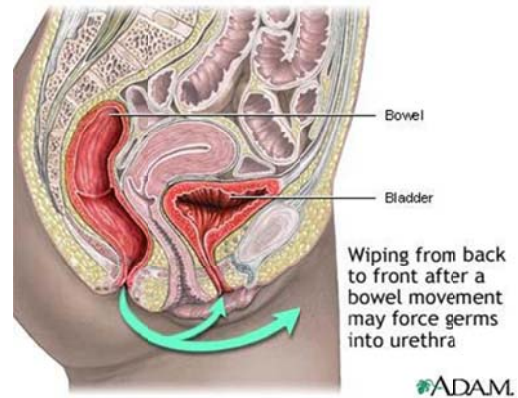




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Therapeutic Strategies to Prevent Recurrent Urinary Tract Infections

Recurrent urinary tract infections (UTIs) are defined as three bladder infections in 12 months or two infections in 6 months. The bacteria that cause UTIs all naturally reside in a woman's vagina. Disruption of dominant bacteria, Lactobacillus, of healthy females can lead to abnormal vaginal bacterial communities associated with bacterial vaginosis (BV), yeast infection, and urinary tract infection. Women have a short urethra (the tube where urine flows out of body) that leads to the bladder, so bacteria don't have far to travel to gain access, which commonly occurs during sexual activity. Further, if a bladder infection goes untreated then the bacteria can ascend to the kidneys causing a life threatening infection or permanent impairment of kidney function.



Other risk factors include the following:

Recurrent UTI Risk Factors

Premenopausal women	Postmenopausal women
<ul style="list-style-type: none"> •Frequent or recent sexual activity •Use of diaphragm for contraception •Use of spermicidal agents •Increasing births •Diabetes •Obesity •Sickle cell trait •Anatomic birth defects of bladder •Urinary tract stones •Indwelling or repetitive bladder catheterization 	<ul style="list-style-type: none"> •Vaginal atrophy (lack of estrogen) •Incomplete bladder emptying •Poor perineal hygiene (incontinence, pads) •Pelvic organ prolapse •Diabetes

Vaginal estrogen restores Lactobacilli colonization as do intravaginal probiotics currently in development. Cranberries keep bacteria from adhering to the bladder walls and have been shown to reduce UTIs. Finally, prophylactic antibiotics, preferably given at time of intercourse, are very effective, but their continued use should be reevaluated annually.

Therapeutic Strategies for Prevention of Recurrent Urinary Tract Infections

Strategy	Dose	Advantages	Disadvantages
Prophylactic antibiotics	<ul style="list-style-type: none"> • Trimethoprim-sulfamethoxazole (Bactrim®, Septra®) 1 double-strength tablet* • Nitrofurantoin: 50 or 100 mg <p>Prefer one tablet after sex (less yeast vaginitis); or alternatively daily for 6 mos</p>	<p>Highly effective</p> <p>Inexpensive</p>	<ul style="list-style-type: none"> • Potential for future bacterial resistance • Caution with nitrofurantoin, in older patients or women with poor kidney function • Nitrofurantoin safe in pregnancy



Strategy	Dose	Advantages	Disadvantages
Vaginal Estrogen**	Premarin® or Estrace® cream ½ g; or Vagifem® twice weekly	Highly effective in postmenopausal women, Few “real” contraindications	Compliance may be an issue
Cranberry Supplements	<ul style="list-style-type: none">• Cranberry tablets 2x/day• Unsweetened cranberry juice 8oz. 3x/day	well-tolerated Few side effects or contraindications	<ul style="list-style-type: none">• Can be expensive• Compliance may be an issue• May not be as effective in postmenopausal patients
Probiotics	Dosing varies among products and local availability	Few side effects or contraindications	Probaclac Vaginal® best studied not currently available in USA

** Consider trimethoprim (100 mg) alone if the patient has an sulfa allergy*
*** Creams are preferred to the vaginal ring or tablets because they can be applied just inside vagina with fingertip*

An intractable cycle may occur when [urinary incontinence](#) dictates chronically wearing protective pads that can then effect perineal hygiene that increase the risk of UTIs. Correcting incontinence and/or [pelvic organ prolapse](#) may be solutions for women with these related problems.

If you suffer from recurrent bladder infections or know someone who does, then see your doctor to explore addressing treatable risk factors as well implementing prevention strategies.

Good Health,

Scott Kramer MD

PS: The [Bladder](#) section on our web site's online library has more information about these and related conditions