



Protocol for Assessing and Managing Cases of Suspected Airborne High Consequence Infectious Diseases (HCID) in the Regional Infectious Diseases Unit (RIDU), ward 74, WGH

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Overview

This document provides advice on the initial management of patients with suspected or confirmed airborne High Consequence Infectious Diseases (HCID) including:

1. Severe Acute Respiratory Infection (SARI) due to **avian influenza, MERS-CoV or SARS**, or
2. **Clade 1 Mpox virus (MPXV)**.

While principles of PPE are the same, testing for Andes virus infection, Nipah virus infection and pneumonic plague are not specifically covered in this document. This should be discussed with the infection and/or virology consultant on-call if considered.

Cases should be assessed using up to date information from the UK Health Security Agency.

Please note that this document does not encompass:

- seasonal or pandemic influenza, nor
- Clade 2 MPXV, which is no longer considered as a high consequence infectious disease (HCID).

Immediate Actions for the ID On-Call Consultant / SpR

You may receive a phone call from a GP, Public Health, an ambulance crew, another part of NHS Lothian secondary care or another hospital out with NHS Lothian, asking for advice on a patient with suspected high consequence SARI or Clade 1 MPXV.

Perform a careful risk assessment over the phone in accordance with the most up-to-date information from the UK Health Security Agency. Also establish if the patient is likely to require hospital admission (if not admitted already).

Patients who have presented to another hospital either within or out with NHS Lothian should **not** be moved as per previous guidance by Public Health Scotland unless there are overriding clinical needs. Patients should not be transferred solely for the purpose of accommodation in a specialised isolation room.

If the patient presents via primary care, the GP will discuss with RIDU regarding whether admission and assessment are required, and the most appropriate form of transport (see above). It is important to note that MERS-CoV is unlikely if clinical severity does not require hospitalisation and if the patient was well they may be asked to self isolate at home while symptomatic, self-monitor and report any changes to GP or the health protection team.

Once you have decided that the patient needs **admission to RIDU (ward 74, WGH)**:

- Phone nurse in charge - Inform them of patient, risk assessment and degree of PPE required.
- Decide on the modality of transport.
 - Can the patient drive themselves in?
 - Do they need an ambulance?
 - If they need an ambulance phone Ambulance Control Service and ask to speak to National Operations Manager – 03333 990 152 or 03333 990 154. The National Operations Manager will help arranging an appropriate ambulance and crew.
- Plan patient arrival and escort into ward 74 (see details below).
- Phone on-call virologist via switchboard to tell them sample is being dispatched with time of uplift. See page 12 on how to send the sample from ward 74 to virology.
- All suspected cases of a HCID should be discussed with the local Health Protection Team who will in turn inform Public Health Scotland.
- Nurse coordinator
 - is responsible for preparation of patient admission room
 - will contact bleep 8100/Site & Capacity to advise of high-risk admission and whether need for evacuation of any rooms on w74.
 - notify Infection Prevention and Control Team (if out of hours, notify Lindsay Guthrie via switchboard)

Admission to ward 74 for initial assessment and testing

Admission of patient to w74

At least five team members are required to meet patient and transport them to w74:

- 1 Stand outside RBV level -1/basement entrance to keep entrance clear during patient arrival.
- 2 Meet patient and accompany them +/- SAS crew to patient room.
- 3 Stand in RVB basement and clear area + lift not used after transfer until confirmed safe
- 4 Stand in level 2 corridor, ensure area clear + lift not used after transfer until confirmed safe
- 5 Stand in ward 74 corridor and ensure area clear

- Patient arrives at the RVB building ambulance bay, either by SORT ambulance, having driven themselves, or driven by a relative.
- If not arriving by ambulance the patient/relative should be instructed to phone the ward mobile phone (07580342100) to announce arrival.
- If driven self, instruct to park car at far end of ambulance bay, as close to kerbside as possible.



The patient should remain in the vehicle until a member of the ID team in appropriate PPE meets them **outside the building** in the ambulance bay.



If possible, patient should wear surgical mask (to be provided by ID team). Wheelchair may be required if patient is unable to walk e.g. very short of breath.



- Enter RVB via level -1/basement entrance and take the elevator to ward.
- Both elevators will be isolated using isolator keys.
- Ensure lift not used by patients or staff until no body fluid spill confirmed.

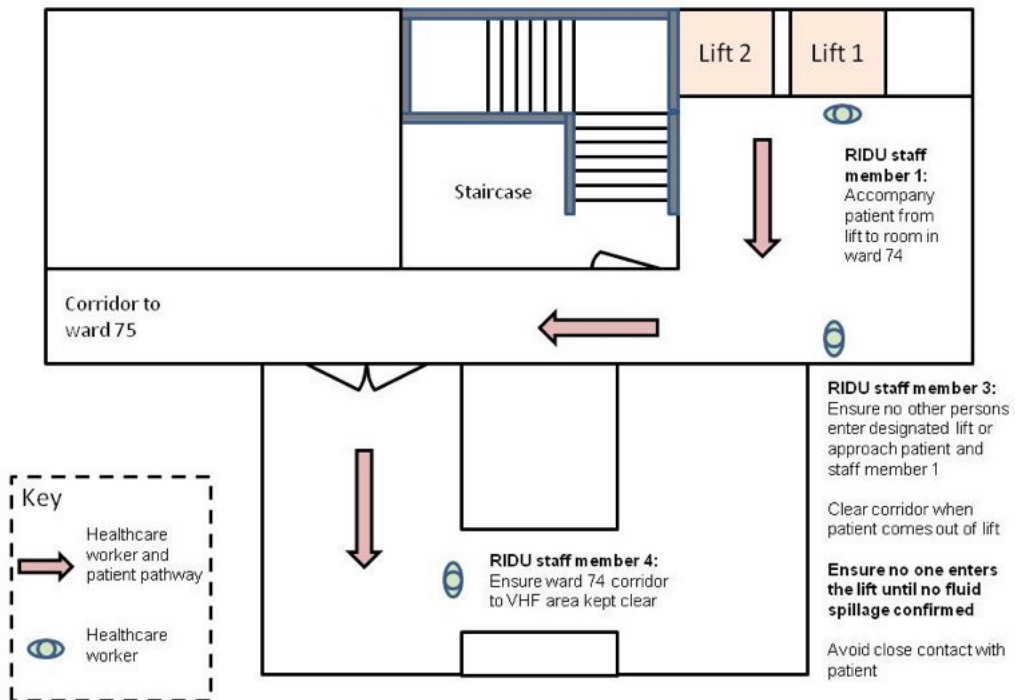


Admitting team member accompanies patient to room to begin assessment.

Route from Ambulance bay to lifts in basement (level -1)



Route from level 2 lift to ward 74



Route from ward 74 entrance to room 15



Patient placement in w74

- Patients requiring admission should be admitted directly to **room 15 on ward 74**.
 - If this is not possible then any other single room with en-suite facilities should be used, ideally one of rooms 12, 13, or 14. Room doors must be kept closed.
 - For the initial assessment and testing, no additional room closures are required.
- Display signage to control entry into the isolation room.
- Only essential staff should enter the isolation room wearing personal protective clothing.
- A log should be kept on staff involved in the patient's direct care.
- All necessary procedures and investigations should be carried out within the isolation room. The minimum number of required staff should be present, and they must wear PPE as described below.
- A clinical waste bin for doffing (see below) should be placed inside room 15 beside the door.
- A further clinical waste bin for doffing FFP3 respirator (see below) should be placed immediately outside room 15.

Assessment Personal Protective Equipment (PPE)¹

To be worn by ALL staff (including radiographers and visiting specialists e.g. from ICU/anaesthetics) entering the room:

- Long-sleeved, fluid-resistant disposable gown.
- Plastic apron
- 3 sets of non-sterile disposable gloves.
- An FFP3 respirator conforming to (EN149:2001): Fit testing must be undertaken prior to using this equipment and fit checking must be performed each time an FFP3 respirator is worn. Alternatively, a Jupiter Hood can be worn.
- Visor compatible with the FFP3 respirator (prescription glasses do not provide adequate protection against droplets, sprays and splashes).
- Disposable shoe covers

It is particularly vital that the PPE described above is worn for all airway management, including intubation.

Putting on (donning) PPE

Step 1

- Put on blue disposable shoe covers.

Step 2

- Put on your disposable FFP3 respirator and check for fit. This **MUST** be the mask that you are fit tested for. If you have not been fit tested, you **MUST NOT** enter the patient's room.

Step 3

- Put on inner pair of gloves — standard non-sterile, nitrile, short-length gloves.

Step 4

¹ For **confirmed** HCID case follow PPE as per VHF protocol.

- Put on the long, reinforced gown. Do not use the inside tie.
- Lightly secure the Velcro fastening at the back of the neck— light enough to allow easy removal, but ensuring the gown will remain closed.
- Tie the gown at the side and ensure the gown cuffs fully overlap the inner pair of gloves.

Step 5

- Put on middle pair of gloves—these are long cuffed (mid-length) non-sterile gloves and should fully overlap the cuff of the gown.

Step 6

- Tape the middle pair of gloves to the gown using 4 strips of microporous tape placed lengthways.

Step 7

- Put on long length, thick plastic apron.

Step 8

- Put on visor.

Step 9

- Put on outer pair of gloves—standard short gloves.
- If a sterile procedure is to be performed, replace the nitrile gloves with sterile gloves in the patient's room at the time of the task.

Step 10

- The buddy should run through each step to check all items are in place.

The order given above is practical but the order for putting on is less critical than the order of removal given below.

Removal of (doffing) PPE

PPE should be removed in an order that minimises the potential for cross-contamination.

Before leaving the room: shoe covers, outer pair of gloves, gown & apron, middle set of gloves, and eye protection should be removed (in that order) and disposed of as healthcare waste.

Immediately after leaving the room: the FFP3 mask and inner set of gloves can be removed and disposed of as healthcare waste.

Guidance on the order of removal of PPE is as follows:

Step 1 (in patient room)

- Start the doffing process near the exit of the patient's room.
- Remove the plastic shoe covers.

Step 2 (in patient room)

- Remove your apron by pulling forward from the front of the apron to break the neck and waist strings.
- Roll the dirty outer side of the apron into itself, keeping hold of the inner 'clean' side.
- Continue to roll it up, and then place in the bin.

Step 3 (in patient room)

- Remove your top gloves without touching the pair below.

Step 4 (in patient room)

- Untie the gown at the waist.
- Remove by grabbing shoulder areas and pulling to release the Velcro at the back of the neck.
- Pull the gown away from the body, folding inside out, and gathering up the material. The taped long gloves should come off with your gown.
- Carefully place into the bin but do not push down.

Step 5 (in patient room)

- To remove your visor, stand straight, do not bend forwards, as this brings the bottom of the visor into contact with your (clean) upper body.
- Reach for the elastic strap at the back of the head, close your eyes and lift the strap upwards then over the head.
- Place the visor into the bin.

Step 6 (in patient room)

- Decontaminate remaining inner gloves with alcohol rub.

Step 7

- Leave patient's room.

Step 8 (outside patient's room)

- Remove your bottom gloves using the 'pinch and pull' method.

Step 9 (outside patient's room)

- Use alcohol gel for hand hygiene.

Step 10 (outside patient's room)

- Remove FFP3 respirator by standing up straight and reaching to the back of the head to find the bottom strap and bring it up to the top strap.
- Lift straps over the top of the head. Avoid bending your neck as this allows the respirator to touch your upper body.
- Let the respirator fall away from your face and place in the bin.

Step 11 (outside patient's room)

- Use alcohol gel for hand hygiene.

Specimens

All specimens must be treated as biohazard:

- Mark lab request forms accordingly using biohazard labels and make appropriate entry on Trak order.
- For sample packaging and transport see below

The following initial samples should be collected from a possible **MERS-CoV / Avian Influenza** case:

- sputum *AND*
- a duplicate set of nose and throat swabs in MSS (molecular sampling solution) *AND*
- acute serum

Testing of a lower respiratory tract sample (i.e. sputum or BAL) is necessary for formal exclusion of MERS-CoV diagnosis.

The following initial samples should be collected from a possible **Clade 1 MPXV** case:

- skin lesion swab in MSS (molecular sampling solution) *AND*
- acute serum

If there is possible proctitis:

- rectal swab in MSS

If probable case without skin lesions to swab (e.g. contact with systemic symptoms):

- throat swab in MSS

For sputum / swabs in MSS:

- For NHS Lothian, NHS Borders, and NHS Fife, initial testing for MERS CoV and MPXV will be carried out at the Royal Infirmary of Edinburgh (RIE)
- Inform duty virologist of patient and specific requested testing.
- Send using dedicated containers for specimen transport (sturdy plastic container inside an outer cardboard container - DX UN3373). These are available in the ward 74 storeroom. Please follow the guidance on packaging below.
- Sample containers should be labelled as biohazard.
- Samples should be transported to the virology lab at RIE as a Category B sample via taxi.
- To arrange this, phone Flow Centre during the day on 0131 5361010 (or 61010 internally) or switchboard out of hours on 53049, who will put you through to Central Taxis. You will require the following pieces of information:
 - Account code: **Medic 1**
 - Speciality: **GM2**
 - Authorised by: **Dave Walker**
 - Cost centre: **S02067**

Packaging Samples for Virological Testing

In order to comply with safe sample transport please make sure that you follow instructions below on how to label, package and send clinical samples to the virology laboratory at the Royal Infirmary of Edinburgh. Inappropriate sample packaging can lead to a clinical risk and to delay in sample processing. Please ensure swabs used are in MSS rather than in VTM (viral transport medium); both are red topped but the type is clearly marked on the label.

Figure 1: This is the equipment you will need: Category B suitable container (UN3373) consisting of outer cardboard box and inner plastic tub; sample containers; absorbent pad; bubble wrap; request form; biohazard labels. This equipment can be found in the ward 74 store room.



Figure 2: Place absorbent pad into plastic sleeve of virology request form.

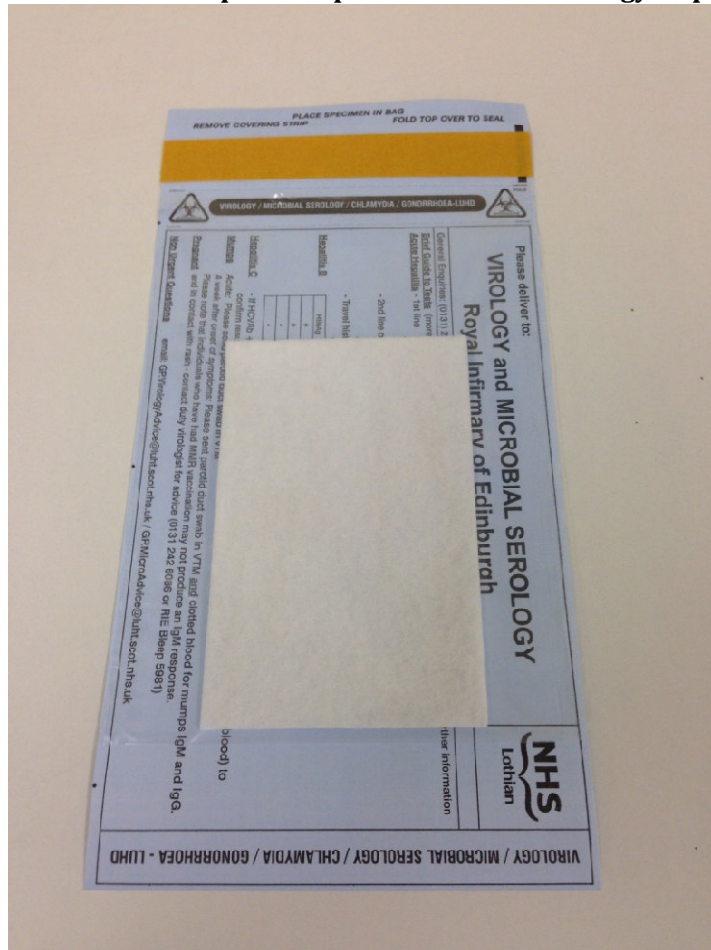


Figure 3: Place labelled sample containers into sleeve.

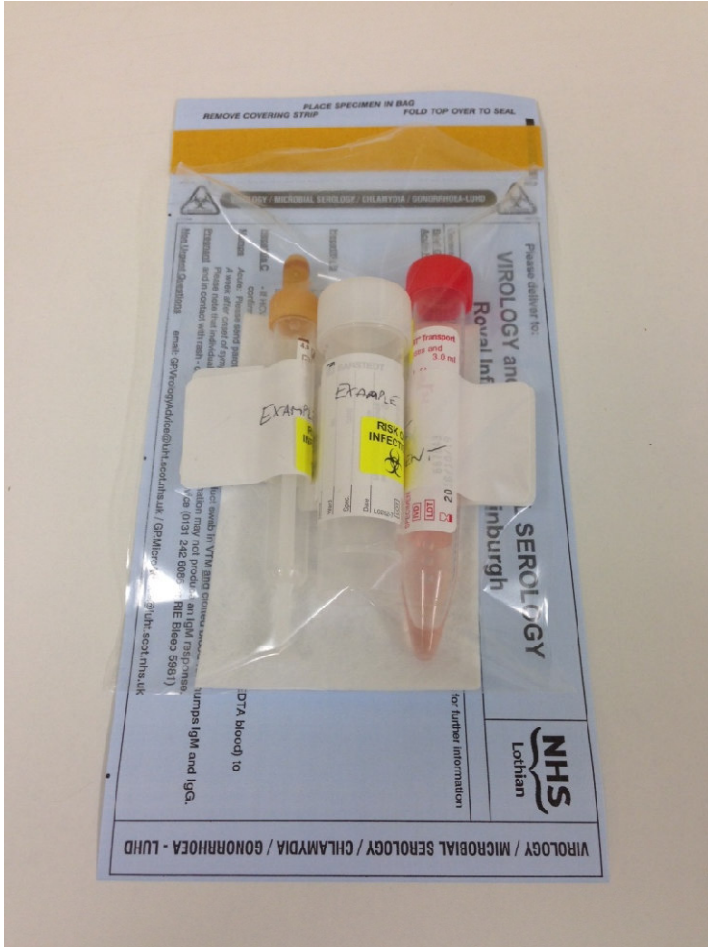


Figure 4: Seal sleeve.

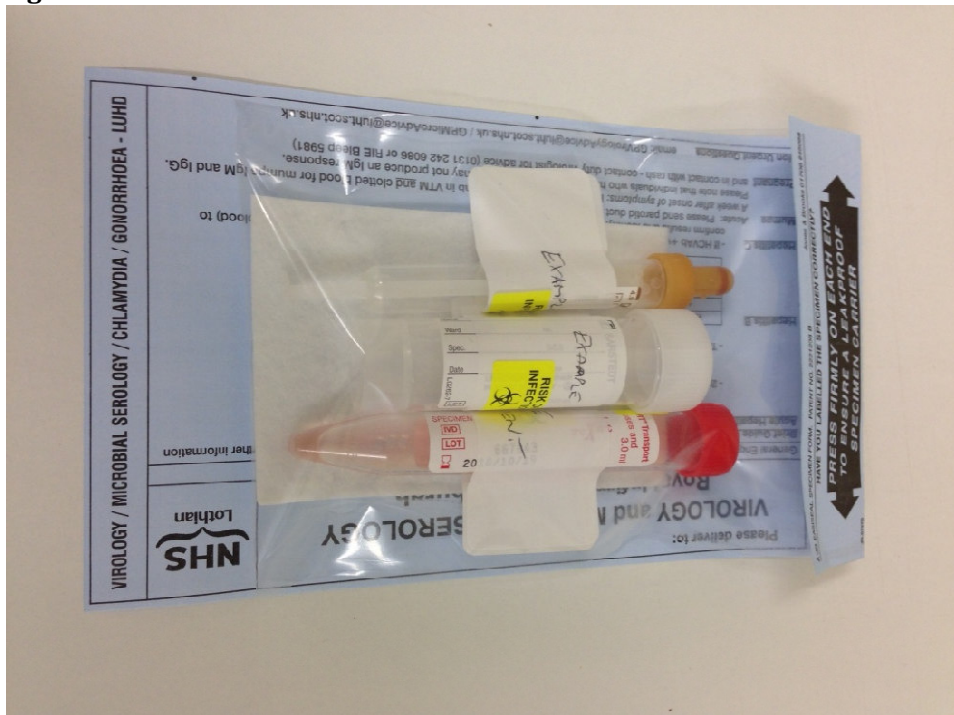


Figure 5: Label request form with patient's clinical details and tests required.

Label request form details:

- Patient Name:** EXAMPE PATIENT
- RISK OF INFECTION:** (Yellow sticker)
- SENDER / REPORTING DETAILS / GP PRACTICE LABEL:**
 - Return report to: WGH
 - Dept / Ward: RDU
 - Requestor: [Blank] Bleep/Tel: [Blank]
- SPECIMEN DETAILS:**
 - Date collected: [Blank]
 - Swab in VTM: (Throat) / Eye / Genital
 - Other: [Blank]
 - Blood (Clotted): Blood (EDTA): Faeces (Virology only): Sputum: Other (Please specify): [Blank]
 - Chlamydia / Gonorrhoea DNA: 1st void urine: Endocervical swab: Self taken vaginal swab (SOLVS): Other Swab (Please specify): [Blank]
- INVESTIGATIONS REQUIRED:**
 - Acute Hepatitis: Lymphadenopathy / Glandular Fever (EBV / CMV / Toxo): VZV (Past infection): Helicobacter pylori serology: Other: MERS-CoV PCR
 - Immunisation Check - HBV: Pre vaccine - HBcAb: Post vaccine - Anti HBs: Date of last dose: [Blank]
 - Chronic Hepatitis (HBV & HCV): Blood Borne Viruses: HIV, HBV & HCV Status: HIV Status (HIV Ag-Ab): HBV Status (HBsAg & HbcAb): HCV Status (HCV Ab): HIV Status (HIV Ag-Ab):
 - Additional Information: Heterosexual MSM Unknown IDU Other: [Blank]
- LAB USE ONLY:** [Blank]
- CLINICAL DETAILS / SYMPTOMS:**
 - Travel Abroad: Return Date: [Blank]
 - Pregnant: gestation: [Blank] / 40
 - Other: (Please specify): [Blank]
- Date of Contact / Onset of Illness:** [Blank]
- Rash:** Vesicular Non-Vesicular
- Destination(s):** [Blank]
- Occupational Risk:** Vaccination:

Figure 6: Place into a second plastic bag (double bag samples).



Figure 7: Wrap in bubble wrap.



Figure 8: Place into plastic tub.



Figure 9: Place plastic tub into outer cardboard box. Put a second request forms (with patient details and testing required) inside the cardboard box but outside the plastic tube.



IMPORTANT: Place a second request form with patient details and type of testing required (e.g. MERS-CoV, Clade 1 MPXV) inside the cardboard box but outside the plastic tube. This will avoid the risk of the laboratory opening the plastic tube without realising that this is potentially a high-risk sample.

Figure 10: Close and seal box.

IMPORTANT: Label seal/box “Security Seal. DO NOT OPEN FAO Virology Triage BMS only!”



Figure 11: Label box with recipient's and sender's address. Recipient: Combined Labs Reception, Regional Clinical Virus Lab, Royal Infirmary, 51 Little France, Edinburgh, EH16 4SA; Sender: Infectious Diseases Unit, Ward 74, Royal Victoria Building, WGH, EH4 1RA



For blood samples

All blood samples (other than serology) can be sent to the haematology and biochemistry laboratories double bagged using hospital porters (not pneumatic tube), i.e. no Category B transport required. However, they must be labelled as biohazard (stating potentially risk of MERS-CoV or Avian Influenza or Clade 1 MPXV). The laboratory does not need to be notified before sending the samples.

Intra-hospital transfers to other departments

- Must only occur if clinical need dictates and any patients transfer must be in collaboration with the Infection Prevention & Control Team (IPCT):
 - The receiving department must be informed in advance.
 - The patient must be taken straight to and from the investigation/treatment room and must not wait in any communal area.
 - The patient should wear a surgical mask if this can be tolerated to minimise the dispersal of respiratory secretions and reduce environmental contamination.
 - To allow decontamination after any procedure, ideally patients should be at the end of a clinical list (see patient care equipment and environmental control).

Radiology

Patients admitted to ward 74 requiring CXRs should have this done as a portable x-ray (rather than the patient being transferred to the radiology department). Ensure that you have liaised with radiology regarding the high-risk status of the patient. The radiographers will wear a Jupiter Hood if not fit tested for FFP3 mask.

If patients need to go to radiology (e.g. for CT) then the generic intra-hospital transfer guidelines as listed above apply.

Most (but not all) radiographers in CT are fit tested. The patient should be wearing a surgical mask as outlined above (provided their oxygen requirements allow this; otherwise they will be wearing an oxygen mask). Again, liaise with radiology and IPC regarding the high-risk status of the patient.

Escalation Plan for Confirmed Case

If HCID is confirmed, then escalation plan as per VHF protocol should be followed. This includes the closure and evacuation of several neighbouring rooms.

For confirmed airborne HCID cases PPE as per VHF protocol should be used. This will involve using the room adjacent to the patient room for doffing (see VHF protocol).

Confirmed HCID cases should be discussed with the NHS England HCID network to arrange transfer of patient to a designated HCID unit.

Environmental Decontamination in the Event of a Positive Case

- It is possible that the virus can survive in the environment for at least 48hrs, so environmental decontamination is vital.
- Domestic staff must wear protective clothing as indicated above when entering the isolation room, and they must be made aware of the need for additional precautions and be trained accordingly.
- The isolation area should be cleaned after the rest of the ward area.
- Decontaminate the isolation room at least daily using:
 - A combined detergent disinfectant solution at a dilution of 1000 parts per million available chlorine (ppm available chlorine (av.cl.)); or
 - A detergent clean followed by disinfection (1000ppm av.cl.)
 - Frequently hand-touch surfaces require more regular decontamination
- Environmental cleaning equipment must be single use or dedicated to the affected area.
- Following transfer and/or discharge of patient(s):

- Before entering the room, perform hand hygiene then put on a disposable plastic apron and gloves.
- Collect all cleaning equipment and healthcare waste bags before entering the room.
- The person responsible for undertaking the cleaning with detergent and disinfectant should be familiar with these processes and procedures:
- Remove:
 - All healthcare waste and any other disposable items
 - Bedding/bed screens, treat as infectious linen
 - Patient care equipment following decontamination
- The room/area should be decontaminated using:
 - A combined detergent disinfectant solution at a dilution (1000ppm av.cl.); or
 - A detergent clean followed by disinfection (1000ppm av.cl.).
- Any cloths and mop heads used must be disposed of as single use items.