

# Water and Wellness



BY PAT GLEICH

Water, one of God's many gifts in creation, has the power to cleanse, purify, sustain and renew us. Water covers three-fifths of the earth; it makes up almost 75 percent of the human body. We, quite literally, cannot live without water. In the body, water dissolves the food, vitamins and medications that we take in. It also transports nutrients and hormones within the body. Water produces hydroelectric energy, especially in the brain. It enables proteins and enzymes to function more efficiently, allowing the body to function at optimal conditions. Staying hydrated has a number of benefits, including a stronger constitution, a feeling of increased energy, better athletic performance and softer, healthier-looking skin and hair.



Nancy J. Haws/Water for People

## Insufficient Hydration Can Be Harmful

The effect of insufficient water on our bodies can diminish normal body functioning, exacerbate existing health conditions, cause short-term discomfort and contribute to long-term damage. Symptoms of dehydration include weakness, loss of energy, muscle cramps and dizziness. When our bodies lack sufficient water for hydration, they begin to ration water use. Histamine is a neurotransmitter, a substance that transmits nerve impulses. When the body is dehydrated, histamine becomes active and redistributes water throughout the body. The order of circulatory priority is the vital organs—brain, lungs, liver, kidneys and glands. Muscles, bones

and skin may not receive any of the limited supply of water, causing pain.

Chronic dehydration can lead to, or increase risk for, other conditions, ranging from mild to serious, including:

- **gastric pain**, which can range from simple heartburn to gastroesophageal reflux disorder (GERD). Without sufficient water, food may remain in the stomach longer than would be healthy. Over a period of weeks or months, levels of stomach acid increase. If stomach acid enters the esophagus, a person will experience heartburn.
- **joint pain**. As cartilage surfaces glide over one another in joints,

some exposed cells become worn and peel away. Water transports the nutrients required for maintenance and repair of cartilage.

Dehydration may increase the abrasive damage and delay its repair, resulting in joint pain.

- **asthma and allergies**. During chronic dehydration, the body attempts to conserve water by preventing unnecessary water loss. Simply exhaling rids the body of a large amount of water through water vapor.

Histamine may attempt to restrict water loss through exhalation by constricting the bronchial muscles, thus interfering with breathing.

- **urinary tract infections, kidney stones and constipation**. When water is in short supply in the body, the colon restricts unnecessary water loss through stool. Colon muscles contract to squeeze out and subsequently recirculate water. This can result in harder stools that are not only more difficult to pass, but also may irritate and weaken the walls of the colon. The liver and the kidneys refilter this recirculated water, placing additional strain on them and often leading to kidney stones and urinary tract infections.
- **depression**. Water delivers the amino acid tryptophan to the brain for the production of the neurotransmitter serotonin, which is needed to make melatonin, a substance with antioxidant

capabilities that promotes a sense of well-being. Dehydration may limit the amount of tryptophan available to the brain.

- **lower blood volume and cardiac problems.** A loss of as little as two percent of one's body weight through sweating can lead to decreased blood volume. When this occurs, the heart works harder to move blood through the body.

### Calculating and Increasing Water Intake

According to Mayo Clinic Women's Health Service, a woman's daily intake of water should be half an ounce of water per pound of body weight. For example, a 120-pound woman should drink 60 ounces of water, or 7.5 cups, each day. Consume water regularly throughout the day. It is best to drink water on an empty stomach to avoid unnecessary dilution of digestive juices; drink water at least a half hour before eating.

Two cups of water or herbal tea in the morning reverse the mild dehydration that may have occurred overnight. Try to get into the habit of bringing a water bottle with you to work or when you go to work, shop, exercise or run errands. An easy way to keep cold water on hand is to freeze half a bottle of water and then fill it up the rest of the way before you go out. Remember not to reuse plastic bottles from bottled water more than once or twice—the chemicals in the plastic begin to break down and become mixed with the water. Improperly washed bottles also may harbor bacteria.

If you get bored with drinking plain water, try herbal teas or lemon or lime slices in your water. Be cautious about adding substances that might cancel out the helpful effects of the water. Coffee, tea, soft drinks, juice and alcoholic beverages have a diuretic effect, encouraging the body to excrete water through urination rather than retain it.

Smoothies made with fruit, low-fat yogurt, soy protein powder,

## DAILY WATER REQUIREMENTS\*

WEIGHT (IN POUNDS)	8 OZ. GLASSES OF WATER	
100	6.25	
120	7.5	
140	8.75	
160	10	
180	11.25	
200	12.5	

Debbie Paris

\* Chart compiled from information from The Mayo Clinic

ground flaxseed and water or skim or soy milk also help with hydration. Remember that many healthy foods are loaded with water—soups, fruits and vegetables, especially watermelon, oranges, apples, cucumbers, iceberg lettuce and tomatoes contain high concentrations of water.

### Bottled, Filtered, Purified or Tap Water?

With so many sources of water available, water quality becomes an issue. Companies that bottle water use a variety of methods to filter the water; others simply bottle tap water. Some states have poor or no regulations for bottled water. If you are using bottled water, investigate the source; call the customer service number or visit the company's Web site for the brand of water you drink and ask what filtration methods are used, what is taken out of the water and what is left in.

Home water filtration and/or purification systems are fairly common. Filtration systems pass water through a series of sediment filters and activated carbon filters, removing larger particulates and neutralizing taste and odor. Some systems filter all water coming into a home; other systems can be installed under a sink or counter to filter water coming out of a single tap. Some systems also include steps for purification—passing water through a semipermeable membrane

that eliminates dissolved metals, bacteria, chemicals, algae and sodium. The water then goes to a holding tank and proceeds to a tap or cooler for consumption.

Hyperfiltration—reverse osmosis—removes particles as small as ions from a solution; it extracts salts and other impurities to improve the color, taste and properties of water. It produces water that meets the most demanding standards currently in place.

Another smaller-scale option for filtration is a simple carbon filter in a pitcher or on a faucet. These options are inexpensive and effective, although the filters should be changed regularly. Activated charcoal (carbon) filters remove organic compounds, odors, tastes and pesticides. Some remove heavy metals.

As with any substance ingested by our bodies, fluid needs can be different for people who have certain medical conditions. People with kidney problems or other conditions in which fluid intake must be limited should follow their health provider's recommendations. With the right fluid intake for your body and health conditions, you can be energized for your work and ministries.

Pat Gleich is associate for National Health Ministries. Learn about other healthy activities on the National Health Ministries Web site, [www.pcusa.org/health/usa](http://www.pcusa.org/health/usa).