

Pandemic Influenza & Respiratory Protection in the Workplace

Introduction

This document provides general guidance to WA government agencies and businesses on what actions might be taken to minimise transmission of pandemic influenza in the workplace. Employers and employees are encouraged to undertake a risk analysis to identify how pandemic influenza might be spread in the workplace and to determine what preventive measures could be instituted to minimise this risk.

Resources to assist in this exercise include:

- Resources for Businesses & Communities
<http://www.health.gov.au/internet/panflu/publishing.nsf/Content/plans-resources-bus-comm-1>
- Preparing for a human influenza pandemic, Fact Sheet 3: Planning in the workplace
<http://www.ossec.dpc.wa.gov.au/index.cfm?event=humanInfluenzaPandemicPlanning>

(It is important to note that these guidelines do not apply to health care settings, reference to health care settings is used to illustrate situations where high-risk exposure may occur).

What is pandemic influenza?

An influenza pandemic occurs when a new influenza virus emerges against which humans have little or no immunity. Because of the lack of immunity, the virus is able to spread easily from person-to-person worldwide.

What are the signs & symptoms of influenza?

Illness develops 2-3 days after being infected with the virus. Symptoms include fever (temperature over 38⁰C), chills, headache, muscle aches and joint pains, sore throat, stuffy or runny nose, sneezing, dry cough, tiredness and difficulty breathing. In some people, complications can cause pneumonia and death. A person is infectious 24 hours before signs and symptoms of illness appear until approximately 5 days after. Infants and children may remain infectious for two to three weeks.

How is influenza spread?

• Droplet transmission

When a person with influenza coughs and sneezes, large virus containing droplets are propelled into the air to a distance of less than one metre where they may be deposited into the eyes, nose and mouth of another person or onto a surface such as a desk.

• Contact transmission

The virus can be transmitted between individuals either *directly*, through direct skin-to-skin contact such as shaking hands with an infected person and then touching the eyes, nose, or mouth or *indirectly*, by touching a contaminated object or surface such as a table, door knob, telephone, or computer keyboard and then touching the eyes, nose, or mouth.

Contact transmission is important because the influenza virus has been shown to survive on unwashed hands for up to 30 minutes, on cloth, paper and tissue for up to 12 hours, on hard non-porous surfaces for up to 48 hours and on surfaces contaminated with faeces for up to 5 days. Contact transmission is thought to be the principal route by which influenza is spread within the community.

- **Airborne transmission**

Airborne transmission occurs when small aerosolised virus particles, which are generated from medical procedures involving the respiratory tract, are breathed in. As the distance from the person coughing or sneezing increases, the risk of infection from airborne exposure is reduced, but can still be of concern in small, enclosed areas, especially if the room is poorly ventilated. There is little evidence of airborne transmission over long distances or prolonged periods of time³.

Occupational exposure to pandemic influenza

The term *occupational exposure* refers to exposure to potentially bio-hazardous material that may result from the performance of a worker's duties. It does not include exposures in other settings such as at home or during social activities⁵.

The risk of occupational exposure to influenza will vary depending on the kinds of activities the worker performs and the relationship of those activities to sources of infection. For example, health care workers who come into close contact (typically about 1 metre) with symptomatic patients during the course of their work face a much higher risk of exposure to the virus than someone performing maintenance in an area where no influenza cases are present.

Low, moderate and high risk occupational exposure categories

To assist employers assess level of potential risk, occupational exposure to pandemic influenza is divided into *low, moderate and high risk exposure* categories. The greater majority of workplaces will fall within low to moderate exposure risk categories.

- **Low exposure** occupations include workers who typically have no contact with pandemic influenza-infected persons and who are able to maintain 1 metre distance from people who could potentially have pandemic influenza.
- **Moderate exposure** occupations include workers who routinely deal with the public, where the workplace is relatively large and well ventilated but, due to the nature of their work, may encounter situations where it is difficult to maintain the 1 metre distance rule and where measures to minimise contact between employees and the public cannot be deployed e.g. use of glass screens/ sneeze guards. Such occupations may include supermarket check-out cashiers, receptionists and sales persons. It also includes employees with high-frequency contact with the general population e.g. working with pre-school and school aged children & those who work in high population density work environments such as on public transport during peak travel periods.
- **High exposure** occupations include health care workers exposed to high concentrations of known or suspected sources of pandemic influenza e.g. health care workers providing direct patient care to someone with influenza, some dental procedures, or invasive specimen collection.

Basic principles for preventing the spread of influenza

All workers are advised to adopt the following infection control measures to prevent the spread of influenza.

Stay at home if sick

Strive towards maintaining a healthy workforce. Staff should either stay at home or go home if unwell with an influenza-like-illness (see Staff influenza notice).

DO NOT COME TO WORK IF YOU HAVE

- Chills, shivering & a fever (temperature $>38^{\circ}\text{C}$)
- Muscle aches and joint pains
- Sore throat
- Stuffy or runny nose
- Sneezing
- Dry cough
- Tiredness
- Difficulty breathing

Wash your hands frequently

Hand-to-face contact, as occurs during eating, grooming or smoking, presents a very high risk of infection because of the potential for the influenza virus to be transmitted from hands contaminated with respiratory secretions to the eyes, mouth and nose.

Always wash and dry hands before any activity that involves hand-to-face contact and immediately after communal items are touched:

- Wash hands with soap and warm water for 15 to 20 seconds then dry them thoroughly, preferably with a disposable hand towel
- An alcohol-based hand rub used for 15 to 20 seconds is a good alternative when hands are not visibly soiled.

Practice cough and sneeze etiquette

- Avoid close contact with other people if you are coughing or sneezing
- Cover your nose and mouth with a disposable tissue when coughing and sneezing; dispose of tissues immediately after use and, wash your hands or use alcohol solution after you cough, sneeze or blow your nose

Avoid contact with others

- Maintain the 1 metre distance rule between everyone at work
- Avoid crowded places and large gatherings
- Avoid going out in public when you are sick

Keep your work space clean

- Clean surfaces such as tables, benches, door handles and fridge doors on a regular basis with freshly prepared detergent and water or with a cleaning product tabled below
- Avoid dispersal of dust particles by damp dusting rather than dry dusting
- Cleaning staff involved in cleaning public areas should perform hand hygiene as described above, after contact with communal objects/surfaces including the emptying of rubbish bins

Table 1 Workplace cleaning products

Disinfectants	Recommended use	Precautions
<p>Sodium hypochlorite: If there is the possibility of the virus remaining after cleaning use Sodium hypochlorite 1000 parts per million of available chlorine, usually achieved by a 1 in 50 dilution of 5% liquid bleach</p>	Disinfection of material contaminated with blood and body fluids	<ul style="list-style-type: none"> • Ensure area is well ventilated • Protective clothing should be worn when handling undiluted bleach • Do not mix with strong acids to avoid release of chlorine gas • Corrosive to metals
<p>Granular chlorine: Dilute Det-Sol 5000 or Diver sol as per manufacturer's instructions</p>	May be used in place of liquid bleach if this is unavailable	As above
<p>Alcohol: Isopropyl 70%, ethyl alcohol 60%</p>	Smooth metal surfaces, tabletops and other surfaces on which bleach cannot be used	<ul style="list-style-type: none"> • Flammable, toxic, to be used in well-ventilated area, avoid inhalation • Keep away from heat sources, electrical equipment, flames, hot surfaces • Allow it to dry completely

Source: *Interim Infection Control Guidelines for Pandemic Influenza in Healthcare & Community Settings 2006*

How organisations can protect their employees

Keep informed of current developments

Monitor communications about pandemic influenza and ensure employees have access to this information. Regularly review the following websites:

- WA Government pandemic influenza website: www.pandemicflu.wa.gov.au
- Commonwealth Department of Health & Ageing: <http://www.health.gov.au/pandemic>

The above agencies will release information on a regular basis during alert and response phases of the pandemic.

Promote the adoption of good infection control practices

- Follow the basic principles for preventing the spread of influenza:
 - stay at home if sick
 - practice hand hygiene and cough etiquette
 - keep the work environment clean
 - avoid contact with others
- Promote annual seasonal influenza vaccination among employees
- Where possible, discourage employees from using other employees' phones, desks, and equipment. Adopt a 'cleared desk' policy to enhance cleaning of work surfaces; office equipment and other frequently touched objects
- Provide resources and a work environment that promotes personal hygiene e.g. tissues, no-touch rubbish bins, soap, alcohol hand rub, disinfectants and disposable towels. Ensure employees know where these supplies are located
- During the pandemic, institute a system whereby staff check for signs and symptoms of influenza before attending work and if unwell to phone through to a designated person (see *Staff Influenza Notice*). If a staff member becomes unwell at work, he/she should be sent home immediately and advised not to return to work until recovered.

Institute social distancing measures

- Minimise situations, such as meetings where groups of people are crowded together
- Consider alternative channels of communication to minimise face-to-face contact between employees e.g. e-mail, telephone, text messaging, websites and teleconferencing
- Discontinue all unessential travel to locations where pandemic influenza is present
- Where possible, institute flexible work arrangements such as telecommuting or flexible work hours to reduce the number of employees present at work at one time or in one specific location
- Provide a barrier to transmission by installing screens and/or sneeze guards between customers and employees. Note transmission may still occur between co-workers
- Limit access to your workplace by customers and the general public, or ensure that they can only enter certain areas of your workplace.

Ensure building are adequately ventilated

Check to ensure that windows can be opened and/or air conditioning systems are properly maintained. The main advantage of air conditioning is that it has a dilution effect on stale/contaminated air and also provides a more comfortable environment overall⁸.

Use of personal protective equipment (PPE)

The recommended use of personal protective measures by occupational groups is tabled below. During a pandemic recommended use of personal protective equipment (disposable gloves, goggles, surgical masks and respirators) by particular occupational groups may change, depending on geographic proximity to people with pandemic influenza, updated risk assessments for particular employees, and information on PPE effectiveness in preventing the spread of influenza. Updated information and recommendations about PPE use will be publicised through the media, on the WA Government website www.pandemicflu.wa.gov.au and other official information channels.

Should masks be worn at work?

The wearing of face masks by workers early in the pandemic is not recommended. Once widespread infection is occurring in the community, the State Human Epidemic Controller may recommend to industry groups that surgical masks are provided to workers considered at *moderate risk* of exposure if at least 1 metre distance from the public cannot be maintained or measures instituted to minimise contact between staff and the public e.g. through the use glass barriers /sneeze guards.

If worn correctly, surgical masks made from or coated with fluid repellent materials will provide a physical barrier and some degree of protection against body fluids and particulate matter generated from any splash and splatter. Surgical masks do not provide full respiratory protection against smaller suspended droplets and aerosols.

While surgical masks may provide some measure of protection it is important that masks are used correctly and that close attention is paid to performing hand hygiene and cough etiquette to prevent the user contaminating him or her self. Refer to *How to fit and remove a surgical mask*.

DOs & DON'Ts of Using a Mask

<p>Dos</p> <ul style="list-style-type: none">• Always perform hand hygiene immediately before putting on and taking off a mask:<ul style="list-style-type: none">- if hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap and water- in the absence of visible soiling, alcohol-based products (gels, rinses, foams) for hand disinfection may be used• Masks should fit snugly around the face• Masks should only be worn once• Masks should be changed when they become moist or wet
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- After removal, masks should be safely disposed of by placing directly into a rubbish bin

DON'Ts

- Avoid touching the face - masks should not be touched or handled during use
- Masks must not be hung around the neck or re-used
- Masks become inefficient when moist and must be changed regularly
- Failure to perform hand hygiene, especially after removal may increase risk of self-contamination

Respirator or P2 /N95 particulate filter masks, which provide both a physical barrier and a level of protective filtration against micro-organisms, airborne particulate materials and blood and body fluids, are indicated for use during *high-risk* exposures. These masks should be fit-tested, in advance, to ensure that a correct fit can be achieved by the wearer (Refer to table 2).

Whose responsibility is it to provide masks and other personal protective equipment?

Responsibility for providing masks for workers in general rests with the employer. It should be noted that appropriate PPE will be issued to public sector agency staff deployed to work on Health Department pandemic influenza related activities.

Such groups include:

- International border control—a quantity of PPE from the National Medical Stockpile (NMS) will be allocated to officers from the Australian Quarantine and Inspection Service, Australian Customs Service, Department of Immigration and Citizenship, and the Australian Federal Police working at the designated international airports and who will be in close contact with passengers from high-risk areas.
- Emergency workers—when there is widespread community transmission, appropriate PPE from the NMS may be issued to emergency workers such as police and fire brigade who encounter infectious people as part of their work. This would be a whole of government decision based on health advice.

Use of the national stockpile of antiviral medication

Antiviral medication used in the treatment of seasonal influenza has been shown to reduce the length and severity of illness and period of infectiousness, if commenced early. However, there is no conclusive evidence showing that antiviral treatment of influenza cases saves lives⁶.

Pre-exposure antiviral prophylaxis

Pre-exposure antiviral prophylaxis is when antiviral medication is taken before exposure to potentially infectious cases. The decision to dispense pre-exposure antivirals to workers in non-healthcare settings will be made by the State Human Epidemic Controller on a case-by-case basis.

Treatment

Antiviral medication will be used to treat persons infected with influenza in accordance with *Interim National Pandemic Influenza Clinical Guidelines*⁷. Treatment should commence within 48 hours of becoming unwell with an influenza-like-illness. Antiviral treatment will be used in conjunction with isolating the infected person either at home or in hospital for a minimum of 7 days.

Post-exposure antiviral prophylaxis

Post-exposure antiviral prophylaxis is given to reduce the risk of illness developing in someone who has been exposed to the influenza virus. To be effective, the contact needs to commence a course of antiviral medication within 48 hours of last having been in contact with an infected person but no later than 7 days. The contact will also be placed under voluntary home quarantine for 7 days and monitored for the development of influenza.

Table 2: Personal protective measures for pandemic influenza

Level of Risk		Occupational groups	Hand hygiene	Social distance	Cough etiquette	Adequate ventilation	Gloves	Surgical masks	Respirator P2/N95	Gown/apron	Eye protection
Low	Workers who typically have no contact with pandemic influenza-infected persons & who are able to maintain 1 metre distance from people with potential pandemic influenza	Workers in production facilities, administrative clerical areas, most emergency service groups, utility service workers & telecommunication & IT service providers	YES	YES	YES	YES	NO	NO	NO	NO	NO
Moderate	Workers who routinely deal with the public, who may be exposed to infected persons from time to time, but where typically the contact is of a short duration and the workspace is relatively large and well ventilated and, who may be unable to maintain at least 1 metre distance from people or institute measures to minimise contact e.g. glass barrier/ sneeze guards	Cashiers, tellers, receptionists, sales persons; people in regular contact with school children; employees working in high population density work environments e.g. public transport during peak periods; police officers in contact with the public & correctional service staff in direct contact with prisoners	YES	YES	YES	YES	NO	1*	NO	NO	NO
High	Health care workers who may have contact with infected patients, handle laboratory specimens or have contact with infected persons in small, poorly ventilated workspaces	Dentists, laboratory staff, health workers treating pandemic influenza patients, ambulance officers transporting suspected cases and fever clinic staff	YES	YES	YES	YES	YES	-	YES	YES	YES

1* Once widespread infection is occurring in the community, the State Human Epidemic Controller may recommend to industry groups that face masks are provided to workers considered at moderate risk of exposure if at least 1 metre distance from the public cannot be maintained or measures instituted to minimise contact between staff and the public e.g. through the use glass barriers /sneeze guards.

STAFF INFLUENZA NOTICE

Influenza is a contagious disease. To help reduce the spread of influenza in this workplace, the following actions are required of everybody.

DO NOT COME TO WORK IF YOU HAVE

- chills, shivering and a fever (temperature $>38^{\circ}\text{C}$)
- muscle aches and pains
- sore throat
- dry cough
- trouble breathing
- sneezing
- stuffy or runny nose
- extreme tiredness

If some of the above symptoms apply to you, please stay home, seek medical advice and wait until you have recovered before returning to work.

If you start to feel ill at work with the above symptoms advise your Influenza Manager (see below) and keep at least one metre away from others.

If you have recently arrived or returned from overseas, you may be at risk from influenza, and you should advise your Influenza Manager of your recent travel.

Call your Influenza Manager _____

Phone _____



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How to wash and dry hands with soap and water

- Remove jewellery and cover abrasions
- Wet hands with warm water, then apply soap or liquid soap
- Lather for 15–20 seconds
- Rinse hands under running water
- Dry hands with clean towel

During the lather, pay particular attention to the backs of hands and fingers, fingernails, fingertips and the webbing between fingers.

Hand hygiene is crucial in reducing transmission of infections. It includes both handwashing with plain or antimicrobial soap and water, and use of alcohol-based products (gels, rinses, foams) containing an alcohol that do not require the use of water.

If hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap (with or non-antimicrobial or antimicrobial) and water.

In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection may be used. Ensure you have facilities for hand washing (i.e. sink with warm and cold running water, plain or antimicrobial soap) and disposable paper or towel for hand disinfection (i.e. alcohol-based products) readily accessible.



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Department of Health and Ageing

How to clean hands using an alcohol-based liquid or hand rub



- Remove jewellery and cover abrasions



- Use water or a wet wipe to remove visible soiling



- Dispense product into dry hands



- Rub all surfaces of hands for one minute

When rubbing, pay particular attention to the backs of hands and fingers, fingernails, fingertips and the webbing between fingers.



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How to fit and remove a surgical mask

Fitting a surgical mask



- Position mask over mouth and nose



- Fasten ties or tapes above and below ears at back of head

Removing and disposing of mask



- With clean hands, untie or break ties at back of head



- Remove mask by only handling at the ties, then discard in appropriate waste



- Wash hands

When worn by a sick person, surgical masks limit the spread of droplets produced through talking, coughing or sneezing



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PANDEMIC INFLUENZA RESOURCES

Resources for Businesses & Communities

<http://www.health.gov.au/internet/panflu/publishing.nsf/Content/plans-resources-bus-comm-1>

Preparing for a human influenza pandemic, Fact Sheet 3: Planning in the workplace

<http://www.ossec.dpc.wa.gov.au/index.cfm?event=humanInfluenzaPandemicPlanning>

Interim Infection Control Guidelines for Pandemic Influenza in Healthcare and Community Settings

<http://www.health.gov.au/internet/panflu/publishing.nsf/Content/interim-infection-control-guidelines-1>

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