Regional Public Health
Better Health For The Greater Wellington Region

Facsimile Cover Sheet

Wharangi Nama Waea

Date/Te Ra: **23 September 2014**

To/Kia: General Practitioners, Practice Nurses, Pharmacists, After-hours Centers and Emergency Departments in the greater Wellington and Wairarapa region	**From/Na:**
Name of Agency/Wahi Mahi:	**Fax Number/Nama Waea:**

Ebola Virus Disease Update from the Ministry of Health

I would be grateful if you could distribute the following Ministry of Health Alert to relevant staff in your organisation. This document is long and my apologies for the time it will occupy your fax machine.

If you would also like to receive this by email for ease of distribution, storage and retrieval please advise RPH of your email on rph@huttvalleydhb.org.nz.

Kind regards,

Dr Annette Nesdale

Medical Officer of Health
Regional Public Health

Regional Public Health
Better Health For The Greater Wellington Region

Public Health Alert – 23 September 2014

To: **General Practitioners, Practice Nurses, Paediatricians, ID Physicians, Pharmacists, After-hours Centers and Emergency Departments in the greater Wellington and Wairarapa regions**

From: **Dr Annette Nesdale**

Ebola Virus Disease – West Africa

The Ministry of Health have the following new or updated advice on New Zealand's response to Ebola Virus Disease (EVD) that is occurring in Guinea, Liberia, Sierra Leone, Nigeria and the Équateur province of the Democratic Republic of Congo.

The advice is contained in three documents, which are long, my apologies for the amount of time it will occupy your fax machine.

The first document is about pre- and post travel requirements for patients who may consult you about providing assistance (clinical or non-clinical) in the Ebola response in an affected country.

The second document is detailed laboratory, clinical and infection control information. While this is designed for specialist hospital staff, the Ministry of Health have requested this information is sent to primary care for completeness. The third is local advice for the assessment of a suspected EVD case in this region.

1. Advice for individuals entering NZ after assisting in the EVD response in affected countries – **NEW**

2. Guidelines for health professionals, including the revised case definition and management and the infection control information. Note: **Wellington Regional Hospital** is the designated centre for the assessment and management of any suspected case of EVD in this region. **UPDATED**

3. Local advice for primary care in the greater Wellington and Wairarapa region - **NEW**

The documents above are also accessible on the Ministry of Health website www.moh.govt.nz and also on the Regional Public Health website www.rph.org.nz

MINISTRY OF HEALTH
MANATŪ HAUORA

1. Protocol for individuals entering New Zealand after assisting in the Ebola virus disease response in affected countries

The Ministry of Health strongly recommends that individuals assisting in the Ebola virus disease (EVD) response in affected countries do so under the auspices of a recognised international aid organisation that has appropriate education and risk management policies in place.

Those considering assisting in the EVD response should ensure that they have had all appropriate vaccinations and should be taking anti-malarial medication.

Aid organisations intending to deploy individuals to assist in the EVD response who will enter New Zealand on completion of their deployment should discuss plans with the Ministry. The Ministry will assist in planning and coordination of the individual's arrival in New Zealand.

Individuals entering New Zealand after assisting in the EVD response in affected countries must undertake a 21-day self-monitoring period commencing from the date of departure from the EVD-affected country. The self-monitoring period must be completed in a non-EVD-affected country – either New Zealand, another non-EVD-affected country or a combination of both.

Context

- EVD-affected countries are identified at www.health.govt.nz/ebola
- Correct use of personal protective equipment and the appropriate use of infection prevention and control practices will reduce the risk of infection.
- Those who have direct, unprotected exposure are at high risk of developing EVD infection. They will be unable to undertake international travel, unless as part of an appropriate medical evacuation and will be cared for according to the policies of their employing organisation.
- The incubation period of EVD is up to 21 days, most commonly 8–10 days.
- Individuals cannot infect others until they have symptoms. Infection only occurs through contact with blood and other body fluids, not through the respiratory route. The level of infectiousness increases as the illness develops.
- New Zealand currently has a very low number of residents deploying to the affected countries.

Protocol

- As the EVD incubation period is most commonly 8–10 days following exposure, travel to New Zealand should not be undertaken during the 8–10 period following departure from an EVD-affected country.
- If health officials are aware of a person travelling to New Zealand after assisting in the EVD response in an affected country, they will work with the individual's employer or volunteer agency to ascertain their point of entry and flight details. Health officials will keep border agencies and public health units (PHUs) briefed to enable appropriate preparations at a local level.

- Those entering New Zealand will monitor and record their own temperature twice daily for 21 days following departure from an EVD affected country. Any medications taken will also be recorded. Anti-pyretics or other fever-masking therapies must be avoided in the 4 hours before a temperature check is performed. Individuals will contact their employing organisation at transit points during travel to New Zealand to report their health status.
- If the individual becomes unwell during a flight they must immediately notify air crew. If they become unwell during transit they must notify local officials and their employing organisation. The employing organisation will in turn notify the Ministry.
- On arrival in New Zealand, the individual will accurately complete their arrival card listing the countries visited in the previous 30 days. Customs officers will ask a series of questions, including if the individual had close contact with someone who has had EVD or was suspected of having the disease, was providing medical care to an EVD patient or working in a laboratory and having exposure to EVD samples. If the person answers 'yes' to at least one question, they will be isolated and the border health protection officers contacted to undertake a health assessment and provide advice.
- The individual will continue to self-monitor at an agreed location in New Zealand until they have completed their 21-day monitoring period. Self-monitoring involves taking and recording their temperature twice daily and recording any medications taken. Anti-pyretics or other fever-masking therapies must not be taken in the four hours prior to a temperature check. They will be supported over this time by the local PHU.
- Individuals will not return to work in health care setting until the completion of the 21-day self-monitoring period. If the person is not working in a health care setting, they should discuss with their local PHU whether they are able to return to work.
- Individuals should not be limited in the activities of daily living nor the use of public transport during the 21-day self-monitoring period.
- Individuals will be asked to inform their local PHU if they are planning to travel within New Zealand. Overseas travel is strongly discouraged during the 21-day monitoring period.
- The PHU will provide daily reporting to the Ministry on the health status of the person.
- If an individual develops any signs or symptoms of EVD they will immediately self-isolate and notify their local PHU by telephone.
  Early signs and symptoms include:
  - fever
  - severe headache
  - joint and muscle aches
  - chills
  - weakness.
- The PHU will immediately notify the Ministry if the person's signs and symptoms meet the EVD suspect case definition.

2.Updated information for health professionals: Ebola virus disease (EVD)

22 September 2014

The EVD situation is rapidly evolving. Please ensure that you check the health professional's advice on http://www.health.govt.nz/ebola for any updated information

Contents

MINISTRY OF HEALTH
MANATŪ HAUORA

1.0 Introduction

This document provides updated information and guidance concerning Ebola virus disease (EVD) which is complementary to or, where there are differences, supersedes the information provided in the Communicable Disease Control Manual 2012 (http://www.health.govt.nz/publication/communicable-disease-control-manual-2012).

Updates on current EVD readiness actions are available on the Ministry of Health (the Ministry) website at:http://www.health.govt.nz/our-work/diseases-and-conditions/ebola-update).

Any queries about EVD readiness can be sent to: Ebolareadiness@moh.govt.nz

Intended users of this guidance are healthcare workers, laboratory workers and others who may come into contact with potentially infectious material from a suspect or confirmed case of EVD.

1.1 Context

EVD is notifiable as a viral haemorrhagic fever under the Health Act 1956. Suspected cases of EVD or any viral haemorrhagic fever, must be notified to the local Medical Officer of Health immediately.

EVD is a quarantinable infectious disease. This allows the full range of quarantine provisions to be used to manage suspected cases and contacts at the border, and for the provisions of the Epidemic Preparedness Act 2006 to apply, if required.

The Ministry would notify the World Health Organisation (WHO) of a case of EVD under the International Health Regulations, 2005.

Information on the current international EVD situation can be found in Appendix 1.

Information on the epidemiology of EVD can be found in Appendix 2.

1.2 Risk assessment

The Ministry's risk assessment currently indicates that it is extremely unlikely that a confirmed case of EVD would be identified in New Zealand. However, it is considered more likely that a traveller that meets the suspect case definition for EVD would present and require management until laboratory testing ruled out EVD. If a suspected case were to present in New Zealand, given the location and frequency of international flight arrivals it is most likely that they would present in Auckland, Wellington or Christchurch.

Should a suspect EVD case present, the Ministry is operating an EVD Readiness Incident Management Team (IMT) that will provide advice, support and coordination. The EVD Readiness IMT will be able to call on additional expert advice from the Ministry's EVD Technical Advisory Group (ETAG).

1.3 Local readiness and response plans

District Health Boards (DHBs) should undertake comprehensive local risk assessments and formulate local readiness and response plans.

2.0 Guidelines for health professionals

2.1 EVD case definitions

The current case definitions for EVD are as follows:

Suspected case (under investigation)[1]

A person with a clinical illness compatible with EVD*
AND, within 21 days before onset of illness, EITHER:

- A history of travel to the affected areas**
  OR

[1] Based on World Health Organization guidance.

- Direct contact with a probable or confirmed case***
  OR
- Exposure to EVD-infected blood or other body fluids or tissues
  OR
- Direct handling of bats, rodents or primates, from Ebola-affected countries
  OR
- Preparation or consumption of 'bushmeat'**** from Ebola-affected countries

Probable case

A suspected case with no possibility of laboratory confirmation for EVD either because the patient or samples are not available for testing

Confirmed case

A suspected case with laboratory confirmation (positive serology or PCR)

* Sudden onset of fever (>38.5° C) with additional symptoms such as intense weakness, headache, myalgia, abdominal pain, sore throat, vomiting, diarrhoea or unexplained haemorrhage. Initial symptoms are usually not specific and worsen after a few days, with prostration, rash, evidence of capillary leak, bleeding/haemorrhage, shock and impaired consciousness. Please note that during the current outbreak in West Africa, haemorrhagic symptoms have been reported less frequently than non-specific symptoms.

** Affected areas in Guinea, Liberia, Sierra Leone, Nigeria and the Équateur province in the Democratic Republic of Congo (see the map on the Centers for Disease Control and Prevention website).

*** Direct contact includes:

- direct physical contact with the case during the illness*****
- direct physical contact with the case post mortem*****
- having touched case's blood or body fluids during the illness*****
- having touched case's clothes or linens during the illness*****
- having been breastfed by the case.

**** Bushmeat is the meat of African wild animals used as food

***** Without the appropriate infection prevention and control measures.

2.2 Immediate actions on identification of a suspect case

- Place the suspected case in a single room. Place in a negative pressure room, if available.
- Use standard precautions plus droplet transmission-based precautions, including the use of personal protective equipment (PPE). *See Appendix 3 for Infection Prevention and Control Guidance*
- Suspected cases of EVD should only be managed by senior members of staff.
- Suspected cases of EVD must be notified immediately to the local Medical Officer of Health. EVD is notifiable as a viral haemorrhagic fever under the Health Act 1956.
- Local readiness and response plans should be initiated. A suspected or confirmed case of EVD should be managed in a tertiary care facility. Local readiness and response plans should include transport of a suspected case from the community, or a primary or secondary care facility to a tertiary care facility. Relevant ambulance services should be involved in making these arrangements.
- The preferred tertiary facilities are Auckland, Middlemore, Wellington or Christchurch Hospitals, however other tertiary facilities may also be utilised if required.
- The Ministry's EVD Readiness IMT will provide advice, support and coordination. The IMT will be able to call on additional expert advice from the Ministry's EVD Technical Advisory Group (ETAG), as required.

MINISTRY OF HEALTH
MANATŪ HAUORA

2.3 Management of a suspect case

Care for EVD is supportive, as there is no specific approved vaccine or therapeutic (antiviral drug) options available.
Other diagnoses, such as malaria or typhoid fever are more likely than EVD in ill travellers from affected countries. Based on clinical assessment and discussion, it may therefore be appropriate to treat for other diseases empirically whilst awaiting diagnostic EVD results (see 2.5 & 2.6).

Diagnostic testing for other diseases is not recommended until EVD has been ruled out.

Laboratory Testing for EVD diagnosis

EVD diagnostic testing must undertaken in an accredited reference laboratory for quality insurance purposes. The Ministry has arrangements in place for testing to be undertaken at the Victorian Infectious Diseases Reference Laboratory (VIDRL), Peter Doherty Institute, Victoria.

VIDRL has requested that only original samples be submitted, not deactivated samples or extracted nucleic acid.

Instructions for the shipping of samples are included in the "Sample Shipping Process" document available on the Health Emergency Management Information System (EMIS).
The timeframe for receiving a result is up to 72 hours.

Laboratory testing for patient management

- Local risk assessments should be conducted regarding collection, handling, testing and disposal of specimens from suspected EVD cases.

General recommendations for clinicians managing suspected EVD cases:

- Until the EVD diagnostic test result is available, routine haematology and other tests should be minimised as blood is highly infectious.
- Additional diagnostic tests, for more likely diagnoses such as malaria or typhoid fever are not recommended until EVD has been ruled out. Consideration must be given to the possibility of co-infection – the presence of malaria, typhoid or other disease does not rule out EVD, and vice versa.
- Based on clinical assessment and discussion, it may be appropriate to treat for other diseases empirically whilst awaiting EVD diagnostic results.

General recommendations for clinicians and laboratory staff managing samples:

- Local risk assessments should be conducted regarding collection, handling and disposal of specimens from suspected EVD cases.
    - All laboratory staff and other healthcare personnel collecting, handling, testing or disposing of specimens must follow established laboratory standards. Refer to AS/NZS 2243.3.2010: Safety in Laboratories.
- Point of care testing devices are available:
    - In line with other jurisdictions, the Ministry has purchased point of care testing devices for use in the management of a suspected or confirmed EVD case. These devices have been distributed to Auckland, Middlemore, Wellington and Christchurch Hospitals. If a patient were to present at another facility and they were not able to be transferred then the Ministry of Health will arrange deployment of the device to the appropriate facility.

- There is currently no international consensus as to whether the point of care devices should be used at the bedside or within the laboratory. This decision will be made on a case by case basis, based on a local risk assessment, as it would include consideration of the patient's condition as well as the particular local facilities.

2.4 Management of a confirmed EVD case

Care for EVD is supportive, as there is no specific approved vaccine or therapeutic (antiviral drug) options available.

The Ministry's EVD Readiness IMT that will continue to provide advice, support and coordination. The IMT will be able to call on additional expert advice from the Ministry's EVD Technical Advisory Group (ETAG), which includes expertise in the management of EVD cases.

Appendix 1: Current international situation as of 22 September 2014

An outbreak of EVD has been occurring in West Africa since December 2013. It is the largest outbreak of EVD ever reported, both in terms of the number of cases and the geographical spread. It is also the first time the EVD has spread to large cities.

A list of countries currently defined as EVD affected countries is available at www.health.govt.nz/ebola

Declaration of a Public Health Emergency of International Concern (PHEIC)

On 8 August 2014, Director General of the World Health Organization (WHO) declared the ongoing Ebola Virus Disease (EVD) outbreak in West Africa to be a Public Health Emergency of International concern (PHEIC). This decision was based on the advice and assessment of an Emergency Committee convened under the International Health Regulations. It is only the third time a PHEIC has been declared (the first was for the 2009 H1N1 influenza pandemic, the second was in May 2014 in response to the international spread of wild polio virus).

The WHO has issued a series of recommendations for states with EVD transmission, those with potential or confirmed EVD cases and those with land borders with affected states. These recommendations are intended to assist with containing the outbreak and preventing further international spread. The WHO also issued a series of recommendations for all states which are applicable to New Zealand.

Separate EVD outbreak in the Democratic Republic of Congo (DRC)

A separate outbreak of EVD, not related to the ongoing outbreak in West Africa, was reported on 24 August by the Democratic Republic of Congo (DRC).

Situation Updates

The WHO website has latest situation updated and other information:

http://www.who.int/csr/don/en/

The CDC website has an up-to-date map of countries affected by EVD:

http://www.cdc.gov/vhf/ebola/resources/distribution-map-guinea-outbreak.html

MINISTRY OF HEALTH
MANATŪ HAUORA

Appendix 2: Epidemiology of EVD

Ebola viruses

EVD is caused by a virus of the *Filoviridae* family. Five species of Ebola virus have been identified, namely Zaire, Sudan, Reston, Tai Forest and Bundibugyo, from samples collected during human and non-human primate outbreaks since the first outbreak in the Democratic Republic of the Congo in 1976. Fruit bats of the *Pteropodidae* family are considered to be a likely natural host of the Ebola virus, with outbreaks of EVD occurring occasionally amongst other species such as chimpanzees, gorillas, monkeys and forest antelope. The 2014 outbreak in West Africa is caused by the Zaire strain of Ebola virus.

Transmission

EVD is introduced into the human population through contact with the blood, secretions, other bodily fluids or organs of infected animals (often through hunting or preparation of bushmeat[2]). EVD then spreads person to person through contact and droplet transmission via the blood, secretions, organs or other bodily fluids of infected people, and contact with environments contaminated with such fluids, including in healthcare settings. The risk for infection in healthcare settings can be significantly reduced through the appropriate use of infection control precautions. Transmission through sexual contact may occur up to seven weeks after clinical recovery. Laboratory-acquired infections have also been reported.

Airborne transmission, as occurs for measles or influenza, has never been documented. There is no evidence that simple physical contact with a sick person is sufficient for contracting EVD. Contact with heavily contaminated objects (such as bedding) can possibly facilitate transmission. Traditional burial ceremonies in affected countries are a known high risk activity for transmission.

The role of the environment in transmission has not been established. Under environmental conditions that favour virus persistence, it has been shown that Ebola virus can survive in liquid or dried material for a number of days. However, Ebola virus is also sensitive to inactivation by ultraviolet light and drying.

Incubation period, signs and symptoms

The incubation period varies from 2 to 21 days, most commonly 8-10 days. People are not infectious before symptoms develop. The onset of symptoms is sudden and includes fever, intense weakness, myalgia, headache, nausea and sore throat. This is followed by vomiting, diarrhoea, impaired kidney and liver function, rash, and in some cases, both internal and external bleeding. Laboratory findings frequently include low white blood cell and platelet counts, as well as elevated liver enzymes. Some cases present with profuse internal and external bleeding, which can progress to shock and multi-organ failure. The mortality associated with Ebola virus in developing countries ranges from 50% to 90% (50-70% in this current outbreak) depending on the species of Ebola virus causing disease. The mortality for patients receiving care in developed countries is not known but is expected to be lower.

[2] The meat of African wild animals used as food.

MINISTRY OF HEALTH
MANATŪ HAUORA

Appendix 3: Infection Prevention and Control Management Plan for Suspected Cases of Viral Haemorrhagic Fever caused by Filoviruses (Ebola and Marburg viruses)

Purpose:

This guideline outlines the management of patients with known or suspected viral haemorrhagic fever within New Zealand District Health Board hospitals. This includes, but is not limited to, pathogens such the Ebola and Marburg viruses.

These guidelines are based on the available information and the following considerations:

- The lack of a safe and effective vaccine
- A suspected high rate of morbidity and mortality among infected patients
- Absence of confirmed or probable cases in New Zealand

Guideline principles and goals:

This guideline recommends a higher level of infection prevention and control measures than required for the reasons listed above. As more information becomes known about transmissibility, changes may be made to the infection prevention recommendations.

The guideline provides infection prevention and control guidance for all staff members when in close contact with a patient suspected or proven to have viral haemorrhagic fever due to a haemorrhagic fever virus.

Key Documents:

1. CDC Infection prevention and control recommendations for hospitalised patients with known or suspected Ebola Haemorrhagic Fever in US hospitals. Updated 1 August 2014. www.cdc.gov/vhf/ebola/infection-prevention-and-control-recommendations.html
2. Public Health Agency of Canada Laboratory Biosafety and Biosecurity. Ebola Virus. Modified 2014-08-01. www.phac-aspc.gc.ca/lab-bio/res/psds-ftss/ebolang.php
3. WHO Interim infection control recommendations for care of patients with suspected or confirmed Filovirus (Ebola, Marburg) Haemorrhagic Fever. August 2014.

   http://www.who.int/csr/bioriskreduction/filovirus_infection_control/en/
4. UK Department of Health HSE Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence. August 2014. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/354640/VHF_guidance_document_updated_links.pdf

MINISTRY OF HEALTH
MANATŪ HAUORA

Infection Prevention and Control:

This infection is spread via direct contact and indirect contact with infectious body fluids including secretions and excretions. Droplet spread may occur. Spread by small particle aerosols has not been conclusively demonstrated.

The anxiety of healthcare workers related to the high mortality rate has been taken into consideration for infection prevention and control measures. For this reason the following personnel restrictions should be put in place:

A. Restrict all non-essential staff from entering the clinical care area
    - Use of signage
    - Use of security personnel
B. Maintain a log of all staff and non-staff (family, friends and whanau) entering the room
    - Use of a checklist to ensure that all staff and non-staff entering the clinical care area use personal protective equipment (PPE) correctly – the wearing of correct PPE and the safe removal of PPE
C. Visitors restricted

Standard Precautions and Transmission-based Precautions should be applied.

Contact and Droplet Precautions:

1. Patient placement

- The patient should be placed in an airborne infection isolation room (negative pressure room) because of the high mortality associated with this infection. An ante room and ensuite bathroom is desirable. NB If a negative pressure room is not available, at a minimum a single room should be used until transfer to a negative pressure room is possible
- It is important that there is adequate space to allow for placement of PPE, infectious waste bins and disposable/single-patient use equipment for use with patient care. Discuss with IPC staff the optimal set up of 'clean' and 'dirty' areas.
- DHBs should refer to local infection prevention and control guidelines/policy on placement of PPE and waste bins.

2. Hand hygiene

- Use alcohol-based hand rubs in accordance with the '5 moments for hand hygiene'.
- Staff can also wash their hands with soap and water.
- Gloves must be worn by anyone entering the clinical care area.

3. Personal protective equipment

Gloves

Perform hand hygiene before putting on gloves and after removal of gloves. This should occur before leaving the patients room. The discarded gloves should be placed in the infectious waste bin.

After glove removal and performing hand hygiene ensure that hands do not touch potentially contaminated environmental surfaces or items in the patient's room.

In the event of heavy environmental contamination with blood, body fluids, vomit, or faeces, then double gloving should occur.

If, inadvertently, gloves were not worn by a staff member or a non-staff member during the handling of the patient or contaminated patient care equipment or linen then they must immediately wash their hands with soap and water.

Gowns– wear a semi-impervious splash-resistant disposable remove isolation gown or an all-in one disposable coverall[3] when entering the room. If there is a risk of significant exposure to blood or body fluids then wear a disposable white plastic apron over the gown or coverall.

Masks– wear a surgical mask when entering the room. For all aerosol generating procedures wear a particulate respirator (N95/P2 mask[4]) (see Airborne Precautions). Ensure that all staff who will be wearing such masks are familiar with 'fit checking'. Guidance should be sought from IPC personnel if staff have any queries. Masks should comply with AS/NZS 1716:2012 respiratory protective devices.

Face shield – wear a disposable or re-usable full facial shield when entering the room. Surgical masks with integral eye shields do not protect the entire face.

Shoe and hair covers – wear disposable shoe and hair covers when entering the room

Ensure that all PPE is donned and removed adhering to best practice (Figure 1 and 2). Removed PPE should be placed in an infectious waste bin. Re-usable PPE (face shields) will need to be cleaned between uses – see instructions for cleaning reusable PPE (below).

Airborne precautions are to be used in addition to standard and contact precautions for aerosol generating procedures.

Airborne precautions require the wearing of a particulate respirator (often referred to as a N95/P2 mask) and should be followed for all aerosol generating procedures.

Aerosol generating procedures at the bedside are bronchoscopy, open suctioning of airway secretions, resuscitation involving emergency intubation or CPR, bilevel positive airway pressure (BiPAP), sputum induction and endotracheal intubation.

[3] the use of coveralls rather than long sleeved disposable gowns should only be considered for staff trained and competent in using such attire.

[4] A P2/N95 respirator must comply with AS/NZS 1716:2012. The difference between N95 and P2 classification for respirator face masks is the N95 classification means the masks complies with USA testing requirements and the P2 classification indicates compliance with European testing requirements

MINISTRY OF HEALTH
MANATŪ HAUORA

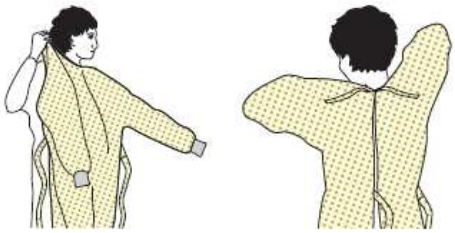
Figure 1: Sequence for donning Personal Protective Equipment (PPE)

SEQUENCE FOR DONNING PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required; e.g., Standard and Contact, Droplet or Airborne Infection Isolation.

1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist

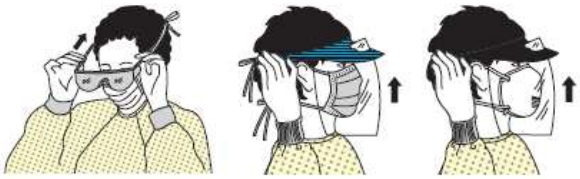


2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator

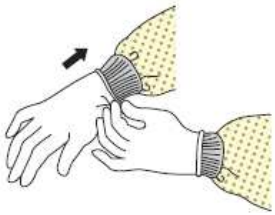
3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



4. GLOVES

- Extend to cover wrist of isolation gown



MINISTRY OF HEALTH
MANATŪ HAUORA

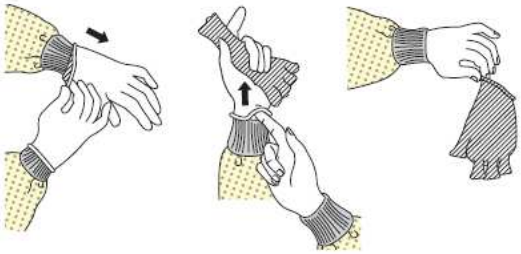
Figure 2: Sequence for removing Personal Protective Equipment (PPE)

SEQUENCE FOR REMOVING PERSONAL PROTECTIVE EQUIPMENT (PPE)

Except for respirator, remove PPE at doorway or in anteroom.
Remove respirator after leaving patient room and closing door.

1. GLOVES

- Outside of gloves is contaminated!
- Grasp outside of glove with opposite gloved hand; peel off
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist
- Peel glove off over first glove
- Discard gloves in waste container

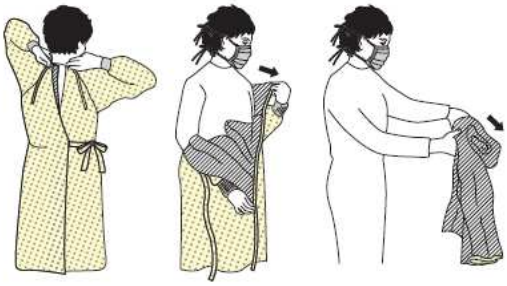


2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield is contaminated!
- To remove, handle by head band or ear pieces
- Place in designated receptacle for reprocessing or in waste container

3. GOWN

- Gown front and sleeves are contaminated!
- Unfasten ties
- Pull away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard



4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- Grasp bottom, then top ties or elastics and remove
- Discard in waste container

MINISTRY OF HEALTH
MANATŪ HAUORA

Cleaning of Re-usable face shields

- Remove the face shield as shown in Figure 2
- Place the face shield in a plastic container large enough to allow for immersion of the face shield
- Disinfect the face shield with 0.1% bleach. (30 minutes contact time is required)
- Rinse the face shield with warm water to remove residual bleach
- Dry
- Store in a clean dry area ready for re-use.

4. Patient-care equipment

Dedicate the use of non-critical patient-care equipment to the patient.

Where possible, use single-patient use equipment. All patient-care equipment that is not single-patient use should be thoroughly decontaminated and disinfected before being reused. If it cannot be adequately disinfected then it should be discarded into the appropriate receptacle. Follow the manufacturers' instructions for disinfecting re-useable equipment.

5. Patient Transport

Limit the movement and transport of the patient from the room to essential purposes only. If the patient is to be transported out of the room ensure that the staff assisting with the transfer wears PPE (gloves, gown, shoe and hair covers and face shield). The patient is to wear a surgical mask. Avoid transporting the patient through high patient flow or public access areas. If necessary, cordon off the route. Ensure that the clinical area receiving the patient is informed about the timing of the transfer.

6. Environmental control

It is important that the patient environment remains clean; who undertakes the task should be determined in consultation with the Infection Prevention and Control Service. Staff performing environmental cleaning should wear appropriate PPE. Care should be taken to avoid contact with blood and body fluids including secretions and excretions.

Ensure that the appropriate procedures for the routine care, cleaning and disinfection of environmental surfaces, beds, bedrails, bedside equipment and 'high-touch' surfaces are followed.

Heavily soiled areas need to be cleaned with warm water and detergent before disinfection.

Typical household bleach is a solution of sodium hypochlorite containing 50,000 ppm available chlorine. It is important to check the concentration in the formulation before use. Typical in-use concentrations are 10,000 ppm for the disinfection of blood spills and, 1,000 ppm for general environmental cleaning. For blood and body fluids spillage – follow current DHB policy for managing spills.

A fresh bleach solution should be made up every 24 hours.

7. Disposal of body fluids

Safe handling of commode bowls, urinals and bed pans is essential. Full PPE must be worn when handling commode bowls, urinals and bed pans.

Where possible empty the urinal and the bed pan contents into the ensuite toilet bowl, close the lid and flush the toilet. If no ensuite toilet is available, transport the commode bowl, urinal or bed pan safely in a plastic bag to the dirty utility room and either:

- Carefully empty the contents down the sluice sink, or
- Place the commode bowl, urinal or bed pan directly into the flusher sanitiser and run a cleaning cycle, or
- Place contents and cardboard insert directly into macerator and run cycle

Care must be taken to avoid excessive splashing.

Disinfect the sluice sink are with 1% bleach solution after disposal of contents.

8. Linen

All linen (disposable or otherwise) will need to be disposed of. Used linen should be placed in the infectious waste bins. The bin should contain an inner lining.

If disposable linen is not available then the normal re-usable linen should be used and disposed of in the infectious waste bin after use. The bin should contain an inner lining.

If bins with a lid are not available then the linen should be placed inside an infectious waste bag. When this bag is full it should be placed inside another infectious waste bag (double bagged) before being removed from the patient's room or anteroom. The bag should be sealed before removal.

Sending linen to the laundry may pose a risk to staff handling the linen at the laundry. Stringent measures would need to be put in place to ensure that the linen is handled safely. In the event that secure measures cannot be guaranteed linen should be disposed of with waste.

9. Occupational Health and Blood and Body Fluid Exposure

- ***Occupational Health***
  - A record of all potentially exposed staff should be maintained. Potentially exposed staff are those staff who provided care for the patient but who adhered to infection prevention and control best practices.
  - Potentially exposed staff should be provided with written information about the symptoms associated with viral haemorrhagic fevers that they need to watch out for. There should be clear instructions regarding who they should contact if symptoms occur.
  - Potentially exposed staff who become unwell during the incubation period (the 21 days period after last exposure to the patient with suspected or confirmed viral haemorrhagic fever) should contact their manager. They should also seek prompt medical evaluation and testing. The manager will assess the risk and contact Occupational Health Service. Depending on their symptoms, unwell staff may meet the case definition so would need to be notified to the local medical officer of health and 0800 GET MOH (0800 438 664).
  - Any staff member with unprotected percutaneous or mucocutaneous exposures to blood, body fluids, secretions or excretions from a patient with suspected VHF should immediately stop working. Mucous membrane exposures should be rinsed with copious amounts of water. For cutaneous exposures the affected area should be washed with soap and water. They should then seek assistance from their immediate supervisor who will contact the Occupational Health Service for assessment of the risk and access to post exposure management for blood borne viruses including HIV, Hepatitis B and C etc.

- A plan should be put into place for daily monitoring (twice daily temperature recordings) of the staff member for symptoms consistent with viral haemorrhagic fever for 21 days after the last exposure. The staff member should not return to clinical work for one full incubation period (21 days).

- ***Avoiding blood and body fluid exposure***
  - Take care to avoid injuries when using needles, scalpels and other sharp injuries. Never recap a needle.
  - Place sharp objects in a puncture resistant container after use.
  - If a needle stick injury is sustained by a staff member then they must immediately rinse the wound with copious amount of water and wash vigorously with medicated soap. They should seek assistance from their colleagues and inform their immediate manager.
  - Collect all solid, non-sharp, medical waste using leak-proof waste bins with covers.
  - Manage all spills according to routine policy. Wear appropriate PPE when cleaning up after a spill.
  - Limit the use of phlebotomy and keep laboratory testing to the minimum necessary for essential diagnostic evaluation and patient care.

10. Management of Waste

A risk assessment and management plan should be made for the safe storage and disposal of all waste.

- Refer to NZS 4304:2002 management of Healthcare Waste for guidance on the disposal of infectious waste
- All waste should be placed in an infectious waste bin or bag.
- Prior to removal of a bin from the room or anteroom the outside of the bin should be wiped with a 1% bleach solution.
- Prior to removal of a bag from the room the bag should be placed in another infectious waste bag.
- The opening of the bag or the lid of the bin should be sealed so that they cannot be inadvertently opened prior to disposal.
- The bags and bins should be identified and stored in a secured locked area in the loading bay prior to collection by the waste management service.
- Contact your local waste stream disposal provider to discuss /agree removal of waste and sharps bins (Daniel Sharps system).

11. Movement of deceased bodies

The handling of deceased bodies should be kept to a minimum. Staff handling the deceased body should wear PPE.

The deceased patient should be placed in a sealed, leak-proof body bag[5] and transported to the mortuary. Unfortunately leakage may still occur with these bags and for this reason the body bag should be placed inside a clear plastic bag or another body bag and sealed and wiped over with 1000 ppm available chlorine. Removal of PPE and hand hygiene should be performed once the task completed.

The Funeral Director should be informed in advance that the body is infectious so the appropriate arrangements by the funeral director can be made.

[5] Body bags should be of a good quality, zips should have a material underside as vinyl is more likely to tear. Absorbent material should be placed between each bag.

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12. Post-mortem Examinations

- A post-mortem examination on a person known to have died of EVD exposes staff to unwanted risk and **should not be performed**
- Where a patient has died prior to a definitive diagnosis of EVD, advice should be sought from the local Medical Officer of Health.

13. Visitors

- Visitors (family, friends and whanau) should not be allowed into the patient care area. However, exceptions may be made on a case by case basis.

14. Cleaning of the room after patient discharge

- Refer to current DHB policy for performing a terminal clean of the room.

Regional Public Health
Better Health For The Greater Wellington Region

Infection prevention and control precautions for general practice for ebola virus disease

Assessment of unwell patient with suspected ebola virus disease

- ☐ **Wellington Hospital** is the **designated centre** for the assessment of patient(s) with suspected Ebola virus disease.
- ☐ If patient phones GP surgery, obtain their contact, illness and travel history and ask them to wait at home. Immediately contact Regional Public Health (04 5709002). RPH staff will contact the patient, determine if patient meets case definition and arrange transport to Wellington Hospital if assessment required.
- ☐ If patient self-presents to GP surgery, immediately direct the patient into a room away from the waiting room. Ascertain whether patient has been in an affected country or has had known exposure within past 21 days. Immediately inform Regional Public Health and do not examine patient unless directed to. If life saving urgent medical care is required, staff must wear PPE as outlined below. RPH staff will provide health screening questions and will arrange ambulance transport to Wellington Hospital if required.
- ☐ The incubation period of Ebola virus disease is 2-21 days (median 5-9 days). Transmission of Ebola virus does not occur during the asymptomatic period.
- ☐ Infectious materials include blood, vomitus, faeces, urine and other body fluids. Transmission occurs by mucocutaneous contact with infected body fluids. Ebola virus cannot penetrate intact skin and is not infectious via the airborne route. Droplet and contact precautions are advised when in contact with a patient with suspected Ebola virus disease.

Personal protective equipment for staff to wear if assessing patient is required and when decontaminating surfaces

- ☐ Droplet and contact precautions are advised when in contact with a patient with suspected Ebola virus disease. PPE should be worn during decontamination of surfaces. Hand hygiene must be performed after removal of PPE.
- ☐ <u>Recommended PPE:</u> Mask plus eye shield/goggles if available
  Gloves (double gloving recommended if dealing with body fluid spills)
  Impermeable long sleeve gown or apron if long sleeve gown not available
  Boots/closed toe shoes

Decontamination of surfaces

- ☐ Obvious body fluid spills should be covered with 10,000ppm bleach and left for >2 minutes prior to cleaning with disposable wipes/cloths. If no obvious contamination with body fluids, all surfaces should be wiped down with detergent to remove any organic material then surface should be wiped with 1,000ppm bleach.
- ☐ Waste must be double bagged and disposed of as per infectious waste.
- ☐ Further advice may be obtained from Infection Prevention and Control teams at HVDHB or CCDHB including dilution tables for bleach and advice on handling waste.