

## Ebola Waste Management Requirements

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## What is Ebola?

Ebola is a virus transmitted to humans by direct contact (e.g. through broken skin or mucous membranes) with blood, other body fluids and tissues of infected persons or wild animals. It can also be acquired from indirect contact with environmental items contaminated with infected body fluids, including urine, feces and vomit.

## Why do we have Ebola Waste Management Requirements?

To minimize the risk of contact with contaminated waste generated by suspect/confirmed Ebola Virus Disease patients, **personnel must follow the requirements outlined in this document.**

Infection Prevention & Control (IPC) measures included in this guidance are based on currently available scientific evidence and guidelines and are subject to review and change as new information becomes available.

Waste materials generated from the care of a person under investigation for Ebola Virus Disease must be:

- Secured in a safe manner until laboratory confirmation on the virus is received.
  - If **NEGATIVE**, the waste can then be disposed of via usual methods.
  - If **POSITIVE**, secure disposal methods outlined in this document must be followed.
- Managed in accordance with currently available scientific evidence on Ebola Virus Disease and relevant Provincial and Municipal regulations.

## Designated Ebola Sites

The following are designated receiving sites and designated patient care units for suspect and/ or confirmed Ebola Virus Disease patients:

- South Health Campus (SHC): ICU
- Alberta Children's Hospital (ACH): PICU and Unit 4
- University of Alberta Hospital (UAH): Unit 5C3 (UAH will receive and care for both adult and pediatric patients)
- Stollery Children's Hospital (Stollery): Unit 53C at UAH

In addition, all Emergency Departments (ED) and Urgent Care Centres in Alberta Health Services (AHS) facilities would be expected to follow the same requirements when assessing and caring for suspect Ebola Virus Disease patients.

## Emergency Department (ED) Waste Disposal Requirements

### ED staff

- Collect all waste material generated by a suspect Ebola Virus Disease patient and place into designated containers.
- A supply of 18 gallon (yellow) biomedical waste containers will be distributed to all Emergency Departments / Urgent Care Centres in Alberta.
- Additional containers can be obtained through Environmental Services (ES).
- Ensure a stock of five (5) 18 gallon biomedical waste containers are in the clean utility room at all times. (designated site only)

### Environmental Services (ES) staff

- Seal the designated containers to be quarantined and disinfect the sealed waste container using an AHS approved disinfectant with a broad spectrum virucide claim (e.g. 0.5% accelerated hydrogen peroxide or 1000 ppm bleach [PCS 1000]); will be done under the direction of IPC prior to relocating the container. (See: IPC Recommended Cleaning Agents Currently Stocked / Used by AHS Environmental Services).

- Relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area (facility biomedical waste cooler).
- Separate the suspected Ebola Virus Disease waste containers from other biomedical waste containers within the designated quarantine area (biomedical waste cooler).

## Patient Room Waste Disposal Requirements

### Patient care staff

- Collect all waste material generated by a suspected Ebola Virus Disease patient and place into a designated container(s). A supply of 18 gallon (yellow) biomedical waste containers is available at the 4 designated sites.
- Patient care staff shall ensure a stock of five (5) 18 gallon biomedical waste containers are in the clean utility room at all times. (**designated site only**).

### ES Staff (or designated staff responsible for removing the container from the contaminated zone)

- seal the designated containers to be quarantined and disinfect the sealed waste container using an AHS approved disinfectant with a broad spectrum virucide claim (e.g. 0.5% accelerated hydrogen peroxide or 1000 ppm bleach [PCS 1000]); will be done under the direction of IPC prior to relocating the container. (See: IPC Recommended Cleaning Agents Currently Stocked / Used by AHS Environmental Services).
- During a **Terminal Clean** process, ES staff shall place all waste material generated into the designated waste container(s) prior to disinfecting the external surface using an AHS approved disinfectant with a broad spectrum virucide claim (e.g. 0.5% accelerated hydrogen peroxide or 1000 ppm bleach [PCS 1000]); will be done under the direction of IPC prior to sealing and relocating the container. (See: IPC Recommended Cleaning Agents Currently Stocked / Used by AHS Environmental Services).
- Relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area (facility biomedical waste cooler).
- Separate the suspected Ebola Virus Disease waste containers from other biomedical waste containers within the designated quarantine area (biomedical waste cooler).

## Patient Waste Disposal Requirements

The Public Health Agency of Canada (PHAC) and (US) Centers of Disease Control and Prevention (CDC) presently considers disposal of patients' excretions and secretions using sanitary sewer as safe<sup>1, 2</sup>, however disposal must be in accordance with regional/municipal regulations and/ or by-laws. The City of Edmonton's, Drainage Services, Regulatory Division and the City of Calgary's Water Quality Services have provided the following guidelines:

### Suspect Ebola Virus Disease Patient Waste

- Feces/urine waste **can** be discharged into the sewer system.
- If the patient is continent and able to use the toilet, patient waste can be flushed directly.
- If the patient is unable to use the toilet, the patient waste can be disposed in an automated waste disposal system if one is located in the patient room or using a solidifier and disposing of the patient waste in a biomedical waste container.

<sup>1</sup> Public Health Agency of Canada, Interim Guidance: Ebola Viral Disease (EBOLA VIRUS DISEASE); Infection Prevention and Control (IPC) Measures for Borders, Healthcare Settings, and Self-Monitoring at Home. September 12, 2014

<http://www.phac-aspc.gc.ca/id-mi/vhf-fvh/ebola-ipc-pci-eng.php>.

<sup>2</sup> CDC. 2014d. Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus.

Accessed on Sept 23, 2014 from <http://www.cdc.gov/vhf/ebola/hcp/environmental-infection-control-in-hospitals.html>

### Confirmed Ebola Virus Disease patient waste

- Feces/urine waste **cannot** be discharged into the sanitary sewer system and must be collected and disposed of as biomedical waste.
- For liquid patient waste a solidifier should be used (Xsorb, Super Sorb, Red Z) prior to disposal.

## Emergency Medical Services (EMS) Waste Disposal Requirements

### EMS staff

- Collect all waste material generated (including 6 mm vapour barrier sheet(s)) by a suspected Ebola Virus Disease patient and place into a designated 18 gallon biomedical waste container located within the ambulance bay. (*designated site only*) Seal the designated 18 gallon biomedical waste container and notify the ED that the waste is to be quarantined.

### ED staff

- Contact the ES department to relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area.
- Disinfect the outside of the sealed waste container using an AHS approved disinfectant with a broad spectrum virucide claim (e.g. 0.5% accelerated hydrogen peroxide or 1000 ppm bleach [PCS 1000]); will be done under the direction of IPC prior to relocating the container. (See: IPC Recommended Cleaning Agents Currently Stocked / Used by AHS Environmental Services)

### ES staff

- Relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area (biomedical waste cooler).
- Separate the suspected Ebola Virus Disease waste containers from other biomedical waste containers within the designated quarantine area (biomedical waste cooler).
- Ensure a stock of five (5) 18 gallon biomedical waste containers are in the ambulance bay at all times.

**Note:** A supply of 18 gallon biomedical waste containers (5) shall be available in designated locations within the ambulance bays.

## Air Ambulance (AA) Waste Disposal Requirements

### Fixed Wing

#### AA Staff

- Collect and seal all waste material generated by a suspected Ebola Virus Disease patient into a 3 mil yellow biomedical waste bag (double taped using duct tape).
- Transfer sealed biomedical waste bag, along with the suspected Ebola Virus Disease patient to the waiting ambulance.

#### EMS Staff

- Follow the [Emergency Medical Services \(EMS\) Waste Disposal Requirements](#) outlined within this document for the disposal of suspected Ebola Virus Disease waste material.

### Helicopter

#### AA Staff

- Obtain a designated 18 gallon biomedical waste container from the hospital ambulance bay.

- Collect all waste material generated by a suspected Ebola Virus Disease patient and place into a designated biomedical waste container.
- Seal the designated 18 gallon biomedical waste container, and relocate the waste container to the ambulance bay.
- Disinfect the outside of the sealed waste container using an AHS approved disinfectant with a broad spectrum virucide claim (e.g. 0.5% accelerated hydrogen peroxide or 1000 ppm bleach [PCS 1000]); prior to relocating the container to the ambulance bay. (See: IPC Recommended Cleaning Agents Currently Stocked / Used by AHS Environmental Services)
- Notify the ED that the waste is to be quarantined.

#### **ED Staff**

- Contact the ES department to relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area.

#### **ES Staff**

- Relocate the suspected Ebola Virus Disease biomedical waste container to the designated quarantine area (*biomedical waste cooler*).
- Separate the suspected Ebola Virus Disease waste containers from other biomedical waste containers within the designated quarantine area (biomedical waste cooler).
- Ensure a stock of five (5) 18 gallon biomedical waste containers and five (5) biohazard 3mil bags (for AA) are in the ambulance bay at all times. (*designated site only*).

## IPC Approved Disinfectant List

<u>Product Description</u>	<u>Main Ingredient</u>	<u>Products Stocked/Used by AHS Environmental Services</u>				
		<u>North</u>	<u>Edmonton</u>	<u>Central</u>	<u>Calgary</u>	<u>South</u>
<u>PCS®1000 PPM</u>	<u>Sodium Hypochlorite</u>		<u>Y</u>		<u>Y</u>	<u>Y</u>
<u>PCS® 5000 PPM</u>	<u>Sodium Hypochlorite</u>		<u>Y</u>			
<u>Virox® RTU Wipes</u>	<u>Hydrogen Peroxide 0.5%</u>	<u>Y</u>				
<u>Virox® RTU Liquid</u>	<u>Hydrogen Peroxide 0.5%</u>	<u>Y</u>				
<u>Percept®</u>	<u>Accelerated Hydrogen Peroxide</u>	<u>Y</u>		<u>Y</u>		
<u>Rescue Liquid®</u>	<u>Accelerated Hydrogen Peroxide</u>			<u>Y</u>		
<u>Rescue Gel®</u>	<u>Accelerated Hydrogen Peroxide</u>			<u>Y</u>		
<u>Zochlor tablets</u>	<u>Sodium Hypochlorite</u>				<u>Y</u>	
<u>Per Diem (undiluted)</u>	<u>Hydrogen Peroxide 0.5%</u>	<u>Y</u>		<u>Y</u>		

**NOTE:** AHS Environmental Services buys and manages its own supply of cleaning agents directly from vendors and wholesale distributors. AHS Environmental Services does not buy and redistribute cleaning agents on behalf of patient care areas.

## Biomedical Waste Supplies

<b>Biomedical Waste Containers</b>	<b>Oracle Product Description / Stock Numbers</b>
Biomedical Waste 5 gallon pail - Yellow	R12-119530
Biomedical Waste 5 gallon gasket lid – Yellow	R12-258052
Biomedical Waste Bag 3 mil - Yellow	G.M. Pearson
Biomedical Waste 18 gallon	G.M Pearson (AP Medical - AP6ODY)
Xsorb	XL37 CHB Packaging (Direct Purchase) (403) 287-7278
Super Sorb	Chemfax MCH202680 (Direct Purchase) (403) 287-2055
Metrex Cannister Express	#90-49685-CS, 454g
Red Z	STC41131



**Biomedical Waste 5 Gallon Pail – Yellow**



**Biomedical Waste Gasket Lid - Yellow**



**Biomedical Waste Bag 3 mil - Yellow**



**Biomedical Waste Container, 18 Gallon - Yellow**



## Transportation of Dangerous Goods

### Confirmed Ebola Waste Packaging Requirement

Packaging of confirmed Ebola waste material must comply with the conditions set out within the Equivalency Certificate (see following information).

- Confirmed Ebola waste will be contained in a securely closed, single-use, leak proof and puncture proof biomedical waste plastic container.
- The biomedical waste plastic container will be placed into the securely closed biomedical waste 3 mil bag.
- The bagged biomedical waste plastic container will be placed into a securely closed fiberboard box.

**Note:** Unless free liquids are visible in the biomedical waste plastic container, absorbent material is not required. If the biomedical waste plastic container has visible free liquids, absorbent material is required to ensure containment.

### Confirmed Ebola Waste Shipping Requirement

- Personnel handling, shipping or transporting the dangerous goods must be trained in regards to the conditions of the Alberta Health Services (AHS) Equivalency Certificate (*see attached*).
- Outer packaging must contain the dangerous goods classification “INFECTIOUS SUBSTANCE, AFFECTING HUMANS, Class 6.2, UN2814, Category A” printed legibly and in permanent marker.
- A paper or electronic copy of this Equivalency Certificate must accompany the dangerous goods;
- The shipping document must include “Equivalency Certificate No. SH 11526” printed legibly and in permanent marker.
- Activate Emergency Response Assistance Plan. (see following section)

### Emergency Response Assistance Plan (ERAP) – ERP2-0746

When offering to ship confirmed Ebola waste from an AHS designated facility, the shipper (Environmental Services) shall activate the ERAP (see ERAP Flow Chart for more information) by calling the Operations Centre at the National Lab (OCNML):

[OCNML.Director@phac-aspc.gc.ca](mailto:OCNML.Director@phac-aspc.gc.ca)

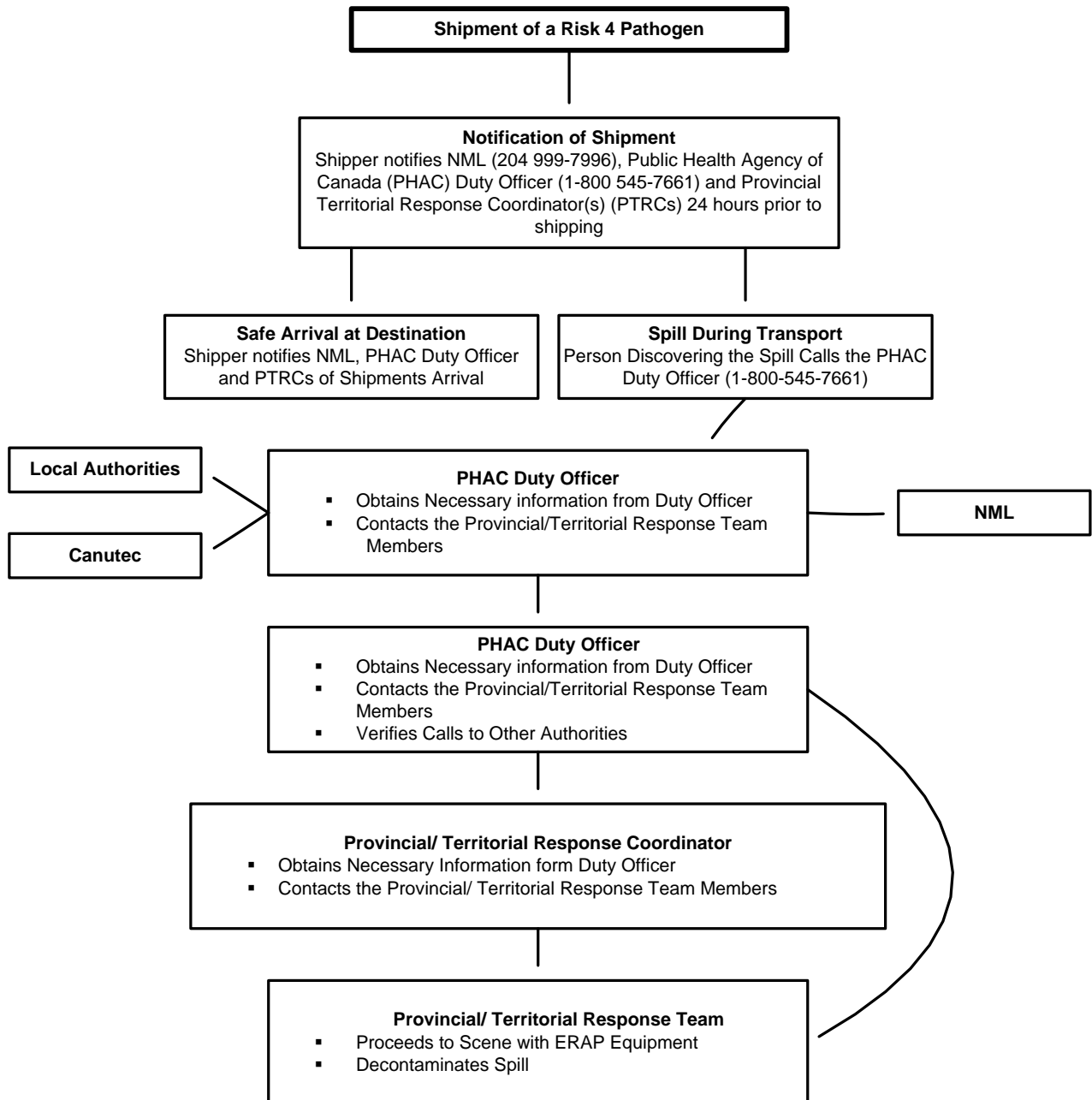
Phone: 1-866-262-8433

Mobile: 1-204-942-1427

**ERAP Response Teams** will respond to spills involving confirmed Ebola waste. (see ERAP Flow Chart)



# ERAP Flow Chart



**NML:** National Microbiology Laboratory  
**PHAC:** Public Health Agency of Canada  
**PTRC:** Provincial/ Territorial Response Coordinator

## Equivalency Certificate

This Equivalency Certificate gives Alberta Health Services, the authorization to transport dangerous goods that are biomedical wastes contaminated with the virus Ebola, to the disposal site.

The dangerous goods classified as INFECTIOUS SUBSTANCE, AFFECTING HUMANS, Class 6.2, UN2814, Category A, are transported in a manner that does not comply with subsection 5.1(1) and section 5.16 of the *Transportation of Dangerous Goods Regulations*.

**Equivalency Certificate No.:** SH 11526

**Certificate Holder:** Alberta Health Services Corporate Office

**Mode of Transport:** Road

**Expiry Date:** November 30, 2016

### Conditions

This Equivalency Certificate authorizes Alberta Health Services Corporate Office, to handle, offer for transport or transport, and authorizes any person to handle or transport on behalf of the certificate holder, by road vehicle, dangerous goods that are INFECTIOUS SUBSTANCE, AFFECTING HUMANS, Class 6.2, UN2814, Category A, in a manner that does not comply with subsection 5.1(1) and section 5.16 of the *Transportation of Dangerous Goods Regulations*, under the following conditions:

- (a) the dangerous goods are intended for disposal;
- (b) the dangerous goods are contained in a securely closed single-use, leak proof and puncture proof biomedical waste plastic container;
- (c) the container described in condition (b) of this certificate is contained in a securely closed plastic bag meeting the requirements of Table 4 of the National Standard of Canada CAN/CGSB-43.125-99 "*Packaging of Infectious Substances, Diagnostic Specimens, Biological Products and Biomedical Waste for Transport*", May 1999, cited in the rest of this certificate as CAN/CGSB-43.125-99. The plastic bag contains sufficient absorbent material to absorb any free liquid visible in the biomedical waste plastic container;
- (d) the securely closed plastic bag described in conditions (c) of this certificate is contained in a securely closed fiberboard box meeting the requirements of Table 5A or Table 5B of CAN/CGSB-43.125-99;
- (e) the means of containment are transported in a closed means of transport;
- (f) the dangerous goods are transported to the closest appropriate disposal facility available at the time the dangerous goods are offered for transport;
- (g) in addition to the requirements of Part 6 (Training) of the *Transportation of Dangerous Goods Regulations*, the certificate holder ensures that the personnel handling, offering for transport or transporting the dangerous goods is trained in regards to the conditions of this Equivalency Certificate;
- (h) the requirements of Part 2 (Classification), Part 3 (Documentation), Part 4 (Dangerous Goods Safety Marks), Part 6 (Training), Part 7 (Emergency Response Assistance Plan) and Part 8 (Accidental Release and Imminent Accidental Release Report Requirements) of the *Transportation of Dangerous Goods Regulations* are complied with;
- (i) a paper or electronic copy of this Equivalency Certificate accompanies the dangerous goods;
- (j) the shipping document includes the following information legibly and indelibly printed:  
"Equivalency Certificate No. SH 11526"

**Note:** The issuance of this Equivalency Certificate in no way reduces the certificate holder's responsibility to comply with any other requirements of the *Transportation of Dangerous Goods Regulations*, the *Technical Instructions for the Safe Transportation of Dangerous Goods by Air*, the *International Maritime Dangerous Goods Code*, and the *Canadian Aviation Regulations* not specifically addressed in this certificate.

**Contact Information**

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**Legend for Certificate Number**

SH - Road, SR - Rail, SA - Air, SM - Marine  
SU - More than one Mode of Transport  
Ren. - Renewal