

What are the current guideline recommendations for the DASH diet?

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The Dietary Approaches to Stop Hypertension (DASH) eating plan may be described as a diet that emphasizes fruits, vegetables, and low-fat dairy products, and typically includes whole grains, poultry, fish, and nuts, with only small amounts of red meat, sweets, and sugar-containing beverages.¹ DASH is rich in potassium, magnesium, calcium, and fiber, and is reduced in total fat, saturated fat, and cholesterol; it is also slightly increased in protein. Per the American Heart Association (AHA), a series of 3 clinical trials evaluated the effects of diet on blood pressure (BP), of which DASH was deemed most effective.² Compared to a control diet, designated as the typical diet for most people in the United States, the DASH diet was found to reduce mean systolic BP by 5.5 mm Hg and mean diastolic BP by 3.0 mmHg in patients with BP exceeding 120/80 mmHg.^{1,2} DASH was also found to significantly lower BP in all major subgroups of the study, including men, women, blacks, non-blacks, hypertensive participants, and non-hypertensive participants.

DASH has been supported by multiple professional organizations as an important component of prevention and treatment of elevated BP levels.³⁻¹³ The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High BP (JNC) first recommended the DASH eating plan, also referred to as the “combination diet,” in their sixth report, published in 1997 (JNC 6).³ A detailed description of the DASH approach, adapted from JNC 6, is available in Table 1.

Table 1. DASH eating plan, adapted from JNC 6.³

Food group	Daily servings	Serving sizes	Examples and notes	Significance of each food group to the DASH diet pattern
Grains and grain products	7-8	1 slice bread ½ cup dry cereal ½ cup cooked rice, pasta, or cereal	Whole wheat bread, English muffin, pita bread, bagel, cereals, grits, oatmeal	Major sources of energy and fiber
Vegetables	4-5	1 cup raw leafy vegetable ½ cup cooked vegetable 6 oz vegetable juice	Tomatoes, potatoes, carrots, peas, squash, broccoli, turnip greens, collards, kale, spinach, artichokes, beans, sweet potatoes	Rich sources of potassium, magnesium, and fiber
Fruits	4-5	6 oz fruit juice 1 medium fruit ¼ c dried fruit ¼ c fresh, frozen, or canned fruit	Apricots, bananas, dates, grapes, orange juice, grapefruit juice, mangoes, melons, peaches, pineapples, prunes, raisins, strawberries, tangerines	Important sources of potassium, magnesium, and fiber
Low-fat or nonfat dairy foods	2-3	8 oz milk 1 cup yogurt 1.5 oz cheese	Skim or 1% milk, skim or low-fat buttermilk, nonfat or low-fat yogurt, part-skim mozzarella cheese, nonfat cheese	Major sources of calcium and protein
Meats, poultry, and fish	2 or less	3 oz cooked meats, poultry, or fish	Select only lean; trim away visible fats; broil, roast, or boil instead of frying; remove skin from poultry	Rich sources of protein and magnesium
Nuts, seeds, and legumes	4-5 per week	1.5 oz or ⅓ c nuts ½ oz or 2 tbsp seeds ½ c cooked legumes	Almonds, filberts, mixed nuts, peanuts, walnuts, sunflower seeds, kidney beans, lentils	Rich sources of energy, magnesium, potassium, protein, and fiber

DASH=Dietary Approaches to Stop Hypertension

In their seventh report, published in 2003, the JNC also advocated DASH, as well as restriction of dietary sodium intake to no more than 100 mmol per day (2.4 g of sodium) and alcohol intake to no more than 1 oz (30 mL; equivalent to ~2 drinks) per day in most men and 0.5 oz (~1 drink) per day in women and individuals with lower body weight.⁴ Additionally, they recommended regular aerobic physical activity (e.g., brisk walking, at least 30 minutes per day on most days of the week) in individuals who are able. Since the publication of JNC 7, several organizations have issued guidelines recommending the DASH eating plan.³⁻¹⁴ Identified guidelines and their diet-related recommendation are listed in Table 2.

Table 2. Selected guideline recommendations regarding diet.³⁻¹⁴

Organization	Guideline (publication date)	Dietary recommendations
Academy of Nutrition and Dietetics	Total diet approach to healthy eating (2013)	The DASH eating plan is endorsed by the US Department of Health and Human Services (refers to NHLBI/JNC); it is a dietary pattern consisting of healthful food choices over time.
ADA	Standards of medical care in diabetes (2016)	DASH-style dietary pattern, including sodium reduction and increased potassium intake, is recommended as a component of lifestyle therapy for patients with elevated BP. Other components include weight loss (if patient is overweight or obese), moderation of alcohol intake, and increased physical activity.
AHA/ASA	Prevention of stroke in patients with stroke and TIA (2014)	Several lifestyle modifications, including DASH, have been associated with BP reductions and are a reasonable part of comprehensive antihypertensive therapy. Other modifications include salt restriction, weight loss, regular aerobic physical activity, and limited alcohol consumption.
	Primary prevention of stroke (2011)	A DASH-style diet is recommended, as it may reduce stroke risk. Reduced intake of sodium and increased intake of potassium is also recommended to lower BP.
ASH	Dietary approaches to lower BP (2009)	DASH has been shown to reduce BP in clinical trials. It is likely that several aspects of DASH, rather than just 1 nutrient or food, reduce BP. The original DASH diet is safe and broadly applicable to the general population. However, due to the high potassium, phosphorus, and protein content, this eating plan is not recommended in patients with chronic kidney disease.
ESH/ESC	Management of arterial hypertension (2013)	Patients with hypertension should be advised to adopt DASH, in combination with other lifestyle changes, such as exercise and weight loss.
	Cardiovascular disease prevention (2012)	The BP-lowering effect of increased potassium in the DASH diet. Patients with hypertension should generally be advised to eat more fruits and vegetables (4-6 servings per day, or 400 g), and to reduce intake of saturated fat and cholesterol.
JNC	Management of high BP in adults (2014)	For all patients with hypertension, a healthy diet, weight control, and regular exercise have the potential to improve BP control and reduce medication needs. No reference to DASH.

Organization	Guideline (publication date)	Dietary recommendations
NHLBI	N/A*	Describes DASH - suggests the following goals for a 2,000-calorie-per-day diet: Daily servings: <ul style="list-style-type: none"> • Grains: 6-8 • Meats, poultry, and fish: 6 or less • Vegetables: 4-5 • Fruit: 4-5 • Low-fat or fat-free dairy products: 2-3 • Fats and oils: 2-3 • Sodium: ~1,500 to ~2,300 mg Weekly servings: <ul style="list-style-type: none"> • Nuts, seeds, dry beans, and peas: 4-5 • Sweets: 5 or less
US DHHS and US Department of Agriculture	Dietary guidelines for Americans	Adults with pre-HTN and HTN would benefit from BP-lowering. Strong evidence suggests that these adults should combine DASH with lower sodium intake. Refers to NHLBI website for more details on DASH.

ADA=American Diabetes Association; AHA=American Heart Association; ASA=American Stroke Association; ASH=American Society of Hypertension; BP=blood pressure; DASH=Dietary Approaches to Stop Hypertension; DHHS=Department of Health and Human Services; ESC=European Society of Cardiology; ESH=European Society of Hypertension; JNC=Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure; N/A=not applicable; NHLBI=National Heart, Lung, and Blood Institute; US=United States
*Recommendations from organization's website. Note: JNC is a division of the NHLBI.

In summary, the DASH eating plan is a lifestyle modification advocated by multiple professional organizations based on evidence of BP-lowering effects. Most commonly, DASH is recommended in combination with other lifestyle modifications, including sodium restriction, moderation of alcohol consumption, increased physical activity/exercise, and weight loss. Notably, though DASH may be broadly applicable and/or of benefit to the general population, caution is advised in patients for whom the elevated nutrients associated with DASH may lead to safety concerns (e.g., patients with chronic kidney disease).

References:

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