



# The Health Nugget

## Simple Measures

It seems to never leave the news. E. coli in hamburger meat, apple juice, salad bars, spinach and even on strawberries! We typically think of E. coli as horrible, potentially-lethal bacteria. We forget that E. coli is actually very beneficial, in the intestines that is. There it helps finish the process of digestion and aids in producing some vitamins and nutrient absorption. What we find is that in the large and diverse E. coli family there are various strains, some of which are dangerous and can make us very sick. Some E. coli can cause diarrhea, while other strains cause respiratory illnesses like pneumonia, and others can cause urinary tract infections (UTIs).

UTIs are one of the most common forms of bacterial infection and occur more frequently in females. Reportedly, one-third of all women will contract a UTI by age 24. A bladder infection is a common UTI. Eighty to ninety percent of all bladder infections are caused by a common strain of E. coli.

E. coli's thousands of tentacle-like protrusions, called fimbriae, extend out like suckered, sticky hands and make it possible for it to crawl up the wall of the urethra and into the bladder. It is this very characteristic that makes E. coli, and other species with fimbriae, like Salmonella and Helicobacter pylori, "especially virulent and infectious."<sup>1</sup> This ability to travel, attaching itself to the lining of the urinary tract, set up house and rapidly repopulate, causes the inflammation, irritation, frequent urination, pain and burning characteristic of a bladder infection.

Research funded by the National Institutes of Health has shown that it is this ability of the bacteria to attach to cells lining the urinary tract that is causative in reoccurring bladder infections. Some studies indicate that women who are "non-secretors" of certain antigens may be

more prone to recurrent UTIs because the cells lining the vagina and urethra may allow bacteria to attach more easily.<sup>2</sup>

If you have been one of the 7 million who went to the doctor's office, or 1 million who went to the emergency room, or 100,000 that was hospitalized because of a UTI last year, you were probably treated with a broad-spectrum antibiotic. Antibiotics kill bacteria. It does its job, but unfortunately the antibiotic does not discriminate as to the bacteria's location. A potential side effect of all the antibiotic use is vaginal yeast infections due to microbial disruption, which leads women back to the drugstore, this time for an anti-fungal preparation.

Apparently, there are options. Referring to bladder infections, Dr. Jonathan Wright says, "Ninety percent of the time we can get rid of them with no drugs at all."<sup>3</sup> Amazingly, this medical doctor uses a simple sugar to get rid of the E. coli explosion. Like a gecko on a wall, E. coli clings to a simple sugar called D-mannose that is found in the cells that line the bladder. E. coli crawl from one D-mannose to the next and cling tenaciously to them so they will not be rinsed out with the urine. Dr. Wright puts E. coli's attraction to D-mannose to good use. Women who come to him seeking relief from a bladder infection receive a prescription to take 3-5 grams of D-mannose every 3-4 hours until the symptoms are gone. Because most of the D-mannose is not metabolized, but excreted in the urine, a concentration of it goes through the bladder. According to Dr. Wright, the bacteria then say "Party time! Look at all that delicious D-mannose!" They detach themselves from the little bit of D-mannose that is naturally in the walls of the bladder and they grab on to these great swirls of D-mannose coming in the

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bladder from the ureters. They float around enjoying all that D-mannose, and the next time the woman empties her bladder, the infection is literally rinsed away!”<sup>4</sup> He adds that if women do not experience any improvement within 24 hours they may be among that 10% for whom this remedy does not work.

While this has been Dr. Wright’s experience, the use of mannose for preventing or treating bladder infections has never undergone any meaningful scientific study in human beings, and is therefore under question by the scientific community. While D-mannose is just a simple sugar, questions regarding its use seem to revolve around the white blood cells’ reduced ability to destroy *E. coli* as it cannot recognize it with mannose saturated tendrils. Additionally, there are strains of bacteria that cause a bladder infection whose fimbriae are not mannose-sensitive.

Native Americans used cranberry as a remedy for bladder and kidney diseases. In the 1920s, researchers thought that cranberry countered bladder infections by acidifying the urine, which it does do. Now it is known that cranberry’s antimicrobial action arises from its flavonoid content. Flavonoids are a large group of food chemicals that are powerful antioxidants, and possess other health-promoting qualities. Cranberry’s class of flavonoids actually disables fimbriae and lessens their ability to attach specifically to the surface of the cells lining the urinary tract. In women given 200 mg of cranberry extract twice a day, UTIs were completely eliminated. Those who continued on the cranberry supplement “remained infection-free during the next two years.”<sup>5</sup>

Hibiscus was used in traditional African prevention and treatment of UTIs. Research in India is revealing that hibiscus has powerful antimicrobial effects. The plant is also documented as possessing antihypertensive, anticancer, antioxidant effects, lowers blood lipids and is protective of the liver. Like cranberry, it too works in preventing *E. coli* from

sticking to the bladder wall lining. Substances in hibiscus have been shown to destroy bacteria like *E. coli*, as well as other microbes that can cause UTIs. “In a double-blind, placebo-controlled clinical trial, women taking hibiscus experienced a 77% reduction in UTIs.”<sup>6</sup> These women took a daily dose of 200 mg a day for 6 months.

Hibiscus was also shown to have very strong antimicrobial effects against *Candida albicans*, the fungus responsible for many yeast infections. The good news in using these natural remedies to combat UTIs is that *E. coli* cannot become resistant to these simple remedies of D-mannose, cranberry or hibiscus like it can with antibiotics. Plus, when a group of researchers compared 100 mg of trimethoprim, an antibiotic, with 500 mg of cranberry extract, they were found to be almost equally effective in preventing UTIs.<sup>7</sup>

I believe that whatever our physical or spiritual ailment, God is wanting to work miracles through simple measures, through simple people. He desires to exercise His healing power through His representatives. “God’s miracles do not always bear the outward semblance of miracles. Often they are brought about in a way which looks like the natural course of events. When we pray for the sick, we also work for them. We answer our own prayers by using the remedies within our reach... Natural means, used in accordance with God’s will, bring about supernatural results.”<sup>8</sup>

<sup>1</sup>Toews, MPH, Victoria. “Halt the Vicious Cycle of Urinary Tract Infections.” *Life Extension*. April, 2010, p. 39.

<sup>2</sup>“Urinary Tract Infections in Adults.” National Kidney and Urologic Diseases Information Clearinghouse. <http://kidney.niddk.nih.gov/Kudiseases/pubs/utiadult/>.

<sup>3</sup>Somers, Suzanne. *Breakthrough*, p. 22.

<sup>4</sup>*Ibid.*, p. 23.

<sup>5</sup>Toews, MPH, Victoria. “Halt the Vicious Cycle of Urinary Tract Infections.” *Life Extension*. April, 2010, p. 40.

<sup>6</sup>*Ibid.* pp. 40-41.

<sup>7</sup>McMurdo ME, Argo I, Phillips G, Daly F, Davey P. Cranberry or trimethoprim for the prevention of recurrent urinary tract infections? A randomized controlled trial in older women. *J Antimicrob Chemother*. 2009 Feb;63(2):389-95.

<sup>8</sup>White, Ellen. *Selected Messages*, Vol. 2, p. 346.

