

SUMMARY OF:

BACTERIAL MIGRATION THROUGH PUNCTURED SURGICAL GLOVES UNDER REAL SURGICAL CONDITIONS

By: Nils-Olaf Hübner, Anna-Maria Goerdts, Natalie Stanislawski, Ojan Assadian*,
Claus-Dieter Heidecke, Axel Kramer, and Lars Ivo Partecke

BACKGROUND

Intact surgical gloves serve as a physical barrier against the transmission of blood-borne pathogens. Studies have demonstrated that undetected glove perforations occur and that the frequency increases with duration of wear. This study is to confirm that bacteria transmission from the surgical site through micro-perforations in gloves does occur.

OVERVIEW

An established method was applied to detect bacterial migration from the operating site through the punctured glove. Surgical gloves, using the double-gloving method, were used during visceral surgeries over a 6-month period. Organisms were retrieved from the inner glove and compared with micro-organisms detected by an intra-operative swab.

RESULTS

In six out of 194 gloves examined, bacterial migration was demonstrated microbiologically. For gloves with detected micro-perforations, the calculated migration was 50%. In 5% of outer gloves and 1% of inner gloves, bacterial migration through micro-perforations was observed. 10% of the outer surgical gloves were found to have micro-perforations with a median wearing time of 100 minutes. 81% of perforations were on the non-dominant hand, with the index finger most frequently (25%) punctured.

CONCLUSION

Bacterial migration through unnoticed micro-perforations in surgical gloves does occur under real surgical conditions. Undetected perforation of surgical gloves occurs frequently. Bacterial migration from patient through micro-perforations on the hand of surgeons was confirmed, limiting the protective barrier function of gloves of worn over longer periods.

References 1. Hübner et al., Bacterial migration through punctured surgical gloves under real surgical conditions *BMC Infectious Diseases* 2010,**10**:192; <http://www.biomedcentral.com/1471-2334/10/192>

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Ansell Healthcare Products LLC
111 Wood Avenue, Suite 210
Iselin, NJ 08830 USA
Tel: + 1 732.345.5400
Fax: + 1 732.219.5114