

Keeping Clients Hydrated

Is Water Enough?

NUTRITION CONNECTION



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Multiple risk factors for dehydration exist in the resident and patient population. Dehydration is associated with poor health outcomes, loss of functional status, and reduced quality of life. Nutrition and foodservice professionals play an important role in healthcare settings by providing opportunities for residents and patients to achieve optimal hydration status. Following are practical ideas that certified dietary managers and other members of the nutrition care team can use to support these clients in meeting fluid needs.

FLUID NEEDS

Water is an essential nutrient and although it contains no calories, it is required for our very existence. We can survive only minutes without air and only days without water. Of our total body weight, anywhere from 45 to 75 percent is comprised of water, depending on the amount of body fat we have. Water not only makes up the largest component of the body, it is used continuously by every cell and for the following critical functions:¹

- Help regulate body temperature
- Maintain skin integrity

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- Promote bowel regularity
- Lubricate and cushion joints
- Transport oxygen and nutrients to cells via blood
- Surround and fill cells and tissue and cushion internal organs
- Prevent fluid retention and edema

Our bodies lose more than two liters of water each day through respiration, perspiration, urination, and defecation. Since the human body cannot store water, this water loss needs to be replaced by water intake. While there are no formal recommendations for how much plain water adults and children should drink each day, there are recommendations for daily fluid intake for healthy people.

Daily fluid intake (total water) is defined as the amount of water consumed from foods, plain drinking water, and other beverages such as juice, milk, coffee, tea, and soda. Recommendations for daily fluid intake vary by age, sex, pregnancy, and breastfeeding status. The general recommendation or adequate intake (AI) for total water for women is approximately 2.7 liters (91 ounces) each day, and for men approximately 3.7 liters

(125 ounces) each day.ⁱⁱ

HYDRATION STATUS

Getting enough water every day is important for health. Most healthy people can meet their daily fluid needs by consuming beverages with meals and when they are thirsty. Eighty percent of total water intake comes from drinking plain water and other beverages, and 20 percent of total water intake comes from food.ⁱⁱⁱ Plain water intake varies by age, race/ethnicity, socioeconomic status, health status and behavioral characteristics. In the U.S., plain water intake is lower in older adults, lower-income adults, and those with less education.^{iv} Water intake that is consistently below recommended levels may affect health status and contribute to dehydration, especially for older adults.

Dehydration is defined as an abnormal loss of body fluids caused by a decrease in fluid intake and/or an increase in fluid loss. Achieving fluid balance is complex and there are multiple risk factors for dehydration in the resident and patient population including:

- **Acute, chronic, and terminal illnesses** and those involving diarrhea, fever, infection, and vomiting

- **Advanced age**, which can alter cognitive and physical function, decrease thirst perception, decrease ability to ask for and obtain fluids, and affect ability to swallow
- **Altered diets**, including the need for enteral nutrition, fluid restriction, restricted diets, and thickened liquids
- **Medications** such as antihistamines, blood pressure medications, chemotherapy, diuretics, and laxatives

Dehydration can be measured by a blood test that shows a serum osmolality greater than or equal to 295 mmol/kg. The signs and symptoms of mild to moderate and severe dehydration include:

Mild to moderate dehydration

- Decreased urine output
- Dry, sticky mouth
- Fatigue and weakness
- Headache, dizziness, or lightheadedness
- Thirst

Severe dehydration

- Change in mental status, confusion
- Coma
- Constipation

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- Decline in ability to engage in activities of daily living (ADL)
- Little or no urine output
- Postural hypotension
- Tachycardia
- Weight loss

Dehydration in the resident and patient population is associated with poor health outcomes, including increased risk of disability and mortality. There is also a significant economic burden associated with avoidable hospitalizations due to dehydration in elderly patients, with potential cost savings of over \$1 billion.^v Preventing dehydration may improve health, functional status, and quality of life. Consuming adequate fluids is the most effective way to prevent dehydration, but this can become a challenge for those who are ill or for older adults with a wide range of physical, cognitive, sensory, and behavioral needs.^{vi}

The long-term care resident population in particular often experiences cognitive and physical problems that affect their ability to remember to drink or to obtain beverages. They may have concerns about incontinence and needing assistance with toileting that leads to a refusal to drink fluids. This is further complicated by some of the physiological effects of aging, such as a diminished thirst perception and a reduction in the body's ability to maintain adequate water balance.

PREVENTION

Due to the multiple risk factors described above, the patient and resident population are particularly vulnerable to developing dehydration in the healthcare setting. As integral members of the healthcare team, food and nutrition professionals play a role in preventing dehydration of these clients. Confirm that your organization has an action plan in place for achieving hydration and review the plan. Work with members of the healthcare team to implement an overall hydration plan and monitor its effectiveness.

Food and nutrition professionals are in a unique position in acute and long-term care settings to contribute to optimal hydration status for patients and residents through their role in providing foodservice and nutritional care. **E**

10 PRACTICAL WAYS food and nutrition professionals can contribute to increasing fluid intake in the residents and patients they serve:

1. Encourage patients and residents to drink water and beverages consistent with their diet order.
2. Urge patients to make beverage selections with their daily menu order and note preferences.
3. Provide a variety of beverages for the nursing team to use with medication passes.
4. Alert the healthcare team when clients are not selecting or consuming beverages.
5. Include water at all meals and snacks.
6. Infuse water with sliced cucumber, gently crushed berries, fresh mint, or citrus slices to increase appeal.
7. Set up a hydration station in a visible location that families, volunteers, and the nursing team can use to support residents.
8. Celebrate happy hour with mocktails, smoothies, and other refreshments.
9. Stock a variety of flavorful, colorful, and nutritious fruit and vegetable juices.
10. Offer foods high in water content such as broths, soups, cream of wheat, meats, cottage cheese, and fruits and vegetables including celery, cucumber, lettuce, berries, and melons.

REFERENCES

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1. Of our total body weight, anywhere from ___ to ___ percent is comprised of water.
 - A. 10 to 20
 - B. 45 to 75
 - C. 30 to 50
2. Water in the human body is used for the following critical functions
 - A. Lubricate and cushion joints; help regulate body temperature
 - B. Maintain skin integrity; promote bowel regularity
 - C. All of the above
3. The general recommendation or adequate intake (AI) for total water for women is approximately ___ daily.
 - A. 2.7 liters
 - B. 2.7 milliliters
 - C. 3.75 liters
4. The general recommendation or adequate intake (AI) for total water for men is approximately ___ daily.
 - A. 2.7 liters
 - B. 3.7 liters
 - C. 4.2 liters
5. Risk factors for dehydration in patients and residents include
 - A. Acute, chronic, and terminal illness; medications
 - B. Advanced age; altered diets
 - C. All of the above
6. Identify one practical way that food and nutrition professionals can contribute to increased intake in clients
 - A. Include water at all meals and snacks
 - B. Nag until you get the client to swallow three sips of water
 - C. Put family members in charge of getting their loved one to drink water
7. Signs of severe dehydration include
 - A. Change in mental status, confusion; constipation
 - B. Little or no urine output; tachycardia
 - C. All of the above

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