Manitoulin-Sudbury District Services Board
POLICY & PROCEDURES MANUAL

Section: G. Emergency Medical Services	Effective Date: November 13, 2014
Topic: 8. Occupational Health & Safety	Replaces: New
Subject: 6.4 Care and Transportation of Suspected Ebola Cases	
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PURPOSE

To establish a defined procedure for the management of suspect or confirmed Ebola Virus Disease (EVD) or EVD type patients

APPLICATION

Paramedics, EMAs, Management

PROCEDURE

A. INFECTION CONTROL PREPAREDNESS

Equipment & PPE

To ensure that the appropriate equipment is made available to those who may come into contact with a patient with EVD the following shall apply.

1. It is the responsibility of each paramedic to ensure that the appropriate and adequate quantity of all personal protective equipment is ready and available for each and every shift. This includes equipment that has been provided as personal issue, as well as, service issued items within the stations and vehicles.

2. Immediate notification of any deficiencies should occur with your superintendents.

3. Each paramedic is supplied with 2 isolation PPE Bags each containing:
    a. 1 appropriate sized fluid resistant/impervious coveralls with hood,
    b. 1 bouffant cap,
    c. 1 appropriate sized impervious procedure gowns,
    d. 1 appropriate sized pair of fluid resistant boot covers,
    e. 1 full face shield,
    f. 1 Biohazard bag,
    g. 1 roll of tape,

4. Each Paramedic is also supplied 1 pair of personal issue Safety Glasses to be kept in their service issued Health & Safety Gear Bag.

5. Each vehicle will be supplied with:
    a. Clear large size garbage bags (to bag patient equipment in use) ,
    b. 2 pairs, each size Boot Covers (L, XL, XXL) ,
    c. 6 Contaminated Material Containment Bag (Biohazard bags),
    d. 2 pairs Coveralls (M,L,XL,XXL,XXXL),
    e. 2 pair Eyewear, Protective (Safety),
    f. 1 box each Gloves, Non-Sterile (S,M,L,XL) ,
    g. 1 box each Gloves, Non-Sterile Extra Long Protection (S,M,L,XL),
    h. 2 each Gowns (Reg, XL),
    i. 3 Hand Rub, Antiseptic,
    j. 2 Hazardous Face Shields,
    k. Head Covers (Blue) (bouffant),
    l. 10 Particulate Respirator Mask N95 (8210, 8110 & 9210)

Education & Practice

As part of service based education and to ensure the transfer of knowledge into practice each Paramedic:

1. Is provided MOHLTC Training Bulletin Updates or equivalent,

2. Shall view Donning/Doffing isolation and PPE equipment instructional videos,

3. Will demonstrate Donning/Doffing isolation and PPE equipment to a Superintendent,

4. Will be required to complete a summative quiz.

Dispatch and Communications

All three CACC's have implemented the following procedures [i]

1. FREI screener pronounced *"fry"* is applied to selected problem nature cards within DPCI II as part of **regular call taking** and is expected to assist the ACO to identify a broader spectrum of symptoms,

2. When Public Health Ontario (PHO) confirms an outbreak, ACO's will employ a screening tool as provided and updated by PHO on **all emergency calls** and **all transfer requests** for service,

3. All responders inclusive of Paramedics, First Response Teams, Allied agencies etc. will be notified of FREI positive patients per the current practice,

4. All responders will be notified when a patient has failed the EVD screening. The ACO to relay information as follows: ***The person has failed the EVD screening.***

B. MAKING PATIENT CONTACT

Point of Care Risk Assessment

To assess the presented risk to the Paramedics, the following shall apply upon making contact with a patient who has been pre-screened by CACC and has been determined to have failed the FREI or EVD screening. It must be understood that pre-screening from CACC is the first line of safety but ultimate safety and risk must be determined by the Paramedics at the point of contact. The assessment should be conducted by one paramedic immediately upon arrival, and prior to another paramedic entering the scene.

1. One Paramedic should conduct point of care risk assessment utilizing the EVD Screening Tool for EMS, at a minimum of two (2) metres from all potential FREI and EVD patients 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,

2. Point of care assessment should include standard droplet precautions, which includes N95 Mask, Gown, Gloves, Eye Protection for both potential FREI, EVD and EVD type patients,

3. **Equipment taken into contaminated scenes should be limited to only the essential required,**

4. If the EVD Screening Tool indicates a high suspicion of EVD or EVD type illness at the point of care risk assessment, the paramedics are to don PPE as indicated below,

5. Once a suspected case of EVD or EVD type illness is verified,

a. The Emergency Department must be notified immediately. This will allow appropriate receiving preparations by the hospital.
b. The designated infectious disease (ID) specialist must be contacted immediately by the paramedic if a consultation protocol has been established by the Ministry of Health.

Treatment Modifications for Ebola Virus Disease (EVD)

The Ministry of Health provides Training Bulletins for procedures to be followed that differ from the normal day to day procedures. Training Bulletin #1[ii] indicates the following changes to patient care for highly suspect or confirmed EVD patients:

1. If there is a concern for acute febrile illness and a relevant travel history, the following aerosol generating procedures should be avoided unless absolutely necessary: Endotracheal Intubation (HSNCPC has indicated that this directive includes supraglottic airways such as King LT), CPAP, and nebulized medications,

2. If there is concern for acute febrile illness and a relevant travel history, the following procedures should be applied cautiously when necessary:
    a. Supplemental oxygen - should be applied with a device that filters exhaled gases and manipulation of the mask after application should be minimized,
    b. Bag valve mask ventilation - should be conducted with a two handed seal and an exhaust gas filter should be utilized
    c. Intravenous or percutaneous injections - avoid initiating any injection or percutaneous access in a moving vehicle or with a combative patient.

Other actions, procedures and choices of patient care equipment should be considered e.g. removing all linen from stretchers, protecting unused equipment, sealing cupboards/window to drivers compartment, applying surgical masks to patients over nasal cannulas to aid in reverse isolation, use of Adult High Concentration/low flow (e.g. Flo2Max) oxygen masks.

Highly Suspected EVD or EVD type illness Transport

Patients that are determined to be highly suspect or confirmed EVD or EVD type illness of infection will be transported within the following process:

1. Following point of care risk assessment or supplied confirmation of infectious disease paramedics will:

    a. Apply plastic draping over window to drivers compartment,
    b. DON full level 4 PPE
        i. Layer 1 medical exam gloves,
        ii. Fluid resistant/impervious coveralls with hood,
        iii. Bouffant cap,
        iv. Fluid resistant/impervious boot covers,
        v. Fluid impervious procedure gown (if coveralls are not impervious),
        vi. Second pair of extended medical exam gloves,
        vii. Taping of glove and boot overlaps,
        viii. Safety glasses,
        ix. Face shield,
    c. Appropriate Patient Care delivered according to acceptable medical practices including modifications as required above,
    d. Early notification of Emergency Department of incoming infectious patient,
    e. Early notification of a designated infectious disease (ID) specialist if a consultation protocol has been established by the Ministry of Health,
    f. Transport patient without additional passenger within ambulance,
    g. Exhaust vents should be set on high,
    h. Upon arrival at hospital parking of the ambulance will occur in a location that does not place the public and other health care workers at risk,
    i. The initial assessment and triage by ED staff, and transfer of care to ED staff of patients with suspected EVD will occur in the ED ambulance bay/ parking lot.

2. Following initial assessment and triage by the ED staff, and if the patient is cleared of EVD suspicion, the paramedics may discontinue enhanced precautions,

3. If not cleared of EVD suspicion, Secure vehicle to no other persons may access the contaminated areas,

4. Transport the patient through the hospital defined path to the determined isolation treatment area,
5. Avoid contact with hospital surfaces, walls, and equipment, and maintain a distance of at least one metre from staff and visitors. Any breach must be reported to hospital staff and Field Superintendent,

6. Upon transfer of care of the patient to the ED, paramedics will doff PPE as described in this document and don fresh PPE prior to commencing vehicle decontamination and repeat doffing upon completion of decontamination.

Safety Officer

Paramedic safety is a high priority, therefore, normal day to day procedures may need to be adapted to ensure the safety of paramedics when responding to highly suspect or confirmed cases of EVD such as:

1. CACC will automatically notify and if feasible, dispatch a Superintendent,

2. If the Superintendent is unable to respond (i.e distance or otherwise occupied), the ACO will either dispatch a second crew or, under direction from the Superintendent (and according to spare vehicle availability), may split the second crew where one will remain available for first response and the other will respond to the scene to act as a Safety Officer,

3. All non-urgent calls will be put on hold for the duration of a highly suspect or confirmed EVD call.

EMS Roles

There are three distinct roles when caring for highly suspect or confirmed EVD patients:

1. Attendant - the crew member who has direct patient contact for the duration of the call and provides all patient care,

2. Driver – the crew member who assists the attendant with minimal direct patient contact,

3. Safety Officer – a Superintendent or member from a second crew who observes donning and doffing, ensuring the correct steps are followed, and supply of new unexposed PPE to the responding crew. The Safety Officer will also act as a substitute driver to minimize exposure to the drivers compartment.

To minimize possible exposure to pathogens, the following adaptations to on-scene roles should be considered:

1. If possible (according to patient condition) the attendant will conduct all patient care procedures where the driver will stay outside of the 2 metre point of contact perimeter,

2. The driver will pass all required equipment to the clinician and keep all unused equipment outside of the same perimeter and/or bag equipment as required with large clear garbage bags to minimize exposure,

3. The driver will minimize all close contact with the patient unless the patient's condition indicates otherwise,

4. Once all unused equipment is returned to the vehicle (consider strapping unexposed equipment in the front passenger seat) and while keeping the patient reverse isolated as much as possible, the driver will assist in moving the patient via stretcher/stair chair etc.,

5. The driver will confirm the status of the Safety Officer and the crew is directed to wait for the substitute driver if not yet on scene,

6. Both paramedics will accompany the patient in the patient compartment,

7. The Safety Officer's role is to drive the ambulance and at destination to observe and assist the crew with doffing PPE e.g. providing clean gowns, gloves, hand wash etc. and monitoring safety procedures/utilizing doffing checklist.

Don and Doff Personal Protective Equipment

Donning Procedures:

1. The patient compartment is to be used to don PPE,
2. Both paramedics should place portable radios on their belt and external mic should be attached to the mic holder on the paramedics shirt, the push to talk button can be activated through the coveralls,
3. Remove all linen from both stretchers,
4. Remove main stretcher from ambulance and place outside,
5. Thoroughly wash hands prior to donning PPE,
6. Place a biohazard bag near the rear of the patient compartment,
7. Retrieve personal PPE equipment bag, personal issue safety glasses, fitted N95 masks and appropriate size 2nd layer gloves,
8. Identify and Open the Isolation/PPE equipment bag,
9. Lay out PPE items independently,
10. Place bouffant cap on head,
11. Don fitted N95 mask,
12. Don safety glasses,
13. Don first pair of gloves (Underneath pair),
14. Don boot covers ,
15. Don fluid resistant/impervious coveralls and hood (***do not*** tape inner gloves to coveralls),
16. Tape the joint of coveralls to boot covers (careful not to apply too tightly),

17. Don fluid impervious procedure gown (if coveralls are not impervious),

18. Don 2nd layer of gloves (Overtop pair),

19. Tape the joint of the overtop pair gloves to the procedure gown (careful not to apply too tightly),

20. Don face shield,

21. Inspect your partner paramedic for gaps, missed taped seams and exposed skin. Correct prior to entry.

Decontamination Procedure

Highly suspect and confirmed fluid/blood borne pathogen patients require the maintenance of all equipment and supplies as a complete unit until decontamination occurs. It is unacceptable to leave contaminated equipment or supplies in any area other than the patient's isolated room or the transporting ambulance. Passing through hallways and corridors the paramedics crew should not stop or touch any surfaces. An escort to operate automated doors should be utilized to prevent contamination of hospital surfaces from direct contact.

1. As indicated above, PPE must be doffed after handover of care and new PPE donned prior to vehicle decontamination,

2. Establish adequate quantity of disinfectant cleaners e.g. Virox 5 spray or other supplied appropriate disinfectant cleaners and hospital-grade single-use wipes (preferred) or microfibre fresh cloths (Do not use towels, mops, or any other re-usable cleaning item),

3. Divide the sections of vehicle into segments for cleaning,

4. The driver should work on the driving compartment,

5. Allow for appropriate disinfectant surface contact time,

6. Work outside in starting with the exterior door handle, door frame and edges, inside door, steering wheel, dash and equipment, radio equipment and so forth,

7. The attending paramedic should be the first to start patient equipment and compartment cleaning and direct the driver when they complete the front compartment,
8. Remove all detachable items on the stretcher and pieces of equipment,
9. Clean each item and part separately to ensure thorough cleaning of all surfaces, leave outside the vehicle to air dry,
10. Begin at the front of the patient compartment and work backward toward the back door cleaning all surfaces,
11. Patient fluids must be wiped up (not “hosed out”) and disposed of before disinfectant cleaner can be used on the surface,
12. If sharps were used, dispose of the whole container in the biohazard bags,
13. Any bags or equipment that have contacted the patient or and patient fluids and cannot be cleaned according to manufacturer specifications e.g. bags with porous materials, should be bagged in biohazard bags and the Superintendent should be contacted for further instructions,
14. All used cleaning supplies should be placed in double bagged biohazard disposal bags,
15. The closed biohazard bag is to be wiped down with the disinfectant cleaner before removal to the hospital biohazard disposal bin,
16. Place the closed bag and cloths used to wipe down the biohazard bag in hospital biohazard disposal bins,
17. Following complete and thorough cleaning, follow doffing procedure below.

Doffing Procedures

All doffing procedures must be observed by a Safety Officer. The Safety Officer will:

1. Lay out ground sheet for working area,

2. Ensure double bagged biohazard disposal is open and accessible,

3. Ensure hand sanitation materials are readily available,
4. Ensure disinfectant cleaner is available,

The Paramedic will:

5. Wash gloved hands with an alcohol based hand sanitizer,

6. Remove procedure gown by grasping on the outside exposed area with contaminated outer gloves pulling the gown inside out and taking off the outer gloves with the gown,

7. Remove the protective face shield,

8. Carefully remove tape at seem of protective boot covers,

9. Using the second inner pair of gloves, hold the outside of the protective coveralls and remove the hood and then continue to remove inside out being careful not to touch the inside of the coverall or your person,

10. Remove and step out of protective boot,

11. Remove gloves with sterile technique: first glove from outside, second glove from inside,

12. Apply alcohol based hand cleanser and work in to both hands in all areas,

13. Maintain protective eyewear, N95 mask and bouffant head cover,

14. Don new fresh pair of gloves,

15. Don new fresh isolation gown,

16. Fold-in the sides of the ground sheet encapsulating the contaminated PPE inside the sheet in a slow gentle fashion to prevent contact and disruption of the contents,

17. Dispose of the encapsulated ground sheet in the double bagged biohazard disposal bags and close the bags,

18. The closed biohazard bag is to be wiped down with the disinfectant cleaner before removal to the hospital biohazard disposal bin,

19. Place the closed bag and cloths used to wipe down the biohazard bag in hospital biohazard disposal bins,

20. Place the closed bag in hospital biohazard disposal bins,

21. Doff gown and gloves as described above into biohazard bin,

22. Remove safety glasses and place in sink,

23. Doff fitted N95 mask by grasping the straps at the back of the head and lifting forward and dispose into biohazard bin,

24. Remove bouffant cap from inside out,

25. Wash glasses with disinfectant cleaner,

26. Wash hands and arms thoroughly with disinfectant skin cleaner.

Any failure of PPE (equipment or doffing procedures) should be reported as soon as possible to the Superintendent to obtain further direction.

Contaminated Equipment, Decontamination, Transportation

Contaminated equipment represents a substantial hazard to paramedics, allied health workers and the public.

In order to reduce the risk and work in a safe manner it is extremely important that all contaminated equipment is cleaned immediately as outlined above, preferably prior to departure from the hospital in the designated cleaning and decontamination area. In some cases due to the gross contamination of equipment it may not be possible to complete a thorough cleaning and decontamination at the scene of a call or the hospital. (For example the patient's vomitus or blood is in the seams of a response bag).

If the nature of the contamination requires detailed cleaning, use of cleaning apparatus such as washing machines, or professional third party cleaning then it

shall be double bagged within biohazard bags. The Superintendent should be notified and a loss of equipment form must be completed outlining the contamination issue.

REFERENCE

Manitoulin-Sudbury District Services Board, *Care and Transportation of Communicable Disease Cases* 2010, Policy & Procedures G.6.3.

CMOH Directive #1 October 30, 2014

CMOH Directive #2, Nov 7, 2014

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[i] Sudbury CACC LOPP 3.10 as cited in Manitoulin-Sudbury DSB Memo # 2014-49 and 2014-68

[ii] Ontario Ministry of Health, EHSB. (2014) Training Bulleting, Ebola Virus Disease v2.0