

## Influenza Protocol

### (Seasonal, Pandemic and Avian Influenza)

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<b>Author:</b>	Alicia Yeap, Microbiology Registrar		
<b>Executive sponsor:</b>	Director of Infection Prevention and Control		
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<b>Key individuals and committees consulted during drafting</b>	Infection Control Committee	<b>Dates</b>	Dec 2011
	P. Rice: Consultant Virologist	<b>Dates</b>	Dec 2011
	G.Y.Shin: Consultant Microbiologist	<b>Dates</b>	Dec 2011
	Samuel Thayalan: Consultant in Occupational Medicine	<b>Dates</b>	Dec 2011
	Laura Whitney: Lead Pharmacist Antimicrobials	<b>Dates</b>	Dec 2011
	Katja Doerholt: Consultant, Paediatric Infectious Diseases	<b>Dates</b>	Jan 2012
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## Executive Summary

Influenza or 'flu' is a respiratory illness associated with infection by influenza virus. Seasonal Influenza occurs most often in winter and usually peaks between December and March in the northern hemisphere. These illnesses may require treatment in hospital and can be life threatening especially in the elderly, asthmatics and those in poor health.

Pandemic flu can occur at any time of the year. Pandemics arise when a new virus emerges which is capable of spreading in the worldwide population.

Avian influenza is a disease of birds caused by influenza viruses, transmission to humans in close contact with poultry or other birds occurs rarely and only with some strains of avian influenza. The potential for transformation of avian influenza into a form that causes severe disease in humans and spreads easily from person to person is a great concern for world health.

This protocol details the infection prevention and control precaution precautions required to manage outbreaks and prevent transmission of Seasonal, Pandemic and Avian influenza in the Healthcare Setting

## Scope

This policy applies to all staff (temporary or permanent) **working in all the locations registered by St George's Healthcare NHS Trust** with the Care Quality Commission, to provide its regulated activities.

This also includes volunteers, contractors, students and/or trainees.

This protocol is an appendix to the Infection Control Policy. Refer to the Infection Control Policy for information on the criteria, responsibilities and systems required to prevent and control Healthcare Associated Infections (HCAIs).

## **1 Introduction**

### **1.1 Seasonal Influenza**

Influenza or 'flu' is a respiratory illness associated with infection by influenza virus. Symptoms frequently include headache, fever, cough, sore throat, aching muscles and joints.

The influenza virus was first identified in 1933. There are two main types that cause infection: influenza A and influenza B. Influenza A usually causes a more severe illness than influenza B.

Influenza occurs most often in winter and usually peaks between December and March in the northern hemisphere. Illnesses resembling influenza that occur in the summer are usually due to other viruses. The influenza virus is unstable and new strains and variants are constantly emerging. Influenza is spread by respiratory droplets, aerosols and contact with contaminated surfaces.

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 bronchitis and secondary bacterial pneumonia. These illnesses may require treatment in hospital and can be life threatening especially in the elderly, asthmatics and those in poor health.

### **1.2 Pandemic Influenza**

Unlike seasonal influenza that occurs every winter in the UK, pandemic flu can occur at any time of the year. Pandemics arise when a new virus emerges which is capable of spreading in the worldwide population.

This was the situation during the influenza pandemic of 1918-19, when a completely new influenza virus subtype (influenza A/H1N1) emerged and spread around the globe in around four to six months. Several waves of infection occurred over two years, killing an estimated 40-50 million people. Since then there have been three subsequent influenza pandemics, in 1957, 1968 and 2009. In terms of morbidity and mortality, the 2009 epidemic is considered to have been relatively mild, though severe disease was still seen in certain risk groups.

### **1.3 Avian Influenza**

Avian influenza is a disease of birds caused by influenza viruses closely related to human influenza viruses. Transmission to humans in close contact with poultry or other birds occurs rarely and only with some strains of avian influenza. The potential for transformation of avian influenza into a form that both causes severe disease in humans and spreads easily from person to person is a great concern for world health. Sporadic cases continue to be reported worldwide.

Avian flu often causes little or no disease in wild waterfowl but sometimes causes large outbreaks associated with high mortality in poultry. In these instances the term

'highly pathogenic avian influenza' (HPAI) is used. This form, which was first recognized in Italy in 1878, is extremely contagious in birds and rapidly fatal, with a mortality approaching 100%. Birds can die on the same day that clinical signs first appear. Outbreaks in poultry may spread rapidly.

## **2 Seasonal Influenza**

### **2.1 Infection Control Precautions**

Patients with Influenza should be nursed in Source Isolation for at least 7 days from onset of symptoms. Surgical masks should be worn when nursing patients.

- The same precautions apply when caring for patients with influenza in the home environment. A patient should only be sent to hospital if is necessary
- Ambulance services and hospital staff must be informed about a patient with influenza that needs transferring from their home to the hospital either because of influenza or any other reason.
- Educate family members and carers about the infection and how to prevent the spread

Note: Immunocompromised patients can shed the virus for several weeks/ months.

### **2.2 Immunisation against Influenza**

The Trust has a duty of care for their patients and staff, vaccination is an important way in which we can protect the sick and vulnerable. Influenza immunisation is delivered by Occupational Health to all staff annually in the autumn and winter. It is highly recommended that all staff are vaccinated as early as possible for maximum benefits to them, their families and their patients.

The primary aim is to protect vulnerable patients from adverse clinical outcome as a result of contracting influenza from staff. It is particularly important for those working in high risk areas (e.g. Oncology, intensive care, A&E, obstetrics, infectious diseases, NNU, paediatrics, renal, GUM). Vaccination will also protect all staff and in particular those who are immunocompromised or pregnant and their families from adverse consequence of contracting influenza. Epidemics of influenza cannot be predicted. The vaccine contains representatives of strains which have been seen in the last few years.

It is important to note that all professional bodies (e.g. RCN, RCM, GMC) encourage their members to have vaccinations.

## **3 Pandemic Influenza**

### **3.1 Introduction and Scope**

This section of the protocol summarises the advice from the UK Department of Health in:-**Pandemic (H1N1) 2009 influenza: a summary of guidance for infection control in healthcare settings (December 2009)**, available on DH website.

It explains the necessary precautions to control the risk of spread of influenza within the hospital *during an Influenza Pandemic*. It does not apply to non-pandemic seasonal influenza ('ordinary' influenza), neither does it apply to sporadic cases of Avian Influenza or Swine Influenza.

It is not intended to cover clinical management of cases of Pandemic Influenza – see separate Trust Guidance, and the Department of Health document: **Clinical Guidelines for Patients with an Influenza-like illness during an Influenza Pandemic (March 2006)**, available on DH website:

This protocol assumes that during a pandemic, the hospital will be organized into infected and non-infected cohorts, as per national guidance – this implies that many or most cases of probable influenza will be nursed on open wards.

This is a summary only – it is intended for quick access, but cannot cover every eventuality. In addition, as a pandemic evolves it is likely that national recommendations may change. Therefore, definitive advice should be obtained by regularly checking the Department of Health website.

In the event of a flu pandemic an outbreak control group would be convened that would take responsibility for decision making according to the needs of patients in our care.

### **3.2 Administrative Controls – Placement of Patients**

A **separate area** (or areas) of the hospital will be designated for cohorting of infectious patients.

Prominent **signs** must be placed to warn staff and visitors and to inform them of precautions to be taken when entering the infected cohort area.

Only **necessary visitors/staff** should enter.

A **record** or log should be kept at the entrance to the infected cohort – everyone entering must sign in. This is so that details are easily available if follow-up contact tracing is required.

**Side rooms:** in the non-infected cohort, these may be used for other (non-influenza) indications – eg MRSA; in infected cohort, these need not be used for every case of influenza, but should be used, if possible, for aerosol-generating procedures.

Patients should stay in the infected cohort **until discharge home** (despite the fact that they are probably non-infectious after 5-7 days), and not be transferred to the non-infected cohort unless there is a pressing need for beds.

**On wards in the infected cohort**, the following should apply:

- Source isolation precautions to be observed with all patients (see Table 1 below)
- Remove all non-essential furniture, especially soft furnishings
- Set up equipment stations at accessible points (eg outside each bay) to store personal protective equipment (PPE)
- Beds must be >1 m apart, with curtains drawn to reduce short-range droplet

spread, if it is safe to do so (the need to be able to observe very ill patients may preclude this)

- Allocate **single-patient equipment** (e.g. stethoscope, thermometer) where possible; use single-use disposable equipment where possible.

**Inter-hospital transfers** should only be undertaken when absolutely necessary. If patients with influenza must be transferred for urgent medical reasons, the Infection Control Team and Bed Managers should be told in advance. Influenza patients should not be transferred to units where patients are particularly vulnerable – e.g. haematology /oncology.

**Intra-hospital transfers/movement** (out of the infected cohort) – should only be undertaken if absolutely necessary, e.g. urgent scans. Observe the following precautions:-

- Warn receiving department in advance of transfer
- End of list, no waiting
- Patient to wear surgical mask (or otherwise contain secretions) while outside infected cohort
- Patient to observe hand hygiene before leaving infected cohort.

#### **Day care settings:**

- Defer if not urgent
- If necessary (e.g. dialysis) consider dedicated area for influenza patients

See also special settings below, section 3.

### **3.3 Precautions to be Taken with Patients**

#### **Hand Hygiene:**

- Strict compliance necessary with all patients
- Alcohol hand rub (if visibly clean) or soap & water
- Before and after contact with patient or their environment, and on entering/leaving clinical areas

#### **Coughing and Sneezing Patients:**

- Encourage to cough/sneeze into paper tissue, immediate disposal after use
- Patients also need to practice good hand hygiene after blowing nose etc
- Surgical masks – advised for patients while in common areas (e.g. waiting rooms) or during transport

#### **Personal Protective Equipment (PPE) for Staff:**

PPE indications are summarised in the following table:



**Table 1. Personal protective equipment for care of patients with pandemic influenza**

	<b>Entry To Cohorted Area But No Patient Contact<sup>a</sup></b>	<b>Close Patient Contact (&lt;1 metre)</b>	<b>Aerosol Generating Procedures<sup>b,c</sup></b>
<b>Hand hygiene</b>	Yes	Yes	Yes
<b>Gloves</b>	No <sup>d</sup>	Yes <sup>e</sup>	Yes
<b>Plastic apron</b>	No <sup>d</sup>	Yes	No (unless gown is porous)
<b>Gown</b>	No	No <sup>f,g</sup>	Yes <sup>g</sup>
<b>Surgical mask</b>	Yes	Yes	No
<b>FFP 3 respirator</b>	No	No	Yes
<b>Eye protection</b>	No	Risk Assessment	Yes

- a. Standard Infection Control Principles apply at all times.
- b. Examples of aerosol-generating procedures include **intubation and extubation, airway suctioning, non-invasive ventilation, chest physiotherapy, nasopharyngeal aspiration, bronchoscopy, sputum induction, nebuliser therapy, cardiopulmonary resuscitation and autopsy of lung tissue.**
- c. Wherever possible, aerosol-generating procedures should be performed in siderooms or other closed single-patient areas with minimal staff present.
- d. Gloves and apron should be worn during certain cleaning procedures; consult section on environmental issues below.
- e. Gloves should be worn in accordance with Standard Infection Control Principles. If glove supplies become limited or pressurised, this recommendation may need to be reviewed. Glove use should be prioritised always for contact with blood and body fluids, invasive procedures, and contact with sterile sites.
- f. Consider in place of apron if extensive soiling of clothing or contact of skin with blood and other body fluids is anticipated (e.g. during intubation or caring for babies)
- g. If non-fluid repellent gowns are used a plastic apron should be worn underneath.

**Surgical masks** should be worn for general patient contact, apart from aerosol- generating procedures.

Masks should not be touched between putting on and removal.

The same mask may be worn when moving from patient to patient in a shared clinical area (e.g. in a ward in the infected cohort), but other PPE such as gloves and gowns **must** be changed between patients, with removal followed by hand hygiene.

**FFP3 masks** (referred to in the DH guidance and table 1 above as ‘respirators’) are advised for procedures with a high risk of aerosol generation. Users should be trained on how to put on and remove masks and should be clean-shaven to ensure a safe seal between mask and skin. If the FFP3 mask becomes contaminated during use, it should be discarded and replaced in a safe area away from the patient.

**Removing PPE** The correct order for removing PPE is gloves, apron, eye protection and then mask, see [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_080771](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_080771)

#### **Reuse and disposal issues for PPE:**

- All disposed PPE is treated as clinical waste
- Surgical masks, FFP3 masks, plastic aprons – should be disposed after each use.
- Gowns – do not re-use: dispose or launder after each use.
- Eye protection: non-disposable eye protection (e.g. polycarbonate spectacles) poses a cross-infection risk, and must be decontaminated between use using an appropriate disinfectant (check manufacturer's instructions).

### **3.4 Staff Issues**

Occupational Health should lead on the monitoring of staff illness & implementation of staff vaccination and antivirals – and should liaise with Infection Control for general advice on staff Infection control issues.

Staff should report any flu-like illness to their line manager as soon as possible. Ill staff should generally not work; where staff shortages are extreme they may (if suffering minor symptoms only) be allowed to work in the cohorted infectious area of the hospital, at the discretion of their manager. Although not specified in the DH guidance, it would seem sensible that any decision to allow ill staff to work be discussed first with Occupational Health and/or Infection Control. Note the incubation period: 1-3 days, and the period of infectivity: 4-5 days after onset of symptoms in most cases.

All staff illness must be documented by relevant managers and communicated to Occupational Health.

Staff who have recovered from influenza may work in the cohorted infected area of the hospital.

Staff should be assigned to the infected cohort or non-infected cohort as far as practicable. This also applies to Bank Staff. This may not be practicable for staff groups with limited numbers, e.g. doctors, allied health professionals. These groups must exercise extreme vigilance with regard to hygiene when moving between cohorts.

Staff can be redeployed from the non-infected cohort to the infected cohort. However, they should not generally be redeployed from the infected to non-infected cohort, as they may be incubating the infection. An exception would be staff who have recovered from influenza. Redeployment should not happen during a work period, but between shifts.

Immunocompromised and pregnant workers should be considered for deployment to non-clinical duties or else assigned to the non-infected cohort.

### **3.5 Environmental Health and Waste Disposal**

Standard Infection Control guidance on the disposal of clinical and non-clinical waste applies. It is important to ensure that articles contaminated with sputum/respiratory secretions are treated as clinical waste.

**Waste** collection bags to be tied and sealed before removal – gloves to be worn during handling and hand hygiene observed.

**Linen** should be categorised as used or contaminated in the usual way. It should be bagged, tied and sealed at point of use, and gloves & aprons worn for handling, and hand hygiene observed after glove removal.

**Bed curtains** to be changed after patients are discharged.

#### **Staff Uniforms:**

- PPE should protect against gross contamination but nonetheless uniforms should not be worn travelling to and from work (whether working in the infected or clean cohort).
- Changing facilities should be available.
- Uniforms should be washed daily using the hot cycle of a domestic machine. As there is no hospital laundry for staff, they will need to be carried home in a sealed plastic bag; not mixed with other items, washed using the hot cycle ( $\geq 60^{\circ}\text{C}$ ) in a machine that is no more than half full.
- Scrubs should be considered for clinical staff who do not usually wear uniforms.

**Crockery & utensils:** no special measures required – normal hospital dishwashers are sufficient. Do not hand wash.

#### **Environmental Cleaning:**

- Domestic staff should be cohorted
- Daily (minimum) cleaning in infected cohort
- Frequently touched surfaces (patient equipment, door handles, for e.g.) at least twice daily
- Clean with Chlor-clean
- Damp, not dry-dusting
- Clean less contaminated areas first, then heavily contaminated areas
- Change cleaning cloths etc frequently – disposable when possible (mop-heads to be laundered).
- Spillages – as per normal Universal Precautions Policy/protocol

#### **Domestic Staff:**

- Should be adequately trained in use of PPE
- Should wear gloves and aprons.
- Should also wear surgical masks when cleaning in the immediate environment of infectious patients.

#### **Patient Care Equipment:**

- Dedicate to infected or non-infected cohort if at all possible
- Decontaminate as appropriate for equipment in question: Chlor-clean unless electrical equipment.
- Wear gloves and aprons when handling and moving contaminated equipment
- Fans are not permitted, as they may enhance airborne spread

## **Furnishings**

- Only essential and easy-to clean furnishings should be present in areas used by patients.
- Toys, books, newspapers, magazines – remove from patient areas and do not re-use (and not to go to hospital charity shops for resale)

## **3.6 Special Settings**

### **3.6.1 Accident and Emergency**

The aim is to prevent the unit being overwhelmed, and to triage & separate those with likely influenza from those with other conditions.

**Signs** – at entrance to Hospital and A&E, instructing visitors to only attend if strictly necessary, and to inform reception immediately if they have respiratory symptoms.

**Triage practitioner** – placed in reception

**Segregated waiting area** for possible influenza patients:

- Patients must stay there until assessed.
- Attention to respiratory hygiene reinforced – posters, tissues, waste bins, hand washing facilities; assistance with containment of respiratory secretions where appropriate, surgical masks for coughing/sneezing patients.
- Remove books, magazines, toys, non-essential soft-furnishings

### **Examination Rooms:**

- Keep clear of clutter; store consumables nearby and not inside the room
- Patients to wear surgical masks and observe respiratory hygiene as above.
- Clean hand contact surfaces regularly while the room is in use.

### **3.6.2 Paediatrics**

Children co-infected with another infectious pathogen (e.g. RSV) should be cohorted separately if possible.

Children can remain infectious for longer.

Children and their families must be educated in the need for respiratory hygiene.

Communal play areas, schoolrooms etc. must be closed during the pandemic. Toys must be cleaned regularly and frequently.

Environmental cleaning must be increased

### **3.6.3 Intensive Care Units**

Designate separate cohorts (plus side-rooms) for influenza patients – with separate staffing if possible. Positive pressure siderooms are NOT suitable for influenza patients.

Use disposable respiratory equipment or disinfect equipment appropriately between uses.

Use closed circuit respiratory systems wherever possible. Respiratory equipment should be protected with filters. Ventilatory circuits should not be broken. Avoid water humidification.

Aerosol-generating-procedures: minimum staff present and PPE as appropriate.

### **3.6.4 Obstetric Patients and Infants**

Obstetric patients whose infants are nursed with them should be placed in single rooms where possible.

Obstetric patients whose infants are nursed with them should wear a surgical face mask when in close contact with the infant whilst still infectious (7 days from onset of symptoms or until symptom free whichever is longer).

### **3.6.5 Dying and Dead Patients**

**Chaplains** should wear PPE and observe the same precautions as other staff.

Standard precautions described elsewhere still apply when handling or laying out dead patients.

**Relatives may view the body** (wear PPE and observe standard precautions). Body should be placed in a body bag (national guidance specifies only a sheet, but the opinion within this Trust is that a body bag is a sensible precaution) with the relevant form and death notice attached (see body bag procedure) and transferred to the mortuary as soon as possible.

Although not specified in the national guidance, wakes and other practices which allow significant contact with the dead body should be discouraged during the pandemic.

**Post-mortems** (if indicated) – to be undertaken only in a high-risk post-mortem room with a powered respirator and full PPE.

**Mortuary and funeral staff** – inform of influenza diagnosis; follow standard precautions – no further risk of droplet spread, so masks not required.

### **3.6.6 Visitors**

Keep to the minimum necessary.

Signs and instruction in precautions to be observed – especially hand hygiene, & PPE if appropriate.

Relatives may be called on to assist with care if staff shortages are severe. If so, they need clear instructions in the use of PPE.

## **4 Avian Influenza**

### **4.1 Key Facts about Avian Influenza**

This section of the protocol is to assist with managing single/sporadic human cases of avian influenza (suspected or confirmed) presenting to St. George's Hospital. It does *not* apply to an influenza pandemic (whether this is due to Avian Influenza or any other strain), nor does it apply to cases/outbreaks/epidemics of human influenza which are seen in the UK most winters.

Avian influenza is a form of influenza A, that affects birds and pigs and sometimes humans. Strains that are currently circulating include serotype H5N1.

- Human cases can occur following close contact with birds, usually domesticated birds such as chickens. Cases have not occurred following eating cooked poultry.
- A small number human to human infections may have occurred but this mode of transmission appears to be a very rare event.
- H5N1 infection in birds has now been reported in over 50 countries/territories including the UK. Over 20 other European countries have also reported infections in birds. An up to date list of countries with cases of avian influenza is available on the World Organisation for Animal Health website.
- Over 500 human cases (with over 300 deaths) have been reported in 15 countries, with the most cases in Indonesia, Egypt, Vietnam, China, Thailand, Cambodia, Turkey and Azerbaijan. The latest Avian Influenza updates are available from the World Health Organisation website.
- The reported case fatality rate has been over 50%. However, some sub-clinical cases have been detected in Vietnam and it is possible that the actual case fatality rate is much lower.
- Given the above information, the risk of human cases of avian influenza in the UK still very low, though not zero.

### **4.2 Diagnosis of Suspected Avian Influenza**

This section of the protocol is for use during WHO pandemic phase 3 only (i.e. inter-pandemic phase, with occasional cases of human infection with avian influenza, but no significant spread from person to person). In the event of any change in status, new guidelines will be issued

The probability of avian influenza should be considered in the context of clinical features and epidemiological features, which include travel and contact history.

#### 4.2.1 Case Definition

Patients that fulfill the clinical **AND** epidemiological criteria below are to be regarded as **Suspected Avian Influenza (HPA 2009)**.

**Note:** Always check for latest guidance on HPA website.

<b>Clinical criteria</b>	Fever ( $\geq$ or = 38°C) <b>OR</b> history of fever, <b>AND</b> Respiratory symptoms (cough or shortness of breath) requiring hospitalisation.
	<b>OR:</b> Death from unexplained respiratory illness
<b>AND</b>	
<b>Epidemiological Criteria</b>	History of travel in the <b>7 days prior to onset of symptoms</b> to an area affected by avian influenza A (H5N1) <b>AND</b> close contact (within 1 metre) with live or dead domestic fowl, wild birds, or swine in any setting, including bird markets.
	A list of affected countries is available from:- <a href="http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/AvianInfluenza">http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/AvianInfluenza</a> <b>OR</b> one of the following: <ul style="list-style-type: none"><li>• Close contact (touching/speaking distance) with other case(s) of severe respiratory illness or unexplained death from above areas.</li><li>• Part of a Health Care Worker cluster of severe unexplained respiratory illness.</li><li>• A Laboratory worker with potential exposure to influenza A (H5N1)</li></ul>

Please note that if epidemiological criteria are definitely fulfilled and the patient is severely unwell but with no respiratory symptoms, the case should be discussed with local experts (Virologist/Infectious Diseases Physician who will liaise with the HPA SWLHPU/ HPS Colindale)

Diagnosis can be confirmed by the virology laboratory. See Section 4.7.2 for details of specimen collection for adults & children, and Section 4.9 for contact telephone numbers.

#### 4.3 Management of Adult Patients with Suspected Avian Influenza

##### 4.3.1 Adult Patients Presenting to the A&E Department

- During normal triage procedure, the Triage Nurse should screen patients for **Suspected Avian Influenza** using the criteria above “**Diagnosis of Suspected Avian Influenza**”.
- Suspected Avian Influenza cases to be given an FFP3 mask (see below) immediately taken to ‘**RELATIVES’ ROOM**’ in A&E (adjacent to the waiting



room).

- Other cases not fulfilling Suspected Avian Influenza criteria to be managed in normal way through A&E.
- Suspected Avian Influenza cases to be given a FFP3 mask to wear at all times. See Section 4.7
- All staff in direct contact with patient to follow current Avian Influenza infection control procedures. See Section 4.7 This means that staff must wear full protective clothing i.e. FFP3 mask, eye protection, gowns and gloves.
- **During Normal Working Hours CIU SHO to be contacted and to immediately attend adult patients in A&E 'Relatives Room'.** If outside normal working hours, the on-call CIU SpR or CIU Consultant should be contacted. Children should be referred to the Paediatric admitting team and the protocol for children followed.
- If resuscitation required that cannot be undertaken in 'Relatives' Room' then patient to be nursed in Resuscitation Room.
- There is **no requirement** for A&E to consider inactivating air conditioning.
- Other patients preferably removed from Resuscitation Room, if their condition permits this safely. *There is almost no risk of them becoming infected, so there should be no unnecessary moving of sick patients.* Staff should avoid moving from suspected cases to other patients.
- CIU SHO (or on-call SpR when outside normal working hours) to carry out physical examination and arrange appropriate blood investigations (at least: saturations / blood gases, FBC, CRP, U&E and LFTs; malaria film if indicated). See Section 4 for details of virology and microbiology specimens.
- If a chest X ray required then portable CXR to be done in 'Relatives' Room' (screening of window required); or CXR deferred until on ward if clinical condition clearly requires admission.
- A chest radiograph should be performed to act as a baseline and to detect secondary bacterial pneumonia. There are no specific findings in Avian Influenza and patients may have a secondary bacterial pneumonia, or normal CXR.
- CIU SHO (on-call SpR when outside normal working hours) to discuss case with CIU Consultant on call to determine if to be admitted or isolated at home.
  - if sent home then CIU SHO/SpR informs GP and CCDC at HPU at once
  - if adults are to be admitted: CIU SHO informs:
    - (1) Bed Manager (to arrange transfer)
    - (2) GICU (to alert of possible future need for bed)
    - (3) CIU SpR: who informs:
      - (i) Virology Consultant on call
      - (ii) Infection Control (if on-call situation, contact Consultant Microbiologist)
      - (iii) CCDC on call at HPU.
      - (iv) Hospital Site Manager (Bleep 6007)

See Section 4.9 for contact details.

**Decide where the patient should be nursed initially according to severity of illness:**

Patients do not have to go into a negative pressure room, but if one is available, and meets their nursing requirements, and does not present a cross infection hazard from transporting patient there, then it should be used in preference. Ante-chamber/lobby is not required, but if available should be used.

**(A) Moderate – Require General Medical Ward care** (need O<sub>2</sub>, IV therapy):

Admitted in order of preference and availability:

1. Rooms 2,3,1 McEntee Ward.
2. Other single occupancy room on McEntee Ward.
3. Other single room in St George's. Seek advice from Infection Control/ on-call Consultant Microbiologist.
4. Two **proven** Avian Influenza patients may be nursed together in a double occupancy side room.

**(B) Severe – Require assisted ventilation without intubation:**

1. Nursed on McEntee ward **if** dedicated nursing staff from GICU/HDU/CTICU available to manage patient on McEntee
2. If full-time specialist nurses not available then treat as level C

**(C) Critical – Require intubation or additional organ support** (e.g. renal)

1. Nursed in single room number 11 on ITU, or single room on CTICU. The admitting CIU Consultant and Infection Control, in liaison with ITU and CTICU, will decide appropriate placement of patients. Consideration should be made on a case by case basis of benefits of GICU (close proximity to McEntee / A&E) and CTICU (availability of negative pressure rooms); and drawbacks of GICU (only one room) and CTICU (effect on cardiothoracic capability); together with case-mix of patients already on each unit. If several patients need ITU care at once, consideration should be given to dedicating to CTICU to Avian Influenza patients only. Consider declaring Major Incident. If large number of level A or B cases admitted we may need to prospectively clear CTICU as they may deteriorate to level C together and so precipitate this situation.

**Procedure for transporting patients to McEntee / GICU from A&E**

1. Patient to wear a FFP3 mask during transit (see Section 4.7).
2. Staff to wear FFP3 masks, goggles, gowns and gloves (see Section 4.7).
3. Patient to be taken via Theatre Lift to McEntee Ward (clear all lifts of other persons).
4. If patients to be transferred to other parts of the hospital then Security and Infection Control to liaise to ensure route is cleared of staff, visitors and patients before commencing.

**4.3.2 Adult Patients Referred by GP Direct to CIU / General Medicine**

- Not all patients need to be seen or admitted at St George's. GP must decide if patient's condition requires admission.
- If GP considers patient does require admission, the following actions are required:
  1. CIU/General Medicine SHO accepts adult patient and tells GP to send to

2. A&E. Ask GP to ask patient to wear a mask if available. A surgical mask can be used initially, but **MUST** be replaced with a FFP3 on arrival in A/E. See Section 4.7. Patient warned to immediately alert A&E on arrival.
3. CIU/General Medicine SHO to bleep 6754 to warn A&E of patient's arrival.
4. General Medicine or other speciality SHO accepting patient must inform CIU SHO at once during normal working. Out of hours, inform on-call CIU SpR.
5. On arrival, patient to be taken to A&E 'Relatives' Room' (adjacent to the waiting room), and managed further according to protocol Section 4.3.1

#### **4.3.3 Adult Patients Already Admitted to St George's**

Adult patients may be suspected of developing Avian Influenza after admission under other specialities.

- **For adult patients at St George's**

1. SHO / SpR of referring firm to apply up to date case definition see: Investigation & management of possible human cases of avian influenza A/H5N1 (including returning travellers), HPA (2009)
2. If Suspected or Proven Avian Influenza case then refer at once to CIU SHO during normal working hours, or on-call CIU SpR out of hours, who will accept the case under CIU management.
3. Patient to wear an appropriate FFP3 mask. Full infection control procedures for Avian Influenza on ward. See Section 4.7
4. Adult patients to be transferred by the shortest feasible route to McEntee Ward and managed further according to protocol Section 4.4

#### **4.3.4 Adult Patients Referred by Other Hospitals**

It has been agreed that St George's will not routinely accept patients suspected or diagnosed with Avian Influenza from other hospitals. The CIU on call consultant will provide an advisory service. ICU-ICU transfers to follow usual procedures. The ambulance service will need to be advised of the diagnosis. The Ambulance service has its own infection control guidelines and should be aware of what to do in these circumstances.

#### **4.3.5 Mass Casualty Situation**

This section of the Avian Influenza protocol applies to WHO pandemic phase 3. A mass casualty situation is only likely to occur in the event of a full-scale pandemic (WHO phase 5 and 6). The DH (2011) guidance uses a different system of phases to WHO. During a pandemic the DH website should be consulted for up to date information on the current phase.

However, if numerous patients present at once then consider activation of Major Incident Plan in conjunction with the Trust's Emergency Planning Liaison Officer or on-call senior manager/nurse and on-call A&E consultant.

#### 4.4 Investigation and Treatment of Adult Patients with Suspected Avian Influenza

1. OBSERVE STRICT Avian Influenza INFECTION CONTROL GUIDELINES AT ALL TIMES AND MAKE NO EXCEPTIONS . See Section 4.7
2. All investigations to be carried out on ward (eg CXR, ECG, etc).
3. Check CXR to determine suspect / probable status.
4. Ensure alternative diagnoses are not missed (e.g. malaria, TB, Legionella).
5. Monitor blood gases / saturations, FBC, LFTs, U&Es, glucose.
6. Do blood and sputum cultures and pneumococcal and legionella urinary antigen tests.
7. Contact Microbiology/Virology Consultant or registrar to ensure that correct virological specimens are collected. See section 4.9 for contact details. These will include baseline clotted blood for serology and a nasopharyngeal aspirate or combined viral nose and throat swabs. Use green swabs.
8. Start treatment with appropriate antibiotics for severe community acquired pneumonia according to current Grey Book guidelines (e.g. benzylpenicillin 1.2g 4-hourly + clarithromycin IV 500mg 12 hourly). Consider adding staphylococcal cover with flucloxacillin (if not penicillin allergic). Contact microbiology for advice on the management of penicillin-allergic patients
9. **Oseltamivir and Zanamivir are currently stockpiled. The stock for SW London is in the Pharmacy at St George's Hospital and must be obtained via the Consultant in Communicable Disease Control at the SW London Health Protection Unit.** (see Section 4.9 below for contact details).

**St George's Hospital also has stock of oseltamivir and inhaled zanamivir for use SGH patients. If IV zanamivir (unlicensed) is required contact GSK directly to arrange a supply.**

##### a. FIRST LINE CHOICE

###### **OSELTAMIVIR:**

**Oseltamivir treatment dose** 75 mg PO bd for 5 days.

- i. Adjust dose in renal failure: CrCl 10-30ml/min : 75 mg OD  
CrCl<10: 75mg as a single dose  
Haemodialysis: 30-75mg after each dialysis session  
CAPD: 30mg once a week.
- ii. Most effective within 48 hours of symptoms onset, but do not withhold
- iii. **For patients in the Critical Care setting, many units are now prescribing double the usual dose for treatment: CrCl>30 mL/min: 150mg twice daily, CrCl=10 – 30 ml/min (including patients on CAVH / CVVH / CAVHD / CVVHD): 75mg twice daily)**

##### **SECOND LINE CHOICE**

###### **ZANAMIVIR:**

**Zanamivir treatment dose (if patient has good inspiratory flow and is able to use the inhaler device)** 10 mg (2 inhalations) BD for 5 days

- i. (take two 10 mg doses at least 2 hours apart on the first day)

- ii. For information on intravenous and nebulised zanamivir contact GSK medic oncall.
- 
- 10. Monitor closely for onset of ARDS, respiratory failure, secondary staphylococcal or other bacterial pneumonia or septicaemia and perform appropriate investigations.
  - 11. If patient's condition deteriorates then inform ITU and seek opinion of ITU outreach team / on call SpR/Consultant.
  - 12. Continuously review level of illness severity and revise appropriate location for continued care as required according to the scheme in Section 3.1.

## 4.5 Management of Children with Suspected Avian Influenza

### 4.5.1 Children Presenting to the A&E Department

- During normal triage procedure, the Triage Nurse should screen patients for **Suspected Avian Influenza** using the criteria on page 14 “**Diagnosis of Suspected Avian Influenza**”.
- Suspected Avian Influenza cases to be given a mask (see below) and immediately taken to a closed room in paediatric A+E.
- Other cases not fulfilling Suspected Avian Influenza criteria to be managed in normal way through A&E.
- Suspected Avian Influenza cases to be given a FFP3 mask to wear at all times. See Section 4.7.
- All staff in direct contact with patient to follow current Avian Influenza infection control procedures. See Section 4.7. This means that staff must wear full protective clothing i.e. FFP3 mask, goggles, gowns and gloves.
- **During Normal Working Hours PID SpR to be contacted and to immediately attend (bleep 7410).** If outside normal working hours, the on-call Paediatric SpR and the on-call paediatric and PID Consultants should be contacted.
- If resuscitation required that cannot be undertaken in a closed paediatric room then patient to be nursed in Resuscitation Room.
- There is **no requirement** for A&E to consider inactivating air conditioning.
- Other patients preferably removed from Resuscitation Room, if their condition permits this safely. *There is almost no risk of them becoming infected, so there should be no unnecessary moving of sick patients.* Staff should avoid moving from suspected cases to other patients.
- **PID SpR** (or on-call SpR when outside normal working hours) to carry out physical examination and arrange appropriate blood investigations (at least: saturations / blood gases, FBC, CRP, U&Es, LFTs; malaria film if indicated). See Section 4.6 for details of virology and microbiology specimens.
- If Chest X ray required then portable CXR to be done in closed paediatric room; or CXR deferred until on ward if clinical condition clearly requires admission.
- A chest radiograph should be performed to act as a baseline and to detect secondary bacterial pneumonia. There are no specific findings in Avian Influenza and patients may have a secondary bacterial pneumonia, or normal CXR.
- **PID SpR** (or on-call SpR when outside normal working hours) to discuss case with Paediatric consultant on call and PID Consultant on call to determine if the patient is to be admitted or isolated at home.
  - if sent home then **PID SpR** informs GP and CCDC at HPU at once
  - if children are to be admitted: **PID SpR** informs:
    - (1) Bed/Site Manager (bleep 6007) (to arrange transfer)
    - (2) PICU (to alert of possible future need for bed)
    - (3) the following individuals:

- (i) Virology Consultant on call (5686 or SG176)
- (ii) Infection Control (if on-call situation, contact Consultant Microbiologist)
- (iii) CCDC on call at HPU.
- (iv) Senior Nurse on duty for Paediatrics (bleep 6448)
- (v) Assistant Director of Nursing with responsibility for Paediatrics (aircall SG467)

See section 4.9 for contact details.

**Decide where the patient should be nursed initially according to severity of illness:**

Patients do not have to go into a negative pressure room, but if one is available on Pinckney ward, and meets their nursing requirements, and does not present a cross infection hazard from transporting patient there, then it should be used in preference. Ante-chamber/lobby is not required, but should be used if available.

**(A) Moderate - Require paediatric ward care** (need O<sub>2</sub>, IV therapy):

Admitted in order of preference and availability:

1. Negative pressure rooms on Pinckney Ward.
2. Other cubicles on Pinckney Ward.
3. Other cubicles in paediatric wards. Seek advice from Infection Control/on-call Consultant Virologist.
4. Two **proven** Avian Influenza patients may be nursed together in a double occupancy side room.

**(B) Severe - Require assisted ventilation without intubation:**

1. will ordinarily be managed on PICU in a cubicle.
2. If PICU full and appropriate specialist nurses available then may be managed on Pinckney as above.

**(C) Critical - Require intubation or additional organ support** (e.g. renal)

1. Nursed in cubicles on PICU. The admitting PID Consultant and Infection Control, in liaison with PICU, will decide appropriate placement of patients. Consideration should be made on a case by case basis of benefits and drawbacks of PICU (2 cubicles only); together with case-mix of patients already on each unit. If several patients need PICU at once, consideration should be given to dedicating PICU to Avian Influenza patients only. Consider declaring Major Incident. If large number of level A or B cases admitted we may need to prospectively clear PICU as they may deteriorate to level C together and so precipitate this situation.

**Procedure for transporting patients to Pinckney / PICU from A&E**

5. Patient to wear a FFP3 mask during transit (see Section 4.7).
6. Staff to wear FFP3 masks, goggles, gowns and gloves (see Section 4.7).
7. Patient to be taken via Theatre Lift to Pinckney Ward (clear all lifts of other persons).
8. If patients to be transferred to other parts of the Hospital then Security and Infection Control to liaise to ensure route is cleared of staff, visitors and patients before commencing.

#### **4.5.2 Children Referred by GP Direct to Paediatrics**

- Not all patients need to be seen or admitted at St George's. GP must decide if patient's condition requires admission.
- If GP considers patient does require admission, the following actions are required:
  1. Paediatric SpR accepts patient and tells GP to send to A&E.  
Ask GP to ask patient to wear a mask if available. A surgical mask can be used initially, but MUST be replaced with a FFP3 on arrival in A/E.  
See  
Section 4.7  
Family warned to immediately alert A&E on arrival.
  2. Paediatric SpR to warn A&E of patient's arrival.
  3. Paediatric SpR accepting patient must inform PID SpR at once during normal working hours. Out of hours, inform on-call Paediatric and PID consultants.
  4. On arrival, patient to be taken to A&E closed paediatric room and managed further according to protocol Section 4.5.1 and 4.6.

#### **4.5.3 Children already Admitted to St George's**

Children may be suspected of Avian Influenza after admission under other specialities.

1. Paediatric SHO / SpR of referring firm to apply up to date case definition see: Investigation & management of possible human cases of avian influenza A/H5N1 (including returning travellers), HPA (2009)
2. If Suspected or Proven Avian Influenza case then refer at once to PID SpR during normal working hours, or on-call Paediatric and PID consultants out of hours, who will accept the case under PID management.
3. Patient to wear an appropriate FFP3 mask. Full infection control procedures for Avian Influenza on ward. See Section 4.7.
4. Patients to be transferred by the shortest feasible route to Pinckney Ward and managed further according to protocol Section 4.5.1.

#### **4.5.4 Children Referred by Other Hospitals**

The PID on call consultant will provide an advisory service. ITU-ITU transfers to follow usual procedures. The ambulance service will need to be advised to take appropriate infection control precautions.

#### **4.5.5 Mass Casualty Situation**

This section of the Avian Influenza protocol applies to WHO pandemic phase 3. A mass casualty situation is only likely to occur in the event of a full-scale pandemic (WHO pandemic phase 5 and 6). The DH (2011) guidance uses a different system of phases to WHO. During a pandemic the DH website should be consulted for up to date information on the current phase.



However, if numerous patients present at once then consider activation of Major Incident Plan in conjunction with the Trust's Emergency Planning Liaison Officer or on-call senior manager/nurse and on-call A&E consultant.

#### **4.6 Investigation and Treatment of Children with Suspected Avian Influenza**

OBSERVE STRICT **Avian Influenza** INFECTION CONTROL GUIDELINES AT ALL TIMES AND MAKE NO EXCEPTIONS. See Section 4.7.

All investigations to be carried out on ward (eg CXR, ECG, etc).

Check CXR to determine suspect / probable status.

Ensure alternative diagnoses are not missed (e.g. malaria, TB).

Monitor blood gases / saturations, FBC, LFTs, U&Es, glucose. Obtain acute and convalescent sera.

Do blood and sputum (if > 5 yo) cultures, pneumococcal urinary antigen test.

Contact Microbiology/Virology Consultant or registrar to ensure that correct virological specimens are collected. See Section 4.9 for contact details. These will include baseline clotted blood for serology and a nasopharyngeal aspirate or combined viral nose and throat swabs. Use green swabs.

Children a) who are at risk of complications of influenza<sup>(\*see list below)</sup> or b) with disease severe enough to merit hospital admission should be treated with an antibiotic that will provide cover against *S pneumoniae*, *Staph aureus* and *H influenzae*. For children under 12 years Co-Amoxiclav is the drug of choice. Clarithromycin should be used in children allergic to penicillin. For children over 12 years Doxycycline is an alternative. Oral antibiotics should be given provided oral fluids are tolerated. Children who are severely ill with pneumonia complicating influenza should have appropriate antibiotics for severe community acquired pneumonia according to Pinckney guidelines (e.g. Ceftriaxone and Flucloxacillin) and the drugs should be given intravenously to ensure high serum and tissue antibiotic levels.

##### **\* Children at Risk for Complications from Avian Influenza.**

- Chronic respiratory disease, including asthma (on inhaled steroids and above), cystic fibrosis, chronic lung disease of prematurity, bronchiectasis
- Congenital heart disease
- Chronic renal disease eg nephrotic syndrome, renal failure
- Chronic liver or Gastrointestinal disease, including inflammatory bowel disease
- Immunodeficiency
- Malignancy
- Diabetes and other metabolic conditions
- Haemoglobinopathy
- Neurological disease eg diseases with muscle weakness and cerebral palsy

**Oseltamivir is the antiviral agent of choice.**

**Oseltamivir is currently stockpiled. The stock for SW London is held in St George's Hospital and must be obtained via the Consultant in Communicable Disease Control at the SW London Health Protection Unit.** (see Section 4.9 below for contact details).

In children who are severely ill in hospital Oseltamivir may be used if the child has been symptomatic for <6 days. It is most effective within 48 hours of symptoms onset. Oseltamivir may be considered for the treatment of infants <1 year of age, especially those with severe influenza. This would need to be done following appropriate discussion with the parents highlighting the concerns from animal data and the relative paucity of human data in this age group.

**Adult and child dosages of oseltamivir (5 day course):**

Child under 1 month	2mg/kg 12 hourly
Child 1 – 3 months	2.5mg/kg 12 hourly
Child 3 months – 1 year	3mg/kg 12 hourly
Child aged >1yr; body weight <15kg	30mg 12-hourly
Child aged >1yr; body weight 15-23kg	45mg 12-hourly
Child aged >1yr; body weight 24-40kg	60mg 12-hourly
Adult, and child >40kg	75mg 12-hourly

(Dose to be reduced by 50% if creatinine clearance is 10-30ml/minute, seek advice if CrCl<10ml/min)

Monitor closely for onset of ARDS, respiratory failure, secondary staphylococcal or other bacterial pneumonia or septicaemia and perform appropriate investigations.

If patient's condition deteriorates then inform PICU.

Continuously review level of illness severity and revise appropriate location for continued care as required according to the scheme in Section 4.5.1.

#### **4.7 Infection Control**

This protocol follows those recommended by the WHO and the Department of Health and are applicable to WHO pandemic phase 3 (i.e. reports of sporadic human infections, with possible occasional person-to-person spread, but not significant outbreaks or epidemics). The DH (2011) guidance uses a different system of phases to WHO. During a pandemic the DH website should be consulted for up to date information on the current phase.

#### **4.7.1 Precautions for the Care of Patients with Suspected and Confirmed Avian Influenza**

- **Infective Period**

These infection control precautions must continue for **at least 7 days after resolution of fever** in those aged 12 and above.

For children aged less than 12, precautions should continue for **at least 21 days after onset** of illness.

If another diagnosis is confirmed seek advice from Infection Control regarding the need to continue precautions.

- Ideally, only staff who have received appropriate training and instruction in caring for Suspected and Confirmed Avian Influenza patients should be involved in their care. A minimum of staff must be in contact with these patients. Staff must have had satisfactory fit testing of FFP3 masks before use. Staff who cannot satisfactorily wear a FFP3 mask should NOT use the FFP3 mask and therefore NOT have any contact with patients with Suspected and Confirmed Avian Influenza.
- Staff may consider the use of prophylactic Oseltamivir if available for this use.
- Pregnant staff should not care for these patients (subject to further information becoming available). Staff with defective immunity should contact Occupational Health for assessment before working with Suspected and Confirmed Avian Influenza patients.

#### **Before entering the isolation room: -**

- The patient must wear a FFP3 mask. Masks must be fitted to provide a tight seal. (Surgical masks may provide some protection, but **MUST** be replaced with a FFP3 mask when available.)
- Staff should remove their own clothing and put on scrubs.
- Staff must put on a disposable long sleeve fluid repellent gown and close fitting gloves, close fitting eye protection, a FFP3 mask, hat and overshoes. Masks must be fitted to provide a tight seal.
- A source isolation sign must be placed on the door and in A&E, a “no entry” sign to limit access to the designated area.

#### **Inside the isolation room: -**

- The mask may then be removed from the patient and discarded in the yellow clinical waste bin.
- The door must be kept closed.
- Staff must not stay in the room unnecessarily.
- Patients should be encouraged to wash hands particularly after contact with respiratory secretions, urine or faeces.
- Staff must not touch their face, mouth or eyes during and after care of the patient.

- A minimum of equipment must be taken into the room and must be designated for the exclusive use of the patient. Equipment must stay in the room e.g. commode, stethoscope, sphygmomanometer, sharps bin, pens etc.
- Clinical notes and nursing notes must not be taken in.

#### **Before leaving the isolation room: -**

- Take off overshoes and gloves and discard in yellow clinical waste bin.
- Remove gown carefully in the following manner;
  - undo ties with finger tips.
  - shrug gown forward and pull off inside-out.
  - place in white plastic bag followed by red plastic bag (outside room) or dispose as clinical waste, as appropriate.
  - wash hands if sink available inside room, if not use alcohol gel.

#### **After leaving the isolation room or in the ante-room**

- Remove goggles, then hat and then mask. Dispose of mask and hat in yellow clinical waste bin. Goggles must not be re-used until cleaned (see below).
- Wash and dry hands. Apply alcohol gel. Exit area.

#### **Visitors**

- Visitors must be discouraged from visiting the patient but if this is necessary they should follow precautions as for staff above.

#### **Investigations**

- Radiology and any other special investigations must only be carried out at the patient's bedside.

#### **Transfer of patients within the Trust**

- If not ventilated, patients being transferred from one area of the hospital to another must wear a FFP3 mask. Ventilated patients must have a closed circuit suction system fitted.

#### **Disinfection and Decontamination**

##### **Influenza viruses can be inactivated with hypochlorite and with 70% alcohol**

- Daily cleaning of the isolation room (and in A&E the area immediately outside the isolation room and the toilet opposite) must be carried out. Hypochlorite 0.1% (i.e. Chlor-clean) must be used for decontamination of the environment.
- Staff dealing with a Suspected or Confirmed Avian Influenza patient must ensure that all equipment and the environment are thoroughly decontaminated once the patient has vacated the room (see above). Walls must also be washed with Chlor-clean.
- Equipment and environmental surfaces that cannot be decontaminated with

Chlor-clean e.g. metal instruments can be decontaminated with 70% alcohol. Any equipment that cannot be decontaminated by any method must be discarded as clinical waste.

- Eye protection must be washed with Chlor-clean, rinsed and dried.
- Ventilators- standard procedures for decontamination should be followed.
- It is not necessary to use disposable crockery or cutlery. Crockery or cutlery must be washed in a dishwasher (not hand-washed).

## **Waste Disposal**

- All clinical and domestic waste must be disposed in a clinical waste bag. If there is a risk of leakage then double bag.
- Bed-pans – Place outside the isolation room. Remove protective clothing as above. Decontaminate hands. Don clean apron and gloves and take bed-pan to sluice. Avoid touching door handles etc. After disposal remove protective clothing and wash hands.

## **Laundry**

- All non-disposable laundry and gowns must be treated as infected and disposed of by double-bagging in a white plastic bag followed by a red plastic bag. Decontaminate hands with alcohol gel after disposing of infected laundry.
- Patients' clothes must be placed in a designated plastic bag and subsequently laundered at home. This should be at 65°C for at least 10 minutes or preferably 71°C for 3 minutes.

## **Care of the deceased**

- Health care workers must follow standard precautions when caring for the deceased patient.
- Full PPE must be worn if the patient died during the infectious period (i.e. within 7 days after resolution of fever in adults and 21 days after the onset of symptoms in children).
- The body should be fully sealed in an impermeable body bag prior to transfer to the mortuary.
- No leaking of body fluids should be allowed and the outside bag should be clean.
- Transfer to the mortuary should occur as soon as possible after death. If the family of the patient wishes to view the body, they may be allowed to do so. If the patient died in the infectious period, the family should wear gloves and a gown.

### **4.7.2 Handling of Clinical Laboratory Specimens**

- Identify any specimen with a yellow sticker. Place in self-seal plastic bag.
- The request form must identify the diagnosis of Suspected or Proven Avian

Influenza.

- Contact the Virology laboratory doctor to warn them that specimens are being sent. See section 4.9 for contact details.

#### **4.7.3 Staff and Student Contacts of Suspected and Confirmed Avian Influenza**

##### **Patients**

- A list of staff who have had contact with or have cared for such patients must be kept by the nurse in charge or matron. This must include dates of contact. The list must be forwarded to Occupational Health daily.
- The Consultants in Communicable Disease Control at the local Health Protection Unit (South West London HPU) must be contacted to arrange prophylaxis for any staff contacts. See contact numbers Section 4.9

##### **Prophylaxis**

**Oseltamivir prophylaxis dose for adults: 75 mg OD for at least 7 days after last exposure.**

Best started within 48 hrs of exposure

May need to continue for up to 6 weeks

Adjust dose in renal failure:

CrCl <30 : 30 mg OD or 75 mg alternate days

CrCl <10: 30mg once a week (2 doses)

Dialysis – give treatment doses as per section 4.4

Treatment recommendations may change check the latest HPA treatment guidance.

#### **4.7.4 Staff, Students, Visitors and Patients recently returned from Avian Influenza affected areas.**

Current guidelines do not quarantine or restrict persons returning from Avian Influenza affected areas. These may change and so invalidate these guidelines.

- Patients or visitors returning from Avian Influenza affected areas should advise the Sister in charge of the ward if they have had a significant exposure (defined below) to Avian Influenza, who should then discuss with Infection Control.
- Staff or students returning from Avian Influenza affected areas should attend Occupational Health before working if they have had a significant exposure (see below) to Avian Influenza.
- **Significant contacts** are:
  - a. Direct contact (<1 metre) with live or dead domestic birds, wild birds, or pigs in any setting including markets in an infected country.
  - b. Exposure to settings in which domestic birds or pigs had been confined in the last 6 weeks in an infected country.
  - c. Contact (touching or speaking distance) with a confirmed human case of influenza A/H5N1.
  - d. Contact (touching or speaking distance) with a person with

unexplained respiratory illness or unexplained death from an infected area.

- e. Part of a healthcare worker cluster of severe unexplained respiratory illness in an infected country.
- f. Laboratory worker with potential exposure to avian influenza virus.
- g. Individuals working in bird quarantine facilities and those who have had contact with unquarantined birds imported from infected countries – this includes illegally imported exotic birds.

#### **4.8 Storage, Supply and Distribution of Oseltamivir**

**Oseltamivir and Zanamivir are on the Trust formulary and are stocked in SGH pharmacy and may be used in accordance with the HPA treatment guidelines**

**[http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1317131466016](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1317131466016).**

**SGH pharmacy is also the stockholding location for the SW London stockpile**

**Oseltamivir from this stock is to be used on the recommendation of the Consultant in Communicable Disease Control at SWLHPU for the treatment and prophylaxis of:**

- Avian influenza
- Clusters and outbreaks of influenza (in care homes only).

**The decision to prescribe Oseltamivir in these situations will be made on a case-by-case basis by the CCDC after consultation with specialists at the Health Protection Agency Centre for Infection (HPA-CfI), and in line with the guidance in the HPA algorithm for returning travelers HPA (2009) and Department of Health Pandemic Contingency Plan.**

#### **Storage, supply and distribution**

Treatment courses are held at St George's Hospital pharmacy.  
Oseltamivir from this stock will be dispensed on prescription written by, or supplied to a hospital within the SHA authorised by, one of the CsCDC at the SWLHPU or a nominated deputy:

**Oseltamivir may be collected or delivered directly to the patient(s), their general practitioner, or hospital clinician.**

#### **Contact details for Oseltamivir supply**

	<b>CCDC, SWLHPU</b>	<b>Pharmacy at St Georges</b>
<b>Working hours</b>	020-8812-7850	Ext 1579 Bleep 7508

<b>Out-of-hours</b>	<b>020-8390-4008 (Thamesdoc)</b>  <b>Ask for the THIRD on-call for public health.</b> This is the Consultant in Communicable Disease Control (CCDC). If unable to contact use 07990 527127 or 07717 571633 or contact the 1 <sup>st</sup> on-call who should be able to get in touch with the relevant CCDC	Bleep 6267
<b>Address</b>	SWLHPU Ground Floor, Building 15 Springfield University Hospital	

61 Glenburnie Road  
London  
SW17 7DJ

#### 4.9 Contact Details

##### **Consultant in Communicable Disease Control (CCDC)**

SW London, Health Protection Unit, Building No 15, Teak Tower, Springfield Hospital  
Telephone 9am to 5 pm: 020 8812 7850  
On call: 020 8390 4008 (Thamesdoc –ask for **Third on-call** for Public Health - CCDC)

##### **Infection Control, St George's Hospital**

Infection Control Nurse (ICN): 5728, 0591, 2646, 1464 or bleeps 6798, 6736, 6312, 6797  
Infection Control Doctor (ICD): 5707  
Deputy ICD: 5735  
On call contact via Switchboard: Microbiology Registrar SG858  
Microbiology Consultant SG624  
Virology Consultant SG176

##### **Microbiology and Virology, St George's Hospital**

Consultant Virologist: 5686 or SG176  
SpR Virology 5687 or bleep 7072  
Consultant Microbiologist 5685/1970 or SG624  
SpR Microbiology 5676/1970 or bleep 6480  
On call contact via Switchboard: Microbiology Registrar SG395  
Microbiology Consultant SG624  
Virology Consultant SG176

##### **CIU doctors**

CIU SHO refers to the **CIU SHO during normal working hours. At any other time the CIU SpR or CIU consultant should be contacted.** Switchboard has the contact details of these doctors.

##### **Paediatric Infectious Diseases Doctors:**

Paediatric ID SpR – Bleep 7410 (normal working hours), or Paediatric ID Consultant via Switchboard



**Occupational Health**

Consultant 1661/1663 aircall SG 335  
SpR: 1661  
Senior Nurse: 1661

**Other Contacts**

Hospital Site Manager Bleep 6007  
Pharmacist on call Bleep 6267 (after 12 midnight contact via Switchboard)

## 5. References

Department of Health (2011). **UK Influenza Pandemic Preparedness Strategy**. London: DH. Available from: [http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_131040.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_131040.pdf). Accessed 29th December 2011

Department of Health (2009). **Pandemic (H1N1) 2009 influenza: a summary of guidance for infection control in healthcare settings**. London: DH. Available from: [http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH\\_110902](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_110902) Accessed 8th December 2011

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HPA (2011) **Paediatric practice note for the management of critically ill children with pandemic (H1N1) 2009 Influenza, Version 5**. London. HPA. Available from: [http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1287148680698](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1287148680698). Accessed 29th December 2011.

HPA (2009). **Investigation & management of possible human cases of avian influenza A/H5N1 (including returning travellers)**. London. HPA. Available from: [http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1230540128769](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1230540128769). Accessed 8th December 2011

HPA. (2009) **Exposure without Personal Protective Equipment (PPE): Management of people exposed to birds where avian influenza infection is suspected/confirmed and who have not used PPE at time of exposure**. London. HPA. Available from: [http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1230540128967](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1230540128967). Accessed 29/12/2011.

### Additional Sources of Information

**CDC (USA)**. Available from: <http://www.cdc.gov/flu/avian/index.htm>. Accessed 8th December 2011

**Department of Environment, Food & Rural Affairs (DEFRA)**. Available from

<http://www.defra.gov.uk/animal-diseases/a-z/bird-flu/>. Accessed 8<sup>th</sup> December 2011

**Department of Health.** Available from <http://dh.gov.uk>. Accessed 8<sup>th</sup> December 2011

**Health Protection Agency.** Available from [http://www.hpa.org.uk/infections/topics\\_az/influenza/avian/default.htm](http://www.hpa.org.uk/infections/topics_az/influenza/avian/default.htm). Accessed 8<sup>th</sup> December 2011

**OIE (World Organisation for Animal Health)** Available from [http:// oie int](http://oie.int). Accessed 8<sup>th</sup> December 2011

**World Health Organisation.** Available from [http://www.who.int/csr/disease/avian\\_influenza/en/](http://www.who.int/csr/disease/avian_influenza/en/). Accessed 8<sup>th</sup> December 2011