TITLE: Oxygen-Powered Automatic Respiratory Resuscitators: Clinical Effectiveness

DATE:  7 April 2010

RESEARCH QUESTION:

What is the clinical effectiveness of oxygen-powered automatic respiratory resuscitators in apneic patients with secured airways?

METHODS:

A limited literature search was conducted on key health technology assessment resources, including PubMed, the Cochrane Library (Issue 3, 2010), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI (Health Devices Gold), EuroScan, international health technology agencies, and a focused Internet search. The search was limited to English language articles published between 2005 and March 2010. No filters were applied to limit the retrieval by study type. 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.

RESULTS:

HTIS 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, controlled clinical trials, and observational studies.

Two observational studies pertaining to the clinical effectiveness of oxygen-powered automatic respiratory resuscitators in apneic patients with secured airways were identified. No relevant health technology assessment reports, systematic reviews, meta-analyses, randomized controlled trials, or controlled clinical trials were identified. Additional information that may be of interest has been included in the appendix.
OVERALL SUMMARY OF FINDINGS:

The two observational studies identified examined different types of oxygen-powered automatic respiratory resuscitators. The first examined a hand-held extracorporeal membrane oxygenation (ECMO) system in cardiac, pulmonary, and cardiopulmonary failure in adults.¹ The hand-held ECMO system was found to be safe and effective in delivering oxygen and restoring blood flow. The second study examined the use of the Dräger Oxylog transport ventilator during interhospital transfer of children and adults.² It was found that oscillatory flow with potentially harmful effects could occur, especially in conditions with high resistance (e.g. small airways in children and severe obstructive lung or airway diseases in adults).

Limited evidence is available pertaining to the clinical effectiveness of oxygen-powered automatic respiratory resuscitators in apneic patients with secured airways.
REFERENCES SUMMARIZED:

Health technology assessments
No literature identified.

Systematic reviews and meta-analyses
No literature identified.

Randomized controlled trials
No literature identified.

Controlled clinical trials
No literature identified.

Observational studies


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APPENDIX – FURTHER INFORMATION:

Review articles