

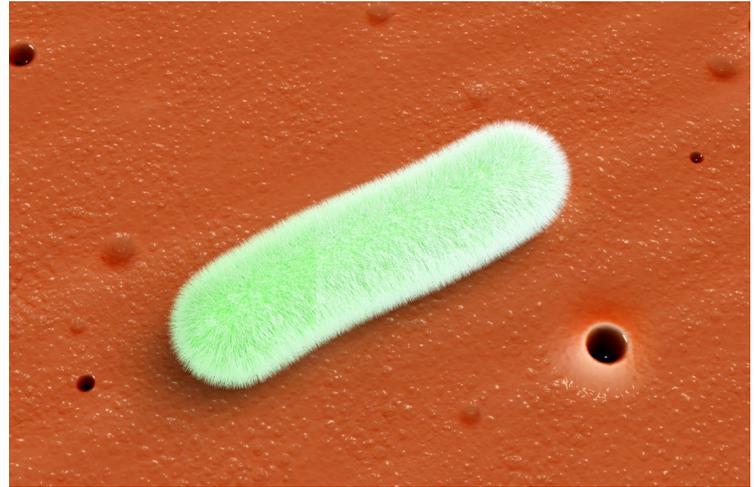
CLINICAL PROTOCOL TO SUPPORT URINARY TRACT HEALTH*

The Pathophysiology of Urinary Tract Infection

Urinary tract infection (UTI) is the most common bacterial infection in the outpatient setting in the U.S. Most incidences are due to *Escherichia coli*, which is an uncomplicated UTI that refers to acute cystitis or pyelonephritis in nonpregnant, premenopausal women without underlying abnormalities in the urinary tract. Symptoms include urgency, frequency, dysuria, suprapubic pain, and gross hematuria. Major risk factors for UTI include sexual intercourse, new sexual partner, spermicide use, and history of UTI in a first-degree female relative. Prevention strategies include liberal fluid intake, postcoital voiding, and avoidance of spermicides. A recurrent UTI after antibiotic therapy may indicate pathogenic resistance.¹⁻³

A complicated UTI involves an infection of either the upper or lower urinary tract and an increased risk for failing treatments or complications. Risk factors for complicated UTI include structural abnormalities and obstruction. Some sources consider a UTI complicated in individuals with diabetes mellitus, metabolic abnormalities, and immunocompromised conditions.^{1,2}

Supplementation and lifestyle changes may support urinary tract health in uncomplicated UTI, recurrent UTI, and prevention.³ This clinical protocol is designed to support a healthy urinary tract and includes evidence-based lifestyle and dietary interventions for UTI.



Diagnostic Biomarkers and Clinical Indicators of UTI

Clinical diagnosis of UTI may be based on history and symptom profile. If diagnosis is unclear, a urine dipstick is recommended. Consider pyelonephritis in the presence of flank pain, fever, nausea, and vomiting.^{1,2†}

- Initial tests¹
- Urine dipstick testing
 - Not required in uncomplicated cases
 - Positive nitrite test increases likelihood of UTI
 - Negative leukocyte esterase and negative nitrite decrease likelihood of UTI
 - A negative test does not definitively rule out infection

- Urine cultures
 - May be indicated in cases of suspected acute pyelonephritis, atypical symptoms, pregnancy, or symptom recurrence
- Imaging
 - May be indicated in cases of complicated UTI

Therapeutic Diet and Nutritional Considerations

- Advise intake of berries, particularly cranberries, which are rich in the polyphenols anthocyanidins and proanthocyanidins and contain anti-adhesive properties³
- Consider supplementation with probiotics that may reduce the risk of UTI, particularly *Lactobacillus acidophilus*, *L. rhamosus*, *L. fermentum*, *L. plantarum*³

Lifestyle Intervention

- Advise adequate fluid intake¹
- Promote cessation of tobacco products^{4,5}
- Recommend an increase in physical activity⁶⁻⁸

***Warning:** If significantly elevated temperature, flank pain, and/or severe burning on urination develop, or if infection persists past several days, a full medical evaluation should be performed and antibiotic therapy should be considered.

This information is provided as a medical and scientific educational resource for the use of physicians and other licensed health-care practitioners ("Practitioners"). This information is intended for Practitioners to use as a basis for determining whether to recommend these products to their patients. All recommendations regarding protocols, dosing, prescribing and/or usage instructions should be tailored to the individual needs of the patient considering their medical history and concomitant therapies. This information is not intended for use by consumers.



Supplement Protocol

Primary Support:



Probiophage DF™

Dose	1 to 2 capsules with meals
Duration	3 months, and then retest, or until infection resolves
Formula Highlights	Probiophage DF™ is a specialized bacteriophage formulation combining four types of phages (as the proprietary bacteriophage blend PrePhage™) along with seven strains of probiotics. This product is designed to support the proliferation of beneficial bacteria.*

UT Synergy™

Dose	2 capsules 3 to 4 times per day at the onset of symptoms
Duration	3 months, and then retest, or until infection resolves
Formula Highlights	UT Synergy™ features <i>Hibiscus sabdariffa</i> , a unique compound designed specifically to support the health of the urinary tract.* <i>H. sabdariffa</i> is an extract of the Hibiscus species that is high in certain organic acids and polyphenols, especially flavonoids and proanthocyanidins. These compounds have been shown to have microbial inhibition and bacterial anti-adhesive properties. Additionally, this formula has mild diuretic properties to support healthy kidney function.*

Silvercillin™ Liquid

Dose	1 Tbsp 2 times per day
Duration	3 months, and then retest, or until infection resolves
Formula Highlights	Silvercillin is an effective preparation of pure silver complexed with purified water, which exhibits antimicrobial properties.* Silvercillin™ uses Silver Sol Technology® and contains 15 ppm of purified silver per serving. This is a powerful, nontoxic form of silver that will not build up in the body.

Acute Infections:

UT Intensive™ Chewables

Dose	2 chewables 2 times per day
Duration	Until symptoms resolve
Formula Highlights	UT Intensive™ Chewables is a powerful blend of whole fruit cranberry extract and D-mannose, which is designed to promote a healthy urinary tract.* This product is delivered as great-tasting, chewable, orange-flavored tablets, allowing for easy patient compliance.

As part of a maintenance Dose in Recurrent UTIs:

UT Intensive™ Chewables

Dose	1 chewable per day along with UT Synergy™
Duration	Ongoing
Formula Highlights	UT Intensive™ Chewables are a powerful blend of whole fruit cranberry extract and D-mannose, which are designed to promote a healthy urinary tract.* This product is delivered as great-tasting, chewable, orange-flavored tablets, allowing for easy patient compliance.

For a list of references cited in this document, please visit:

https://www.designsforhealth.com/protocol-references/protocol-urinary-tract-infection_references.pdf

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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