

Protocol for Nutritional **URINARY TRACT** Support

Practitioner Information - Protocol For Life Balance™ Supplements

Urinary tract issues can involve infection, generalized inflammation, or be a cover for the failure to adequately void the bladder and/or poor kidney performance. Women, in particular, typically do not drink adequate water and thus do not clear immune and other wastes efficiently via the kidneys. This protocol addresses modulation of a number of immune and inflammation-related factors as well as the problem of adherence of particles that contain bacteria to UT tissues. The individual components below can be combined as a protocol for more complete support. These products are not antibiotics and do not eliminate infections.

D-Mannose

D-Mannose is a simple sugar that occurs naturally in some plants, including cranberries. Although small amounts of D-Mannose are metabolized by the human body, much of it is rapidly excreted in the urine. In the urinary tract, D-Mannose can adhere to bacterial lectins, thereby preventing particles containing bacteria from sticking to the lining of the bladder and to the urethra. These particles can then be flushed away during urination, reducing the formation of colonies within the urinary tract.

In one *ex vivo* trial, the effect of D-Mannose on adherence of 73 *Escherichia coli* strains to vaginal and buccal epithelial cells from women with recurrent urinary tract infections was tested. Urinary, vaginal or anal isolates from women with such infections were used. Of the strains 66 (90 per cent) demonstrated adherence to epithelial cells. D-Mannose inhibited completely the adherence of 25 strains (42 per cent) that adhered to vaginal cells and inhibited an additional 11 strains (18 per cent) by at least 50 per cent. Similar results were obtained with buccal cells. (1)

Because insubstantial amounts of D-Mannose are used by the body, it does not interfere with blood sugar regulation.

Cautions and interactions

There are no known drug interactions.

Cranberry Standardized + Uva Ursi

Standardized Cranberry Extract contains a high concentration of proanthocyanidins, which are a class of plant polyphenols. The proanthocyanidins found in cranberry (*Vaccinium macrocarpon*) are unique in that they have been found to possess an Anti-Adherence Factor that helps to maintain a balance of healthy bacteria in the urinary tract and may support healthy urinary tract function. The proanthocyanidins accomplish this by preventing particles containing bacteria from adhering effectively to the bladder lining, thereby making bacterial growth more difficult. Cranberry concentrate also contains quinic, benzoic and hippuric acids, important organic acids found in fresh cranberries.

The addition of Uva ursi makes this product unique. Uva ursi contains unique constituents that make it potentially useful for urinary tract health, thus acting as a synergist for cranberry extract.

Cautions and interactions

Several case reports suggest that cranberry could interact with the drug warfarin, potentially leading to internal bleeding. However, two formal studies have failed to find evidence of such an interaction. Indirect evidence suggests that regular use of cranberry concentrate tablets might increase risk of kidney stones.

Animal studies suggest that Uva ursi may interact with the anti-inflammatory effects of corticosteroid medications (such as prednisolone and dexamethasone) and nonsteroidal anti-inflammatory drugs, including ibuprofen and indomethacin.

Women who are pregnant or breastfeeding should not take Uva ursi. It is also not recommended for those with high blood pressure. In addition, Uva ursi is not recommended for long term use.

Ortho Dophilus™

Recurrent urinary tract infections (UTIs) are especially common in women. The use of probiotics, especially lactobacilli, has been

considered as the dietary supplement support for those with UTIs. In as much as lactobacilli dominate the urogenital flora of healthy premenopausal women, it has been suggested that restoration of the beneficial urogenital flora with lactobacilli may be useful. The evidence from the available studies suggests that probiotics can be beneficial to women with recurrent UTIs; they also have a good safety profile (2).

The benefits to the urinary tract may be related, as well, to actions in the closely related tissues found in close proximity in the gastrointestinal tract. Food affects gastrointestinal health in part through its impact on gut bacteria. Conversely, the health benefits of many foods, such as broccoli, depend upon how components are changed by bacteria in the intestines. Recently, researchers have begun to look more closely at the combination of probiotic bacteria with various prebiotics, which are items ingested to encourage proper bacterial growth and actions in the GI-tract. These synbiotics can exhibit benefits not found with either probiotics or prebiotics taken alone (3 - 5). This Protocol for Life Balance™ formulation is a combination of 8 different species of beneficial bacteria designed to support gastrointestinal health and immune system function. Fructooligosaccharide (FOS) is also included in this product to assist healthy growth of acidophilus and bifidus organisms. Because this capsule is enteric coated, the product delivers microflora directly to the intestine, bypassing the harsh acidic conditions of the stomach. These probiotics are stable at room temperature and tested for potency.

Cautions and interactions

A laboratory study suggests that *L. acidophilus* affects the metabolism of sulfasalazine, a medication used to treat ulcerative colitis. The significance of this information is unknown at this time.

Additional Support Bromelain, 2400 GDU, Vitamin C-1000, A-Biotic™

UT problems reflect systemic factors. Bromelain, a clinically used pineapple extract and natural product, has been reported to modulate inflammatory factors and to exhibit immunomodulatory activities. In a recent trial, bromelain attenuated altered CD4+ to CD8+ T lymphocyte populations. The addition of Vitamin C, alone or with flavonoids, is also recommended.

More immune support may be sought with A-Biotic™. A-Biotic™ is an herbal combination designed to support healthy immune function seasonally and year-round. A-Biotic™ contains Allisure®, a clinically tested and patented form of stabilized allicin. Allicin, the main immunologically active component of garlic, has been found to affect oxidative stress and immune response in several experimental systems and to exert immunomodulatory effects on T cells and adhesion molecules and inhibition of NF-kappaB activation (6). Recent work has found that in some models there is an allicin-induced up-regulation of glutathione and IFN-gamma with a simultaneous decrease in TNF-alpha that supports the regulation of inflammatory mediators and elicits a protective immune response (7).

References available at www.protocolforlife.com

D-Mannose, 500 mg (Suggested: 2 three times daily)	_____ X _____
Cranberry with (Uva Ursi) (Suggested: 1 three times daily)	_____ X _____
Ortho Dophilus™ (Suggested: 2-4 daily)	_____ X _____
Additional Support Products:	
Bromelain, 2400 GDU (Suggested: 1-2 between meals)	_____ X _____
Vitamin C-1000 (Suggested: 1-3 daily)	_____ X _____
A-Biotic™ (Suggested: 1-3 daily)	_____ X _____

Please note the instructions, cautions and interactions on each product package, and begin each new product separately, in turn. Use only under the supervision of a qualified health practitioner.

These statements have not been evaluated by the FDA. These products are not intended to diagnose, treat, cure or prevent any disease.