

Pre-Planning Items

Introduction

There are many factors that need to be considered before a worker dons or doffs personal protective equipment (PPE). PPE is a last line of defense, and as such, to effectively control for the risk of contracting Ebola in the workplace, the hierarchy of controls needs to be incorporated into decision making. There should already be an Infection Prevention and Control (IPAC) and Occupational Health and Safety (OHS) program in place. In addition organizations must always ensure compliance with the Occupational Health and Safety Act (OHSA) and hospitals must comply with Health Care and Residential Facilities Regulation (HCRFR) responsibilities; which include providing Health and Safety (H&S) measures related to H&S/IPAC reviewed annually in consultation with the Joint Health and Safety Committee (JHSC). Where appropriate the precautionary principle (section 21 guidance note) will also need to be applied to ensure worker safety and health. Click on the following link to view Section 21 Guidance Notes for Workplace Parties: [Application of Hazard Control Principles, including the Precautionary Principle to Infectious Agents](#)

As part of your pre-planning efforts to donning and doffing PPE for Ebola, a site-specific risk assessment needs to be completed by qualified individuals. A useful resource titled “Protecting Health Care Workers from Infectious Diseases: A self-assessment Tool” is available to help with conducting a general IPAC risk assessment. It can be accessed using the following link: <http://www.pshsa.ca/products/protecting-health-care-workers-from-infectious-diseases-a-self-assessment-tool/>. It is also important to consider establishing a working group composed of competent professionals to determine the appropriate level of protection, PPE assembly based on regulatory requirements, a risk assessment, working conditions, tasks, and accessibility to decontamination facilities. As with any use of PPE, there are no standardized solutions, and proper selection and use is critical to protection.

See the list below for some additional free resources that may be of interest:

Cleaning and Disinfection of Environmental Surfaces:
http://www.pshsa.ca/wp-content/uploads/2013/03/Cleaning_And_Disinfection.pdf

Ebola Virus Disease – Staying Healthy & Safe at Work
http://www.pshsa.ca/wp-content/uploads/2014/09/PSHSA-Fast-Facts-Ebola-Virus-Disease_updated-latest.pdf

10-Minute Health & Safety Program Check
<http://www.pshsa.ca/wp-content/uploads/2013/07/LHSCAEN0211-Ten-Minute-Health-Safety-Program-Check.pdf>

Health and Safety Management Systems
<http://www.pshsa.ca/wp-content/uploads/2013/01/HSMS.pdf>

Key Areas to Address

There are key areas that may not be part of an organization's regular IPAC program that need to be considered specific to Ebola Virus Disease. Although the list that follows is not comprehensive, the items have been identified by experts that formed various Ebola Committees and need to be considered prior to donning and doffing PPE for EVD.

People

- Assignment of care providers and environmental services personnel (all persons entering the contaminated environment must be trained)
- Workers must have received recent IPAC RPAP training/refresher training
- Include considerations for safety (heat stress, medically fit, hydration, slips and falls etc.) and methods of communicating with persons outside of the isolation room (e.g. whiteboard or monitor)
- Trained Observer Role must be clearly defined including:
 - The PPE required for this role
 - Whether the observer or buddy will be assisting with the doffing process (i.e. unzipping the coverall and removing it from the shoulder to reduce the risk of self contamination) or if they will be limited to observing and instructing the worker on doffing through the use of a checklist.

PPE and Other Supplies

PPE:

- Appropriate selection of PPE and donning/doffing sequencing all must meet the directives
 - Consider anti-fog protection depending on the eyewear being used; footwear/coverings that can be removed between hot and warm zones so regular footwear is not contaminated; identification of what clothing will be worn under PPE including footwear
 - Taping of PPE (e.g. gloves to sleeves or foot covers to pant legs) should be decided based on an understanding of the benefits versus the risks. Prudent use of taping can in some circumstances increase the level of safety and health, however, some organizations have found that taping may increase risk by making the doffing process more difficult and cumbersome. As such, proper taping of PPE components requires the right material be selected for use with properly sized PPE, the effective technique determined, and adequate training and skill obtained
- PPE must be properly used and maintained
- Always follow user instructions from manufactures around donning and doffing, as well as cleaning and disinfecting. (e.g. is the N95 respirator being used doffed with both straps at the same time or is it the bottom strap and then the top one)
- Ensure proper fit (e.g. once the gown is tied, is there a gap at the neck (too big) or can the worker hug her/himself without the PPE straining (too small), etc.)
- N95 respirators:
 - MUST be individually fit tested. A seal check must be performed each time one is donned

- Nothing can be allowed to interfere with the ability of an N-95 mask to seal properly and there can be no layers between the mask (or any of its components) and the wearer
- Long hair should be restricted in such a way that it cannot shift the placement of the elastic bands (like a braid, or a low ponytail that would be tied close to the neck)
- Inspected for damage or deterioration
 - Include direction/ processes on when to discard damaged PPE, according to the type of PPE that the hospital has selected
- Stored in a convenient, clean and sanitary location when not in use

Other Supplies:

- There must be access to a disinfectant that is capable of killing non-enveloped viruses
- A chair or bench to facilitate donning and doffing of foot coverings. Ensure it is disinfected between use or when moving from the hot to warm zone

Donning and Doffing Environment

- The risk assessment must include the determination of patient placement. Whenever possible use an airborne infection isolation room with anteroom and dedicated washrooms
- Regardless of the room used, organizations must delineate hot, warm, and cold (clean) zones, with no possibility of anyone accidentally going into the warm/hot zones
 - The delineation of hot/warm/cold must be such that there is no possibility of heavy contamination in the clean zone
- Donning must occur in a cold/clean zone, not in the ante room or hot zone
- Doffing must occur in the hot or warm zone and far from the clean zone
 - If possible, outer layers containing the heaviest contamination should be doffed in the hot zone immediately before entering the warm zone, but only if there is no chance of further contamination. If this cannot be achieved in the hot zone, then there needs to be an area immediately inside the warm zone (but far from the clean zone), where the doffing of very contaminated outer layers can be performed before proceeding forward in the warm zone to do the rest of the doffing. Consider the use of doffing/ chemical mats or trays if feasible
 - Once a piece of PPE has been removed in the warm zone, there should be no more contact between that exposed area of the worker and the warm zone. i.e. if body covering is removed, one can't sit in a chair in the warm zone, if removing foot covering, do it in mid-air before your foot then touches the clean side

Training

- Please refer to the Training section of the Ministry of Health and Long-Term Care (MOHLTC) Directives and associated curriculum guide