



New Reference for Your Healthy Beverage Library

Dr. Ted Wilson of Winona State University and Dr. Norman Temple of Athabasca University (Canada) recently collaborated on a new text titled *Beverages in Nutrition and Health* (Humana Press, October 2003). Of particular relevance, Dr. Wilson contributed a chapter on the health benefits of cranberry juice.

The book offers a comprehensive review of how the beverages we drink affect our health and nutrition. The authors discuss the health effects of a wide range of popular beverages, including alcohol, wine, fruit and vegetable juices, coffee and tea, chocolate, milk and milk products, weight management beverages and soft drinks.

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Study Links Cranberry and Kidney Stone Prevention

South African researchers recently published a study on cranberry juice's influence on several urinary risk factors for kidney stone formation. Published in *BJU International*, a British urological journal, the study concluded that cranberry juice has anti-lithogenic properties that warrant its consideration as part of a therapeutic protocol in managing calcium oxalate kidney stone formation. To clarify, an anti-lithogenic mechanism prevents the formation of calculi, which are abnormal concretions composed of hard, nonmetallic mineral salts. Urolithiasis, kidney stones, renal stones, and renal calculi are interchangeable terms for these hard accretions in the urinary tract.

Dr. McHarg et al from the University of Cape Town decided to investigate the potential influence of cranberry juice on urinary biochemical and physicochemical risk factors associated with the formation of calcium oxalate kidney stones because they hypothesized that the cranberry product might affect the chemical composition of urine. They assessed urinary variables by performing a randomized cross-over trial in 20 South African male students with no previous history of kidney stones. The first group of 10 participants consumed a solution of 500 mL of cranberry juice diluted with 1,500 mL tap water for two weeks. The second group of subjects drank 2,000 mL of tap water for the same period. After a two-week washout period, the groups crossed over.

During the experimental phase, the study participants kept a three-day food diary to assess their dietary and fluid intakes. The study collected and analyzed 24-hour urine samples at the baseline and on Day 14 of the trial periods. Dr. McHarg et al used urine analysis data to calculate relative urinary supersaturations of calcium oxalate, uric acid and calcium phosphate. They then assessed the data statistically by analysis of variance.

In the study, consumption of cranberry juice significantly and uniquely altered these three key urinary risk factors. Oxalate and phosphate excretion decreased, and citrate excretion increased. Additionally, the relative supersaturation of calcium oxalate decreased, and tended to be significantly lower than that induced by tap water alone. It is important to note that this is a small-scale study, and additional research is needed to confirm the findings. However, as a human clinical study, it offers some promising initial data pointing to a role for cranberry to play in preventing kidney stones.

Reference: McHarg, T., Rodgers, A. & Charlton, K. Influence of cranberry juice on the urinary risk factors for calcium oxalate kidney stone formation. *BJU International* 2003 92 (7), 765.

Key Facts about Kidney Stones:

In the United States, the incidence varies between 1 case per 1,000 and 1 case per 7,600 hospital admissions.

The southeast region of the United States has a higher frequency of kidney stone formation in adults than do other regions.

Stones are more frequent in men than in women (i.e., male-to-female ratio is 4:1), although the boy-to-girl ratio (i.e., 3:2) is closer to equal.

Peak presentation for adults is middle age. Children can present with stones at any age (e.g., premature newborn to teenager).

-- Richard Neiberger, MD,
PhD, University of Florida and
Shands Hospital, in
"Urolithiasis," published on
www.emedicine.com

Calendar of Events

Experimental Biology 2004: Translating the Genome, April 17-21, 2004, Washington, DC. For more information, visit <http://www.faseb.org/meetings/eb2004/>

American College For Advancement in Medicine: Spring Conference, May 19-23, 2004, Orlando, FL. For more information, visit www.acam.org

International Congress of Dietetics, May 28-31, 2004, Chicago, IL. For more information, visit www.eatright.org/Public/ConferencesAndEvents/96_13138.cfm

American Aging Association 2004 Annual Conference: Molecular Mechanisms of Aging, June 4-7, 2004, St. Petersburg, FL. For more information, visit www.americanaging.org

American Dietetic Association 2004 Food & Nutrition Conference & Expo, October 2-5, 2004, Anaheim, CA. For more information, visit www.eatright.org/Public/ConferencesAndEvents/96_18095.cfm

Congratulations to Barbara Fleet!

We're pleased to announce that Barbara Fleet of Albuquerque, New Mexico, is the winner of the *Cranberry Health News* contest. We asked dietitians to sign up for the newsletter and have a chance to win a free Palm Pilot with nutritional assessment software. Thank you to all who entered through the mail or at the ADA conference. We hope you find the health articles, nutritional information and recipes in the newsletter valuable.

Cranberry Offers a Natural Low-Carb Solution

Many dieters eliminate healthful fruits from their meals when they go on "low-carb" diets. Dietitians can help these patients by alerting them that cranberries have an extremely low amount of carbohydrates. A cup of raw fresh cranberries yields approximately 11 grams of carbohydrates, acceptable for patients on maintenance phases on most low-carb diets.

Here are a few ideas to suggest: Unsweetened dried cranberries can replace raisins in low-fat stir-fries with spinach, almond slivers and strips of lean meat, while light cranberry juice packs a punch in a morning protein smoothie. Home cooks can also create their own low-carb cranberry sauce with either fresh or frozen cranberries, adding in either oranges and walnuts or raspberries and ginger, and sweetening with a sugar-substitute. Just simmer the sauce for about 8-10 minutes, until the cranberries pop and the sauce thickens. Then stir in sweetener to taste.

You can also refer patients to the Web site below for a delicious *Cranberry Apple Oat Bar* recipe. These bars are naturally low in fat with only 1.5 grams of fat per serving, and also part of a low-carb diet with 13 grams of carbs per serving. (It is important to note that while there are no federal regulations defining "low-carb" yet, this amount is based on a commonly used threshold defining low-carb.)

Click here for the recipe:

<http://www.culinary.net/recipes/appetizerssnacks/2522-cranberryappleoatbar.html>

Estimates of the number of Americans currently on low-carb diets vary widely, from 5 million to 50 million. But, by all indications, the phenomenon shows no sign of fading soon. In fact, forty percent of consumers say they will eat more low-carb foods in 2004, according to a survey conducted for the Grocery Manufacturers of America (GMA) by Phil Lempert on his SupermarketGuru.com Web site.

Research Update: Cranberry and UTIs

Dr. Ann Stapleton of the University of Washington published an article on novel methods of urinary tract infection (UTI) prevention in June 2003. She examined use of cranberry products, restoration of the normal flora using Lactobacillus-based probiotics and vaccine development. Dr. Stapleton determined that published and ongoing studies in each of these areas appear promising but additional clinical studies are needed.

The National Institutes of Health's \$2.6 million initiative to fund basic and clinical research on the role of cranberry to prevent and treat UTIs and other conditions should help propel additional research in this arena. Please see the March 2003 issue of *Cranberry Health News* for more information on the initiative.

Reference: Stapleton, A. Novel approaches to prevention of urinary tract infections. *Infect Dis Clin North Am* 2003 Jun; 17(2): 457-71.