TITLE: Sugammadex for Adults Undergoing Surgery: Clinical and Cost-Effectiveness and Guidelines

DATE: 19 April 2016

RESEARCH QUESTIONS

1. What is the clinical effectiveness of sugammadex in adult patients undergoing surgery?
2. What is the cost-effectiveness of sugammadex in adult patients undergoing surgery?
3. What are the guidelines associated with the use of sugammadex in adult patients undergoing surgery?

KEY FINDINGS

One health technology assessment, two systematic reviews, one systematic review with meta-analysis, 18 randomized controlled trials, and two economic evaluations were identified regarding sugammadex for adult patients undergoing surgery.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library, 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, 2009 and March 28, 2016. 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>Adult patients undergoing surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Bridion (sugammadex; as sugammadex sodium)</td>
</tr>
<tr>
<td>Comparator</td>
<td>Neostigmine</td>
</tr>
<tr>
<td></td>
<td>No comparator</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Q1: Clinical effectiveness and safety (patient benefits and harms)</td>
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<tr>
<td></td>
<td>Q2: Cost-effectiveness</td>
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<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines</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, non-randomized studies, economic evaluations, and evidence-based guidelines.

One health technology assessment, two systematic reviews, one systematic review with meta-analysis, 18 randomized controlled trials, and two economic evaluations were identified regarding sugammadex for adult patients undergoing surgery. All non-randomized studies are placed in the appendix due to the volume of systematic reviews and randomized controlled trials identified. No evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

### Health Technology Assessments

   PubMed: PM20688009

### Systematic Reviews and Meta-analyses

   PubMed: PM2655858

   PubMed: PM24848211

   PubMed: PM20357160
Randomized Controlled Trials


Economic Evaluations

PubMed: PM26937203


Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Previous CADTH Reports


Health Technology Assessments

Surgery Not Specifically Mentioned


Alternate Combined Comparator


Randomized Controlled Trials

Alternate Comparator or Combined Comparator


**Combined Adult and Pediatric Populations**


**Non-Randomized Studies**


Alternate Comparator or Combined Comparator


Economic Evaluations – Alternate Comparator


Clinical Practice Guidelines – Unspecified Methodology