



Section 6

Water

Most nutrients essential to life can be utilized by the human body only in their combination with water. Water provides the medium within which other nutrients may function and is the essential building material for cell protoplasm. It is the main transportation mechanism in the body, conveying oxygen, nutrients, hormones, and other compounds to the cells for their use. Water helps regulate acid-base balance and body temperature.

Body Water Requirements

The average adult male requires approximately 2800 milliliters of water per day to maintain adequate water balance in the body. Conversely, the average adult female requires approximately 2000 milliliters (2 liters or slightly more than 2 quarts) of water per day. Body water balance is maintained when the intake of water matches the output of body fluids.

Avenues of Daily Water Loss

Urinary output is the main avenue for water loss.

Water lost through insensible perspiration (perspiration which is not visible).

Water lost in feces.

Water lost through exhaled air during breathing.

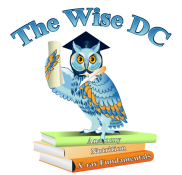
Means of Water Intake

The main source of body water intake is due to the fluid intake of beverages.

Solid foods contain water. For example, foods such as lettuce, melons and other fruits contain about 90% water.

Fat, carbohydrate and protein metabolism all produce water when broken down into energy. This water is called metabolic water.

Several hormones and the sensation of thirst help maintain water balance on a day-to day basis. When exercising in the heat, body water losses can greatly exceed fluid intake. In such cases, several different heat illnesses may occur, such as heat exhaustion and heat stroke.



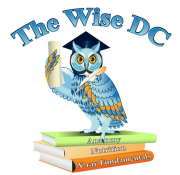
Daily Water Loss / Intake For the Adult Female

Water Loss

<u>Source</u>	<u>Quantity</u>
Urine output	1100 ml
Water in feces	100 ml
Lungs, exhaled air	200 ml
Skin, insensible perspiration	600 ml
Total	2000 ml

Water Intake

<u>Source</u>	<u>Quantity</u>
Fluids	1000 ml
Water in food	700 ml
Metabolic water	300 ml
Total	2000 ml



Water is just as essential for our bodies because it is in every cell, tissue, and organ in your body. That's why getting enough water every day is important for your health.

Healthy people meet their fluid needs by drinking when thirsty and drinking fluids with meals. But, if you're outside in hot weather for most of the day or doing vigorous physical activity, you'll need to make an effort to drink more fluids.

Where do I get the water I need?

Most of your water needs are met through the water and beverages you drink.

You can get some fluid through the foods you eat. For example, broth soups and other foods that are 85% to 95% water such as celery, tomatoes, oranges, and melons.

What does water do in my body?

Water helps your body with the following:

- Keeps its temperature normal.
- Lubricates and cushions your joints.
- Protects your spinal cord and other sensitive tissues.
- Gets rid of wastes through urination, perspiration, and bowel movements.

Why do I need to drink enough water each day?

You need water to replace what your body loses through normal everyday functions. Of course, you lose water when you go to the bathroom or sweat, but you even lose small amounts of water when you exhale. You need to replace this lost water to prevent dehydration.

Your body also needs more water when you are:

- In hot climates.
- More physically active.
- Running a fever.
- Having diarrhea or vomiting.

To help you stay hydrated during prolonged physical activity or when it is hot outside, the Dietary Guidelines for Americans 2005 recommend these two steps:

Drink fluid while doing the activity.

Drink several glasses of water or other fluid after the physical activity is completed.¹



Also, when you are participating in vigorous physical activity, it's important to drink before you even feel thirsty. Thirst is a signal that your body is on the way to dehydration.

Some people may have fluid restrictions because of a health problem, such as kidney disease. If your healthcare provider has told you to restrict your fluid intake, be sure to follow that advice.

Tips for Increasing Your Fluid Intake by Drinking More Water

Under normal conditions, most people can drink enough fluids to meet their water needs. If you are outside in hot weather for most of the day or doing vigorous activity, you may need to increase your fluid intake.

If you think you're not getting enough water each day, the following tips may help:

- Carry a water bottle for easy access when you are at work or running errands.
- Freeze some freezer-safe water bottles. Take one with you for ice-cold water all day long.
- Choose water instead of sugar-sweetened beverages. This tip can also help with weight management. Substituting water for one 20-ounce sugar-sweetened soda will save you about 240 calories.
- Choose water instead of other beverages when eating out. Generally, you will save money and reduce calories.

Give your water a little pizzazz by adding a wedge of lime or lemon. This may improve the taste, and you just might drink more water than you usually do. You need to replace this lost water to prevent dehydration.¹

¹ <http://www.cdc.gov/nutrition/everyone/basics/water.html>