

Avoiding Dehydration

I came home from work today with a stomachache. Now it may have been because I had to go to work when I am technically on vacation, as I was sure to tell anyone willing to listen. But I actually think it had more to do with working over my computer all day, forgetting to drink, then going out in the heat. I think I was dry. Putting my hypothesis to the test, when I got home I had several large glasses of ice water-and felt much better.

I guess there's a limit to what I can do with this particular anecdote, but the fact remains that good hydration is essential to health, and that hot summer weather (particularly this summer) places us at risk of dehydration.

Dehydration is the loss of body water, which makes up at least 60% of our total mass (in other words, we are mostly water). Blood electrolytes, such as sodium, may be concentrated when water is lost, leading to mild or severe metabolic imbalances. When very advanced, such imbalances can lead to seizure or even death. This virtually never happens to a healthy person, with a normal thirst mechanism, and access to fluid. Unfortunately, it can happen to disabled elderly if they don't have adequate care, and is a common reason for an elderly person to be sent from a nursing home to the hospital.

Adequate hydration keeps blood flowing normally, lowering the risk of blood clots. It helps maintain

circulation to all of the vital organs. Dehydration can affect the brain by leading to fatigue, somnolence, confusion. It affects the kidneys by stimulating them to concentrate the urine, increasing the risk of kidney stones. It reduces the fluid available for normal secretions in the gastrointestinal tract, interfering with normal digestion. In the elderly, dehydration is a common cause of, or contributor to, severe constipation. Dehydration also adversely affects the skin, and possibly the immune system.

When the kidneys are functioning normally and the diet is not restricted, the best way to replace lost fluid is to drink water. There is no evidence that the electrolyte-rich drinks on the market offer any advantages over water. However, when dehydration occurs after vigorous activity and the loss of fluid in sweat, an electrolyte-rich drink such as Gatorade is fine.

To be avoided when replacing lost fluid are all varieties of soda. Whether or not such drinks provide empty calories, they always provide an array of chemicals and virtually no nutrient of value. They also often provide a phosphorous load, which may be detrimental to bone, although this is uncertain. Fruit juices offer concentrated nutrients, including antioxidants in many cases. So drinking juice when thirsty may offer nutrient benefits, but at the cost of more than 100 calories per glass. Water may still be the best bet, with juice a good choice when less thirsty, so that quantity can be controlled.



Avoiding Dehydration

Alcoholic beverages may actually contribute to dehydration, depending on the concentration of alcohol, so are not a good choice. Of course, there are many other good reasons not to drink excess alcohol, although moderate consumption has health benefits.

The same concern pertains to caffeinated drinks such as iced coffee or iced tea; the caffeine in such drinks can act as a diuretic, producing net loss of fluid. This is more likely with coffee than tea, due to the higher caffeine intake, and varies by individual.

In general, a healthy thirst mechanism is your best guide. But in case yours is unreliable, drink at least 3-5 8oz glasses of water daily, especially in the summer heat.

David L. Katz, MD, MPH
Preventive Medicine Column

Yale-Griffin Prevention Research Center
130 Division Street · Derby, Connecticut 06418
Main: 203-732-1A0K (1265)
E mail: CATS@yalegriffinprc.org
Website: www.yalegriffinprc.org

