

Water plays an important role in our lives. Over the years it has provided mankind with a method of transportation, given us a resource for recreation, and is a primary reason life is sustainable on this planet. Water cools the planet through a process called transpiration where it is evaporated from the leaves of plants and trees. It has even been suggested by scientists at the University of Manchester, England, that increasing the amount of green space in urban regions by as little as 10% could lower the temperature of the earth by more than 7 degrees Fahrenheit over the next 75 years. The process by which this occurs is called evaporative cooling. This is very similar to the process of perspiration which cools our bodies, which is also done through evaporative cooling.

Water is so important because approximately 2/3 of our bodies is water. All the complex chemical processes that take place in our bodies require water to occur. All body fluids are formed from water including blood, joint fluids, and digestive fluids. It carries nutrients into and through the body and aids in the elimination of waste. It plays a role in all bodily functions including the prevention of disease.

One of the most common water related disorders is dehydration. A normal adult can expect to lose approximately 80 ounces of water a day under normal conditions. Dehydration occurs when you lose more water than you take in. Children and the elderly are particularly susceptible to dehydration. They are at even greater risk if they are suffering from vomiting or diarrhea.

Others at high risk for dehydration include individuals who participate in endurance athletic activities such as biking, marathons, triathlons, and long hikes or climbs. People with chronic illness such as diabetes, kidney disease, adrenal disorders and alcoholism are also at greater risk. Certain medications can increase your risk for dehydration. Even being at altitudes above 8000 feet increases your risk of dehydration. At those elevations there is less water in the air; and if you are not used to the altitude your heart rate increases and you breathe faster causing you to lose water in your breath.

Dehydration can occur as a result of illness or disease, overexertion or overheating. Heavy sweating in hot weather can lead to dehydration. Even sitting at the beach or being on the water in the summer can reduce your body water concentration if you do not consciously re-hydrate during the day. While commonly thought of as a summer problem, dehydration can also occur in the winter. When the humidity in the air becomes low enough you can become dehydrated simply by exhaling moisture rich air and inhaling very dry air.

Brain function is particularly susceptible to dehydration. With as little as 2% dehydration, mental ability is significantly reduced and short term memory is diminished. As dehydration continues the cells in the brain will begin to shrink and can be permanently damaged.

Poor hydration affects more than just mental function. It can cause dull hair, premature aging of the skin, bad breath, muscle weakness, headache, dizziness, low blood pressure, rapid heart rate, and in an apparent paradox, fluid retention. Fluid retention

occurs as your body fights to maintain its water stores. Even healing from musculoskeletal disorders takes longer if you are not properly hydrated.

You can prevent dehydration very easily. Drink water. Drinking other fluids such as coffee, soda, or other sugary drinks do not replace water as efficiently as water itself. When ingested, water is absorbed almost immediately. If the fluid contains sugar, the body needs to use water in the digestive process to digest the sugar. In addition, drinks containing caffeine act as diuretics and will dehydrate you further. And what about drinking that cold beer on a hot afternoon after work? Well, alcohol is another diuretic and leads to further dehydration. To make matters worse, carbonated beverages increase the rate of alcohol absorption and thereby increase the rate of dehydration. This makes beer, mixed drinks with soda, and alcohol in general the worst way to attempt to replace your body water.

If you think you may be becoming dehydrated immediately increase your water intake. If a child or older adult is suffering from dehydration you need to be much more cautious. If they have severe diarrhea, or moderate diarrhea for more than three or four days, have been vomiting for more than eight hours, are overly sleepy or irritable, or if they can't keep fluids down, they should be seen by their doctor immediately. If you believe they are severely dehydrated immediately take them to the emergency room

The best treatment for dehydration is prevention. Drink lots of water. Your daily intake should be at least one-half your body weight in fluid ounces. For example, if you weigh 100 lbs drink 50 ounces of water. If you are active when is very hot or cold, if you are exercising, or if you are at high altitudes drink even more water.

So enjoy the summer! But remember to drink plenty of water so you can enjoy it safely.