

PERIODONTAL DISEASE

In 1998, research published in the *Journal of the American Dental Association* revealed that in vitro (lab) testing of compounds isolated from cranberry reversed adhesion of bacteria responsible for periodontal disease by as much as 58 percent. This indicated that selected compounds found in cranberry may have the potential to alter bacterial populations under the gum line, thus possibly resulting in alternative control of periodontal disease.

Unrelated anti-bacterial research was published in the April 2000 *Journal of the American Medical Association*. It showed that cranberry extracts reduced the growth of disease-causing bacteria such as *Staphylococcus*, *Salmonella* and *E. coli* in laboratory tests.

Now, cranberry products are being developed that take advantage of these recently discovered anti-bacterial properties.

Cranberry supports oral health.



THE CRANBERRY INSTITUTE

The Cranberry Institute (CI) is a not-for-profit organization founded in 1951 to support and further the success of the cranberry industry through research and communication. CI is funded by Supporting Members that handle, process, and sell cranberries and cranberry products.

The Cranberry Institute is the source of information about studies on the health benefits of cranberries and cranberry products. The Cranberry Institute provides funding to independent research institutions for continued investigation of the beneficial effects of cranberry consumption. The Cranberry Institute promotes this information to health professionals and our staff participates in conferences and other forums where there is an exchange of current research findings.

Research continues to accumulate, both domestically and internationally, showing that cranberry contains a wide variety of powerful phytochemicals that promote wellness, can prevent certain acute infections, and may help prevent some age-related chronic diseases.



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CRANBERRY

THE COLOR OF HEALTH



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CRANBERRY: THE FUNCTIONAL FOOD POWERHOUSE

URINARY TRACT HEALTH

North American women have been drinking cranberry juice cocktail for years as a traditional remedy for urinary tract infections (UTIs). This practice, in fact, goes back to pre-colonial times when indigenous peoples used cranberry preparations to treat urinary problems and other illnesses and injuries.

Early 20th century researchers thought that cranberries may have acidified the urine as the mechanism for UTI control and prevention. However, other fruits relatively high in acidity did not have a similar effect, so the search for a mechanism continued. In a study at Harvard in 1994, women who drank 10 ounces of cranberry juice cocktail daily were found to be about half as likely to have bacteria in their urine. These positive effects appeared after only four to eight weeks into the study.

Since then, a variety of studies have shown that cranberry contains unique compounds that inhibit bacteria from adhering to the bladder wall and causing infection. Research has shown that these compounds, called proanthocyanidins, or condensed tannins, are responsible for this mechanism and are unique to cranberry. Additional clinical trials have confirmed the healthful effect of cranberry consumption, with prevention of UTIs by as much as 40 percent in certain populations.

This same bacteria blocking property has also been found to operate against the bacteria that cause stomach ulcers (a leading cause of stomach cancer), by interfering with the adhesion of *H. pylori*, with recent

clinical results showing an approximate nine percent reduction in infection. An interesting consequence of the reduction of these infections is the attendant reduction in antibiotic usage, which will help reduce the development of antibiotic-resistant bacterial strains, a problem of global significance. In fact, the totality of evidence in this area of bacterial anti-adhesion is so compelling that the National Institutes of Health (NIH) has recently developed a program comprised of nine separate research projects to further investigate and confirm the functionality of cranberry in this critical area.

EMERGING RESEARCH SHOWS THE EXCITING POTENTIAL OF CRANBERRY

Cranberry also contains a number of compounds that may play a role in helping prevent cardiovascular diseases and certain cancers. These are called flavonoids and include anthocyanins, which give cranberries their deep red color.

ANTI-CANCER INDICATIONS

In a 1996 laboratory study by University of Illinois researchers published in the academic journal *Planta Medica*, cranberry extract exhibited potential anticarcinogenic activity.

In 2000, researchers at the University of Western Ontario demonstrated that mice injected with human breast cancer cells

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Benefits of cranberries come in many forms.

showed significantly lower incidence of tumor development when fed cranberry components.

Several additional studies have been conducted showing a variety of anti-cancer effects on various types of this very complex disease.

CARDIOVASCULAR HEALTH AND ANTIOXIDANTS

In 1997, in vitro research showed that raw cranberry extract had potent antioxidant effects on low density lipoproteins (LDL). In 1998, research demonstrated that over-the-counter bottled cranberry juices also contain potent antioxidants that increased interior blood vessel diameter in animals, which improved blood flow.

A confirmatory study showed a positive effect on pigs and suggested that cranberry juice would have a similar effect on blood flow in humans. In addition, cranberry compounds reduced brain tissue damage in a stroke model system. New pilot clinical work with slightly overweight men has shown cranberry juice to be responsible for a small but significant increase in HDL (“good”) cholesterol.