
Abstract:

Background – Although disposable gloves can protect the hands of a health care worker from acquiring bacteria, during patient care the glove surface itself can become heavily contaminated making cross transmission via contaminated gloved hands likely. The aim of this study was to determine whether the type of glove worn by health care workers could influence the spread of methicillin-resistant Staphylococcus aureus (MRSA).

Methods – Laboratory studies were conducted to assess the ease with which MRSA was transferred between different types of glove and surfaces likely to be found within the ward environment.

Results – In the absence of simulated body fluid, mean bacterial transfer to and from the different gloves ranged from 0.1% to 16% and from 0.01% to 19.5%, respectively. Glove material and glove hydrophobicity were identified as the 2 most important factors influencing bacterial transfer. Nitrile gloves were associated with the lowest transfer rates. The highest numbers of bacteria were transferred to and from the most hydrophilic and most hydrophobic glove, respectively. The adsorption of simulated body fluids altered the physiochemical properties of the gloves. Bacterial transfer significantly increased and was similar to and from all glove types.

Conclusion – Disposable glove type can affect cross-contamination rates among patient, health care worker, and environment. Nonetheless, choice of glove should be considered less important than the correct use of gloves and proper hand hygiene.