

# British Columbia Ebola Virus Disease Personal Protective Equipment Guidelines

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The recommendations and information contained in this document are subject to change as new evidence emerges. This document is effective as of October 29, 2014.

## Preamble

While the probability of Ebola virus disease (EVD) in British Columbia is low, preparedness to ensure healthcare workers can safely and effectively care for patients is essential. Preparedness relies on clear algorithms and clinical processes, appropriate PPE supply and deployment, and appropriate awareness and training for staff in both the processes and equipment.

This document provides, at a high level, British Columbia's policies related to infection control measures and the use of personal protective equipment in the event of possible or confirmed EVD. British Columbia Ebola Virus Disease Personal Protective Equipment (PPE) Guidelines are aligned with the guidelines released by the Public Health Agency of Canada. The development of training modules is underway and will be available as soon as possible.

## Personal Protective Equipment

EVD is transmitted by direct contact with non-intact skin or mucous membranes of blood or body fluids of an infected person, or indirectly through contact with contaminated environment. Patients infected with Ebola are not considered infectious prior to developing symptoms. The PPE recommendations are based on the known mode of transmission, and reflect the following guiding principles for the management of EVD in British Columbia:

1. Along with the safety and care of patients, healthcare worker safety is of paramount importance.
2. To prevent the transmission of infection, Personal Protective Equipment (PPE) represents one type of control, along with Administrative controls, and Environmental/Engineering controls. Each type of control is equally important and must act as complementary parts in a system.
3. To reduce the risk of infection, healthcare workers working with confirmed EVD patients or PUIs should have no skin exposed.
4. Prior to patient care of confirmed or probable EVD patients, healthcare workers should be trained in infection control procedures, including specific EVD-related donning/doffing procedures.
5. Disposable PPE should be used wherever possible.

A summary of BC's PPE recommendations for specific healthcare settings follows.

## Summary of Recommendations:

	Point-of-Care Risk Assessment	Description	Details of PPE/Other Supplies
1.	Initial presentation – standard ED triage	<p>Routine measures for infection control as described by Public Health Agency of Canada are the applicable standard for presentation in emergency or community care setting.</p> <p>A full description of routine practices is available <a href="http://publications.gc.ca/collections/collection_2013/aspc-phac/HP40-83-2013-eng.pdf">here</a> (<a href="http://publications.gc.ca/collections/collection_2013/aspc-phac/HP40-83-2013-eng.pdf">http://publications.gc.ca/collections/collection_2013/aspc-phac/HP40-83-2013-eng.pdf</a> )</p> <p>Consistent with PHAC guidelines, additional triage measures are:</p> <ul style="list-style-type: none"> <li>• Ability to direct patients (who have called the doctor's office, clinic or emergency department notifying that they have symptoms compatible with EVD and have a travel history to an Ebola-affected area) to an appropriate care setting and initiate necessary IPC precautions/measures upon arrival.</li> <li>• Signs to direct patients with symptoms of acute infection posted in specific waiting areas.</li> </ul>	<ul style="list-style-type: none"> <li>• A physical barrier (e.g., plastic partition at triage desk) located between infectious sources (e.g., patients with symptoms) and susceptible hosts (i.e., other patients, staff).</li> <li>• Supplies for respiratory and hand hygiene and emesis management available</li> </ul>
2.	Person under investigation – triage and immediate steps	<p>Patients who have traveled within 21 days to Ebola-affected areas as defined by the World Health Organization, or who had direct contact with an individual with onset of symptoms within 21 days of travel to an Ebola-affected area,</p> <p>and who present with any of the symptoms of EVD: history of feverishness, malaise, myalgia, severe headache, conjunctival injection, pharyngitis, abdominal pain, vomiting, diarrhoea that can be bloody, bleeding not related to injury, unexplained haemorrhage, and erythematous maculopapular rash on the trunk.</p> <ul style="list-style-type: none"> <li>• Patient dons procedure/surgical mask, and washes hands</li> <li>• Patient isolated to single room, with dedicated toilet; door is kept closed</li> <li>• Access to patient is logged, and restricted to essential health care personnel</li> </ul>	<p>Patient</p> <ul style="list-style-type: none"> <li>• Mask – procedure/surgical mask</li> </ul> <p>Health Care Worker PPE dependent on assessment of lower or higher transmission risk</p>

	Point-of-Care Risk Assessment	Description	Details of PPE/Other Supplies
		<ul style="list-style-type: none"> <li>Assessment of lower or higher transmission risk determines PPE/Protocols for HCW interactions (see below)</li> <li>Local Medical Health Officer and local Medical Microbiologist will be contacted</li> <li>24/7 Expert Advisory Team contact activated if necessary</li> </ul>	
3.	Transportation	<p>If deemed appropriate, patient may be transported to a designated hospital for care</p> <p>All PUIs or confirmed EVD patients will be transported by BCAS</p>	BCAS has PPE requirements and processes specific to the transportation modality in place
4.	Lower Transmission Risk Scenario	<p>Lower Transmission Risk Patient: Early stage of EVD, or convalescing stage of EVD when diarrhea and vomiting have resolved, and patient's body fluids contained</p> <p>Patient is undergoing procedures that are non-aerosol generating</p> <ul style="list-style-type: none"> <li>Trained Observer engaged</li> <li>Patient isolated to single room with dedicated toilet;</li> <li>There are dedicated areas for donning and doffing</li> <li>Access to patient is logged, and restricted to essential health care personnel</li> <li>PPE donned prior to entering patient care area</li> <li>HCW must take care to ensure no skin is exposed once PPE is donned</li> </ul>	<p>PPE for HCW managing low risk patients engaged in low risk procedures are:</p> <ul style="list-style-type: none"> <li>Gown –fluid-resistant gown</li> <li>Hoods – fluid-resistant hoods</li> <li>Face shields –full face shield</li> <li>Procedure (surgical) Mask *</li> <li>Booties – fluid-resistant on leg, fluid-impermeable on foot</li> <li>Double Glove –long cuff gloves; first pair under, second pair over gown</li> </ul> <p>* N95 masks are not the recommended standard based on evidence but may be used by HCW.</p>

	Point-of-Care Risk Assessment	Description	Details of PPE/Other Supplies
5.	Higher Transmission Risk Scenario	<p>Higher Transmission Risk Patient: Later stages of EVD with copious body fluids contaminating the environment.</p> <p>Any patient under investigation undergoing a procedure where aerosol may be generated</p> <ul style="list-style-type: none"> <li>• Trained Observer engaged</li> <li>• Assistant may be engaged</li> <li>• HCW must take care to ensure no skin is exposed once PPE is donned</li> <li>• PPE should be donned prior to entry to the patient room</li> <li>• Patients must be placed in an AIIR if AGMPs are being performed.</li> <li>• There are dedicated areas for donning and doffing</li> </ul>	<p>PPE standards for higher risk scenarios:</p> <p><u>Option 1:</u></p> <ul style="list-style-type: none"> <li>• Gown/coverall - long-sleeved, cuffed, fluid-impermeable gown (disposable or re-useable), or fluid-impermeable coverall without attached hood (if preferred, and HCW is fully trained in doffing procedure)</li> <li>• Hoods – fluid impermeable</li> <li>• Face shields – full face shield</li> <li>• Respirator – fit tested, N95</li> <li>• Booties – fluid-impermeable; covering all exposed areas below the gown</li> <li>• Double Glove – long cuff gloves; first pair under, second pair over gown</li> </ul> <p><u>Option 2:</u></p> <ul style="list-style-type: none"> <li>• Hazardous Substance Response Kit (requires thorough training and assistance from a trained observer to be doffed safely)</li> </ul>