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CLINICAL BULLETIN

Hand Hygiene and Glove Compliance

Patients entering hospitals for medical treatments and surgical procedures face the risk of potentially developing a life-threatening infection during their stay. Healthcare-associated infections (HAIs) remain common occurrences in hospitals and other healthcare facilities. According to the World Health Organization (WHO), hundreds of millions of patients are affected by HAIs worldwide each year.[1] Healthcare-associated infections come at a high cost for patients, their families and the healthcare system.

Resistant pathogens such as methicillin-resistant Staphylococcus aureus (MRSA), vancomycin-resistant enterococci (VRE), and multidrug-resistant Gram-negative bacilli can survive for weeks, even months, on environmental surfaces. Contaminated surfaces, such as patient curtains, blood pressure cuffs, nursing uniforms, medical equipment, faucets, and computer key boards, can serve as reservoirs of healthcare pathogens and vectors for cross-contamination to patients.[2] Studies have demonstrated that Healthcare Workers (HCWs) may contaminate their hands or gloves by touching these contaminated environmental surfaces, and that the pathogens on their hands or gloves are likely to be transmitted to patients.[3]

According to the Centers for Disease Control and Prevention (CDC) and the WHO, hand hygiene is the undisputed single most effective infection control measure in prevention of HAIs.[4] Good hand hygiene may reduce the number of patients acquiring HAIs by up to 30%.[4] With hand hygiene compliance rates reported below 50%[4,5] the WHO launched **"Your 5 Moments For Hand Hygiene"** to reinforce best hand hygiene practice: **before touching a patient; before clean/aseptic procedures; after a body fluid exposure risk; after touching a patient; and after touching a patient's surroundings.[5]**

Glove Use and Hand Hygiene

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.

Generally one pair of examination gloves are donned for nursing care or other applications where the 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.[6] This allows for removal and replacement of the outer gloves, if contaminated, while retaining skin protection.

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 surfaces.[7] When removing gloves using the correct technique prevents healthcare workers' hands becoming contaminated. Do not wash or reuse gloves since this practice has been associated with transmission of pathogens. [7]

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.[8] Additionally, Fuller et al. (2011) observed that the rate of HCWs practicing hand hygiene when exam gloves were worn was worse than when exam gloves were not worn and, the chances of hands being cleaned before or after patient contact appear to be substantially lower if gloves were being worn.[9] A 2013 New Zealand study found unused exam gloves in the dispenser box contaminated with bacteria. The unwashed contaminated hand of the HCW reaching into glove boxes has been identified as the source.[10]

These findings reinforce the need for continuing education on the importance of hand hygiene while wearing gloves and when it should be practiced. Hand hygiene should be performed [5,6,9]

- **before donning gloves,**
- **after removing gloves, and**
- **during glove use, should the integrity of the glove become comprised, gloves should be removed, hands cleaned and a new pair of gloves donned.**

Wearing examination gloves does not obviate the need to comply with hand hygiene. Improving the rate of hand hygiene compliance in association with wearing gloves could be critical in raising compliance levels and reducing HAIs.

References

1. Health care-associated infections FACT SHEET http://www.who.int/gpsc/country_work/gpsc_ccisc_fact_sheet_en.pdf. Accessed May 15, 2016.

2.http://www.nursingtimes.net/clinical-archive/infection-control/standard-principles-hospital-environmental-hygiene-and-hand-hygiene/291499.fullarticle Accessed May 20, 2016.

3. Pittet D, Dharan S, Touveau S, Savan V, Perneger TV. Bacterial Contamination of the hands of hospital staff during routine patient care. Arch Intern Med 1999; 159:821-826.

4. CDC, Guideline for Hand Hygiene in Health-Care Settings. Recommendations of the Healthcare Infection Control Practices Advisory Committee and the HICPAC/SHEA/APIC/IDSA Hand Hygiene Task Force. October 25, 2002 / 519RR16); 1-44.

5. World Health Organization. Hand Hygiene – Why, How and When? August, 2009.

6. http://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html Accessed May 12, 2016.

7. http://www.who.int/gpsc/5may/Glove_Use_Information_Leaflet.pdf Accessed November 8, 2016.

8. Loveday HP, et al. Clinical glove use: healthcare workers' reactions and perceptions. Journal of Hospital Infection. 86(2014)110-116.

9. Fuller C; et al. "The Dirty Hand in the Latex Glove": A Study of Hand Hygiene Compliance When Gloves Are Worn. Infection Control and Hospital Epidemiology. December 2011, Vol. 32, No. 12.

10. Hughes KA, Cornwall J, Theis J, Brooks H. Bacterial contamination of unused, disposable non-sterile gloves on a hospital orthopaedic ward. Australasian Medical Journal. AMJ 2013, 6, 6, 331-338.

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