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## INTERIM GUIDANCE ON PERSONAL PROTECTIVE EQUIPMENT (PPE) TO BE USED BY HEALTHCARE WORKERS IN THE INPATIENT HOSPITAL SETTING DURING MANAGEMENT OF PATIENTS WITH SUSPECTED OR CONFIRMED EBOLA VIRUS DISEASE (EVD) IN CALIFORNIA

January 20, 2015

The California Department of Public Health (CDPH) is issuing this revised interim guidance on *“Personal Protective Equipment to be Used by Healthcare Workers in the Inpatient Hospital Setting During Management of Patients with Suspected or Confirmed Ebola Virus Disease in California.”* This guidance supersedes the original guidance released on November 6, 2014 and the revised guidances released on November 25, 2014 and January 12, 2015.

On October 20, 2014, the Centers for Disease Control and Prevention (CDC) issued updated infection control guidance entitled: [“Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease \(EVD\) in U.S. Hospitals, Including Procedures for Putting On \(Donning\) and Removing \(Doffing\)”](http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html) (<http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html>).

Key features of this guidance include recommendations for enhancement of healthcare worker protection through:

- The use of an updated ensemble of personal protective equipment (PPE), including gloves, fluid-resistant or impermeable body coverings, hood, and eye and respiratory protection (face shield, not goggles) intended to prevent skin exposure and inhalation of infectious aerosols;
- The implementation of rigorous and repeated employee training on the correct use of PPE, particularly when removing (doffing) PPE;
- The use of a trained observer to ensure that PPE is donned, used, and doffed correctly; and
- The designation and management of specific areas for PPE donning and doffing.

CDPH recognizes that the exposure risk of a healthcare worker in ***an inpatient hospital setting*** while caring for individuals with suspected or confirmed EVD is higher than the risk to the community at large.

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The CDC recommendations for infection control for the care of EVD patients in the inpatient hospital setting provide a framework for California hospitals to successfully treat Ebola patients while protecting healthcare workers.

CDPH concurs with the CDC guidance and in particular with several important points:

- It is essential that health care workers receive repeated training in the use of PPE and have demonstrated competency in performing Ebola-related infection control practices and procedures.
- Donning and doffing of PPE is complex and requires adequate and specific physical space.
- Respiratory protection should be used for aerosol-generating procedures.
  - Aerosol-generating procedures may be unexpected. Therefore, respiratory protection is recommended at all times when there is a possibility that an aerosol-generating procedure might be necessary.
  - Health care provider safety and comfort are very important and should be considered in designing a PPE ensemble.
- Airborne infection isolation rooms (AIIR) are the preferred location for aerosol-generating procedures.

CDPH recognizes that the level and use of PPE for the protection of healthcare workers caring for suspected or confirmed EVD patient may change depending on the clinical symptoms and presentation of the patient. CDPH further recognizes that scientific evidence shows that early in the EVD course of illness, suspected or confirmed Ebola patients may exhibit symptoms that include fever, headache, fatigue, weakness, stomach pain, lack of appetite, and joint and muscle aches. These patients may not yet have bleeding, vomiting, diarrhea, and may not demonstrate a clinical condition that is worsening or that may warrant invasive or aerosol-generating procedures (e.g., intubation, suctioning, resuscitation).

Therefore, CDPH makes the following California-specific recommendations:

The PPE recommendations when caring for the clinically stable, suspected or confirmed EVD patient **without symptoms of bleeding, vomiting, diarrhea, or a clinical condition that may warrant invasive or aerosol-generating procedures** include:

- PPE that covers all surfaces of the body, including the head and neck, coverings for the eyes, mouth, nose, and skin. The hair must be completely enclosed;
- A face shield (not goggles) and surgical N95 (or higher) respirator (i.e., Powered Air-Purifying Respirator [PAPR] not required);
- An isolation gown (i.e., coverall not required);
- Two or more pairs of gloves (to facilitate the doffing of PPE and decontamination); and
- Boots or coverings for the feet and lower legs.

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For suspected or confirmed EVD patients who **exhibit bleeding, vomiting, diarrhea, a clinical condition that may warrant invasive or aerosol-generating procedures (e.g., intubation, suctioning, resuscitation), or overall worsening of symptoms**, the recommended level of PPE for employees caring for or moving the patient and for all employees working in the patient room should include:

- PPE material that is single-use (disposable) fluid-resistant or impermeable;
- PPE that covers all surfaces of the body, including the head and neck, coverings for the eyes, mouth, nose, and skin. The hair must be completely enclosed;
- A coverall with feet;
- Two or more pairs of gloves (to facilitate the doffing of PPE and decontamination);
- Boots or coverings for the feet and lower legs. To provide continuous fluid protection, under socks or under boots that are integrated into the coverall, or protection that is equivalent, should be provided; and
- A Powered Air-Purifying Respirator (PAPR) with full cowl or hood.

CDPH recommends that the hospital’s Infectious Disease Physician and/or Infection Preventionist assess the suspected or confirmed EVD patient status and determine the appropriate level of PPE on an ongoing basis during the care of the patient.