

**Three-day courses of  
trimethoprim for uncomplicated  
urinary tract infection (UTI)**

**Support for education and learning:  
Academic detailing aid**

March 2012

This 'Three-day courses of trimethoprim for uncomplicated urinary tract infection' academic detailing aid is designed to be used by experienced prescribing and medicines management personnel to support discussions with prescribers on the key prescribing and medicines optimisation messages from the 'NPC Key Therapeutic Topics – medicines management options for local implementation' document. This academic detailing aid is not NICE guidance.

**Issue date:** March 2012

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## **National Institute for Health and Clinical Excellence**

MidCity Place, 71 High Holborn, London WC1V 6NA [www.nice.org.uk](http://www.nice.org.uk)

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## Supporting notes for the use of NICE academic detailing aids:

### Three-day courses of trimethoprim for uncomplicated urinary tract infection (UTI)

- NICE academic detailing aids (ADAs) are designed to be used by experienced prescribing and medicines management personnel to support discussions with prescribers on the key prescribing and medicines optimisation messages from the 'NPC Key Therapeutic Topics – medicines management options for local implementation' document (available from [www.npc.nhs.uk/qipp/](http://www.npc.nhs.uk/qipp/)).
- Before using any NICE ADA, users must familiarise themselves with the content of the relevant QIPP Key Slides and accompanying notes (available to download from [www.npc.nhs.uk/qipp/](http://www.npc.nhs.uk/qipp/)).
- Users are also advised to access the QIPP comparator data on this topic and familiarise themselves with local and national prescribing variations at [www.nhsbsa.nhs.uk/PrescriptionServices/3334.aspx](http://www.nhsbsa.nhs.uk/PrescriptionServices/3334.aspx).
- The principles that support the use of academic detailing to improve clinical decision-making have been documented widely. As far back as 1990, Soumerai and Avorn described how ADAs had been used to reduce inappropriate prescribing as well as unnecessary health care expenditure<sup>1</sup>. The authors highlighted the following techniques as being particularly important to successful academic detailing:
  1. *Conducting interviews to investigate baseline knowledge and motivations for current prescribing patterns.*
  2. *Focusing programmes on specific categories of physicians as well as on their opinion leaders.*
  3. *Defining clear educational and behavioural objectives.*
  4. *Establishing credibility through a respected organisational identity, referencing authoritative and unbiased sources of information, and presenting both sides of controversial issues.*
  5. *Stimulating active physician participation in educational interactions.*

6. *Using concise graphic educational materials.*
  7. *Highlighting and repeating the essential messages.*
  8. *Providing positive reinforcement to improved practices in follow-up visits.*
- The National Audit Office's 2007 publication, '**Influencing Prescribing Cost and Quality – a suggested communication plan for prescribing advisers**'<sup>2</sup>, suggests further ways to increase the impact of communication with clinicians. This includes sections on visiting clinicians, building a relationship, the relationship process, getting agreement, getting your plans adopted, and supporting activities, as well as follow up and monitoring.

Acronyms used in this ADA include:

**UTI:** urinary tract infection

**PCT:** primary care trust

**ADQ:** average daily quantity

**HPA:** Health Protection Agency

## **References:**

1. Soumerai SB. Avorn J. Principles of educational outreach ('academic detailing') to improve clinical decision making. JAMA 1990;263:549–56
2. The National Audit Office. Influencing Prescribing Cost and Quality – a suggested communication plan for prescribing advisers. National Audit Office. 2007

# Academic detailing aid

## Three-day courses of trimethoprim for uncomplicated urinary tract infection (UTI)

### Prescribing considerations

#### What are the issues here?

- The Health Protection Agency (HPA) recommends that three-day courses of antibiotics should be used for symptomatic uncomplicated UTI in non-pregnant women<sup>1</sup>.
- Across PCTs in England, there is variation in the total number of average daily quantities (ADQs) per item for trimethoprim 200mg tablets<sup>2</sup>.

#### What would good practice look like?

- A three-day course of antibiotic should be used for symptomatic uncomplicated UTI in non-pregnant women<sup>1,4</sup>.
- Trimethoprim (200 mg twice daily) is an effective first-line treatment<sup>1</sup>.
- Nitrofurantoin (100 mg modified release twice daily) is also suitable<sup>1</sup>, but is currently more expensive<sup>5</sup>.
- Longer courses may be considered in complicated UTI (e.g. pyelonephritis, pregnancy, recurrent UTI) where eradication of bacteriuria is important<sup>1,4</sup>.

#### Why is this important?

- Antibiotic resistance is one of the most significant threats to patient safety in Europe. It is driven by overuse of antibiotics and inappropriate prescribing<sup>3</sup>.
- Broad spectrum antibiotics (e.g. co-amoxiclav, quinolones and cephalosporins) increase risk of *Clostridium difficile*, MRSA and resistant UTI<sup>1</sup>.
- Amoxicillin resistance is common in UTIs<sup>1</sup>.

#### What can we do?

- Review and, where appropriate, revise current prescribing for uncomplicated UTI, to ensure it is in line with HPA guidance<sup>1</sup>.
- Avoid prescribing broad spectrum antibiotics to treat UTI<sup>1</sup>.
- Use amoxicillin to treat UTI only if culture and sensitivity testing proves the organism is susceptible<sup>1</sup>.

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# Prescribing three-day courses of trimethoprim for uncomplicated urinary tract infection (UTI)

## *A framework for decision-making*

<p><b>Efficacy</b></p> <ul style="list-style-type: none"> <li>• Three days of antibiotic therapy is similar to 5–10 days in achieving symptomatic cure in non-pregnant women aged 18–65 years old with uncomplicated UTI<sup>4</sup>.</li> <li>• Longer-term treatment is more effective than three-day treatment to achieve bacteriological cure. Therefore, 5–10 day courses may be considered in patients with complicated UTI in whom eradication of bacteriuria is important<sup>1,4</sup>.</li> </ul>	<p><b>Safety</b></p> <ul style="list-style-type: none"> <li>• Adverse effects are significantly more common with 5–10 days of antibiotic treatment, compared with three days of treatment<sup>4</sup>.</li> <li>• Adverse effects of trimethoprim include nausea and vomiting, pruritus, rashes, hyperkalaemia and depression of haematopoiesis<sup>6</sup>.</li> <li>• Adverse effects of nitrofurantoin include anorexia; nausea, vomiting and diarrhoea; acute and chronic pulmonary reactions; and peripheral neuropathy<sup>6</sup>.</li> </ul>
<p><b>Cost</b></p> <ul style="list-style-type: none"> <li>• Shorter courses of antibiotics are less expensive than longer courses.</li> <li>• In February 2012, the acquisition cost of a three-day course of trimethoprim 200mg tablets was 36 pence, compared with £2.10 for a three-day course of nitrofurantoin 100mg modified release capsules<sup>5</sup>.</li> </ul>	<p><b>Patient factors</b></p> <ul style="list-style-type: none"> <li>• Antibiotics are not effective in everyone and can cause side effects, so in an individual the benefits must be carefully weighed against the risks.</li> </ul>
<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. <a href="#">HPA. Management of infection guidance for primary care for consultation and local adaptation. March – July 2010</a></li> <li>2. From data provided by <a href="#">NHS Business Services Authority Prescription Services</a></li> <li>3. <a href="#">Department of Health. Key facts on antibiotic resistance. February 2012</a></li> <li>4. <a href="#">Milo G. et al. Duration of antibacterial treatment for uncomplicated urinary tract infection in women. Cochrane Database of Systematic Reviews 2005, Issue 2. Art. No.: CD004682. DOI: 10.1002/14651858.CD004682.pub2</a></li> <li>5. <a href="#">NHS Business Services Authority Prescription Services. Drug Tariff. February 2012</a></li> <li>6. <a href="#">British National Formulary No. 62. September 2011</a></li> </ol>	

**Related NICE guidance:**

- Urinary tract infection in children. NICE clinical guideline 54 (2007) accessible at <http://guidance.nice.org.uk/CG54>.