eating.
5. Special diets a client may require.
6. The importance of knowing whether a client has any food allergies.
7. The importance of hydration to a client's health.

key word



Definition

Allergy

High sensitivity and reaction to certain substances (e.g. certain foods, pollen, bee sting)

Dehydration

Not enough fluid in the body

Dysphagia

Difficulty swallowing

Nutrition

The body's process of taking in and using food

Nutrients

Any substance plants or animals need to live and grow

As a caregiver, your role in meal preparation is to understand the basics of good **nutrition** and encourage your client to make healthy food choices. This can include helping a client:

- plan meals and shop;
- prepare or assist a client in fixing a meal;
- clean up after meals.

Healthy food choices are especially critical for a client. Good nutrition can:

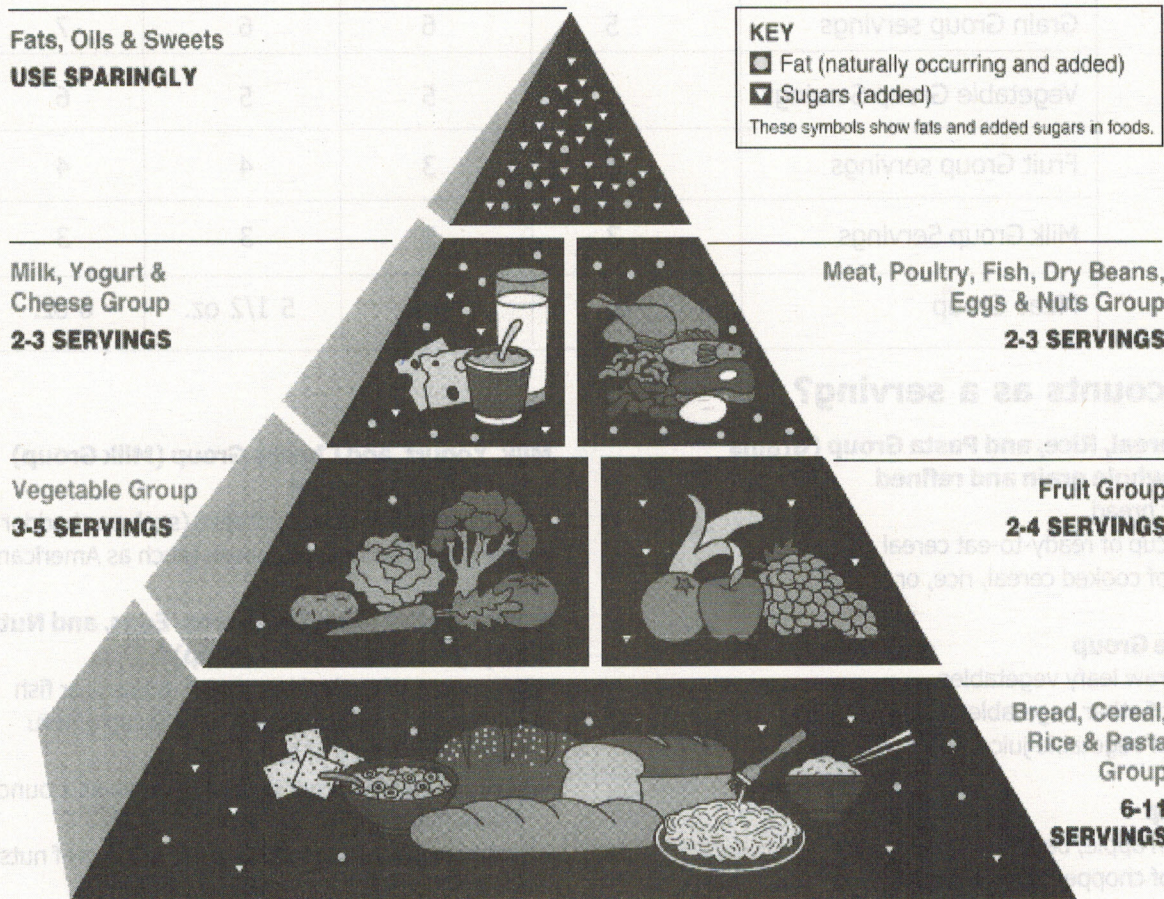
- increase overall health and energy - prolonging independence;
- prevent or control certain diseases (e.g. diabetes, osteoporosis, heart disease, high blood pressure, cancer, tooth decay);
- reduce bone fractures.

A healthy diet means choosing a variety of healthy foods and setting limits to how much and how often less healthy foods are eaten. The United States Department of Agriculture (USDA) Food Pyramid shows with pictures the types of food (groups) people should eat and in what quantities each day.

Nutrition Basics



The Food Pyramid (Pyramid)



The Pyramid shows a range of servings for each food group. The number of servings needed depends on a person's age, sex, weight, and how active he/she is. By knowing a client's recommended calorie intake and activity level, you can assist the client to figure out approximately how many servings of each food group he/she needs daily. *

		Activity Level		
	Age	Sedentary	Moderately Active	Active
Female	19-30	2000	2000-2200	2400
	31-50	1800	2000	2200
	51+	1600	1800	2000-2200
Male	19-30	2400	2600-2800	3000
	31-50	2200	2400-2600	2800-3000
	51+	2000	2200-2400	2400-2800

Calories	About 1,600	About 1,800	About 2,000	About 2,200
Grain Group servings	5	6	6	7
Vegetable Group Servings	4	5	5	6
Fruit Group servings	3	3	4	4
Milk Group Servings	3	3	3	3
Meat Group	5 oz.	5 oz.	5 1/2 oz.	6 oz.

What counts as a serving?

Bread, Cereal, Rice, and Pasta Group (Grains Group) - whole grain and refined

- 1 slice of bread
- About 1 cup of ready-to-eat cereal
- 1/2 cup of cooked cereal, rice, or pasta

Vegetable Group

- 1 cup of raw leafy vegetables
- 1/2 cup of other vegetables - cooked or raw
- 3/4 cup of vegetable juice

Fruit Group

- 1 medium apple, banana, orange, pear
- 1/2 cup of chopped, cooked, or canned fruit
- 3/4 cup of fruit juice

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Milk, Yogurt, and Cheese Group (Milk Group)

- 1 cup of milk or yogurt
- 1 1/2 ounces of natural cheese (such as cheddar)
- 2 ounces of processed cheese (such as American)

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

- 2-3 ounces of cooked lean meat, poultry, or fish
- 1/2 cup of cooked dry beans or 1/2 cup of tofu counts as 1 ounce of lean meat
- 2 1/2 ounce soyburger or 1 egg counts as 1 ounce of lean meat
- 2 tablespoons of peanut butter or 1/3 cup of nuts counts as 1 ounce of meat

*Information based on the the USDA and US Department of Health and Human Services 2005 Dietary Guidelines for Americans

Four basic nutrition guidelines help provide the **nutrients** needed for good health without getting too many calories, saturated fat, cholesterol, sugar, or sodium.

To make healthy food choices, most people should eat foods:

Low in ... Saturated Fat
Salt
Empty Calories

High in ... Fiber

Four Basic Nutrition Guidelines



Fats help the body absorb certain vitamins, provide energy, and protect the body and organs from injury. While fat is important, we only need a small amount. Over time, too much fat leads to weight gain. Certain types of fat can increase the risk of heart problems, stroke, or complications in people with diabetes.



Fats

As a caregiver, you need to be aware of the:

- different types of fat and which is better for you and your client;
- amount and type of fat to use in healthy cooking;
- importance of choosing and preparing foods lower in saturated fat.

Unhealthy fats

Saturated fat, trans fat, and foods already high in cholesterol (liver, other organ meats, and egg yolks) are more likely to cause problems. A diet high in these types of fats can raise blood cholesterol levels and should be eaten in small amounts.

Saturated fats are solid at room temperature and found mostly in foods from animals and a few plants. Trans fats are created when liquid vegetable fats or oils are hardened.

Watch for the word hydrogenated to help spot trans fats.

Where Fats are Found

Saturated fats from animals

- meat
- lard
- the skin and fat of chicken
- butter, cream, milk, cheeses, ice cream



Saturated fats from plants

- coconut oil
- palm oil



Trans fats are found in

- vegetable shortenings
- some margarines
- crackers
- cookies and other commercial bakery products
- snack foods



Healthier fats

Unsaturated fats (oils) do not raise blood cholesterol. Unsaturated fats are normally plant oils that are liquid at room temperature including:

- canola, olive, peanut, corn, soybean, and safflower oil;
- sesame and sunflower seeds and oils.



Unsaturated fats can also be found in most nuts, olives, and fatty fish like salmon or tuna. Use unsaturated fats instead of saturated fats - but still in moderation.

Fat intake per day

Aim for a total fat intake of 30% of total calories each day (or less). Only 10% of total fat intake should be from saturated fats. Trans fats should be limited as much as possible. Clients with heart problems, stroke, or diabetes may be on a low fat diet.



Total Daily Calories	Saturated Fat in grams	Total Fat/Day in grams
1,600	16 or less	53 or less
1,800	18 or less	60 or less
2,000	20 or less	67 or less
2,200	22 or less	73 or less

Tips to reduce saturated fats

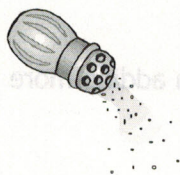
- **Choose low fat dairy food** such as skimmed or semi-skimmed milk, low fat yogurt, cheese, ice cream, and pudding.
- **Choose lean meat or skinless chicken** and trim all visible fat before cooking.
- **Use low fat cooking methods** such as grilling, barbecuing, stir-frying, dry roasting, or poaching.
- **Skim the fat** off the top of cooled gravies, sauces, soups, or stews.
- **Cook with unsaturated oils and spreads** like olive or canola oils.
- **Choose tomato based sauces** rather than creamy sauces. Avoid creamy style soups.

Sodium helps to maintain the body's water balance, blood pressure, and prevent dehydration. Too much sodium can lead to high blood pressure.



Salt

Most of us eat too much salt. A great deal of salt is added during food processing. Even if salt is not added while cooking or at the table, your client could still be getting too much salt in his/her diet.

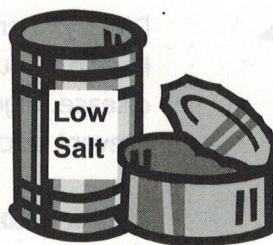


Salt intake per day

The Dietary Guidelines for Americans recommends a goal of 1500 mg. of sodium per day with no more than 2,300 mg. for healthy adults. Sodium intake may be lower for your client depending on his/her health. Clients with congestive heart failure or high blood pressure most likely will be on a low salt diet.

Tips to reduce sodium

- Look for and use sodium-free, low, reduced, light in sodium, or no salt added processed foods.
- Compare the level of salt in processed foods - the amount can vary widely between brands.
- Choose fresh, frozen, or canned vegetables and meats without salt added.
- Be "spicy" instead of "salty" when cooking. Flavor foods with a variety of herbs, spices, lemon, lime, or vinegar.
- Avoid the salt shaker or fill it with a herb substitute instead.
- Choose fewer canned, ready-cooked, or boxed meals such as noodle casseroles or rice dishes.
- Limit highly salted foods such as corned beef, bacon, luncheon meats, pickles, chips, crackers, pretzels, or preserved meats.



Look for these phrases on food labels

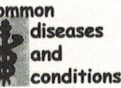
On Label	Sodium per Serving
Sodium-free	5 mg or less
Very low sodium	35 mg or less
Low sodium	140 mg or less
Light in sodium	at least 50% less sodium than regular version
Reduced sodium	at least 25% less sodium than regular version
No salt added, unsalted, or salt free	5 mg or less

Empty Calories



Carbohydrates (sugars and starches) supply the body with energy in the form of glucose. Sugars can be found naturally in foods or added to foods. Added sugars often supply calories but few or no nutrients (empty calories).

Choose carbohydrates wisely. Choose foods in the basic food groups (fruits, vegetables, grains, and milk). Limit the amount of foods with large amounts of added sugars. Empty calories make it difficult to consume enough nutrients without gaining weight.



See the Resource Directory pages 268-270 for more information on adding more fruits and vegetables into your diet.

See the Common Diseases and Conditions section on page 308 for more information about diabetes, carbohydrates, and diet.

Fiber



Dietary fiber is the part of foods we eat that cannot be digested. Fiber, also known as bulk or roughage, can help lower blood cholesterol and prevent heart disease, digestive problems, or digestive diseases. Fiber can also help to prevent or control constipation and/or hemorrhoids.

Looking to the Pyramid for fiber intake

Fiber is found in fruits, vegetables, whole grains, nuts, legumes (lentils and beans).

Bread, Cereal, Rice, and Pasta Group

- Choose whole-grain breads and cereals with "whole wheat flour," "stone-ground whole wheat flour" or "100 percent whole wheat flour" as the first ingredient.
- Experiment with different whole grains such as couscous, barley, bulgur, quinoa, and kasha in salads, soups, and casseroles to increase fiber.

Fruit and Vegetable Group

- Eat fruits such as apples, pears, bananas, berries, melon, or oranges. Peels and seeds in fruits increase fiber.
- Eat vegetables such as carrots, sweet potatoes, broccoli, spinach, or green beans.
- To keep the fiber content of vegetables high, eat them raw or steamed just until tender and leave the skins on.
- Add dried fruits to cereal, muffins, and quick breads to increase fiber.

Look for these phrases on food labels

On Label	Dietary Fiber
Good Source of Fiber, Contains Fiber, Provides Fiber	3 to less than 5 grams
High Fiber, Rich in Fiber, Excellent Source of Fiber	5 grams or more

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

- Add beans, peas, and lentils to soups, stews, salads, and rice dishes. Substituting beans for meat will provide fiber and lower fat intake.
- Nuts are a good source of fiber but are also high in "good" fat so should be eaten in moderation.

Fiber intake per day

20 to 35 grams of fiber are recommended per day. Most people can get the recommended amount of fiber by eating five servings of fruit and vegetables daily.

Clients should check with their doctor before increasing or decreasing dietary fiber. Fiber intake may need to be limited for adults with certain medical problems such as diverticulitis or increased for clients who have chronic constipation.

Fiber should be increased in the diet slowly. Increasing fiber too fast can cause bloating and gas. Since fiber absorbs water, it is also important to drink plenty of fluids when increasing dietary fiber or taking fiber supplements like Metamucil or Citrucel.

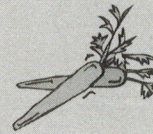
As a caregiver, your role may vary in how you help a client prepare meals and shop for food. The suggestions listed below assume that you are doing both activities for a client. If that is not the case, encourage your client to use the information if it is helpful to him/her.

Planning nutritious, good tasting meals ahead of time helps you better organize your time, make fewer trips to the store, save money, and serve a better variety of healthy foods.

Plan out meals five to seven days in advance. Start by planning the main dish and work out from there. Use the Food Pyramid and include enough foods from each food group. When meal planning, consider:

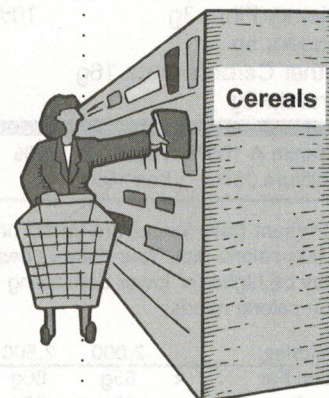
- what foods the client prefers;
- any leftovers that need using up;
- what's in the freezer or the cupboard;
- what's on sale this week or any coupons you have;
- how much time you will have to cook or the client's abilities if he/she will be cooking for him/herself.

Foods Rich in Fiber

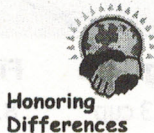


Food	Serving Size	Fiber
All Bran	1/3 cup	8.5 g
Raisin Bran	1 cup	5 g
Whole-wheat spaghetti	1 cup	4 g
Corn on the cob	1 ear	6 g
Baked yam	1	7 g
Large carrot	1	2 g
Banana	1	4 g
Strawberries	1 cup	4 g
Apple with skin	1	3 g
Baked beans	1 cup	8 g
Kidney beans	1 cup	7 g
Split pea soup	1 cup	5 g
Baked potato with skin	1	3 g
Broccoli	1 cup	4 g
Dried figs	3 average	10 g
Pear	1 small	4 g
Prunes	5	4 g

Meal Planning and Shopping



Always eat before you go shopping.



Check any recipes you are using and make sure you have the needed ingredients. Write down any items you don't have and will need to buy at the store. Once you have your list for the week, it's time to go shopping.

A person's background influences the types of food he/she normally eats and likes. Respect and get to know a client's food preferences.

Food Labels

Read the "Nutrition Facts" food label on packaged foods to compare the amount of fat, sodium, calories, and other nutrients in similar products. This can help you choose foods that have less fat, sodium, or calories, and more vitamins, minerals, and fiber.

Not all foods have food labels (e.g. fresh fruits, meats). The most popular fruits, vegetables, and some meats should have their nutritional information, similar to a food label, posted in the grocery store near where the food is displayed.

Nutrition Facts		
Serving Size 3/4 cup (30g)		
Servings Per Container 11		
<hr/>		
Amount Per Serving		
Calories 100 Calories from Fat 11		
<hr/>		
		% Daily Value*
Total Fat 1%		1%
Saturated Fat 0g		0%
Cholesterol 0mg		0%
Sodium 200 mg		8%
Total Carbohydrate 24g		8%
Dietary Fiber 3g		10%
Sugars 5g		
Other Carbohydrate 16g		
Protein 2g		
<hr/>		
Vitamin A 100%	Vitamin C 100%	
Calcium 25%	Iron 100%	
<hr/>		
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:		
Calories:	2,000	2,500
Total Fat	< 65g	80g
Sat Fat	< 20g	25g
Cholesterol	< 300mg	375mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g
<hr/>		
Calories per gram:		
Fat 9	Carbohydrate 4	Protein 4

Nutritional facts are based on one serving. Serving size is NOT necessarily a recommended serving size or the amount a person normally eats. Pay attention to the actual serving size and the number of servings in the package.

The "% of Daily Value" tells you what percentage of the recommended daily intake are contained of that nutrient in each serving. These daily values are based on a 2,000 calorie diet and must be modified if the client eats more than one serving or eats more or less than 2,000 calories each day.

For saturated fat and cholesterol, choose foods with a **low** % Daily Value.

For total carbohydrates and dietary fiber choose foods with a **high** % Daily Value.

For protein, choose foods with a **high** % Daily Value.

This information is the current recommended daily intake for each of the nutrients listed and is printed on every food label as a reference.

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Ingredients

Somewhere on the product label will be a list of the product's ingredients listed in decreasing order by weight.

To choose foods low in saturated fat or total fat, limit the use of products that list any fat or oil as the first three ingredients or that list many fat and/or oil ingredients. If your client is watching his/her sodium intake, do the same for sodium or salt.

The ingredients list can also be used to check if a specific ingredient is in the food or product. This is especially important if a client has allergies (see page 146) or other reasons to avoid particular items.

Poor nutrition occurs when a person's body is not getting enough nutrients. This can be because of diet, digestive problems, dental problems, or a medical condition.

A client with poor nutrition can have a decreased ability to resist infection, recover from illness, surgery or other treatments, and heal wounds.

Warning Signs of Poor Nutrition

- Unintended weight loss (e.g. clothing that is now too big)
- Eats less than half of meals and snacks
- Constant fatigue or dizziness
- Depression, loneliness, and/or grief
- Confusion

Other Factors That Can Lead to Poor Nutrition

- Problems chewing, mouth pain, or dentures that don't fit
- An upset stomach, constipation, bloating, or gas
- Living alone
- Taking multiple medications
- Substance abuse
- No appetite

See the Resource Directory page 271 for more information on helping a client who has difficulty chewing or has no appetite.



Poor Nutrition





Report poor nutrition

Talk with a client if you have concerns about his/her nutrition. If after your conversation(s) you are still concerned, talk with the client's case manager or your supervisor. He/she can work with the client to decide whether to consult a dietitian, speech pathologist, dentist, occupational therapist, or the client's health care provider.

Getting more information

Senior Nutrition Programs are available in most geographic areas and help older people with nutrition problems. Contact or encourage the client to call for assistance or a referral to a dietitian for some help.

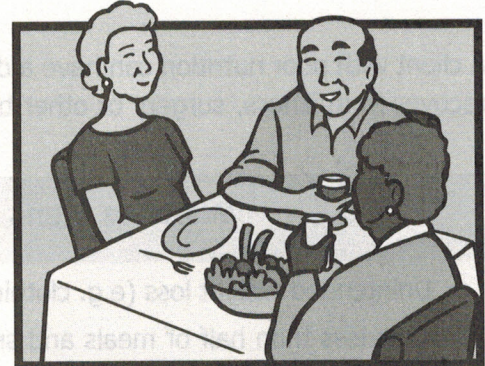
Assisting a Client with Meals

The social importance of meals

The social importance of mealtime can be just as important to the client's well-being as the food he/she eats.

Make mealtime a pleasant experience by:

- planning the menu with the client;
- arranging the place setting and food so that it looks attractive and is easy for the client to reach and eat;
- sitting down with the client whenever possible;
- making sure the client is sitting comfortably;
- helping only when help is asked for;
- offering food at an unrushed pace;
- taking the time to make eating a highlight of the day.



Client preference

Include the client in meal planning. Find out what your client likes and can eat. People eat more when they like the food.

Balancing choice with safety

If a client chooses not to make healthy food choices or follow a special diet, you **cannot** force him/her. Follow the steps outlined on page 18 if you are concerned that a client's safety or well-being is at risk (explain your concerns, offer safe alternatives, report, and document your concerns and what you did).

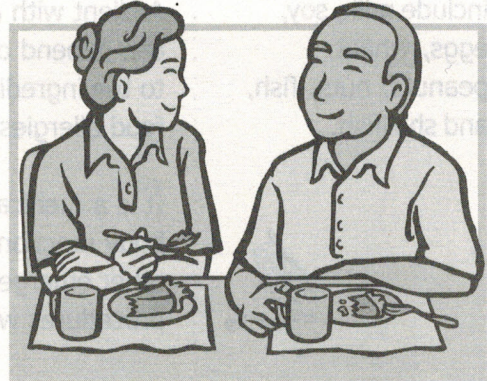
Skill: Assisting a Client to Eat



1. S.W.I.P.E.S.
2. Assist client to put on clothing protector or cover, if needed.
3. Ensure client is in an upright, sitting position.
4. Sit at client's eye level.
5. Offer the food in bite-size pieces - alternating types of food offered.
6. Make sure the client's mouth is empty before offering the next bite of food or sip of beverage.
7. Offer a beverage to the client during the meal.
8. Talk with the client throughout meal.
9. Wipe food from client's mouth and hands as necessary and at the end of the meal.
10. Remove clothing protector if worn and dispose of in proper container.
11. Remove leftover food.
12. Wash hands as final step.

The following are **general tips** when helping a client to **eat**.

- Never feed a client who is lying down, reclining, or very sleepy.
- Make sure the client's head is forward and his/her chin is down.
- Put a small amount of food on the spoon or fork.
- Give the client plenty of time for chewing and swallowing. Never rush.
- Tell the client what food is on the fork or spoon before putting it in his/her mouth.
- Treat the client as an adult not a child.
- The client should remain upright for at least 20 - 30 minutes after finishing a meal.



Assistive devices to help with eating

Many assistive devices can help maintain a client's independence while eating including silverware with built-up handles to make them easier to grasp, two handled cups, straws, a divided plate or a plate with a rim (makes it easier to "scoop" food onto the eating utensil).

Special Diets

A client may have a special diet due to a disease, condition, medication, or food allergy. A special diet can limit or increase the intake of certain foods or how foods must be prepared.

It is important for you to understand how and why the nutrition therapy is needed and what foods should be added or avoided in food preparation.



A client should have a doctor's or dietitian's prescription before you make changes to a client's normal diet. If you do not have the specific information you need, alert the case manager or your supervisor depending on the care setting where you work.



Food allergies

Some people have allergies to food that can be serious and can cause sudden, life threatening reactions. Even a small amount of food can make the person sick. Symptoms of an allergic reaction to a food can be a tingling or itching sensation, hives, swelling of the mouth or throat, eyelids, face, lips, and tongue, abdominal pain, diarrhea, nausea, vomiting, difficulty breathing, light headedness, or loss of consciousness.

Foods that cause the most allergies include milk, soy, eggs, wheat, peanuts, nuts, fish, and shellfish.

A client with a food allergy must avoid any source of the food. A client's safety can depend on safe preparation steps in the kitchen (e.g. paying close attention to the ingredient list on food labels). Make sure to talk with the client about any food allergies he or she has.



It is a medical emergency if a person develops any type of serious or whole-body reaction, even hives, after eating food he or she is allergic to. As in any other emergency with a client, call 911 or follow the emergency and reporting procedures where you work.



Dysphagia

A special diet will be required if a client has a condition called dysphagia. People likely to have dysphagia include clients who have had a stroke, certain diseases (Parkinson's, MS, certain cancers), dementia, some individuals with developmental disabilities, and people who are on certain medications.

Warning signs of dysphagia include:

- taking a long time to begin a swallow or needing to swallow 3-4 times for each bite of food;
- coughing, frequent throat clearing, lack of a gag reflex, or weak cough (before, during, or after a swallow);

- difficulty controlling liquids in the mouth or drooling out of the front or side of the mouth;
- pocketing food in mouth (storing food in the cheek), spitting food out, or refusing to eat,
- unintentional weight loss;
- fullness or tightness in the throat or chest or a sensation of food sticking there.

Report any of these signs to the case manager or your supervisor if the client has not already been diagnosed with dysphagia.

Caring for a client with dysphagia

If a client you are caring for has dysphagia, your role is to help make sure he/she gets adequate nutrition and to protect against food or fluid getting into his/her airway and lungs.

Clients with dysphagia will have a prescribed special diet. Depending on the severity of the condition, the consistency of foods and liquid must be changed to make it easier and safer for the client to eat or drink (e.g. making foods soft and easy to swallow or thickened or thinned to prevent choking).

You may also be asked to work directly with the client's health care provider to understand how to prepare food correctly. This depends on the care setting where you work.

The diet modifications required should be noted in the DSHS care plan or check with your supervisor. See the Resource Directory pages 272-273 for more specific suggestions on how to modify food for a client with dysphagia and some general tips on helping a client with dysphagia eat.

Problems caused by dietary mistakes

A small number of dietary mistakes made by a caregiver result in serious harm or the death of a client, including:

- a very high dose of sodium (salt) to a client who has congestive heart failure and is on a severe sodium restriction. A high dose of sodium may lead to fluid in the lungs and serious consequences.
- some food and drug interactions. Be certain that medications your client is taking do not require any food restrictions.
- an individual with dysphagia given a food or beverage that is not appropriately modified.



Any time you are in doubt about anything related to a client's diet, get help from the appropriate person in your care setting.



Water, the Forgotten Nutrient

Dehydration



Encourage a client not to wait until he/she is thirsty to drink.

Water is another important nutrient needed by our bodies. Without water, we'd be poisoned to death by our own waste products. Water is essential for:

- digesting food;
- carrying nutrients and oxygen to every cell in the body;
- cooling the body;
- breathing;
- lubricating joints.



Dehydration can be caused by losing too much fluid, not drinking enough water or fluids, or certain medications. A common cause of dehydration is loss of fluids through vomiting, diarrhea, and/or high fever.

Dehydration can be mild, moderate, or severe. When severe, dehydration is a life-threatening emergency. Many factors can affect how quickly a client becomes dehydrated including heat, medications, diet, how active he/she is, and body size.

Too many people - including many clients and caregivers - are not getting enough water/fluids each day. The thirst sensation tends to decline as we age, making it harder for older adults to realize more fluids are needed.

Warning Signs of Dehydration

- Prolonged vomiting or diarrhea
- Thirst
- Dry or sticky mouth, cracked lips
- Headache
- Fatigue
- Dizziness
- Confusion
- Heavy perspiration
- Fever
- Dark urine
- Constipation
- Leg cramps



Report any of these symptoms to the appropriate person in your care setting.

Lack of water is the #1 trigger of daytime fatigue.



Water intake recommendations

Adults need at least 6 to 8 glasses of fluid each day. Fluids can be taken in many forms, such as water, fruit juice, milk, soups, coffee, tea, or soft drinks. Decaffeinated drinks are good choices. Offer fluids frequently throughout the day. It is also a good idea to keep a glass of water by a client's chair or bed.

Since most fruits and vegetables are mostly water, eating five a day will also help with hydration.

Module 8 - Lesson 2

Food Handling



Food Borne Illness

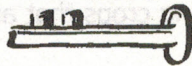
Good Food Handling Practices

Kitchen Cleaning and Disinfecting

What you will learn in this lesson:

1. What food borne illness is and what causes it.
2. How to prevent food borne illness by using safe food handling practices, including:
 - how to safely prepare, thaw, and store food;
 - how to prevent cross-contamination;
 - cleaning and disinfecting food contact surfaces.

key word



Definition

Cross-contamination

When germs from raw or contaminated food get into other foods that are not cooked or reheated before they are eaten

Danger zone

A zone of temperatures where germs grow quickly when potentially hazardous food is kept at those temperatures

Food borne illness (FBI)

Any illness caused by eating contaminated food

Food-Borne Illness



Food-borne illness (FBI) is any illness caused by eating contaminated food. Symptoms of FBI can include vomiting, diarrhea, fever, and stomach cramping.

An older person or someone with a chronic illness can be at a higher risk of a FBI because his/her immune system is not as strong to fight it. Extra care is needed. Certain foods are more likely to cause FBI in people at higher risk including undercooked meat or eggs, raw oysters, sprouts, and unpasteurized milk or juices.

Everyone that handles food can spread food-borne illness.

You must have a good understanding of what causes FBI and know how to prevent it.

Causes of Food-Borne Illness (FBI)

Bacteria - the most common germ that causes FBI. Almost always, food with enough bacteria to cause FBI looks and smells fine. In some cases, bacteria can make a food turn color or smell.

Viruses - germs that cause FBI through direct contact or airborne spread with food.

Parasites - tiny worms or bugs that live in fish and meat.

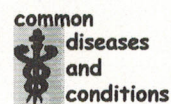
Chemicals - insect bait, household cleaners, or other chemicals that come in contact with food.

Pesticides, chemical additives - pesticides used in growing crops that are still on the food or chemicals added to enhance shelf-life or color.

Fungi, including molds and yeast - molds are furry looking spots or areas on the surface of foods. Yeasts look like round, dot-shaped patches and are not harmful on their own but can change the food's environment so that harmful bacteria grows.

Common Germs Causing Food-Borne Illness

Hepatitis A - virus passed through contaminated food, water, or contact with a person who is currently infected with the disease. See the Common Diseases and Conditions section page 312 for more information on hepatitis A.



E. coli - bacteria found in feces.

Norovirus - highly contagious virus passed through contaminated food, water, or contact with a person who is currently infected with it. Commonly referred to as the stomach flu.

Salmonella - bacteria found in dairy foods, poultry, or eggs.

Module 8 - Lesson 2

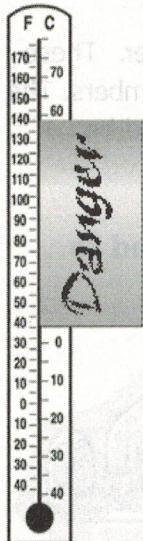
Food Handling

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You have already learned that your hands can look clean but have germs on them or a food can smell and look fine but contain enough germs to cause a foodborne illness. Since you cannot always see or smell what is safe, safe food handling practices are needed.

There are four required safe food handling practices, including:

1. Prepare food safely.
2. Store food safely.
3. Prevent **cross-contamination**.
4. Clean and disinfect surfaces that food touches.



The Danger Zone

Bacteria, or other germs, do not grow when the temperature of food is colder than 41° F or hotter than 140° F.

Germs grow quickly in foods left at temperatures between 41° F and 140° F. Keep potentially hazardous foods out of this "Danger Zone".

Potentially hazardous foods

Beef, lamb, seafood, pork, poultry, and stuffing are examples of potentially hazardous foods. These are all foods that are moist or damp and have protein. Refried beans, cooked rice, and baked potatoes also grow germs quickly if left in the Danger Zone.

When getting ready to prepare food:

- wash your hands (at least 20 seconds from start to finish).
- take the food to be fixed out of the refrigerator, stove, freezer, etc. Only take out what you will be preparing immediately. This is especially important when preparing potentially hazardous foods.

Cooking

Kill germs with heat by cooking them above the Danger Zone at 140° F or more. Different foods must reach different temperatures to be safe.

Poultry, stuffed foods or stuffing, casseroles, all raw animal products cooked in a microwave, all reheated potentially hazardous food.	165° F (for 15 seconds)
Hamburger, sausage	155° F (for 15 seconds)
Eggs, fish, beef, pork	145° F (for 15 seconds)
Vegetables or Packaged ready-to-eat foods that will be hot held (foods kept hot until served)	140° F

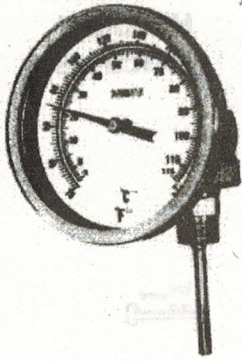
Safe Food Handling Practices

Key word

Prepare Food Safely

Key word

Avoid preparing foods when you are ill.



Metal stem thermometers

You will need a special, metal stem thermometer to check if the food is done all the way inside. Place the metal stem thermometer in the center of the food to measure the inside, or internal, temperature of the food.

Clean the metal stem thermometer with hot, soapy water between each use.

For foods cooked in a microwave, stir and turn the dish while it cooks. This makes sure the food cooks to the same temperature in every part. Check the food with a metal stem thermometer before you serve it.

Thawing frozen foods

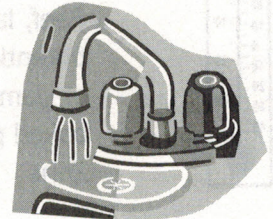
Never thaw food at room temperature, on a counter, or in warm water. These methods let harmful bacteria grow quickly to high, possibly unsafe numbers. The inside of the food may be at a safe temperature, but the outside could be perfect for bacterial growth.

caution



There are 3 safe ways to thaw foods. Plan ahead to allow enough time to do it right!

1. Use the **refrigerator** to thaw the food. It may take longer, but this is the best and safest way.
2. Thaw the food **under cool, running water** - never under warm or hot water.
3. Use a **microwave** and follow the manufacturer's defrosting instructions.



Special consideration for cold salads

Potato, pasta, macaroni, egg, and chicken salads have to be cold enough to keep germs from growing. When you make these foods, all ingredients should be cooked and then chilled to below 41° F before mixing ingredients and serving.

Reheating

When you reheat food:

- only reheat food that has been safely prepared and refrigerated promptly;
- reheat it quickly (within one hour) to 165° F;
- use the burner on a stove, microwave, oven, or a double boiler;
- stir the food to be sure that all parts of it are hot;
- use a metal stem thermometer to check the temperature;
- leftovers should be reheated only once - and eaten within 2 days of being stored properly in the refrigerator.

caution



Take care in eating or serving food heated in the microwave. Food heated in the microwave can continue to heat up for some time after it is taken out of the microwave and can cause burns.

Cooling leftovers

Bacteria can grow quickly in cooling food. It is important to cool food quickly through the Danger Zone.

- Put all meats and other hot food in the refrigerator as quickly as you can. Do not let food sit at room temperature for more than 30 minutes.
- Divide large portions of food into shallow pans (no more than 2 inches deep) and put on the top shelf of the refrigerator. Don't stack or cover the pan while the food is cooling. Cover the pan after the food is 41° or colder.
- Liquids can also be cooled by placing a container with the food in an ice bath and stirring until the temperature is under 41°F. More ice should be added when the ice melts. Then cover and put it in the refrigerator.
- Never try to cool food that is more than four inches thick. For example, cut a large, cooked roast into smaller pieces to cool.

A refrigerator should be set at 40° F or lower. Freezers should be set at 0° F. Measure the temperature with a metal stem thermometer. Fish, shellfish, poultry, milk, and red meat will stay fresh longer if kept below 40° F. Seafood will keep longer at 30°F.

Storing foods in the refrigerator

- After shopping, put away the groceries that need to be refrigerated or frozen right away.
- Don't overpack the refrigerator. Air must be able to circulate freely in order to chill foods effectively and prevent warm spots.
- Don't store perishables, such as eggs, in the refrigerator door. Because the door is opened frequently, its temperature is generally higher than the rest of the refrigerator and may not be safe.



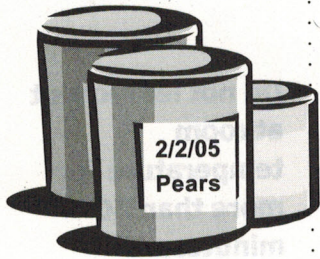
Do not let food sit at room temperature for more than 30 minutes.

Store Food Safely

caution



Washing your hands for at least 20 seconds and cooking and cooling foods safely are the most essential safe food handling practices.



Store dry foods safely

To store foods safely:

- store foods in clean, leak proof containers with an airtight lid. Store so you can use older food first. "First in, first out" is a good rule to follow.
- cover, label, and date, dry, refrigerated, or frozen foods.
- do not store food in galvanized cans or containers with metal coatings because some foods can "pull off" the metal which can cause poisoning.
- plastic bags should be the kind approved for food use.
- keep all foods off the floor.
- store foods away from cleaners and poisons.
- use utensils with bulk foods. Tongs and scoops work well.
- foods which are extremely sweet, like jams and jellies, are usually not a problem because the high sugar content prevents bacteria from growing. However, these foods can get moldy if they are very old or had a bad lid seal. If this happens, throw it away.

Prevent Cross-Contamination

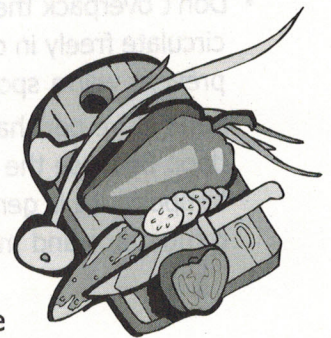
As a caregiver, your role is to help prevent cross-contamination.

Raw meat and cross-contamination

- Wash your hands between handling raw meat and foods that will not be cooked before eating.
- Don't let raw meat, fish, or poultry drip onto foods that will not be cooked before serving in the refrigerator.
- Store raw meat, fish, and poultry in leakproof containers on the lower shelves of the refrigerator.
- Never store foods that will not be cooked before serving in the same container as raw meat, fish, or poultry.

Cutting surfaces and cross-contamination

- Cut food on a hard surface made of a non-porous material with no cracks or holes where germs can collect. This type of surface is easier to disinfect.
- Always use separate cutting surfaces for meats, fish, and poultry.
- Fruits, vegetables, and bread can be cut on the same surface.
- Wash, rinse, and disinfect the cutting surface and all the utensils and knives every time you finish cutting raw meat, fish, or poultry, finish with a job, or are going to prepare a different food.
- Use a cutting surface you can put through the dishwasher, if possible. Nylon and acrylic are both dishwasher safe.



Dishes and utensils

- Avoid putting your hands directly in or on the food.
- Use utensils to mix food. If you must use your hands, wash them carefully. Use gloves if possible.
- Use a clean spoon or fork to taste food. Do not reuse it until you clean and disinfect it.
- Use dishes and utensils that are in good condition. Cracked wooden spoons or chipped dishes are good places for germs to grow.

Germs are easily moved from one surface to another. Make sure the kitchen, especially the areas and things used to prepare food, are properly cleaned and disinfected.

Clean and disinfect all surfaces food touches

- When cleaning, basic good personal hygiene is important.
- The kitchen should be well-ventilated.
- Kitchen countertops, appliances, the inside of the refrigerator, sinks, dining table and chairs, and floors should be kept free from food particles and cleaned and disinfected regularly.
- Clean spills from the microwave, stove, or oven after each use.
- Clean the can opener often. Germs collect and grow there. Wipe off can lids before opening to remove dust, etc.
- Use separate clean cloths or paper towels for drying hands.
- Use separate cloth or paper towels for wiping up spills from the floor.
- A sponge spreads germs. Use paper towels if possible. Throw the paper towel away after cleaning each surface to help stop cross-contamination.
- Wash all towels, cloths, and sponges often.
- Replace sponges every few weeks.
- Mops should not be rinsed out in the kitchen sink.

Washing dishes

Dishwashers are the safest way to wash dishes. If a dishwasher is not available, use this four step method of washing dishes by hand.

1. Wash dishes with detergent.
2. Rinse in hot water.
3. Disinfect with bleach water in the sink (one teaspoon bleach to one gallon of water).
4. Air dry the dishes. Do not use a towel to dry them.

After cleaning

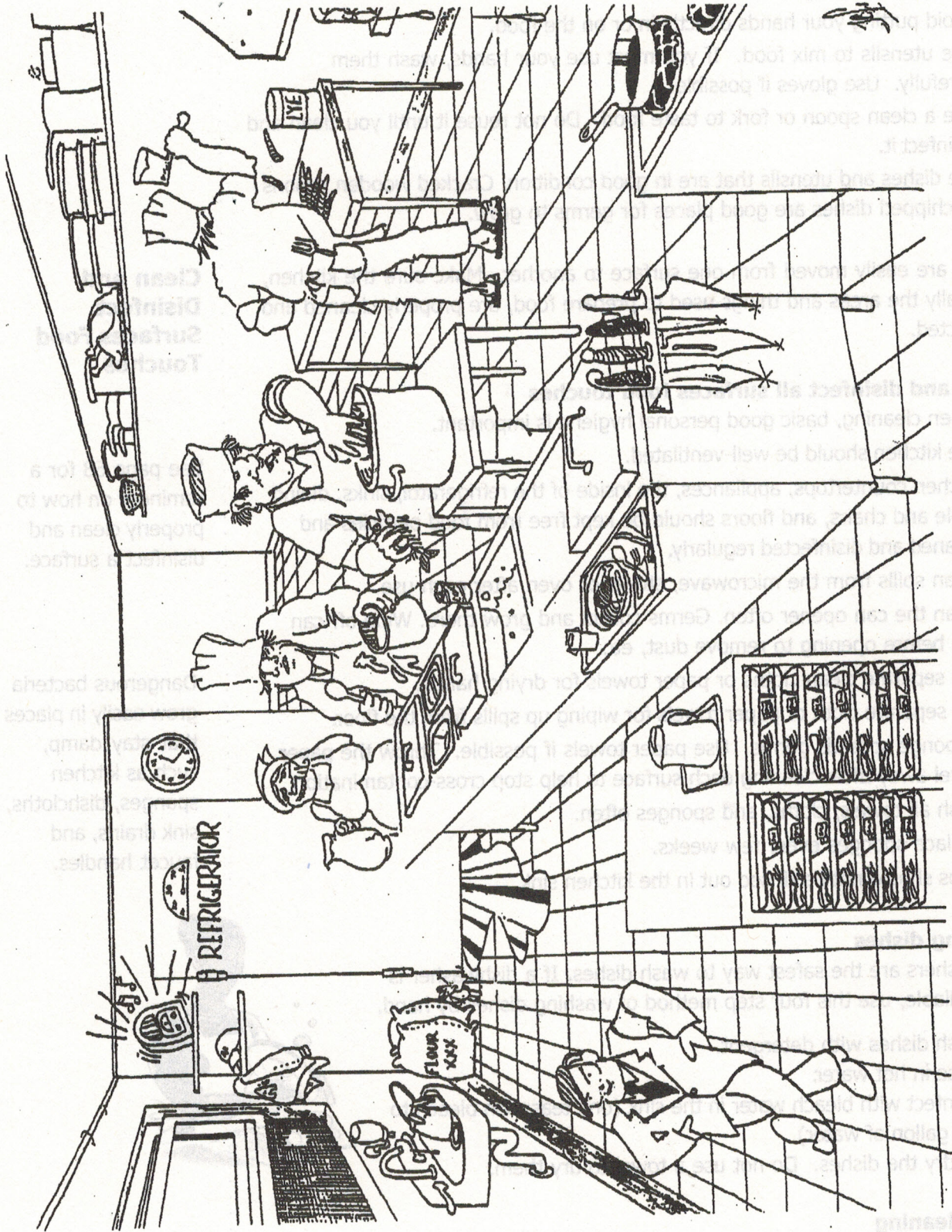
- Keep pots, pans, and utensils off of the floor.
- Put cups and glasses away upside down on clean surfaces. When you pick them up again, do not touch the rims.
- When you put away eating utensils, touch only the handles.

Clean and Disinfect Surfaces Food Touches

See page 68 for a reminder on how to properly clean and disinfect a surface.

Dangerous bacteria grow easily in places that stay damp, such as kitchen sponges, dishcloths, sink drains, and faucet handles.







1. True False Only water counts towards a client's needed daily intake of fluids.
2. If a client is on a special diet, you need to know: (circle the correct answer)
 - a. Whether the client's family likes the diet.
 - b. What special foods or preparation is needed.
 - c. Whether the diet has worked for others.
3. A nutrition food label is used in meal planning and shopping to help you: (circle the correct answer)
 - a. Decide if you will like the taste of the food.
 - b. Compare and choose healthy foods.
 - c. Know if it is something the client likes.
4. True False The warning signs of poor nutrition in a client are difficult to observe.
5. A healthy diet means choosing a variety of healthy foods and: (circle the correct answer)
 - a. Never eating less healthy foods.
 - b. Setting limits on eating less healthy foods.
 - c. Eating healthy foods a few days a week.
6. The safest way to thaw foods is to use the following: (circle the correct answer)
 - a. Counter.
 - b. Refrigerator.
 - c. Hot water.
7. To prevent cross-contamination of food, always clean and disinfect a cutting board after using it for: (circle the correct answer)
 - a. Bread or baked goods.
 - b. Fruits and vegetables
 - c. Meat, fish, and poultry.
8. True False Food borne illness is caused by eating contaminated food.
9. True False To be safe, a refrigerator should be set to 0 degrees.
10. True False The number of daily servings needed from each of the food pyramid groups is the same for everyone.
11. Germs grow quickly when left in temperatures between the danger zone at (circle the correct answer)
 - a. 0 and 100 degrees.
 - b. -10 to 120 degrees.
 - c. 41 to 140 degrees.
12. True False Foods must be reheated to 165 degrees.
13. The **most** important safe food handling practices are: (circle the correct answer)
 - a. Washing your hands and cooking and cooling foods safely.
 - b. Shopping for and preparing nutritious foods.
 - c. Using an oven mitt when handling hot foods or meats.