

# MILK CAN HELP LOWER BLOOD PRESSURE

Milk plays a role in disease prevention for many chronic conditions, including heart disease and hypertension. Milk contains 15 essential nutrients including calcium and protein, which contribute to a nutritious balanced diet. Learn how adding milk into your patients' diets can help with blood pressure management.

## HYPERTENSION

About 7.5 million Canadians live with hypertension, a risk factor for atherosclerosis and premature death.<sup>1</sup> Almost a quarter of Canadians report that they have been diagnosed with hypertension by a health-care professional, or that they take anti-hypertensive medication.<sup>2</sup>

In addition to medication, there are lifestyle interventions that can help manage high blood pressure. These include being more active, eating healthier, relaxation therapies, and cutting back on alcohol and cigarettes.<sup>3</sup>

As part of the treatment for high blood pressure, the Clinical Practice Guidelines from Hypertension Canada recommend that hypertensive or at-risk patients eat healthier by following a DASH eating pattern.<sup>4</sup> DASH is short for *Dietary Approaches to Stop Hypertension*, which is an evidence-based eating pattern that is shown to lower blood pressure levels and reduce the risk of developing heart disease.

## DASH DIETARY PATTERN

The combination of foods in the DASH eating pattern can decrease systolic blood pressure by about 6 to 11 mm Hg in both hypertensive and normotensive people.<sup>5</sup> Milk plays an important role in the DASH pattern, which is outlined here:<sup>6</sup>

Food group	Number of servings	What is one serving?
<b>DAILY SERVINGS</b>		
Milk products	2-3	<ul style="list-style-type: none"> <li>1 cup low-fat milk</li> <li>1 cup yogurt</li> <li>1.5 ounces cheese</li> </ul>
Grains	6-8	<ul style="list-style-type: none"> <li>½ cup cooked grain</li> <li>1 slice bread</li> <li>30 grams cereal</li> </ul>
Meat, fish, poultry	6 or less	<ul style="list-style-type: none"> <li>1 ounce cooked meat, fish or poultry</li> <li>1 egg</li> </ul>
Vegetables	4-5	<ul style="list-style-type: none"> <li>1 cup raw leafy greens</li> <li>½ cup any cooked vegetables</li> </ul>
Fruit	4-5	<ul style="list-style-type: none"> <li>1 medium fruit</li> <li>½ cup cut fruit</li> <li>¼ cup dried fruit</li> </ul>
Fats and oils	2-3	<ul style="list-style-type: none"> <li>1 tsp oil, butter or salad dressing</li> </ul>
<b>WEEKLY SERVINGS</b>		
Nuts, seeds and legumes	4-5	<ul style="list-style-type: none"> <li>2 tbsp nut butter</li> <li>½ cup cooked legumes</li> <li>1.5 ounces nuts or seeds</li> </ul>
Sweets	5 or less	<ul style="list-style-type: none"> <li>1 tbsp sugar</li> </ul>



DASH is also lower in salt, sugar, fat and red meat compared to the typical North American diet. People following DASH are reminded to choose foods that are:

- Low in saturated and trans fats
- Rich in potassium, calcium, magnesium, fibre, and protein
- Lower in sodium<sup>7</sup>

<sup>1</sup> Hypertension Canada. <https://hypertension.ca/about-us>

<sup>2</sup> Statistics Canada. <https://www150.statcan.gc.ca/n1/pub/82-625-x/2021001/article/00001-eng.htm>

<sup>3</sup> Hypertension Canada. [https://hypertension.ca/wp-content/uploads/2020/10/2020-22-HT-Guidelines-E-WEB\\_v3b.pdf](https://hypertension.ca/wp-content/uploads/2020/10/2020-22-HT-Guidelines-E-WEB_v3b.pdf)

<sup>4</sup> Hypertension Canada. Hypertension Clinical Practice Guidelines. <https://hypertension.ca/>

<sup>5</sup> Challa, H. DASH Diet to Stop Hypertension. May 2021. (book). <https://www.ncbi.nlm.nih.gov/books/NBK482514/>

<sup>6</sup> US National Heart, Lung and Blood Institute. Guide to Lowering your blood pressure with DASH. [https://www.nhlbi.nih.gov/files/docs/public/heart/dash\\_brief.pdf](https://www.nhlbi.nih.gov/files/docs/public/heart/dash_brief.pdf)

<sup>7</sup> NIH. DASH Eating Plan. <https://www.nhlbi.nih.gov/education/dash-eating-plan>



## HOW MUCH MILK?

The DASH pattern includes two to three servings of low-fat milk or milk products daily.<sup>8</sup> One serving is equal to a cup of milk or yogurt, or 1.5 ounces of cheese.<sup>9</sup> A meta-analysis published in 2022 examined the association between milk and hypertension. A total of 42 articles were included. The researchers found a significant inverse association for low-fat dairy and milk for each 200 gram per day intake increase.<sup>10</sup>



Milk is an important part of DASH because it's an excellent source of protein, and contains minerals including calcium, potassium and magnesium, which help lower blood pressure levels. There are many proposed mechanisms by which these minerals help lower blood pressure, including helping blood vessel walls relax.

While the original DASH studies focused on low-fat milk as part of the eating pattern, a 2016 study found that a higher-fat DASH plan (replacing low-fat milk products with full-fat milk products) was able to lower blood pressure as much as the original DASH plan.<sup>11</sup> Using higher fat milk products also lowered triglyceride levels and did not adversely impact blood cholesterol levels.



## TIPS FOR YOUR PATIENTS

If patients are looking for nutrition advice, start with these tips:

- Try following the DASH eating pattern
- Increase intake of milk, vegetables, fruit, nuts and beans
- Decrease intake of added sugars and salt
- Choose 2-3 servings per day of milk and dairy products. One serving of dairy is equal to a cup of milk or yogurt, or 1.5 ounces of cheese

For more information, visit [milk.org](https://milk.org).

<sup>8</sup> US National Heart, Lung and Blood Institute. Following the Dash Eating Plan. <https://www.nhlbi.nih.gov/education/dash/following-dash>

<sup>9</sup> US National Heart, Lung and Blood Institute. Following the Dash Eating Plan. <https://www.nhlbi.nih.gov/education/dash/following-dash>

<sup>10</sup> Feng Y, et al. (2022). Consumption of Dairy Products and the Risk of Overweight or Obesity, Hypertension, and Type 2 Diabetes Mellitus: A Dose-Response Meta-Analysis and Systematic Review of Cohort Studies. *Adv Nutr.* 13(6):2165-2179.

<https://academic.oup.com/advances/article-abstract/13/6/2165/6680243?redirectedFrom=fulltext&login=false>

<sup>11</sup> Chiu S et al. (2016). Comparison of the DASH (Dietary Approaches to Stop Hypertension) diet and a higher-fat DASH diet on blood pressure and lipids and lipoproteins: a randomized controlled trial. *Am J Clin Nutr.* 103:341-347. [www.ncbi.nlm.nih.gov/pmc/articles/PMC4733264/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4733264/)

