ICU
MANAGEMENT & PRACTICE

Infection Risk on Removing PPE

The skin and clothing of healthcare workers were prone to contamination during the removal of gloves or gowns, based on a simulation study that used fluorescent lotion and black light. The findings are published online by *JAMA Internal Medicine*.

Curtis J. Donskey, MD, of the Cleveland Veterans Affairs Medical Center, and colleagues conducted the study of healthcare workers at four northeast Ohio hospitals who participated in personal protective equipment (PPE) removal simulations. Other healthcare personnel at one medical centre participated in an intervention that included education and practice in removal of contaminated PPE.

The research team observed that of 435 glove and gown removal simulations, contamination of skin or clothing with fluorescent lotion happened in 200 (46 percent). Contamination occurred more frequently during removal of contaminated gloves than gowns (52.9 percent vs. 37.8 percent, $P = .002$) and when lapses in technique were observed vs. not observed (70.3 percent vs. 30.0 percent, $P < .001$). Notably, the intervention reduced skin and clothing contamination during glove and gown removal (60 percent before the intervention vs. 18.9 percent after) that was sustained after one and three months.

“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 researchers conclude.

In a related commentary, Michelle Doll, MD, and Gonzalo M. Bearman, MD, MPH, of Virginia Commonwealth University, Richmond, VA, write: "A standardised training procedure for healthcare workers on the recommended techniques for donning and/or doffing gowns and gloves is long overdue. The training should include educational context, proficiency monitoring, and feedback...However, a standard, accepted, and validated training programme has unfortunately not been developed, and debate remains as to what constitutes best practice for donning and doffing. The CDC’s recommendations are widely adopted. However, even the CDC’s procedures have been found by some to be insufficient."

Any standardised procedure and training programme, the authors note, will need to take into account the individual healthcare worker’s comfort, scope of duty, previous training, and typical workload.

Source: JAMA
Image source: Wikimedia Commons

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