



Overview

Dairy foods, such as milk, cheese and yogurt, are foundational foods included in multiple eating patterns. These include the Healthy Eating Patterns in the 2015 Dietary Guidelines for Americans (DGA), the Dietary Approaches to Stop Hypertension (DASH) eating plan, eating patterns recommended by the American Heart Association (AHA) and guidelines from the National Osteoporosis Foundation. Dairy foods help meet nutrient needs and are associated with better bone health, especially in children and adolescents. Healthy eating patterns containing low-fat or fat-free dairy foods are also associated with lower risk for cardiovascular disease (CVD) and type 2 diabetes (T2D). Dairy foods can be affordable sources of key nutrients – including high-quality protein, calcium, potassium and vitamin D – and are available in a variety of options to help meet taste, health and wellness needs. By choosing the DGA-recommended 3 daily servings of dairy foods for those 9 years and older as part of a healthy eating pattern, Americans can enjoy the many benefits dairy provides.

Eating patterns have emerged as a valuable way to guide healthy eating

People eat and drink a variety of foods and beverages that collectively establish an eating pattern.¹ Eating patterns are defined as “quantities, proportions, variety or combination of different foods, drinks, and nutrients in diets, and the frequency with which they are habitually consumed.”² Eating patterns capture the synergistic and cumulative effects that combinations of foods and beverages – and the nutrients they contain – can have on health.² Because eating patterns contain multiple foods and beverages that work together in relation to health, they may be more predictive of health than any one food or nutrient.¹

Dairy foods are foundational foods in multiple eating patterns associated with better health

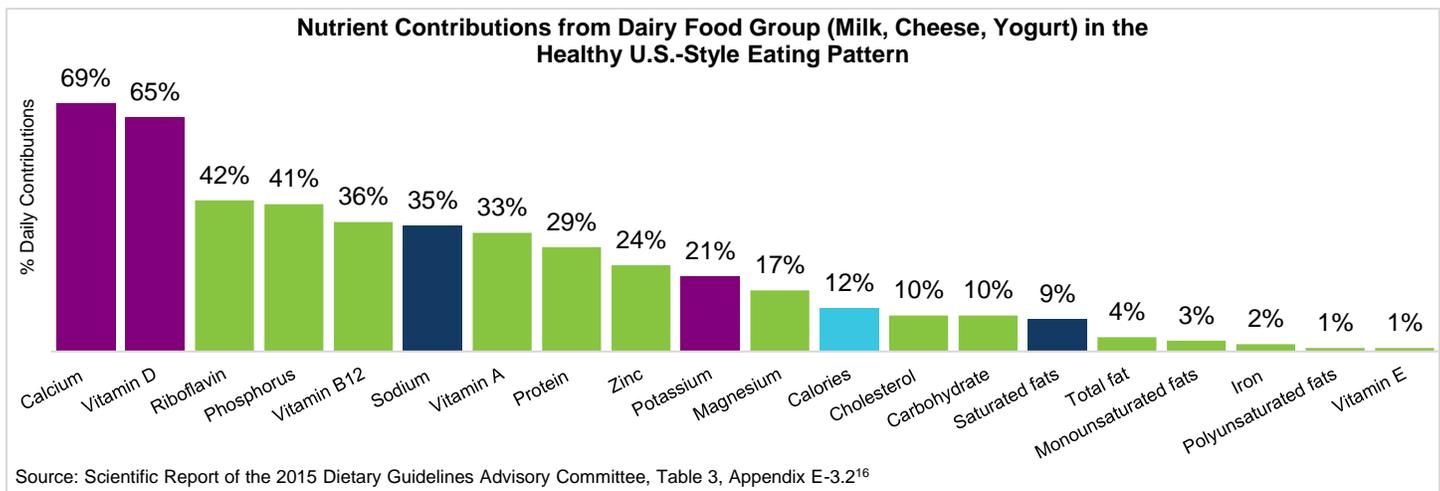
Dietary Guidelines for Americans: Americans, on average, consume fewer dairy foods and plant-based foods, such as vegetables, fruits and whole grains, than recommended in the Healthy U.S.-Style (see chart), Healthy Vegetarian and Healthy Mediterranean-Style Eating Patterns.¹ The DGA notes dairy consumption is linked to improved bone health, especially in children and adolescents, and healthy eating patterns are associated with lower risk for CVD, based on strong evidence, and lower risk for T2D, based on moderate evidence.¹ In addition to other food group recommendations, 3 daily servings of low-fat or fat-free dairy foods for those 9 years and older, 2½ for children 4-8 years, and 2 for those 2-3 years are included as part of the Healthy U.S.-Style and Healthy Vegetarian Eating Patterns.

Food Group Recommendations in the DGA Healthy U.S.-Style Eating Pattern	
Food Group	Amount in 2,000-Calorie Pattern
Vegetables (cup-eq/day)	2.5
Fruits (cup-eq/day)	2
Grains (at least half whole (oz-g/day))	6
Dairy (cup-eq/day)	3
Protein Foods (oz-eq/day)	5.5
Oils (g/day)	27

Source: Adapted from Table 1.1, 2015-2020 DGA¹

DASH and Mediterranean eating patterns: DASH and the Mediterranean diet are well-studied eating patterns that helped shape DGA recommendations. The DASH eating plan is based on the DASH trial, which found that following a reduced-fat eating plan including 2-3 servings of dairy foods and 8-10 servings of fruits and vegetables per day lower blood pressure in adults with elevated blood pressure.^{3,4} The Mediterranean diet is described in the scientific literature, generally, as containing high amounts of extra virgin olive oil, vegetables, fruits, cereals, nuts and pulses/legumes, moderate amounts of fish and other meat, dairy foods and red wine, and low amounts of eggs and sweets.⁵ Early observational studies linked the Mediterranean diet to lower risk for CVD,⁶ and the high profile PREDIMED trial found that a Mediterranean diet supplemented with extra virgin olive oil or nuts lowered the incidence of major cardiovascular events among persons at high CVD risk.⁷

Eating patterns recommended by authoritative organizations: Dairy foods are also part of eating patterns recommended by medical and health organizations.^{8,9,10,11,12,13} In 2016, the AHA recommended eating patterns to achieve adherence to the AHA/American College of Cardiology Guidelines on Lifestyle Management to Reduce Cardiovascular Risk,⁸ and they all include low-fat or fat-free dairy foods.⁹ The American Academy of Pediatrics, the National Osteoporosis Foundation and the American Diabetes Association also include low-fat or fat-free dairy foods as foods to meet nutrient needs.^{10,11,12,13} In addition, many food-based dietary guidelines outside the U.S. recommend consuming dairy foods on a daily basis as part of healthy eating patterns.¹⁴



Three daily servings of dairy foods provide excellent nutritional value

Americans are currently under consuming dairy foods, at about 2 dairy servings per day on average. Adding just 1 more daily serving can help fill shortfall nutrient gaps.^{1,15} In the 2,000 calorie Healthy U.S.-Style Eating Pattern, 3 servings of low-fat or fat-free dairy foods contribute only 12% of daily calories, but 20-69% of many key nutrients, including calcium, vitamin D and potassium, nutrients of public health concern identified by the DGA (see chart above).² The unique nutrient profile of dairy foods can be difficult to replace with non-dairy foods, even calcium-equivalent foods.^{15,2}

A variety of nutrient-dense dairy foods are available

Many dairy food options are available to help tailor healthy eating patterns to meet daily needs. These include lactose-free or lactose-reduced cow's milk and dairy foods made with less sodium, fat or added sugars. Yogurt varieties that contain more high-quality dairy protein, like Greek- or Icelandic-style products, and many cheese varieties are also available.

For more information, please visit: <https://www.nationaldairycouncil.org/science-summary>

References

- ¹ U.S. Department of Agriculture and U.S. Department of Health and Human Services. Dietary Guidelines for Americans, 2015-2020. <http://health.gov/dietaryguidelines/2015/guidelines/> Accessed on May 19, 2016.
- ² Dietary Guidelines Advisory Committee. "Scientific Report of the 2015 Dietary Guidelines Advisory Committee." *Washington (DC): USDA and US Department of Health and Human Services* (2015).
- ³ U.S. Department of Agriculture, U.S. Department of Health and Human Services and the National Heart, Lung and Blood Institute. In brief: your guide to lowering your blood pressure with DASH. NIH Publication No 06-5834 2006.
- ⁴ Appel LJ, Moore TJ, Obarzanek E, Vollmer WM, Svetkey LP, Sacks FM, Bray GA, Vogt TM, Cutler JA, Windhauser MM, et al: A clinical trial of the effects of dietary patterns on blood pressure. DASH Collaborative Research Group. *N Engl J Med* 1997, 336:1117-1124.
- ⁵ Davis C, Bryan J, Hodgson J, Murphy K: Definition of the mediterranean diet; a literature review. *Nutrients* 2015, 7:9139-9153.
- ⁶ Sofi F, Abbate R, Gensini GF, Casini A: Accruing evidence on benefits of adherence to the Mediterranean diet on health: an updated systematic review and meta-analysis. *Am J Clin Nutr* 2010, 92:1189-1196.
- ⁷ Estruch R, Ros E, Salas-Salvado J, Covas MI, Corella D, Aros F, Gomez-Gracia E, Ruiz-Gutierrez V, Fiol M, Lapetra J: Primary prevention of cardiovascular disease with a Mediterranean diet. *N Engl J Med* 2013, 368:1279-1290.
- ⁸ Eckel RH, Jakicic JM, Ard JD, de Jesus JM, Houston Miller N, Hubbard VS, Lee IM, Lichtenstein AH, Loria CM, Millen BE, et al: 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. *J Am Coll Cardiol* 2014, 63:2960-2984.
- ⁹ Van Horn L, Carson JA, Appel LJ, Burke LE, Economos C, Kamally W, Lancaster K, Lichtenstein A, Johnson RK, Thomas RJ: Recommended dietary pattern to achieve adherence to the American Heart Association/American College of Cardiology (AHA/ACC) Guidelines: a scientific statement from the American Heart Association. *Circulation* 2016, doi: 10.1161/CIR.0000000000000462.
- ¹⁰ Golden NH, Abrams SA, Committee on Nutrition: Optimizing bone health in children and adolescents. *Pediatrics* 2014, 134:e1229-1243.
- ¹¹ National Osteoporosis Foundation Website. Prevention and healthy living: food and your bones. <http://nof.org/learn/prevention>. Accessed on August 28, 2015.
- ¹² Weaver CM, Gordon CM, Janz KF, Kalkwarf HJ, Lappe JM, Lewis R, O'Karma M, Wallace TC, Zemel BS: The National Osteoporosis Foundation's position statement on peak bone mass development and lifestyle factors: a systematic review and implementation recommendations. *Osteoporos Int* 2016, 27:1281-1386.
- ¹³ American Diabetes Association Website. Dairy. <http://www.diabetes.org/food-and-fitness/food/what-can-i-eat/making-healthy-food-choices/dairy.html>. Accessed on November 13, 2015.
- ¹⁴ Food and Agriculture Organization of the United Nations (FAO). Food-based dietary guidelines. August 2015. <http://www.fao.org/nutrition/education/food-dietary-guidelines/home/en/> Accessed on November 13, 2015. Dietary Guidelines Advisory Committee. "Scientific Report of the 2015 Dietary Guidelines Advisory Committee." *Washington (DC): USDA and US Department of Health and Human Services* (2015).
- ¹⁵ Fulgoni VL, 3rd, Keast DR, Auestad N, Quann EE: Nutrients from dairy foods are difficult to replace in diets of Americans: food pattern modeling and an analyses of the National Health and Nutrition Examination Survey 2003-2006. *Nutr Res* 2011, 31:759-765.