Could you be chronically dehydrated ? Many people are and never realize it. Our bodies require at least eight glasses of water per day, more during exercise, illness, and hot weather. People often think that even if they don't actually drink water, they are getting enough by drinking coffee, tea, soft drinks, juice or beer. The truth is that many of these beverages have a diuretic effect, encouraging the body to excrete water through urination, rather than retaining it. Think about a grape versus a raisin. The one is plump and full and juicy, containing all its natural water. The other is small, dry, shriveled, its water gone. Although a grape in dehydrated condition is still a good and useful fruit, the human body when dehydrated does not function at its best and may be at risk for many ailments.

The body is composed of nearly 75% water, and water is required for many of its essential functions. Water is utilized as a solvent. It also provides a means to transport nutrients, hormones and other elements. It is used to produce hydroelectric energy, especially in the brain. It is essential for maintaining cell structure. Water is also necessary to maintain a lower serum viscosity that enables proteins and enzymes to function more efficiently. Chronic dehydration can lead to a loss or decease in these functions and may ultimately result in disease or can exacerbate an existing condition. Contrary to popular belief, dry mouth or thirst is not the first sign of dehydration.

All life began in water; even the developing fetus is surrounded by water. When the body is deprived of water, a water rationing system takes effect. Histamine, a neurotransmitter becomes active and redistributes water throughout the body. The order of circulatory priority is the brain, lungs, liver, kidneys, and glands, then comes the muscles, bones and skin. During periods of dehydration, histamine insures that these vital organs have enough water to function properly. If enough water is not supplied, it must be taken from within the body. Chronic dehydration can cause histamine to become excessively active. This may result in symptoms that may be mistaken for other disorders such as allergies, asthma, dyspepsia, colitis, constipation, rheumatoid arthritis, and chronic pains in various parts of the body such as migraine headaches.

Dyspeptic pain, which can range from simple heartburn to gastro-esophageal reflux disorder (GERD), may be one of the early signs of dehydration. During the early digestive process when food enters the stomach, hydrochloric acid (HCl) is secreted to activate the enzymes to breakdown the proteins found in meat and dairy. The acidic contents of the stomach, called chyme, is then pumped into the small intestine by passing through a valve, called the pyloric sphincter. This acid chyme must be neutralized before it damages the intestinal lining. The pancreas is responsible for secreting the bicarbonate ions to neutralize the acid. A large amount of water is required to produce this bicarbonate solution. If sufficient water is not available, the digestive process may be delayed and food may remain in the stomach longer than necessary. Over a period of time, the stomach acid may rise and if allowed to enter the esophagus, will produce the sensation known as heartburn. Ideally, water should be taken 30 minutes before meals, during meals, and again two hours after eating.

Another possible complication of dehydration is joint pain. The cartilage in your body, including your joints, is composed mainly of water. As cartilage surfaces glide over one another, some exposed cells become worn and peel away. New cartilage is normally produced to replace the damaged cells. Due to the lack of blood vessels in cartilage, water is needed to transport the nutrients required for maintenance and repair. Dehydration may increase the abrasive damage and delay its repair, resulting in joint pain.

Asthma and allergies can be another indication that the body has increased production of histamine. During chronic dehydration, the body will attempt to conserve water by preventing unnecessary water loss. A large amount of water is normally lost from the lungs as water vapor through expired air. Histamine, which also controls bronchial muscle contractions, may attempt to restrict water loss through expiration by constricting the bronchial muscles.

Another complication of dehydration can be constipation. When water is in short supply in the body, the colon will act to restrict unnecessary water loss through the stools. Colon muscles will contract to squeeze out and subsequently reabsorb water back into circulation. This can result in harder stools that are not only more difficult to pass, but may also irritate and weaken the walls of the colon, resulting in small pockets known as diverticuli. Since the water that the colon reabsorbs back into circulation is not filtered water, but wastewater, it must then be filtered by the liver and the kidneys. This may place additional strain on these overworked organs.

Depression may be another complication of chronic dehydration. The amino acid tryptophan is required by the brain to produce the neurotransmitter serotonin, which subsequently is needed to make melatonin. An adequate amount of water is required for tryptophan to be transported into the brain. Dehydration may limit the amount of tryptophan available to the brain and to complicate matters, the histamine levels may actually stimulate tryptophan's breakdown in the liver.

Most of the body's water is found within the cells, and the next largest amount is in the fluid surrounding the cells. If water is not replaced frequently, this surrounding fluid may continue to accumulate waste material and other contaminates. The pumps in your cell membranes may not work as efficiently because allowing dirty water into the cell can cause cellular damage or cell death. You wouldn't bathe in the same bath water without first cleaning the tub and adding fresh water. Why would you allow your cells to be surrounded by waste material?

In conclusion, water is vital to good health and there is no substitute for water. However, years of chronic dehydration can not be reversed overnight by simply drinking a couple of glasses of water. Rather water intake should be gradually increased. How do you know if you're drinking enough water? Your urine should be clear or lightly colored. A darker colored urine may be an indication that your kidneys are working hard to concentrate the urine.

Of course, under no circumstances should anyone discontinue taking any prescription medications without the close supervision of their physician.

Recommended reading:

YOUR BODY'S MANY CRIES FOR WATER (You are not sick, you are thirsty)