

Training Bulletin

Ebola Virus Disease

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Emergency Health Services Branch
Ministry of Health and Long-Term Care



Ebola Virus Disease

Summary of Change from V 1.1 to V 2.0

- Document renamed
- Introduction updated to include additions to dispatch screening questions
- Enhanced medical and travel screening questions from dispatch
- Specific PPE for suspected or confirmed cases

Summary of Change from V 2.0 to V 2.1

- Correction to PPE

Introduction

In response to the Ebola virus disease (EVD) outbreak in West Africa, Public Health Ontario has developed and released several screening tools for the healthcare sector, including one for emergency medical services. At the same time, the Medical Advisory Committee (MAC) has provided recommendations to the Ministry of Health and Long-Term Care, Emergency Health Services Branch (EHSB) specifically for paramedics. Additionally EHSB has held discussions with the Dispatch Medical Director, Dr. Michael Feldman regarding the introduction of an additional medical screening question and travel screening questions into the ambulance call taking process.

What is Ebola?

Ebola virus disease is an acute life-threatening illness caused by subtypes of the Ebola virus that are known to affect humans and primates such as monkeys, chimpanzees, and gorillas. Infection is characterized by fever, headache, muscle pain, intense weakness, cough, stomach pain, vomiting and diarrhea. As the virus multiplies, more severe symptoms such as profound bleeding and multi-organ failure manifest. The time between exposure to the virus and the appearance of symptoms ranges from 2 to 21 days. After the onset of symptoms, a person with Ebola is contagious and can spread the virus to others.¹

For updated information on Ebola virus disease please visit

<http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/Pages/Viral-Hemorrhagic-Fevers.aspx>

EMS Screening Tool

Public Health Ontario has released a thorough document intended to assist paramedics in the initial assessment and management of both symptomatic and asymptomatic returning travellers from countries/areas affected by EVD.

For updates please visit http://www.publichealthontario.ca/en/eRepository/EVD_screening_tool_EMS.pdf.

The most current version, dated October 21, 2014 has been included as an appendix for your reference.

¹ Fast Facts – Ebola Virus Disease – Staying Healthy and Safe at Work! Public services Health & Safety Association
http://www.pshsa.ca/wp-content/uploads/2014/09/PSHSA-Fast-Facts-Ebola-Virus-Disease_updated-latest.pdf

Ambulance Communications Centres and Ornge Communication Centre have incorporated an additional medical screening question and travel screening questions for selected complaints. The new medical question improves the identification of potential infection illness including EVD. Travel screening questions are only asked when there is an outbreak.

During an outbreak (e.g. Ebola) and if there are positive responses to the enhanced medical and travel questions, the Ambulance Communications Officer will also ask all the assessment questions on the current PHO screening tool. All the symptoms and relevant travel history obtained through these questions will then be provided to the paramedics at the time of dispatching.

This training bulletin provides advice that was developed by the MAC from national and provincial public health authorities and the knowledge that a thorough call taking screening process is in place to allow paramedics the ability to make informed and safe choices when faced with a suspected EVD case.

MAC Recommendations

Listed below are the EHSB approved MAC recommendations for paramedics regarding application of Medical Directives in the setting of a patient with infectious symptoms and a relevant travel history:

1. There is very limited evidence to suggest that any medical procedures increase the risk of disease transmission when appropriate PPE is being used. There is no evidence that Ebola virus disease is transmitted by aerosols. Use of screening tools and PPE should assist paramedics in taking appropriate steps to protect themselves and others from a variety of potential infections.
2. Paramedics should take note of all the information gained from dispatch regarding the enhanced screening for acute febrile illness and relevant travel history, and should incorporate screening as part of their own assessment. The enhanced dispatch screening questions will be utilized for all calls regardless of the origins (911 calls, inter-facility or calls from ports of entry which are defined as a point where a person crosses an international border).
3. For paramedics initiating patient contact where any pre-arrival call information discloses the risk of exposure to a **suspect** or **confirmed** case of EVD and/or the suspect case's environment (e.g., equipment, surfaces contaminated with blood and/or body fluids) raises the suspicion of EVD, paramedics should don PPE. The following enhanced PPE is required.

Suspected or Confirmed EVD Cases

- N95 respirator
- face shield and safety glasses or goggles
- Impermeable full body or protective suit
 - AAMI Level 4 impermeable one-piece full body barrier with hood, and
 - Impermeable foot covering that gives at least mid-calf coverage; or
 - Equivalent protection level using alternative components which achieve full body protection, when one-piece solutions are not available
- double gloves, one under and one longer glove over the cuff

Paramedics should conduct a point of care risk assessment (one [1] metre) before each interaction with a patient and/or the patient's environment to evaluate the likelihood of exposure to an infectious agent/infected source and to choose the appropriate safe work practices. In the case of a suspected EVD patient, paramedics will don their PPE and assess the patient to verify the suspicion. Once a suspected case of EVD is verified, the ED must be notified immediately to allow appropriate receiving preparations by the hospital.

4. If there is concern for acute febrile illness and a relevant travel history, the following aerosol generating procedures should be avoided unless absolutely necessary: Endotracheal intubation (e.g. utilize BVM during cardiac arrest), CPAP, and nebulized medications.
5. If there is concern for acute febrile illness and a relevant travel history, the following procedures should be applied cautiously when necessary: supplemental oxygen should be applied with a device that filters exhaled gases and manipulation of the mask after application should be minimized, bag valve mask ventilation (a two handed seal with a filter is preferred if feasible), intravenous or percutaneous injections (avoid initiating any injection or percutaneous access in a moving vehicle or with a combative patient).

As a reminder, always follow Routine Practices which includes frequent hand hygiene and this information is included on the Public Health Ontario "Just Clean Your Hands" website available at <http://www.publichealthontario.ca/en/BrowseByTopic/InfectiousDiseases/JustCleanYourHands/Pages/Just-Clean-Your-Hands.aspx> and in the Provincial Infectious Diseases Advisory Committee (PIDAC) Hand Hygiene fact sheet found at: http://www.publichealthontario.ca/en/eRepository/PIDAC_Hand_Hygiene_Fact_Sheet_2013.pdf

Appendix

EMS Screening Tool

Initial assessment and management of the returning traveller from countries/areas affected by Ebola virus disease for Emergency Medical Services

October 21, 2014

This document is intended to assist in the initial assessment and management of both symptomatic and asymptomatic returning travellers from countries/areas affected by Ebola virus disease. The risk of Ebola virus disease in Ontario is currently very low. Usual screening practices for EMS should be used which consist of assessing for signs and symptoms and obtaining a travel history. Patients with a recent travel history should be asked about travel to countries/areas affected by Ebola virus disease in the 21 days before onset of symptoms. Please visit www.publichealthontario.ca/ebola for more information.

ASSESSMENT

1. TRAVEL HISTORY

In the past 21 days, have you been to any of the following countries/areas?

Note: These countries/areas are current as of October 21, 2014. For updated geographic information, visit the [Public Health Ontario website](http://www.publichealthontario.ca)

- Guinea
- Sierra Leone
- Liberia
- Democratic Republic of the Congo (Equateur Province)

YES

NO

2. FEVER OR OTHER SYMPTOMS (Note: patients WITHOUT symptoms CANNOT transmit EVD)

Are you feeling unwell with symptoms such as:

- | | | | |
|------------------------------------|--|----------------|--|
| • Fever of 38°C (101°F) or greater | Yes <input type="checkbox"/> No <input type="checkbox"/> | • Diarrhea | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| • Feeling feverish | Yes <input type="checkbox"/> No <input type="checkbox"/> | • Vomiting | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| • Severe headache | Yes <input type="checkbox"/> No <input type="checkbox"/> | • Sore throat | Yes <input type="checkbox"/> No <input type="checkbox"/> |
| • Muscle pain | Yes <input type="checkbox"/> No <input type="checkbox"/> | • Stomach pain | Yes <input type="checkbox"/> No <input type="checkbox"/> |

YES to ANY of the above

NO to ALL of the above

Travel history	Fever or other symptoms	Action for Emergency Medical Services (EMS)
Yes	Yes	<ul style="list-style-type: none"> Dispatch should advise paramedics that the patient has a travel history to an affected country/area and symptoms compatible with Ebola virus disease Paramedics should initiate contact and droplet precautions immediately (Note: Ebola virus disease is NOT spread through the airborne route); For paramedics as per the Ambulance Act, PPE would consist of a full face shield, a fit tested sealed N95 mask, gloves and fluid resistant gowns. Except for the N95 mask, this is as per IPAC Guidance for Patients with Suspected or Confirmed Ebola Virus Disease (EVD) in Ontario Health Care Settings. Additional precautions such as a fluid impermeable gown, head covering and leg/foot covering (as per IPAC Guidance for Patients with Suspected or Confirmed Ebola Virus Disease (EVD) in Ontario Health Care Settings) may be indicated based on the clinical presentation of the patient, such as in situations where gross contamination is possible (e.g., significant bleeding, vomiting or diarrhea) Isolate the patient from any further direct contact with persons not wearing full PPE. Transfer patient to the ambulance as soon as possible. Wrap patient in linen as much as possible to avoid environmental contamination If the patient is coughing, provide them with a surgical mask to wear if tolerated. If the patient requires oxygen, a nasal cannula under the mask can be used or an oxygen mask with a filter system should be used (e.g., high concentration / low flow oxygen mask) as appropriate Do not attempt aerosol generating medical procedures such as nebulized therapy or endotracheal intubation unless absolutely necessary. If patient is in cardiac arrest, provide CPR and bag valve mask (BVM) only Both dispatch and the paramedics should notify the receiving emergency department of the travel history and symptoms of the incoming patient in order to ensure appropriate assessment and infection prevention and control precautions on arrival Do not wear PPE in the cab of the ambulance. The driver should remove PPE and perform hand hygiene as per PIDAC's Routine Practices and Additional Precautions document and videos. If assisting with transferring the patient to the ER on arrival at the hospital, the driver should put on appropriate PPE All discarded PPE and materials contaminated with blood or body fluids must be taken to the hospital in a bio-hazard bag and disposed of there; do not discard any on the scene or outside of a hospital setting Once the patient has been transferred to the emergency department stretcher, immediately clean any surfaces or equipment the patient or their body fluids have physically contacted (e.g., stretcher, ambulance surfaces) with an approved hospital-grade cleaner/disinfectant as per PIDAC's Environmental Cleaning for Prevention and Control of Infections Soiled linen should be placed in leak-proof bags at the point of use and placed in linen containers as per service procedure. Container surfaces should be disinfected before removal from site. Services should speak with their contracted linen supply company for specific direction. Laundry staff should be aware of the potential risk and wear appropriate PPE while handling soiled linen. Remove PPE and perform hand hygiene as per PIDAC's Routine Practices and Additional Precautions document and videos
Yes	No	<ul style="list-style-type: none"> Check the patient's temperature. If febrile, or the patient gives a history of fever greater than 38.0°C, manage as per above. Otherwise provide usual care
No	Yes	<ul style="list-style-type: none"> Follow usual EMS protocols based on presentation
No	No	<ul style="list-style-type: none"> Usual EMS care

