

WALNUTS & HEART HEALTH

SINCE 1993, published research has been investigating how eating walnuts affects various heart health biomarkers and risk markers including:

- LDL and HDL cholesterol
- Apolipoprotein B and non-HDL cholesterol
- Blood pressure
- Inflammation
- Endothelial function
- Plaque formation

WALNUTS ARE CERTIFIED BY THE AMERICAN HEART ASSOCIATION WITH THE HEART-CHECK MARK



**PER 1 OZ.
SERVING**

Please note that the Heart-Check Food Certification does not apply to scientific research by an organization other than the AHA unless expressly stated. For more information, see the AHA nutrition guidelines at: heartcheckmark.org/guidelines.

Roasted Vegetables with Walnuts, Basil and Balsamic Vinaigrette





THE RESEARCH SUPPORTING the role that walnuts can play in heart health began with a Loma Linda University study, showing walnuts may lower total and LDL cholesterol in men by as much as 12 percent and 16 percent, respectively.¹ In this eight-week randomized, crossover trial, 18 healthy men (ages 21-43) were assigned to a cholesterol-lowering diet that did not include nuts or a cholesterol-lowering diet that included walnuts. All food was provided by the researchers and the walnut diet contained three servings (equivalent to 3 ounces) of walnuts per day.



A HARVARD UNIVERSITY META-ANALYSIS reviewed the heart health benefits of walnuts in 13 different trials. The trials represented 365 individuals, including those with a variety of characteristics such as high cholesterol, type 2 diabetes, metabolic syndrome and overweight or obesity, and those that were healthy.² When compared with control diets, such as a low-fat diet, Mediterranean-style diet or traditional American or Japanese diet, a diet supplemented with walnuts in amounts varying from 5-25 percent of total calories per day (equivalent to 1-3.9 ounces per day) resulted in a significantly greater decrease in total cholesterol (-10.29 mg/dL, -4.9%) and LDL cholesterol (-9.23 mg/dL, -6.7%). In addition, according to the studies in the analysis, walnuts provided significant benefits for certain antioxidant capacity and inflammatory markers and had no adverse effects on body weight.

RESEARCH FROM THE LANDMARK

PREvención con Dieta MEDiterránea (PREDIMED) study further demonstrated the potential heart health benefits that walnuts afford. The study was conducted among more than 7,000 Spanish individuals (ages 55-80) at high risk for cardiovascular disease and found that a Mediterranean diet supplemented with mixed tree nuts (primarily walnuts), compared to a low-fat diet, may reduce the risk of major cardiovascular events, including cardiovascular death, myocardial infarction (heart attack), and stroke.³

Larger and longer-term studies, as well as studies in more diverse populations, are needed to clarify population-wide effects.^{1,2,3} In some cases, the amount of walnuts consumed in these trials was relatively large and might be difficult to maintain in a non-research setting.^{1,2} A meta-analysis offers a comprehensive look at findings among patients of various backgrounds, however, it can be limited by the methods, reported outcomes and quality of the individual studies involved.² In the PREDIMED study, it is difficult to precisely define what part of the Mediterranean diet was associated with cardiovascular benefits.³

Due to the evidence supporting the cardiovascular benefits of walnuts, the U.S. Food and Drug Administration approved one of the first qualified health claims for a whole food in March of 2004: “Supportive but not conclusive research shows that eating 1.5 ounces of walnuts per day, as part of a low saturated fat and low cholesterol diet, and not resulting in increased caloric intake may reduce the risk of coronary heart disease.”⁴

¹Sabaté J, Fraser GE, Burke K, et al. Effects of walnuts on serum lipid levels and blood pressure in normal men. *N Engl J Med.* 1993;328:603-607.

²Banel HK, Hu FB. Effects of walnut consumption on blood lipids and other cardiovascular risk factors: a meta-analysis and systematic review. *Am J Clin Nutr.* 2009;90(1):56-63. ³Estruch R, Ros E, Salas-Salvadó J, et al. Primary prevention of cardiovascular disease with a Mediterranean diet. *N Engl J Med.* 2013;368(14):1279-90. ⁴One ounce of walnuts provides 18g of total fat, 2.5g of monounsaturated fat, 13g of polyunsaturated fat, including 2.5g of alpha-linolenic acid, the plant-based omega-3.