Management of Patients with Confirmed/Suspected Influenza Policy

V4.2

January 2020
Summary

Flu confirmed

Commence Treatment

Isolate index case

Contact tracing
Any patient who has been in contact with index case whilst they have had symptoms needs to be assessed to see if high risk, ie:
- Chronic lung disease
- Chronic heart disease
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disease
- Immunosuppression
- Diabetes
- Pregnant women
- Children under 5 years old
- People aged 65 years and older
- People who are obese

If high risk on assessment prophylaxis to be given

Isolation of contacts not required

PPE for confirmed case – see attached
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1. **Introduction**

1.1. Influenza or ‘flu’ is a respiratory illness caused by influenza A or B virus. Symptoms frequently include headache fever, cough, sore throat, aching muscles and joints.

1.2. Influenza is a highly infectious illness transmitted through the respiratory route by aerosols or contact.

1.3. Influenza occurs most often in winter and usually peaks between December and March in the northern hemisphere. Illness resembling influenza may be caused by several different viruses; therefore national surveillance schemes are in place to detect circulation of influenza viruses.

1.4. The influenza virus is unstable and new strains and variants are constantly emerging. For this reason flu vaccine is reformulated each year to match circulating strains and booster should be given each year to those qualifying for influenza vaccination. Vaccine is recommended for those with chronic illness including respiratory conditions such as COPD and asthma, renal and heart failure. Pregnant women are also recognised as being at special risk. Vaccine is recommended in Healthcare Workers for the protection of their patients.

1.5. For most people influenza infection is just a nasty experience but for some it can lead to more serious illnesses. The most common complications of influenza are pneumonia and exacerbation of chronic cardiopulmonary conditions. These illnesses may require treatment in hospital and can be life threatening especially in the elderly, people with chronic illness or immunosuppression.

1.6. This version supersedes any previous versions of this document.

1.7. **Data Protection Act 2018 (General Data Protection Regulation – GDPR) Legislation**

The Trust has a duty under the DPA18 to ensure that there is a valid legal basis to process personal and sensitive data. The legal basis for processing must be identified and documented before the processing begins. In many cases we may need consent; this must be explicit, informed and documented. We can’t rely on Opt out, it must be Opt in.

DPA18 is applicable to all staff; this includes those working as contractors and providers of services.

For more information about your obligations under the DPA18 please see the ‘information use framework policy’, or contact the Information Governance Team rch-tr.infogov@nhs.net

2. **Purpose of this Policy/Procedure**

The purpose of this guidance is to provide information and guidance to ensure the Trust is able to respond to the consequences of rising numbers of patients
with seasonal ‘flu’ and to ensure patients with ‘flu’ are managed safely and effectively.

3. **Scope**
   This policy applies to all staff working within the hospitals of the Royal Cornwall Hospitals NHS Trust.

4. **Definitions / Glossary**
   Definitions are contained within the body of the policy

5. **Ownership and Responsibilities**

5.1. **Role of the Infection Prevention and Control Team**
   The IPAC team responsibilities are:
   
   - To monitor cases and contribute to surveillance schemes as necessary.
   - To notify the Trusts Executive Management Team when there is evidence from the Public Health England national surveillance scheme, or elsewhere, to indicate the influenza virus A or B is circulating and there is a substantial likelihood that people presenting to the Trust with an influenza-like illness are infected with influenza virus.
   - To participate in Trust Outbreak/Incident Control meetings and carry out actions as identified.
   - To provide advice and guidance on the management of patients with influenza in the Trust.
   - Maintain a list of patient contacts and whether prophylaxis has been prescribed.

5.2. **Microbiology Laboratory**
   Responsibilities are:
   
   - To provide appropriate capability for the diagnosis of viral respiratory illness, either on site or by referring specimens to another laboratory.
   - To ensure the level of diagnostic capability is varied so as to be consistent with the requirements of the Trust to diagnose and to manage influenza like illness in non-epidemic and epidemic conditions.

5.3. **Trust Incident Control Team**
   Responsibilities are:
   
   - To meet when notified that influenza virus A & B is circulating and there is a substantial likelihood that people presenting with an influenza-like illness are infected with the influenza virus.
   - To co-ordinate the response to the consequences of rising numbers of patients with seasonal ‘flu’ and to ensure patients with ‘flu’ are managed safely and effectively.

5.4. **Care Groupal Management Teams**
   Responsibilities are:
   
   - To contribute to the response to seasonal flu by participating in Incident
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Control meetings as necessary and communicating actions to relevant staff.

5.5. **Directors of Infection Prevention and Control**

Responsibilities are:
- Initiate the Incident Control Team meetings.
- To notify the Trusts Executive Management Team when there is evidence from the Public Health England national surveillance scheme, or elsewhere, to indicate the influenza virus A or B is circulating and there is a substantial likelihood that people presenting to the Trust with an influenza-like illness are infected with influenza virus.

5.6. **Hospital Infection Prevention and Control Committee**

Responsibilities are:
- To approve and monitor the implementation of this policy.

5.7. **Clinical Teams**

- To identify patients who have been in contact with a confirmed case of influenza.
- To identify those patients who are at high risk and prescribe the appropriate prophylactic treatment.

6. **Standards and Practice**

These are contained within the appendices.

7. **Dissemination and Implementation**

7.1. This policy will be circulated to all Infection Prevention and Control Link Practitioners and Ward Sisters.

7.2. This policy will be uploaded onto the Trusts document library. Details of its availability will be provided by the Trusts communication bulletin.

8. **Monitoring compliance and effectiveness**

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>All elements of the guidance will be monitored.</th>
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<tbody>
<tr>
<td>Lead</td>
<td>Incident Control Team</td>
</tr>
<tr>
<td>Tool</td>
<td>Feedback to be provided at the Incident Control Team meetings. Recorded on Audit and review Tool</td>
</tr>
<tr>
<td>Frequency</td>
<td>Weekly during increased numbers of patients admitted to hospital.</td>
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<tr>
<td>Reporting arrangements</td>
<td>Information to be reviewed by the Incident Control Team.</td>
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<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>The Incident Control Team will make recommendations as required</td>
</tr>
<tr>
<td>Change in practice and</td>
<td>Required changes to practice will be identified and actioned immediately. A lead member of the group will be identified to take</td>
</tr>
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</table>
9. Updating and Review
This policy will be reviewed in three years or in response to national guidance.

10. Equality and Diversity
10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

10.2. Equality Impact Assessment
The Initial Equality Impact Assessment Screening Form is at Appendix 2.
## Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Management of Patients with confirmed/suspected Influenza Policy V4.2</th>
</tr>
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<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>October 2019</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>January 2020</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>20 November 2020</td>
</tr>
</tbody>
</table>
| Directorate / Department responsible (author/owner): | Louise Dickinson  
Consultant Nurse Joint Director Infection Prevention and control |
| Contact details: | 01872 25 4969 |
| Brief summary of contents | This guidance provides information and guidance to ensure the Trust is able to respond to the consequences of rising numbers of patients with seasonal ‘flu’ and to ensure patients with ‘flu’ are managed safely and effectively |
| Suggested Keywords: | Flu, Influenza, influenza like illness |
| Target Audience | RCHT ✔ CFT KCCG |
| Executive Director responsible for Policy: | Director of Nursing, Midwifery and Allied Health Professionals |
| Date revised: | October 2019 |
| This document replaces (exact title of previous version): | Policy for the Management of Patients with confirmed/suspected Influenza V4.1 |
| Approval route (names of committees)/consultation: | Hospital Infection Prevention & Control Committee |
| Care Group General Manager confirming approval processes | Louise Dickinson |
| Name and Post Title of additional signatories | Not Required |
| Name and Signature of Care Group/Directorate Governance Lead confirming approval by specialty and care group management meetings | {Original Copy Signed}  
Name: Louise Dickinson |
<p>| Signature of Executive Director giving approval | {Original Copy Signed} |
| Publication Location (refer to Policy on Policies – Approvals and Ratification): | Internet &amp; Intranet ✔ Intranet Only |</p>
<table>
<thead>
<tr>
<th>Links to key external standards</th>
<th>Related Documents:</th>
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<tbody>
<tr>
<td>Training Need Identified?</td>
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## Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
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</thead>
<tbody>
<tr>
<td>23 Oct 12</td>
<td>V1.0</td>
<td>Initial Issue</td>
<td>Louise Dickinson Consultant Nurse Joint Director Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>01 Aug 15</td>
<td>V2.0</td>
<td>Reformatted and updated with changes made to Appendix 7 treatment and prophylaxis</td>
<td>Louise Dickinson Consultant Nurse Joint Director Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>02 Feb 16</td>
<td>V3.0</td>
<td>Inclusion of details relating to visitors. Role and responsibility of clinical teams added.</td>
<td>Louise Dickinson Consultant Nurse Joint Director Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>30.10.17</td>
<td>V4.0</td>
<td>Document updated in line with recent guidance. Specifically treatment and prophylaxis sections. Additional information regarding care of patients in critical care.</td>
<td>Louise Dickinson Consultant Nurse Joint Director Infection Prevention &amp; Control</td>
</tr>
<tr>
<td>29.10.18</td>
<td>V4.1</td>
<td>Appendix 6 point 2.2 and 2.3 updated regarding Nasal swabs and the process for obtaining the swabs. Reformatted.</td>
<td>Jean James, IPAC Lead Nurse</td>
</tr>
<tr>
<td>23.10.19</td>
<td>V4.2</td>
<td>Appendix 5, Point 5 – advice to Adult Social Care staff and 5.1 criteria for Transfers to Community Hospitals added</td>
<td>Jean James, IPAC Lead Nurse</td>
</tr>
</tbody>
</table>

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**All or part of this document can be released under the Freedom of Information Act 2000**

**This document is to be retained for 10 years from the date of expiry.**

**This document is only valid on the day of printing**

**Controlled Document**

This document has been created following the Royal Cornwall Hospitals NHS Trust Policy on Document Production. It should not be altered in any way without the express permission of the author or their Line Manager.
## Appendix 2. Initial Equality Impact Assessment Form

| Name of the strategy / policy / proposal / service function to be assessed |
| Management of Patients with confirmed/suspected Influenza Policy V4.2 |

| Directorate and service area: | Is this a new or existing document: |
| Infection Prevention and Control | Existing |

| Name of individual completing assessment: | Telephone: |
| Jean James | 01872 25420969 |

| 1. Policy Aim* | To protect patients, staff and the general public by preventing cross-infection and contamination of the environment. |
| Who is the strategy / policy / proposal / service function aimed at? |

| 2. Policy Objectives* | To provide information and guidance to ensure the Trust is able to respond to the consequences of rising numbers of patients with seasonal ‘flu’ and to ensure patients with ‘flu’ are managed safely and effectively. |
| |

| 3. Policy – intended Outcomes* | To reduce the risk of cross infection and escalation of the situation. |
| |

| 4. *How will you measure the outcome? | At arranged incident meetings. |
| |

| 5. Who is intended to benefit from the policy? | Patients and Staff |
| |

| 6a Who did you consult with | Workforce | Patients | Local groups | External organisations | Other |
| | X | | | |

| b). Please identify the groups who have been consulted about this procedure. | Hospital Infection Control Committee |
| |

| What was the outcome of the consultation? | Policy approved |
| |

### 7. The Impact

Please complete the following table. If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.

| Are there concerns that the policy could have differential impact on: |
| Equality Strands: | Yes | No | Unsure | Rationale for Assessment / Existing Evidence |

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<table>
<thead>
<tr>
<th>Age</th>
<th>✓</th>
<th>Infections may affect any age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>✓</td>
<td>Infections may affect any gender</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td>✓</td>
<td>Infections may affect any groups.</td>
</tr>
<tr>
<td>Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td>✓</td>
<td>Infections may affect all regardless of disability</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>✓</td>
<td>Infections may affect any religion</td>
</tr>
<tr>
<td>Marriage and Civil partnership</td>
<td>✓</td>
<td>Infections may affect all people – married or otherwise</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>✓</td>
<td>Infections may affect any pregnant woman. Pregnant members of staff may need to take additional precautions depending on the organism involved.</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>✓</td>
<td>Infections may affect all regardless of sexual orientation</td>
</tr>
</tbody>
</table>

**You will need to continue to a full Equality Impact Assessment if the following have been highlighted:**
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. or
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended. 

| Yes | No | ✓ |

9. If you are not recommending a Full Impact assessment please explain why.

None of the equality strands have been identified in the initial impact assessment

| Date of completion and submission | October 2019 | Members approving screening assessment | Policy Review Group (PRG) ‘APPROVED’ |

This EIA will not be uploaded to the Trust website without the approval of the Policy Review Group.

A summary of the results will be published on the Trust’s web site.
Appendix 3. Plan Implementation

When the Public Health England national surveillance scheme indicates that influenza virus A or B is circulating and there is a substantial likelihood that people presenting with an influenza-like illness are infected with influenza virus
Or
Once Flu is circulating in community or initial cases identified in hospital:
DIPCs to advise the Executive Team and convene Trust Incident Control Team

1. Trust Incident Control Team
   - Co-ordinate preparatory actions
   - Determine criteria to cancel electives to maintain capacity.
   - Agree Consistent approach for responding to enquiries from patients/carers directly to consultants

2. Infection Prevention and Control Team:
   - Advise clinical areas regarding:
     - Use of PPE in cohort areas and non-cohort areas (including fit-testing)
     - Criteria and areas for isolation/cohorting
     - Need to move patients promptly out of side rooms when not infected and test is negative.
   - Advise relevant wards to review their PPE supplies.

3. Microbiologists and Microbiology Laboratory:
   - Advise clinical management & diagnosis
   - Symptoms
   - Need to test and record that test has been requested (especially admission areas)
   - Times of test runs and return of results (As cases rise, consider increasing test runs)
   - Treatment (e.g. anti-virals)

4. Critical Care:
   - Review arrangements to manage extreme demand on services
   - Review staffing contingency plans
   - Review Regional ITU arrangements and contingency plans
   - Review arrangements for cohorting influenza patients.
   - Patients intubated and on high doses of antiviral with excellent hand and environmental hygiene precautions and PPE practice can be safely managed

5. Care Group of Women, Children & Sexual Health:
   - Review arrangements with ITU to co-ordinate care delivery to manage extreme demand on services
   - Review paediatric medical staffing
   - Review Regional PICU arrangements and contingency plans

6. Care Group of Medicine:
   - Review Wheal Prosper & Wellington wards procedure for admission of suspected flu patients
- Review need for medical cover over 24 hour period to support discharge of patients
- Review discharge criteria and information for patients re ongoing support from Primary Care

7. **Pharmacy:**
   - Check stocks of anti-virals

8. **Occupational Health:**
   - Review information from relevant sources such as Public Health England and DH which relate specifically to staff

9. **Supplies Department:**
   - Be prepared to place orders of appropriate PPE specifically FFP3 masks.
Appendix 4. Identification of Potential Cases

1. Screening of admissions

1.1. Many viruses can cause a “flu like illness”. However the probability of true influenza infection increases sharply when influenza viruses are actually circulating.

1.2. Departments will be informed when national surveillance detects increasing ‘flu activity. When this happens GPs will be authorized to use specific influenza drugs (oseltamivir or zanamivir) if indicated.

1.3. Current advice for people who suspect that they may have ‘flu’ is to stay at home and contact NHS 111. People with serious underlying illness, who are pregnant or whose condition suddenly worsens should consult their GP if they are concerned that they have ‘flu’. Therefore it is hoped that most patients arriving at hospital with influenza like illness will have been in contact with a GP first and are expected. However it is likely that some will ignore advice and arrive at the Emergency Department of the Hospital.

1.4. It is important that patients who may have influenza are recognised early. Potential cases need to be segregated appropriately. Attending staff should use appropriate PPE including surgical masks. Patients needing admission should be isolated in side rooms.

1.5. Clinical criteria will be used to screen patients.

1.6. Patients with any of the following should be reviewed as possible cases of influenza.

- Fever ≥ 38oC or a history of fever.
- Flu like illness (any two or more of the following symptoms: cough, sore throat, headache, rhinorrhea, muscle/joint pain)
- Pneumonia
- Exacerbations of Asthma/COPD
- Severe life threatening illness. Other presentations suggesting suspicion of influenza to admitting clinician
- Young children considered as possibly infected by a senior paediatrician

1.7. Emergency Department (ED) and Medical Assessment Unit (MAU) staff should be proactive in asking about flu like symptoms, and a high index of suspicion should be maintained especially for serious respiratory illness which may be a complication of flu.

1.8. It is important to note that Avian Influenza also remains a risk in returning travellers with symptoms consistent with Influenza who have travelled from areas where avian influenza has been documented and had contact with birds. These patients must be isolated and full PPE worn by health care staff. Microbiology / PHE must be informed immediately.
2. Case definitions

Case definitions may vary depending on the likelihood of influenza, which is a function of the level of influenza activity in the community at the time. During high levels of community activity the following clinical criteria are appropriate.

2.1. **Clinical criteria in hospital**
   Any person in hospital with one of the following:
   
   - Fever >38°C OR history of fever
   AND
   - ‘flu-like illness (two or more of the following symptoms: cough, sore throat, headache, rhinorrhea muscle / joint pain)
   OR
   - severe community acquired pneumonia

2.2. **Laboratory criteria**
   Positive result by at least one of the following tests:
   
   - Specific real-time RT-PCR for influenza A or B
   - Four-fold rise in influenza specific antibodies (acute phase sera and convalescent >10-14 days later)

2.3. **Uncomplicated influenza**
   Influenza like illness without features of pneumonia, exacerbation of asthma or COPD, or neurological involvement.

2.4. **Complicated Influenza**
   Influenza like illness associated with pneumonia, exacerbation of asthma or COPD, or neurological involvement (e.g. encephalitis)

3. Case classification

3.1. **Suspected case**
   Any person meeting the clinical criteria

3.2. **Confirmed case**
   Any person with laboratory confirmation
Appendix 5. Management of Admissions

1. **Admissions to hospital**
   - Cases of suspected or confirmed ‘flu’ should only be managed in hospital if this is essential. Otherwise cases should be managed in their own homes and followed up by Primary Care. The infection control team MUST be informed of any patients who are admitted.

2. **Patients arriving in the Emergency Department**
   - As soon as the potential ‘flu’ case is recognised, the patient should be moved to an appropriate isolation cubicle in ED with the door closed. If the patient’s condition allows he/she should wear an ordinary surgical mask. Oxygen may be given by nasal prongs if necessary and following the emergency oxygen guidelines, but nebulisers should NOT be used unless absolutely necessary.

   - Attending staff should wear personal protective equipment (PPE) including respiratory protection (see Appendix 8) before any further action is taken. If assessment shows he/she possibly has ‘flu’, and that admission is indicated, then he/she must be admitted to an isolation room on the Isolation ward in agreement with the site co-ordinators and the infection prevention & control team, or ICU for adults or children if ventilation support is necessary as soon as assessment is complete and the receiving area is ready.

   - The isolation cubicle used for assessment must then be terminally cleaned using the standard terminal clean procedure before it is used again. Respiratory protection is not required during the cleaning process as the patient will have vacated the room.

   - All staff should be offered the seasonal influenza vaccine.

   - Influenza prophylaxis is not offered to staff contacts who did not have appropriate PPE. However any potential staff contacts who are concerned because they consider themselves to be in a high risk group should contact Occupational Health.

3. **Patients identified as possible cases before admission**
   - Possible ‘flu’ cases should not be accepted for admission unless hospital management of the patient is clearly necessary. If possible cases should be discussed with a senior member of clinical staff to determine if admission is advisable.

   - Those requiring admission should be admitted directly to an isolation room designated by the Clinical Site co-ordinators and the infection control team, or ICU if ventilation support is necessary. It is essential to confirm in advance that the receiving ward is ready and prepared to receive the patient.

   - There must be close liaison with ambulance personnel by the admissions coordinator, informing them where they should bring the patient. The patient should be given a surgical mask to wear while being transported through the hospital and be taken to the isolation room without delay.
• Attending staff in the receiving ward should use appropriate protective clothing (see Appendix 8).

4. **Paediatric Patients**
   • Children, as adults, should only be admitted if hospital treatment is essential. Cases requiring respiratory support should be admitted to the ICU. Others should be admitted to a designated side room.
   
   • Parents or carers who accompany children with probable or confirmed influenza may themselves be infected or incubating flu. If appropriate they may stay with their children but should be isolated and not allowed to use shared parent accommodation or other areas of the hospital. Advice should be sought from the IPAC team.
   
   • Staff attending the patient must wear appropriate protective clothing (Appendix 8).

5. **Discharge Arrangements**
   • Flu’ patients should be discharged as soon as they are medically fit for discharge, and they have a suitable place to be discharged to.
   
   • Adult Social Care staff can attend wards in the event of an outbreak but should discuss their visit with the nurse in charge upon arrival.
   
   • Wards will at times be labelled as closed because of an outbreak, but this does not mean that every bay / room within that ward has symptomatic patients, thus visits from Adult Social Care Staff will often be to unaffected areas of the ward. If an outbreak was of a severity that the risk to staff attending a ward was high, they would be informed not to attend by the Nurse in Charge.
   
   • It should be business as usual in assessing patients unless instructed otherwise. For further clarity when an outbreak is on-going, the first point of contact is the ward (and the nurse in charge), if ASC staff still have unresolved concerns then they can contact the Infection Prevention and Control team.
   
   • Patients can be infectious for 7 days after symptoms begin and should be advised to stay at home until they are no longer infectious. Contacts at home should seek advice from NHS 111.

5.1 **Transfers to a Community Hospital**
   • Patients from bays/wards closed due to Influenza at RCHT will be accepted by Community Hospitals if they meet any one of the following criteria;

   1) Laboratory confirmed case that has completed their full course of anti-viral treatment (and symptoms have lessened). Isolation not required at the Community Hospital.
   
   or

   2) A suspected positive case who is not laboratory confirmed, but has completed the full course of treatment dose anti-virals and symptoms have lessened. Isolation not required at the Community Hospital.
3) Are asymptomatic, but from an open bay on a ward with partial closures. Patients receiving prophylactic anti-virals will be accepted (admit these patients to a side-room if available).

6. Clinical assessment of suspected influenza patients in ED/MAU/Wheal Prosper

- This follows the usual pattern of assessment but focuses on assessing for signs of complicated infection (pneumonia, exacerbation of airways disease and CNS involvement)

- All patients should have saturations measured – tachypnoea and hypoxia are the first signs of pneumonitis in influenza and often precede radiological abnormalities. No patient with low saturations (<94% - unless at baseline), significant tachycardia (>100 bpm) or tachypnoea (>24 bpm) should be discharged. ABGs should be taken if significant tachypnoea / hypoxia

- All patients with significant respiratory symptoms should have a CXR performed looking for evidence of pneumonitis/pneumonia. All patients with evidence of pneumonitis/pneumonia must be admitted and are at high risk of rapid deterioration and the need for respiratory support.

- Blood tests for FBC, U+E, LFT and CRP should be taken. CRP levels of greater than 100 mg/L were associated with a high risk of pneumonia and worsening outcomes during the 2009/10 pandemic. Patients with significantly raised CRP levels should not be discharged
Appendix 6. Diagnostic Investigations

Influenza management is a complex and evolving area, therefore early advice from the Microbiologists is recommended.

1. **Baseline Diagnostic Investigations**
   1.1. Include investigations for the diagnosis and management of respiratory tract infection.

   1.2. Respiratory specimens should be taken with care to avoid generating aerosols. They should only be taken if staff are wearing appropriate protective equipment (see Appendix 8).

2. **Virology**

   2.1. Influenza is usually diagnosed clinically but confirmation by viral PCR is advised for all patients requiring admission. Early confirmation helps appropriate isolation and management of the infected patient as well as contact tracing if necessary. Admitting areas will be informed by Microbiology and Infection Prevention & Control when influenza activity is increasing, and therefore swabbing for flu testing is encouraged.

   2.2. Respiratory Samples for Influenza A. It is crucial that good quality specimens are obtained for a reliable diagnosis to be made. A nasal swab should be taken. Virus can be detected in other respiratory samples like sputum, ET suction or BAL.

   2.3. Taking the Swabs:

   ENSURE THAT YOU USE VIRAL ISOLATION SWABS (pink container with liquid viral transport medium in the bottom of the tube)

   NOTE; 1 swab is collected (one swab is used to swab both nostrils)

   2.3.1. Nasal swab collection:

   - Insert the swab inside the anterior nares of one nostril and gently rotate the swab for 3 seconds whilst applying pressure with a finger to the outside of the nostril.
   - Repeat the process for the other nostril using the same swab.
   - Insert the swab into the viral transport medium and break or cut off the shaft so that it does not protrude above the rim of the container
   - Firmly secure the cap
   - Label the swab container with patient addressograph, or by hand (name, NHS number, date of birth).

3. **Bacteriology**

   The following specimens should be taken if pneumonia is suspected, as this may either be a primary infection or a bacterial infection complicating flu.

   - Blood Culture
   - Sputum culture
   - Legionella and Pneumococcal urinary antigens (plain tube without boric acid)
4. **Radiology**  
(Chest X ray)

4.1. Departmental radiological investigations are often necessary for a patient suspected of having influenza, the radiology dept should be informed in advance and the patient should wear a surgical mask when being transported to the department and during the procedure. No delay should occur in the department i.e. the patient must be transported back to the isolation room as soon as the investigation is complete. The area and equipment that the patient has been in should be cleaned after the patient has left.

4.2. If a designated cohort area for ‘flu’ patients is opened due to a high level of influenza activity a dedicated portable x-ray machine should be identified and kept for the use of cohorted patients.

5. **Intubated patients**

In addition to the above the recommended sample types for an intubated patient are:

5.1. Lower respiratory tract (LRT) secretions either – endotracheal tube aspirate; non-directed bronchial lavage fluid; bronchoalveolar lavage fluid if bronchoscopy is indicate.

5.2. LRT samples are important in critical care patients with clinical and/or radiological evidence of lower respiratory tract disease; this is because URT samples can become negative over time while LRT samples remain positive.

5.3. A negative URT specimen alone in a patient with evidence of lower respiratory tract involvement does not exclude influenza virus infection

5.4. Patients with suspected CNS complications of influenza who require diagnostic lumbar puncture may have CSF submitted for detection of influenza virus in addition to other pathogens

5.5. If initial diagnostic tests are negative, but clinical suspicion of influenza remains high, diagnostic sampling should be repeated; seek advice from local Virology/Microbiology specialists if necessary and ensure that appropriate sites have been sampled.

6. **Visits to other departments for investigations**

6.1. These should be limited, but investigations that are clinically essential must be performed. Suitable arrangements must be made in advance and agreed with Infection Prevention & Control.

6.2. While outside the isolation room the patient should wear a surgical mask and a clean gown. All staff involved in transportation, and in contact with the patient in the receiving department must wear personal protective equipment (PPE) – see Appendix 8. If the patient is able to wear a face mask then staff do not need to wear PPE. The area and equipment that the patient has been in contact with should be cleaned after the patient has left.
Appendix 7. Treatment and Prophylaxis

Treatment of influenza should be carried out in accordance with national guidance available at:

1. Patients with suspected or confirmed influenza

Suspected or confirmed influenza

Uncomplicated

- Previously Healthy
  - No treatment OR oseltamivir PO
    - If physician feels patient is at serious risk of developing complications

- At risk group
  - Severe immunosuppressed?
    - NO: Oseltamivir PO
      - Within 48 hours of onset, or later at clinical discretion
    - YES: See table 2

Complicated

- Severe immunosuppressed
  - NO: 1st line oseltamivir PO/NG
  - YES: See table 2
  - 2nd line Zanamivir INH, NEB or IV
2. Adults and children in hospital and/or with complicated influenza

1.1. All patients with complicated influenza should receive treatment. Rapid testing for respiratory viruses including specifically influenza is required for all patients fulfilling the clinical criteria for complicated infection. Treatment should be started as early as possible. Do not wait for laboratory confirmation.

1.2. Previous influenza immunisation does not always exclude influenza. Duration of therapy depends on clinical response. Test for antiviral resistance may be considered in patients who do not respond after five days of treatment.

1.3. The following recommendations include the use of IV antivirals and nebulised aqueous zanamivir, which are unlicensed medications.

1.4. **First line treatment:** Oseltamivir PO or NG (see exceptions below). There is evidence that PO/NG oseltamivir is adequately absorbed in critical illness at standard doses.

1.5. **Second line treatment:** If there is a poor clinical response to first line treatment or if there is poor gastrointestinal dysfunction which could cause decreased absorption, use zanamivir. Some patients who are considered to have good respiratory function despite their illness may be able to use inhaled zanamivir (Diskhaler). Those who cannot should be considered for nebulised aqueous zanamivir. The following patients may be considered for IV zanamivir: patients who have already failed to respond to nebulised zanamivir; patients who have developed respiratory conditions affecting nebuliser delivery (e.g. airways disease, pulmonary oedema); patients who have multi-organ involvement or require intensive care.

1.5.1. **Exceptions**

**Severely immunosuppressed patients:**
Oseltamivir (PO or NG) is the first line treatment, unless the dominant circulating strain is Influenza A (H1N1) (Box 1) treatment should start as soon as possible. Arrange influenza A subtype testing and monitor clinical condition closely. If there is a poor clinical response, consider switching to zanamivir and test for oseltamivir resistance.

If the dominant circulating strain is Influenza A (H1N1), use zanamivir (INH or NEB) as first line treatment (Box 1). Patients who cannot use inhaled zanamivir should be considered for nebulised aqueous zanamivir (unlicensed). IV zanamivir (unlicensed) maybe be used for patients who are not responding to nebulised zanamivir, who have respiratory conditions affecting nebuliser delivery, or who have multi-organ involvement or are on intensive care.

**Suspected or confirmed oseltamivir resistance:**
For example contact of known oseltamivir resistant case. Do not use oseltamivir. Some patients considered to have good respiratory function despite their illness may be able to use inhaled zanamivir (Diskhaler). Those who cannot maybe considered for nebulised aqueous zanamivir (unlicensed). IV zanamivir (unlicensed) may be used for patients who are not responding to nebulised zanamivir, who have respiratory conditions affecting nebuliser delivery, or who have multi-organ involvement or require intensive care.
Table 1. Antiviral dosage and schedules:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Premature (less than 36 weeks post conceptual age)</th>
<th>0-12 months (36 weeks post conceptual age or greater)</th>
<th>&gt; 1-12 years: Dose according to weight below</th>
<th>Adults (13 years and over)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>&lt;15kg</td>
<td>&gt;15-23 Kg</td>
</tr>
<tr>
<td>Osemtamivir PO (treatment course: 5 days)</td>
<td>1mg/kg/dose BD Unlicensed</td>
<td>3mg/kg/dose BD</td>
<td>30mg bd</td>
<td>45 mg bd</td>
</tr>
<tr>
<td>Zanamivir INH (treatment course:5 days)</td>
<td>Not licenced for children &lt;5 years old. Adults and children ≥5 years: 10mg bd</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1: This is an unlicensed use of oseltamivir, and is based on evidence from the literature, and expert opinion.
2: If a person in this age group weighs 40kg or less, it is suggested that the >23-40kg dose for those aged >1-12 years, is used.

Table 2. Selection of antivirals for severely immunosuppressed patients

<table>
<thead>
<tr>
<th>Uncomplicated influenza</th>
<th>Dominant circulating strain has a lower risk of oseltamivir resistance, eg A(H3N2), influenza B</th>
<th>Dominant circulating strain has a higher risk of oseltamivir resistance, eg A(H1N1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oseltamivir PO and clinical follow up</td>
<td>Osemtamivir PO and clinical follow up</td>
<td>Osemtamivir INH (Diskhaler®)</td>
</tr>
<tr>
<td>Commence therapy within 48 hours of onset or later at clinical discretion</td>
<td>Commence therapy within 48 hours of onset or later at clinical discretion</td>
<td>Commence therapy within 36 hours of onset (or later at clinical discretion)</td>
</tr>
<tr>
<td>OR if unable to take inhaled preparation use</td>
<td>OR if unable to take inhaled preparation use</td>
<td>OR if unable to take inhaled preparation use</td>
</tr>
<tr>
<td>Osemtamivir PO and clinical follow up</td>
<td>Osemtamivir PO and clinical follow up</td>
<td>Osemtamivir PO and clinical follow up</td>
</tr>
<tr>
<td>Commence therapy within 48 hours of onset or later at clinical discretion</td>
<td>Commence therapy within 48 hours of onset (or later at clinical discretion)</td>
<td>Commence therapy within 48 hours of onset (or later at clinical discretion)</td>
</tr>
</tbody>
</table>

Complicated influenza

1st line: Oseltamivir PO/NG

2nd line: Zanamivir INH, NEB or IV

Consider switching to zanamivir if:

- Poor clinical response
- Subtype testing confirms a strain with potential oseltamivir resistance, eg A(H1N1)

Zanamivir INH, NEB or IV

Commence therapy within 48 hours of onset (36 for children) or later at clinical discretion.

(if there are delays in obtaining aqueous zanamivir, use oseltamivir as a bridging treatment until zanamivir is available)

* = (also applicable if this is the strain known to be infecting patient; treatment however, should not be delayed while waiting for test results).
3. Unlicensed treatments

3.1. All of the following influenza treatments are unlicensed medicines. They can be issued for individual patient use. The prescription of unlicensed medicines is the clinical responsibility of the prescribing physician. It is part of the prescribing responsibility of the physician to return the case data requested to the manufacturer, as this is an important source of safety monitoring data. Always seek specialist advice before initiating an unlicensed treatment for influenza.

3.2. **Zanamivir aqueous solution**: Zanamivir is available as a powder for inhalation (licensed) or in aqueous solution (unlicensed). Aqueous zanamivir may be administered through a nebuliser or intravenously. It is the only unlicensed treatment recommended by PHE in certain circumstances for first and second line therapy based on the significant experience of using it during the 2010/11 flu season. It is available on a compassionate use basis for named patients from GlaxoSmithKline. Details of how to obtain aqueous zanamivir are provided in Appendix 3. Recommendations for when to use nebulised or intravenous delivery are included in sections 1.1 and 1.2 above. Note that the powder preparation should **NOT** be used to make nebuliser solution.

3.3. **Peramivir (IV)** is a neuraminidase inhibitor which has been licensed in the USA. It is available as an unlicensed drug in the UK, in a preparation for intravenous use. In the USA, it is licensed for the treatment of acute uncomplicated influenza in adults aged 18 years and over. Peramivir is administered as a single dose within 2 days of onset of acute influenza symptoms. Evidence of efficacy of the 600mg dose is limited to mainly Influenza A infection but there is no evidence for the drug’s routine use in treating serious influenza requiring hospitalisation. There is no evidence for improved outcomes in combination therapy with oseltamivir, though there are recent case reports and retrospective cohort series of survival when used as salvage therapy.

3.4. Several neuraminidase mutations, including the H275Y amino acid substitution, confer reduced susceptibility or resistance to peramivir in addition to oseltamivir. Peramivir should not be used in patients with known oseltamivir resistance unless susceptibility to peramivir has been demonstrated by reference laboratory tests.

3.5. There is no information available in terms of safety of use in pregnancy or in breastfeeding. Peramivir is renally excreted and a dose adjustment in renal impairment is required as described in the manufacturer’s prescribing information. Although IV peramivir is unlicensed in the UK, it may be of use if a parenteral neuraminidase inhibitor is required but IV zanamivir cannot be obtained and there are no concerns about oseltamivir or peramivir resistance.

3.6. **Ribavirin (IV)** is unlicensed for the treatment of influenza and should be used in combination with other antivirals only in the context of an approved research protocol. It should never be used for treatment or prophylaxis of influenza in pregnant women.

4. Post Exposure Prophylaxis

4.1. Post exposure prophylaxis is not considered necessary in most cases. However there are some high risk groups in which prophylaxis is still advised including people with:

- Chronic lung disease
- Chronic heart disease
- Chronic kidney disease
- Chronic liver disease
- Chronic neurological disease
- Immunosuppression
- Diabetes
- Pregnant women
- Children under 5 years old
- People aged 65 years and older
- People who are obese

Please seek advice from Microbiology.

### Table 3

<table>
<thead>
<tr>
<th>Category</th>
<th>Dominant influenza strain is lower risk for oseltamivir resistance eg H3N2; influenza B</th>
<th>Dominant influenza strain is higher risk for oseltamivir resistance eg influenza A (H1N1)</th>
<th>Exposed to suspected or confirmed oseltamivir resistant influenza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previously healthy (excluding pregnant women)</td>
<td>No prophylaxis</td>
<td>No prophylaxis</td>
<td>No prophylaxis</td>
</tr>
<tr>
<td>At risk of complicated influenza (including pregnant women but excluding severely immunosuppressed patients and children under 5 years)</td>
<td>Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>Zanamivir INH 10 days, once daily, (if therapy can be started within 36 hours of last contact; or after 36 hours on specialist advice only)</td>
</tr>
<tr>
<td>Severely immunosuppressed patients (excluding children under 5 years)</td>
<td>Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>Zanamivir INH 10 days, once daily, (if therapy can be started within 36 hours of last contact; or after 36 hours on specialist advice only)</td>
<td>Zanamivir IH 10 days, once daily, (if therapy can be started within 36 hours of last contact; or after 36 hours on specialist advice only)</td>
</tr>
<tr>
<td></td>
<td>If unable to administer zanamivir INH, Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>If unable to administer zanamivir INH, Oseltamivir PO 10 days, once daily, (if therapy can be started within 36 hours of last contact; or after 36 hours on specialist advice only)</td>
<td>If unable to administer zanamivir INH, discuss with specialist and consider nebulised aqueous zanamivir (unlicensed) after individual risk assessment.</td>
</tr>
<tr>
<td>Children under 5 years in at risk groups and severely immunocompromised children</td>
<td>Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>Oseltamivir PO 10 days, once daily, (if therapy can be started within 48 hours of last contact; or after 48 hours on specialist advice only)</td>
<td>Discuss with specialist. Consider nebulised aqueous zanamivir (unlicensed) after individual risk assessment.</td>
</tr>
</tbody>
</table>
specialist advice only)  | advice only)  | assessment.

Note: Commencing prophylaxis with oseltamivir later than 48 hours after exposure, or with zanamivir, later than 36 hours after exposure is an off-label use. Specialist advice referred to in this table may be obtained from microbiologists.

4.2. Previous influenza immunisation does not preclude post exposure prophylaxis.

4.3. Inhaled zanamivir is not licensed for children under five years old, and is unlikely to be an effective delivery route in these patients. Some other patients, such as those with severe underlying respiratory disease or impaired cognition, may also be unable to use the Diskhaler effectively. Severely immunosuppressed children under five years and all other severely immunosuppressed patients who cannot use the Diskhaler and require prophylaxis after exposure to currently circulating strains of influenza should receive oral oseltamivir, with advice to seek immediate medical attention if unwell.

4.4. Severely immunocompromised patients who are unable to use the Diskhaler, including severely immunosuppressed children aged less than five years, and who are exposed to suspected or confirmed oseltamivir resistant influenza should be discussed with a specialist. The use of unlicensed nebulised aqueous zanamivir may be considered based on an individual risk assessment.

### Table 4. Antiviral dosage and schedule

<table>
<thead>
<tr>
<th>Prophylaxis</th>
<th>Premature (less than 36 weeks post conceptual age)</th>
<th>0-12 months (36 weeks post conceptual age or greater)</th>
<th>Children 1-12 years: Dose according to weight below</th>
<th>Adults (13 years and over)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OseLTamivir PO</td>
<td>See Below,</td>
<td></td>
<td>&lt;15kg od</td>
<td>75 mg od</td>
</tr>
<tr>
<td>(prophylaxis course: 10 days)</td>
<td></td>
<td></td>
<td>&gt;15-23 Kg od</td>
<td>75 mg od</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;23-40 Kg od</td>
<td>75 mg od</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>&gt;40 Kg od</td>
<td>75 mg od</td>
</tr>
<tr>
<td>Zanamivir INH</td>
<td></td>
<td></td>
<td></td>
<td>10 mg od</td>
</tr>
<tr>
<td>(prophylaxis course: 10 days)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 Although it may be possible to provide half the treatment frequency, each day for 10 days, there is currently no publicly available dosing information for oseltamivir prophylaxis in pre-term infants, and so is outside the product licence. 2 If a person in this age group weighs 40kg or less, it is suggested that the >23-40kg dose for those aged >1-12 years, is used.

4.5. Oseltamivir oral suspension should be used only for children under the age of one. It is available as Tamiflu® oral suspension (Roche, 6mg/ml powder for oral suspension). This preparation replaces the 12 mg in 1 ml suspension. The new pack
includes an oral dispenser, which is marked in millilitres (mls), since prescriptions for Tamiflu® 6 mg in 1 ml powder for oral suspension should state the dose in millilitres. This is an off-label use of oseltamivir but is supported by the BNF for children. Children over one and adults with swallowing difficulties, and those receiving nasogastric oseltamivir, should use capsules which are opened and mixed into an appropriate sugary liquid as oseltamivir has a very bitter taste. If the powder for suspension is used for children over one year of age and/or adults, there may not be adequate quantities of the powder for suspension to meet demand for the under 1 year age group. It is important that the powder for suspension is reserved for the less than one year age group. Inhaled zanamivir is not licensed for children aged under the age of 5.

4.6. For dosing in pregnancy, breastfeeding or patients with renal or hepatic dysfunction, seek microbiologist’s advice.
Appendix 8. Infection Control

1. Mode of Transmission
   1.1. Human influenza is transmitted by airborne droplets - and also by direct and indirect contact. WHO and the HPA recommend the use standard infection control precautions to prevent contact and droplet spread, single room isolation and respiratory precautions.

2. Infectious Period
   2.1. The infectious period starts 12 – 24 hours before onset of symptoms. Adults and children older than 12 years should be considered potentially infectious until 7 days have lapsed since onset of symptoms. Children under 12, especially younger children may be infectious for longer, as are immunocompromised patients. Patients sent home should be advised to avoid contacts for 7 days after illness onset.

3. Isolation
   3.1. Patients with suspected or confirmed ‘flu will be initially admitted to an isolation room on as directed by site management in cooperation with infection prevention & control.
   
   3.2. If patients require ventilatory support, a negative pressure room on ICU is recommended because of potential airborne transmission of influenza virus. Nosocomial transmission of influenza is known to occur, sometimes leading to outbreaks and influenza virus infection can have serious consequences for critical care patients; the aim of IPC measures is to prevent transmission of influenza from an infected patient to other patients and members of staff. Aerosol-generating procedures performed electively in a shared occupancy space (such as a bay or on the open ICU) may expose other patients to influenza virus and should be avoided.

   3.3. If it becomes necessary cohort areas will be designated for patients with confirmed and suspected influenza by Trust management in conjunction with the infection prevention & control team.

   3.4. Isolation can be discontinued after 7 days following the onset of symptoms or on completion of treatment if symptoms have resolved. Clinicians should be mindful of the potential need for continued infection control measures for inpatients if repeat sampling for influenza virus PCR testing provides positive results.

4. Personal Protective Equipment (PPE)
   4.1. For contact with patients suspected or known to have influenza the following PPE should be worn:
   - Surgical facemask (unless FFP3 indicated i.e.: for aerosol generating procedures)
   - Plastic apron
   - Gloves – non sterile
   - Eye protection – face shield or goggles if there is a risk of eye splash

   4.2. If procedures likely to cause aerosols are to be undertaken, then enhanced PPE should be worn, consisting of:
   - a correctly fitted high filtration mask (FFP3)
• fluid resistant gowns or long sleeved plastic aprons – non-sterile
• gloves – non-sterile
• eye protection – face shield or goggles

Aerosol generating procedures include:
• Intubation, extubation and related procedures; for example manual ventilation and open suctioning
• Cardio pulmonary resuscitation
• Bronchoscopy (unless carried out through a closed circuit ventilation system)
• Surgery and post-mortem procedures in which high speed devices are used
• Dental procedures
• Non-invasive ventilation NIV
• Continuous positive pressure ventilation (CPAP)
• High frequency oscillatory ventilation (HFOV)
• Induction of sputum

4.3. PPE should be available in all acute ward areas.

4.4. Normally a surgical mask is used when a mask is indicated.

4.5. FFP3 masks will only be used during procedures that may generate aerosols by personnel who have been have been fit tested. The FFP3 mask is only likely to be needed in areas such as ICU and the Respiratory ward and Isolation Unit where aerosol generating procedures may be undertaken on patients requiring respiratory support.

4.6. It is crucial that FFP 3 masks are fitted correctly and cover both nose and mouth. People must be fit tested to ensure FFP 3 masks are used correctly. Gloves, gowns, and masks must be single use and disposed of as clinical waste. If shortages of FFP3 masks occur, guidance on alternatives will be given by Infection Prevention & Control.

5. Hand hygiene

5.1. It is likely that hand hygiene is the single most important practice needed to reduce transmission of the virus. Influenza viruses are susceptible to alcohol. Hand hygiene must be performed using soap and water if visible soiling is present. Otherwise alcohol hand rub is appropriate.

5.2. Hand hygiene must be performed after removing protective clothing and prior to leaving the isolation room. Hands must then be further cleaned, using alcohol hand rub after exiting the isolation room. Hand hygiene must also be performed after cleaning of contaminated equipment.

6. Waste

6.1. Infected patients may shed influenza virus in respiratory secretions and in faeces.

6.2. En suite facilities in the isolation rooms should be used if possible. If unable to use the en suite the patient should use a disposable bedpan / urinal. Urine can then be
poured carefully down the *en suite* toilet. Faeces and the receptacle should be disposed of in a clinical waste sack.

6.3. All clinical waste must be placed in clinical waste bags and bags sealed in the normal way AND KEPT WITHIN THE ISOLATION ROOM. Double bagging is not necessary. Waste should be collected directly from the Isolation room and taken for disposal by incineration.

7. **Laundry**
   7.1. Laundry should be placed in water-soluble bags and then into a red outer bag. These should be removed promptly from the department and not left in corridors.

8. **Cutlery and crockery**
   8.1. Disposable cutlery and crockery is not necessary for infection control purposes. However if used for administrative reasons it should be disposed of in clinical waste.

9. **Domestic issues**
   9.1. Daily cleaning of isolation rooms should be undertaken; staff need to wear appropriate PPE (see above).

   9.2. In areas where flu patients are being nursed frequent cleaning with Actichlor+ of ward areas, door knobs, staff toilets, sluice etc. is also essential. Damp dusting should be performed wherever possible to avoid aerosolisation of virus. It is important that all areas are allocated and none missed.

   9.3. Terminal cleaning is the responsibility of Domestic Services and Nursing staff. Surfaces within the room must be disinfected using Actichlor plus solution 1000ppm. There is no need to wash walls. Curtains must be changed.

10. **Visitors**
   10.1. Visitors must be informed of the risks of infection and advised not to visit especially if they are a close contact as they maybe incubating the disease or already be infectious.

   10.2. If they insist on visiting those visitors who have already had close contact with the patient do not need to wear PPE. However any visitors who are in the high risk category should be advised on the correct hand hygiene technique and the use of appropriate PPE.

   10.3. Visitors should not be present during any aerosol generating procedures.
Appendix 9. Care of the Deceased

1. **Personal Protective Equipment (PPE)**
   1.1. Standard precautions should be followed when caring for a person who dies of ‘flu’.
   1.2. If they die during the infectious period full PPE should also be worn for last offices.
   1.3. The body should be placed in an impermeable bag prior to transfer to the mortuary.

2. **Viewing**
   2.1. Family should be able to view the body if they wish. If the person died during the infectious period they should wear gloves and gowns. However care should be taken if anyone wishing to view the body is a contact and has symptoms suggestive of flu. If necessary, advice should be sought from the infection prevention & control team.

3. **Post Mortems**
   3.1. If a full or limited post mortem examination should be performed, this must be discussed first with Infection Prevention & Control and a Consultant Microbiologist. This is to allow appropriate precautions to be undertaken and to make arrangements for specialist diagnostic services.
Appendix 10. Arrangements for Admission of Suspected Flu Patients

The following guidance will not apply to children, maternity admissions or oncology/haematology patients or those requiring intensive care, but applies in general to adult patients with suspected flu:

1. Patients clinically identified as suspected influenza (typically a fever and respiratory symptoms) prior to or on admission should be admitted to the Isolation Ward for assessment and admitted if influenza like illness is confirmed and clinical condition requires admission.

2. Existing inpatients who develop a ‘flu’ like illness should be isolated in a single room and the infection control team contacted for advice about treatment and referral.

3. The process for transfer to Wheal Prosper is by informing the Clinical Site co-ordinators who will arrange for the patient to be moved. The decision to move patients to Wheal prosper should only be taken by a senior clinician and after discussion with the microbiologist or infectious diseases consultant.

4. All patients who are suspected of flu should have a viral nose and throat swab taken and started on antivirals (usually Oseltamivir (Tamiflu) 75mg bd po 5 days) and antibiotics for CAP if appropriate. Treatment should start as soon as possible but wards should not wait for antivirals to arrive before transfer to Wheal Prosper.

5. For the period immediately prior to transfer, respiratory infection control precautions (surgical mask, gloves, and aprons when within 2 metre of patients and FFP3 respirator and eye protection for aerosol generating procedures) should be taken by ward teams for all patients with suspected influenza.

Notes in support of the above:

- If the Isolation Ward is full the Clinical Site Coordinator should transfer a patient out of the Isolation Ward who no longer needs isolation.

- Patients requiring HDU level care will now need to be transferred to a side room in critical care. If capacity increases they will initiate their escalation process.

- When telephoning results, Infection Prevention & Control will ask for these to be documented in the clinical notes to aid communication. Results will also be notified to the Clinical Site Co-ordinator to assist in transfer off the Isolation Ward.
Appendix 11. Management of Suspected Flu Patients Attending the Emergency Department (ED)

Patient arrives at ED Reception
If fulfils criteria for Influenza like illness and during period of high influenza activity, triaged to side room for assessment

Patient triaged isolation room
Patient triaged then isolated in Isolation room if possible
If patient is treated in Resus then a ‘bed space’ clean arranged promptly afterwards

Assess if patient can be treated in the community & discharge if possible

If patient requires admission to hospital

Patient has viral nose and throat swabs & is prescribed antivirals (usually Tamiflu)
ED contacts Medicine F2 doctor to clerk patient and agree documented management plan with Medical SpR prior to transfer of patient
ED Nurse In Charge notifies Site Co-ordinators to arrange transfer of patient to Isolation Ward or other appropriate isolation facilities
Staff take respiratory infection control precautions (wear surgical masks, gloves and aprons when within 2 metre of patient)

Patient is then admitted to Isolation Ward or other appropriate isolation facilities

Vacated cubicle in ED is terminally cleaned before use by next patient