SOP Objective

To ensure that patients colonised or infected with MERS-CoV are cared for appropriately and actions are taken to minimise the risk of cross-infection.

This SOP applies to all staff employed by NHS Greater Glasgow & Clyde and locum staff on fixed term contracts and volunteer staff.

KEY CHANGES FROM THE PREVIOUS VERSION OF THIS SOP

- New SOP

Document Control Summary

Approved by and date	Board Infection Control Committee 25th November 2019
Date of Publication	6th January 2020
Developed by	Infection Control Policy Sub-Group
Related Documents	National IPC Manual NHSGGC hand Hygiene Guidance NHSGGC SOP Cleaning of Near Patient Equipment NHSGGC SOP Twice Daily Clean of Isolation Rooms NHSGGC SOP Terminal Clean of Ward/Isolation Room
Distribution/ Availability	NHSGGC Infection Prevention and Control Web Page www.nhsggc.scot/hospitals-services/services-a-to-z/infection-prevention-and-control
Lead Author	Dr Erica Peters Consultant in Infectious Diseases
Responsible Director	Executive Director of Nursing

CONTENTS

1. Responsibilities

Health Care Workers (HCWs) must:

- Follow this SOP.
- Inform a member of the Infection Prevention and Control Team (IPCT) if this SOP cannot be followed.

Senior Charge Nurses (SCN) / Managers must:

- Support HCWs and Infection Prevention and Control Teams (IPCTs) in following this SOP.
- Advise HCWs to contact the Occupational Health Service (OHS) as necessary.

Infection Prevention and Control Teams (IPCTs) must:

- Keep this SOP up-to-date.
- Provide education opportunities on this SOP.

Occupational Health Service (OHS) must:

- Co-ordinate follow up of staff contacts

2. General Information on MERS-CoV

Middle Eastern Respiratory Syndrome coronavirus (MERS-CoV) emerged as a human pathogen in 2012 in the Middle East. This virus is found in camel populations in the Middle East. It can cause an acute severe illness and there has been notable outbreaks in healthcare facilities, largely in the Middle East but notably the largest outbreak was in South Korea when it was imported by a traveller. Treatment is supportive as multi-organ failure can occur and may require intensive care. There is no vaccine or antiviral agent currently available.

It is important to take a clear travel history from any patient presenting with a febrile respiratory tract infection to ensure prompt isolation and infection control procedures are put in place. It is important to note that in the current literature once appropriate PPE was used no onward transmission to healthcare workers has occurred.

The patient *should only be moved to a different site due to clinical need*. This needs full agreement of the Infection Control Doctor, the Infectious Diseases Consultant and the Public Health Consultant and will usually require a PAG (problem assessment group).

Communicable Disease/ Alert Organism	Middle Eastern Respiratory Syndrome coronavirus (MERS-CoV)
Clinical Condition(s)	See Box A
Mode of Spread	Airborne
Incubation period	4 days
Notifiable disease	Yes
Period of communicability	14 days
Persons most at risk of infection	See Box B

3. Medical criteria & links to HPS page and algorithms

Algorithm HPS February 2019 Version 19
https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2259/documents/1_MERS-secondary-care-algorithm.pdf
https://www.nipcm.hps.scot.nhs.uk/media/2084/1_avian-influenza-mers-cov-ipcp-guidance-v72.pdf

BOX A

Must have ALL of the following criteria:
1. Severe acute respiratory infection requiring admission to hospital
2. Fever ≥ 38° C or history of fever or cough
3. Evidence of pulmonary parenchymal disease – clinical or radiological or ARDS
(NB there may be a co-infection with another pathogen so still test for MERS-CoV as per ID/virology advice)

AND

BOX B

Must have ONE of the following criteria:
1. History of travel to or residence in areas where MERS-CoV could have been acquired in the 14 days before symptom onset 2. **MERS-CoV area**: Bahrain, Jordan, Iraq, Iran, Kingdom of Saudi Arabia Kuwait, Oman, Qatar, United Arab Emirates , Yemen (refer to flag poster) (as of Aug 2018)
3. Close contact with a confirmed MERS-CoV case in the 14 days prior to symptom onset while the case was symptomatic
4. Healthcare worker based in ICU or HDU caring for patients with severe acute respiratory infection, regardless of history of travel or use of PPE
5. Part of a cluster of two or more epidemiologically linked cases within a two-week period requiring ICU admission, regardless of history of travel.***
***i.e. If your patient presents with **ALL** the criteria from Box A **AND** has had contact with someone unwell and admitted to an ITU in the previous 14 days then consider the possibility of a new, as yet undiagnosed outbreak out with the geographical areas listed above and follow Immediate ED Actions

Health Protection Scotland

Middle East Respiratory Syndrome Coronavirus (MERS-CoV)
SECONDARY CARE ALGORITHM – Version 19 (based on PHE case algorithm v31) – February 2019

NHS National Services Scotland

For a **POSSIBLE CASE**, patients must fulfil the conditions 1, 2 OR 3.

1 Any person with severe acute respiratory infection requiring admission to hospital with symptoms of fever (≥ 38°C) or history of fever, and cough **plus** evidence of pulmonary parenchymal disease (e.g. clinical or radiological evidence of pneumonia or Acute Respiratory Distress Syndrome (ARDS))[1]
AND AT LEAST ONE OF:
- history of travel to, or residence in an area[2] where infection with MERS-CoV could have been acquired in the 14 days before symptom onset[3]
- close contact[4] during the 14 days before onset of illness with a symptomatic confirmed case of MERS-CoV infection
- person is a healthcare worker based in ICU caring for patients with severe acute respiratory infection, regardless of history of travel or use of PPE[5]
- associated with a cluster of two or more epidemiologically linked cases requiring ICU admission within a two week period, regardless of history of travel

2 Acute influenza-like-illness symptoms (ILI), **plus** contact with camels, camel environments or consumption of camel products (e.g raw camel milk, camel urine) OR contact with a hospital, in an affected country[2] in the 14 days prior to onset.
ILI is defined as sudden onset of respiratory infection with measured fever of ≥38°C and cough

3 Acute respiratory illness (ARI) plus contact with a confirmed case of MERS-CoV in the 14 days prior to onset.
ARI is defined as sudden onset of respiratory infection with at least of one of : shortness of breath, cough or sore throat.

Yes – Does patient fulfil case definitions? – No → Unlikely to be MERS-CoV, treat, investigate and review as clinically indicated.

- Clinical risk assessment to be undertaken in conjunction with Health Protection Team (HPT) and Infectious Disease Consultant (ID). Discuss case with Infection Control Team (ICT)[5], ensure that staff attending to the patient is wearing PPE[5] and that patient is managed in accordance with IC guidance for MERS-CoV[6].
- HPT informs HPS[6].
- If a cluster is suspected, HPT establishes if there is an epidemiological link between cases.
- HPT ensures that **initial samples**[7] are collected and sent to West of Scotland Specialist Virology Centre (WoSSVC) (or Royal Infirmary of Edinburgh (RIE) for Lothian/Borders/Ffe patients) - lab guidance[8]. The lab should be contacted prior sending the samples.
- HPT collects possible case dataset (*Form 1*)[9] and emails HPS[6] - "contact line list" is not required until the case is WoSSVC/RIE MERS-CoV lab test positive.

Yes – WoSSVC/RIE UpE lab test positive for MERS-CoV – No → Laboratory informs HPT/HPS. Treat, investigate and review as clinically indicated.

- Ensure HPS[6], HPT, ICT, ID and clinicians are notified. Convene an Incident Management Team as soon as possible.
- Ensure that staff attending to the patient is wearing PPE[5] and that patient is managed in accordance with IC guidance for MERS-CoV[6].
- HPT identifies and collates list of contacts[4] using contact line list (*Form 1*)[9] – email to HPS[6].
- HPT follow up close contacts[4] using "Close Contact Algorithm"[8]. Email list of close contacts to HPS.
- WoSSVC/RIE sends residual untreated aliquots **URGENTLY** to Respiratory Virus Unit (RVU) PHE Colindale for confirmatory testing - lab guidance[8].

Yes – Reference lab test positive for MERS-CoV – No → Laboratory informs HPT/HPS. Treat, investigate and review as clinically indicated.

1 - Clinicians should additionally be alert to the possibility of atypical presentations in patients who are immunocompromised, atypical presentations may include absence of fever.

2 - **MERS-CoV area:** Bahrain, Jordan, Iraq, Iran, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates and Yemen – see map and UK Risk Assessment

3 – Please consider testing for Legionnaires' disease if indicated

4. **Contact definitions** (from date of illness onset in index case and throughout their symptomatic period): A) Health and social care workers: workers who provided direct clinical or personal care or examination of a symptomatic confirmed case or was within 2m of a symptomatic case or had direct contact with body fluids from a symptomatic case, for any length of time. B) Household or close contact: any person who has had prolonged face-to-face contact (>15 minutes) with a symptomatic confirmed case any time during the illness after onset in a household or other closed setting.

5 – **In secondary care**, for all patient contact, Personal Protective Equipment (PPE) includes correctly fitted filtering face piece respirator (FFP3), long sleeved, fluid-resistant disposable gown, gloves and eye protection. For guidance on PPE and infection control precautions, please refer to the National Infection Prevention and Control Manual and Infection control guidance for MERS-CoV.

6–**HPT to inform HPS** by phone: 0141 300 1100 (day) or 0141 211 3600 (out of hours) and e-mail (NSS.HPSCoronavirus@nhs.net).

7 – **Initial samples**: an upper respiratory tract sample (combined nose and throat viral swabs, or nasopharyngeal aspirate AND if obtainable, a lower respiratory tract sample (sputum, or an endotracheal tube aspirate if intubated).

8 – **For more information** on lab guidance and other algorithms see: HPS algorithms for MERS-CoV

9 - **Forms will** be provided to the HPT by HPS on being alerted to a possible case.

10 – **Baseline samples**: upper and lower respiratory tract samples, serum & EDTA blood, and in addition, for hospitalised patients, urine & faeces - lab guidance[8].

Baseline – following reference lab confirmatory test:
- Ensure HPS[6], HPT, ICT, ID and clinicians are notified.
- Ensure that staff attending to the patient is wearing PPE[5] and that patient is managed in accordance with IC guidance for MERS-CoV[6].
- HPT ensures case **baseline samples**[10] are collected and sent to RVU PHE Colindale - lab guidance[8].
- HPT completes initial case form (*Form 1a*)[9] – email to HPS[6].

Follow up – 14-21 days after reference lab confirmatory test:
- Ensure that staff attending to the patient is wearing PPE[5] and that patient is managed in accordance with IC guidance for MERS-CoV[6].
- HPT completes case follow up form (*Form 1b*)[9] **14-21 days after Form 1a completed** – email to HPS[6].
- HPT ensures sequential **follow up samples** are taken after discussion with the incident control team and sent to RVU PHE Colindale - lab guidance[8].

CONSIDER CO-INFECTIONS: Any patient meeting the possible case definition should be tested for MERS-CoV regardless of test results for other respiratory pathogens

The most up-to-date version of this SOP can be viewed at the following web page: www.nhsggc.scot/hospitals-services/services-a-to-z/infection-prevention-and-control

4. MERS-CoV aide-memoir for GP Out of Hours and minor injuries units

Middle East Respiratory Syndrome – Coronavirus (MERS-CoV) is a severe respiratory illness, generally associated with travel to certain countries in the middle-east.
It is important to take a clear travel history from any patient presenting with a febrile illness to ensure prompt isolation and infection control procedures are put in place. It is important to note that in the current literature once appropriate PPE was used no onward transmission to healthcare workers has occurred.
History of travel should be asked at reception, and if a patient with fever, or history of fever has visited an at-risk country (see poster), they should not be placed in the general waiting area, but directly into a clinic room if possible.

Diagnosis

For a POSSIBLE CASE, patients must fulfil one of the following three case definitions:

1. Any person with severe acute respiratory infection requiring admission to hospital **AND** Fever ≥ 38°C or history of fever, **AND** cough plus evidence of pulmonary parenchymal disease (e.g. clinical or radiological evidence of pneumonia or Acute Respiratory Distress Syndrome (ARDS)) **AND AT LEAST ONE OF**:

    - History of travel to, or residence in an area1 where infection with MERS-CoV could have been acquired in the 14 days before symptom onset
    - Close contact during the 14 days before onset of illness with a symptomatic confirmed case of MERS-CoV infection
    - Healthcare worker based in ICU caring for patients with severe acute respiratory infection, regardless of history of travel or use of PPE
    - Associated with a cluster of two or more epidemiologically linked cases requiring ICU admission within a two week period, regardless of history of travel

2. Acute influenza-like-illness symptoms (ILI), plus contact with camels or consumption of camel products OR contact with a hospital, in an affected country2 in the 14 days prior to onset.
   ILI is defined as sudden onset of respiratory infection with measured fever of ≥38 ^{0}C and cough

3. Acute respiratory illness (ARI) plus contact with a confirmed case of MERS-CoV in the 14 days prior to onset. ARI is defined as sudden onset of respiratory infection with at least one of: shortness of breath, cough or sore throat.

If one of these definitions is met, then consider as POSSIBLE MERS-CoV and take action depending on severity of illness. If one of the case definitions is not met, then unlikely to be MERS-CoV, and patient should be investigated, treated and followed up as clinically indicated

Does not requires hospitalisation

MERS-CoV is unlikely if the clinical severity does not warrant hospitalisation. The patient should be investigated and treated as clinically indicated**.** They should be encouraged to self-isolate and monitor at home whilst symptomatic, and followed up, by phone, should be arranged to check patient is improving/recovered.

Non-urgent testing for influenza and MERS-CoV should be discussed with Infectious Diseases/Virology.

Clinical severity warrants hospitalisation

- If tolerated, ask patient to wear fluid-resistant surgical mask
- Place patient in room away from other patients/staff. Movement of patient should be minimised, and if possible keep them in the clinic room they are currently in.
- Staff should wear appropriate PPE (fluid resistant surgical mask, disposable plastic apron, and gloves. Eye protection and FFP3 mask should be worn if splash or aerosol risk from interventions. See algorithm and infection control guidance for further detail)
- Inform senior clinical and management staff member for the service
- Start a list of staff who have been in contact with the patient
- Ask reception/administrative staff to compile list of other patients in waiting area at same time as case.

The patient should be discussed urgently with the on-call Infectious Disease (ID) Consultant (via switchboard) who will advise on further management and admission.

The ID consultant will also inform the on-call Public Health (PH) and Infectious Disease/Microbiology (IPC) consultants / local IPCT.
Patient transfer will require liaison with ID, PH, IPC, ambulance service. Usually this is via a Problem Assessment Group (PAG), which will be arranged by PH.

Further information

The HPS MERS-CoV primary care algorithm is reproduced on the next page.
Links to MERS-CoV documentation, including the algorithms and infection control guidance can be found at www.nhsggc.scot/hospitals-services/services-a-to-z/infection-prevention-and-control/infection-prevention-and-control-guidelines/MERS-CoV Hub

Health Protection Scotland

Middle East Respiratory Syndrome Coronavirus (MERS-CoV) PRIMARY CARE ALGORITHM

NHS National Services Scotland

February 2019 **Version: 6**

Algorithm for the assessment and initial management in **primary care of travellers** presenting with **febrile respiratory illness returning from an area**[1] where infection with **MERS-CoV** could have been acquired in the **14 days before symptom onset.**

For a **POSSIBLE CASE**, patients must fulfil the conditions 1, 2 OR 3.

1 Any person with severe acute respiratory infection requiring admission to hospital with symptoms of fever (≥ 38°C) or history of fever, and cough **plus** evidence of pulmonary parenchymal disease (e.g. clinical or radiological evidence of pneumonia or Acute Respiratory Distress Syndrome (ARDS))[1]

AND AT LEAST ONE OF:

- history of travel to, or residence in an area[2] where infection with MERS-CoV could have been acquired in the 14 days before symptom onset[3]
- close contact[4] during the 14 days before onset of illness with a symptomatic confirmed case of MERS-CoV infection
- person is a healthcare worker based in ICU caring for patients with severe acute respiratory infection, regardless of history of travel or use of PPE[5]
- associated with a cluster of two or more epidemiologically linked cases requiring ICU admission within a two week period, regardless of history of travel

2 Acute influenza-like-illness symptoms (ILI), **plus** contact with camels, camel environments or consumption of camel products (e.g raw camel milk, camel urine) **OR** contact with a hospital, in an affected country[2] in the 14 days prior to onset.

ILI is defined as sudden onset of respiratory infection with measured fever of ≥38°C and cough

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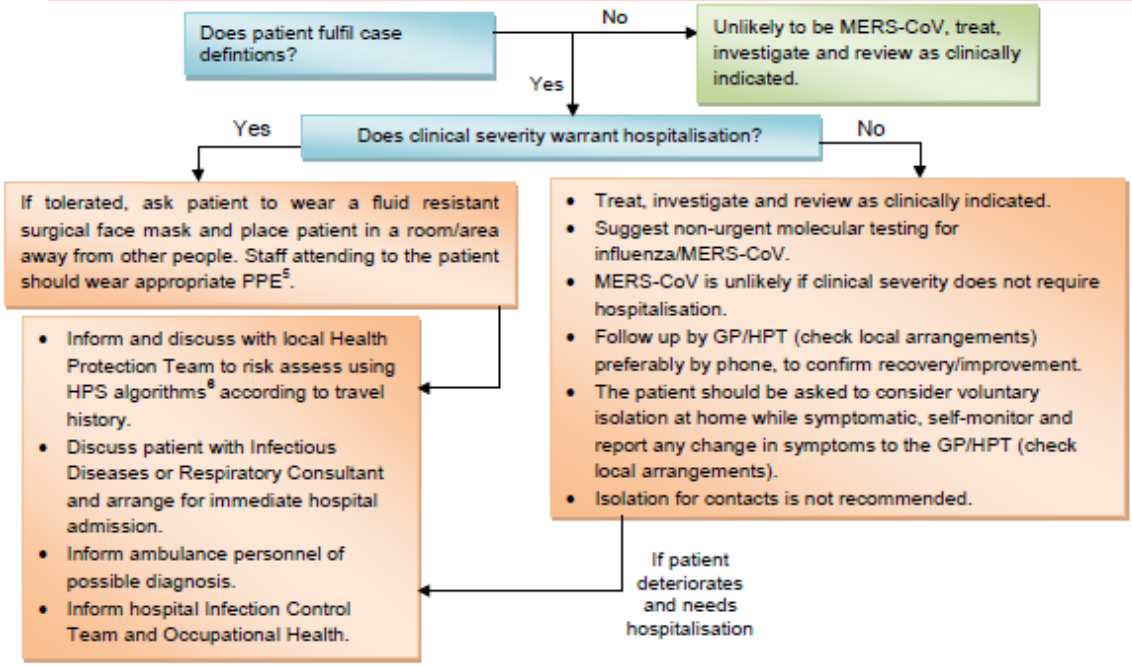
ARI is defined as sudden onset of respiratory infection with at least of one of : shortness of breath, cough or sore throat.



1 - **MERS-CoV area**: Bahrain, Jordan, Iraq, Iran, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar, United Arab Emirates and Yemen – see map and UK Risk Assessment

2 - **Clinicians** should additionally be alert to the possibility of atypical presentations in patients who are immunocompromised, atypical presentations may include absence of fever.

3 – Please consider testing for Legionnaires' disease if indicated

4. **Contact definitions** (from date of illness onset in index case and throughout their symptomatic period): A) Health and social care workers: workers who provided direct clinical or personal care or examination of a symptomatic confirmed case or was within 2m of a symptomatic case or had direct contact with body fluids from a symptomatic case, for any length of time. B) Household or close contact: any person who has had prolonged face-to-face contact (>15 minutes) with a symptomatic confirmed case any time during the illness after onset in a household or other closed setting.

5. **PPE**: fluid resistant (type IIR) surgical face mask, disposable plastic apron and gloves (and eye protection if there is likelihood of splash or spray from patient care intervention. A correctly fitted filtering face piece respirator (FFP3) should be worn when performing any aerosol generating procedures. For further guidance, please refer to the National Infection Prevention and Control Manual

6. For more information on MERS-CoV see: HPS algorithms for MERS-CoV

5. Signage for ED

Have you visited any of the following countries in the last 14 days? **You must tell reception staff immediately.**	
هل سبق لكم زيارة أيٍّ من البلدان التالية في الأربعة عشر يومًا الماضية؟ **يتعين عليكم إخبار موظفي الاستقبال على الفور**	
Bahrain	**البحرين** 
Jordan	**الأردن** 
Iran	**إيران** 
Iraq	**العراق** 
Kingdom of Saudi Arabia	**المملكة العربية السعودية** 
Kuwait	**الكويت** 
Oman	**عُمان** 
Qatar	**قطر** 
United Arab Emirates	**الإمارات العربية المتحدة** 
Yemen	**اليمن** 
If you have transited through the Middle East but not left the airport this does not apply.	
لا تسري الحالة إذا سبق لكم العبور (الترانزيت) في الشرق الأوسط ولكنكم لم تغادروا المطار.	

6. Triage nurse reminder signage

Ask?
1. Severe acute respiratory infection requiring admission to hospital
2. Fever ≥ 38°C or history of fever or cough

AND one of:
History of travel to or residence in areas where MERS-CoV could have been acquired in the 14 days before symptom onset
Close contact with a confirmed MERS-CoV case in the 14 days prior to symptom onset while the case was symptomatic
Healthcare worker based in ICU or HDU caring for ANY patients with severe acute respiratory infection
CONSIDER MERS-CoV & ISOLATE PATIENT IN THE ROOM THEY ARE IN

Bahrain

Jordan

Iran

Iraq

Kingdom of Saudi Arabia

Kuwait

Oman

Qatar

United Arab Emirates

Yemen

7. Sample and Laboratory Guidance

SPECIMEN TYPE

Recommended minimum diagnostic sample set -refer to https://hpspubsrepo.blob.core.windows.net/hps-website/nss/2535/documents/1_MERS-laboratory-testing-algorithm.pdf

1. **Upper respiratory tract sample** (nose and throat swab or nasopharyngeal aspirate) in VPSS container
2. **Lower respiratory tract sample** (induced sputum, endotracheal tube aspirate or bronchoalveolar lavage- we understand it may not be possible to get these samples and if so a sputum would be sufficient)
3. **Clotted blood (4.5ml yellow top container)**

HOW TO ARRANGE TESTING

Please contact the West of Scotland Specialist Virology Centre **BEFORE** the samples are sent to ensure no risk to laboratory staff accidently opening a respiratory sample from a suspected Mers-CoV patient. It is important to discuss a possible case of Mers-CoV with the virologist on clinical for a decision to be made on the urgency of the sample. **No Mers-CoV test will be performed at the laboratory without prior agreement.**

Please contact the laboratory between 09:00 to 17:00 on 0141 201 8722 / 0141 201 8721 (38722/38721)

Out of hours (17:00 to 09:00) and weekends: Switchboard (0141 211 4000) and ask for the Virologist on-call

SPECIMEN CONTAINER AND TRANSPORTATION

Specimens should be sent to the West of Scotland Specialist Virology Laboratory in a **UN3373 Category B** container (these boxes are distributed by ward 5C, QEUH and A+E Departments)).

Once the specimens are packaged correctly in the Category B container, the samples should be sent by taxi or porter (if in GRI) to:

Opening Hours 08:45 to 17:00	Out-of-hours (17:00-0:845) and weekends
West of Scotland Specialist Virology Centre Level 5 New Lister Building Glasgow Royal Infirmary	Wishart Street Admission entrance at Princess Royal Maternity (G31 2HT) Enter under the blue canopy and on right hand wall just before the security office is a **black box** for urgent virology
DO NOT SEND WITHOUT PRIOR DISUSSION WITH THE VIROLOGY LABORATORY	

8. Specific responsibilities

Reception staff

- Ask the question about travel history if a patient presents with cough and temperature
- Ask patient to put on a surgical mask if all the criteria are met and cough is present
- Inform Nurse in Charge immediately
- Records names and CHI numbers of all patients in the waiting room

Nurse in charge

- Informs Consultant in charge
- Coordinates move of the patient to appropriate location
- Ensures staff assessing patient have PPE available and only staff familiar with and wearing the correct PPE are entering the room
- Assesses patient to ensure the criteria are met and cough is present
- Initiates recording of names and designation of all staff entering the room where patient is located.
- Ensures staff have access to appropriate guidance and documents
- Coordinates transport of samples to virology
- Ensures all infection prevention and control precautions are followed.
- Exclude visitors where possible and where necessary show visitors how to use PPE
- Where appropriate notifies the local IPCT

Consultant in charge

- Must make sure the protocol is followed and has responsibility for the patient.
- Discusses the case with the Infectious Diseases Consultant on call
- Ensures the initial set of samples is obtained
- Ensures all infection prevention and control precautions are followed

Infectious disease on call must ensure contact has been made with

a. On call virologist

b. Public Health

c. On call Infection Control Doctor(Consultant Microbiologist on call if out of hours)

HPS link – Information for Healthcare Professionals
http://www.hps.scot.nhs.uk/pubs/detail.aspx?id=471

9. PPE

Personal Protective Equipment (PPE)

To be worn by ALL staff and any visitors entering the room:

- Long-sleeved, fluid-resistant disposable gown.
- 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.
- Eye protection compatible with the FFP3 respirator (prescription glasses do not provide adequate protection against droplets, sprays and splashes).

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

10. Cleaning and decontamination

Decontamination of affected clinical areas and patient equipment in ED

Following transfer and/or discharge of patient(s) PPE must be worn to clear and decontaminate the area. (Note, this also applies to Domestic Service staff)

Remove: All healthcare waste
Any disposable items should be discarded as clinical waste.
Bedding/bed screens, treat as infectious linen
Patient care equipment following decontamination

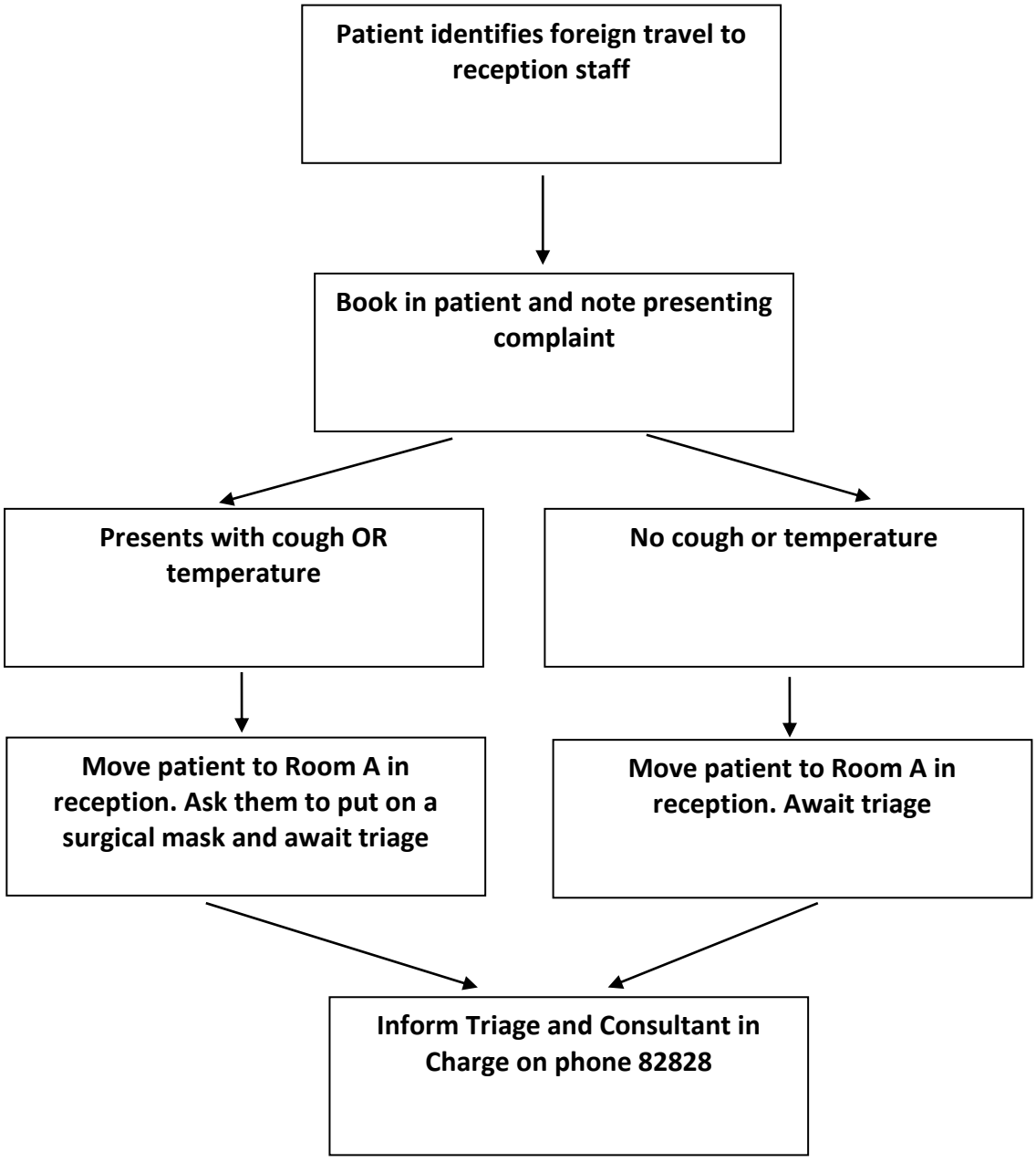
The room/area and patient equipment should be decontaminated using a combined detergent disinfectant solution at a dilution (1000ppm av.cl.);

A detailed guide on Infection Control issues including PPE can be found here and all staff working with these patients should be trained in PPE and fit tested.
http://www.hps.scot.nhs.uk/resourcedocument.aspx?id=2050

11. Site Specific Management

11a. Queen Elizabeth University Hospital

Queen Elizabeth University Hospital ED triage



Queen Elizabeth University Hospital ED triage

1. Keep the patient in the room they are in when the diagnosis is first suspected. Keep the *door closed*.

Specific Examples

i) Triage Room A or B – isolate in room and quarantine **both** Triage Rooms A & B this is to allow the unaffected 'Clean' Triage room to be used for staff changing)
ii) If in Ambulance queue move patient to Major Procedures Rooms 4 or 8 in Resus
iii) If in Ambulance-remain in ambulance until move to Procedure room/HDU/ITU.

If reception highlight a potential patient then move them to Room A in Reception for Triage (flow chart attached for Reception staff)

2. Put surgical mask on patient (as per flow chart for Reception staff) or once concern has been raised by assessing staff i.e. Boxes A & B both confirmed.
3. Apply **full** PPE including FFP3 mask, eye protection and fluid repellent gown to anyone assessing the patient once concern has been raised i.e. Boxes A & B both confirmed
4. Inform Nurse-in-Charge and Consultant-in-Charge as soon as concern is raised.

Emergency Department Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the ED consultant in charge in conjunction with the Infection Control Consultant on call.

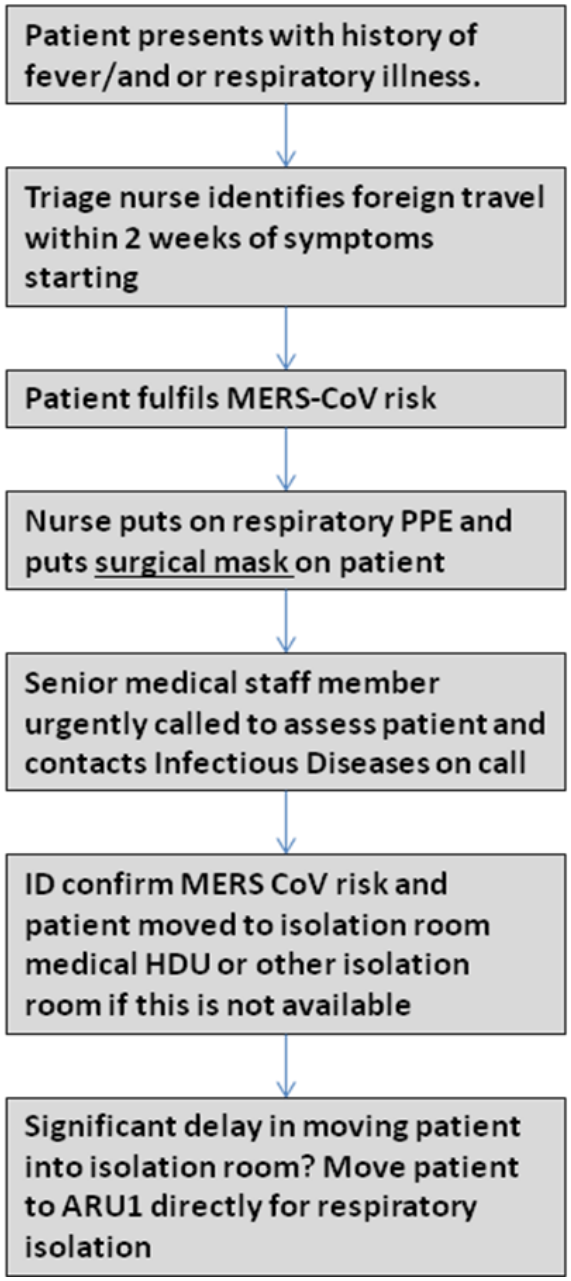
- Unless the patient has an emergent airway issue **ALL** intubations should be performed in a respiratory isolation rooms in **ITU**. If intubation is required for an airway issue in-extremis in ED it should be performed in one of the Procedures Rooms.

- Under no circumstances should the Decontamination Room be used to assess and treat unwell patients with? MERS-CoV (or VHF).

- **CXR** should be done as a portable in HDU/ITU with radiographers who are PPE trained. A patient with possible MERS-CoV should not be X-rayed in the radiology department

- If Infectious Disease Team decide the patient requires admission they should be managed in a respiratory isolation room in HDU/ITU. Once a room is ready then the patient (wearing surgical mask) should be moved to HDU using the route with minimal patient contact through ED and up to HDU using *core lifts G*. Close the corridors affected by the patient journey to the public.

- **Queen Elizabeth University Hospital IAU triage**



•All staff managing patient should be familiar with PPE and be FFP3 mask fitted
•DO NOT MOVE patient into any other area in IAU.

Queen Elizabeth University Hospital IAU triage

1. Keep the patient in the triage area they are in when the diagnosis is first suspected.
2. Put surgical mask on patient once concern has been raised by assessing staff, i.e. Boxes A & B both confirmed.
3. Apply **full** PPE including FFP3 mask, eye protection and fluid repellent gown to anyone assessing the patient once concern has been raised i.e. Boxes A & B both confirmed
4. Inform Nurse-in-Charge and Consultant-in-Charge as soon as concern is raised.

IAU Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the IAU consultant in charge and in conjunction with the Infection Control Consultant on call and not until a bed has been identified and prepared in HDU.

- If no bed is available within a reasonable timeframe in HDU (as agreed by Infection Control consultant) then the patient should be moved to a room in ARU1 as a temporary measure.

- Unless the patient has an emergent airway issue **ALL** intubations should be performed in a respiratory isolation rooms in **ITU**.

- **CXR** should be done as a portable in HDU/ITU with radiographers who are PPE trained. A patient with possible MERS-CoV should not be X-rayed in the radiology department

- If Infectious disease team decide the patient requires admission they should be managed in a respiratory isolation room in HDU/ITU. The ID on call team must ensure that HDU are aware of the patient and make sure a room has been cleared and prepared before the patient can be moved.

- Once a room is ready then the patient (wearing surgical mask) should be moved to HDU using the route with minimal patient contact and up to HDU using core lifts G.

11b. Royal Hospital for Children Emergency Department.

ED reception staff

- Reception staff to ask patients if they have been to one of the "MERS-CoV POTENTIAL" countries in the last 14 days.
- If there is a positive travel history to any of the listed countries in that time frame, reception staff to ask patient to wait in the breast feeding consultation room across from the reception desk for *immediate* assessment by the triage nurse.
- **Positive travel history – THE PATIENT MUST have been in a "MERS-CoV potential" country in the last 14 days before symptom onset and have respiratory symptoms. (NOT patient relative and NOT just transiting through the airport)**
- Reception staff to inform triage nurse and ED nurse coordinator immediately.
- Reception staff to take screen shot identifying list of patients in the ED waiting room and in triage queue.
- Breast feeding room to have a terminal clean after it is vacated.

ED Triage Nurse

- Triage nurse to wear appropriate PPE (FFP3/Eye protection/gloves/theatre gown) to assess child
- Triage nurse to go to the breast feeding room to confirm that child has respiratory symptoms and give the patient a surgical face mask if possible and take patient/s directly through to CDU Room 17/18 to gather further information.
- If the child is coughing and unable to wear a mask then close all the doors and clear the corridor before moving the child
- **Full information gathering should not be done in the breast feeding room or in triage** to minimize contamination of rooms and to allow more time to gather the information in a safe and private room.
- If child appears unwell, take the child straight to the resuscitation room.
- **Remember lots of children will just have a simple cold. The ones we are concerned about are the ones :**
  - **Unwell enough requiring admission to hospital with severe acute respiratory infection (clinical and/or radiological evidence of pneumonia)**
  - **(+) With Fever >/= 38 ^{o}c or history of fevers and cough**
  - **(+) Together with the travel history**
- **See Health Protection Scotland Secondary Care Algorithm (MERS-CoV)**

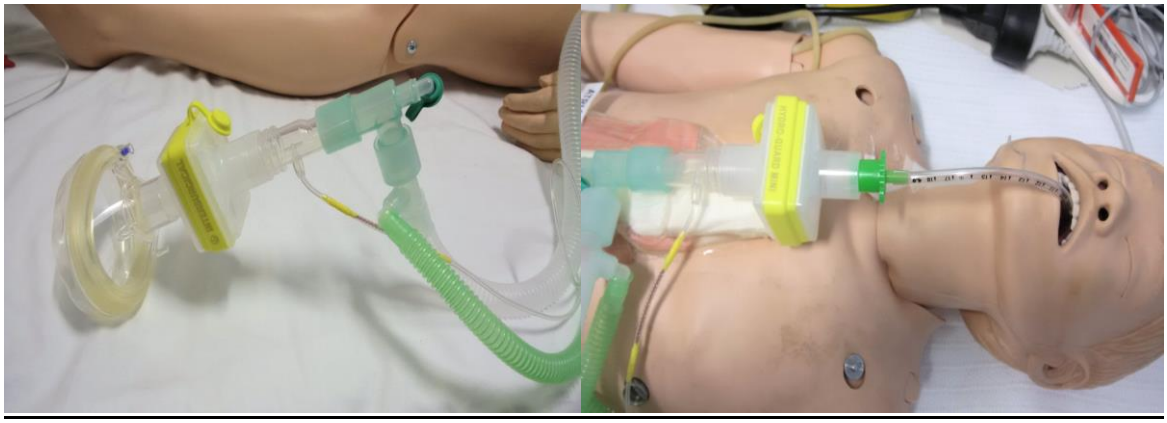
Resuscitation room

- Patients arriving by ambulance. Parents should be asked a brief travel history.
- These potentially unwell MERS-CoV patients do NOT go to CDU and are managed in the Resuscitation room.
- Child should be placed at one end of the resuscitation room and the automatic door on that end is sealed with signage restricting access to allow a single point of access.
- Non-essential staff are not permitted to access this space.
- Please use resuscitation space 4 if space 4 is being used, please use space 1. If bay 4 is being used, please lock the store room door from the other side to prevent contamination of store room.
- All staff in direct contact with the child MUST wear appropriate PPE

Intubation and Transfer

- All staff in direct contact with the patient must wear appropriate PPE.
- Intubation of a potential MERS-CoV child should be done in the Resuscitation room.
- Intubation to be done with a cuffed endotracheal tube and an extra INTERSURGICAL filter should be placed on the patient end. (See picture 1)
- Transfer to PICU- The oxylog ventilator is not a closed circuit so it has been agreed that it should NOT be used for transfer. The child should have an extra INTERSURGICAL filter on the patient end and be bagged up to PICU (See picture 2)
- Transfer – corridor to closest lift. No significant risk to people in corridor unless in close contact with patient.
- Patient should be transferred to Room 5 in PICU

Picture 1 Picture 2



Medical Assessment of patient in CDU pressure room

- All non-essential medical equipment should be removed from the room before the patient enters
- Initial medical assessment of potential MERS-CoV patients should be done by an ED doctor and ED nurse.
- PPE should be worn by the staff at all times.
- Those in PPE should be in communication with a member of staff outside at all times.
- Medical staff to contact Infectious Diseases (ID) and Infection Prevention and Control (IPC) team as soon as possible for advice.
- If the child is unwell, move the child through to the resuscitation room.
- If the child requires admission, the ED doctor will refer the patient to the medical team for further management.
- If the child is well enough to be sent home, virology samples should still be taken (just in case they represent 24 hours later) and the child can be sent home with advice to return if worsening symptoms. This must be done in consultation with the on call Public Health consultant.

Use of the CDU pressure room for MERS-CoV

- Close each door after patient goes through into room 17/18.
- Supplies/equipment are available in store room in CDU (right side across from reception desk)
- Move supply/equipment trolley from store room into the negative pressure room (Between the inner and outer door)
- 2 large yellow waste bins are required - One should be placed in the negative pressure room (inside room through both doors) and another between inner and outer doors for contaminated PPE.
- De-robing should take place between inner and outer doors of negative pressure room and contaminated PPE should be placed in the yellow waste bin.

Medical equipment –should be single use where possible

Parents/ Adult in attendance with child

- Where possible attending adults should be restricted in number.
- No attending children should be permitted except in exceptional circumstances.
- Parents of patients should be advised of the risk to them and if well should be given PPE and instructed on how to use it. They can wear an FFP3 mask but will not be fit tested.
- *Unwell a*dult/parent should be assessed for symptoms and remain in CDU pressure room and advised to wear a surgical mask
- ED doctor to contact Adult ED to discuss management of unwell adult.

PPE training and stock

- Each department is responsible for their own staff training.
- Training sessions/ refresher sessions on PPE use are run by Tony Brown and Jim Kidd in the ED.
- ED senior charge nurse is responsible for PPE stock in store room in both ED and CDU.

List of RHC Contact numbers

CDU Consultant	**84678**
ED Majors Consultant	**84059**
Infection Prevention and Control **Gillian Bowskill (Lead IPCN), Angela Johnson (Senior IPCN)**	**86382**
Infectious Diseases Consultant- Dr Conor Doherty **Infectious Diseases Consultant- Dr Rosie Hague** **Infectious Diseases Consultant- Dr Louisa Pollock**	**Page 18418** **Page 18076** **Mobile via switchboard**
Microbiology lab	**89132**
PICU Consultant	**84719**
Resus space 1	**84042**
Resus space 4	**84045**
Virology lab (West of Scotland Specialist Virology centre)	**50080**

11c. Glasgow Royal Infirmary

ED Triage

1. If patient reports history of travel to one of the affected countries move to 'clean prep room' from reception or triage. If patient has been in triage this room should be cleaned with 1000 ppm available chlorine by domestic staff wearing full PPE prior to being used (page 8).
2. If patient requires resus level care this can be provided in the clean prep room.
3. Keep both doors closed.
4. Commode to be provided.
5. Place screens outside corridor door of clean prep room to create a bay for equipment storage and staff changing.
6. Put surgical mask on patient.
7. Apply full PPE (page 8) to anyone assessing the patient once the concern has been raised.
8. Inform nurse-in-charge and consultant-in-charge and IPCT (consultant microbiologist on call if out of hours) as soon as concern is raised.
9. If patient fulfils criteria as a POSSIBLE case patient should be transferred to a negative pressure room in ITU or respiratory ward. Once a room is ready patient should be moved using a route to minimise contact with other patients. Close corridors and lifts to the public and other healthcare workers during transfer. Patient should wear a surgical mask during this transfer.
10. Record the names and CHI numbers of those who were in the waiting room with the patient.

Glasgow Royal Infirmary MAU triage

1. If GP requests on the phone review of a patient and reports travel to one of the affected countries, request that they direct telephone query to ID consultant on call for consideration of direct admission to QEUH.

2. If patient reports travel to one of the affected countries move from MAU triage to 'clean prep room' in ED.

3. Ongoing nursing care will be provided by ED staff.

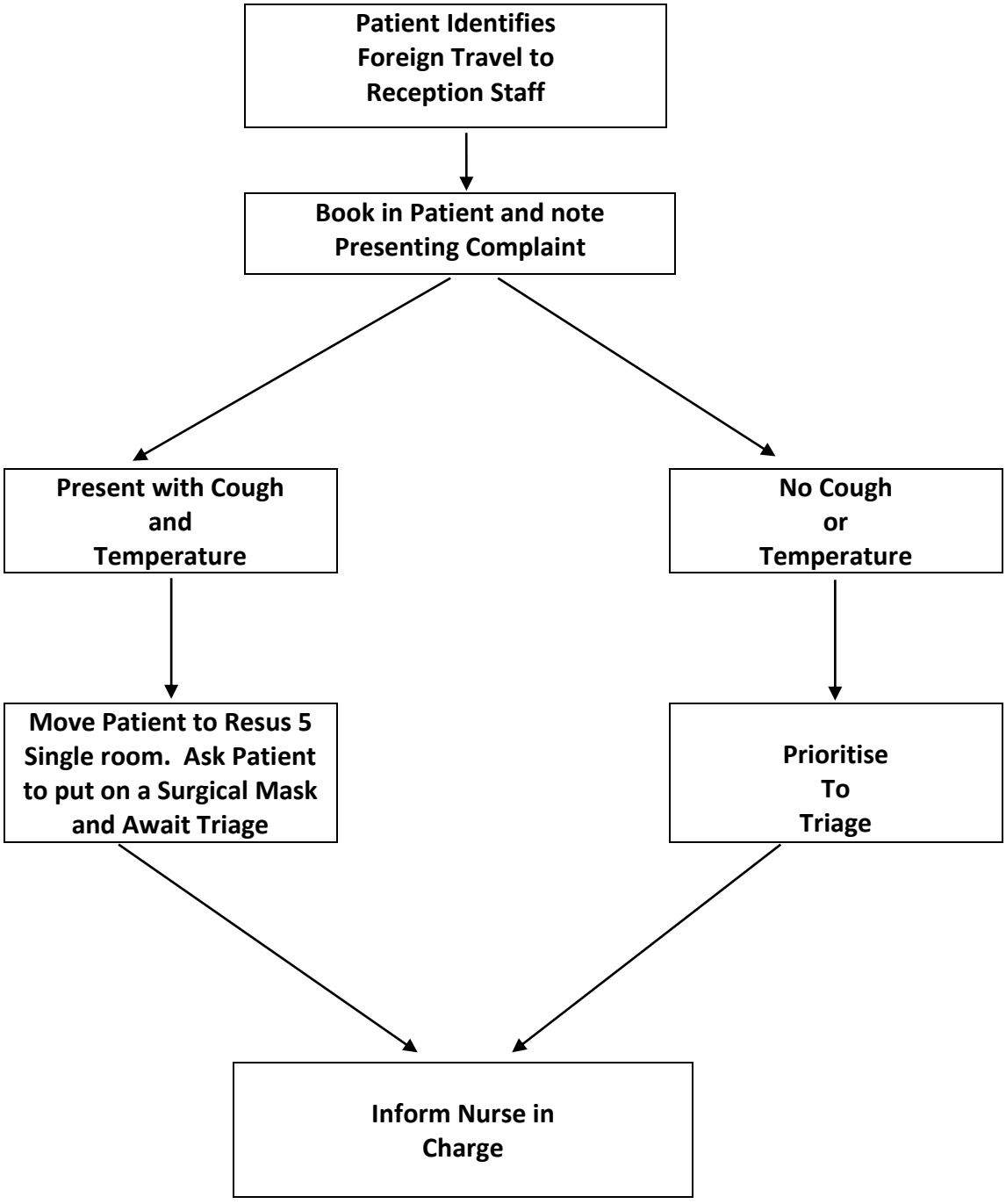
4. Ongoing medical care will be provided by MAU staff.

5. For further detail see ED triage notes.

Emergency department dos and don'ts.

- The patient should not be moved anywhere through the department without consultation with the ED consultant in charge in conjunction with the consultant on call for infection control.
- Unless the patient has an emergent airway issue all intubations should be performed in a negative pressure respiratory isolation room in ITU.
- CXR should be done as portable, by radiographers who are PPE trained. A patient with MERS-CoV needing to visit the radiology department should be discussed with IPCT.

11d. Royal Alexandra Hospital



Suspected MERS-CoV - Immediate ED Actions
Move patient to the designated room
Patient identified by Reception staff

- Move patient to the Resus 5 single 1 room
- Quarantine **both** Resus 5 single room and Resus Bed 4 (this is to allow the unaffected 'Clean' Resus Bed 4 to be used for staff changing)

Ambulance queue

- Move patient to the Resus 5 single room
- Quarantine **both** Resus 5 single room and Resus Bed 4 (this is to allow the unaffected 'Clean' Resus Bed 4 to be used for staff changing)

Patient is identified during assessment in ED and is in the bay area

- Ask the patient to put on surgical mask
- Immediately inform nurse-in-charge and consultant-in-charge.
- Move patient to the Resus 5 single room
- Quarantine **both** Resus 5 single room and Resus Bed 4 (this is to allow the unaffected 'Clean' Resus Bed 4 to be used for staff changing)
- Where appropriate notifies the local IPCT

Apply full PPE (page 8) to anyone assessing the patient once concern has been raised

Emergency Department Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the ED consultant in charge in conjunction with the Infection Control Consultant on call

- If intubation is required for an airway issue in-extremis in ED it should be performed in Resus 5 single room

- **CXR** should be done as a portable with radiographers who are PPE trained. A patient with possible MERS-CoV should not be X-rayed in the radiology department

- If Infectious disease team decide the patient requires admission the most appropriate option for admission has to be agreed by clinical team with ID specialists and ICT

- If the decision is to admit patient to ITU they have to be taken by the shortest route, using lift to ITU and placed in isolation room. Patient wears surgical mask where possible.

Suspected MERS-CoV immediate actions in MAU

- Keep the patient in the room they are in when the diagnosis is first suspected
- Put surgical mask on patient once concern has been raised by assessing staff
- Inform Nurse-in-Charge and Consultant-in-Charge as soon as concern is raised
- Apply full PPE (page 8) to anyone assessing the patient once concern has been raised

MAU Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the consultant in charge and in conjunction with the Infection Control Consultant on call

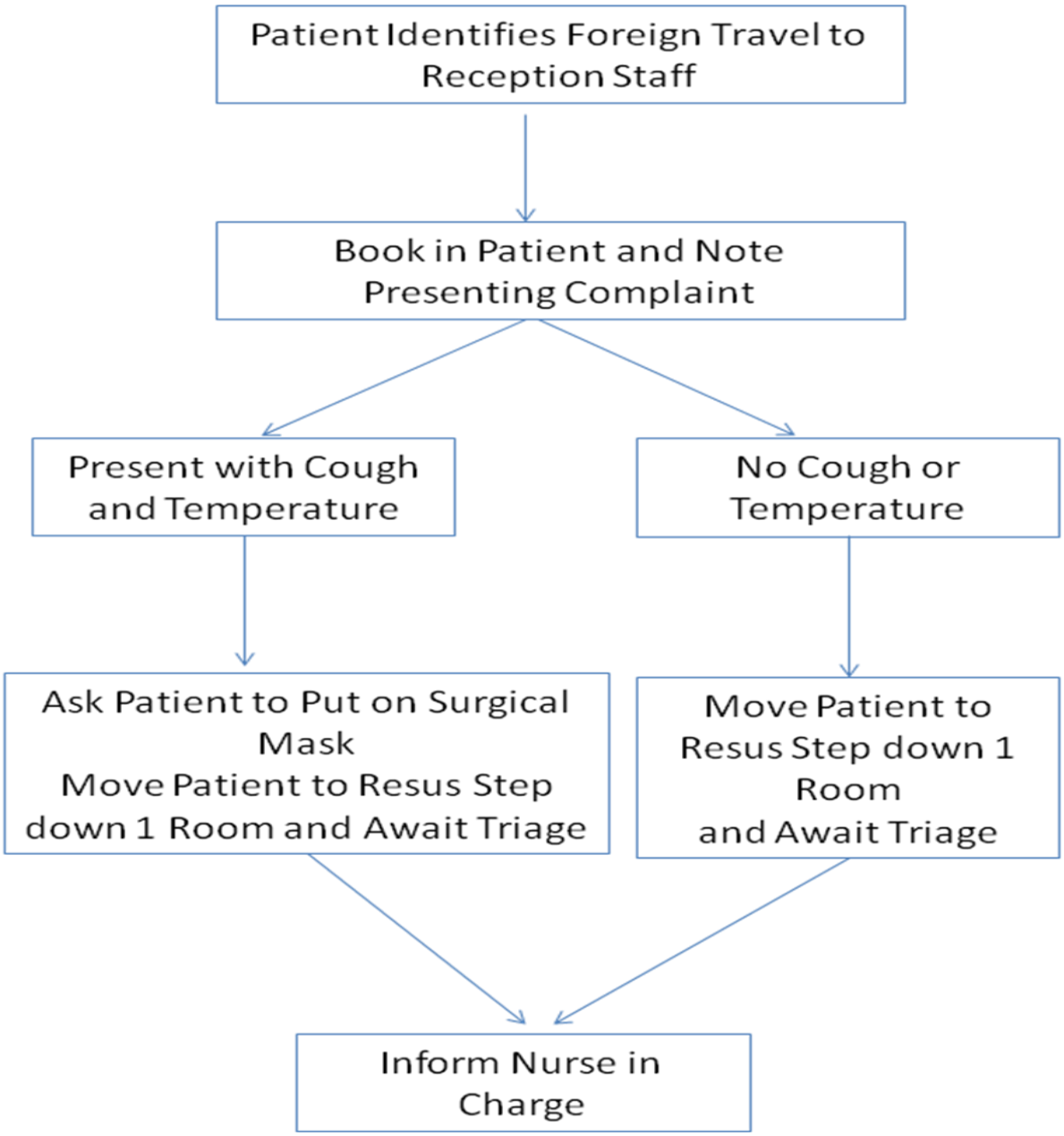
- Consultant in charge should discuss the most appropriate option for admitting patient with ID consultant and Infection Control Doctor

- Unless the patient has an emergent airway issue **ALL** intubations should be performed in a respiratory isolation rooms in **ITU**
- **CXR** should be done as a portable with radiographers who are PPE trained. A patient with possible MERS-CoV should not be X-rayed in the radiology department.

- If the decision is to admit the patient to RAH they should be managed in a respiratory isolation room in ITU. The consultant in charge must inform ITU about the patient transfer

- Once a room in ITU is ready then the patient (wearing surgical mask if possible) should be moved to ITU by the shortest route, using lift to ITU and placed in isolation room.

11e. Inverclyde Royal Hospital



Suspected MERS-CoV - Immediate ED Actions
Patient identified by Reception staff

- Move patient to the Resus Step Down 1 room
- Quarantine **both** Resus Step Down 1 and Resus Step Down 2 (this is to allow the unaffected 'Clean' Resus Step Down 2 to be used for staff changing)

Ambulance queue

- Move patient to the Resus Step Down 1 room
- Quarantine **both** Resus Step Down 1 and Resus Step Down 2 (this is to allow the unaffected 'Clean' Resus Step Down 2 to be used for staff changing)

Patient is identified during assessment in ED and is in the bay area

- Ask the patient to put on surgical mask and immediately inform Nurse-in-Charge and Consultant-in-Charge
- Move patient to the Resus Step Down 1 room, quarantine **both** Resus Step Down 1 and Resus Step Down 2 (this is to allow the unaffected 'Clean' Resus Step Down 2 to be used for staff changing)
- Where appropriate notifies the local IPCT

Apply full PPE (page 8) to anyone assessing the patient

Emergency Department Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the ED Consultant in Charge in conjunction with the Infection Control Consultant

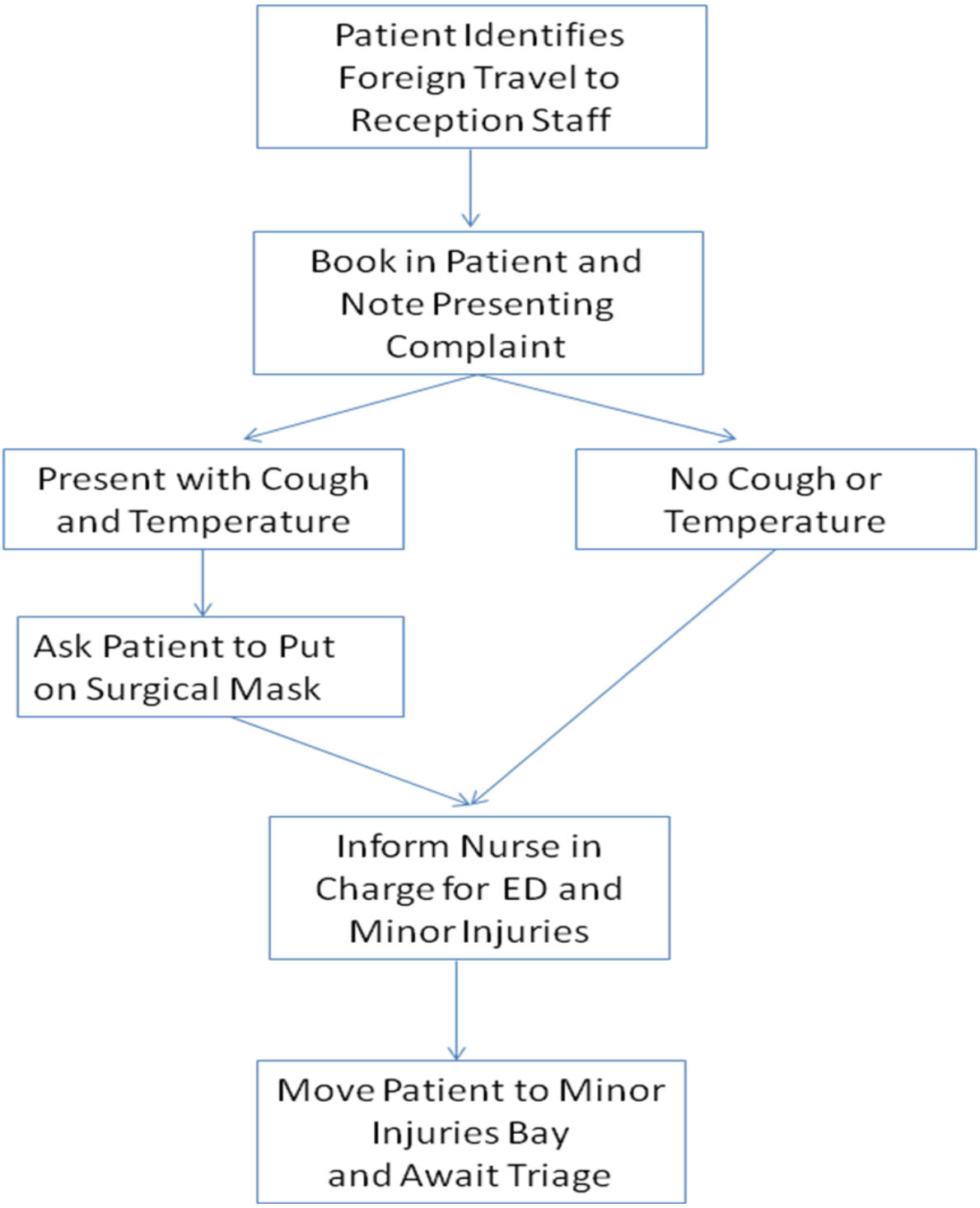
- If intubation is required for an airway issue in-extremis in ED it should be performed in Resus Step Down 1 room

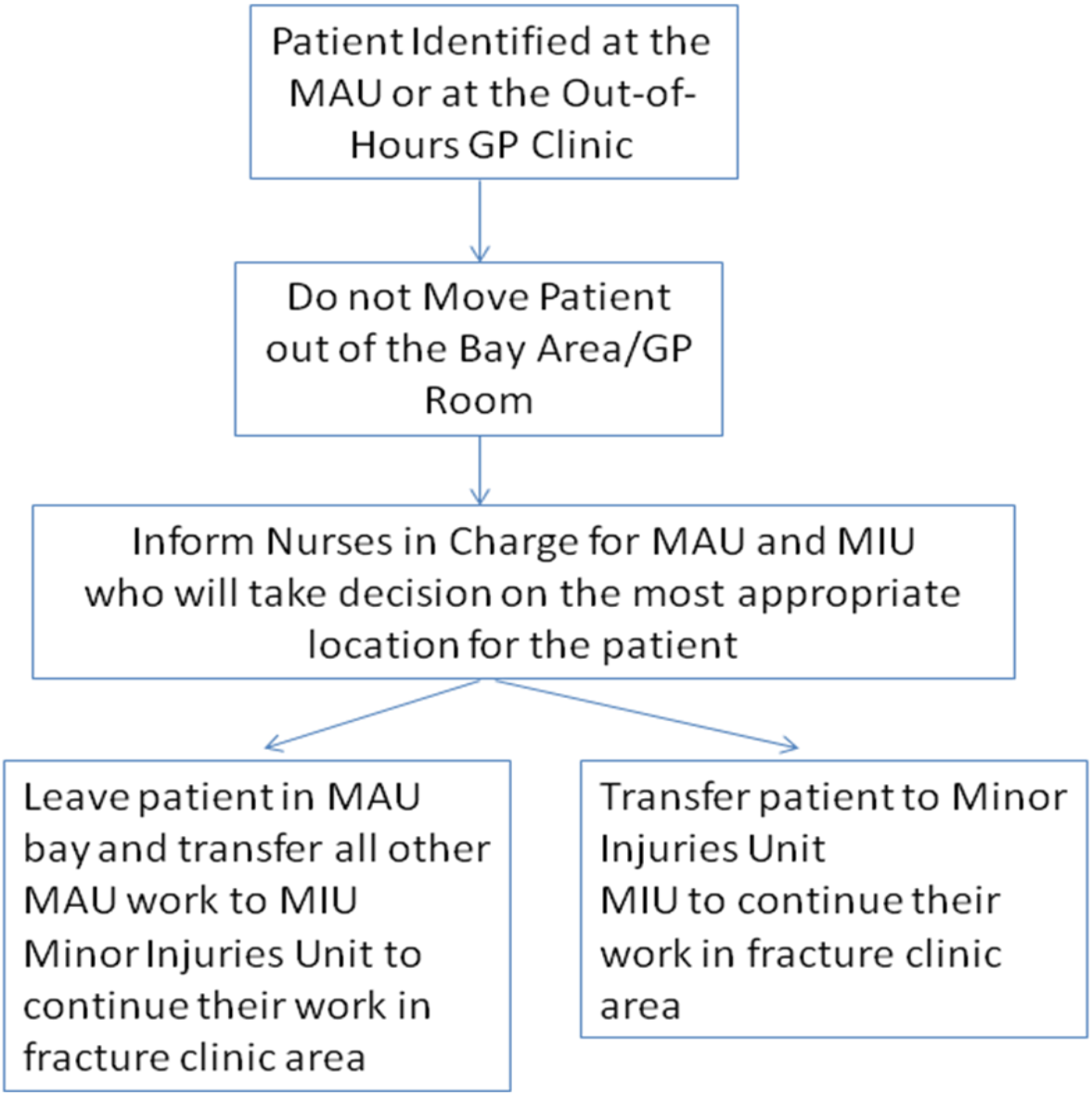
- **CXR** should be done as a portable with radiographers who are PPE trained. A patient with suspected MERS-CoV should not be X-rayed in the radiology department.

- If Infectious disease team decide the patient requires admission the most appropriate option for admission has to be agreed by clinical team with ID specialists and ICT.

- If the decision is to admit patient to IRH ITU they have to be taken by the shortest route, using theatre lift to ITU and placed in isolation room.

11f. Vale of Leven Hospital




Patient Identified at the MAU or at the Out-of-Hours GP Clinic
Do not Move Patient out of the Bay Area/GP Room
Inform Nurses in Charge for MAU and MIU who will take decision on the most appropriate location for the patient
Leave patient in MAU bay and transfer all other MAU work to MIU Minor Injuries Unit to continue their work in fracture clinic area
Transfer patient to Minor Injuries Unit MIU to continue their work in fracture clinic area

Suspected MERS-CoV - Immediate MAU Actions

Patient identified by Reception staff

- Ask the patient to put on surgical mask if cough and temperature present
- Inform Nurse in Charge for Medical Assessment Unit (MAU) and Minor Injuries Unit (MIU). MAU Nurse in Charge to inform the Consultant in Charge for MAU
- MAU Nurse in Charge to escalate to the CSM/Lead nurse and Physician of the week in hours and escalate to the Clyde duty manager and on call medical consultant in the OOHs period
- Patient to be transferred to a bay in MIU
- Make sure all patients are transferred out of Minor Injury Unit and all non-essential equipment has been removed from the area
- MIU to move all work to the Fracture Clinic
- Transfer the patient to the MIU bay and await triage
- Use adjacent bay as "clean anteroom" for staff changing and for decontaminating the equipment
- Keep the MIU entrance doors closed

Ambulance service- informs the unit about possible MERS-CoV case in advance and move patient to MIU

Patient is identified during assessment in MAU and is in the bay area

- Ask the patient to put on surgical mask
- Immediately inform nurse-in-charge and consultant-in-charge
- Do not move the patient out of the bay
- Nurse-in-Charge to discuss with senior management the most appropriate placement for the patient. Issues to consider will include:
  - occupancy of the MAU and MIU
  - availability of domestic staff to carry out terminal clean of the unit
  - predicted stay of the patient at the VoLH
  - senior management will consider a divert of all SAS calls to another site
  - In OOHs period – NHS24 informed. Consideration by SMT of all OOHs GP calls to be diverted to other OOHs centres

If it is possible within a reasonable timeframe to carry out terminal clean of MAU then the patient should be transferred to MIU (see actions above for the move of workload of MIU) and terminal clean of MAU should be carried out before normal work of MAU can be resumed.

In case it is not logistically feasible to carry out a terminal clean of MAU within reasonable timeframe then the patient should be cared for at the MAU bay and all the other MAU work should be transferred to MIU area.

Patient is identified at the Out-of-Hours GP Clinic

Keep the patient in the GP clinic room if clinical situation allows this and follow the actions as for "Patient identified by Reception Staff" pathway

Apply full PPE including FFP3 mask, goggles and fluid repellent gown to anyone assessing the patient once concern has been raised

MAU Dos and Don'ts

- The patient **should not be moved anywhere** through the department without consultation with the MAU consultant in charge in conjunction with the Infection Control Consultant

- **CXR** should be done as a portable with radiographers who are PPE trained. A patient with possible MERS-CoV should not be X-rayed in the radiology department

- If Infectious disease team decide the patient requires admission the most appropriate option for admission has to be agreed by clinical team with ID specialists and IPCT.

If the decision is to admit patient to ward 3 (AMRU) they have to be taken by the shortest route, using the AMRU lift and placed in isolation room 6. Close the corridors affected by the patient journey to the public until area has been appropriately cleaned.