Ebola Virus Disease Management Plan

Western Health

Revised by:
Richard Bartolo, Manager of Infection Prevention
Dr Adrian Tramontana, Chairman of Infection Prevention

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Department of Health - Victorian Ebola Virus Disease Response Plan

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Executive Summary

To date, the largest outbreak of Ebola Virus Disease (EVD) on record is occurring in West Africa with around 50% mortality. The main objective at Western Health is to identify anyone with possible EVD upon initial contact with the organisation.

If a patient attends Western Health and is identified as having returned from Liberia, Sierra Leone, Guinea or Mali within the past 21 days and is feverish or unwell, they should be referred to and escorted to the emergency department immediately.

After discussion with the Chief Health Officer or delegate from the Department of Health, the patient will then be urgently transferred to the Royal Melbourne Hospital, which is the designated facility for Viral Haemorrhagic Fevers in Victoria.

Purpose and Scope

The purpose and scope of this plan is to outline the procedures to be adopted by staff within Western Health in the event of a suspected or confirmed case of Ebola Virus Disease (EVD).

The strategic objectives are to:

- Identify patients with possible EVD upon initial point of contact with Western Health
- Ensure protection of Western Health Staff and patients
- Maintain Western Health's ability to service the community
- Cooperate with the Victorian Department of Health system-wide response to a suspected or confirmed case of EVD;

The plan also includes the following objectives:

- Outline actions required of wards, departments, individuals and services in response to a suspected or confirmed case of EVD;
- Inform a chain of communication within Western Health to keep executive and media / communications informed of events
- Provide links to further information and resources to assist the response.

SECTION 1 - OVERVIEW

Abbreviations

CDC	Centres for Disease Control and Prevention Atlanta
CDNA	Communicable Diseases Network Australia
CDPC	Communicable Disease Prevention and Control
ED	Emergency Department
EVD	Ebola Virus Disease
HQO	Human Quarantine Officer
IMT	Incident Management Team
NHQSL	National High Security Quarantine Laboratory
NNDSS	National Notifiable Diseases Surveillance System
PHLN	Public Health Laboratory Network
PPE	Personal Protective Equipment
SHERP	State Health Emergency Response Plan
VIDRL	Victorian Infectious Diseases Reference Laboratory
VIDS	Victorian Infectious Diseases Service
VTM	Viral Transport Medium

Definitions

Temporary Quarantine area – Is the area consisting of the Negative pressure room, the anteroom and the area immediately out the anteroom sectioned off with airport barriers

SECTION 2 - BACKGROUND

About Ebola

Ebola Virus Disease EVD is a disease caused by an Ebola virus. Transmission of infection occurs through direct contact (through mucous membranes or broken skin) with infected blood or body fluids from an infected person or animal. Ebola Virus is NOT spread by the airborne route.

The infectious period begins with the onset of symptoms. Therefore, cases are not infectious during the incubation period (the period between exposure to Ebola virus and the development of symptoms). The natural reservoir of this virus is fruit bats in Africa.

The incubation period is 2 to 21 days, most commonly 8 to 10 days. The onset of symptoms of EVD is sudden and includes fever, myalgia, fatigue and headache.

The disease can progress to a septic shock-like syndrome, sometimes accompanied by profuse internal and external bleeding. The mortality for EVD is between 50-90%.

Although EVD is NOT very infectious, a conservative approach is taken with infection prevention due to the high mortality rate and lack of effective treatments.

In the event that a possible EVD case presents to Western Health, a temporary isolation area will be established in the negative pressure isolation room of the relevant emergency department until urgent assessment, discussion with the Chief Health Officer or delegate (Victorian Department of Health) and possible transfer to the State Quarantine facility has occurred.

Case Definitions in Victoria

The determination of an individual as a person under investigation (PUI) or suspected or confirmed case of EVD will be made by the Chief Health Officer or delegate, in consultation with infectious diseases expert.

Suspected Cases

In Victoria a suspected case of EVD is a case with clinical evidence AND epidemiological evidence.

Higher and Lower Risk Exposures

A **higher risk exposure** is a term that will be used that will be used in Victoria to include any of the following:

- Percutaneous or mucous membrane exposure to blood or body fluid of an EVD patient;
- Direct skin contact with, or exposure to, blood or body fluids of an EVD patient without appropriate personal protective equipment PPE;
- Processing blood or body fluids of a confirmed EVD patient without appropriate PPE or standard bio-safety precautions;
- Direct contact with a dead body without appropriate PPE in an EVD-affected area.
- People who had direct contact with bats or primates (alive or dead), or who had consumed ‘bushmeat’ in EVD endemic areas

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A **lower risk exposure** is a term that will be used in Victoria to encompass direct contact without evidence of visible or recalled blood or body fluid contact, and will include any of the following:

- Household contact with a confirmed case of EVD ;
- Other close contact with a confirmed case of EVD in health care facilities or community settings, with 'close contact' defined as:
    a) Being within the same room as a patient with active vomiting or diarrhoea or coughing while not wearing PPE (i.e. as per standard, contact and droplet precautions), or
    b) Being within the same room as a patient where there is an aerosol generated procedure being undertaken while not wearing appropriate PPE (i.e. as per standard, contact, droplet and airborne precautions),or
    c) Having direct brief skin contact (shaking hands) with an EVD patient while nor wearing appropriate PPE in the absence of any recognised body or blood exposure.

A **casual exposure** is a term that will be used in Victoria to cover being in the near vicinity of a case with possible contact with a shared surface without appropriate PPE

Clinical evidence means any of the following:

- Fever ≥38°C or history of fever in the last 24 hours **OR**
- Unexplained haemorrhage **OR**
- **Any one** of severe headache, muscle pain, vomiting, diarrhoea, abdominal pain **IF** there is agreed of a higher or lower risk exposure.

Limited epidemiological evidence means residence in, or travel to, an EVD affected area or a casual exposure.

Epidemiological evidence means a higher risk exposure or a lower risk exposure.

Confirmed Cases

In Victoria a confirmed case by Victorian Infectious Diseases Reference Laboratory (VIDRL) of EVD is a case with clinical evidence **AND** epidemiological evidence **AND** laboratory suggestive evidence.

Laboratory suggestive evidence means at VIDRL:

- Detection of Ebola virus by Polymerase chain reaction (PCR), Enzyme Linked Immunosorbent Assay (ELISA) or electron microscopy **OR**
- Virus isolation **OR**
- IgG seroconversion or a four-fold or greater rise in titre to Ebola virus **OR**
- IgM detected against Ebola virus antigen

Laboratory definitive evidence means at the Centre for Disease Control (CDC) Special Pathogens Laboratory Atlanta, or National Institute of Virology (NIV) Johannesburg:

- detection of Ebola virus by PCR, ELISA) **OR**
- virus isolation **OR**
- IgG seroconversion or a four-fold or greater rise in titre to Ebola virus.

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A **person under investigation** is a case with clinical evidence **AND** limited epidemiological evidence only.

- This is a category that is designed to indicate a substantially lower likelihood of EVD and an agreement may be reached not to test such a case for EVD if there is compelling evidence of an alternative diagnosis, and agreement between an infectious diseases expert and the CHO that the alternative diagnosis is the cause of illness
- The CHO may determine that testing for EVD is appropriate for a PUI. Once the CHO has determined that a PUI should be tested for EVD, that case will be managed in exactly the same way as a suspected case, and will from that point forward be referred to as a 'suspected case of EVD' until testing is undertaken when there will be a further assessment of the case status of the individual.

A **suspected case of EVD** is a case with clinical evidence **AND** epidemiological evidence.

A confirmed case by **Victorian Infectious Diseases Reference Laboratory (VIDRL)** of EVD requires laboratory suggestive evidence only.

A **confirmed case by CDC Atlanta or National Institute of Virology in Johannesburg** of EVD requires laboratory definitive evidence only.
A case is considered rejected on the determination of the CHO. In some circumstances a case could remain a suspected case despite an initial negative PCR on blood if the onset of illness was within 72 hours of the initial test **AND**

- There is no alternative diagnosis established **OR**
- Clinical suspicion of EVD is high **OR**
- The CHO remains concerned that EVD is not included.

For the rest of this document, a 'confirmed case' refers to a confirmed case at VIDRL or a confirmed case at VIDRL or a confirmed case at CDC Atlanta or in Johannesburg.

As recommended by CDC Atlanta, brief interactions (such as walking by a person or moving through a hospital where a confirmed case of EVD is admitted) do not constitute close contact.

Areas where EVD Transmission is Active

The World Health Organisation (WHO) has declared the following States to have ongoing active transmission of EVD as of 16 December 2014:

- Sierra Leone;
- Guinea;
- Liberia;
- Mali

In the event of suspicion of EVD, an up to date list of States affected by EVD can be accessed via the CDC - Ebola (Ebola Virus Disease) website (http://www.cdc.gov/vhf/ebola/index.html). Transmission in Mali has been limited and the situation is now appearing to be coming under control in this country. Affected countries which have now been cleared of Ebola are Senegal, Nigeria and Spain. All contacts in the USA have completed 21 day follow up and there are currently no cases in the USA. A national EVD outbreak is considered to be over when 42 days (double the 21-day incubation period of the Ebola virus) has elapsed since the last patient in isolation became laboratory negative for EVD.

SECTION 3 - WESTERN HEALTH RESPONSE

Governance and Response Structures

The Chief Health Officer of the Victorian Department of Health is the Incident Controller for EVD Preparedness in Victoria. A State Health Incident Management Team (IMT) will be formed under both the State Health Emergency Response Plan (SHERP) and Department of Health's Public Health Control Plan.

In the event of a confirmed case, the membership of the State Health IMT will be augmented by representatives of any health service that has admitted a case, aiming for a representative of the Executive of the health service, a lead for infectious diseases and a lead for infection control.

In the event of a confirmed case of EVD, the Chief Health Officer will convene a meeting of a State Emergency Management Team, comprising representatives of response and support agencies.

Under SHERP, it is expected that a health service where a patient is admitted with confirmed EVD would convene a health service IMT. In order to maintain high quality liaison with the State response, the Victorian Department of Health will provide a Liaison Officer to attend meetings with the IMT that is formed in response to a suspected or confirmed case of EVD.

Immediate infection control actions on persons with possible EVD

Presentation to the Health service
Whilst we anticipate most possible cases will present to triage / ED, patients could have other clinical areas as their initial point of contact. These include, but are not limited to, Outpatient Clinics, Maternity and Birthing and Radiology. If a patient in these services is identified as having travelled to the listed countries within the past 21 days and is feverish or unwell, they should be referred to and escorted to ED immediately. ED should be notified that a possible case is on the way and follow the procedures below.

Case Handling at Triage
ALL PATIENTS PRESENTING WITH A FEBRILE ILLNESS ARE TO BE ASKED AT TRIAGE IF THEY HAVE TRAVELLED WITHIN THE LAST 21 DAYS.

The following actions are to be taken for any patient with a febrile illness who has returned from Sierra Leone, Guinea, Liberia or city of Bamako, Mali in the last 21 days:

- Give the patient a P2/N95 mask and transfer them immediately to a negative pressure isolation room. Staff should explain that they are being isolated and will be attended soon, but that they will be alone in the isolation room for a short period of time. Also provide a patient with a cordless phone and instruct them how to use the phone to communicate to people outside the room. Staff should maintain a distance of one metre and wear gown, gloves, mask and goggles when escorting patient to the negative pressure isolation room.

- Do not perform any observations or investigations. If absolutely essential due to patient being acutely unwell use the single use equipment within the Ebola pack.

- Use Clinell® Universal wipes to immediately wipe clean triage area and any other areas of contact from the suspected case. Cleaning of surfaces to be repeated and allowed to dry before other patients are allowed to attend triage area. Close and evacuate any area soiled by blood or body fluids (see cleaning below). Soiled items that belong with the patient should remain with the patient in the isolation room.

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- Notify emergency consultant, nurse in charge and contact the infectious disease consultant on call (via switchboard).

- Record any staff or visitor who has been within one metre of suspected patient or had direct physical contact. The log sheet can be found in the Ebola kit (appendix 2). If patient has a vomit in the waiting room then record details, including contact numbers of all patients, visitors and staff that were in the waiting room at the time of vomiting.

Case handling at all other hospital entry points into hospital (including Maternity)

All clerical staff to ask patients if they have returned from Guinea, Sierra Leone, Liberia or city of Bamako, Mali in the last 21 days. The following actions are to be taken for any patient with a febrile illness who has returned from Sierra Leone, Guinea, Liberia or city of Bamako, Mali in the last 21 days:

- Give the patient a P2/N95 mask and do not perform any observations or investigations.

- Call Emergency (Sunshine 50182/51595, Footscray 56335, Williamstown 30109), and notify nurse in charge of patient with suspected Ebola and follow instructions on where to escort patient.

- In the unlikely scenario a Western Health staff member encounters a patient or relative with suspected Ebola in the community, the staff member is to contact the DH on **1300 651 160** for direct transfer to the Royal Melbourne Hospital and then notify the Infectious diseases consultant on call for Western Health via switchboard. Staff should maintain a distance of one metre from the patient.

- Wearing gown, gloves and goggles escort patient to designated area in Emergency Dept. (ED) (negative pressure isolation room). It is desirable they walk to ED and staff maintains a distance of one metre. If they are unable to walk then transport using a wheelchair. The wheelchair will then need to be cleaned and disinfected with Clinell® Universal wipes, covered with plastic and not be used until cleared by infection prevention. Place a sign on any such wheelchair “Do not use”.

- Staff should explain that they are being isolated and will be attended soon, but that they will be alone in the isolation room for a short period of time. Also provide a patient with a cordless phone and instruct them how to use the phone to communicate to people outside the room. Family will be asked to remain outside the isolation room, unless the patient is a child, in which case 1 parent / carer will be allowed to enter, providing they wear the appropriate PPE provided.

- A separate staff member wearing gown, gloves and goggles are to use Clinell® Universal wipes to immediately wipe clean any areas of contact from the suspected case. Cleaning of surfaces to be repeated and allowed to dry before other patients are allowed to attend areas of contact. Close and evacuate any area soiled by blood or body fluids (see cleaning below). Soiled items that belong with the patient should remain with the patient in the isolation room.

- Notify emergency consultant, nurse in charge and contact the infectious disease consultant on call (via switchboard).

Record any staff or visitor who has been within one metre of suspected patient or had direct physical contact. The log sheet can be found in the Ebola kit (appendix 2). If patient has a vomit, record details including contact numbers of all patients, visitors and staff that were in the same room as the patient at the time of vomiting.

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Responsibilities of Nurse in Charge of Emergency

Upon being notified of a suspected case of EVD the nurse in charge will establish and maintain the negative pressure isolation room as a temporary quarantine area until deemed no longer necessary by the on call infectious disease consultant. The following measures will be taken.

- Notify Western Health Incident Commander.
- 24 hour ***S***ecurity to be allocated to entrance of negative pressure isolation room. Neither the patient nor any items are allowed to the leave the room.
- Liaise with emergency consultant in charge and assign senior nurse to quarantine area
- Mobilise Ebola kit and arrange set up of quarantine area so as staff can access required PPE before entering anteroom and safely remove and dispose of PPE in the anteroom.
    - P2 (P2/N95 equivalent) masks
    - protective eyewear
    - fluid repellent face shields
    - Gloves Long cuff
    - Disposable, protective Coveralls
    - Gumboots (CPR kit)
    - Over shoes
    - Overshoes - 40cm.
    - Yellow, clinical waste bags
    - Disposable.
    - Clinell® Universal wipes for cleaning
    - Actichlor Plus 1lt bottle and tablets
- Organise transfer of specimens if required by contacting World Courier on mobile. 0414 237 936 or telephone: 03 9338 5711.
- Maintain quarantine area until deemed no longer necessary by the infectious diseases consultant.

Responsibilities of 24 hour security

- Ensure all staff and visitors entering room document their names and contact number and sign log sheet at entrance to room.
- Ensure no one enters the quarantine area unless sanctioned by the ED consultant, ID physician and/or Infection Prevention (IP) team and is wearing a Western Health security badge.
- If patient leaves the quarantine area, do not attempt to physically stop the patient from leaving. Immediately notify the emergency consultant in charge who will consult the Victorian Chief Health Officer.
- Security to maintain the quarantine area until the area is cleared by the infectious diseases consultant to return to normal use.
- Ensure any specimens that have been collected for EVD diagnosis remain in the quarantine area until collected by the designated courier.

Responsibilities of Emergency Consultant in Charge

- Obtain focused history with particular relevance to the following features.
    - Duration of illness
    - Date arriving in Australia from West Africa
    - Exposure history
    - Any unexplained haemorrhage
    - Measure temperature using single use thermometers in Ebola pack

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- Determine clinical stability of patient and whether or not it is appropriate for all observations, investigations and treatment can be deferred until transfer to the State quarantine centre.
- Notify senior public health officer at the Victorian Department of Health without delay by calling **1300 651 160**. Note that in-hours, a suspected EVD case notification will be put through to a senior medical practitioner, and out of hours the call will be taken by the on-call Human Quarantine Officer.
- Note instructions from Department of Health regarding transfer of suspected case and clearly communicate these to nurse in charge and security within quarantine area. Transport activation for suspected EVD patients will be through a direct conversation between the Victorian Department of Health and Ambulance Victoria.
- If patient acutely unwell and needs immediate treatment that cannot wait until transfer to the State Quarantine centre then ensure any such essential treatment is commenced using the following principles:
    - Only undertake any observations or treatment which are absolutely necessary
    - Use only single use equipment and supplies which are located in the Ebola pack. This includes BP cuff, stethoscope, thermometers, IVC and IV fluids. Maternity pack can be obtained from Birth Suite if the patient is in the second stage of labour. Use portable resuscitation equipment if required.
    - Any equipment which is used must not be taken out of the room.
    - Empiric treatment of malaria – 4 tablets of Riamet® (located in afterhours cupboard)
    - If septic a single oral dose of Ciprofloxacin 750mg,
    - If patient has had vomiting and diarrhoea and is unstable with or without arrhythmias then administer IV fluid and potassium resuscitation.
    - If pregnant and baby is delivered before transfer then administer IM oxytocin post-delivery.
    - If bleeding and transfusion required based on clinical judgement then administer O negative blood.
- Only collect specimens for EVD testing following the procedure on page 16 if directed to do so by the department of health.
- Take any other immediate actions advised by Victorian Department of Health.

Responsibilities of Infectious Diseases Consultant

- Monitor and ensure infection control precautions are followed, particularly with respect to removing PPE.
- Undertake clinical assessment if required for reasons of either facilitating department of health decision making regarding transfer to the State quarantine centre and/ or patient management whilst awaiting transfer.
- Communicate with the Chief Health Officer or delegate (Victorian Department of Health)
- Inform Western Health Executive on call that a suspected EVD case has been handled through the Health Service, and assist as directed with any media communications that arise.
- Monitor and assist in collection of any specimens for Ebola virus testing. The infectious diseases physician will first consult directly with the department of health, and then collection of specimens will be undertaken. He/ She will be the assistant in the anteroom during specimen collection (see procedure for specimen collection on page 16).
- The infectious diseases physician will determine when EVD has been excluded and the quarantine area can return to normal use. If EVD is confirmed the infectious diseases consultant in consultation with infection prevention and the Department of Health will determine when the quarantine area has been sufficiently cleaned to allow the quarantine area to return to normal use.
- Chair a debriefing session with all staff involved. This may include reassuring staff that had no direct contact with the patient.

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Infection Control Precautions

The negative pressure isolation room will be established as temporary quarantine area until a suspected case is either transferred to the State Quarantine facility or EVD has been excluded. **The quarantine area includes the negative pressure room, the anteroom and the area immediately outside the anteroom. This area is to remain closed off until the infectious diseases physician determines that the temporary quarantine area is no longer required and the Infection Prevention nurse declares the area safe to reopen.**

All equipment and waste is not to leave the quarantine room even after a suspected case of Ebola leaves western health. If EVD is confirmed the quarantine area is to remain closed until cleaning has been completed (see Cleaning below). Only designated staff are to enter the temporary quarantine area. The only exception to this would be if a suspected case was a child. In this instance, one parent could stay with the child if they agree to wear the required PPE.

All staff entering the quarantine area are required to have had training in applying the required PPE (see below). They are required to don the PPE **before** entering the anteroom, in pairs, and to enter in tandem. One staff member is to remain in the anteroom whilst the other undertakes any necessary assessment and management of the patient. The staff member in the anteroom is to ensure there are no breaches in infection prevention practice, particularly during removal of PPE equipment. PPE must only be removed in the anteroom (see below).

Only single use equipment and supplies which are located in the Ebola pack are to be used. This includes BP cuff, stethoscope, thermometers, IVC and IV fluids. Any equipment which is used must not be taken out of the room. Dispose of all single use equipment and waste and in yellow infectious waste bags located in the (negative pressure) isolation room and PPE in yellow infectious waste bags located in the anteroom.

Personal Protective Equipment (PPE)

Transmission of infection occurs through direct contact (through mucous membranes or broken skin) with infected blood or other body fluids from an infected person or animal. Ebola is not transmitted by the airborne route.

The following PPE is required to be worn by all staff and **applied in the following order** before entering the quarantine area:

1. Change from civilian clothes to full length hospital scrubs
2. Gloves
3. A fluid-impermeable coverall
4. Hospital gumboots (CBR kit)
5. Double Overshoes
6. A fluid-impermeable submicron (N95) single use face mask
7. Gloves (Second Pair)
8. Fluid-impermeable gown (if vomiting, diarrhoea, bleeding or undertaking procedures)
9. Eye goggles
10. Full face visor

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Actions if PPE soiled by blood or body fluids of patient.

If PPE is soiled by blood or body fluids the following additional steps are to be taken to remove the PPE.

1. Whilst in the patient room wipe blood or body fluids from the coveralls using paper towel.
2. Dispose of paper towel in infectious waste bags within the patient room.
3. Once affected areas have dried wipe coverall suit with Clinell® Universal wipes paying particular attention to the soiled areas and then wait for suit to dry
4. Instruct buddy in anteroom to place impermeable plastic sheet on floor of anteroom with absorbent paper towel.
5. Step into anteroom onto plastic sheet.
6. Buddy then sprays disinfectant liquid onto suit before PPE is removed using the Doffing PPE procedure.

Donning and doffing personal protective equipment

Prior to working with Ebola patients, all healthcare workers involved in the care of Ebola patients must have received repeated training and have demonstrated competency in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE. Removal of PPE must be observed and assisted by a trained 'buddy'. The buddy is to read out each step in the removal process and remind the staff member removing PPE to keep their hands away from their eyes, nose and mouth. Practice safe removal of PPE beforehand if you have not practiced this within the following week.

Healthcare workers caring for Ebola patients should have no skin exposed.

The overall safe care of Ebola patients at Western Health must be overseen by an Infectious Diseases physician team at all times, and each step of every PPE donning/doffing procedure must be supervised by an Infection Prevention nurse or trained observer to ensure proper completion of established PPE protocols.

In healthcare settings, Ebola is spread through direct contact (e.g., through broken skin or through mucous membranes of the eyes, nose, or mouth) with blood or body fluids of a person who is sick with Ebola or with objects (e.g., needles, syringes) that have been contaminated with the virus. For all healthcare workers caring for Ebola patients, PPE with full body coverage is recommended to further reduce the risk of self-contamination.

Designated Quarantine Areas for PPE Donning and Doffing

PPE Storage and Donning Area
This is an area outside the Ebola patient room (Sunshine and Footscray within the quarantine this area is outside the anteroom. At Williamstown the anteroom is divided in 2 sections clearly labelled as clean side) where clean PPE is stored on a trolley and where healthcare workers can don PPE before entering the anteroom. Do not store potentially contaminated equipment, used PPE, or waste removed from the patient's room in this area. If waste must pass through this area, it must be properly contained.

Patient Room
This is the negative pressure room. The door is kept closed. Any item or healthcare worker exiting this room should be considered potentially contaminated.

PPE Removal Area
This is the anteroom (kept separate from the clean area) where healthcare workers leaving the patient's room can doff and discard their PPE. Stock gloves in a clean section of the PPE removal area accessible to the healthcare worker while doffing.

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Donning PPE

The donning process is conducted under the guidance and supervision of a trained observer, who confirms visually that all PPE is serviceable and has been donned successfully.

1. Remove personal clothes and items (e.g., jewellery, watches, mobile phones, pagers and pens), and don hospital scrubs.
2. Perform Hand Hygiene with ABHR.
3. Don first pair of gloves
4. Don coverall leaving the hood off
5. Put on gumboots and 1st set of cover shoes, blue, over gumboots and 2nd pair, long while and secure with ties
6. Pull coverall cuff over outside of boots and cover shoes to prevent any contaminated fluid running into boots
7. Coverall cuff must be pulled over the first glove and secured to thumb with elastic loop on cuff
8. Don second pair of gloves pulling the cuff over the coverall sleeve
9. Don the N95 Mask, fit to face
10. Don eye protective eyewear
11. Pull the coverall hood over your head around the mask and eye wear
12. Close second coverall zip/tape up under the neck, covering most of the face
13. Don outer gown or apron (if appropriate), this provides additional protection to the front of the body against exposure to body fluids or excrement from the patient.
14. Don the face shield over the hood
15. **Verify:** After completing the donning process, the integrity of the ensemble is verified by the trained observer. The healthcare worker should be comfortable and able to extend the arms, bend at the waist, and go through a range of motions to ensure there is sufficient range of movement while all areas of the body remain covered.

Preparing for Doffing

Before entering the leaving the patient's room inspect and disinfect (using Clinell® wipes) any visible contamination on the PPE. As a final step, disinfect outer-gloved hands with either Clinell® wipes or ABHR, and allow drying. Verify that the observer is available in the PPE removal area before entering and beginning the PPE doffing process.

Doffing PPE

The doffing process is conducted under the supervision of a trained observer, who reads aloud each step of the procedure and confirms visually that the PPE is removed properly.

Observer reminds the healthcare worker to avoid reflexive actions that may put them at risk, such as touching their face and flicking of gloves:

1. Inspect the PPE to assess for visible contamination, cuts, or tears before starting to remove
2. Disinfect outer gloves with Clinell®**,** allow to dry and pull gloves out half way
3. Doff gown by pulling away from neck and shoulders, touching inside of gown only
4. Pull gloves out with the gown sleeves, touching inside of gown only
5. Turn gown inside out and discard
6. Remove and discard face shield and discard
7. Disinfect inner gloves with Clinell®
8. Remove and discard 2nd set of long white cover shoes while sitting down
9. Disinfect inner gloves with Clinell®

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10. Remove and discard Coverall: To remove coverall, tilt head back and the observers will reach the zipper or fasteners avoiding contact with the skin. Unzip or unfasten coverall completely before rolling down and turning inside out. Avoid contact of scrubs with outer surface of coverall during removal, touching only the inside of the coverall.
11. Disinfect inner gloves with Clinell®
12. Disinfect gumboots with Clinell®
13. Disinfect inner gloves with Clinell®
14. Remove and discard eye protection and N95 Mask
15. Disinfect inner gloves with Clinell®, remove and discard
16. Perform Hand Hygiene with ABHR or water and disinfectant
17. Inspect: Perform a final inspection of healthcare worker for any indication of contamination of the surgical scrubs
18. Don fluid impermeable gown and new pair of gloves and assist buddy in removal of PPE following same process.
19. Healthcare worker can leave PPE removal area wearing dedicated washable footwear and surgical scrubs or disposable garments

Ambulance Transfer Arrangements

Ambulance Victoria is equipped to transfer suspected or confirmed cases of EVD in Victoria. The Department of Health will activate a transfer of a suspected case through calling Ambulance Victoria directly on the agreed number.

Western Health should NOT activate a transfer by Ambulance Victoria. For a paediatric patient requiring specialised retrieval, Royal Children's Hospital will coordinate retrieval through either the Paediatric Emergency Transport Service or the Neonate Emergency Transport Service.

Communication

Suspected or confirmed Ebola Virus Disease (EVD) is a quarantinable infection.

The Victorian Department of Health must be immediately notified of any suspected case of EVD by calling **1300 651 160.** Any other health professional who identifies a suspected case of EVD must also notify Victorian Department of Health unless they are sure there has already been a notification made.

Incident commander is to notify as soon as practical the manager of infection prevention, on call executive, head of infectious diseases and public affairs. All media communications are to go through the DH media unit.

A debriefing session for Western Health staff involved in the management of a suspected or confirmed case will be undertaken by an infectious diseases physician.

Collection of specimens

No investigations or collection of specimens is to be undertaken at western health unless the Chief Health Officer of Victoria directs collection of specimens for EVD testing within Western Health. The infectious diseases physician will first discuss the case with the Chief Health Officer (or delegate). If the infectious diseases physician confirms EVD testing is to be undertaken within Western Health then samples are to be collected under direct supervision of the infectious diseases physician. Only an experienced clinician should collect samples for EVD testing.

Specimens to be collected may include;

- Venous blood in an EDTA tube for Polymerase chain reaction and acute serology;

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- Throat swab for a Polymerase chain reaction in viral transport medium or a dry swab if the viral transport medium is unavailable.
- Urine for a polymerase chain reaction may also be requested by DH

Specimens should be couriered directly to VIDRL (see overleaf).

The procedure for specimen collection outlined below is to be undertaken in tandem with an ID physician in the anteroom.

a) Both clinicians to use PPE as outlined on page 8.

b) All tubes and specimens (found in EBOLA bleeding kit) to be pre-labelled.

c) The box of the shipping container is to be placed outside the room in arms reach of the door.

d) The transport container within the Ebola kit is to be placed within the anteroom

e) One staff member with PPE to remain in anteroom with an empty pathology biohazard bag lined with enough absorbent material to absorb any spillage from collection tubes. This staff member is also to have prepared 0.5% sodium hypochlorite solution.

f) Other staff member enters room with specimen tubes and containers and second pathology biohazard bag.

g) Collect specimens – Throat swab, EDTA tubes +/- urine. Safety device on butterfly must be used and dispose of butterfly immediately into sharps container.

h) Place specimens in one biohazard bag, then removes excess air, seal and wipe with 0.5% sodium hypochlorite solution.

i) Place biohazard bag with specimens into biohazard bag lined with absorbent material held open by buddy in anteroom. Meticulous care needs to be taken to ensure the outside of the biohazard bag in anteroom is not touched by the person who collected the specimens.

j) Clean biohazard bag with 0.5% sodium hypochlorite solution then place into the transport container – Ebola Polymerase chain reaction /serology to go to VIDRL as per arrangements discussed with DH. Transport containers to be closed, wiped with 0.5% sodium hypochlorite solution and then placed in shipping container outside room. 0.5% sodium hypochlorite solution can be made by diluting 1 tablet of Actichlor Plus in 1lt of water, (supplied in Ebola kit).

k) Specimens to be guarded by security at entrance to negative pressure isolation room in emergency until collected by designated courier.

Transport of specimens to VIDRL

Contact VIDRL on 0438 599 437 to notify laboratory that specimens have been collected and confirm transport instructions.

SECTION 3 - WESTERN HEALTH RESPONSE

Contact the courier and inform them of the urgency to transport specimens for suspected EVD. Inform DH on 1300 651 160 that a courier was organised for the transport of specimens.

Cleaning

Any area outside the temporary quarantine area where the suspected EVD patient was in contact needs to be immediately cleaned. This would ideally be confined to the triage area. After the suspected case is transferred to the temporary quarantine area, the triage area is to be thoroughly cleaned twice by wiping all surfaces with 1000 PPM hypochlorite solution (Actichlor Plus) or Clinell® Universal wipes. If any areas are soiled with blood or body fluids the area needs to be closed and people evacuated from the area. Cleaning is to then be undertaken using full PPE described on page 8. The area is to be immediately cleaned with 1000 PPM sodium hypochlorite. The area will then require cleaned twice under supervision by an infection control nurse. Once the infection control nurse is satisfied that the area has been adequately cleaned twice can the area return to normal use.

All items, including equipment and waste must not be removed from the quarantine area until EVD has been excluded. If excluded the isolation room is to be cleaned using normal procedures. If a suspected case is later confirmed then the isolation room is to remain closed until cleaned under the supervision of an infection prevention nurse consultant. The infection prevention nurse will also supervise removal of all clinical waste products using a buddy system. This will be done following the Victorian DH guidelines. The room will only be opened for normal use once cleared by infection prevention and the infectious diseases physician as safe to do so.

Linen

Where possible use disposable linen and clothing. Where reusable linen is used it should be disposed of as clinical waste.

Clinical Waste

All waste should be considered infectious and disposed of as clinical waste in yellow biohazard bags in and the in yellow biohazard bins.

Faeces and Urine

If patient needs to use the ensuite toilet facility, the patient should be instructed not to flush the toilet.

- Staff should add five bleach (Actichlor) tablets to the toilet bowl (i.e.5x1000ppm strength)
- Leave for 30 minutes before flushing
- Ensure the toilet lid is down when the toilet is flushed

Body fluid spill

Appropriate PPE must be worn for cleaning body fluid spills, including gloves, disposable impermeable overshoes or boots, and P2/N95 masks with face shields/goggles and fluid-resistant gowns. Spills should be cleaned using a spill kit. In the absence of a specific kit, spills should be absorbed with paper towels, liberally covered with a 5,000 ppm sodium hypochlorite solution and left to soak for 30 minutes before being wiped up, and disinfect the area again.

Management of Staff

No staff member is to be forced to be involved in the care of a patient suspected to have EVD. The number of staff involved should be limited and allocated staff should be relinquished from managing other patients. Staff can return to normal duties if EVD is excluded. If EVD is confirmed the infectious diseases physician will discuss management with the Chief Health Officer or delegate (DH).

A debriefing session will be held by the infectious diseases consultant for staff after the patient is transferred. A follow up debriefing will be required after results of EVD testing become available.

Further information

- Victorian Ebola Virus Disease Response Plan - September 2014
  http://docs.health.vic.gov.au/docs/doc/Victorian-Ebola-Virus-Disease-Response-Plan--September-2014

- The national guidelines for Ebola have recently been revised.
  http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-ebola.htm/$File/EVD-SoNG.pdf

- World Health Organization (WHO) EVD updates available from the WHO website:
  www.who.int/csr/disease/

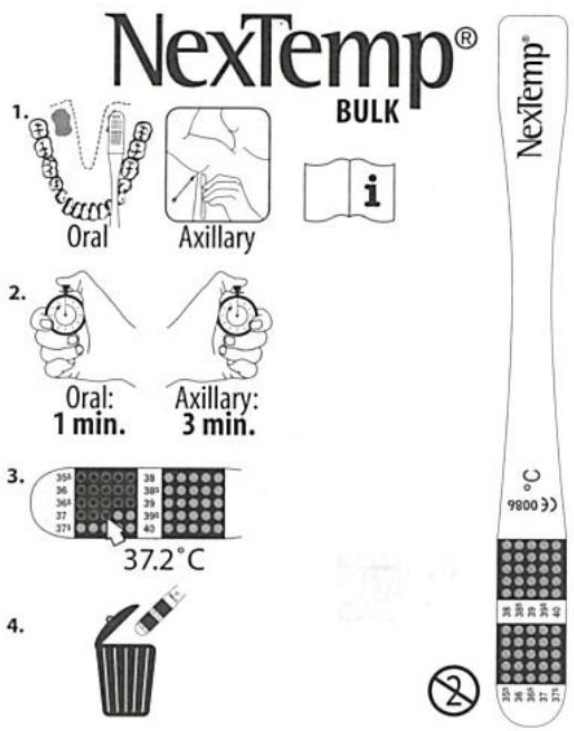
- Australian Department of Health – EVD website
  https://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-ebola.htm

- Centers for Disease Control and Prevention (USA) website (http://www.cdc.gov/)
  http://www.cdc.gov/vhf/ebola/hcp/procedures-for-ppe.html

- Australian Department of Foreign Affairs and Trade provides information for travellers on the Smartraveller website: www.smartraveller.gov.au/

APPENDIX 1 - CONTENT LIST FOR EBOLA VIRUS SUPPLY KIT

Essential Equipment in Each Kit	Order Number
50 P2 (P2/N95 equivalent) masks	Regular – No.302789, Medium - No.934482
2 pairs protective eyewear	No.623289 (each) or No.936494 (box x 50)
2 fluid repellent face shields	509533 (box 40)
Gloves Long cuff	Large 92-605-L, Medium 92-605-M, Small 92-605-S
Disposable, protective Coveralls. Non-Catalogue request	3M Coverall 4565 - Large - No.AT010589045 3M Coverall 4565 - X Large - No.AT010589052 3M Coverall 4565 - 2X Large - No.AT010589060
Over shoes (approx. 25 pairs)	
Overshoes - 40cm. Non-Catalogue request	
Yellow, clinical waste bags	
Disposable thermometer (approx. 12), see instructions below.	NexTemp 955794 (box x250)
Clinell® Universal wipes for cleaning	Packet 225 No.509167



EN – Disposable Thermometer – Contents: 100 Thermometers Directions

Oral Use:
Place mouth under tongue, as far back as possible into either heat pocket, as you would any oral thermometer. Have patient press tongue down on thermometer while keeping mouth closed. Leave for a minimum of 1 minute – shorter times may give inaccurate readings.

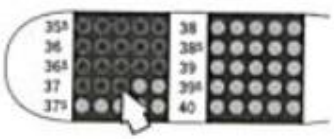
Under Arm:
Place under arm with green dots deep in axilla. Use arm to hold the thermometer in place for AT LEAST 3 minutes - shorter times may give inaccurate readings.

How to Read:

1. Remove thermometer
2. Read temperature immediately
3. The highest black dot indicates the correct temperature (see example)
4. Dispose of thermometer in accordance with local regulations.

Accuracy:
+0.1°C to - 0.2°C (maximum permissible error. Thermometer has no temperature offset.

Conforms to ASTM E 1299-96 and EN 12470-2:2000+A1:2009 Clinical thermometers part 2: phase change type (dot matrix) thermometers.



Last black dot shows 37.2°C

APPENDIX 2 - STAFF, VISITOR AND CONTACT LOG SHEET

Date: _____

	First Name	Surname	Contact Number	Time in	Signature	Time Out	Signature
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
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16							
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19							
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21							
22							
23							
24							

***Contact** – refers to any staff member or visitor who has been within one metre of suspected patient or hand direct physical contact with the suspected patient.

APPENDIX 3 - DEPARTMENT OF HEALTH EBOLA ALERT POSTER

Department of Health

health

ATTENTION

Visitors to the Emergency Department

Have you returned from **overseas** in the last **21 days**?

And do you have any of these symptoms:

- **high fever**
- **rash**
- **cough**
- **shortness of breath or chest pain?**

Please notify staff immediately

We may need to give you a mask to wear and place you away from other patients until you have been assessed. Thank you.

Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne.

Victoria

APPENDIX 4 - DEPARTMENT OF HEALTH TRIAGE ALERT INFORMATION

Triage ALERT!

Patients returning from overseas

health

With **fever** or **rash** or **cough** or **shortness of breath or chest pain** or **contact with a known case** after visiting the **following countries**:

West Africa (including Guinea, Liberia, Sierra Leone, Nigeria) or **Democratic Republic of Congo**	Within last **21** days	Fever Myalgias, headache Vomiting, diarrhoea Abdominal pain, unexplained bleeding or bruising	**Consider:** Viral haemorrhagic fever (Ebola virus infection)
Any overseas travel (especially Asia)	Within last **21** days	Fever Rash	**Consider:** Measles
The Middle East (especially Saudi Arabia, Qatar, Jordan, UAE, Oman and Kuwait)	Within last **14** days	Fever Acute respiratory symptoms	**Consider:** Middle East Respiratory Syndrome MERS CoV coronavirus (MERS CoV)
China	Within last **7** days	Fever Acute respiratory symptoms	**Consider:** Avian influenza (e.g. H7N9)

- Patients should be requested to wear a single-use face mask
- Allocate away from other patients
- Place in a negatively ventilated room, or single room with **door closed** and implement airborne + contact precautions (including eye protection) until medically assessed
- If any of the above are suspected following medical assessment, contact Department of Health Communicable Disease Prevention and Control on **1300 651 160** 24 hours a day / 7 days a week.