



Berries: Beyond the Hype?

Karen Collins, MS, RD, CDN
American Institute for Cancer Research

Berries are often described as “super foods,” but then, so are many other foods. Are berries really such a nutritional powerhouse, or are they just one more fruit option? And is one kind of berry really better than the rest?

Research does show that berries are among the fruits highest in antioxidant content and that they are excellent sources of several phytochemicals that seem to help block cancer development. However, other fruits and vegetables provide different nutrients and phytochemicals with unique health benefits. The best advice, then, is to eat berries often for their great taste and health boost, but stay focused on the main goal of eating a wide variety of produce every day.

Strawberries are known as excellent sources of vitamin C, providing as much or more than a whole day’s recommended amount in just one cup. But all berries are good sources of vitamin C, with one cup of raspberries or blackberries giving you close to half of amounts currently recommended for a whole day for adults. One of the ways vitamin C protects our health is its function as an antioxidant. Antioxidants attract and neutralize highly reactive molecules called free radicals that could otherwise damage body cells in ways that initiate cancer development, heart disease and age-related eye damage. Yet laboratory studies show that much of the antioxidant power of fruits and vegetables comes not from the classic antioxidant vitamins such as vitamin C, but from natural protective compounds called phytochemicals.

Anthocyanins are a group of phytochemicals that give many berries their red color. In laboratory studies, anthocyanins inhibit growth of lung, colon and leukemia cancer cells without affecting growth of healthy cells. Decreased cancer development is also seen in animals given anthocyanins.

Ellagic acid is another important phytochemical in virtually all berries. More than a simple antioxidant, ellagic acid also blocks metabolic pathways that can lead to cancer. In animals, it has inhibited development of colon, esophageal, liver, lung and skin cancers stemming from a variety of carcinogens.

Pterostilbene is yet another powerful antioxidant phytochemical that seems to

affect metabolic processes to decrease development of both cancer and heart disease. Blueberries are an excellent source of this relative of the health-promoting resveratrol that is found in grapes and red wine.

Phytochemicals seem to be a vital part of the benefits we get from berries. One study showed that strawberries' power to inhibit cancer cell growth was unrelated to their antioxidant content, suggesting that the direct influences of the phytochemicals on cancer development are very important.

An essential question remains: Do normal portions of berries give us enough phytochemicals to get protective benefits or do we need to eat larger portions than standard 1/2 cup servings? Some research does suggest that concentrations normally found in the blood after eating berries are enough to substantially decrease cancer cells' growth and to stimulate their self-destruction, but more study is needed. Overall, research on phytochemicals shows that looking at the effects of single foods does not show the full picture. Studies show that a wide range of phytochemicals found in fruits, vegetables, whole grains and beans act together in ways far greater than would be expected from looking at them individually. That's why, as fabulously healthy as berries are, the bottom line has to be abundance and variety of many fruits and vegetables.

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The American Institute for Cancer Research (AICR) offers a Nutrition Hotline online at www.aicr.org or via phone 9 a.m. to 5 p.m. ET, Monday-Friday, at 1-800-843-8114. This free service allows you to ask questions about diet, nutrition and cancer. A registered dietitian will respond to your email or call, usually within 3 business days. AICR is the only major cancer charity focusing exclusively on how the risk of cancer is reduced by healthy food and nutrition, physical activity and weight management. The Institute's education programs help millions of Americans lower their cancer risk. AICR also supports innovative research in cancer prevention and treatment at universities, hospitals and research centers across the U.S. Over \$78 million in funding has been provided. AICR is a member of the World Cancer Research Fund International.

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