TITLE: Moderate Procedural Sedation in Adult Patients: Guidelines

DATE: 26 September 2016

RESEARCH QUESTION

What are the evidence-based guidelines regarding moderate procedural sedation for adult patients?

KEY FINDINGS

Three evidence-based guidelines were identified regarding moderate procedural sedation for adult patients.

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. Methodological filters were applied to limit retrieval health technology assessments, systematic reviews, meta-analyses, and guidelines. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2011 and September 14, 2016. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

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 a procedure that requires moderate sedation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Moderate procedural sedation (agents may include: short-acting benzodiazepines [e.g. midazolam] alone or in combination with opioid analgesic [e.g., fentanyl, morphine], other sedatives [etomidate, propofol, nitrous oxide])</td>
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<tr>
<td>Comparator</td>
<td>No active or any active comparator</td>
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<td>Outcomes</td>
<td>Guidelines regarding best practice for moderate procedural sedation, including:</td>
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<td></td>
<td>type of monitoring required before and during the procedure (e.g. vital signs, ETCO2, capnography, cardiac)</td>
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<td></td>
<td>staff requirements (e.g., number of staff, type of healthcare professional required)</td>
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<td></td>
<td>patient contraindications for procedural sedation</td>
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<tr>
<td></td>
<td>guidelines regarding optimal agent to use, contraindications for use of certain agents</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Evidence-based guidelines</td>
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</tbody>
</table>

ETCO2 = end-tidal carbon dioxide.

RESULTS

Three evidence-based guidelines were identified regarding moderate procedural sedation for adult patients.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Three evidence-based guidelines\(^1\)\(^-\)\(^3\) were identified regarding moderate procedural sedation for adult patients. The Association of periOperative Nurses (AORN)\(^1\) provides recommendations regarding moderate sedation or analgesia that is provided by a registered nurse (RN) in the perioperative setting. The RN is responsible for the performance and documentation of a patient’s preoperative assessment and that same RN should remain and care for the patient throughout the procedure and should evaluate the patient’s readiness for discharge following the procedure.\(^1\) The fourth major recommendation states that the “…perioperative RN should know the recommended dose, recommended dilution, onset, duration, effects, potential adverse reactions, drug compatibility, and contraindications for each medication used during moderate sedation.”\(^1\)

The American College of Emergency Physicians\(^2\) recommends capnography can be used in addition to pulse oximetry and clinical evaluation to detect hypoventilation and apnea in patients undergoing procedural sedation in the emergency department (ED). Sedated patients should be continuously monitored by a nurse or other qualified health care professional.\(^2\) Propofol, etomidate, ketamine, alfentanil, or a combination of propofol and ketamine can be safely used for procedural sedation and analgesia of adults in the ED.\(^2\)

The Emergency Nurses Association\(^3\) recommendations suggest that capnography can be used to identify respiratory depression during and after procedural sedation and analgesia but the
authors suggest that more research is necessary to support the direct effectiveness of capnography for the improvement of patient outcomes. During both the administration of procedural sedation and the recovery phase, end-tidal carbon dioxide monitoring is more sensitive for detecting respiratory depression than pulse oximetry or clinical assessment.
REFERENCES SUMMARIZED

Guidelines and Recommendations


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APPENDIX – FURTHER INFORMATION:

Previous CADTH Reports


Systematic Reviews and Meta-Analyses


Clinical Practice Guidelines – Methodology Not Specified


Position Papers and Statements

22. Position paper on procedural sedation: an official position paper of the Canadian

See: Section 1.1, page S4


Review Articles


PubMed: PM26265991


PubMed: PM25512767


PubMed: PM24765596

Additional References