

Food & Nutrition

B vitamins bestow heartfelt benefits

Many studies in recent years have indicated that people who have high concentrations of the amino acid homocysteine in their blood face an increased risk of heart disease. The important role played by several B vitamins—notably folate and B₆—in breaking down this amino acid has led to a suspicion that diets rich in these vitamins protect the heart. Two new studies now offer strong support for this argument.

In one, Eric B. Rimm and his coworkers at the Harvard School of Public Health in Boston tallied 658 heart attacks and 281 deaths from heart disease over 14 years among 80,000 women enrolled in the ongoing Nurses' Health Study. Using detailed information on the women's eating habits that had been collected at the start of the study, Rimm's group compared the amount and kind of B vitamins in the diets of women with heart disease to those of the other participants.

Orange juice, broccoli, vegetables, and eggs are good natural sources of folate. Since Jan. 1, breads, rice, and pasta have been fortified with folate. Meat, potatoes, whole grains, chicken, and bananas provide B₆. In the Feb. 4 *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, Rimm's team reports that for each 200 micrograms (µg) of folate consumed daily, a woman's heart disease risk falls by 11 percent—even after accounting for other risk factors. Similarly, heart disease risk dropped 17 percent for each 2-milligram increase in daily B₆ consumption.

In fact, Rimm says, to cut heart disease risk, "daily vitamin intake of folate and B₆ ought to be higher than the current recommended daily allowance (RDA)," which for these women is 180 µg of folate and 1.6 mg of B₆. Women who consumed at least twice the RDA of each vitamin—with or without the aid of multivitamin supplements—faced the lowest risks. For them, Rimm notes, "heart disease risk was almost cut in half."

A multinational European study, published in the Feb. 10 *CIRCULATION*, finds that even in men and women with normal homocysteine concentrations, low B₆ consumption increases the risk of heart disease and stroke. Indeed, it found, people who were not getting the RDA of this vitamin faced almost twice the heart disease and stroke risk of those who ate recommended levels. —J.R.

Microwaves bedevil a B vitamin

Diets containing ample vitamin B₁₂, also known as cobalamin, not only help prevent pernicious anemia, they may also lower heart disease risk by reducing concentrations of the amino acid homocysteine in the blood. A new study now suggests that to preserve the integrity of this vitamin, chefs should avoid overcooking meats and dairy foods—a major source of cobalamin—especially in a microwave oven.

Fumio Watanabe of Kochi (Japan) Women's University and his colleagues tested 100-gram samples of milk or liquid emulsions made by mixing 10 grams of raw beef or pork with 50 milliliters of water. Heating each sample for 6 minutes in a microwave oven inactivated 30 to 40 percent of the B₁₂ that had been present, the scientists report in the January *JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY*.

The milk reached a boiling temperature after about 1 minute and steadily lost B₁₂ thereafter. Conventional boiling can also inactivate milk's B₁₂, though more slowly. It took about 25 minutes of regular boiling to inactivate as much of a milk sample's B₁₂ as microwaving achieved in 6 minutes. Acknowledging that the 6-minute microwave cycle would be considered "lengthy" for the reheating of refrigerated foods, Watanabe notes that such a period wouldn't be unusual for stewing meats or vegetables, steaming chicken, or preparing curries.

While his findings suggest that microwaves may be especially effective at destroying vitamin B₁₂, Watanabe says that how they do so remains a mystery. —J.R.

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