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# Postoperative wound infections and surgical face masks: A controlled study

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## Abstract

It has never been shown that wearing surgical face masks decreases postoperative wound infections. On the contrary, a 50% decrease has been reported after omitting face masks. The present study was designed to reveal any 30% or greater difference in general surgery wound infection rates by using face masks or not.

During 115 weeks, a total of 3,088 patients were included in the study. Weeks were denoted as “masked” or “unmasked” according to a random list. After 1,537 operations performed with face masks, 73 (4.7%) wound infections were recorded and, after 1,551 operations performed without face masks, 55 (3.5%) infections occurred. This difference was not statistically significant ( $p > 0.05$ ) and the bacterial species cultured from the wound infections did not differ in any way, which would have supported the fact that the numerical difference was a statistically “missed” difference.

These results indicate that the use of face masks might be reconsidered. Masks may be used to protect the operating team from drops of infected blood and from airborne infections, but have not been proven to protect the patient operated by a healthy operating team.

## Résumé

Il n'a jamais été démontré que le port d'une bavette chirurgicale diminue le nombre des infections pariétales. Au contraire, on a même rapporté une diminution de 50% lorsqu'on ne les utilisait pas. Cette étude a été élaborée pour déceler l'influence du port de la bavette dans la réduction des taux d'infections pariétales chez l'opéré en chirurgie générale de 30% au moins.

Pendant 115 semaines, 3,088 patients ont été inclus dans cette étude. Pendant une semaine donnée, tirée au sort, les chirurgiens mettaient ou ne mettaient pas de bavette. Après 1,537 opérations effectuées avec bavette, on a trouvé 73 (4.7%) abcès de paroi alors qu'après 1,551 interventions sans bavette, il y a eu 55 (3.5%) infections. Cette différence n'est pas statistiquement significative ( $p > 0.05$ ) et les cultures bactériennes à partir de la plaie opératoire ne différaient en aucune manière ce qui renforçait la conclusion que cette absence de différence statistiquement significative était réelle.

Ces résultats indiquent que l'utilisation de la bavette chirurgicale pourrait être remise en question. La bavette joue un rôle de protection de l'équipe chirurgicale contre les infections portées par le sang élaboussé en salle ou contre les infections aériennes, mais son effet sur la protection du patient n'a pas été prouvé lorsque l'équipe chirurgicale elle-même est en bonne santé.

## Resumen

No ha sido demostrado que el uso de la máscara facial quirúrgica disminuya la tasa de infección postoperatoria; por el contrario, algunos autores han informado una reducción de 50% al omitir su uso. El presente estudio fue diseñado con el propósito de revelar una diferencia de 30% o más en las tasas de infección de la herida en procedimientos de cirugía general con el uso y sin el uso de la máscara quirúrgica.

En el curso de 115 semanas, 3,088 pacientes fueron incluidos en el estudio. Las semanas fueron designadas como “con máscara” o “sin máscara,” según la lista de randomización. En 1,537 operaciones realizadas con máscara se registraron, 73 (4.7%) infecciones de herida y en 1,551 operaciones realizadas sin máscara se informaron 55 (3.5%) infecciones. Esta diferencia no es estadísticamente significativa ( $p > 0.05$ ); las especies de bacterias aisladas de las heridas no exhibieron diferencias que pudiesen hacer pensar que la diferencia numérica en favor de las operaciones sin máscara tenga importancia.

Tales resultados indican que el uso de máscaras faciales puede ser reconsiderado. Las mascararas pueden ser utilizadas para proteger al personal quirúrgico de gotas de sangre infectada y de infecciones en el ambiente, pero no han demostrado que protejan al paciente que es operado por un equipo quirúrgico sano.

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