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Introduction and Background

Alberta Health Services

Although the risk of Ebola remains very low, we need to be prepared for the unlikely event of an Albertan presenting with Ebola. As part of the planning process designated facilities at which Ebola cases would be admitted and treated have been identified. These sites are Alberta Children’s Hospital (Calgary), Stollery Children’s Hospital (Edmonton), South Health Campus (Calgary) and the University of Alberta Hospital (Edmonton).

Significant work has been undertaken by many teams across AHS, focused on ensuring our health system is proactively prepared to manage Ebola. This work exemplifies the commitment we all share to protecting the health of our staff and all Albertans.

Many guidance documents have been created and direct links are imbedded within this document in order to ensure consistency. As our learning and understanding about Ebola evolves, these documents will be adjusted. Thus, the planning is an iterative and evolving process.

Organization of This Document

This document provides general information that is applicable to the 4 designated receiving sites. Each site (South Health Campus, Alberta Children’s Hospital and University of Alberta Hospital/Stollery Children’s Hospital) has created individual Site Documents which are hyperlinked from this document and have been placed on the AHS Ebola web site.

National Case Definition: Ebola Virus Disease (EVD)

PHAC - National Case Definition for EVD

For surveillance purposes, a person with EVD-compatible symptoms is defined as an individual presenting with fever of $\geq 38.6$ degrees Celsius AND at least one of the following additional symptoms/signs:

- malaise
- myalgia
- severe headache
- conjunctival injection
- pharyngitis
- abdominal pain
- vomiting
- diarrhea that can be bloody
- bleeding not related to injury (e.g., petechiae, ecchymosis, epistaxis)
- unexplained hemorrhage
- erythematous maculopapular rash on the trunk
Person Under Investigation (PUI)

A person with EVD-compatible symptoms (as defined above) not attributed to another medical condition \textbf{AND} at least one of the following \textbf{epidemiologic risk factors} within the 21 days before the onset of symptoms:

- Residence in or travel to an area where EVD transmission is active
- \textbf{Healthcare worker (HCW) wearing personal protective equipment (PPE)} and adhering to appropriate infection prevention and control precautions with no safety breaches, who directly or indirectly cared for a probable or confirmed case of EVD (e.g. direct patient care or contact with environment or fomites of a case)
- Other patient or visitor without high-risk exposures, as defined below, who spent time in a healthcare facility where probable or confirmed cases of EVD are being treated
- Household member of a probable or confirmed case of EVD without high-risk exposures, as defined below
- Laboratory worker processing body fluids of probable or confirmed cases of EVD with appropriate PPE and standard biosafety precautions and no safety breaches
- Direct exposure to human remains (e.g. through participation in funeral or burial rites) in a geographic area where the outbreak is occurring with appropriate PPE and no safety breaches
- Direct unprotected contact with bats or primates from EVD-affected country

Probable Case

A person with EVD-compatible symptoms (as defined above) not attributed to another medical condition \textbf{AND} at least one of the following high-risk-exposures within the 21 days before the onset of symptoms:

- Percutaneous or mucous membrane exposure or direct skin contact with body fluids of a confirmed or probable case of EVD \textbf{OR}
- Sexual contact with a probable or confirmed EVD case \textbf{OR}
- Laboratory worker processing body fluids of probable or confirmed EVD cases without appropriate PPE or standard biosafety precautions \textbf{OR}
- Healthcare worker (HCW) not wearing personal protective equipment (PPE), who has been contaminated or broken the integrity of their PPE, and/or not adhered to appropriate infection prevention and control precautions, who directly or indirectly cared for a probable or confirmed case of EVD (e.g. direct patient care or contact with environment or fomites of a case) \textbf{OR}
- Direct exposure to human remains (e.g. through participation in funeral or burial rites) in the geographic area where the outbreak is occurring without appropriate PPE.
Confirmed Case

A person with laboratory confirmation of EVD infection using at least one of the methods below:

- Isolation and identification of virus from an appropriate clinical specimen (e.g., blood, serum, tissue, urine specimens or throat secretions) **OR**
- Detection of virus-specific RNA by reverse-transcriptase PCR from an appropriate clinical specimen (e.g., blood, serum, tissue) using two independent targets or two independent samples **OR**
- Demonstration of virus antigen in tissue (e.g., skin, liver or spleen) by immunohistochemical or immunofluorescent techniques **AND** another test (e.g., PCR) **OR**
- Demonstration of specific IgM **AND** IgG antibody by EIA, immunofluorescent assay or Western Blot **OR**
- Demonstration of a fourfold rise in IgG serum antibody by EIA, immunofluorescent assay or Western Blot from serial samples.

Designated Site Preparation

Activation Process and Readiness Preparation

**Readiness:**
- AHS “STOP” Posters to be posted in public spaces and staff spaces as appropriate.

**Activation:**
- Site Administration will be notified.
- The site EOC will be activated as deemed necessary by site leadership.
- Communication of information on Ebola admission (either ED or ICU) should include the following stakeholder departments:
  - Site Administration
  - DI
  - Lab
  - Environmental Services
  - Portering
  - Supplies
  - MDR
  - IPC
  - FM&E
  - Protective Services
  - Communications

Checklist
Complete | Incomplete
--- | ---
**IMMEDIATE**
Staff PPE education
Staff AED education
IPC and Ebola documents accessible in unit

**ADMISSION IMMINENT**
Site Administration and Support Departments notified
Log for entry to the patient area located in donning area
PPE supplies available and placed in ante-room
Resuscitation equipment, drugs and supplies in room
Just –in-time review of care processes with staff taking patient (reviewed at shift change and when new staff assigned, establish a buddy).
Biohazard bins in room and in ante-room

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**Ebola Unit Identification**

- Transport of a patient within the site is addressed within the Site Specific Plans. Attention to minimizing and avoiding contact with public, patients and other staff considered.
- Patients with suspected, probable and confirmed Ebola should be placed in a single-bed isolation room with negative pressure capability (for potential AGMP precautions) and a private toilet.
- Ability to closely monitor and control entrance and egress of care providers and visitors should be considered when choosing the care unit.
- Ideally rooms are negative-pressure capable and have ante-rooms that will support contact and droplet isolation protocols. They are positioned at the end of the unit and can be accessed by transporting patients through patient care area.
  - SHC: ICU: Rooms 9-12.
  - ACH: Unit 4
    - Suspected Ebola cases and critically ill patients will be admitted to PICU Room B1-012.
    - Stable, confirmed Ebola patients admitted to Unit 4 (if the patient were to become critically ill, transport would occur via corridor with little patient activity).
  - UAH: Unit 5C3 (UAH will receive and care for both adult and pediatric patients)
• Stollery: Will use 5C3 at UAH

• Room Entry Log

Reference:
• Ebola Virus Disease, CDNA Guidelines for Public Health Units – Australia; WHO Interim Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Hemorrhagic Fever.

Team Notification of Admission

• Each site will have an established process to notify the admitting unit of a potential or confirmed Ebola case that requires inpatient care.
• Direct admits will be coordinated through RAPID and admitting service, directly to the unit. Site Bed Manager must be aware and should be included on RAPID call.
• Direct communication between ED Charge Nurse and accepting unit charge nurse.
• Patient coming via EMS would be admitted directly to the receiving unit, i.e. no stop in the ED.
• MD-to-MD communication is required. The attending physician will be informed that patient is suspected, probable Ebola when consult is made.
• ED Physician will complete travel history and in discussion with Infectious Disease and MOH decision to proceed to Ebola serology will be decided. If decision is to proceed then patient will require admission.
• Site Incident command process will be followed as per AHS EDM plans if necessary.

Emergency Patient Transfer

• Should transfer of patient be required due to fire or other evacuations, site Emergency Disaster Management plans will be instituted – maintaining Contact and Droplet Isolation protocols at all times.

EMS Handoff

• All patients transported by EMS with suspected, probable or confirmed Ebola should be transported using rigorous contact and droplet precautions directly to the designated room without stopping at ED.
• EMS should doff PPE in the designated doffing area once handoff has occurred. If the EMS uniform has been contaminated, AHS scrubs will be provided.
• EMS linen and disposables that come into the patient room would be discarded into the appropriate containers in the patient room.
• The ambulance will park outside of the ambulance bays and will be decontaminated as per IPC and EMS guidelines.

Receiving and Admitting Processes; Patient Belongings
• Registration Staff in ED and Main Admitting collect patient demographics and complete admission forms.
• Limit admission registration to “bedside registration” to be completed by RN providing care.
• Registration staff in ED and Main Admitting will have access to the following supplies:
  ▪ Masks (children & adult)
  ▪ Accel wipes
  ▪ Gloves
  ▪ Hand Sanitizer
• Public Ebola posters will be clearly visible for the public coming to the admitting area.
• Patient belongings will be placed in a sealable Patient Belongings bag and kept with the patient throughout the inpatient stay.
• Disposition of items will be determined on a case-by-case basis in consultation with IPC.
• Clothing that is clearly contaminated with blood or other body fluids will be discarded in the patient room in the Biohazard waste container.

Equipment and Supplies

| Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings |
| Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease |
| Cleaning Protocol Standards for Occupied Patient Cubicle (Isolation) |
| Cleaning Protocol Standards for Discharge/Transfer (Isolation) |
| Ebola Room Entry Log |

• Adequate supply for site use will be maintained by CPSM.
• Equipment and Supplies brought into the room will remain there until patient is discharged.
• Crash carts: Each site will ensure that crash cart contents are easily accessible/readily available adjacent to the room where the Ebola patient is being treated. Supplies taken into the room are to be kept to a minimum and will be discarded or require decontamination post discharge. Suggest having the crash cart/AED/defibrillator close to but not stored in the patient room.
• Disposables will be discarded in biohazardous waste receptacle and reusable equipment will undergo terminal clean at patient discharge.
  ▪ Disposable supplies and instruments will be used wherever possible.
  ▪ The reusable items will have gross contaminants removed with approved disinfectant (Accel wipes/PCS 1000).
| Ebola Waste Management Recommendations |

• Hospital scrubs will be provided for staff that are providing direct patient care to the Ebola patient to avoid staff having to launder contaminated clothing at home.
Staff will don the scrubs in the staff locker room and can doff scrubs in the locker room at the end of the shift. Staff will change scrubs while in the patient room if the scrubs become contaminated – a privacy screen will be made available in the room for this purpose.

WHS and the ICU CNE will provide education and reinforcement of PPE donning and doffing to unit staff.

- PPE will include: Masks, gloves, Hand Hygiene products, eye shields/visors, fluid impermeable gowns.
- Resuscitation equipment and drugs will be placed in the room and remain there until the patient is discharged. An AED/defibrillator will be designated for the room if available. An AED/defibrillator will be designated for the room if available.

**PPE Requirements for Suspect/Confirmed Ebola Virus Disease**

**Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment**

**Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment**

**Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment**

**Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment**

**Room and Equipment Maintenance**

- Patients with suspected, probable and confirmed Ebola should be placed in a single-bed isolation room with negative pressure capability (for potential AGMP precautions) and toilet. Separate donning and doffing areas are required. Donning area is considered clean and houses the clean PPE supplies. The Doffing area is considered contaminated and contains the biohazard disposal bins for the PPE.
- Ability to closely monitor and control entrance and egress of care providers and visitors were considered when choosing the care units.
- Items requiring immediate maintenance attention, staff will contact FM&E. These items may include but are not limited to electrical, lighting, medical gases, Tornado (Bed Pan Washer), room and isolation control.
- All FM&E staff will follow strict hand hygiene and PPE donning and doffing procedures. Ante-room staff will monitor and assist in instructing staff and visitors in the correct processes.
- All FM&E staff who have to enter patient rooms for maintenance will participate in infection control education/training demonstrating correct use of PPE and hand hygiene and handling of contaminated wastes.
- A log will be kept of all staff entering room.
- All tools and test equipment utilized within the room during a repair will be cleaned and wiped down using a bleach solution or Accel Wipes.

**Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings**

**AHS Ebola Information for Health Professionals**
Facility Capacity Contingency

Each receiving facility will need to review site capacity and overcapacity plans to support maintaining all Ebola patients in the designated unit.

- Suspected, probable and confirmed cases of Ebola requiring admission will be accommodated as quickly as possible.
- Capacity within the units will be managed as per usual protocols.

Patient Discharge

- Routine patient discharge processes would be followed in relation to electronic documentation in Clinibase, SCM and e-Critical.
- Patient belongings would be cleaned as per equipment disinfection processes – as appropriate – prior to releasing to the patient. Consult with site IPC.

Waste Management

Ebola Waste Management Recommendations
Direct Patient Care

Staff and Physician Coverage and Monitoring

- Each site needs to determine the level of staffing required to provide safe care.
- Staff should be experienced. Students and Residents are not to provide care.
- Reduce number of staff that comes in contact with patient and environment.
- Maintain log of all staff entering patient room: Ebola Room Entry Log
- Staff caring for the patient should not be caring for any other non-Ebola infected patients, due to the demands of donning and doffing. Nursing staffing is advised at 2:1 (primary and buddy). Staff assigned to care for patient should not be accessing non-isolated patient care areas.
- Lead physician identified to coordinate patient care and ensure communication between departments.
- Staff assigned should have their infection control practice monitored during donning, doffing of PPEs and during patient care for breeches in isolation protocol.
  - WET Patient: Donning Personal Protective Equipment
  - WET Patient: Doffing Personal Protective Equipment
  - Dry Patient: Donning Personal Protective Equipment
  - Dry Patient: Doffing Personal Protective Equipment
- A buddy will be assigned to assist with PPE donning and doffing.
- Staff providing care will need to be rotated (time to be determined based on ability to safely tolerate PPE) to reduce staff fatigue, overheating and dehydration.
- Staff should receive education about self-monitoring and grouping care activities within patient room to reduce number of incidences of entering and exiting patient’s room.
- If patient requires frequent (> once every 2 hours) assessment and care by Respiratory Therapy, 1:1 RRT coverage will be provided.
- The ante-room RN will maintain a log of all staff and visitors entering the room.
- The attending ICU physician will be the lead medical staff member to coordinate patient care and ensure communication between consultants and other care departments.
- Education of staff will include PPE, Hand Hygiene and self-monitoring and grouping care activities within patient room to reduce number of incidences of entering and exiting patient’s room.
- Nursing, Allied Health Students and Residents will not be involved in the care of a patient with Ebola.

References:

- Care of the Seriously or Critically Ill Patient with possible or proven EVD
Communication Once Patient Admitted

- Ensure appropriate notification to Public Health has occurred.
- ICU Nurse Clinician will ensure appropriate notification to MOH has been completed.
- Ensure Site Administration and Support Departments have been notified (see Team Notification document).
- All services that come in contact with patient, or patient environment or wastes should be notified (before contact – informed of risk and PPE requirement).
- Laboratory specimens – Laboratory Services should be notified of possible or confirmed diagnosis before any samples are sent to lab. The Lab (Physician) needs to be directly involved in all issues related to planning, collecting, transporting and running of lab tests.
- Isolation precautions and PPE requirements will be clearly visible on patient’s room and designated staff will be available at all times to communicate and support isolation PPE needs.
  - Provide communication and education about signs and symptoms of disease, appropriate control measures and correct PPE donning and doffing.
  - ICU Nurse Clinician will ensure Contact and Droplet Isolation signage is in place outside the room. Unit staff member will ensure all staff and visitors entering the room are aware of isolation precautions and don appropriate PPE prior to entering the room.
- Clear communication of correct handling and process for disposal of waste from patient room.
- Media queries will be routed to Communications support.

References:
  Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

Emergency Department (Guidelines, Monitoring, Management, and Training)

- Follow response algorithms and assess patients for travel history to affected countries, contacts and fever.
  - Designated Hospital Algorithm
  - Low Risk Algorithm (Traveler Returning with Fever)
  - Deceased Body, Acute Care Setting

- Utilize the MOH Triage tool

- Follow Notification Algorithms
• Ensure Isolation in private room, Contact and Droplet Precautions.

**Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings**

**Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease**

• Assign individual staff to minimize contacts. Assign monitor staff to instruct PPE and isolation precautions and control access to patient room.
• Laboratory specimens will be collected and processed only after appropriate notification is conducted (MOH and Microbiologist on call).
• Treat clinical presentation as appropriate and following the EVD Critical Care Strategic Clinical Network Guidelines.
• Admission requires notification at senior level to Isolation Unit activation.

**IPC Triage – Algorithms:**

**Emergency Department & Urgent Care Centre Ebola Triage Protocol (Screening & Rapid Assessment at presentation to ED/UCC)**

**References:**
• AHS Ebola Response Planning, 2014
• Laboratory Bulletins August 14, 2014 Testing and Handling Attached Appendices

**Clinical Management**

• Place on Contact/Droplet Isolation – follow Infection Control recommendations. **Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease**
• Treat clinical presentation as appropriate and following EVD Critical Care Strategic Clinical Network Guidelines. **Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings**
• Staff should be prepared to monitor and treat fluid and electrolyte imbalances, haemorrhage, and infection.
• Manage fluid and electrolytes aggressively when diarrhea and vomiting present.
• Maintain nutritional status or boost as necessary.
• Monitor vital signs at least Q4h, treat abnormalities.
• Keep invasive monitoring to a minimum, except as need to sustain life.
• Treat underlying infections appropriately. Investigate for other infectious diseases as appropriate to situation.
• Maintain oxygen saturation above 93%. Avoid Aerosol Generating Procedures except for life sustaining need. Non-invasive ventilation and nebulization of medications will be avoided.

**Ebola Critical Care Strategic Clinical Network Guidelines**

**Care of the Seriously or Critically Ill Patient with possible or proven EVD**
Infection Control Measures

Patients with suspect or confirmed Ebola Virus disease will be admitted only to designated units within designated site facilities.

- Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings
- Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease
- PPE Requirements for Suspect/Confirmed Ebola Virus Disease
- Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment
- Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment
- Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment
- Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment
- Cleaning Protocol Standards for Occupied Patient Cubicle (Isolation)
- Cleaning Protocol Standards for Discharge/Transfer (Isolation)
- Ebola Room Entry Log

I. Isolation Protocol

Patients with suspect or confirmed EVD will be cared for in Contact and Droplet Isolation.

II. Hand Hygiene Protocol

Ensure that all staff and visitors complete rigorous hand hygiene as indicated below and are provided with related instructions prior to entry into the isolation room/area.

Perform hand hygiene: Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

- Before donning gloves and wearing PPE on entry to the isolation room/area,
- before any clean/aseptic procedures being performed on a patient,
- after any exposure risk or actual exposure with the patient’s blood and body fluids,
- after touching (even potentially) contaminated surfaces/items/equipment in the patient's surroundings, and
- after removal of PPE, upon leaving the care area.
Hand hygiene should be performed within the isolation rooms/areas every time it is needed according to the above indications during care of a patient, along with change of gloves. Although it is highly unlikely that we would cohort patients with Ebola, when caring for patients in the same room, it is essential to organize the complete care to each patient before moving to the next and to perform hand hygiene between touching the patients.

Neglecting to perform hand hygiene after removing PPE will reduce or negate any benefits of the protective equipment.

- To perform hand hygiene, either use an alcohol-based hand rub or soap and running water applying the correct technique. Always perform hand hygiene with soap and running water when hands are visibly soiled.
- Alcohol-based hand rubs should be made available at every point of care (at the entrance and within the isolation rooms/areas) and are the standard of care.
- If alcohol-based hand rubs are unavailable, perform hand hygiene with soap and running water every time necessary according to the above indications.

III. Personal Protective Equipment (PPE)

Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

PPE Requirements for Suspect/Confirmed Ebola Virus Disease

Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment

When selecting PPE for protection of healthcare and laboratory staff, the potential exposure routes to be considered are direct contact (through broken skin or mucous membrane) with blood or body fluids, and indirect contact with environments contaminated with splashes or droplets of blood or body fluids.

Transmission has usually been associated with patient care in the absence of appropriate barrier precautions to prevent exposure to blood and other body fluids; most staff acquiring infection in past outbreaks had multiple contacts with multiple body fluids; the risk for person-to-person transmission of EVD viruses is highest during the latter stages of illness, when vomiting, diarrhoea, and often haemorrhage, may lead to splash and droplet generation.

PPE during patient management – all items are disposable:
- Perform Hand hygiene before donning PPE
- Impervious gown
- Tear resistant double gloves
- Visor
Eye protection
N95 respirator or equivalent
Fluid repellent foot and leg coverings
Fluid repellent head covering

Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment

IV. Aerosol Generating Procedures

Avoid aerosol-generating procedures if possible. Wear an N95 respirator for any planned procedures that stimulate coughing or promote the generation of aerosols. (e.g., aerosolized or nebulized medication administration, diagnostic sputum induction, bronchoscopy, airway suctioning, endotracheal intubation, positive pressure ventilation via face mask).

V. Injection Safety and Management of Sharps

Each patient should have exclusively dedicated injection and parenteral medication equipment which should be disposed of at the point of care. Syringes, needles or similar equipment should never be reused.

Limit the use of needles and other sharp objects as much as possible.

Limit the use of phlebotomy and laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.

If the use of sharp objects cannot be avoided, ensure the following precautions are observed:

- Never replace the cap on a used needle.
- Never direct the point of a used needle towards any part of the body.
- Do not remove used needles from disposable syringes by hand, and do not bend, break or otherwise manipulate used needles by hand.
- Dispose of syringes, needles, scalpel blades and other sharp objects in appropriate, puncture-resistant containers.

Ensure that puncture-resistant containers for sharps objects are placed as close as possible to the immediate area where the objects are being used (‘point of use’) to limit the distance between use and disposal, and ensure the containers remain upright at all times. If the sharps container is far, never carry sharps in your hand but place them all in a kidney dish or similar to carry to the sharps container.

Ensure that the puncture-resistant containers are securely sealed with a lid and replaced when 3/4 full.

Ensure the containers are left in the room and only removed as biohazardous waste.
VI. Education

- All staff caring for the patient must have undergone prior infection control education/training demonstrating correct use of PPE and hand hygiene and handling of contaminated wastes.
- Log should be kept of education delivered.

  [Links to education materials]

  - Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment
  - Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment
  - Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment
  - Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment

References:

- AHS Ebola Information for Health Professionals: [http://www.albertahealthservices.ca/10292.asp](http://www.albertahealthservices.ca/10292.asp)
- Environmental Services Discharge-Transfer Isolation Protocols: [http://www.albertahealthservices.ca/assets/info/hp/ipc/if-hp-ipc-les-discharge-transfer-isolation.pdf](http://www.albertahealthservices.ca/assets/info/hp/ipc/if-hp-ipc-les-discharge-transfer-isolation.pdf)

Diagnostic Imaging

Infection Prevention and Control Measures

Hand Hygiene

[https://extranet.ahsnet.ca/teams/policydocuments/1/clp-hand-hygiene-ps-02-policy.pdf](https://extranet.ahsnet.ca/teams/policydocuments/1/clp-hand-hygiene-ps-02-policy.pdf)

Standard contact and droplet precautions

[Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease](#)
Linen Disposal
All soiled linen must be disposed of in large biohazard bins.

AHS DI Human Resources Planning

- DI staff may be moved between sites and modalities.
- DI staff deployment plan (and training (refresher course for chest x-ray (Radiographic Chest Imaging for Pandemic Planning) if there is a need to move staff between sites / modalities.
- ECC/DIPCC may require daily or per shift staffing information from the DICP.
- In the event of an emergency, the Alberta College of Medical Diagnostic and Therapeutic Technologists may consider registration for current members on the magnetic resonance general register who held previous registration on the radiological general register. See Appendix E.
- Mandatory overtime and call back from vacation will align with AHS HR direction.
- The site Disaster Plan fan out list will serve as a roster of DI health care professionals.
- Diagnostic Imaging residents will be utilized in their regular capacity to facilitate patient care as long as they are able to attend the site and there are adequate radiologists to provide oversight.

X-ray/US Requests

- Review feasibility of dedicated staff.
- All X-ray and U/S to be done by portable on the designated unit.
- Dedicated machines are to be left on unit.
- Create check list of additional volumes of supplies required.
- Review Portable Cleaning post procedure.
- Designate one isolation cart for Ebola –located in IP suite.

PPE

PPE Requirements for Suspect/Confirmed Ebola Virus Disease

Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment

Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment

Equipment Decontamination

Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

Cleaning Protocol Standards for Occupied Patient Cubicle (Isolation)

Cleaning Protocol Standards for Discharge/Transfer (Isolation)
Infection Prevention and Control Measures

- Standard contact and droplet precautions.

Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

Contact and Droplet Precautions Suspect/Confirmed Ebola Virus Disease

Medication Management

- Supplies and equipment will not be moved between isolation rooms and other areas of the unit/health care facility.
- Predetermined medication supplies to be stocked inside room to reduce need to exit and re-enter for medication administration.
- Medical chart and orders to be kept in clean area, orders sent to pharmacy. Patient specific medications will be delivered by Pharmacy in a separate container to the patient room and received by the RN in the room.
- Automated dispensing cabinet on isolation unit will be stocked as per critical care stock if entire unit is in lock down/isolation. Otherwise the automated dispensing cabinet will be stocked as per regular quotas.
- Emergency/resuscitation drugs will be stored in the patient room with other emergency supplies on a cart that will hold Crash Cart bins in the same configuration as on the standard Crash Cart.
- Each nurse entering the patient’s room will review and obtain all necessary medication administration supplies for the subsequent 4-6 hours (including medications) and take them into the room at switch over. If medications require refrigeration – please consider a fridge inside the patient’s room to store the medications.
- Requests from inside the room for unanticipated medications will be made through a baby monitor to the clean designated staff outside the room, who will obtain and deliver to room using strict isolation precautions maintaining negative pressure.
- The unit will be provided a code tray by pharmacy to prevent the cross contamination of the code tray that is used for regular codes in the hospital.
- Nebulization of medication is discouraged therefore pharmacy will need to be notified to increase the supply of MDI’s of medications to meet the demand.

Reference:

- World Health Organization Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Hemorrhagic Fever in Health Care Settings, with Focus on Ebola. August 2014).

Care of the Seriously or Critically Ill Patient with possible or proven EVD

Transport within Facility

- Patients will be taken out of room only for life-saving tests, and after careful consideration, or at the time of discharge, as directed by IPC.
• Transport of patient should be limited to essential diagnostic and therapeutic procedures that cannot be carried out in the patient’s room.
• When necessary use appropriate barrier coverings on the patient (mask, gown, wrapped in sheets or impervious dressings if drainage present).
• Notify personnel in receiving area of the impending arrival and precautions necessary to prevent transmission.
• Contact with patient and patient care environment should be limited to assigned personnel. Assigned personnel should not also care for other patients.
• Arrange transport to consider operation of the elevator to avoid contamination of the inside the elevator or the elevator panel (clean assist).
• PPE information will be reviewed with team prior to transport.
• Protective Services will secure/empty hallways and close doors prior to transport of patient.
• Environmental Services will accompany the patient transport team to monitor for spills of body fluids so that immediate notifications can occur (Code Brown) and to stay at site of spill to control access to spill area.

Notes:

Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

Public Health Agency of Canada

• CDC 2007 Guideline for Isolation precautions: Preventing transmission of Infectious Agents in Healthcare Settings.
• Department of Health United Kingdom, Advisory Committee on Dangerous Pathogens (2012). Management of Hazard Group 4 viral hemorrhagic fevers and similar human infectious diseases of high consequence.

Operating Room

• Use of the operating room will be very limited and only after very careful consideration in this patient population.
• Interventions and diagnostic procedures will be performed in patient room when possible.
• OR should be notified well in advance to patient arrival of patient’s status. There should be clear communication around isolation expectations. When possible case should be scheduled for end of OR day.
• Environmental services will be on standby to clean the elevator – should it be contaminated with body fluids – prior to the elevator being put back into regular service.
• Single use disposable items whenever possible. Items not needed for case should be removed from room if possible.
• Traffic in and out of the OR theater will be limited. ‘Restricted Access’ signage will be placed on the door to theater.
- Adherence to approved procedures for quarantine and decontamination of instruments and equipment used for patients with positive EVD.
- Procedures for quarantine and decontamination of instruments and equipment used for patients with positive EVD will be used – CJD guidelines should be followed only after discussion with IPC.
- All staff involved in surgery/investigations/procedures educated and trained regarding Contact and Droplet isolation and blood born disease precautions, occupational risk
- The transfer of the patient to other care areas.
- Site committees should work with IPC to address MDR issues. Contaminated instruments can be managed through reprocessing where necessary. Appropriate PPE as well as avoiding sharps injuries are important.

**Medical Device Reprocessing (MDR)**

- Units must use Single use disposable items whenever possible.
- All reusable instrumentation used during the care of a patient with Ebola like symptoms will be isolated and quarantined.
- Any instruments delivered to MDR will be in clearly labeled leak-proof containers labeled “Biohazard – EVD.
- Medical Device Reprocessing should be notified prior to arrival of quarantined Instrumentation with clear communication around isolation expectations.
- Place ‘Restricted Access’ signage on door to MDR Decontamination.
- MDR will be notified well in advance prior to instrumentation arrival to the department.
- Single use disposable items will be used wherever possible. Please consult updated SHC Service Agreement for disposable equivalents.
- The disposable supplies noted on the revised service agreements will be required to implement this plan.
- The outside of closed case carts or quarantine bins will be cleaned with Accel wipes, prior to transport.
- Environmental services will be on standby to clean elevators used during the transport of quarantined items – should it be contaminated with body fluids – prior to the elevator being put back into regular service.
- Traffic in and out of the MDR Decontamination area will be limited. ‘Restricted Access’ signage will be placed on the MDR Decontamination door.
- All staff involved in surgery/investigations/procedures will be educated and trained regarding Contact and Droplet isolation and blood-borne disease precautions, occupational risk involved and procedures and processes to be followed.
- MDR Processors will be required to have further donning and doffing education provided by the MDR Educator. This education should also include the practice of coaching another staff member through the process.
- There will be a designated area for doffing of potentially contaminated PPE within the decontamination area of MDR. Another ‘Clean’ Surgical Processor will provide assistance and guidance for the removal of PPE without contamination.
- Both the Case Cart washer and Cube Washers have been determined to meet the requirements to inactivate the Ebola virus, and instrumentation after this point will be treated as per usual practice.
References:

Site committees should work with IPC to include appropriate references.

- **PPE Requirements for Suspect/Confirmed Ebola Virus Disease**
- **Ebola Suspect or Confirmed WET Patient: Donning Personal Protective Equipment**
- **Ebola Suspect or Confirmed WET Patient: Doffing Personal Protective Equipment**
- **Ebola Suspect or Confirmed Dry Patient: Donning Personal Protective Equipment**
- **Ebola Suspect or Confirmed Dry Patient: Doffing Personal Protective Equipment**

**Visitor Guidelines, Monitoring, Management, and Training**

- Visitors will not be permitted in the patient room. Consideration will be given to unique extreme situations where risk is assessed (eg. parent of an ill child).
- Do not allow visitors to enter isolation area. Observe patient from safe distance.
- Visitors in no way should impede or interfere with staff safety protocols and procedures.
- Utilize creative strategies for communication between patient and visitors, for example:
  - Use of baby monitors for communication
  - Skype/FaceTime
  - Telehealth – if technology available
- Public Health should be involved with contact follow-up outside of the hospital.
- Public health will coordinate continued symptom monitoring of any approved and designated visitors.
- If visitors develop fever or other symptoms suggestive of Ebola, they will be treated as a suspected case of Ebola until proven otherwise. The MOH will be notified immediately for direction.

References:

- **Public Health Agency of Canada**
- World Health Organization Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Hemorrhagic Fever in Health Care Settings, with Focus on Ebola. August 2014.

**Decontamination**
Infection Prevention and Control (IPC) & Workplace Health and Safety (WHS) Ebola Virus Disease (Ebola) Guidance for Acute Care Settings

- **Spills:** Code Brown will be called for all spills that occur outside the isolation room. ICU NA or ED PCT accompanying transport team will call the Code Brown and remain at the scene to ensure access to spill is controlled and communicate nature of spill and patient condition to Protection Services and Environmental Services staff when they arrive.
  - Routine spill kits will be used. Solidifying material will be used.

- **Equipment:** Equipment will be dedicated to the patient or, preferably, should be disposable/single use. Any reusable equipment will be dedicated to the room for the duration of the patient stay.
  - No equipment will be removed from the room until discharge/transfer when cleaning and disinfection using bleach solution or Accel Wipes.
  - ICU staff nurse or ED Staff Nurse will remove any gross contamination from equipment that needs to go to MDR prior to putting the item into the MDR bin. Accel wipes will be used.
  - Use of sharps should be carefully evaluated. Care must be taken to avoid sharps injuries.

- **Bedpans and commodes** will be provided for single patient use and labelled appropriately. The use of single-patient-use disposable bedpans is encouraged. [Ebola Waste Management Recommendations](#)

- **Laundry:** Handle soiled or used linens with minimal agitation and place directly in biohazard containers. All soiled linens will be disposed of as biohazardous waste. Staff will be provided with AHS issued scrubs. These will be removed in the staff locker room and cleaned by laundry services. If the scrubs become contaminated with patient body fluids, the RN will change immediately in the patient room (a privacy screen will be kept in the room) and the scrubs discarded in biohazardous waste container in the room.
  - Spill kits with an absorbent should be in the room and appropriate disposable PPE located inside the kit.
  - Rooms will undergo a terminal cleaning using bleach solution once the patient is discharged.
  - Routine housekeeping will occur – all ES staff entering the room will be required to don PPE and will use bleach solutions or Accel wipes to clean surfaces and equipment.
Care of the Deceased

- Refer to the following:
  - Deceased Body (Acute Care Setting Algorithm)
  - Body Handling Protocol; EVD
  - Bodies of Deceased Persons Regulation of the Public Health Act

Refer to Patient Belongings Section of this document

References:

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Education and Training Plan

Staff Town Hall Sessions
Town Hall Information Sessions will be provided at the Designated Receiving Sites as information and education needs are identified.

Table Top Exercises
A review of the processes and procedures that would be applied in an actual Ebola case. An enhanced tabletop exercise is a simulated interactive exercise that helps to test the capability of the organization to respond to a simulated event. The exercise tests multiple functions of an organization’s operational plan. It is a coordinated response to a situation in a time-pressured, realistic simulation that involves several agencies.

Site Simulation Exercises
In order to prepare for the possibility of patient presenting with suspected or confirmed Ebola a number of simulation exercises were developed to help assess the effectiveness of the current Alberta Health Services response plans and protocols for a potential Ebola outbreak in our community. The Simulation Exercise:

- Provide a realistic training environment to exercise contingencies for receiving a large number of patients potentially suffering from Ebola at one of AHS designated reception facilities.
- Test the functionality of the existing response plans for patients potentially infected with Ebola.
- Identify gaps within these Response Plans in order to amend the plans accordingly, recognizing the lessons learned through the exercise
- Promote and cultivate cooperation, coordination and communication between multiple AHS departments, physicians and the public.
IPC Training and Education

- **Part A: IPC EVD Theory**: PPE donning/doffing as well as EVD information and IPC recommendations. This 1-hour presentation is intended for all audiences but initial sessions will be prioritized for individuals in trainer and leadership positions within key areas.
- **Part B: EVD PPE Practice**: participants would receive hands-on training and have the opportunity to practice donning and doffing the PPE. This 1-hour session is intended for those who will be directly involved in frontline care (in ED and ICU) and initial sessions will be prioritized for those in trainer positions and those who are planned to be first line care providers within the key areas.

Medical Management and Ethics

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