

SUMMARY OF:
THE RISKS AND CHALLENGES OF SURGICAL GLOVE FAILURE

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BACKGROUND

During surgical procedures, glove breaches occur often and at an increasing rate corresponding to the duration of the procedure. This paper reviews the risk of contamination as it relates to surgical glove usage, as well as best practices and recommendations for infection control.

OVERVIEW

There is significant risk of transmitting viral and bacterial infections in the healthcare setting for both healthcare workers and patients. Approximately 18,000 healthcare workers (HCW) are infected with Hepatitis B Virus (HBV) each year in the US. Although, fewer HCWs contract Human Immunodeficiency Virus (HIV) each year, the number of infected people is still very high and continues to rise. Hepatitis C Virus (HCV) is considered the most threatening since there is no known treatment and there are 4 million carriers in the U.S. alone. The potential for microbial transmission to occur depends on the number of carriers, concentration of the pathogen in the carrier, the mode of transmission, and barrier effectiveness of gloves and other personal protective equipment.

RESULTS

Sharps injuries account for only 2% of glove breaches in most surgeries. There is evidence to show that surgical site infections (SSI) could be attributed to glove breaches. In one instance, at least five out of 222 patients operated on by the same cardiac surgeon were infected with HCV. In another report, 19 out of 144 patients were infected with HBV from an assistant surgeon.

CONCLUSION

There is significant occupational risk of contracting HBV and HCV when a glove breach occurs as a result of a sharps injury. Microbial contamination of the surgical site has also been shown to occur. The best safeguard against microbial transmission between healthcare workers and patients is to ensure better hand protection through high quality gloves, double gloving, monitoring barrier integrity, and injury prevention practices.

References 1. Rabussay et al., The Risks and Challenges of Surgical Glove Failure *AORN J* 1997;66:867-888.

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