

Disposable surgical face masks for preventing surgical wound infection in clean surgery

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ABSTRACT

BACKGROUND: Surgical face masks were originally developed to contain and filter droplets containing microorganisms expelled from the mouth and nasopharynx of healthcare workers during surgery, thereby providing protection for the patient. However, there are several ways in which surgical face masks could potentially contribute to contamination of the surgical wound, e.g. by incorrect wear or by leaking air from the side of the mask due to poor string tension.

OBJECTIVES: To determine whether disposable surgical face masks worn by the surgical team during clean surgery prevent postoperative surgical wound infection.

SEARCH METHODS: We searched The Cochrane Wounds Group Specialised Register (searched 14 September 2011); The Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library 2011, Issue 3); Ovid MEDLINE (2008 to August Week 5 2011); Ovid MEDLINE (In-Process & Other Non-Indexed Citations September 13, 2011); Ovid EMBASE (2008 to 2011 Week 35); and EBSCO CINAHL (2008 to 9 September 2011).

SELECTION CRITERIA: Randomized controlled trials (RCTs) and quasi-randomized controlled trials comparing the use of disposable surgical masks with the use of no mask.

DATA COLLECTION AND ANALYSIS: Two review authors extracted data independently.

MAIN RESULTS: Three trials were included, involving a total of 2113 participants. There was no statistically significant difference in infection rates between the masked and unmasked group in any of the trials.

AUTHORS' CONCLUSIONS: From the limited results it is unclear whether the wearing of surgical face masks by members of the surgical team has any impact on surgical wound infection rates for patients undergoing clean surgery.

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The full text is freely available from: <http://www.cochranejournal-club.com/masks-for-preventing-wound-infection-in-surgery/pdf/CD002929.pdf>

REFERENCE

1. Lipp A, Edwards P. Disposable surgical face masks for preventing surgical wound infection in clean surgery. Cochrane Database Syst Rev. 2012;1(CD002929).

COMMENTS

This review aimed to assess the impact of the use of disposable masks on the incidence of wound infections during operations. Only three trials were included, and no statistical differences were found between the groups. The types of surgery addressed by the trials include gynecological, obstetric and urological operations with the potential for contamination that might influence the results, since the gynecological and urological tracts may contain bacterial flora similar to what is found in the nasopharynx and oropharynx. Moreover, the type of mask used and the way in which the mask is used may be factors that increase the degree of contamination, and this was not described in the trials.

The review puts forward reflections about the use of surgical masks in gynecological, obstetric and urological operations, but the results are limited and cannot be extrapolated to other types of surgery and procedures. For now, the data from this meta-analysis are insufficient to recommend not using disposable surgical masks as a way of reducing the incidence of surgical wound infections.

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