

The Need to Change Examination Gloves

We know medical gloves are an important personal protective device. It has been well documented that the wearing of medical gloves reduces the probability of contamination of healthcare workers hands while caring for patients and thus the potential transmission of pathogens between patients and the environment. Gloves should be worn during all patient care activities that may involve exposure to blood and other bodily fluids, including contact with mucus membranes and non-intact skin. Major considerations for appropriate glove barrier selection include the quality of the manufacturing process, base glove material, everyday practices, fit and comfort, and storage conditions. The gloves worn should be of high quality and able to provide protection from exposure to bloodborne pathogens for the duration of the tasks being undertaken. To meet these standards, glove manufacturers have tight quality controls and manufacture gloves according to regulatory specifications and testing requirements (e.g., physical specifications, elasticity, elongation, defects, pinholes rates, protein and powder levels and biocompatibility).

Generally, one pair of examination gloves are donned for nursing care or other applications where the healthcare worker (HCW) may be exposed to bodily fluids. In certain circumstances, such as treating patients with the Ebola virus, wearing two pairs of gloves may be required to provide additional protection ¹. This allows for removal and replacement of the outer gloves, if contaminated, while retaining skin protection.

According to the World Health Organization (WHO), disposable examination gloves should be changed as soon as practical when contaminated and as soon as feasible when they are torn or punctured. Gloves should also be changed or removed: after contact with blood or body fluids; before seeing a new

patient; between clean and contaminated sites on the same patient, and after touching environmental services ².

A 2013 study by Huber et al. demonstrated 10% of examination gloves were perforated (308/3000) and perforations were noticed by the HCW only 5% of the time. Results of this study and others indicate that the micro perforations and consequent loss of the protective barrier function increases with the duration of wearing and the wearing behavior. The study stresses the need for thorough hand disinfection and challenges current recommendations that do not limit duration of glove use. The authors, recommend maximum wearing time of gloves should be given and changing of gloves after 15 minutes could be a good compromise between feasibility and safety ³.

Unfortunately, glove misuse is regularly present in healthcare facilities, and medical staff often fail to follow best gloving practices, thus facilitating the spread of microorganisms. Although medical gloves can protect the hands of a HCW from acquiring bacteria, during patient care the glove surface itself can become heavily contaminated making cross-transmission via contaminated gloved hands likely. Loveday et al. (2014) demonstrated that gloves are worn when their use is not indicated, are donned too early and removed too late, and that glove use is associated with significant risks of cross-contamination because they touch contaminated surfaces outside the patient zone ⁴. The current method of donning examination gloves requires a HCW to manually remove the gloves out of an open dispenser box and don the glove. If the HCW has not properly washed their hands, the gloves can easily become contaminated and increase the risk of patient exposure. A 2013 study from New Zealand found exam gloves in the dispenser box contaminated with bacteria before coming into

contact with patients. The unwashed contaminated hand of the HCW reaching into glove boxes has been identified as the source ⁵.

Hands should be washed prior to donning gloves. When removing, gloves use the correct technique that prevents healthcare workers' hands becoming contaminated. Carefully, without allowing the finger tips to touch your bare skin pull the first glove's cuff away from the palm and towards your fingers, so it will be removed inside out. Make a ball of the removed glove with the fingertips of the opposite gloved hand and hold onto the

glove. Carefully slide your bare fingers inside the wrist of the other gloved hand.

Avoid touching the outside of the glove because that is the contaminated region. Gently remove the glove inside out by pulling the glove down so that the first glove ends up inside the second glove and none of the outside surface of the glove is exposed. Then place the gloves in an appropriate container. Following glove use, hands should be cleaned. Do not wash or reuse gloves since this practice has been associated with transmission of pathogens.

References

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