TITLE: Oxygen Delivery Methods for Pediatric Patients with Hypoxemia: Guidelines

DATE: 26 November 2015

RESEARCH QUESTION

What are the evidence-based guidelines regarding oxygen delivery methods for pediatric patients with hypoxemia?

KEY FINDINGS

One systematic review was identified regarding oxygen delivery methods for pediatric patients with hypoxemia; no evidence-based guidelines were identified.

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 methodological filters were applied to limit the retrieval to 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 November 23, 2015. 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>Pediatric patients (0-17 years) with hypoxemia requiring oxygen therapy</th>
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</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>Any mode of oxygen therapy delivery</td>
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<tr>
<td>Comparator</td>
<td>None</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Guidelines and recommendations (methods of oxygen delivery, levels of oxygen saturation that warrants oxygen delivery, definition of hypoxemia)</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, evidence-based guidelines</td>
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</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 evidence-based guidelines.

One systematic review was identified regarding oxygen delivery methods for pediatric patients with hypoxemia. No health technology assessments, meta-analyses, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

One systematic review was identified regarding oxygen delivery methods for pediatric patients with hypoxemia.¹ The review included children from one month to 18 years of age with acute hypoxemic respiratory failure, and assessed the effectiveness of continuous negative extrathoracic pressure (CNEP) ventilation and continuous positive airway pressure (CPAP) ventilation with non-invasive delivery methods (Ni-CPAP). The review found only one poorly designed and poorly reported study on each method, so the authors concluded that more well-designed controlled trials were needed regarding non-invasive methods of ventilation for children with acute hypoxemic respiratory failure.

No evidence-based guidelines were identified regarding oxygen delivery methods for pediatric patients with hypoxemia. However, several guidelines with unclear methodology are provided in the appendix.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses


Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Systematic Review – Outcome Data Specific to Pediatric Population not Provided


Guidelines and Recommendations – Methodology not Specified


Review Articles


Additional References