Supplementary Material

Urinary Tract Infection Management Bundle Design

New Brunswick Provincial Health Authorities Anti-Infective Stewardship Committee – Treatment of Adult Urinary Tract Infections Guideline
Urinary Tract Infection Management Bundle Design

**Nursing Education:**
- Clinical indications for urine culture
- Institutional guideline for UTI management
- Mandatory physician order for urine culture submission

**Prescriber Education:**
- Clinical indications for urine culture
- UTI diagnosis and indications for treatment of AB
- Institutional guideline for UTI management

**Lab Intervention:**
- On intervention wards, suppression of reporting positive urine cultures
- Asymptomatic bacteriuria comment
- Phone microbiology for result if patient symptomatic

**Pharmacy Intervention:**
- Prospective audit and feedback
- Institutional guideline for UTI management
- All pharmacists trained prior to intervention period
# Treatment of Adult Urinary Tract Infections

(NB Provincial Health Authorities Anti-Infective Stewardship Committee, May 2014)

<table>
<thead>
<tr>
<th>Indication</th>
<th>Empiric Therapy</th>
<th>Duration of Therapy</th>
<th>Comments</th>
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<tr>
<td><strong>Asymptomatic Bacteriuria</strong></td>
<td>Antibiotic therapy only recommended for: -Prophylaxis for urological procedures when mucosal bleeding expected -Treatment in pregnancy (Select antimicrobial therapy according to urine C&amp;S)</td>
<td></td>
<td>• Asymptomatic bacteriuria with pyuria is not an indication for antimicrobial therapy</td>
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| **Uncomplicated Cystitis (Lower UTI)** | Preferred Regimen: nitrofurantoin monohydrate/macrocrystals 100 mg po twice daily (Not recommended if CrCl less than 40 mL/min; avoid near term (36-42 weeks) due to risk of haemolytic anemia in the new born)  
Alternative Regimens: amoxicillin/clavulanate 875/125 mg po twice daily OR cefuroxime 500 mg po twice daily OR sulfamethoxazole/trimethoprim 800/160 mg po twice daily (Not recommended in pregnant women) OR fosfomycin 3 g po once | 5 days  
7 days  
7 days  
3 days  
One dose | |
| **Acute Uncomplicated Pyelonephritis (Upper UTI)** | Preferred Regimen: cefixime 400 mg po once daily  
Alternative Regimens: amoxicillin/clavulanate 875/125 mg po twice daily  
Additional options if culture confirmed susceptibility: sulfamethoxazole/trimethoprim 800/160 mg po twice daily OR ciprofloxacin 500 mg po twice daily | See Comments | • Outpatient management an option if female, not pregnant, no nausea/vomiting, no evidence of dehydration, sepsis or high fever  
• Treat for 14 days  
• May treat for 7 days if female, uncomplicated and using ciprofloxacin or sulfamethoxazole/trimethoprim  
• For treatment using oral β-lactams, consider an initial single intravenous dose of cefTRIAXone 1 g IV and use a 14 day total duration of antimicrobial therapy |
| **Complicated UTI** | Systemically Well: cefTRIAXone 1 g IV once daily OR ampicillin 2 g IV q6h + gentamicin 5 mg/kg IV once daily OR piperacillin/tazobactam 3.375 g IV q6h (if at risk of MDR organisms)  
Pregnant: cefTRIAXone 1 g IV once daily OR ampicillin 2 g IV q6h + gentamicin 5 mg/kg IV once daily OR piperacillin/tazobactam 3.375 g IV q6h (if at risk of MDR organisms) | 14 days  
14 days  
14 days | • Pyuria not diagnostic, only treat if symptomatic  
• Catheters frequently colonized, obtain culture through new catheter  
• Change catheter if in place for greater than 2 weeks & still required |
| **Clinical Pearls:** | • Cloudy & foul smelling urine alone is not considered an indication for a urine culture and sensitivity  
• Therapy should be adjusted according to culture and sensitivity results  
• Blood cultures should be drawn if febrile, septic, signs and symptoms suggestive of pyelonephritis or immunocompromised  
• Post-treatment culture not recommended except in case of persistent or recurrent symptoms or pregnancy  
• nitrofurantoin and fosfomycin are not appropriate for men, complicated UTI or systemic infections  
CAUTION: Significant E.coli resistance (greater than 20%) to fluoroquinolones, sulfamethoxazole/trimethoprim and amoxicillin exist in some areas of the province; check local antibiogram and confirm urine C&S results when available  
De-escalate according to urine/blood C&S and switch IV to PO based on conversion criteria  
Dose adjustment required in renal impairment |
References: