TITLE: Incentive Spirometry for Reducing the Length of Hospital Stay: Clinical Effectiveness

DATE: 19 May 2011

RESEARCH QUESTIONS

1. What is the clinical effectiveness of incentive spirometry for reducing the length of hospital stay in surgical patients?

2. What is the clinical effectiveness of incentive spirometry for reducing the length of hospital stay in patients with respiratory illness?

KEY MESSAGE

Although evidence suggests that incentive spirometry may not reduce overall hospital length of stay, it may reduce length of stay in a surgical high dependency unit.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2011, Issue 5), University of York Centre for Reviews and Dissemination (CRD) databases, ECRI, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, and non-randomized studies. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1st, 2006 and May 10th, 2011. 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

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 (RCTs) and non-randomized studies.

One systematic review, one randomized controlled trial, and one non-randomized study were identified regarding the clinical effectiveness of incentive spirometry for reducing hospital stay in patients with respiratory illness or patients following surgery. No relevant health technology assessment reports were identified. Additional articles that may be of interest are included in the appendix.

OVERALL SUMMARY OF FINDINGS

One systematic review\(^1\) assessed the effectiveness of incentive spirometry in reducing pulmonary complications, in patients undergoing coronary artery bypass graft (CABG). When compared to standard postsurgical therapy, incentive spirometry did not decrease hospital length of stay. The included non-randomized study\(^3\) found that adding incentive spirometry to standard post-operative physical therapy decreased the occurrence of pulmonary complications and length of stay on the surgical high dependency unit following major abdominal surgery. However, it was not clear from the abstract if the use of postsurgical incentive spirometry reduced the overall hospital length of stay.

A randomized controlled trial\(^2\) examined the effectiveness of incentive spirometry or children hospitalized for sickle cell pain when compared to positive expiratory pressure (PEP) therapy. The authors concluded that there was no difference between incentive spirometry and PEP groups in hospital length of stay.
REFERENCES SUMMARIZED

Health technology assessments
No literature identified

Systematic reviews and meta-analyses


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 and meta-analyses - length of stay not reported in the abstract


Randomized controlled trials- length of stay not reported in the abstract


Non-randomized studies - length of stay not reported in the abstract


Review - length of stay not reported in the abstract:

