The purpose of this memo sheet is to promote the appropriate prescription of antibiotics to reduce bacterial resistance, which may lead to therapeutic impasses. The choice of antibiotic, its dose and its dosage are factors to consider for a suitable prescription.

**The complication risk factors** are pregnancy, any organic or functional abnormality of the urinary tract, severe renal failure (creatinine clearance < 30 ml/min), severe immunodepression, age above 75 or above 65 with at least three Fried criteria (see page 3). Type 1 or 2 diabetes is not a complication risk factor.

### Acute simple cystitis (no complication risk factor)

**Clinical diagnosis:** signs, alone or associated: burning and pain on micturition, pollakiuria, urge incontinence.

- Hematuria in 30% of cases.

**Testing for leukocytes and nitrates positive with urine dipstick.**

- Do not prescribe cytobacteriological examination of the urine (CBEU)

<table>
<thead>
<tr>
<th>Line</th>
<th>Antibiotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st line</td>
<td>fosfomycin-trometamol, 3 grams in a single dose</td>
</tr>
<tr>
<td>2nd line</td>
<td>pivmecillinam, 400 mg x 2/day, for 5 days</td>
</tr>
</tbody>
</table>


- Other antibiotics are not indicated.
- No CBEU unless outcome unfavourable (persistence of clinical signs after 3 days or early recurrence within 2 weeks).
Acute cystitis with complication risk (at least one risk factor)

- Performance of urine dipstick and, if positive, a CBEU.
  - The diagnosis is suggested if urine leukocytes > 10\(^4\)/ml and bacteria ≥ 10\(^3\) CFU/ml for *Escherichia coli*, *Staphylococcus* and ≥ 10\(^4\) CFU/ml for other enterobacteria, *Corynebacterium urealyticum*, *Pseudomonas aeruginosa* and *Staphylococcus aureus*.
  - An etiological assessment should be considered on a case-by-case basis depending on the complication risk factor.

- If treatment can be delayed: treatment adapted to the sensitivity testing.
  - By order of preference and depending on the sensitivity testing*:

<table>
<thead>
<tr>
<th>Line</th>
<th>Antibiotic</th>
<th>Dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>amoxicillin</td>
<td>1 g x 3/day, for 7 days</td>
<td></td>
</tr>
<tr>
<td>2nd</td>
<td>pivmecillinam</td>
<td>400 mg x 2/day, for 7 days</td>
<td></td>
</tr>
<tr>
<td>3rd</td>
<td>nitrofurantoin</td>
<td>100 mg x 3/day for 7 days (contraindicated in renal failure with creatinine clearance &lt;40 ml/min, if taken more than 10 days risk of rare but serious side effects, particularly pulmonary and hepatic)</td>
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- If treatment cannot be delayed (rare cases: patient very symptomatic, particular background): probabilistic treatment with systematic secondary adaptation of antibiotic therapy to the sensitivity testing:

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<tr>
<td>1st</td>
<td>nitrofurantoin</td>
<td>100 mg x 3/day for a total duration of 7 days (contraindicated in renal failure with creatinine clearance &lt;40 ml/min, if taken more than 10 days risk of rare but serious side effects, particularly pulmonary and hepatic)</td>
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</tr>
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</table>
| 2nd  | • cefixime, 200 mg x 2/day, for a total duration of 7 days,  
  • or fluoroquinolone (ciprofloxacin, 500 mg x 2/day, or ofloxacin, 200 mg x 2/day) for a total duration of 5 days. |

- No CBEU unless outcome unfavourable (persistence of clinical signs after 3 days or early recurrence within 2 weeks).
Recurrent acute cystitis (at least 4 episodes in a 12-month period) without complication risk factor

- CBEU for the first episodes and in the event of poor therapeutic response leading to suspecting antibiotic resistance.
  - No routine additional investigations in premenopausal women with normal clinical examination.
- The curative treatment for an episode of recurrent cystitis is that for simple cystitis.
- Prevention of recurrence:
  - sufficient hydration, no urine retention, regularizing intestinal transit and discontinuing spermicides if applicable;
  - cranberry may be proposed for the prevention of recurrent *E. coli* cystitis at a dose of 36 mg/day of proanthocyanidin;
  - local estrogens may be proposed in post-menopausal women after gynecological opinion.
- Prophylactic antibiotic therapy if at least one episode per month.
  - Nitrofurantoin contraindicated. Fluoroquinolones and beta-lactam antibiotics should be avoided.
  - Postcoital cystitis, take within 2 hours before or after intercourse:
    - 1st line: One 100-mg tablet of trimethoprim (once a day maximum) or cotrimoxazole 400/80
    - 2nd line: 3 grams of fosfomycin-trometamol (administered every 7 days at most due to the prolonged effect of single administration)
  - Other situations, if very frequent urinary infections (at least once a month), continuous antibiotic prophylaxis can be proposed, with reassessment at least twice a year:
    - 1st line: One 100-mg tablet of trimethoprim per day or cotrimoxazole 400/80
    - 2nd line: 3 grams of fosfomycin-trometamol administered every 7 days
- No CBEU unless outcome unfavourable (persistence of clinical signs after 3 days or early recurrence within 2 weeks).

Fried Criteria

- Involuntary weight loss during the past year
- Slow walking speed
- Poor endurance
- Weakness/fatigue
- Reduced physical activity