

Water Log

By ACSH Staff — April 1, 2001

Water is necessary to prevent overheating of the body; for fecal, urinary, and perspiratory excretion; and for bodily chemical reactions of numerous kinds. Environmental and physiologic conditions can greatly affect how much water the body loses. For example, in residents of hot climates, perspiratory water losses generally are much more than in residents of temperate regions. Exercising increases such water losses. So does fever.

Although metabolism produces some water, nearly all of the water in the human body comes from food and beverages. Solid foods can provide a goodly proportion of one's water requirement. In their original states, most foods contain at least a little water. And some foods particularly fruits and vegetables are more than 90 percent water by weight.

Not only do diets exemplified by the menu below conform to the current Dietary Reference Intakes for nonpregnant, nonlactating women 25-50 years old; they also provide considerable water.

A diet corresponding to this menu would have a daily caloric value of about 2,219 which is approximately the caloric intake the Food and Nutrition Board (FNB) of the National Academy of Sciences recommends for nonpregnant, nonlactating women 25-50 years old. In terms of solid foods alone, such a diet would provide 68 percent of what the FNB tacitly recommends "as the water requirement" for such women "under average conditions of energy expenditure and environmental exposure": 74 ounces. In its entirety, the diet would provide 80 ounces of water. There-fore, most sedentary, non-obese American women 25-50 years old eating according to this menu would not benefit physically from additional water intake.

Some guides not only specify how much water one should drink but also state which beverages are to be regarded as contributors to one's water requirement e.g., noncaffeinated beverages. The advice concerning noncaffeinated beverages stems from the well-established finding that caffeine is a diuretic i.e., it tends to increase the production and excretion of urine. Although as such caffeine is mild, some guides suggest that drinking eight ounces of a caffeinated beverage requires consuming the same volume of a noncaffeinated beverage. Such guidelines are far from accurate.

Food, Amount	Water Content as Percent of Weight	Water Content in Grams
	Eggs, scrambled, 2	73.2
	Whole-wheat toast, 2 slices	30.0
	Soft margarine, 4 tsp.	16.2

Strawberry
preserves,
34.5
1
tbsp.

7

Lentil soup with ham, 1.5 cups	85.8
Raw, shredded carrots, 1/4 cup	87.8
Raw, chopped green pepper, 1/2 cup	92.2
Shredded loose-leaf lettuce, 1 cup	94.0
Garlic-herb salad dressing, 2 tbsp.	41.6
Whole wheat crackers, 6	2.7
Raw apple with skin, 1 (three per pound)	83.9
Low-fat strawberry yogurt, 4 oz	76.5
Broiled salmon, 4 oz	67.0
Boiled new potatoes with skin, 4 oz	77.8
Pink grapefruit, 1/2	91.6
Boiled fresh broccoli, 1 cup	90.7
Raw, sliced tomato, 1	93.8
Raw, sliced avocado, 3 oz	74.3
Fresh lemon juice, 1 tbsp.	90.7
Granulated sugar, 1 tsp.	0
Chocolate cake, 3 oz	3.1
Total Water from Solid Foods	
Coffee, brewed, 8 oz	99.3
Milk, 1% fat, 8 oz	90.1
Orange juice, 6 oz	88.1
Tea, brewed, 6 oz	99.7
Water, tap, 6 oz	99.9

**Total Water from Solid Foods nad
Beverages**

A 1997 issue of *Annals of Nutrition and Metabolism* included a report of a study in which young men had abstained from ingesting caffeine and similar compounds for five days and had then drunk the equivalent of six presumably 6-ounce cups of coffee, thus ingesting over 600 mg of caffeine. The researchers found that partially substituting caffeinated coffee for other beverages had resulted in the subjects' passing, on average, 753 milliliters more urine than they had voided when they had consumed water instead. Evidently, this volume is roughly 69 percent of that of the caffeinated coffee the subjects drank.

But findings from a more recent study, published last year in the *Journal of the American College of Nutrition*, suggest that in the study described above the five-day absence of dietary caffeine had significantly contributed to the reported increase in urine volume. In the newer study, 18 healthy young men drank either water alone or water plus other beverages including coffee and caffeinated colas in assorted combinations. The researchers found that urine volumes had not varied according to whether the subjects had consumed caffeinated or noncaffeinated beverages. They said the reason their findings differed from those of the earlier study was probably that their subjects had regularly consumed caffeinated beverages daily until the experiment. Other investigators have likewise suggested that the body adapts to caffeine intake so that eventually it has little or no effect on water losses.

The studies referred to above had few subjects, and their findings apply mainly to healthy men. But these findings reinforce the conclusion that for many Americans particularly those whose diets are high in fruits and vegetables drinking a half-gallon of water is superfluous.

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