TITLE: The Timing of Prophylactic Antibiotics for Surgery: Clinical Evidence

DATE: 20 February 2015

RESEARCH QUESTION

What is the clinical evidence regarding prophylactic treatment with antibiotics at 0 to 14 minutes, 15 to 60 minutes, and 61 to 120 minutes prior to incision during surgery?

KEY FINDINGS

Seven randomized controlled trials and three non-randomized studies regarding the timing of prophylactic antibiotics for surgery were identified.

METHODS

A limited literature search was conducted on key resources including PubMed, Ovid Medline, Ovid Embase, The Cochrane Library (2015, Issue 2), University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2010 and February 13, 2015. Internet links were provided, where available.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.
Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Patients undergoing surgery (i.e. abdominal surgery, orthopedic surgery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Cefazolin, cefuroxime, vancomycin, ciprofloxacin, levofloxacinillin</td>
</tr>
<tr>
<td>Comparator</td>
<td>Compared with each other</td>
</tr>
<tr>
<td></td>
<td>No comparator</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Infection rate</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses,</td>
</tr>
<tr>
<td></td>
<td>randomized controlled trials, non-randomized studies</td>
</tr>
</tbody>
</table>

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials and non-randomized studies.

Seven randomized controlled trials and three non-randomized studies regarding the timing of prophylactic antibiotics for surgery were identified. No relevant health technology assessments, systematic reviews, or meta-analyses were identified.

Additional references of potential interest are also provided in the appendix.

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials


Non-randomized Studies


PREPARED BY:
Canadian Agency for Drugs and Technologies in Health
Tel: 1-866-898-8439
www.cadth.ca
APPENDIX – FURTHER INFORMATION:

Systematic Reviews – Antibiotics Not Specified


See: Paragraph 6, page 14

Randomized Controlled Trials – Antibiotics Not Specified

