

Personal Protective Equipment

MARY MCGOLDRICK, MS, RN, CRNI

Healthcare workers contracting Ebola virus disease (Ebola) after caring for a patient with Ebola heightens the need for all home care and hospice providers to be aware of how to use personal protective equipment (PPE) properly and the risks for self-contamination when removing PPE. The home is not a suitable environment for caring for patients with symptoms of Ebola under routine, nonpandemic conditions, and as such, this article will not address the Centers for Disease Control and Prevention's guidelines for the use of PPE when

employee(s) with occupational exposure risk (i.e., reasonably anticipated skin, eye, mucous membrane, parenteral contact with blood or other potentially infectious materials that may result from the performance of the staff's duties; OSHA, 2014a) and requires the use of PPE. In 1993, the *American Dental Association v. Martin* decision upheld the bloodborne pathogens standard but restricted its application to the home healthcare services industry. The court held that OSHA had not adequately considered feasibility problems, where

edgeable and proficient in the donning and doffing of PPE, which is best achieved through repeated practice. When staff receive their OSHA bloodborne pathogens training during orientation and annually thereafter, training does not typically include a demonstration of competency in the use of PPE, including its donning and doffing. It is suggested that training be expanded to include competency in how to don the PPE, adjust it for proper fit and wear, and how to take it off (i.e., doff). For home care organizations that are accredited by The Joint Commission, standard IC.01.04.01 EP 3 requires that written infection prevention and control goals include limiting unprotected exposure to pathogens (The Joint Commission, 2014). The organization can use the data it collects when assessing the staff's competence in donning and doffing PPE to determine whether the targeted goal was met.

Staff are required to know:

- how to recognize tasks that may involve exposure to blood or other potentially infectious materials and when PPE must be used;
- what kind of PPE is to be used;
- how to properly don PPE, adjust it, wear it, take it off, and dispose of it;
- the limitations of the PPE; and
- how to care for the PPE, maintain it, and how long it can be used.

The Occupational Safety and Prevention Administration bloodborne pathogen standard requires that home care or hospice organizations provide personal protective equipment to their staff and ensure proper use through training.

caring for a patient with Ebola. When caring for home care or hospice patients, there are other pathogens (e.g., *Clostridium difficile*, carbapenem-resistant Enterobacteriaceae, and vancomycin-resistant enterococci) that patients may be infected or colonized with that may require the use of PPE. This article will review the principles of PPE used by home care and hospice staff and reinforce the need for carefully removing and discarding the PPE used during patient care to prevent and control the transmission of infectious pathogens.

The Occupational Safety and Prevention Administration (OSHA) bloodborne pathogens standard applies to all employers who have an

staff work at sites over which the employer does not have control. OSHA determined that the employer will not be held responsible for site-specific requirements of the bloodborne pathogen standard (e.g., ensuring the use of PPE). However, the home healthcare agency is responsible for all non-site-specific requirements of the standard, including the non-site-specific requirements of training and providing appropriate PPE to all staff at risk (OSHA, 2014b).

The OSHA bloodborne pathogen standard requires that home care or hospice organizations provide PPE to their staff and ensure proper use through training. Training ensures that staff are knowl-

Although using PPE is important, it is also essential that staff don and remove PPE in a manner that minimizes further spread of contamination. The combination of PPE selected will affect the sequence of donning and removal. When the home care and hospice staff are trained, the following basic principles must be observed to ensure the safe and effective use of the PPE.

- **Donning:** PPE must be donned correctly in the proper order before going into the home, immediate patient care area in the home, or room when providing facility-based hospice care. The level of risk for exposure to blood or other potentially infectious materials will determine the kind of PPE that will be used and the location of where it should be donned.

To don PPE:

1. Inspect the PPE before donning; looking for tears, holes, or other damage.
2. Don a gown that fully covers the torso from the neck to the knees, arms to the end of the wrists, and wraps around to the back. Fasten the gown in the back of the neck and waist.
3. Don a mask or respirator and secure the ties or elastic bands at the middle of the head and neck. Fit the flexible band to the bridge of the nose; snug on the face and below the chin. If using a respirator, perform a fit check.

4. Don a face mask or goggles, place it over the face and eyes, and adjust it to fit.
5. Don gloves that extend to cover the wrist (of the isolation gown, if worn).

- **During patient care:** PPE must remain in place, be worn correctly for the duration of the potential exposure to blood or other potentially infectious materials, and should not be adjusted during patient care. Keep the hands away from the face and limit the surfaces touched. If the gloves become heavily contaminated, or their ability to function as a barrier is compromised (e.g., the glove rips or a needle-stick occurs), the staff member must immediately remove the gloves, perform hand hygiene, change the PPE if continuing care, or as applicable, implement the organization's plan for an occupational exposure to blood or other potentially infectious materials.
- **Doffing:** PPE must be removed in a slow, deliberate, systematic manner in the correct sequence before leaving the patient's immediate care area. If a respirator is worn, it should be removed after leaving the area for care. Removing PPE is a high-risk procedure in which the staff may be exposed to pathogenic organisms through self-contamination. PPE should be disposed of in the home as household waste, unless

state laws or regulations require it to be disposed of as regulated medical waste. Examples of methods to safely remove PPE in the proper sequence can be viewed at <http://www.cdc.gov/hai/pdfs/ppe/PPE-Sequence.pdf> (CDC, 2014).

As a reminder, wearing gloves is not a substitute for performing hand hygiene after removing PPE. If the hands become visibly contaminated during PPE removal, hand hygiene should be performed before continuing to remove PPE. Staff need to be *very* careful when removing PPE so that their skin and clothing do not become contaminated. ■

Mary McGoldrick, MS, RN, CRNI, is a Home Care and Hospice Consultant, Home Health Systems, Inc., Saint Simons Island, Georgia.

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Address for correspondence: Mary McGoldrick, MS, RN, CRNI, P.O. Box 21704, Saint Simons Island, GA 31522 (mary@homecareandhospice.com).

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