Impact of National Guidance for Drug Prescribing for Dentistry

Samantha Rutherford

Jan Clarkson, Doug Stirling, Linda Young, Paula Elouafkaoui, Anna Templeton, Craig Ramsay on behalf of the TRiaDS methodology group

Scottish Dental Clinical Effectiveness Programme
NHS Education for Scotland
Impact of National Guidance for Drug Prescribing for Dentistry

- SDCEP and TRiaDS
- Guidance on Drug Prescribing For Dentistry
- Analysis of routine data
- Implementation strategy

I certify that, to the best of my knowledge, no aspect of my current personal or professional situation might reasonably be expected to affect significantly my views on the subject on which I am presenting.
Scottish Dental Clinical Effectiveness Programme (SDCEP)

‘supporting the dental team to provide quality patient care’

- Provide user-friendly, evidence-based guidance
- Priority topics for oral health
- Published guidance distributed to all dental practitioners in Scotland
- Relevant to other healthcare disciplines
- Used within Scotland and beyond
- Underpins education and informs policy
TRiADS – Translational Research in a Dental Setting

- A programme of knowledge translation research embedded within SDCEP guidance development.
- Uses a standardised process to inform
  - development of guidance
  - need for, and design of, KT strategies;
  - evaluation of KT strategies.
- A multi-disciplinary research collaboration with public, academic, policy, service and professional members.
- Aims to improve knowledge translation into practice.

Clarkson et al. Implementation Science 2010, 5:57
http://www.implementationscience.com/content/5/1/57

The translation research in a dental setting (TRiADS) programme protocol

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Drug Prescribing For Dentistry Guidance

- One of nine SDCEP guidance publications
- Improve access to dentally-relevant information on prescribing
- National quality improvement initiative on antimicrobial prescribing
- Concern about co-prescribing of warfarin and statins and associated drug interaction issues
Drug Prescribing For Dentistry Guidance

- Local measures highlighted
- Antibiotics only recommended for spreading, systemic infection
- References NICE recommendation on antibiotic prophylaxis
- First edition published in April 2008
- Printed updates provided in line with changes to relevant prescribing advice in BNF or BNFC
- Second edition published August 2011
- Has proved very popular
4 Bacterial Infections

4.3 Acute Necrotising Ulcerative Gingivitis and Pericoronitis

As an adjunct to local measures (see below), metronidazole is the drug of first choice in the treatment of acute necrotising ulcerative gingivitis and the treatment of pericoronitis where there is systemic involvement or persistent swelling despite local measures. A suitable alternative is amoxicillin.

Local Measures – to be used in the first instance
- In the case of acute necrotising ulcerative gingivitis, carry out scaling and provide oral hygiene advice.
- In the case of pericoronitis, carry out irrigation and debridement.

If drug treatment is required, an appropriate 3-day regimen is:

**Metronidazole Tablets, 200 mg**
- Send: 9 tablets
- Label: 1 tablet three times daily

For children:
- Metronidazole Tablets, 200 mg, or Oral Suspension, 200 mg/5 ml

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dosage</th>
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<tbody>
<tr>
<td>1-3 years</td>
<td>50 mg three times daily</td>
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<td>3-7 years</td>
<td>100 mg twice daily</td>
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<tr>
<td>7-10 years</td>
<td>100 mg three times daily</td>
</tr>
<tr>
<td>10-18 years</td>
<td>200 mg three times daily</td>
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</tbody>
</table>

*Advice patient to avoid alcohol (metronidazole has a disulfiram-like reaction with alcohol). The anticoagulant effect of warfarin might be enhanced by metronidazole.

Metronidazole is not licensed for use in children under 1 year (see Section 1.2).

Refer to Appendix 1 of the BNF and BNFC for further details of drug interactions.
Dental Prescribing app

- Direct links to BNF website for drug interaction information
- Updated when new BNF released; updates are free
- >1100 downloads across the globe in first 4 months of release
- Very positive feedback from users on App StoreSM
- Embedded analytics programme which allows analysis of app usage

“No dentist should be without this”
An English Dean
Monitoring of Prescribing

- SDCEP has access to prescribing data for all individual dentists in Scotland
- Routine prescribing data was monitored pre- and post-publication, analysed and trends identified
- Around 8% of antibiotic prescriptions in Scotland originate from dentists
Total prescribing by dentists

Quality Education for a Healthier Scotland
Dental antibiotic prescribing by drug

<table>
<thead>
<tr>
<th>Quarter</th>
<th>AMOXICILLIN</th>
<th>METRONIDAZOLE</th>
<th>PHENOXYMETHYL-Penicillin</th>
<th>ERYTHROMYCIN</th>
<th>OTHERS</th>
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70% reduction in prescribing of amoxicillin 3g following publication of national guidance

Number of Items
Number of Dentists

NICE guidance
SDCEP Ed 1

01 Apr 07 01 Jun 07 01 Aug 07 01 Oct 07 01 Dec 07 01 Feb 08 01 Apr 08 01 Jun 08 01 Aug 08 01 Oct 08 01 Dec 08 01 Feb 09 01 Apr 09 01 Jun 09 01 Aug 09 01 Oct 09 01 Dec 09 01 Feb 10 01 Apr 10 01 Jun 10 01 Aug 10 01 Oct 10 01 Dec 10 01 Feb 11 01 Apr 11 01 Jun 11 01 Aug 11 01 Oct 11 01 Dec 11 01 Feb 12 01 Apr 12

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Changes in the prescribing of clindamycin and co-amoxiclav

![Graph showing changes in prescribing of clindamycin and co-amoxiclav over time. The graph indicates a significant drop in clindamycin use following an intervention labeled SDCEP Ed 1.](image)
From this screen, users chose:

<table>
<thead>
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<th>Option</th>
<th>Percentage</th>
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<td>Local Measures</td>
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</tr>
<tr>
<td>1\textsuperscript{st} Line Antibiotics</td>
<td>54%</td>
</tr>
<tr>
<td>2\textsuperscript{nd} Line Antibiotics</td>
<td>4%</td>
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<tr>
<td>Other (end session, ANUG, etc.)</td>
<td>17%</td>
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</tbody>
</table>

Dental Abscess

- Unduly as this can encourage the development of resistance.
- Transfer patients with significant trismus, floor-of-mouth swelling or difficulty breathing to hospital immediately as an emergency.

More Information

Sub-topics:
- Local Measures
- 1\textsuperscript{st} Line Antibiotics
- 2\textsuperscript{nd} Line Antibiotics
From this screen, users chose:

<table>
<thead>
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<th>Percentage</th>
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<tbody>
<tr>
<td>Amoxicillin</td>
<td>50%</td>
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<tr>
<td>Phenoxyimethylpenicillin</td>
<td>7%</td>
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<tr>
<td>Metronidazole</td>
<td>12%</td>
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<tr>
<td>Erythromycin</td>
<td>8%</td>
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<tr>
<td>Other (end session, ANUG)</td>
<td>23%</td>
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</table>
Monitoring of Prescribing

- Total antibiotic prescribing by dentists has not decreased, except in case of amoxicillin 3g
- An additional KT intervention is required
- In the Cochrane Review *Audit and Feedback: Effects on Professional Practice and Healthcare Outcomes* A&F is said to be effective when
  - baseline performance is low
  - verbal and written delivery by a supervisor or senior colleague
  - provided more than once
  - aims to decrease current behaviours
  - targets prescribing
  - includes targets and an action plan
RAPiD – Reducing Antibiotic Prescribing in Dentistry

- **Control Group**
- **General Dental Practices Randomised**
  - **Current Practice**
    - No A&F
  - **Audit & Feedback**
    - **Audit & Feedback**
      - Report with comparison
      - Report only
    - **Audit & Feedback with Persuasive Message**
      - Report with comparison
      - Report only
In Conclusion

- Guidance for drug prescribing in dentistry was published in 2008
- Routine monitoring of prescribing shows there has not been a reduction in dental antibiotic prescribing
- A further KT intervention (RAPiD) will be implemented which will
  - encourage appropriate prescribing by audit and feedback
  - assess A&F as a method to change professional behaviour
- Monitoring of routine data can be an invaluable tool to support guidance implementation
Thanks

- SDCEP Programme Development Team
- TRiaDS Methodology Group
- *Drug Prescribing for Dentistry* Guidance Development Group
- NHS Education for Scotland
- University of Dundee Dental Hospital and School
- Waracle

www.sdcep.org.uk