



The taste you love, the nutrition you want.

Type 2 Diabetes

Like many other chronic diseases (cardiovascular disease (CVD), cancer and neurological disorders) type 2 diabetes¹ is associated with chronic, low-grade inflammation.

The greatest risk factors for diabetes include being overweight and physically inactive. Healthy dietary patterns that include raspberries may prevent and/or help to manage diabetes. In fact, the American Diabetes Association (ADA) has identified berries as one of the top ten superfoods due in part to their high vitamin C, fiber and antioxidant content. Raspberries are low in calories and carbohydrates.

Raspberries are also one of the highest fiber berries. At 8 grams per cup, they provide more than 35 percent of the recommended daily intake of fiber (based on a daily recommendation of 25 grams). Fiber may improve blood sugar and lower the risk of Type 2 diabetes. In people with diabetes, a high fiber diet is associated with a reduced risk of mortality.

Additionally, healthy weight reduction is one of the best ways to fight or manage diabetes. Raspberries are low in calories and high in fiber—eating them may have a positive effect on satiety, the feeling of fullness. Fiber helps reduce both hunger and the number of calories people's bodies may absorb.

Raspberries also have a low glycemic index. The lower a food's glycemic index or glycemic load, the less it affects blood sugar and insulin levels. Glycemic index and glycemic load are very important to keeping food glucose and insulin levels within healthy and manageable ranges for people with diabetes. Many factors contribute to a food's glycemic index, including fat and fiber content, and how much it has been processed. The American Heart Association and the American Diabetes Association stress the importance of glycemic control in the primary prevention of CVD in patients with diabetes.

In addition to fiber, ellagic acid as well as several other constituents in raspberries enhance insulin action, decrease insulin

resistance, lower blood sugar and have multiple anti-inflammatory effects. Data also show that ellagic acid may be very effective in preventing damage to the eyes, kidneys, heart and the small capillaries of the feet and hands, all associated with diabetes.

The growing epidemic level of diabetes is a major public health concern. Diabetes is a well-known risk factor for CVD.² Type 2 diabetes has long been known to increase CVD risk and mortality. Even after adjusting for other heart disease risk factors, people with type 2 diabetes are at least twice as likely to develop CVD³ and face two to four times greater cardiovascular mortality compared with people without diabetes.⁴

Research has found that cancer, type 2 diabetes, and CVD have common physiological associations. These associations partially overlap with one another and all remain active areas of research.

Additionally, an emerging body of research reviewed by the American Institute for Cancer Research (AICR) has also found that diabetes is associated with an increased risk for several types of cancer. Lifestyle changes that include weight loss and dietary changes like regularly eating raspberries may lower the risk for a whole host of chronic illnesses.

Serving suggestions and additional health and nutrition research can be found at

www.redrazz.org

² Yusuf S, Hawken S, Ounpuu S, et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. *Lancet*. 2004;364(9438):937-952.

³ Stamler J, Vaccaro O, Neaton JD, Wentworth D. Diabetes, other risk factors, and 12-yr cardiovascular mortality for men screened in the Multiple Risk Factor Intervention Trial. *Diabetes Care*. 1993;16(2):434-444.

⁴ Campbell PT, Newton CC, Patel AV, Jacobs EJ, Gapstur SM. Diabetes and cause-specific mortality in a prospective cohort of one million U.S. adults. *Diabetes Care*. 2012;35(9):1835-1844.

¹ All reference to diabetes throughout this document is to type 2 diabetes.