Healthcare Staff Self-contamination High

According to a recent report and editorial published in *JAMA Internal Medicine,* healthcare workers often contaminate their skin and clothing when removing contaminated gloves or gowns. The results of a study conducted by Myreen E. Tomas, MD, from the Geriatric Research, Education, and Clinical Center, Cleveland Veterans Affairs Medical Center, Ohio, and colleagues were presented at the Society for Healthcare Epidemiology of America (SHEA) Spring 2015 Conference.

The authors explain in the report that personal protective equipment may reduce the risk of self-contamination but do not completely eliminate it. "Even when gloves and gowns are worn, 2% to 5% of personnel caring for patients colonised with multidrug-resistant bacteria acquire the pathogens on their hands after glove removal. In addition, 24% of personnel caring for patients with *Clostridium difficile* infection...had spore contamination on their hands after glove removal," they write.

During the study, the researchers examined the frequency and sites of skin and clothing contamination of hospital care workers during personal protection equipment removal. They wanted to asses the effect of an intervention on the frequency of such contamination.

Between October 2014 to March 2015, a sample of healthcare workers from four Northeast Ohio hospitals performed simulations of contaminated PPE removal, using fluorescent lotion. A cohort of healthcare workers from seven study units at a medical centre also took part in an intervention that comprised of viewing an instructional video and practice in removing contaminated PPE.

The findings of the study show that contamination of skin or clothing occurred in 46 percent of glove and gown removal simulations. Self-contamination was found to be more frequent during removal of gloves (at 52.9 percent) as compared to removal of gown (at 37.8 percent). They also found that the risk was 70 percent when incorrect technique was used for glove and gown removal as compared to 30 percent when the correct technique was used.

The findings of this study thus suggest that the use of educational tools and practice of glove and gown removal may help reduce the risk of contamination. Using the fluorescent method and providing immediate feedback to healthcare workers may be a good strategy. In addition, to further lower the risk of contamination, disinfecting PPE before removal may also help. Monitoring of removal of PPE by a trained coach and/or a redesign of PPE to make them easier to remove may also help minimise the risk of self-contamination.

"These findings highlight the urgent need for additional studies to determine effective strategies to minimise the risk of contamination during PPE removal, to improve PPE design, and to identify optimal methods for training of personnel in PPE use," the authors conclude.

Source: JAMA Internal Medicine

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