

clinical practice guideline for the  
**management of  
uncomplicated  
urinary tract infections  
in women**



## panel membership

Gregory Williams, M.D.  
Infectious Disease  
Fallon Clinic, Inc.

Barbara Chase, M.D., Chair  
Medical Director  
Quality and Health Services  
Fallon Community Health Plan

Michael Burday, M.D.  
Internal Medicine  
Fallon Clinic, Inc.

Arthur Church, M.D.  
Internal Medicine/Hematology  
FCHP Select Care

John Hosey, M.D.  
Rheumatology  
Fallon Clinic, Inc.

Karen Fleming, N.P.-C  
Internal Medicine  
Fallon Clinic, Inc.

William Dennett  
Head Clinical Pharmacist  
Pharmacy Services  
Fallon Community Health Plan

Robin Byrne, Clinical Quality Project Manager  
Quality and Health Services  
Fallon Community Health Plan

## limitations

The Clinical Practice Guidelines Committee (CPGC) provides this document for the educational benefit of the practitioners contracted with Fallon Community Health Plan. **This document is a guideline. The synthesis of the enclosed recommendation is not meant to replace any practices based on personal training, clinical judgment, experience or specific aspects of individual patient situations.**

## goals

- Provide optimal treatment for uncomplicated urinary tract infections.
- Reduce the use of culture and sensitivity in diagnosis of uncomplicated urinary tract infection.
- Increase the use of short course therapy and reduce the frequency of side effects from antimicrobial therapy.

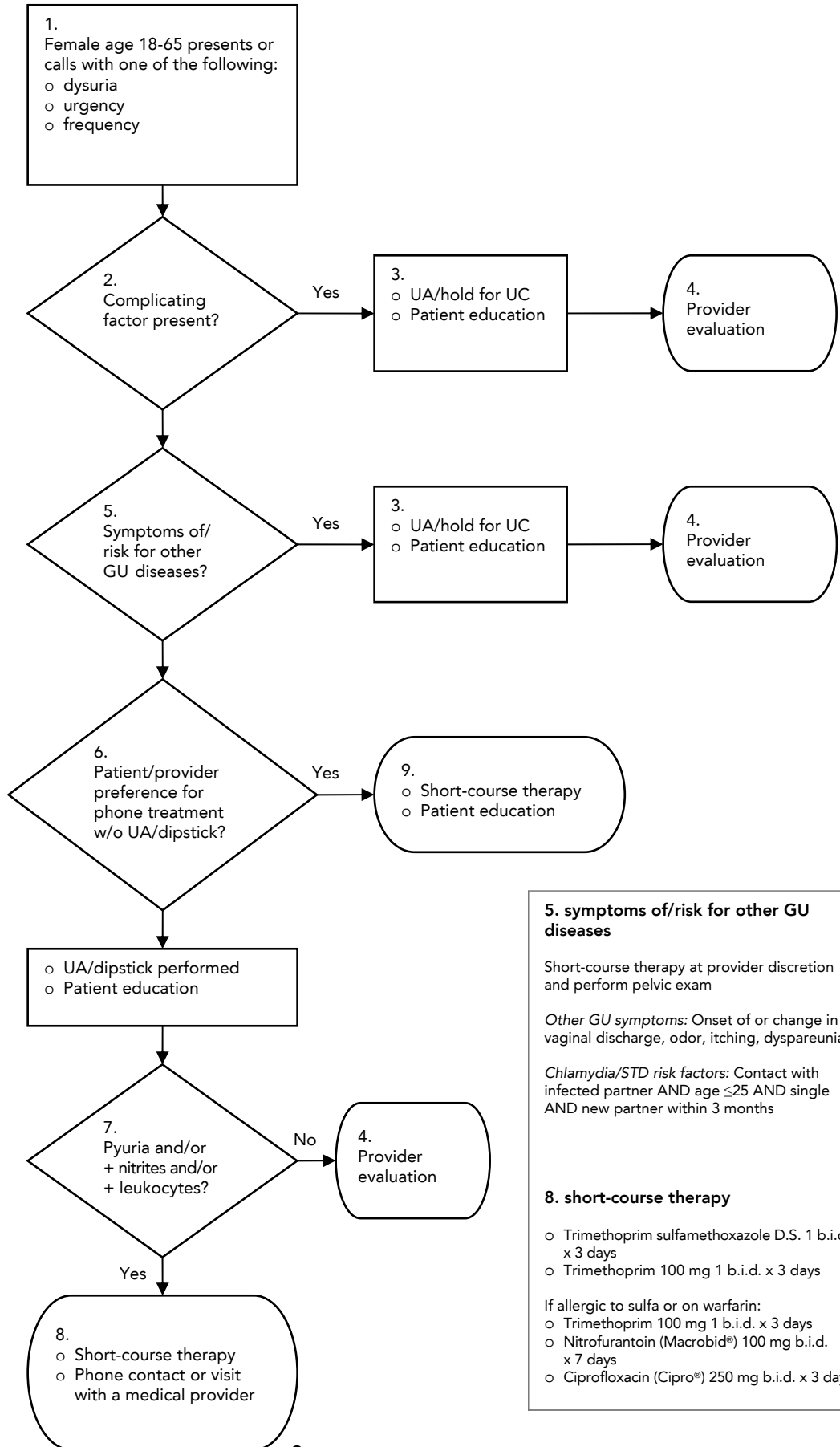
## timeline

Original dissemination of guideline to physicians: September 1995

First revision: July 2000

Second revision: May 2007

# algorithm for the treatment of uncomplicated uti in women ages 18-65



**2. complicating factors**

Provider evaluation is indicated.

*Short-course therapy contraindicated with:*

- o Symptoms:
  - > 7 days symptom duration
  - Rigors/chills
  - Flank pain, midback, severe, new onset with these symptoms
  - Temp. > 101° F
  - Gross hematuria
- o History:
  - Diabetes
  - Pregnancy\*
  - Immunosuppression
  - Renal calculi or insufficiency
  - Urologic abnormalities
  - Catheter or other urinary procedure within 2 weeks
  - Antibiotics within last 2 weeks\*\*
  - ≥ 3 UTIs within last 12 months
  - Failure of UTI treatment within last 4 weeks

*Short-course therapy with provider discretion:*

- o Nausea
- o Vomiting
- o Abdominal pain
- o Age < 18 or > 65
- o Failure of UTI treatment within last 3 months
- o Acute pyelonephritis within last 3 months

\* During pregnancy, the preferred agent is Macrochantin®.

\*\* Consider urology consult for women with relapsing UTI within 2 weeks of treatment.

**5. symptoms of/risk for other GU diseases**

Short-course therapy at provider discretion and perform pelvic exam

*Other GU symptoms:* Onset of or change in vaginal discharge, odor, itching, dyspareunia

*Chlamydia/STD risk factors:* Contact with infected partner AND age ≤25 AND single AND new partner within 3 months

**8. short-course therapy**

- o Trimethoprim sulfamethoxazole D.S. 1 b.i.d. x 3 days
- o Trimethoprim 100 mg 1 b.i.d. x 3 days

If allergic to sulfa or on warfarin:

- o Trimethoprim 100 mg 1 b.i.d. x 3 days
- o Nitrofurantoin (Macrobid®) 100 mg b.i.d. x 7 days
- o Ciprofloxacin (Cipro®) 250 mg b.i.d. x 3 days

## **clinical practice guideline for the management of uncomplicated urinary tract infections in women**

This guideline has been developed in an effort to provide a strategy for optimal therapy that is both cost effective and keeps adverse side effects to a minimum. Recommendations are based on the predictable small number of etiologic agents responsible for the vast majority of uncomplicated cystitis and their antimicrobial susceptibility in our region.

### **1. adult female presents with one or more classic symptoms**

The classic symptoms of urinary tract infection (UTI) in women are dysuria, frequency, and urgency. One or more of these symptoms can trigger the initiation of the UTI guideline. Hematuria *alone* is not a classic symptom of uncomplicated UTI. There is concern that the presence of hematuria may be a sign of more significant disease.

### **2. are complicating factors present?**

History-taking is essential in differentiating uncomplicated from complicated UTI. Women should be screened for the presence of complicating factors when presenting or calling with symptoms of UTI. Depending upon which complicating factor is present, short-course therapy may or may not be appropriate.

Short-term therapy is not appropriate when these complicating factors are present:

- Symptoms suggesting pyelonephritis or other, more severe infection: long duration, rigors, flank pain, temperature > 101° F, or gross hematuria
- Medical history suggesting likelihood of complicated urinary tract infection, or need for different investigation or therapy: diabetes, pregnancy, immunosuppression, underlying urinary tract disease or renal calculi, recent medical intervention (hospitalization or catheterization), recurrent UTIs or failure of therapy

Short-course therapy may be appropriate at the physician's discretion when these complicating factors are present:

- Younger or older patients (< 18 or > 65). However, there is little literature documentation of efficacy of short-course therapy in these age groups.
- Recent pyelonephritis or failure of antibiotic treatment. These factors may put patients at higher risk of complicated infection.

### **3. urinalysis/hold for urine culture**

Instructions on collecting a clean-catch, midstream urine specimen should be given to the patient. Education should also be given to the patient regarding urinary tract infection and prevention.

The laboratory should be instructed to perform a urinalysis with microscopy and hold for possible urine culture (UC). Urine specimens that are marked "Hold for UC" should be refrigerated.

The final decision about culturing should be left to the practitioner.

### **4. provider evaluation**

Women with a complicated history should be evaluated by a health care practitioner. The practitioner will determine if a UC is necessary.

Complicating factors are listed in detail in the algorithm on page 3, and including the following categories:

- Those that would preclude use of short course therapy
- Those that would allow for discretionary use of short course therapy
- Those that would necessitate a pelvic exam to rule out genitourinary disease

Symptomatic women with a negative urinalysis should receive further evaluation as clinically indicated.

Within the patient population there may be some patients who do not appear to have a UTI by laboratory tests who will nonetheless respond to a trial of antibiotics. In addition, there may be patients who are well known to practitioners and who are known to be accurate historians who may not be able to come in for laboratory testing. In both cases, it may be reasonable to treat based on history without laboratory support.

Women with the symptoms and risk factors listed in below under “Symptoms of or risk for other genitourinary disease” are at high risk for STD and should receive closer evaluation. These patients should be scheduled for a practitioner visit and should receive a pelvic exam. Finding a UTI does not rule out concomitant STD.

## **5. symptoms of or risk for other genitourinary disease**

Genitourinary symptoms suggestive of disease other than UTI:

- Vaginal discharge
- Vaginal odor
- Vaginal itching
- Dyspareunia

Women with the following characteristics are at greater risk of a sexually transmitted disease, particularly chlamydia:

- Contact with a partner who is infected with an STD
- Age  $\leq 25$ , and single marital status, and no barrier contraception and new sexual partner within the last 3 months.

## **6. patient/provider preference for phone treatment without urinalysis?**

Treatment of uncomplicated UTI over the phone, using a developed protocol, for women between the ages of 18 and 65 is a reasonable practice. Patient education should be provided over the phone, handed out at the pharmacy, or mailed to the patient, and should include information on the prescribed therapy, UTI prevention techniques, and the need to follow up with the provider if the symptoms do not subside.

## **7. pyuria, positive nitrite or positive leukocyte?**

A growing body of literature supports the practice of presumptive treatment of UTI in women without complicating factors on the basis of symptoms alone. For clinicians more comfortable with laboratory evaluation as an aid to the diagnosis of UTI, the use of clean-catch urinalysis is recommended. A variety of criteria for positive urinalysis in acutely dysuric women is reported in the literature. While microscopy is strongly supported by the literature, a positive leukocyte esterase may also be acceptable. However, a dipstick leukocyte esterase may not be sensitive enough to detect the degree of pyuria often associated with UTI.

The presence of pyuria on urinalysis has high sensitivity (95%) but a relatively low specificity (71%) for infection. The presence of visible bacteria on microscopic examination is less sensitive but more specific (40 to 70% and 85 to 95%, respectively, depending on number of bacteria

observed). Urine dipstick testing has largely supplanted microscopy and urine-culture analysis, because the dipstick method is cheaper, faster, and more convenient. Dipsticks are most accurate when the presence of either nitrite or leukocyte esterase is positive, yielding a sensitivity of 75% and a specificity of 82%.

## 8. short-course therapy and patient education

- A. Short-course therapy: Once the presence of pyuria is established, adult female patients with uncomplicated UTIs can be prescribed treatment over the phone, if preferred by both the practitioner and the patient, or can receive treatment at an office visit with a practitioner.

In otherwise healthy women with uncomplicated infections, a single-dose or 3-day course of antibiotics is sufficient and associated with far fewer side effects and lower costs than longer courses of treatment.

The drugs recommended for short-course therapy are as follows:

- Trimethoprim sulfamethoxazole D.S. 1 b.i.d. x 3 days
- Trimethoprim 100 mg 1 b.i.d. x three days

If allergic to sulfa or on warfarin:

- Trimethoprim 100 mg 1 b.i.d. x 3 days
- Nitrofurantoin (Macrobid<sup>®</sup>) 100 mg b.i.d. x 7 days
- Ciprofloxacin (Cipro<sup>®</sup>) 250 mg b.i.d. x 3 days

- B. Patient education: Patient education should be provided over the phone, or educational materials should be handed out at the pharmacy or mailed to the patient. Patient education should include information about the following:

- Prescribed therapy
- Use of an additional form of birth control while on medication
- Adequate fluid intake
- The need to return to the clinic if symptoms do not subside (10% of women typically have treatment failure). These symptoms require diagnostic testing with urine culture, and appropriate chlamydia testing if clinically indicated.
- Prevention techniques, to include:
  - Reinforcement of proper use and cleansing of diaphragm, when applicable
  - Avoiding tight-fitting slacks
  - Wearing cotton undergarments
  - Frequent voiding

## **bibliography**

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