1 Introduction

Over recent years there have been outbreaks of a number of serious respiratory viral infections outwith the UK such as MERS coronavirus and avian influenzas. There is a risk that returning travellers might import such infections back into the UK. It is vital therefore that the Trust has mechanisms in place to identify returning travellers who may be carrying such infections and that appropriate infection prevention and control measures are instigated early, with notification of appropriate individuals.

Currently MERS coronavirus is circulating in the Middle East and human cases of avian influenza viruses are occurring in South East Asia and China, however it must be recognised that the situation is constantly changing. The geographical distribution of these viruses can change and case definitions are often updated. There is a risk of the recurrence of previously known pathogens, such as the SARS coronavirus, as well as emergence of previously unknown respiratory pathogens.

The Public Health England and World Health Organisation websites provide information on current infectious threats worldwide:

- [http://www.who.int/en/](http://www.who.int/en/)

An overview is provided here of currently circulating threats:

1.1 MERS coronavirus


Middle East Respiratory Syndrome coronavirus (MERS-CoV) was first identified in 2012; since then over 1600 cases have been reported to the WHO with over 550 related deaths. Most cases so far have been reported from the Arabian Peninsula particularly the Kingdom of Saudi Arabia (KSA). A single imported case into South Korea in 2015 resulted in 186 cases and 36 deaths linked to delayed identification and hospital-related transmissions.
Other countries which have been considered at risk include Bahrain, Jordan, Iraq, Iran, Kuwait, Oman, Qatar, United Arab Emirates and Yemen.

Symptoms include fever and cough that can progress to a severe pneumonia causing shortness of breath and breathing difficulties. Mortality is estimated at around 36% and the infection is particularly severe in those with underlying medical conditions. It is likely that many less severe infections remain undiagnosed.

Dromedary camels are an identified host, and the likely source of primary infection in some cases, however most cases are due to human-to-human transmission. The epidemiological picture is consistent with sporadic zoonotic infections that are then amplified within healthcare premises. Large outbreaks linked to healthcare facilities are a feature of MERS-CoV and have occurred both within the Middle East, and in South Korea. There is currently no evidence of sustained community transmission. Human to human transmission appears to require close contact. The incubation period is up to 14 days.

1.2 Avian Influenza (H5N1 and H7N9)

For up to date case definition and list of countries affected see the following link https://www.gov.uk/government/publications/avian-influenza-guidance-and-algorithms-for-managing-human-cases. There are separate documents for H5N1 and H7N9.


Most avian influenza viruses do not infect humans; however some, such as A(H5N1) and A(H7N9), have caused serious infections in people. So far there is no convincing evidence of sustained person to person spread. Infection is associated with close contact with living or dead infected poultry.

Influenza A (H5N1) is endemic in the poultry of several countries. Since 2003 it has been responsible for over 800 confirmed human cases and over 400 deaths, reported from over 16 countries. Egypt and Indonesia have reported the most human cases in total. Symptoms include flu-like illness and upper and lower respiratory tract symptoms. The incubation period is considered to be up to 7 days.

Influenza A (H7N9) is present in poultry in China. Since 2013 it has been responsible for over 500 confirmed human cases and over 200 deaths in China. Symptoms include flu-like illness and upper and lower respiratory tract symptoms. The incubation period is considered to be up to 10 days.

1.3 SARS coronavirus

SARS is a severe respiratory disease caused by SARS coronavirus. It was first recognised in Guangdong Province in China in November 2002, and spread worldwide before being contained, with the last case identified in 2004.
Over 8000 individuals were affected in over 30 countries. There is an animal reservoir in civets and some bats in China. The possibility of SARS re-emergence remains and there is a need for continuing vigilance.

2 Policy scope

The policy discusses actions to be taken by all appropriate staff when a patient is suspected of having a serious imported respiratory illness of Public Health significance.

These include, but are not exclusive to, MERS coronavirus, SARS coronavirus, and Avian Influenza.

The policy details where and how these patients should be managed to ensure the safety of staff, patients and the public. However were a future threat is identified this policy would be updated in line with national guidance.

3 Aim of policy

- To highlight the importance of identifying patients with a recent travel history and the risk of potentially serious imported infections.

- To define the action to be taken in the event of a potential or suspected case of serious imported respiratory infection, including infection prevention and control advice.

4 Duties (Roles and responsibilities)

4.1 The Executive Team is accountable to the Trust Board for ensuring Trust-wide compliance with policy.

4.2 The Chief Executive has overall responsibility for implementation, monitoring and review of this policy. This responsibility is delegated to the Director of Infection Prevention and Control (DIPC).

4.3 The Infection Prevention and Control Committee (IPCC) will review and ratify the policy and any new evidence base within the time frame set out in the policy.

4.4 The Infection Prevention and Control Team and microbiologists (IPCT) are responsible giving IPC advice as necessary and for assisting with the review of this policy to ensure the policy contains current evidence based guidance.

To facilitate immediate isolation of a suspected cases of these infections. To co-ordinate fit testing for FFP3 masks. To liaise with Ward Managers and Matrons to facilitate the identification and tracing of further contacts.

4.5 The Consultant Infectious Diseases Physician is responsible for assessing suspected cases of these infections and for liaison with the North East Health Protection Team and multiagency Regional Outbreak Control Team (OCT) as required.
4.6 **The Virology Consultants and laboratory teams** are responsible for giving advice regarding testing and sample transport and ensuring specimens are tested in a timely way.

4.7 **Regional Outbreak Control Team**: This will be convened by North Health Protection Unit for cases of these agents, to assume responsibility for further control of the outbreak, including management of contacts working closely with Trust personnel.

4.8 **The Occupational Health Service** is responsible for assisting with staff contact management, as necessary and requested.

4.9 **The Director of Estates and Facilities** is responsible for ensuring that the isolation facilities are maintained and there are engineering staff with a working knowledge of this available 24/7 to respond to any system failures when in operation.

4.10 **Matrons, Line Managers and Heads of Department** are responsible for ensuring that policies, procedures and access to education and training are made available to all appropriate staff to ensure staff competence, minimise the risk of infection and ensure clinical practice is in line with Trust policy.

4.11 **All staff** are responsible for ensuring they understand and implement this policy and attend training sessions as specified in their role.

5 **Definitions**

Definitions of terminology are given throughout the policy.

5.1 **Case Definitions**

Case definitions are frequently updated in line with changes in viral circulation or new knowledge relating to transmission, incubation period and symptoms. For this reason case definitions are not detailed here; instead links to the current case definitions for currently circulating viruses are provided.

5.1.1 **MERS coronavirus**


5.1.2 **Avian Influenza**

6 Policy detail

6.1 Case Identification and Reporting

Patients who present to the Trust with a history of travel abroad in the last 21 days and symptoms of; fever, cough, shortness of breath and flu-like symptoms should be risk assessed for these respiratory organisms as per the algorithms above.

Walk-in Centres, the Emergency Department and Assessment Suite should display posters in public areas as seen in appendix 2 and 3 respectively alerting patients to identify themselves to reception as soon as they arrive to facilitate timely diagnosis. These can be obtained from the IPC nursing team.

For suspected cases the following communication chain should be followed, as also seen in Appendix 1):

- Discuss with the Consultant on call for Infectious Diseases (Adult or Paediatric as appropriate).
- If suspected the Infectious Diseases Consultant will contact the Virologist.
- The Infectious diseases Consultant will also contact the Health Protection Team.
- The Virologist will contact the Infection Prevention and Control Team/microbiologist
- The nurse in-charge of the area will contact the Patient Services Coordinator

6.2 Infection Prevention and Control

6.2.1 Patient Isolation Precautions

For quick reference of patient management please see flow chart in Appendix 1.

Apart from additional PPE requirements patients should be managed as per the procedures for source isolation, as seen in the Isolation Policy.

6.2.2 Isolation facilities

- Patients requiring assessment and investigation should be assessed in a single cubicle or room or at home if this is possible.
- Patients requiring admission should be admitted directly to a negative-pressure, single room, preferably with ensuite facilities. If ensuite is not available then the patient must have a designated commode.
- Room doors MUST be kept closed.
- Positive-pressure, single rooms MUST not be used.
- If on a critical care unit, the patient should be nursed in a negative-pressure room where available, or, if not available, a neutral-pressure side room should be used and a closed ventilator circuit used, if required.
6.2.3 Personal Protective Equipment (PPE)

- **Only essential staff** should enter the room.

**ALL staff and visitors entering the room must wear:**

- Long sleeved, fluid-repellent disposable gown
- Non-sterile surgical gloves.
- An FFP3 respirator mask (conforming to EN149:2001) **Fit testing must be undertaken before using this equipment and a respirator should be fit-checked every time it is used.**
- Visor or disposable goggles (prescription glasses do not provide adequate protection against droplets, sprays and splashes).
- Disposable aprons should also be worn as for standard precautions when undertaking patient care

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

**PPE must be removed in the following way:**

1. Apron, if worn for patient care
2. Gown (crossing arms to pull and roll away from the shoulders and body)
3. Gloves, ensuring hands are not contaminated during removal
4. Wash hands
5. Remove visor from strap at the back of the head
6. Wash hands
7. Exit into ante-room and remove mask from straps at the back of the head
8. Wash hands in ante-room

6.2.4 Hand Hygiene

- This is essential before and after all patient contact, removal of protective clothing and cleaning of the environment.
- Use soap and water where possible, as per Hand Hygiene Policy.

6.3 Staff

- Staff must comply with all infection prevention and control procedures as detailed above.
- A record must be maintained of all staff involved in the assessment, care and management of the patient. The record sheet (as seen in Appendix 4) should be placed at the door and all staff entering must complete this.
- The use of bank or agency staff should be avoided wherever possible.
- All staff should be vigilant for any respiratory symptoms in the 14 days following last exposure to a case and should not come to work if they have a fever or cough. They should seek advice from their IPCT or Occupational Health Service. If symptomatic staff should avoid close contact with people both in the hospital and in the general community
6.4 Visitors

- The number of visitors should be restricted to cases where it is considered essential.
- Visitors entering the isolation room must wear PPE as previously detailed.
- Visitors must be trained in the appropriate use of protective clothing and hand hygiene.
- A log of all visitors must be kept.

6.5 Equipment

- Use dedicated equipment in the isolation room.
- Dispose of single use equipment as clinical waste inside room.
- Re-useable equipment should be avoided if possible. If used, disinfect with 1,000ppm Actichlor plus solution.
- Use of equipment that re-circulates air (e.g. fans) should not be used as this has the potential to turn a negative-pressure room into a positive-pressure room.

6.6 Cleaning and Disinfection

- The isolation room must be cleaned as per the procedures detailed in the Isolation Policy and Disinfection Procedure
- It is possible that the virus can survive in the environment for at least 48 hours, so environmental decontamination is vital.
- Domestic staff must wear protective clothing as indicated above and be trained in the use of this.

6.7 Linen and waste

- Used laundry must be discarded as infected linen (alginate bag into a white laundry bag, as per Laundry Management Policy)
- All waste from the isolation room must be disposed of as clinical waste and handles as per Waste Management Policy.
- Care must be taken when disposing of body fluids in the dirty utility room to prevent contamination of the environment.

6.8 Critical Care

- Closed circuit suction systems must be used
- All respiratory equipment must be protected with a high efficiency filter with viral efficiency to 99.99%, e.g. BS EN 13328-1.
- Disposable respiratory equipment should be used wherever possible. Reusable equipment must be disinfected in accordance with the Isolation Policy with 1,000ppm Actichlor plus solution (unless contraindicated).
- The ventilator circuit should not be broken unless absolutely necessary
- Ventilators must be placed on standby when carrying out bagging
- Protective clothing detailed above must be worn
• Staff must remember that the use of non-invasive positive-pressure ventilation equipment carries with it an increased risk of transmission of infection.
• Water humidification should be avoided, if possible, and a heat and moisture exchanger should be used if possible
• Only essential staff should be in the patient’s room when aerosol generating procedures (AGPs) are being carried out e.g. suctioning, hand bagging, bronchoscopy

6.9 Chest X-Ray (CXR)

A CXR is needed as part of the diagnostic procedure. To undertake this test the following should be followed:
• Inform the on call radiology technician
• The technician must wear PPE
• The x-ray equipment must be cleaned with 1,000 ppm Actichlor plus solution after use

6.10 Operating Theatres

The decision to take confirmed cases to theatre must be made by a consultant physician and the following precautions taken:
• Theatres must be informed in advance.
• The patient should be transported directly to the operating theatre and should wear a surgical mask, if it can be tolerated, this will prevent large droplets being expelled into the environment by the wearer.
• The patient should be anaesthetised and recovered in the theatre.
• Staff should wear protective clothing as detailed above.
• Disposable anaesthetic equipment should be used wherever possible.
• Re-usable anaesthetic equipment should be decontaminated as per Isolation Policy
• The anaesthetic machine must be protected by a high efficiency filter with viral efficiency to 99.99%, e.g. BS EN 13328-1
• Instruments and devices must be decontaminated in the normal manner. Instruments must be transported as per procedures for infected cases.
• The theatre should be cleaned as decontamination procedure for infected patients in source isolation, including wall washing, prior to any further cases being received

6.11 Patient Transfer

• Where possible, all procedures and investigations should be carried out in the patient’s room with a minimal number of staff present.
• Only if clinical need dictates, and in consultation with the IPCT, should patients be transferred to other departments, implementing the following precautions:
  o The department must be informed in advance.
  o The patient should wear a surgical mask, if this can be tolerated.
o The patient must be taken straight to and from the investigation/treatment room, and must not wait in a communal area.
o Staff carrying out procedures must wear the protective clothing described above.
o Patients should be at the end of a list to allow for appropriate decontamination after the procedure.
o The treatment/procedure room, trolley/chair and all equipment must be terminally cleaned after use.

6.12 Microbiological and other Pathological Samples

- All samples must be sent as per Specimen Transport Policy and labelled as biohazard.
- Diagnostic viral testing should be discussed with the virologist or microbiologist before sending samples to the laboratory. If reference testing in another hospital is required virology/microbiology staff will provide information on packaging and arrange couriers.

6.13 Last Offices

- Deceased patients must be managed infected patients and placed into a cadaver bag with an Infection Prevention and Control declaration form attached to the bag. Please refer to the Last Offices Policy and Cadaver Bag Use Policy
- Staff must wear full PPE as described above when preparing the body.
- Once in the hospital mortuary it would be acceptable to open the body bag in order to view the body.
- Washing or preparing the body is acceptable if those carrying out the task wear appropriate PPE. To ensure adequate staff safety the PPE described above is recommended; disposable long sleeved fluid repellent gown, FFP3 mask, visor and gloves.
- Mortuary staff and funeral directors must be advised of the biohazard risk.
- Embalming is not recommended because of the potential presence of virus in blood.
- If a post mortem is required then it needs to be undertaken using safe working techniques (e.g. manual rather than power tools) and wearing full PPE, as described above, in the event that power tools are used.

6.14 Major Outbreak Policy / Major Incident Plan

The following Trust and Regional policies may be instituted, including convening of the Major Outbreak Control Group as defined in the ‘Major outbreaks of infection’ policy.

- Major Incident Plan (Trust)
- Investigation and Control of Major Outbreaks of Infection (Trust)
- North East Infectious Diseases Plan Aug 2015
6.15 Public Relations

All communications with the media MUST be coordinated via the Chief Executive’s Office, and in conjunction with Regional or National OCTs.

7 Training

All staff working on Trust premises, including Trust employed staff; agency and locum staff are responsible for accessing IPC Policies in order to assist in the management of their patients. It is the responsibility of the relevant departmental leads to ensure that staff are aware of this policy as appropriate.

8 Equality and Diversity

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This document has been appropriately assessed.

9 Monitoring compliance with policy

<table>
<thead>
<tr>
<th>Standard / process / issue</th>
<th>Monitoring and audit</th>
<th>Method</th>
<th>By</th>
<th>Committee</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reporting cases of infections listed to HPA</td>
<td>HPA will inform IPCD/ID of any unreported cases</td>
<td>Consultant in Health Protection PHE</td>
<td>Infection Prevention and Control Committee</td>
<td>When cases present to the Trust</td>
<td></td>
</tr>
<tr>
<td>PPE is worn and patients managed as per policy</td>
<td>Monitoring during incidents</td>
<td>IPCNs</td>
<td>IPCC</td>
<td>When cases present to the Trust</td>
<td></td>
</tr>
</tbody>
</table>

10 Consultation and review

This policy has being reviewed by the members of the IPCT team and Infectious Diseases.

This policy will be reviewed as required and a minimum of 12 monthly to ensure links to case definitions and current guidance remain current and to assess the need for specific inclusion of additional pathogens. The guidance will be fully reviewed every 3 years.

11 Implementation of policy (including raising awareness)

It is the responsibility of the relevant departmental leads to ensure that staff are aware of the contents of this policy as appropriate.

12 References


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

5. World Health Organisation factsheets: 
   MERS. http://www.who.int/mediacentre/factsheets/mers-cov/en/ 


13 Associated documentation

- Cadaver Bag Use Policy
- Hand Hygiene Policy
- Isolation Policy
- Last Offices Policy
- Laundry Management Policy
- Waste Management Policy.
NOTE:
- For MERS coronavirus, if samples are received by the reference laboratory by 09.00 results should be available by 16.00 the same day.
- Virologist will receive results from the reference lab and inform the clinical team and the HPT.
APPENDIX 2

Walk-in Centre Poster

The Newcastle upon Tyne Hospitals
NHS Foundation Trust

Returning from the Middle East?
Important information about Middle East Respiratory Syndrome (MERS)

A new disease called MERS has been identified in some countries in the Middle East

If you have returned from the Middle East in the last 14 days and:

• You have a fever and cough
Or
• You are finding it hard to breath
Or
• You are caring for someone known to have MERS within the last 14 days

Please tell the Receptionist

(Poster modified from PHE poster Returning from the Middle East? (Poster2v1))
ATTENTION

If you have been abroad in the last 21 days AND have:

- Fever
- Cough
- Shortness of breath
- Flu-like symptoms

Please inform reception as soon as you arrive
## STAFF CONTACTS RECORD

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
<th>Designation</th>
<th>Ward / dept. / site</th>
<th>Activity undertaken</th>
<th>Duration of contact</th>
<th>Was full PPE worn? (as per policy)</th>
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<tbody>
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The Newcastle upon Tyne Hospitals NHS Foundation Trust

Equality Analysis Form A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

PART 1

1. **Assessment Date:** 14/12/2015

2. **Name of policy / strategy / service:**
   - MERS Coronavirus, SARS Coronavirus, Avian Influenza Patient Management Policy

3. **Name and designation of Author:**
   - Allison Sykes, Practice Development Lead IPC

4. **Names & designations of those involved in the impact analysis screening process:**
   - Ashley Price, Director of IPC

5. **Is this a:**
   - Policy [ ]
   - Strategy [ ]
   - Service [ ]

   **Is this:**
   - New [ ]
   - Revised [ ]

   **Who is affected**
   - Employees [ ]
   - Service Users [ ]
   - Wider Community [ ]

6. **What are the main aims, objectives of the policy, strategy, or service and the intended outcomes?** *(These can be cut and pasted from your policy)*
   - The aim of this policy is to prevent the transmission of dangerous respiratory organisms, as stated, between patients and staff through timely diagnosis and implementation of correct infection prevention and control precautions.

7. **Does this policy, strategy, or service have any equality implications?**
   - Yes [ ]
   - No [ ]

   If No, state reasons and the information used to make this decision, please refer to paragraph 2.3 of the Equality Analysis Guidance before providing reasons:
### 8. Summary of evidence related to protected characteristics

<table>
<thead>
<tr>
<th>Protected Characteristic</th>
<th>Evidence, i.e. What evidence do you have that the Trust is meeting the needs of people in various protected groups</th>
<th>Does evidence/engagement highlight areas of direct or indirect discrimination? If yes describe steps to be taken to address (by whom, completion date and review date)</th>
<th>Does the evidence highlight any areas to advance opportunities or foster good relations. If yes what steps will be taken? (by whom, completion date and review date)</th>
</tr>
</thead>
</table>
| Race / Ethnic origin (including gypsies and travellers)       | Provision of Interpreting service and leaflet translation  
E&D Training for staff                                                                                     | None                                                                                                                                               | None                                                                                                                                                                                            |
| Sex (male/ female)                                           | Male and female practitioners are available to promote the dignity of patients when required                  | None                                                                                                                                               | None                                                                                                                                                                                            |
| Religion and Belief                                           | Chaplaincy service provided with links to leaders of major faiths                                           | None                                                                                                                                               | None                                                                                                                                                                                            |
| Sexual orientation including lesbian, gay and bisexual people | No relevant good practice                                                                                   | None                                                                                                                                               | None                                                                                                                                                                                            |
| Age                                                          | Innovations to support people with Dementia  
Nurse Specialist Dementia Care available for further advice and support                                        | None                                                                                                                                               | None                                                                                                                                                                                            |
| Disability – learning difficulties, physical disability, sensory impairment and mental health. Consider the needs of carers in this section | • Provision of BSL Signers and Deaf Blind Guides  
• Provision of LD Liaison Nurse                                                                 | None                                                                                                                                               | None                                                                                                                                                                                            |
| Gender Re-assignment                                         | No relevant good practice                                                                                   | None                                                                                                                                               | None                                                                                                                                                                                            |
| Marriage and Civil Partnership                                | No relevant good practice                                                                                   | None                                                                                                                                               | None                                                                                                                                                                                            |
| Maternity / Pregnancy                                        | Women’s Health and Maternity Services will support pregnant women who require isolation                    | None                                                                                                                                               | None                                                                                                                                                                                            |
9. Are there any gaps in the evidence outlined above? If ‘yes’ how will these be rectified?

No

10. Engagement has taken place with people who have protected characteristics and will continue through the Equality Delivery System and the Equality Diversity and Human Rights Group. Please note you may require further engagement in respect of any significant changes to policies, new developments and or changes to service delivery. In such circumstances please contact the Equality and Diversity Lead or the Involvement and Equalities Officer.

Do you require further engagement? Yes [ ] No [x]

11. Could the policy, strategy or service have a negative impact on human rights? (E.g. the right to respect for private and family life, the right to a fair hearing and the right to education?)

No

PART 2

Name: Allison Sykes

Date of completion: 14/12/2015

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified, please refer to the Policy Author identified above, together with any suggestions for action required to avoid/reduce the impact.)