

## Don't count on those '8 glasses' to determine your proper fluid intake

by R.J. Ignelzi

This season's popular accessories? Oversized cocktail rings, chunky shoes and ubiquitous bottles of designer water.

Turns out, the jewelry and cloddy footwear make more sense than all that H<sub>2</sub>O.

FLOW CHART - The long-held recommendation to drink at least eight glasses of water a day is all wet, medical experts say. CNS Photo by Earnie Grafton. The long-held recommendation to drink at least eight glasses of water a day (in addition to other fluids we down) is all wet, medical experts say.

"It's an old wives' tale that we need to drink eight glasses of water each day," says Dr. Kenneth Roth, an internal medicine physician at Sharp Community Medical Group in San Diego. "Hydration is good for you, but you have to drink appropriately."

How much fluid we need varies among individuals depending on age, general health, how long and how intensely you exercise, what foods you eat, what medications you take and how much you sweat.

Straying too far from your hydration limits can have devastating effects. Too little water means dehydration and your organs shut down. Too much water and you can experience hyponatremia or water intoxication. Your blood becomes diluted, your brain swells and coma or death can follow, as demonstrated recently by a California woman who died after participating in a radio station's water-drinking contest.

In 2004, after reviewing more than 400 studies, the National Academy of Sciences' Institute of Medicine rejected conventional hydration wisdom. It concluded that most men need about 15 1/2 cups of fluid a day and women about 11 1/2 cups.

Before you feel compelled to chug another glass of water, be aware that this recommendation includes fluids from all beverages and foods, including the milk on your cereal, the two cups of coffee you had this morning, the juicy orange you ate as a snack and the chicken noodle soup you had for lunch.

The academy said the majority of Americans already get that much liquid in their everyday diets.

But, just because we don't need to guzzle as much water as once believed doesn't mean we should be running on empty.

"The idea of drinking water is really essential to maintain normal good health," says Dr. James Dunford, emergency room physician with University of California San Diego Medical Center and medical director of San Diego's EMS system. "Water is needed to help preserve body functions and vital organs and maintain blood pressure. It brings nutrients to the cells and washes away the toxins. Water is the most important molecule we commonly take for granted."

Even mild dehydration, a loss of just 1 percent to 2 percent of body weight, can produce symptoms including weakness, dizziness, fatigue, headache, and reduction in mental and physical performance. If dehydration continues, your body may not have enough water to dissipate heat through sweating, which can result in heatstroke and even death.

"Many more people are still not properly hydrated than overly hydrated," says Cedric Bryant, chief exercise physiologist for the American Council on Exercise. "Just because of what happened with the (Sacramento woman in the radio contest), we don't want people to have an unnecessary fear of fluid consumption."

## LISTEN UP

Listening to your own body is the best way to gauge your hydration needs, doctors say. When you're thirsty and seem to be sweating buckets after a long period of exercise or being outside on a summer afternoon, drink. But, if you're barely sweating and not thirsty, skip the frequent water breaks.

However, sometimes certain people need to give special attention to fluid intake. The elderly may need to monitor their fluids more closely, because the sense of thirst tends to diminish with age. And, when illness causes fever, diarrhea or vomiting, extra fluids supplemented with electrolytes are needed to replace those lost

essential body salts.

Electrolytes, such as sodium and potassium chloride, control the movement of water in and out of the cells of the muscles and organs. They're available in some sports drinks, salty foods and solutions such as Pedialyte for children.

Endurance athletes, such as marathon runners and long-distance cyclists, need to pay attention to their hydration to maintain a healthy balance of enough fluids, but not too much.

Once instructed to drink, drink and drink, athletes are now told to drink smartly to avoid hyponatremia or water intoxication.

"We've changed our attitude about excessive hydration at marathons," says Dr. Mark Bracker, a UCSD

Medical Center family practice physician and marathon runner. "Now at races we will have electrolyte solutions to help replace what the body is sweating off. But, we tell them not to overconsume it."

For shorter runs, less than an hour or a 10-kilometer event, runners are told not to drink anything during the race.

Water intoxication happens when you drink vast amounts of water in a fairly short amount of time. The excess water dilutes the salt in the blood stream, which seeps into the brain cells and causes the brain to swell and push against the skull. When Jennifer Lea Strange, the Sacramento-area woman who died after a water-drinking contest, complained of a severe headache, this is what she was experiencing, doctors say.

Besides headache, some of the other symptoms of hyponatremia are nausea, muscle weakness and cramping - some of the same symptoms of dehydration. Untreated, water intoxication can result in convulsions, coma and death.

Although still relatively rare, hyponatremia has become more of an issue in the last few years as more novice runners are attempting marathon and ultramarathon distances. These amateurs are on the course for five to eight hours. They're not sweating that much because they're not moving that fast, but they're drinking more - often a cup of water at every aid station - because they're out there for a longer period of time. That much water can be dangerous.

During the first couple of years of San Diego's Rock 'n' Roll Marathon, there were nearly a dozen people who had to go to the ER and two or three who went into a coma because of water intoxication, Dunford says.

"They kept drinking water throughout the race at every rest stop, plus they continued to drink after the race and at home," he says. "Nobody warned them that they could drink too much water."

Instead of guzzling gallons of water the morning of or during an endurance event, think about adequately hydrating the day before, along with eating salty foods like pretzels or potato chips, says Dr. Paul Stricker, sports medicine specialist at Scripps Clinic in San Diego. During the race, it's wise to take only a couple of swallows of water or sports drink about every 20 to 30 minutes of exercise "just to top off the system and keep you consistently hydrated," he says. "Don't wait until you're really thirsty because then you're just playing catch-up."

Last May, the International Marathon Medical Directors Association released its hydration guidelines, which concluded that runners should simply drink when thirsty. The association favors sports drinks over water when running longer than 30 minutes because they contain both carbohydrates for energy and electrolytes. The American College of Sports Medicine offers similar advice.

To find out how much fluid you should drink after exercise, Stricker recommends the weigh-in test. Weigh yourself naked before exercise and then again after exercise. For every pound you lose, drink 16 ounces of fluid.

Some believe the color and odor of your urine indicate proper hydration. The more intense the color and odor, the better chance you're dehydrated. However, UCSD's Bracker says that's unreliable.

"A lot of things can change the color or smell of your urine. If you're taking vitamins, for example, your urine may be a dark orange color. And, we know what eating asparagus does," he says. "A better (gauge) is to look at how often you're urinating. If you're urinating every hour or so, it's too often. You're drinking too



much."

It's a good idea to also check the clearness of your urine.

"Your urine can be bright yellow or orange from a multivitamin, but it should be clear," Stricker says. "If your urine is cloudy, it's too concentrated and it may mean dehydration."

"It's hard to come up with a cookbook exact amount that everybody should drink because everybody is different," he continues. "Water is basic for life. We need it, but we just don't need too much at once."

Figuring out your fluid level

Hydration advice has changed in recent years. Doctors offer the latest healthy hydration tips:

- Drink when you're thirsty. When you're not thirsty, don't force fluids, the National Academy of Sciences' Institute of Medicine says.
- Eat plenty of fresh fruits and veggies. According to the new recommendations of the Institute of Medicine, the fluids we get from foods count toward our daily hydration totals. Fresh produce is the best source.
- Drink enough fluids to maintain your body weight. Weigh yourself before exercise and then again after exercising. For each pound lost, drink 16 ounces of fluid.
- Drink electrolyte drinks or sports drinks containing sodium if you're exercising strenuously more than an hour or sweat profusely.
- Hydrate the day before an endurance event. Instead of drinking gallons of water the morning of a race, hydrate adequately the day before and chow down on some salty foods.

- Consider salt tablets for endurance events. "We used to pooh-pooh salt tablets (for active people). But, now we know that there are people who genetically lose salt easily in their sweat," says Dr. Paul Stricker, Scripps Clinic sports medicine specialist. "If these people just drink water, they can increase the risk of hyponatremia (water intoxication). They need the salt."

- Caffeinated drinks count toward hydration totals. The old adage that you should drink an extra cup of water for every cup of caffeinated beverage consumed doesn't hold water. A study at the University of Nebraska in 2000 found no significant differences in hydration when subjects drank caffeinated beverages and when they drank the same beverages without caffeine.

- Skip the anti-inflammatory pain relievers when exercising. Drugs such as aspirin, ibuprofen or naproxen could increase the risk of hyponatremia, because they "affect the body's ability to handle and utilize electrolytes properly," Stricker says. If you need a pain reliever during an exercise event, try acetaminophen (Tylenol).

- Check the clearness of your urine. Cloudy urine, no matter what its color, can mean it's too concentrated and indicate dehydration.

- People sick with fever or diarrhea or vomiting have increased fluid needs. Replace lost fluids with diluted juices or sports drinks containing electrolytes instead of water.

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