

# Malnutrition and dehydration



## Learning objectives

At the end of this session, the learner should be able to:

- Explain physical and chemical changes in the ill and elderly that affect the way their bodies absorb nutrients from food.
- Explain why the body needs fluids.
- Recognize symptoms that may be caused by not getting enough nutrients or fluids.
- Describe foods, nutrients, and fluids that are needed every day.
- Describe ways to encourage healthful eating and drinking.

## Teaching plan

To use this lesson for self-study, the learner should study the material, do the activity, and take the test. For group study, the leader should give each learner a copy of the learning guide and use the introductory activity. At the conclusion of the study, do the second activity and give the test. Discuss the test and complete the certificates.

## Introductory activity

Share the history of elderly clients who for some reason are not getting their nutrients or calories as needed—perhaps someone with a poor appetite, or a senior who has poorly fitting dentures. Instruct learners to look for ideas for meeting these needs as they read the lesson.

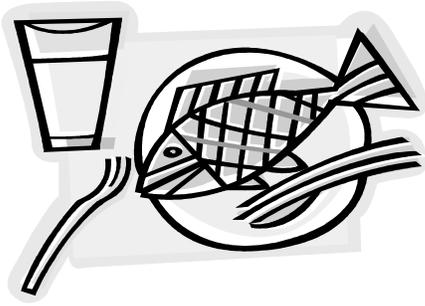
## The lesson

1. Go through the lesson material in the learning guide together.
2. Do the learning activity and “solve the problem,” individually or as a group.  
Answers: 1d. 2i. 3b. 4c. 5e. 6a. 7g. 8h. 9f. 10j.

## Activity

After the lesson, ask learners to share their ideas about meeting the nutritional and fluid needs of their clients, especially any clients that were discussed in the introductory activity. Discuss changes that might enable those clients to have their nutritional needs met.

**Test and certificate** (Test answers—1T 2F 3T 4T 5T 6F 7T 8T 9T 10F) Give a certificate to learners that complete the test with at least seven correct answers.



# Malnutrition and dehydration

## Learning guide

### Physical and chemical changes that influence nutritional needs

People who are sick or elderly have different food requirements than young, healthy people. They are also more likely to suffer harm from not eating the right foods. After age 50, there are chemical and physical changes in the body that affect nutritional needs.

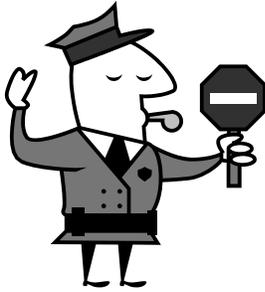
- The metabolic rate, or metabolism, slows down. The metabolic rate is the speed at which the body uses energy. Older bodies burn less fuel for daily operations. This means that seniors need fewer calories for normal everyday activities. This also applies to anyone who is not very active or who is confined to bed.
- Lean tissue and muscle mass decrease. There is less bone mass. Body fat increases.
- Stomach acid may decrease, and the stomach might not empty as quickly. The intestine may absorb less nutrition from the food it gets.
- Tooth and gum problems increase, sometimes making it difficult to chew.
- Some people have trouble swallowing, especially those who have had strokes.
- There is a loss of taste and smell. This causes people to be less interested in food.
- Appetite and thirst decrease. Many elderly or ill people eat and drink less than they should. This leads to fatigue, sadness, infections, skin breakdown, and lack of energy.
- Medications can affect appetite or thirst. Sometimes medicines upset the stomach or cause intestinal problems like diarrhea or constipation.
- Many diseases affect the way the body uses food or water. Someone with an illness usually needs more food and water because the body needs energy to heal. People with some conditions, however, must carefully control the amount and type of calories they take in. Diabetes is one example.

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**Although the body may need fewer calories because of age or inactivity, it still needs the same amount of nutrients and fluid it always has—or more. It is important to eat foods that have a high nutritional value.**

# Malnutrition

Bodies will break down if they do not get the type and amount of fuel they need. Malnutrition means “badly nourished,” another way of saying that the person isn’t getting enough of the *right* nutrients the body needs to stay healthy. It can be caused by not eating enough nutritious foods or by not adequately digesting and absorbing nutrients from food.



Getting *too much* food is harmful and is also called malnutrition.

Someone who does or experiences one or more of these things might be headed for malnutrition:

- Doesn't eat from the major food groups most of the time.
- Eats less than half of two or more meals a day.
- Eats less than one hot meal a day.
- Changes from solid foods to pureed foods, or other dietary changes.
- Drinks a lot of alcohol.
- Is socially isolated or depressed.
- Is poor, or has difficulty obtaining or preparing food because of physical or mental disabilities. Someone with cognitive problems might not remember to eat.
- Excessive laxative use (hinders digestion of nutrients by causing food to pass through the intestines too quickly).
- Recent surgery or illness, or chronic or multiple diseases.

25–30% of senior citizens are malnourished. Two out of five nursing home residents are malnourished. Nearly two-thirds of people over age 60 are at risk for malnutrition.

## Signs and symptoms of malnutrition

If a person shows any of these signs, they should be seen by a doctor. Taking care of someone with malnutrition means helping them get enough of the right nutrients:

- Tiredness and lack of energy
- Loss of appetite
- Loss of or gain in weight
- Sore lips, tongue, or throat
- Infections or slow healing
- Diarrhea or constipation

- Easy bruising
- Depression or confusion

**Older adults and those who are chronically ill should be weighed regularly to be sure that they are getting enough calories and are not losing or gaining weight.**

\*Unless a person is overweight and trying to lose weight, a weight loss of just 5% of body weight can be harmful. Any **unintended** weight loss or weight gain is a sign of possible malnutrition. Report a client's changes in weight to a supervisor.\*

## Dehydration

**Dehydration** is a serious, sometimes fatal condition. It means there are not enough body fluids and important blood salts in the body for it to carry on normal functions at the best level. This happens by loss of fluids, not drinking enough water, or a combination of both.

Water is essential in all the vital functions of the body. It is part of temperature regulation, building new cells, lubricating joints, and keeping the kidneys, brain, heart, and other organs working.

Thirst is the warning signal that we should drink. However, just drinking when we are thirsty is not enough. Many people stay mildly dehydrated much of the time.

**You are drinking enough water if your urine is always pale in color and you are urinating every two to three hours.**

### Preventing dehydration

- A healthy adult should drink at least 6–8 eight-ounce glasses of water a day.
- It is possible to get some of the necessary fluids from other drinks, but anything with caffeine in it does not count in the daily requirement. In fact, caffeinated drinks, such as coffee, tea, and cola, actually **increase** the daily requirement. Caffeine pulls water from the body, increasing the need for fluid intake. For every eight-ounce caffeinated drink, add an extra eight ounces of water to the daily requirement:
  - 2 eight-ounce cups of coffee **increases** the daily water need to at least 8–10 eight-ounce glasses a day.
  - 2 twelve-ounce cans of cola **increases** the daily water need to at least 9–11 eight-ounce glasses a day.

**Reasons people don't drink enough fluid:**

- Loss of appetite.
- Lack of thirst.
- Don't like frequent bathroom trips.
- Fever
- Vomiting
- Diarrhea
- Excessive urine output
- Excessive sweating; exercise
- Heat exhaustion

**Reasons people lose fluid:**

**Symptoms of dehydration**

Always pay attention to what clients drink and how much they urinate. The following symptoms could be signs of dehydration and must be reported immediately. Severe dehydration can result in seizures, permanent brain damage, heart and blood vessel collapse, and death if not treated quickly.

**Mild dehydration:**

- Thirst; dry lips and tongue
- Dry membranes in the mouth
- Skin looks dry

**Moderate dehydration:**

- Skin is not very elastic, may sag, and doesn't bounce back quickly when lightly pinched and released
- Sunken eyes
- Decreased urine output

**Severe dehydration:**

- Small amounts of dark colored urine
- Rapid, weak pulse over 100 (at rest)
- Rapid breathing
- Low blood pressure; dizziness
- Blue lips
- Cold hands and feet
- Confusion, lack of interest, difficult to arouse
- Shock

Pinch a fold of skin on the back of your hand and hold it for a few seconds. Let it go, and time how quickly the skin returns to normal. The skin should return to normal within a second or two. If it stays pinched for longer than that, you may be dehydrated.

**Treatment for dehydration**

For mild dehydration, giving fluids by mouth is usually enough. This is called oral rehydration.

- The physician may order an oral rehydrating solution (ORS) that replaces important blood salts and water in balanced amounts designed especially for

dehydration in sick people. These solutions allow the intestines to absorb maximum amounts of water.

- Don't confuse ORS with sports drinks designed for concentrated energy and salt replacement in healthy, high-performance athletes. These drinks can cause vomiting and diarrhea and are so concentrated they can limit intestinal water absorption.
- IV fluids may be necessary for moderate to severe dehydration.
- **Rapid** recognition and treatment of dehydration results in a good outcome.

## A healthful, nutritious diet



**Fruit: at least 2 servings daily**

**Vegetables: at least 3 servings**

**daily**

- Everyone should eat a variety of fruits and vegetables every day.
- Different fruits and vegetables are rich in different nutrients.
- Vegetables and fruits contain fiber, vitamins, and minerals.

**Grain products: at least 6 servings daily**



breads, cereals, pasta, and rice.

- Give clients a variety of whole grain and refined

- Grains provide vitamins, minerals, carbohydrates, and fiber.



**Milk group: at least 2 servings daily**

- The high fiber content of whole grains promotes proper bowel function.
- Low-fat dairy products are needed daily to provide calcium.
- Adults over age 50 have an especially high need for calcium to maintain bone mass.

**Meat and beans group: at least 2 servings daily**



- Choose from the meat and beans group each day. Peanut butter, cheese, and eggs may substitute for meats.

- These foods provide protein to build and maintain healthy body tissues.
- People need more protein when they are dealing with illness, surgery, or trauma.



### Fat

- Fats are highly concentrated sources of energy, and they provide fatty acids needed for good health.

- Monounsaturated oils (canola, olive) are believed to lower unhealthy cholesterol levels (LDL) and raise healthy cholesterol levels (HDL).
- Avoid saturated fat. Choose lean cuts of meat and remove the skin from poultry.

### Water

- Water is the most important nutrient in the body. Oxygen is the only thing the body craves more.
- At least six to eight glasses of fluid are needed every day.

## Ways to help people get needed nutrients

Care providers have a responsibility to ensure that clients' food needs are met.

- Fit the amount and the kinds of food to the individual. Serve tasty food.



- Increase fiber to help move food through the intestines and prevent constipation.



- Encourage people to eat with family and friends.
- Use a blender or food processor for those with chewing or swallowing problems.

- People with swallowing problems can choke on liquids that are too thin. A thickening agent can be added to liquids to help them drink. They may do best using a straw.
- Chop or mash meats and vegetables with a little gravy or broth.
- Use soft foods such as tuna, eggs, cheese, and peanut butter for meat substitutes.
- Small frequent feedings and healthful snacks can encourage some people to eat. Have fruit, yogurt, or vegetables readily available.

- Adding nonfat dry milk powder to foods such as casseroles, cream soups, puddings, or gravy increases calcium and protein intake.
- Food that is served warm (not too hot or too cold) may seem tastier.
- For someone who can't eat a whole meal, try six small meals a day.
- Offer finger foods, such as sandwiches and fruits, to those who have difficulty managing utensils. Cut food into bite-sized pieces.
- No single food can supply all the nutrients in the amounts needed.  
The diet should include a **variety** of plant foods, including whole grains, fruits, and vegetables, plus protein, dairy foods, and fats.
- Combining powdered meal mixes with milk, puddings, or fruit purees bolsters the nutrient content.
- Anyone with mouth or teeth problems will benefit from soft foods like yogurt, cottage cheese, applesauce, mashed potatoes, ice cream, puddings, milkshakes, or custards.
- Clear beef or chicken broth is a good way to get warm liquids in cold weather.
- Some people may need to take vitamins and minerals in a supplement.
- Fruit juices and milk provide fluid, nutrients, and calories, but they do not fulfill the need for 6–8 glasses of water a day.
- Thirst decreases with age, so encourage older people to drink fluids throughout the day. Offer water often and keep it readily available.

### Learning activity: Solve the problem



**Directions: Match the situation on the left with the best solution on the right. Put the letter of the solution in the blank next to the problem.**

1. Someone who has difficulty chewing. \_\_\_\_\_
2. Someone who has difficulty swallowing. \_\_\_\_\_
3. Someone with a dry mouth and dry skin. \_\_\_\_\_
4. Someone who can't eat an entire meal at one time. \_\_\_\_\_
5. Someone who doesn't like meat. \_\_\_\_\_
6. Someone who needs more protein but not more calories. \_\_\_\_\_
7. Someone who has trouble managing a fork, knife, and spoon. \_\_\_\_\_
8. Someone who is tired, has little energy, is depressed, and is losing weight. \_\_\_\_\_
9. Someone who is confused and has sunken eyes, rapid breathing and heart rate, and small amounts of dark urine. \_\_\_\_\_
10. Someone who doesn't like to eat. \_\_\_\_\_

- a. Add nonfat dry milk powder to foods.
- b. Offer water frequently.
- c. Serve six small meals a day.
- d. Offer soft foods like cottage cheese; chop food into small bits.
- e. Give peanut butter, cheese, eggs, and beans.
- f. This person is probably seriously dehydrated. Report the person's condition to a supervisor at once.
- g. Use finger foods; cut food into bite-sized pieces.
- h. This person may be malnourished. Report the person's condition to a supervisor.
- i. Give thickened liquids and soft foods.
- j. Encourage the person to eat with friends or family. Offer frequent snacks.

## Malnutrition and dehydration test

Name \_\_\_\_\_ Date \_\_\_\_\_ Score \_\_\_\_\_  
(7 correct answers required)

Answer the questions by circling True or False.

1. There is a difference in nutritional needs in the elderly compared to younger adults.  
True or False
2. The elderly need fewer calories and also fewer vitamins and minerals in their food.  
True or False
3. Any weight loss or weight gain in a client should be reported to a supervisor.  
True or False
4. Protein needs increase during acute illness or surgery. True or False
5. A diet that does not contain needed amounts of protein, vitamins, and minerals may slow the healing of a wound. True or False
6. Someone who cannot eat enough food at a meal because of fatigue or poor appetite must wait until the next meal to eat (it is healthier to eat only three meals a day).  
True or False
7. Signs of malnutrition include tiredness, weight loss, and slow healing of a wound or sore. True or False
8. In the elderly, decreased thirst and poor intake of fluids could lead to dehydration.  
True or False
9. A person whose body severely lacks fluid can suffer heart and blood vessel collapse and even death if not treated quickly. True or False
10. When you pinch the skin on the back of someone's hand, it will spring back to normal quickly if the person is dehydrated. True or False

# Achievement Certificate

**Awarded to:** \_\_\_\_\_

**For Completing the One-Hour Course Entitled**



**“Malnutrition  
and  
Dehydration”**

**Date of Course:** \_\_\_\_\_

**Facility or Agency:** \_\_\_\_\_

**Presented by:** \_\_\_\_\_

(Signature of presenter, or write “self-study”)