Infection Prevention and Control Guidelines for Influenza-like Illness (ILI) in Western Australian Healthcare Facilities

June 2010
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These guidelines were originally commissioned by the Hospital Epidemic Planning Group (HEPG) in June 2009 in response to the emergence of pandemic (H1N1) 2009 influenza. A consultative review was conducted in 2010 and the guidelines modified to reflect current evidence based practice.

Contributors

These Guidelines have been produced by the Healthcare Associated Infection Unit (HAIU) at the Communicable Disease Control Directorate.
Introduction

These guidelines represent the minimum requirements for managing patients with an influenza-like illness (ILI) in a healthcare facility, and should be implemented as standard practice for the routine management of all ILI, including seasonal influenza. Additional measures may be required in some facilities on advice from their Infection Prevention and Control Professionals. In addition, specialist advice relating to obstetrics and neonatal requirements can be sourced from King Edward Memorial Hospital.

With low vaccination rates amongst healthcare workers (HCWs) for seasonal influenza it is critical that HCWs use appropriate infection prevention and control precautions when caring for patients with an ILI, in order to minimise the possibility of transmission between patients, visitors and other HCWs. The strict adherence to standard precautions and the adoption of transmission-based droplet precautions is appropriate management for all patients presenting with an ILI.

Definitions

Cleaning
Cleaning is the physical removal of soil or organic matter from surfaces, objects and equipment which results in a reduction in the number of microorganisms. It is achieved by the use of detergents and physical action. Cleaning must always precede all other disinfection and sterilisation processes.

Disinfection
Disinfection is the destruction or removal of most microorganisms, excluding bacterial spores. It is achieved by the use of heat and water (thermal) or chemicals.

Healthcare facility (HCF)
Any facility or service that provides healthcare services including hospitals, day surgeries, laboratories, residential care, community and office-based practices.

Healthcare worker (HCW)
All persons who have direct contact with patients or contaminated equipment/material in a healthcare setting. It includes not only employees of the facility but also contractors, trainees, students, volunteers, laboratory staff, clergy and other staff who may have patient contact.

Influenza-like illness (ILI)
The clinical criteria for an ILI is a documented fever (≥ 38°C), or a good history of fever (e.g. chills and shakes) plus cough and / or sore throat in the absence of other diagnoses.

Patient
This is a generic term utilised within this document and is inclusive of inpatients, outpatients, residents and clients of any HCF.

Vulnerable patient populations
Refers to patient groups that have an increased risk of severe influenza infection and also of developing secondary complications (refer Section 17).
Key Factors for Minimising Transmission of an ILI in a HCF

1. **Respiratory Etiquette**

The influenza virus can travel through the air when a person coughs or sneezes. When you cough or sneeze you should always:

- turn away from other people
- cover your mouth and nose with a tissue (or into your sleeve / elbow if tissue unavailable)
- use disposable tissues to contain respiratory secretions
- dispose of used tissues immediately into the nearest waste receptacle
- wash your hands, or use an alcohol based hand rub, as soon as possible afterwards
- wear a surgical mask, where possible, if you are unwell with an ILI to contain the virus and help prevent its spread.

**HCFs shall:**

- have clear signage, advising all persons of the importance of respiratory etiquette to contain respiratory secretions
- provide tissues and non-touch receptacles for used tissue disposal
- provide conveniently located dispensers of alcohol based hand rub
- provide soap and disposable paper towels for hand washing where sinks are available
- provide access to surgical masks for patients presenting with an ILI.

2. **General Requirements for Healthcare Facilities**

**HCFs shall:**

- strongly encourage influenza vaccination of all HCWs
- adopt **standard and droplet precautions** for all ILI presentations
- triage ILI patients for early detection, patient placement and reporting
- avoid crowding; promote spatial separation (>1m between patients where possible)
- utilise bed curtains between adjacent beds to impede the direct spread of droplets
- utilise single room allocation for ILI patients, when available
- establish designated ILI wards and cohort patients if no single rooms available
- ensure ILI patients wear a surgical mask when outside their room
- not use nebulisers unless no alternative method of medication delivery
- ensure aerosol generating procedures are performed in single rooms, where possible, with the door closed.

**HCWs shall:**

- perform hand hygiene frequently and in accordance with the ‘5 moments for hand hygiene’ program
- strictly adhere to **standard and droplet precautions**
- wear a fluid repellent surgical mask and protective eyewear, when in close contact with symptomatic patients
- wear gown and gloves if exposure to blood / body fluids likely
- exclude themselves from the workplace if they develop an ILI, report the illness to their supervisor and be medically assessed.
Infection Prevention and Control for ILI

1. Patient Presentations

- HCFs with emergency departments are encouraged to have a designated ILI assessment area such that the transmission risk to other patients is minimised.
- All persons presenting with an ILI are to be provided with a surgical mask to wear and should continue to wear a mask while awaiting medical assessment, if their medical condition allows.
- HCWs who are assessing ILI patients shall wear a surgical mask and eyewear during assessment processes.
- It is recommended that patients who require admission have respiratory samples collected and be commenced on anti-influenza medication to augment infection prevention management.

2. Patient Management

2.1 Patient Placement

- Cases of ILI that require admission to a HCF are to be admitted to a single room when possible and managed under standard and droplet precautions.
- Patient cohorts of ILI can be established in designated wards, keeping at least 1 metre distance between beds/bays if single rooms not available.
- ILI patients should not be cohorted with uninfected patients.
- Signage advising of the need for droplet precautions shall be evident on the patient’s door. Door closure is preferred where possible.
- Interdepartmental transfers should be restricted unless patient management will be compromised (e.g. requires admission to intensive care or necessary procedural investigations).

2.2 Patient Transport

- ILI cases are to wear a surgical mask when transported within the HCF, if their medical condition allows.
- Patients on oxygen therapy should be changed to nasal prongs and then wear a surgical mask for transport if medical condition allows.
- The HCW accompanying the patient is to wear a surgical mask and protective eyewear.
- The receiving department must be notified prior to transport.
- When ILI cases are transferred to a different HCF, the receiving facility must be notified prior to transport.

2.3 Visitors

- HCFs shall advise (signage) visitors not to visit if they have symptoms of an ILI.
- Visitors should be kept to a minimum.
- All visitors are to wear a surgical mask, protective eyewear and perform hand hygiene prior to entering and leaving the patient’s room.
3. Hand Hygiene

3.1 Patients and Visitors
- All patients and visitors shall be advised (signage) on the importance of performing hand hygiene.
- Alcohol-based hand rubs are to be made available for patients’ and visitors’ use.

3.2 Healthcare Workers
All HCWs shall perform hand hygiene in accordance with the ‘5 moments of hand hygiene’:
- before touching a patient
- before performing a procedure
- after performing a procedure or body fluid exposure risk
- after touching a patient
- after touching a patient’s surroundings.

In addition, the requirements for performing hand hygiene associated with donning and removing personal protective equipment (PPE) must be followed.

4. Personal Protective Equipment

HCWs are to wear PPE in accordance with Table 1 and don and remove PPE as per sequence outlined in Table 2 (also refer to appendix 1).

4.1 General
- PPE supplies are to be available outside the patient room
- HCWs must be diligent not to touch their eyes, nose, mouth or hair while wearing PPE. Loose hair must be tied back prior to donning PPE
- Gowns and gloves are required as per standard precautions when there is potential for exposure with blood / body fluids, including respiratory secretions.
- When gloves are worn, avoid touching and contaminating environmental surfaces e.g. light switches, door handles.

Table 1: Summary of PPE Requirements

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mask</th>
<th>Protective Eyewear</th>
<th>Gown*</th>
<th>Gloves</th>
</tr>
</thead>
<tbody>
<tr>
<td>No direct patient contact (&gt;1 metre from patient)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>On entering patient room or ward cohort</td>
<td>Surgical**</td>
<td>Yes</td>
<td>If required as per standard precautions</td>
<td></td>
</tr>
<tr>
<td>Performing respiratory sampling</td>
<td>Surgical**</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Aerosol generating procedures</td>
<td>P2 or N95</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

(* and plastic apron if fluid repellent gown not available; ** fluid repellent)
4.2 Masks
Masks used include surgical, fluid repellent surgical masks, P2 and N95 disposable respirators. Surgical masks are utilised to contain respiratory secretions of the wearer and are suitable for patients to wear. Fluid repellent surgical masks are used to protect the HCW from droplet contamination. P2 or N95 masks are utilised to protect the HCW when there is a risk of airborne transmission. This can occur following aerosol generating procedures when virus particles may remain suspended in the air for long periods (refer Section 18).

- Masks can be worn for more than one patient if cohorting, but must be changed when they become moist or soiled.
- Remove only by touching the ties / loops.
- When surgical masks are worn by HCWs they should be a fluid repellent surgical mask.
- A fit check must be performed after donning a P2 or N95 mask prior to entering the patient’s room and each time a new mask is put on. An effective seal will not be achieved when facial hair is present.
- If P2 or N95 masks are in limited supply, they should be prioritised for HCWs undertaking aerosol generating procedures.

4.3 Fit Checking / Fit Testing
- Fit Checking is the appropriate minimum standard for HCWs and must be performed each time they don a P2 or N95 mask to ensure there is no air leakage from around the mask.
- All HCFs must ensure HCWs receive education, in accordance with the manufacturers' advice, in relation to donning the P2 or N95 mask and the procedure to perform a fit check for each specific mask worn.
- Where a HCW fails a fit check after appropriate education and assessment, an alternative size or style of mask must be sourced.
- Fit Testing can be performed by HCFs with resources to perform this procedure, however, the HCW must be tested for each brand of mask that may be utilised.

4.4 Protective Eyewear
- Designated protective eyewear (combined mask/shield, visor or goggles) are to be utilised – personal prescription spectacles are inadequate.
- Eyewear is to be worn on entering a patient room or cohort ward.
- Eyewear is to be disposed of if designated single use, or removed and placed in a receptacle if for decontamination.

4.5 Gowns
- Long sleeved, fluid repellent, cuffed gowns are preferred. If these are not available, cloth gowns can be used with the addition of a plastic apron.
- Gowns are to be worn once and then placed in waste or laundry receptacle as appropriate.
- Gowns must be changed between each patient contact.
4.6 Gloves
- Gloves must not be used as a substitute for hand hygiene. Hand hygiene must always be performed after removal of gloves.
- Gloves must be changed between each patient contact.
- Non sterile disposable gloves are to be worn by all HCWs as per table 1 or when there is a risk of contact with blood / body fluids, mucous membranes or non-intact skin as per standard precautions.

Table 2: Sequence for Donning and Removing PPE

<table>
<thead>
<tr>
<th>Donning PPE</th>
<th>Removing PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene</td>
<td>Gloves - turn inside out by cuff - discard into general waste</td>
</tr>
<tr>
<td>Gown</td>
<td>Hand hygiene</td>
</tr>
<tr>
<td>Surgical Mask or if P2 or N95 perform fit check</td>
<td>Protective eyewear</td>
</tr>
<tr>
<td>Protective eyewear</td>
<td>Gown - turning inside itself – dispose directly into waste or laundry skip</td>
</tr>
<tr>
<td>Recheck mask</td>
<td>Hand hygiene</td>
</tr>
<tr>
<td>Gloves</td>
<td>Mask - handle loops / ties only - discard directly into general waste</td>
</tr>
<tr>
<td></td>
<td>Hand hygiene</td>
</tr>
</tbody>
</table>

5. Aerosol Generating Procedure (AGP)
Aerosol generating procedures are those that stimulate coughing and promote the generation of fine airborne viral particles (aerosols) resulting in the risk of airborne transmission. Procedures include diagnostic sputum induction, airway suctioning or opening a ventilator circuit, bronchoscopy, endotracheal intubation and mechanical ventilation. Limit the performance of AGPs on ILI cases unless medically indicated.

- Perform AGPs in a negative pressure isolation room if available, alternatively, use a single room with the door closed if possible.
- Limit the number of HCWs in the room when AGPs are performed.
- Anyone who enters the room must wear full PPE as per Table 1.
- Nebulisers are not recommended for use and should be replaced by dedicated single patient use spacers.
6. **Patient Care Equipment**

Disposable, single-use patient care equipment should be used when possible and disposed of into appropriate waste streams after use.

- Dedicate non-critical items to the patient’s room for the sole use of the patient for the duration of their admission eg stethoscope, tourniquet.
- Minimal stocks of non-critical disposable items eg dressings, gloves, kidney dishes, are to be stored in the room. On patient discharge, these items are to be discarded.
- Patient charts should be left outside the patient room.
- Equipment that is designated reusable and required for use on other patients must be cleaned and disinfected prior to leaving the room. Items can be wiped over with warm water and detergent, or detergent based wipes followed by disinfection. Items that require further reprocessing can be processed as per standard procedures.
- Impregnated disinfectant wipes, as per HCF policy, may be used for specialised medical equipment such as X-ray equipment, ECG, ultrasound machines. The manufacturers’ recommendations for compatible products must be followed.
- Intensive care units must ensure mechanical ventilation equipment is protected with viral filters and inline suction systems utilised.

7. **Environmental Cleaning**

PPE must be worn by staff performing cleaning as per Table 3.

**Table 3 PPE Requirements for Cleaning**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Mask</th>
<th>Gown*</th>
<th>Protective Eyewear</th>
<th>Gloves</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Daily Clean (patient in or out of room)</strong></td>
<td>Surgical</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Terminal Clean</strong></td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>May be required for specific products - refer MSDS</td>
</tr>
</tbody>
</table>

(* and plastic apron if fluid repellent gown not available)

7.1 **Cleaning Regimens**

Cleaning regimens must ensure all items in the room are cleaned both on a daily basis and on patient discharge (terminal cleaning).

- Cleaning regimens must include all horizontal surfaces and any walls that are visibly contaminated and frequently touched items such as door handles, bed rails, IV poles, bedside lockers, over-bed table, hand basin fittings, call bell, telephone, TV remote, monitors and cables.
- Damp dusting procedures are to be utilised. Vacuums, if utilised, must be fitted with a HEPA filter.
- The HCF may choose to increase cleaning frequency (e.g. twice daily), to reduce environmental contamination, especially in shared and public areas and for frequently touched items.
7.2 Daily Cleaning
- The room and patient care equipment is to be cleaned with a neutral detergent solution.
- Disposable cleaning cloths are to be used and discarded after each use.
- Re-useable mop heads can be used if bagged and sent for laundering at the completion of each use. Alternatively, disposable mop heads with a detachable metal handle may be used.
- All cleaning equipment is to be cleaned and stored dry.

7.3 Terminal Cleaning
- The room and patient care equipment is to be cleaned with a neutral detergent solution followed by a virucidal disinfectant as determined by the HCF policy.
- Each HCF is responsible for ensuring documentation is readily available on the specific product to be used, how it is used and that material safety data sheets (MSDS) are accessible.
- The room can be used immediately following cleaning once surfaces are dry.
- Patient bed screens (and window curtains, if fitted) are to be sent for laundering / dry cleaning.

7.4 Use of Disinfectants
- All solutions need to be prepared and used in accordance with the manufacturers' instructions.
- As disinfectants are inactivated by organic material, cleaning with a neutral detergent solution prior to disinfection is required if visible soiling is evident.

8. Laboratory Specimens
- Standard precautions apply for handling and transport of specimens.

9. Disposal of Waste
- Standard precautions apply.
- Waste shall be bagged and tied prior to exiting patient room.
- The HCFs guidelines for classification and disposal of general, clinical and sharps waste are to be followed.

10. Crockery and Cutlery
- Standard precautions apply.
- The combination of hot water and detergents used in automatic dishwashers is sufficient to decontaminate these items.

11. Linen and Laundry
- Standard precautions apply.
- Laundry practice is to conform to Australian Standard AS 4146.
- Soiled linen shall be bagged and tied prior to exiting patient room.
- Stockpiling supplies of linen in the patient rooms is not to occur and any unused linen is not to be returned to general use.
12. Duration of Precautions
   - Precautions should continue until the fever has resolved and 3 days of anti-influenza therapy has been received, or for 7 days since the onset of respiratory symptoms if anti-influenza therapy is not used.

13. Patient Discharge
   - If the patient is discharged while still infectious, ensure family members are instructed on appropriate infection prevention and control in the home.

14. Care of the Deceased
   - Standard Precautions apply.
   - HCWs should wear gown, gloves, mask and eyewear as described in Table 1.
   - Mortuary HCWs are to follow routine institutional guidelines for management of the deceased.

15. Occupational Health and Safety
   All HCFs should strongly encourage HCWs to receive annual vaccination for seasonal influenza, particularly those with pre-disposing medical conditions which may place them at higher risk of complications from influenza infection.
   - All HCWs need to be aware of the importance of monitoring their own health and be alert for symptoms of ILI.
   - HCWs who have received influenza vaccination are still required to follow these guidelines as vaccination does not provide 100% protection.
   - HCWs who develop an ILI shall:
     - exclude themselves from the workplace
     - report the illness to their supervisor
     - and be medically assessed for influenza.
   - If influenza is diagnosed on clinical grounds and the HCW is from an area with critical staffing levels or worked while infectious with vulnerable patients (refer section 17), respiratory sampling should be obtained for priority testing.
   - In areas of critical staffing levels the HCW should receive anti-influenza therapy to allow them an earlier return to work.
   - The HCW should be excluded from the workplace until fever has resolved and 3 days of anti-influenza therapy has been received or for 7 days since the onset of respiratory symptoms if anti-influenza therapy is not used.

16. HCWs at increased risk of infection
   - All HCWs engaged in direct patient care should ensure strict adherence to infection prevention and control guidelines for all patients, regardless of their known infection status.
   - HCWs who are at increased risk of complications from influenza and who are likely to be in direct contact with ILI patients, should be offered vaccination and, if they refuse, considered for redeployment to lower risk environments.
   - If redeployment is not possible, the HCW at increased risk of complications from influenza should use appropriated PPE, maintain a distance of >1 metre from suspected/confirmed cases and shall not participate in aerosol generating procedures or collection of nose/throat specimens.
17. **Vulnerable patient groups**

The following groups are believed to be at increased risk of severe influenza infection and also secondary complications of influenza infection:

- individuals with chronic respiratory conditions including asthma, chronic obstructive pulmonary disease (COPD)
- persons with morbid obesity
- indigenous people of any age
- pregnant women
- persons with chronic illness such as:
  - cardiac disease, excluding simple hypertension
  - diabetes mellitus
  - chronic renal disease
  - haemoglobinopathies
  - immunosuppression, including that caused by cancers, medications or by HIV/AIDS infection
  - chronic neurological conditions.

18. **P2 and N95 Disposable Respirators**

- P2 respirators are those that comply with the *Australian Standard AS/NZS 1716: Selection, use and maintenance of respiratory protective devices* with morbid obesity.
- N95 respirators are those that comply with the *United States National Institute for Occupational Safety and Health (NIOSH) 42 CFR part 84*, which is a less stringent standard.
Bibliography


Appendix 1: Donning and Removing Personal Protective Equipment

Safe Use of Personal Protective Equipment (PPE)

**Putting on PPE**
For maximum personal and patient protection it is essential that PPE is put on in the following sequence:

1. Hand washing or alcohol rub
2. Gown
3. P2 or N95 respirator mask
4. Fit check
5. Protective eyewear, re-fit check mask
6. Gloves, pull over cuffs of the gown
7. STOP. Check everything is in place

**Removing PPE**
To reduce the risk of self contamination PPE should be carefully removed in the following sequence:

1. Gloves
2. Hand hygiene
3. Protective eyewear
4. Gown
5. Hand hygiene
6. Mask
7. Hand washing or alcohol rub
This information is available in alternative formats upon request from a person with a disability.