



Updates in Infection Control Measures in Response to Recent Infectious Diseases Situation

27 May 2026

Dr. QUE Tak Lun

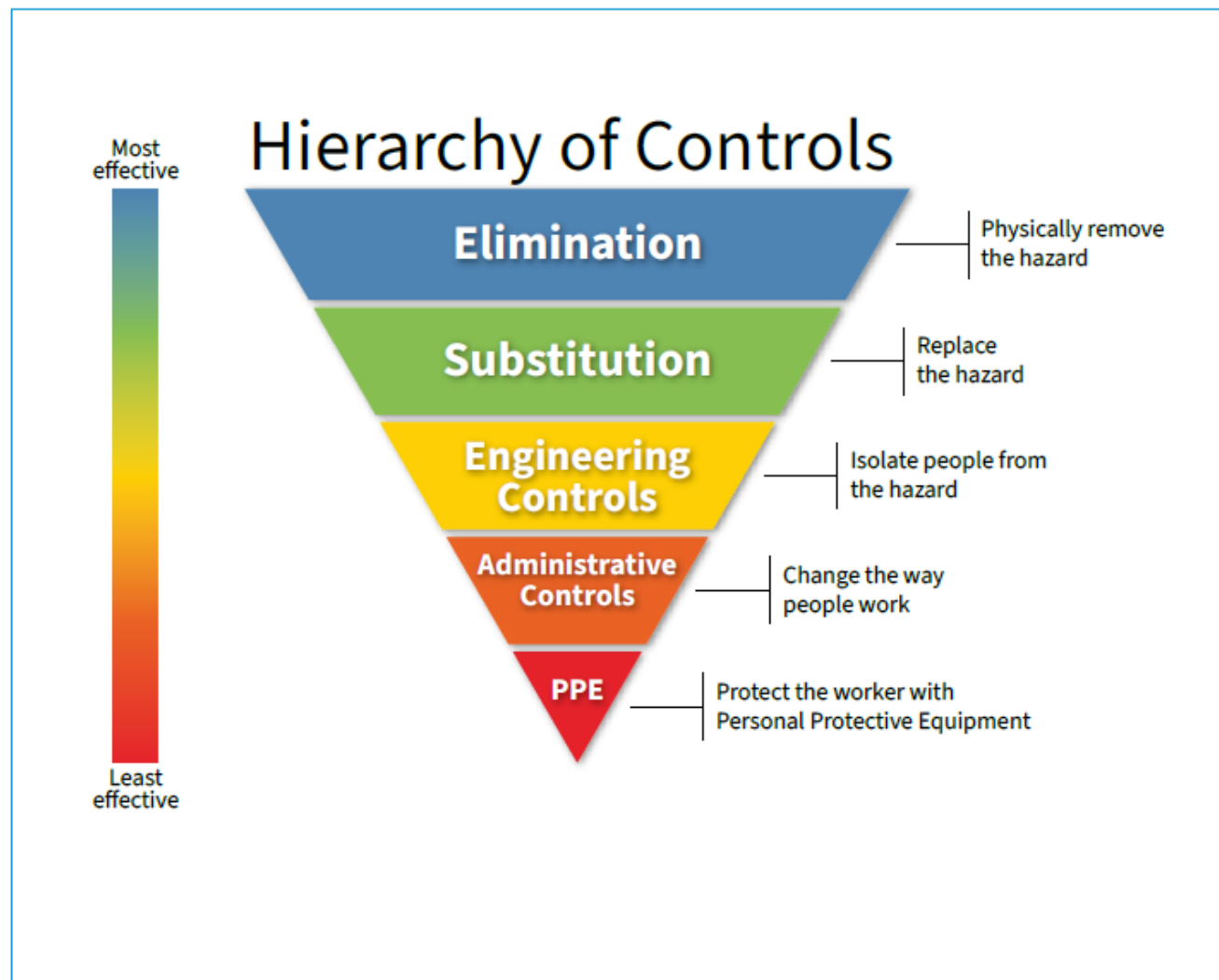
**Chief Infection Control Officer,
Hospital Authority Head Office**



Hierarchy of infection prevention and control (IPC) principles



Figure 1. The hierarchy of controls (31)



Developed by the National Institute for Occupational Safety and Health (31).

Elimination

Measures that remove the risk of exposure or infection at the source. E.g., hand hygiene, immunization, staying home when sick, using single-use medical devices and biohazard sharps containers.

Substitution

Measures that replace the risk of infection with safer alternatives. E.g., safety-engineered syringes/devices.

Engineering/Environmental

Measures in the physical environment that reduce the risk of exposure or infection. E.g., environmental cleaning and disinfection, optimizing indoor ventilation.

Administrative

Policies, practices, and training that reduce infection risk. E.g., symptom screening, appropriate signage, sick leave policies, hand hygiene policies and education.

Personal Protective Equipment (PPE)

Wearing specialized equipment to reduce exposure risks. E.g., masks, eye protection, gowns, gloves, and respirators, based on a point-of-care risk assessment or when indicated.



重要嘅事情講三次



個人防護裝備 ≠ 完全的保護!

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Original Article

Factors associated with patient-to-healthcare personnel (HCP) and HCP-to-subsequent patient transmission of methicillin-resistant *Staphylococcus aureus*

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Abstract

Background: Transient acquisition of methicillin-resistant *Staphylococcus aureus* (MRSA) on healthcare personnel (HCP) gloves and gowns following patient care has been examined. However, the potential for transmission to the subsequent patient has not been studied. We explored the frequency of MRSA transmission from patient to HCP, and then in separate encounters from contaminated HCP gloves and gowns to a subsequent simulated patient as well as the factors associated with these 2 transmission pathways.

Methods: We conducted a prospective cohort study with 2 parts. In objective 1, we studied MRSA transmission from random MRSA-positive patients to HCP gloves and gowns after specific routine patient care activities. In objective 2, we simulated subsequent transmission from random HCP gloves and gowns without hand hygiene to the next patient using a manikin proxy.

Results: For the first objective, among 98 MRSA-positive patients with 333 randomly selected individual patient–HCP interactions, HCP gloves or gowns were contaminated in 54 interactions (16.2%). In a multivariable analysis, performing endotracheal tube care had the greatest odds of glove or gown contamination (OR, 4.06; 95% CI, 1.3–12.6 relative to physical examination). For the second objective, after 147 simulated HCP–patient interactions, the subsequent transmission of MRSA to the manikin proxy occurred 15 times (10.2%).

Conclusion: After caring for a patient with MRSA, contamination of HCP gloves and gown and transmission to subsequent patients following HCP–patient interactions occurs frequently if contact precautions are not used. Proper infection control practices, including the use of gloves and gown, can prevent this potential subsequent transmission.

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Taking MRSA hand contamination as an example

- For the first objective, among 98 MRSA-positive patients with 333 randomly selected individual patient–HCP interactions, HCP gloves or gowns were contaminated in 54 interactions (16.2%).
- For the second objective, after 147 simulated HCP–patient interactions, the subsequent transmission of MRSA to the manikin proxy occurred 15 times (10.2%).



Gloves to prevent hand contamination: a good barrier?

- Several studies have shown gloves to reduce hand contamination by up to 70% when providing care to patients with multidrug-resistant organisms (MDROs), such as methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE), *Acinetobacter baumannii*, and *Pseudomonas aeruginosa*. [19–24].
- The same studies also revealed that gloves were contaminated between 50% and 70% of the time after touching the environment and/or the patient and that contamination was proportional to the duration of care [19, 20, 23].
- In addition, between 5% and 29% of hands showed residual contamination after the removal of gloves [19, 20, 22, 23].



NHS UK – Bare below Elbow

- **Before performing hand hygiene:**
- expose forearms (bare below the elbow). If disposable over-sleeves are worn for religious reasons, these must be removed and disposed of before performing hand hygiene, then replaced with a new pair*
- remove all hand and wrist jewellery. The wearing of a single, plain metal finger ring, eg a wedding band, is permitted but should be removed (or moved up) during hand hygiene. A religious bangle can be worn but should be moved up the forearm during hand hygiene and secured during patient care activities
- ensure fingernails are clean and short, and do not wear artificial nails or nail products
- cover all cuts or abrasions with a waterproof dressing.



missiles carried in 112 vertical launching system (VLS) cells

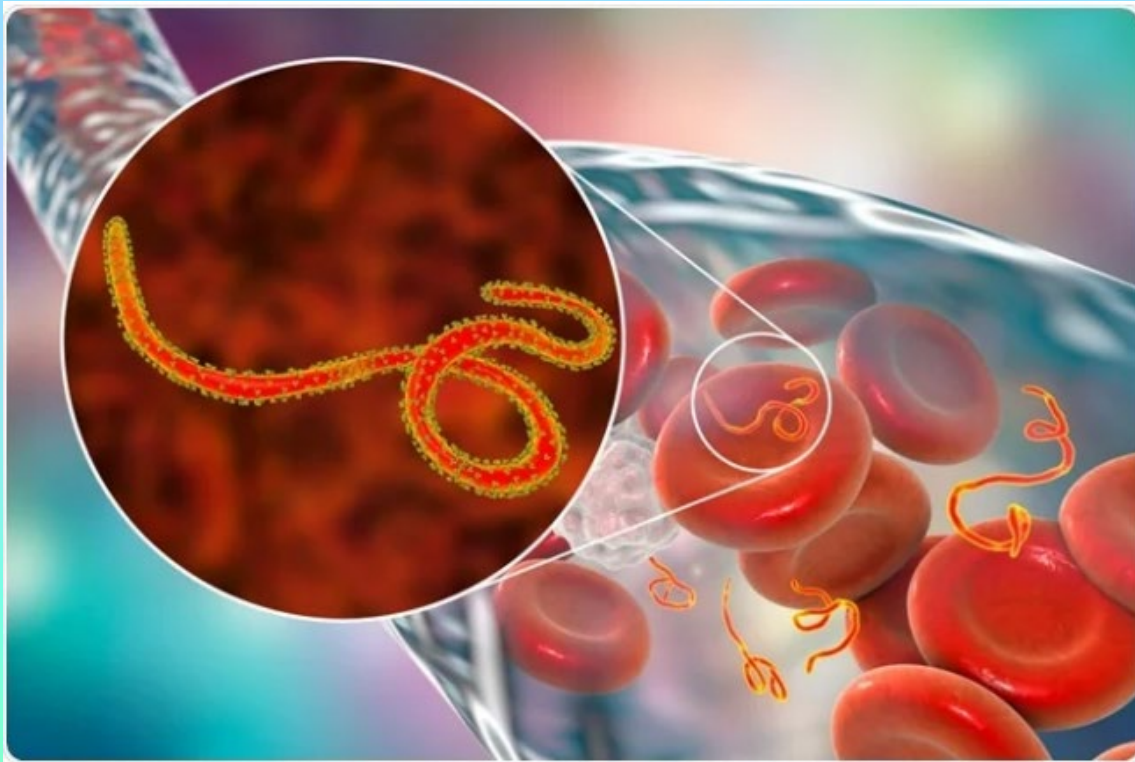


16 HELLFIRE missiles;
76 2.75-inch rockets
and 1,200 30mm chain gun rounds



9x 16"/50 caliber Mark 7 guns in triple-gun turrets

Ebola Disease (EBOD)



This is the 17th outbreak of Ebola in DRC since 1976.

The most recent outbreak ended in December 2025.



CENO's Case Definition of Viral Haemorrhagic Fever including Ebola (last updated on 24 Feb 2025)

Laboratory criteria

- Any one of the following:
 - Detection of nucleic acid of a specific VHF virus in a clinical specimen;
 - Isolation of a specific VHF virus from a clinical specimen; OR
 - Seroconversion or a four-fold or greater increase in IgG antibody titre to a specific VHF virus.

Confirmed case

- A clinically compatible case that fulfils any of the above laboratory criteria

Probable case

- A clinically compatible case with any one of the following epidemiological evidence but with no or non-confirmatory laboratory testing:
 - History of travel to an endemic/epidemic area within the incubation period of illness onset;
 - Contact with a confirmed case; OR
 - Exposure to VHF infected blood or tissues



Laboratory Testing and specimen handling



Laboratory testing

- PHLC provides RT-PCR testing (prior arrangement is required)
- Specimen: **serum/plasma** (**EDTA blood** is preferable)
- TAT for negative/preliminary positive results (after specimen reception at PHLC)
 - 3 hours for Zaire ebolavirus detection
 - **6 hours for Bundibugyo virus detection** basing on the existing protocol

Specimen handling

- Arrange vehicle for specimen transport between laboratories and specimens
- **Triple packaging system** to avoid leakage and for shock absorption during transport

PHLC's advice on Ebola PCR sample:

- Using an up-right container
- The blood samples should be lined with absorbent to ensured that there is no movement during transportation.





Transmission risk in healthcare settings



- *Ebolaviruses* are **highly transmissible** by direct contact with the blood (e.g. through mucous membranes or broken skin), or other bodily fluids (e.g. saliva, urine or vomit) of infected people, their dead bodies, or any surfaces and materials soiled by infectious fluids.
 - Asymptomatic infections are a limited phenomenon and probably do not contribute significantly to human-to-human transmission.
 - **Ebola disease is not an airborne disease** and is generally not considered to be contagious before the onset of symptoms.
 - Filoviruses can **survive in liquid or dried material for many days**. They are inactivated by gamma irradiation, heating for 60 minutes at 60°C or boiling for five minutes, and are sensitive to lipid solvents, sodium hypochlorite, and other disinfectants. Freezing or refrigeration does not inactivate filoviruses.
 - The typical incubation period ranges from 2 to 21 days and the mean incubation period has been estimated at 6.3 days. Short incubation periods are likely due to exposure to highly contaminated materials (e.g. occupational exposure through **needle-stick injuries**).
 - Healthcare settings can play a substantial role in the **amplification** of the disease, particularly at the beginning of an outbreak of Ebola disease before a definitive diagnosis is available and infection control measures have been implemented. Healthcare workers can be infected by nosocomial transmissions which can occur as a result of contact with infected patients **without wearing the proper protection**.
-
- The risk of infection can be significantly reduced through the **appropriate use of infection control precautions** and adequate barrier protection. **Extra precautions** need to be taken due to the potential risk of aerosolised virus, for example from patients undergoing **aerosol-generating procedures (AGPs)**.



Risk Factors for Ebola Exposure in Health Care Workers in Boende, Tshuapa Province, Democratic Republic of the Congo

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Background. Health care workers (HCW) are more likely to be exposed to Ebola virus (EBOV) during an outbreak compared to people in the general population due to close physical contact with patients and potential exposure to infectious fluids. However, not all will fall ill. Despite evidence of subclinical and paucisymptomatic Ebola virus disease (EVD), prevalence and associated risk factors remain unknown.

Methods. We conducted a serosurvey among HCW in Boende, Tshuapa Province, Democratic Republic of Congo. Human anti-EBOV glycoprotein IgG titers were measured using a commercially available ELISA kit. We assessed associations between anti-EBOV IgG seroreactivity, defined as ≥ 2.5 units/mL, and risk factors using univariable and multivariable logistic regression. Sensitivity analyses explored a more conservative cutoff, >5 units/mL.

Results. Overall, 22.5% of HCWs were seroreactive for EBOV. In multivariable analyses, using any form of personal protective equipment when interacting with a confirmed, probable, or suspect EVD case was negatively associated with seroreactivity (adjusted odds ratio, 0.23; 95% confidence interval, .07–.73).

Discussion. Our results suggest high exposure to EBOV among HCWs and provide additional evidence for asymptomatic or minimally symptomatic EVD. Further studies should be conducted to determine the probability of onward transmission and if seroreactivity is associated with immunity.

Keywords. Ebola; health care workers; risk factors; Democratic Republic of the Congo.



Risk to Health Care Workers



- Since the first reported outbreaks of EVD in humans in 1976, nosocomial infections have been an important driver of transmission, particularly among health care workers (HCWs) [4–7].
- Nosocomial infections can easily occur in the absence of stringent protective measures, as human-to-human EBOV transmission generally occurs through contact with body fluids of symptomatic or deceased individuals [8]. HCWs are an estimated 21 to 32 times more likely to be infected with EBOV during an outbreak compared to people in the general adult population, due to close physical contact with patients and potential exposure to infectious fluids [9].
- A survey conducted in and around Kikwit, in the Democratic Republic of the Congo (DRC), during the 1995 EBOV outbreak, found a 9% attack rate among HCWs [10].
- During the 2014–2015 EVD outbreak in West Africa, at least 3% of EVD cases were among HCWs and of those, two-thirds died [9, 11].
- The outbreak in North Kivu and Ituri in 2018–2020 resulted in 171 (5%) HCW infections, of which 44% died [12].



Activities performed on a confirmed, suspected, or probable Ebola patient ^b		
Been in the patient's room	0.79	.22–2.83
Performed examinations (clinical or laboratory)	0.86	.17–4.44
Given food to a patient	1.13	.32–3.99
Conversed with a patient	3.80	.73–19.83
Washed the patient's clothes	0.99	.10–10.41
Had contact with patient's bodily fluids	2.39	.79–7.30
Washed a cadaver	1.28	.13–12.76
Cleaned patient's room	1.40	.34–5.83
Participated in funeral rites/rituals	1.94	.52–7.19
Used any PPE when interacting with a confirmed, suspected, or probable Ebola patient ^b	0.23	.07–.73
Type of PPE used ^b		
Face mask	0.29	.09–.94
Laboratory coat	0.50	.15–1.62
Gown	0.45	.15–1.39
Gloves	0.23	.07–.73
Respirator	0.31	.06–1.50
Washed hands after each contact with a confirmed, suspected, or probable Ebola patient ^b	1.75	.94–3.28



- Our results suggest high exposure to EBOV among HCWs in Boende without a history of diagnosed EVD. Using a ≥ 2.5 units/mL cutoff, 22.5% of surveyed participants were seroreactive, which is consistent with other studies [[23](#), [26](#), [27](#)].
- A 2016 meta-analysis estimated proportions of asymptomatic Ebola infections at 27.1% (95% CI, 14.5%–39.6%) [[28](#)].
- Individual serostudies in areas surrounding EVD outbreaks commonly find seroprevalence of Ebola antibodies in individuals who have no history of EVD diagnosis.
- In 1976, in Sudan, the WHO found that 19% of contacts of individuals with EVD had antibodies to the virus [[29](#)].
- Estimates from other studies are lower; for example, a serologic survey conducted during the 1995 EVD outbreak in Kikwit found an average seroprevalence of 9.3% in surrounding villages [[30](#)].
- In addition to areas surrounding EVD outbreaks, this phenomenon has also been observed in areas with no record of EVD cases. A serostudy in the Sankuru province in DRC found that 11% of the study population was seropositive for EBOV despite no known outbreaks having occurred in the area [[31](#)].
- Finally, a study in the northeastern region of the DRC reported an EBOV seroprevalence of 18.7% in the indigenous Efe (pygmy) population [[27](#)].



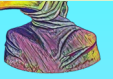
- Specific subgroups were associated with higher odds of EBOV seroreactivity.
- Being a **traditional healer** or pastor was associated with increased odds of seroreactivity compared to nurses. Traditional medicine is common throughout sub-Saharan African and in the DRC, with the number of traditional healers surpassing doctors and nurses in many rural areas [42–44]. Thus, in many settings, traditional healers are likely to be the first source of treatment when someone falls ill, but often do not have PPE or other medical resources to treat EVD patients safely, leading to exposure [45].
- Additionally, those in **administrative roles** are also associated with increased odds of seroreactivity compared to nurses. We hypothesize that these individuals might come in contact with EVD patients unknowingly, as patients at health facilities seeking care, without wearing proper PPE or following consistent hand washing practices.
- Not surprisingly, those who used any PPE showed significantly reduced odds of seroreactivity in the multivariable model.
- Furthermore, both use of a facemask and gloves were independently associated with lower odds of seroreactivity in the multivariable model.



Standard precautions for all patient care

- Standard precautions are the minimum infection control practices that must be used at all times for all patients in all situations
- Appropriate **PPE** and five moments of **hand hygiene** are essential when anticipating contact with:
 - blood
 - body fluids, secretions, excretions, such as urine and faeces (except sweat)
 - non-intact skin, such as an open wound; and
 - mucous membranes, such as the mouth cavity





Infection control precautions

- Isolate suspected / confirmed case in an **Airborne Infection Isolation Room (AIIR) ensuite with toilet facility**
- Practice **contact, droplet & airborne precautions** in addition to standard precautions for routine patient care and perform **aerosol-generating procedures**
- Meticulous hand hygiene
- **Prevent sharps injury and muco-cutaneous exposure**



Drill exercise



Personal protective equipment (PPE)

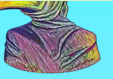
PPE	General patient triage (based on nature of encounter upon risk assessment)	Suspected / Confirmed Ebola disease patients
Cap	Disposable cap (optional)	Water-resistant hood
Face and eye protection	Face shield or goggles or visor	Face shield +/- goggles*
Respiratory protection	Surgical mask	Surgical respirator
Gown	Water-resistant gown (AMMI Level 1 or 3)	Water-resistant gown (EN 14126 Type PB [3-B] or AMMI Level 4)
Gloves	As indicated [#]	Double pairs of long nitrile gloves
Shoe covers or boots	Shoe covers (optional)	Full length shoe covers or boots

Hand Hygiene must be strictly observed, according to the WHO's 5 moments, namely (1) Before touching a patient, (2) Before clean / aseptic procedure, (3) After **blood or body fluid** exposure risk, (4) After touching a patient **including touching his/her clothes or linens**; and (5) After touching patient surroundings.

Remarks:

[#]For example, when presence of skin lesions or contact with blood and body fluids.

*In addition to face shield, staff may consider wearing goggles when performing high risk procedures



PPE for suspected/ confirmed Ebola disease

Suggested sequence of doffing of PPE

- | |
|-------------------------------------|
| 1. Remove double gloves |
| 2. Hand hygiene |
| 3. Wear a new pair of gloves |
| 4. Water-resistant gown |
| 5. Remove gloves |
| 6. Hand hygiene |
| 7. Wear a new pair of gloves |
| 8. Full length shoe covers or boots |
| 9. Remove gloves |
| 10. Hand hygiene |
| 11. Wear a new pair of gloves |
| 12. Face shield +/- goggles |
| 13. Water-resistant hood |
| 14. Remove gloves |
| 15. Hand hygiene |
| 16. Wear a new pair of gloves |
| 17. Surgical respirator |
| 18. Removes gloves |
| 19. Hand hygiene |



Face shield (In addition to face shield, staff may consider wearing goggles when performing high risk procedures)

Surgical respirator

Water-resistant hood

Water-resistant gown

Double nitrile gloves

Boot / full length shoe cover

穿上 Donning

個人防護裝備 Personal Protective Equipment (PPE)

適用於埃博拉(伊波拉)病毒病 For Ebola Virus Disease (EVD)



- 1** **潔手** Hand Hygiene
- 2** **N95呼吸器** N95 Respirator
進行手套密封性檢查 Perform Seal-Check
- 3** **頭套** Hood
將綫帶向後拉及打結 Tie a knot at the back
- 4** **面罩* +/- 護目鏡** Face Shield* +/- Goggles
覆蓋面部及眼睛，拉緊綫帶 Place over face and eyes, adjust to fit
*在進行高風險的程序時，觀察人員可以考慮配戴護目鏡或面罩。*In addition to face shield, staff may consider wearing goggles when performing high risk procedures.
- 5** **水靴** Boots **或** **長鞋套** Full-length Shoe Covers
潔手 Hand Hygiene
- 6** **防水保護衣** Water Resistant Gown
防護衣須完全覆蓋背脊
綫帶綁在腰中央 Cover back entirely with gown
Tie waist knot at the front
- 7** **潔手** Hand Hygiene
- 8** **雙層長手套** Double, long nitrile gloves
拉下手袖至手掌，穿上手套，手套須覆蓋整個手袖 Pull down the cuff to the palm, extend gloves to cover cuff of gown

注意事項 Points to note:

- 選擇適合自己個人防護裝備的尺碼及尺碼。 Select your suitable model and size of PPE, including N95 respirator, gown, goggle and boots.
- 所有傷口應以防水敷料妥善覆蓋。 All wounds should be properly covered by waterproof dressings.
- 專家將全程協助並監督整個穿戴過程。 Engage a trained observer to supervise the donning process.

衛生防護中心傳染病處
 HPHO Chief Infection Control Officer Office
 2019年11月更新
 Updated in November 2019

卸除 Doffing

個人防護裝備 Personal Protective Equipment (PPE)

適用於埃博拉(伊波拉)病毒病 For Ebola Virus Disease (EVD)

- 1** **雙層長手套** Double, long nitrile gloves → **潔手** Hand Hygiene
- 2** **穿手套** Wear gloves → **保護衣** Gown → **除手套** Remove gloves → **潔手** Hand Hygiene
解開綫帶，從腰部將保護衣向下拉至腳腕處包裹口鼻並翻下，由內向外放下保護衣。 Untie waist knot, grasp the waist area and pull down to loosen the velcro, peel the gown away from body, turning the gown inside-out.
- 3** **穿手套** Wear gloves → **長鞋套** Full-length Shoe Covers **或** **水靴** Boots → **除手套** Remove gloves → **潔手** Hand Hygiene
- 4** **穿手套** Wear gloves → **面罩 +/- 護目鏡** Face Shield +/- Goggles → **頭套** Hood → **除手套** Remove gloves → **潔手** Hand Hygiene
拉緊面罩的鬆帶，向面部前部鬆開。 Grasp elastic and pull it over head gently.
解開綫帶，鬆開面罩上眼睛，緩緩向前拉下並走開。 Unfasten tie, head down and close eyes when removing hood by pulling forward and downward gently.
- 5** **穿手套** Wear gloves → **N95呼吸器** N95 Respirator → **除手套** Remove gloves → **潔手** Hand Hygiene
先松下面的鬆帶，然後鬆上面的鬆帶。 Grasp the bottom elastic, then the top.

注意事項 Points to note:

- 卸除過程由訓練的觀察員監督下進行。 Engage a trained observer to supervise the doffing process.
- 卸除個人防護裝備上切勿有水滴或噴霧。先以膠紙及吸水紙包裹，再以消毒液或酒精，才進行卸除步驟。 If PPE are contaminated with dribbling soils, clean with disposable absorbent material and disinfect with disinfectant wipes.
- 建議穿戴新手套卸除裝備。 Recommend to wear new gloves for removing PPE items.
- 進行高風險程序後或懷疑有暴露污染，卸除個人防護裝備後，以肥皂和水淋浴，以確保有效消毒。 Remove PPE and take shower with soap and water after high-risk procedure, or if there is any suspicion of self-contamination.



Smart tips on donning and doffing of PPE



- ✓ Supervise by a **trained monitor** during donning and doffing procedures
- ✓ Implement a **buddy system** at IDC for real time reminding staff if any lapse is observed during donning and doffing procedures
- ✓ Wear a **new pair of gloves to remove PPE** when there is visible soil on the PPE. Then after PPE removal, remove gloves and perform hand hygiene
- ✓ Remove the **most heavily contaminated items first**. Avoid contamination of yourself, and the environment
- ✓ If PPE items are contaminated with dribbling contaminants, remove with disposable absorbent material first and follow by **disposable disinfectant wipe**
- ✓ Remove PPE and **shower** with liquid soap and water after high-risk procedures or if there is any suspicion of self-contamination





Designate non-critical patient-care equipment

- Use disposable respiratory equipment for patients whenever possible
- Use bedpan washer for cleaning and thermal disinfection of the urinals
- Clean and disinfect all reusable equipment after individual patient use, unless equipment is heavily contaminated with blood or body fluid, then disposal as clinical wastes
- The following Ebola disease-contaminated items specified by Environmental Protection Department (EPD) require **special collection for landfill** instead of incineration if they are disposed as clinical waste:
 - Electronic equipment or parts;
 - Electrical equipment;
 - Potentially explosive materials, like gas bottles;
 - Batteries (e.g. batteries from mobile phones, notebook computers etc.);
 - Mercury-containing equipment/ instruments
- Seek advice from Infection Control Officer and inform hospital clinical waste coordinator for special arrangement for above items



Environmental control



- Wear appropriate PPE which include hood, face shield +/- goggles, surgical respirator, water resistant gown, double pairs of long nitrile gloves, full length shoe covers/ boots.
- Clean and disinfect with **sodium hypochlorite solution 1:49 (1,000 ppm)**, especially high-touch areas, daily or whenever visibly soiled.
- Use disposable cleaning equipment as far as possible, e.g. cloth/wipe and discarded as **clinical wastes**.
- Terminal disinfection of Ebola disease case by using stipulated concentration of bleach (1,000ppm) and followed by vaporized H_2O_2 .



Drill exercise



Handling of blood and body fluid spillage



- Wear appropriate PPE which include hood, face shield +/- goggles, surgical respirator, water resistant gown, double pairs of long nitrile gloves, full length shoe covers/ boots.
 - Clean the visible soils with disposable absorbent material and discard it directly into the red waste bag
 - Mop the area with sodium hypochlorite solution **1:4 (10,000 ppm)** and leave for 10 minutes
 - Rinse the area with water. Allow the area to air dry



Drill exercises



Linen and waste management



- Ebola virus is listed as **Group 4 Infectious Materials** under the Code of Practice for the Management of Clinical Waste, as specified in Section 35 of the Waste Disposal Ordinance (Cap. 354).
- All waste from patients with Ebola disease including used linen should be classified as **clinical waste**.
- A dedicated commode should be used with a disposable bowl / bedpans and liner bag. After use, the contents are to be solidified with **high-absorbency gel** and then discarded as clinical waste.
- For non-ambulant patients, disposable bedpans and liner bags should be used and the contents to be solidified with high-absorbency gel and discarded as clinical wastes. **Do not use macerator.**
- When disposing of liquid waste, pour gently to avoid splashing.



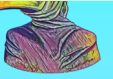
Clinical Waste Management Plan

https://bssd-corp-prd:10143/documents/20143/119233/HA+CWMP_20.4.2026.pdf/36ef1276-fd32-4608-e577-9b8dece9a3fe

[https://bssd-corp-](https://bssd-corp-prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+other+highly+infectious+diseases+%28Nov+2025%29.pdf/03916a39-8fbc-c678-acfa-c52d514061c9)

[prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+oth](https://bssd-corp-prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+other+highly+infectious+diseases+%28Nov+2025%29.pdf/03916a39-8fbc-c678-acfa-c52d514061c9)

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Guidance for clinical wastes with Ebola disease

- All clinical waste disposal packages should follow the size of plastic bag /container that is currently used.
- The **maximum dimensions of Sharps box and Heavy Duty Plastic Bags is 66cm (H) x 35.2cm (L) x 35.2cm (W)**
- For bulky waste (e.g. non fluid-impermeable mattress contaminated by infectious materials that cannot be put into a waste bag), wrapped with layers of strong thick plastic sheets and completely sealed with adhesive tapes, and attach a warning tag indicating its destination (i.e. incineration or deep trench landfill).



Clinical Waste Management Plan

https://bssd-corp-prd:10143/documents/20143/119233/HA+CWMP_20.4.2026.pdf/36ef1276-fd32-4608-e577-9b8dece9a3fe

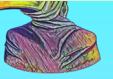
[https://bssd-corp-](https://bssd-corp-prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+other+highly+infectious+diseases+%28Nov+2025%29.pdf/03916a39-8fbc-c678-acfa-c52d514061c9)

[prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+other+highly+infectious+diseases+%28Nov+2025%29.pdf/03916a39-8fbc-c678-acfa-c52d514061c9](https://bssd-corp-prd:10143/documents/20143/119233/Guidance+Note+for+Healthcare+Setting+on+disposal+of+materials+contaminated+with+Ebola+Virus+Disease+%28EVD%29+or+other+highly+infectious+diseases+%28Nov+2025%29.pdf/03916a39-8fbc-c678-acfa-c52d514061c9)

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Handling of dead body



- Dead bodies should be classified as **category 3** with additional precautions required:
 - Wear appropriate PPE which include hood, face shield +/- goggles, N95 respirator, water resistant gown, double pairs of long nitrile gloves, full length shoe covers/ boots
 - Oral, nasal and rectal orifices of the dead body have to be plugged to prevent leakage of body fluids
 - All tubes, drains and catheters on the dead body should be removed
 - Put absorbent material under the dead body in the first bag
 - Place the dead body in double bags
 - Wipe over the surface of each body bag with a suitable disinfectant (e.g., sodium hypochlorite solution 1:4 (10,000 ppm))
 - Seal and label with the indication of highly-infectious material (Category 3 tag)

Danger of Infection 小心傳染 <small>In handling dead bodies, Standard Precautions are required. 處理屍體時需要採取標準預防措施。 In addition, the following precautions are also required. 此外，下列附加的預防措施亦必須採取!</small>		Category 3 <small>類別</small>	
 Bagging 入屍袋	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化妝
Must 必須	Not allowed 不可以	Not allowed 不可以	Not allowed 不可以

Precautions for Handling and Disposal of Dead Bodies

[https://www.chp.gov.hk/files/pdf/grp-guideline-hp-ic-precautions for handling and disposal of dead bodies en.pdf](https://www.chp.gov.hk/files/pdf/grp-guideline-hp-ic-precautions%20for%20handling%20and%20disposal%20of%20dead%20bodies%20en.pdf)



Infection control training and drill exercises

- All staff must receive training in prevention and control of infection. Staff with direct patient contact should receive infection control training every 24 months.
- Right-on time infection control training would be provided to update staff of the infection control measures related to Ebola disease.
- Refresher training of donning and doffing PPE will be provided to high-risk units, namely **IDC, AEDs, ICUs, Isolation wards and FMCs / FMICs.**
- Conducting drill exercises to ensure frontline healthcare workers can swiftly detect, isolate, and safely manage suspected cases





High-risk exposure in healthcare settings

- Risk assessment will be conducted by Infection Control Officer
- Examples of unprotected close or direct contact with a case or infectious material:
 - Needlestick injury
 - Confirmed history of splashes on mucous membranes / broken skin
 - Direct contact with a case / their body fluids / contaminated environment without appropriate PPE
 - Unprotected handling of clinical / laboratory specimens
 - Someone who has been in the same room as and within 2 metres of the case
 - Breaches in infection control practices

Close contacts (asymptomatic):

- Require **21 days** of quarantine under the quarantine order (QO) plus **21 days** of medical surveillance at home

UK HAS – Public health recommendations for asymptomatic contacts of Marburg disease (MARD) or Ebola disease (EBOD) in UK settings.

https://assets.publishing.service.gov.uk/media/68c7bfe07009f464cdc0cc48/Marburg_virus_disease_and_Ebola_disease_contact_classification_UK_settings.pdf

CDC – Public Health Management of People with Suspected or Confirmed VHF or High-Risk Exposures

<https://www.cdc.gov/viral-hemorrhagic-fevers/php/public-health-strategy/people-with-suspected-or-confirmed-vhf-or-high-risk.html>

WHO – Contact Tracing During an Outbreak of Ebola Virus Disease. <https://www.who.int/publications/i/item/9789290232575>

Staff communication

Thematic webpage

IEC
感染及應急事務
Infection, Emergency & Contingency

Welcome to IEC webpage

Home About us COC/CCs Infectious Disease Control MICC & Emergency Response/ Crisis Intervention Corporate Clinical Psychology Service

戒備

Reporting Outlets
Communication Kit
Guideline
Letters to Doctors



Ebola Disease
埃博拉 (伊波拉) 病

Communication kit

Hospital Authority
Communication Kit

Ebola Disease
Version 3.1 (19 May 2026)

Prepared by Chief Infection Control Officer (CICO) Office







HA Preparedness Plan and Guidelines

Document No.	CCIDER-EVD-001
Author	Infection, Emergency and Contingency Department, HAHO
Custodian	Central Committee on Infectious Disease and Emergency Responses
Approved by	HA Directors' Meeting
Effective Date	1 September 2014
Version	1

Preparedness Plan

Version	Effective Date
1	5 September 2014
1.1	26 September 2014
1.2	17 October 2014
1.3	22 October 2014
1.4	5 May 2017

Document Number	CCIDER-EVD-002 (v1.4)
Author	Chief Infection Control Officer Office
Custodian	Central Committee on Infectious Disease and Emergency Responses
Approved by	Task Force on Infection Control (TFIC)
Approval Date	5 May 2017
Next Review Date	22 October 2017

Infection Control Plan

Version	Effective Date
1	3 September 2014
2	12 September 2014
3	22 September 2014
4	9 December 2019
5	20 April 2023

Document Number	CCIDER-EVD-004(V5)
Author	HA Task Force on Clinical Management on Infection (TFICM)
Custodian	Central Committee on Infectious Diseases and Emergency Responses (CCIDER)
Approved by	Central Committee on Infectious Diseases and Emergency Responses (CCIDER)
Approval Date	20 April 2023
Next Review Date	20 April 2026

Clinical Management

Version	Effective Date
1	26 September 2014

Document Number	CCIDER-EVD-003
Author	Chief Infection Control Officer Office
Custodian	Central Committee on Infectious Disease and Emergency Responses
Approved by	Task Force on Infection Control (TFIC)
Approval Date	26 September 2014
Next Review Date	26 September 2017

Management of Sharps Injury and Muco-cutaneous Exposure

Hantavirus Infection





CENO's Case Definition of Hantavirus infection (last updated on 25 July 2019)

Laboratory criteria

- Any one of the following:
 - Detection of nucleic acid of hantavirus in a clinical specimen;
 - Detection of hantavirus antigen in a clinical specimen;
 - Detection of IgM antibody to hantavirus in a serum specimen; OR
 - Seroconversion or a four-fold or greater increase in antibody titre to hantavirus in
 - paired serum specimens

Confirmed case

- A clinically compatible case that fulfils any of the above laboratory criteria



Laboratory testing

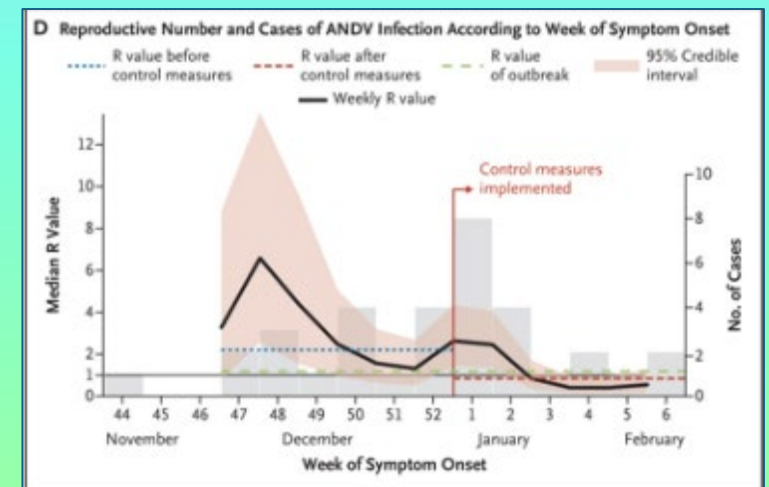
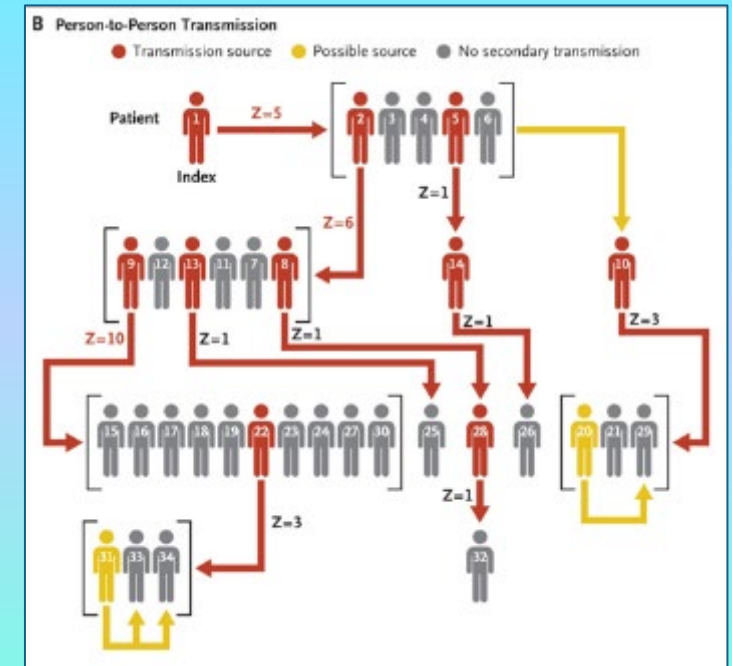


- **Serological tests** (Definitive diagnosis)
 - Detection of hantavirus-specific IgM antibodies, seroconversion, or ≥ 4 -fold rise in antibody (polyvalent/IgG) titres between acute and convalescent sera
- **Molecular test** (i.e. RT-PCR)
 - Detection of viral RNA in blood, respiratory samples or tissues during the acute phase of illness
- The laboratory diagnosis for **Hantavirus / Hantaan virus testing** is supported by PHLSB.
- GCRS for Hantavirus / Hantaan virus serology is available for testing ordering
 - Inform ICT, CICO and MCO of CHP (mobile no. 92607090) to facilitate prompt investigation



“Super-Spreaders” and Person-to-Person Transmission of Andes Virus in Argentina

- The outbreak of ANDV hantavirus pulmonary syndrome in Epuyén during 2018 and 2019 provided evidence of person-to-person transmission of an orthohantavirus.
- This outbreak, which involved up to four generations of human infections, resulted in a higher number of cases compared to earlier person-to-person transmission events of ANDV. It began with a single introduction of the virus from a rodent reservoir into the human population. However, the spread was largely fueled by three symptomatic individuals who attended crowded social events.
- Once 18 cases were confirmed, public health officials implemented measures such as isolating confirmed cases and requiring self-quarantine for potential contacts. These interventions likely slowed the spread of the virus.
- The median reproductive number, which indicates the average number of secondary cases caused by an infected person during their infectious period, was 2.12 before the control measures were put in place. After the measures were implemented, this number decreased to 0.96.





Transmission risk



- Andes virus is the only type of hantavirus that is known to spread person-to-person.
- Human-to-human transmission is rare and requires prolonged close contact, often in enclosed settings. This includes direct physical contact, prolonged time spent in close or enclosed spaces, and exposure to the symptomatic person's body fluids.¹
- Transmission through the air is a possibility and is currently considered a potential route of spread in the current (May 2026) outbreak.²

The average incubation period of ANDV is n=18 days but has been reported as ranging from n=4 days up to n=40 days post exposure. The period of infectiousness is unclear; pre-symptomatic transmission is not documented; however, as a precautionary principal it should be assumed that there is potential for presymptomatic transmission n=2 days prior to symptom onset (including prodromal symptoms).²

- Secondary infections among healthcare workers have been previously documented in healthcare facilities, though they remain rare. Secondary transmission appears most likely during the early phase of illness, when the virus is more transmissible. Currently, little evidence is available due to the scarcity of hantavirus outbreak related to human-to-human transmission.³
- WHO – Available evidence indicates that the risk of health-care associated transmission of hantavirus, including *Andes virus*, is very low when appropriate infection prevention and control measures are applied.⁴
 - In health-care environments, standard precautions should be applied for all patients, including hand hygiene, environmental cleaning and safe handling of blood and body fluids.
 - For suspected or confirmed hantavirus infection, use of standard precautions combined with transmission-based precautions during provision of care is advised. For aerosol-generating procedures, airborne precautions should be used.
 - Early recognition of suspected cases, prompt isolation, and consistent adherence to recommended infection prevention and control measures remain essential to protect health-care personnel.

Sources:

1. CDC - About Andes Virus <https://www.cdc.gov/hantavirus/about/andesvirus.html>
2. NHS - Infection prevention and control measures for asymptomatic contacts, clinically suspected, and confirmed cases of Andes virus (hantavirus) in healthcare settings <https://www.england.nhs.uk/long-read/ipc-measures-asymptomatic-contacts-cases-hantavirus-healthcare-settings/>
3. WHO – WHO Rapid Risk Assessment - Hantavirus outbreak caused by Andes virus <https://www.who.int/publications/m/item/who-rapid-risk-assessment---hantavirus-outbreak-caused-by-andes-virus--global-v.2>
4. WHO – Hantavirus <https://www.who.int/news-room/fact-sheets/detail/hantavirus>

Early identification of suspected case

- **FTOCC screening (gatekeeping)** in AED triage/ FMC/ FMIC
- If there is a clinical suspicion after ward admission, it is necessary to repeatedly inquire about the patient's exposure history
- Please take actions if fulfill CHP's reporting criteria:
 - Isolate the patient in a single room (preferably AIIR)
 - Advise the patient to put on surgical mask if not contraindicated
 - Notify via NDORS (Call MCO of CHP at 9260 7090 and HA HODO at 2805 6888)
 - Inform ICT and CICO office



PPE at triage

Reporting criteria

Clinical criteria

Acute febrile illness with compatible systemic symptoms

- Fever
- Myalgia
- Headache
- Fatigue
- Gastrointestinal symptoms

With or without respiratory complaints



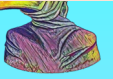
Epidemiological criteria

At least one relevant epidemiological exposure within the preceding **42 days**:

- Travel on "MV Hondius" on or after 1 April 2026;
- Close/intimate contact with symptomatic MV Hondius passengers or crew; or
- Close contact with a confirmed Andes virus case

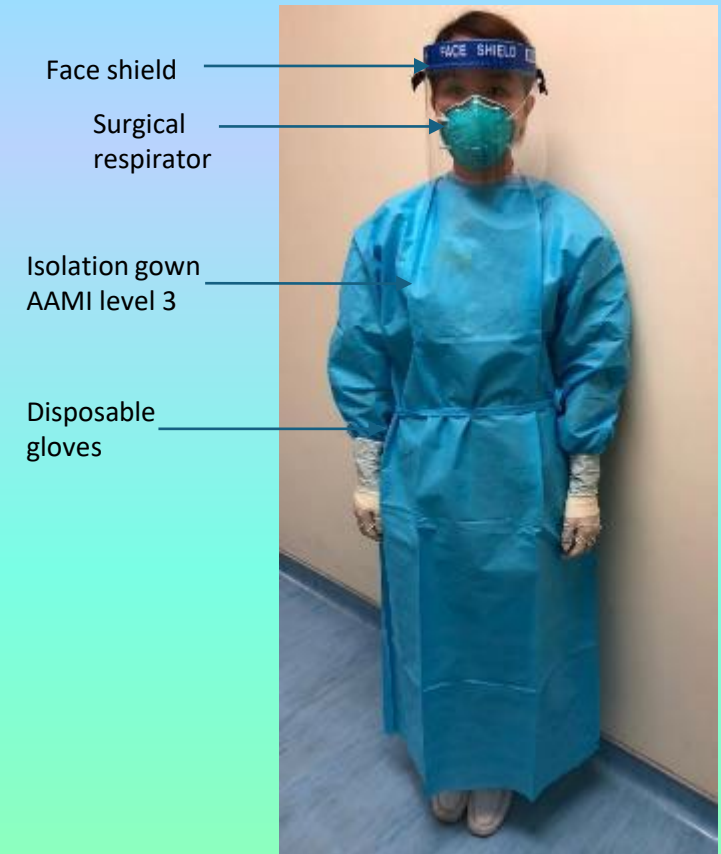


Infection control precautions



- Isolate suspected / confirmed case in an **Airborne Infection Isolation Room (AIIR) ensuite with toilet facility**
- Practice **contact, droplet & airborne precautions** in addition to standard precautions for routine patient care and perform aerosol-generating procedures
- Meticulous hand hygiene

PPE when handling patients with Hantavirus infection





Other infection control measures

- Designate non-critical patient-care equipment
- Use disposable respiratory equipment whenever possible
- All linen from patients should be classified as **infected linen**. Place linen into **water soluble bag, then a laundry bag** with minimal manipulation or agitation to avoid contamination of air, surfaces and persons. Linen bag should be secured with “infected linen” tag with information of the origin.
- All waste from patients should be classified as **clinical waste** and should be disposed into red bag.
- Dead bodies should be classified as **category 2** with additional precautions required



Danger of Infection 小心傳染		Category 類別	
		2	
In handling dead bodies, Standard Precautions are required. 處理屍體時需要採取標準預防措施。 In addition, the following precautions are also required: 此外，下列附加的預防措施亦必須採納：			
Bagging 入屍袋	Viewing in funeral parlour 殯儀館內瞻仰遺容	Embalming 防腐處理	Hygienic preparation in funeral parlour 殯儀館內裝身及化妝
Must 必須	Allowed 可以	Not allowed 不可以	Allowed with disposable gloves, water resistant gown / plastic apron over water repellent gown, surgical mask 可以，但必須戴上用後即棄的手套、防水保護衣/ 防水保護衣外加膠圍裙和外科口罩

Thank You!!!!

