

## **Minocycline use in acne**

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

March 2012

This 'Minocycline use in acne' 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.

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**National Institute for Health and Clinical Excellence**

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

### Minocycline use in acne

- 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.

### **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

## Minocycline use in acne

### Prescribing considerations



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#### What are the issues here?

- There is no clear evidence to support the preference of minocycline over other oral antibiotics in the treatment of acne<sup>1</sup>.
- Minocycline appears to be associated with serious adverse effects not seen with other tetracyclines<sup>1</sup>.
- Across Primary Care Trusts in England, there is variation in the prescribing of minocycline as a percentage of tetracyclines; from 1.79% to 19.6%<sup>2</sup>.

#### What would good practice look like?

- Systemic antibiotic treatment may be useful for inflammatory acne if topical treatment is not adequately effective or if the site or previous adverse reactions make topical treatment inappropriate<sup>4</sup>.
- **The antibiotic prescribed should rarely be minocycline** given
  - There is no clear evidence that minocycline is better than other tetracyclines<sup>1</sup>
  - There are safety concerns specific to minocycline<sup>1</sup>
  - Other once-daily antibiotics are available

#### Why is this important?

- Minocycline may be associated with a broader spectrum and higher incidence of adverse drug reactions than other tetracyclines<sup>1</sup>.
- Serious specific reactions include<sup>1,3</sup>
  - single organ dysfunction
  - hypersensitivity reactions
  - auto-immune disorders

#### What can we do?

- Review and, where appropriate, revise prescribing of minocycline in light of its potential harms.

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# Minocycline use in acne

## A framework for decision-making

### Efficacy

- If an oral antibiotic is needed for the treatment of acne, there is no clear evidence that minocycline is more effective than other oral tetracyclines<sup>1,5</sup>.

### Safety

- Minocycline may be associated with a broader spectrum and higher incidence of adverse drug reactions than other tetracyclines including<sup>1,3</sup>:
  - single organ dysfunction (including potentially fatal liver failure)
  - autoimmune disorders (such as lupus-like syndrome, the risk of which increases with cumulative dose)
  - hypersensitivity reactions (including eosinophilia, pneumonitis, and nephritis)

### Cost

- Minocycline is more expensive than other oral antibiotic treatment options.
- Cost of 28 days supply<sup>6</sup>:

|                                       |        |
|---------------------------------------|--------|
| - Doxycycline, 100 mg once a day      | £3.67  |
| - Erythromycin, 500 mg twice a day    | £7.04  |
| - Lymecycline, 408 mg once a day      | £7.77  |
| - Minocycline, 100 mg once a day      | £12.29 |
| - Oxytetracycline, 500 mg twice a day | £4.40  |
| - Tetracycline, 500 mg twice a day    | £47.88 |

### Patient factors

- Minocycline is available as a once-daily preparation; alternative once-daily treatments are doxycycline and lymecycline.
- In an individual any possible benefits of minocycline must be carefully weighed against the risks.

### References:

1. [Garner SE, et al. Minocycline for acne vulgaris: efficacy and safety. Cochrane Database of Systematic Reviews 2003, Issue 1. Art. No.: CD002086. DOI: 10.1002/14651858.CD002086](#)
2. From data provided by [NHS Business Services Authority Prescription Services](#)
3. [The electronic Medicines Compendium. Summary of Product Characteristics; Minocycline 100mg tablets, August 2011](#)
4. [British National Formulary No. 63. March 2012](#)
5. [Simonart T, et al. Efficacy of tetracyclines in the treatment of acne vulgaris: a review. Br J Dermatol. 2008 Feb;158\(2\):208-16](#)
6. [NHS Business Services Authority Prescription Services. Drug Tariff. March 2012](#)