TITLE: Smoking Cessation Prior to Surgery: Clinical Evidence

DATE: 21 July 2014

RESEARCH QUESTION

What is the clinical evidence regarding postoperative outcomes of patients who stop smoking two or more weeks prior to surgery versus current smokers or those who stop smoking less than two weeks prior to surgery?

KEY FINDINGS

Three systematic reviews and two non-randomized studies were identified regarding postoperative outcomes of patients who stop smoking two or more weeks prior to surgery versus current smokers or those who stop smoking less than two weeks prior to surgery.

METHODS

A limited literature search was conducted on key resources including PubMed, The Cochrane Library (2014, Issue 7), 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. The search was also limited to English language documents published between January 1, 2009 and July 9, 2014. 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, non-randomized studies, and evidence-based guidelines.

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Three systematic reviews and two non-randomized studies were identified regarding postoperative outcomes of patients who stop smoking two or more weeks prior to surgery versus current smokers or those who stop smoking less than two weeks prior to surgery. No relevant health technology assessments, meta-analyses, or randomized controlled trials were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

Three systematic reviews\(^1\-^3\) and two non-randomized studies\(^4,^5\) were identified that evaluated the effects of pre-operative smoking cessation at least two weeks before surgery on postoperative complications.

The results of two systematic reviews\(^1,^2\) and one non-randomized study\(^5\) showed that, compared with current smokers, patients who stopped smoking prior to surgery had a lower risk of postoperative complications, including: wound-healing complications,\(^1\) respiratory complications,\(^1,^5\) overall complications,\(^2\) and in-hospital death.\(^3\) Longer pre-operative smoking cessation periods reduced the incidence\(^2\) and risk\(^5\) of postoperative complications. Patients who stopped smoking at least three to four weeks prior to surgery had a lower risk of wound-healing complications relative to current smokers.\(^1\) The largest effect in risk reduction of overall\(^2\) and respiratory\(^1\) complications was seen in studies where pre-operative smoking cessation had lasted at least four weeks. The authors of one study\(^5\) could not specify an ideal length of time for pre-operative smoking cessation, but concluded that patients should be advised to stop smoking at any time before surgery.

One systematic review\(^3\) and one non-randomized study\(^4\) found that there was no difference in the postoperative complication rate between current smokers and those who stopped smoking within eight weeks\(^3\) or at any time\(^4\) prior to surgery. The authors concluded that the window of time available for pre-operative smoking cessation should not deter health professionals from encouraging patients to stop smoking\(^3\) or from proceeding with surgery.\(^4\)
REFERENCES SUMMARIZED

**Health Technology Assessments**
No literature identified.

**Systematic Reviews and Meta-analyses**


**Randomized Controlled Trials**
No literature identified.

**Non-Randomized Studies**


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APPENDIX – FURTHER INFORMATION:

Systematic Reviews and Meta-analyses

Unclear or Alternate Timing or Methods of Smoking Cessation


Randomized Controlled Trials

Unclear Timing of Smoking Cessation


Non-Randomized Studies – Qualitative Studies


Review Articles


