# Urinary Tract Infection (UTI) Uncomplicated and Prevention of Post-coital

## DEFINITION

An infection of the urethra (urethritis), bladder (cystitis), ureters, or kidneys. UTI symptoms after sexual intercourse may be caused by introducing bacteria from the urethra into the bladder. The most common bacteria that lead to infection are E. coli, K. pneumonia, and P. mirabilis. Antibiotic resistance is increasing, and local susceptibilities should guide empiric treatment.

## SUBJECTIVE

May include:

1. Complaints of urinary frequency, burning, nocturia, dysuria or urgency
2. Hematuria
3. Suprapubic pain or lower abdominal pain
4. Sexual history
5. Stress/urge incontinence
6. Malodorous and/or cloudy urine
7. Diaphragm and/or spermicide use
8. Vaginal or penile mucopurulent discharge or other abnormal symptoms
9. Complaints of recurrent UTIs after sexual intercourse. (at least 2-4 UTIs in one year)
10. Medical hx for risk factors including, but not limited to, vaginal atrophy, diabetes, congenital anatomic abnormalities, uterine prolapse, obesity, immunosuppression and sickle cell disease or trait

Should exclude:

1. Severe flank pain
2. Nausea/vomiting
3. Chills

## OBJECTIVE

May include:

1. No remarkable physical findings
2. Suprapubic tenderness on abdominal exam
3. Urethral and/or bladder tenderness
4. Inflammation of urethral meatus
5. Pelvic exam as indicated

Should exclude:

1. CVA tenderness
2. Temperature > 100.4° F

## LABORATORY

Should include:

1. Clean catch urine dipstick:
   a. Positive blood
   b. Positive nitrates
   c. Positive Leukocyte

May include:

1. Clean catch urine microscopy:
   a. Greater than or equal to 5-10 WBCs/high power field (HPF)
   b. Positive red blood cells > 5 RBCs/high power field (HPF)
   c. Positive bacteria
2. STD screening, as appropriate.

3. Negative pregnancy test in non-contracepting women
4. Vaginitis/cervicitis screening, as appropriate
5. Urine C&S report positive for >100,000 organisms of the same species for clean catch specimen
6. Due to increasing rates of antibiotic resistance, all suspected UTIs are considered UA and culture.

## ASSESSMENT

Urinary tract infection or post-coital cystitis

## PLAN

1. Treatment options may include one of the following for uncomplicated UTI; refer to local antibiotic susceptibility for empiric treatment:
   a. Trimethoprim-Sulfamethoxazole DS 160/800mg PO BID for 3 days (avoid if local biogram has >20% resistance) OR
   b. Trimethoprim 300 mg (PO) for 3 days O R
   c. Fosfomycin Tromethamine (Monurol) 3 gm sachet sig: 1 sachet mixed with 4 oz. H20 x 1 O R
   d. *Nitrofurantoin monohydrate/macrocrystals 100 mg (PO) BID for 7 days OR
   e. *Nitrofurantoin macrocrystals 50 mg – 100 mg (PO) QID for 7 days O R
   f. Amoxicillin 500 mg. TID x 7- 10 days (consider if pt. has a possible risk of pregnancy OR
   g. Augmentin 500mg BID x 5-7d OR
   h. Cefdinir 300mg BID 5-7d or
   i. **Ciprofloxacin HCL 250 mg (PO) BID for 3 days (Black Box warning- associated with potential tendon rupture) OR
   j. **Ciprofloxacin extended-release 500 mg (PO) QD for 3 days
   k. **Levofloxacin 250 mg QD for 3 days OR
   l. **Norfloxacin 400 mg BID for 3 days
   m. May use alternative antibiotic, as indicated most appropriate by the C & S Report

****On May 12, 2016, the FDA advised that side effects associated with fluoroquinolones generally outweigh the benefits for uncomplicated UTI.** In those with other options reserve use for those who do not have alternative treatment options. Avoid use during pregnancy.
*August 2017 ACOG advises Nitrofurantoin and TMP/SMZ not to be used in the first trimester of pregnancy

2. For the complaint of severe dysuria, may offer:
   a. Phenazopyridine 100-200mg PO TID prn for 2 days (available OTC as AZO 97.5mg
   OR
   b. Uristat 95mg: 2 tabs PO TID prn for 2 days (available OTC)
3. Treatments options for post-coital cystitis (non-pregnant patients only) may include:
   a. Trimethoprim-sulfamethoxazole 40mg/200mg (1 dose)
   b. Trimethoprim-sulfamethoxazole 80mg/400mg (1 dose)
   c. Nitrofurantoin 50mg or 100mg (1dose)
   d. Cephalexin 250mg (1 dose)
   e. ** Ciprofloxacin 125mg (1 dose)
   f. ** Norfloxacin 200mg (1 dose)
   g. ** Ofloxacin 100mg (1 dose)
   h. For symptom control, may use Phenazopyridine 100-200mg q8 hours prn if symptomatic (MUST be taken along with antibiotic. Has a crossover reaction with sulfa allergy.)

*These are ideally to be taken within 2 hours of each act of sexual intercourse. Antibiotic only needs to be taken once in 24 hours, even if there are multiple acts within that time period.
****On May 12, 2016, the FDA advised that side effects associated with fluoroquinolones generally outweigh the benefit for uncomplicated UTI.**

*****Current Recommended Treatment Guidelines, see references below*****

**Treatment for Uncomplicated Cystitis in Nonpregnant Clients**

**First-Line Therapy**

a. Trimethoprim/sulfamethoxazole (Bactrim DS) 160mg/800mg tablet PO BID for 3 days **OR**
b. Nitrofurantoin monohydrate/macrocrystals (Macrobid) 100 mg PO BID for 5-7 days **OR**
c. Nitrofurantoin macrocrystals (Macrodantin) 50-100 mg PO QID for 7 days **OR**
d. Fosfomycin (Monurol) 3 g PO as a single dose with 3-4 oz of water

**Second-Line Therapy**

a. Ciprofloxacin (Cipro) 250 mg PO BID for 3 days **OR**
b. Ciprofloxacin extended release (Cipro XR) 500 mg PO daily for 3 days **OR**
c. Levofloxacin (Levaquin) 250 mg PO q24h for 3 days **OR**
d. Ofloxacin 200 mg PO q12h for 3 days

**Alternative Therapy**

a. Amoxicillin-clavulanate (Augmentin) 500mg/125mg PO BID for 3-7 days **OR**
b. Amoxicillin-clavulanate (Augmentin) 250mg/125mg PO TID for 3-7 days **OR**
c. Cefdinir 300 mg PO BID for 7 days **OR**
d. Cefaclor 500 mg PO TID for 7 days **OR**
e. Cefpodoxime 100 mg PO BID for 7 days **OR**
f. Cefuroxime 250 mg PO BID for 7-10 days

**Postcoital Prophylaxis**

**Women with recurrent UTIs, that are associated with intercourse, may be considered for postcoital prophylaxis.**

a. Nitrofurantoin 50 mg PO once after intercourse **OR**
b. Nitrofurantoin 100 mg PO once after intercourse **OR**
c. trimethoprim-sulfamethoxazole 40/200 mg PO once after intercourse **OR**
d. trimethoprim-sulfamethoxazole 80/400 mg PO once after intercourse **OR**
e. cephalexin 500 mg PO once after intercourse

**Treatment for Pregnant Women with Asymptomatic Bacteriuria or UTI**

a. Nitrofurantoin monohydrate/macrocrystals 100 mg PO BID for 5-7 days **OR**
b. Amoxicillin 875 mg PO BID for 5-7 days **OR**
c. Amoxicillin-clavulanate 500/125 mg PO TID for 5-7 days **OR**
d. Cephalexin 500 mg PO QID for 5-7 days **OR**
e. Fosfomycin 3 g PO in a single dose with 3-4 oz water

**Adjunctive Therapy Options**

a. Phenazopyridine 100-200 mg PO TID PRN dysuria (do not take for more than 2 consecutive days if using with an antibiotic)

**Common Over the Counter options include:**

a) AZO
b) Uristat

## CLIENT EDUCATION

1. Provide client education handout(s)
2. Review symptoms, complications, and danger signs
3. Emphasize the importance of good perineal hygiene

4. Avoid intercourse until the infection resolves. Intercourse during infection may be painful and irritate healing tissues.
5. Recommend frequent urination. Urination before and after intercourse.
6. Review safer sex education as appropriate
7. Recommend client RTC if symptoms are not relieved by medication; seek medical care if symptoms worsen on medication
8. Intravaginal estrogen in individuals with atrophy of genitalia; refer as needed for management of postmenopausal status-related symptoms
9. Spermicide-containing contraceptives, particularly diaphragm, increase the risk of UTIs.
10. Phenazopyridine may change your body fluids, including tears and urine orange, stain clothing and contact lenses.
11. Stay well hydrated

## CONSULT / REFER TO PHYSICIAN

1. Pregnancy
2. Exhibits signs and symptoms of upper UTI (fever, flank pain, malaise, nausea, vomiting and chills) or suspected renal calculus, urinary tract obstruction, or urinary tract malignancy.
3. History of pyelonephritis, renal or bladder stones, recurrent UTI (3 infections/year).
4. Symptoms that persist post-treatment.
5. Symptoms present with negative urine and negative STD test results.

## REFERENCES

1. Kelsey, B. & Nagtalon-Ramos, J. (2021). Midwifery & women's health nurse practitioner certification review guide. Jones & Bartlett Learning.
2. Urinary Tract Infections | UTI | UTI Symptoms | MedlinePlus
3. FAQs: Urinary Tract Infection (UTI) Events | NHSN | CDC
4. Medscape: Urinary Tract Infection and Cystitis in Females, Treatment & Management
5. Medscape: Urinary Tract Infections in Pregnancy, Treatment & Management
6. Medscape: Prevention of Urinary Tract Infection