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CADTH Rapid Response
Report in Brief

Use of Surgical Masks in the Operating Room: A Review

Context

Surgical site infections — infections occurring in a wound created by an invasive surgical procedure — account for a significant proportion of health care-associated infections. While many cause no additional complications, surgical site infections can be associated with considerable morbidity — they may be at least partly responsible for more than one third of postoperative deaths.

Technology

In the operating room, there are procedures and practices in place to reduce the probability of infectious material transfer between operating room staff and patients. Surgical face masks provide a physical barrier between bacteria from the oropharynx or nasopharynx and an open patient wound.

Issue

The wearing of surgical face masks in the operating room is one of many long-standing practices, yet controversy exists as to whether it actually reduces the frequency of surgical site infections. Additionally, although they may protect operating room staff from infectious bodily fluid splashes from patients, general purpose disposable surgical face masks are not specifically designed to protect the wearer from airborne infectious particulates. A review of clinical effectiveness and evidence-based guidelines for mask use in the operating room will help to inform decisions on how to minimize the occurrence of surgical site infections and operating room staff infections.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- No evidence was found to support the use of surgical face masks to reduce the frequency of surgical site infections.
- No evidence was found on the effectiveness of wearing surgical face masks to protect staff from infectious material in the operating room.
- Guidelines recommend the use of surgical face masks by staff in the operating room to protect both operating room staff and patients (despite the lack of evidence).

Results

The literature search identified 124 citations, with 4 additional articles identified from other sources. After screening the abstracts, 34 were deemed potentially relevant and 4 met the criteria for inclusion in this review —2 systematic reviews and 2 guidelines.

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