Client: HMSA: PQSR 2007

Measure Title: SHORT-COURSE ANTIBIOTIC THERAPY FOR UNCOMPLICATED UTI

Disease State: Uncomplicated Urinary Tract Infection

Indicator Classification: Disease Management

Strength of Recommendation: A

Clinical Intent: To ensure that eligible members diagnosed with uncomplicated urinary track infection receive short-course antibiotic therapy.

Physician Specialties: Refer to PQSR 2007 Specialty Matrix

Clinical Rationale: Disease Burden

- Based on the National Health and Nutrition Examination Survey (NHANES-III), the overall lifetime prevalence of urinary tract infections (UTI) in women is estimated to be 53,067 per 100,000.[1, 2]
- Data from NHANES-III showed that the incidence of UTI in 12 months was 13,320 per 100,000 women.[1, 2]
- The lifetime risk of urinary tract infection in women is reported to be 60.4%.[3]

Reason for Indicated Intervention or Treatment

- Short courses of antibiotics for uncomplicated UTIs are equivalent to longer courses and are associated with greater patient adherence, fewer side effects, and better safety profiles.

Evidence supporting Intervention or Treatment

- A randomized, controlled trial of 521 women indicates that a low dose, three-day course of ciprofloxacin is equivalent to a seven-day course of co-trimoxazole or nitrofurantoin. Ciprofloxacin was found to have a statistically significant higher eradication rate at the four-six week follow-up.[4]
- A randomized controlled double-blind trial of 183 women compared the efficacy and safety of three-day and seven-day courses of oral ciprofloxacin for uncomplicated symptomatic UTI in older women. The three-day course was found to be equivalent. The frequency of adverse events, including drowsiness, headache, nausea or vomiting, and loss of appetite, was significantly lower in the three-day group.[5]
- A Cochrane meta-analysis conducted to investigate the appropriate duration of antibacterial treatment for uncomplicated urinary tract infection in women that included thirty-two trials (9605 patients) found that for symptomatic failure rates, there was no difference between three-day and 5-10 day antibiotic regimens either short-term (RR 1.06, 95% CI 0.88 to 1.28) OR long-term follow(RR 1.09, 95% CI 0.94 to 1.27).[6] The reviewers also noted that adverse effects were significantly more common in the 5-10 day treatment group (RR 0.83, 95% CI 0.74 to 0.93, P = 0.0010).

Clinical Recommendations

- The Institute for Clinical Systems Improvement (ICSI) recommends trimethoprim sulfamethoxazole D.S. 1 twice a day (BID) x 3 days or
trimethoprim 100 mg 1 BID x 3 days for uncomplicated urinary tract infection in women. [7, 8]

- The American Academy of Family Physicians (AAFP) notes that a three-day antibiotic course is best for acute uncomplicated cystitis,[9]
- The Infectious Diseases Society of America (ISDA) guidelines recommend trimethoprim-sulfamethoxazole for three days as the current standard therapy. Trimethoprim alone and ofloxacin are equivalent to trimethoprim-sulfamethoxazole. [10]
- Current Opinion in Urology states that 7-14 day therapies are unnecessary because short course therapy demonstrates similar effectiveness, better tolerance and compliance, and lower cost.[11]

**Source**

Health Benchmarks, Inc. adapted from the Institute for Clinical Systems Improvement health care guideline: Uncomplicated Urinary Tract Infection in Women.
- HBI restricted the set of codes used for the denominator to acute cystitis and urinary tracts infection, site not specified (595.0 and 599.0x); ICSI included codes for chronic interstitial cystitis, trigonitis, and other cystitis.
- HBI added that UTI must be identified within first 358 days of the measurement to allow patient time to fill the prescription: ICSI did not include such stipulations.
- ICSI did not explicitly identify which codes should be used to exclude patients with complicating factors or co-morbidities that make them ineligible for short course therapy

Adapted for HMSA: Removed DRG codes from DENEX [F]
Revised Numerator: Members whose UTI treatment is an appropriate antibiotic within 7 days of the index date where total days supply is equal to 3, OR if a course of nitrofurantoin, where total days supply is equal to 7.

**Denominator**

Count all episodes for continuously enrolled women ages 19 – 66 years by the end of the measurement year with a primary diagnosis of urinary tract infection (UTI).

*Relevant Billing Codes:*

ICD-9 diagnosis code(s): 595.0, 599.0

**Denominator Exclusion**

Women whose symptoms suggest pyelonephritis or whose medical history indicates that they are at increased risk for having a complicated UTI or need for different therapy: diabetes, immunosuppression, underlying urinary tract disease or renal calculi, recent medical intervention (hospitalization or catheterization), recurrent or recent UTI, failure of therapy, or pregnancy.

*Relevant Billing Codes:*

ICD-9 diagnosis code(s): 042.xx, 079.53, 140.xx-172.xx, 174.xx-199.xx, 200.xx, 201.xx, 202.xx, 204.xx-208.xx, 245.2, 250.xx, 279.xx, 282.6x, 288.0x-288.9x, 303.9x, 357.2x, 362.0x, 366.41, 425.xx, 428.xx, 491.xx-494.xx, 571.xx, 580.xx - 589.xx, 590.xx, 591.xx-594.xx, 595.0, 595.1x - 595.9x, 596.xx-598.xx, 599.0, 599.1 – 599.5, 630.xx-677.xx, 780.6, 789.0x, 789.6x, 795.71

ICD-9 status “V” code(s): V08.xx, V10.72, V22.xx, V23.xx, V24.xx,
Numerator Members whose UTI treatment is an appropriate antibiotic within 7 days of the index date where total days supply is equal to 3, OR if a course of nitrofurantoin, where total days supply is equal to 7.

Interpretation of Score High score implies better performance.

Physician Attribution If member receives a prescription (i.e., days supply >=1), attribute the prescribing physician. Or if member does not receive a prescription (i.e., days supply is equal to 0), attribute the diagnosing physician.


Source: HBI, Master NDC

References
6. Milo, G., et al., Duration of antibacterial treatment for uncomplicated...


### Indicator Classification

(Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis</strong></td>
<td>Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)</td>
</tr>
<tr>
<td><strong>Effectiveness of Care</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prevention</strong></td>
<td>Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).</td>
</tr>
<tr>
<td><strong>Screening</strong></td>
<td>Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).</td>
</tr>
<tr>
<td><strong>Disease Management</strong></td>
<td>Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).</td>
</tr>
<tr>
<td><strong>Medication Monitoring</strong></td>
<td>Measures applicable to patients taking medications with narrow therapeutic windows and/or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy).</td>
</tr>
<tr>
<td><strong>Medication Adherence</strong></td>
<td>Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td>Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).</td>
</tr>
</tbody>
</table>
Strength of Recommendation

Strength of Recommendation Based on a Body of Evidence

Is this a key recommendation for clinicians regarding diagnosis or treatment that merits a label?
Yes
Is the recommendation based on patient-oriented evidence (i.e., an improvement in morbidity, mortality, symptoms, quality of life, or cost)?
Yes
Is the recommendation based on opinion, bench research, a consensus guideline, usual practice, clinical experience, or a case series study?
No
Is the recommendation based on one of the following?
- Cochrane Review with a clear recommendation
- USPSTF Grade A recommendation
- Clinical Evidence rating of Beneficial
- Consistent findings from at least two good-quality randomized controlled trials or a systematic review/meta-analysis of same
- Validated clinical decision rule in a relevant population
- Consistent findings from at least two good-quality diagnostic cohort studies or systematic review/meta-analysis of same
Yes
Strength of Recommendation = A
No
Strength of Recommendation = B
No
No
Strength of Recommendation = C

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)