

Dairy's Role in Managing Blood Pressure

What role do dairy foods play in managing blood pressure?

Research shows the Dietary Approaches to Stop Hypertension (DASH) eating plan, a balanced eating plan that includes two to three servings of dairy foods and eight to ten servings of fruits and vegetables, may help lower blood pressure.^{1,2}

How might dairy foods help reduce the risk of hypertension?

A trio of minerals – calcium, potassium and magnesium – all found in dairy foods may play an important role in maintaining blood pressure.³ The DASH diet is rich in calcium, potassium and magnesium³ containing about two to three times the amounts most Americans get.^{2,4,5} A research review concluded that increasing dietary calcium intakes may help reduce high blood pressure.⁶

Percentage of individuals NOT meeting daily calcium and potassium adequate intake (AI) recommendations and estimated average requirements (EAR) of magnesium⁴

<u>Gender and Age (years)</u>	<u>Calcium (percent)</u> AI= 1,000 mg	<u>Potassium (percent)</u> AI= 4700 mg	<u>Magnesium (percent)</u> EAR = 350 mg
Males (19+)	63	94	64
Females (19+)	88	>97	67

Dairy foods are a good source of potassium in the American diet. Why is potassium important?

Potassium is a mineral that helps regulate fluids and mineral balance in the body to maintain a healthy blood pressure.⁷ This is an important role considering one in three Americans is living with hypertension.⁸ Without consuming three servings of dairy foods daily, it may be difficult to meet potassium requirements. The Dietary Guidelines encourage children and adults to enjoy three servings of low-fat or fat-free milk, cheese or yogurt each day.

In February of 2004, after an extensive review of scientific literature, the Institute of Medicine set the first-ever dietary reference intake (DRI) for potassium at 4700 mg a day for adults - more than double previous estimates.⁵ Three servings of dairy foods contain a total of about 1200 mg of potassium.

Potassium plays such an important role in blood pressure regulation and stroke prevention that the Food and Drug Administration has approved the use of this health claim for foods that are naturally low in sodium, fat and cholesterol, and provide at least 350 mg of potassium per serving, such as fat-free milk: "diets containing foods that are a good source of potassium and that are low in sodium may reduce the risk of high blood pressure and stroke."

Have recent studies reinforced the existing body of science showing a strong connection between dairy and a lower risk of hypertension?

Yes. In a National Heart, Lung and Blood Institute study,⁹ researchers examined the eating habits of almost 5,000 people. They found that those who took in two or more servings of low-fat dairy foods like milk, cheese and yogurt tended to have lower blood pressure, and that eating dairy foods was associated with a lower incidence of high blood pressure and lower readings of systolic blood pressure. The researchers noted that these findings support the recommendation of low-fat dairy food consumption as a means to lower blood pressure.

Additionally, studies show dairy foods, when consumed as part of a healthy diet, improve overall diet quality¹⁰ and may help to reduce the risk of hypertension.^{1,2,11,12,13}

Are there specific recommendations from the experts for women?

The lifetime risk of dying of cardiovascular disease (CVD) is nearly *one in three for women*, which exceeds the number of CVD deaths in men, and hypertension is a risk factor for cardiovascular disease. In 2007, the American Heart Association updated their Guidelines for CVD prevention.¹⁴ Along with guidance on aspirin and hormone replacement therapy, a major part of the recommendations focused on lifestyle changes to help manage blood pressure including weight control, increased physical activity, alcohol moderation, sodium restriction, and an emphasis on eating fruits, vegetables and low-fat dairy products. In fact, the authors noted that *nearly all women are at risk for heart disease*, underscoring the importance of a heart-healthy lifestyle for all women.

The DASH Eating Style^{15,16}

Food Group	Daily Servings	1 Serving Equals
Milk and Dairy	2-3	8 oz low-fat milk 1 cup low-fat yogurt 1 ½ oz low-fat cheese*
Fruits	4-5	1 medium fruit ¼ cup dried fruit ½ cup frozen or canned fruit 6 oz fruit juice
Vegetables	4-5	1 cup raw leafy vegetables ½ cup cooked vegetables 6 oz vegetable juice
Grain	7-8	1 slice bread ½ cup dry or hot cereal ½ cup cooked rice or pasta
Meat, Fish, Poultry	2 or less	3 oz cooked meat, poultry, or fish
Nuts, Seeds, Dried Beans	4-5 per week	1/3 cup nuts 2 tbsp seeds ½ cup cooked dried beans

*Reduced-fat, low-fat and fat-free varieties of cheese can be included in the DASH diet

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