



Government of **Western Australia**  
Department of **Health**

**Communicable Disease Control Directorate Guideline**

# Acute Respiratory Infections

## Infection Prevention and Control in Western Australian Healthcare Facilities

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# 1. Abbreviations and definitions

	Definition
<b>ARI</b>	<b>Acute respiratory infection</b> A recent onset of new or worsening acute respiratory symptoms, such as cough, breathing difficulty, sore throat, or rhinorrhoea/nasal congestion, with or without other symptoms.
<b>Adenovirus</b>	A group of viruses in the family <i>Adenoviridae</i> that can cause illness in people at any time of the year. While adenovirus infections are most common among children under the age of 5 years, infections can also occur in adults. These viruses are known for causing a variety of infections, primarily affecting the respiratory system, eyes (conjunctiva), and gastrointestinal tract.
<b>Aerosols</b>	Microscopic particles and respiratory droplets that are produced when a person coughs, sneezes, shouts or sings. These particles can remain suspended in the air for prolonged periods of time and can be carried on normal air currents within a room or beyond to adjacent spaces or areas.
<b>Aerosol generating behaviours</b>	Behaviours that are likely to generate higher volumes of respiratory secretions and increase the risk of transmission via aerosols. Examples include persistent and/or severe coughing, screaming and shouting, women in active labour who exhibit heavy breathing and panting.
<b>Aerosol generating procedures</b>	Procedures that promote the generation of fine airborne particles that may result in the risk of airborne transmission of disease. A list of aerosol generating procedures is provided in the <a href="#">Respiratory Protection Guidelines for Western Australian Healthcare Facilities</a> .
<b>Airborne precautions</b>	Practices used to prevent the transmission of pathogens spread by the airborne route. Airborne precautions require the use of a particulate filter respirator and protective eyewear and are worn in addition to any other personal protective equipment required as per standard precautions. The patient is accommodated in a negative pressure isolation room where possible. Airborne precautions are used in addition to standard precautions.
<b>Asymptomatic</b>	Absence of any symptoms of acute respiratory infection.
<b>Avian influenza</b>	A zoonotic influenza A virus that normally spreads in birds but can also infect mammals including humans and are subtyped by the antigenicity of their haemagglutinin (H) and

	Definition
	neuraminidase (N) surface proteins. Five avian influenza subtypes (H5, H6, H7, H9 and H10 viruses) are known to rarely cause infections in humans, with H5, H7 and H9 the most frequently identified.
<b>Close contact</b>	Although contact management is not routinely undertaken for all acute respiratory infections, it may be recommended or considered in healthcare and other high-risk settings and/or during outbreaks. Some pathogens such as pertussis or COVID-19 may have additional recommendations for close, high-risk or household-like contacts – where available, the relevant Communicable Diseases Network Australia <a href="#">Series of National Guidelines</a> should be accessed for further information and contact definitions.
<b>Cohorting</b>	The grouping of individuals with the same condition and or same laboratory confirmed organisms in the same location e.g. room, ward section, ward or building.
<b>Contact precautions</b>	A set of infection prevention practices used to prevent transmission of infectious agents through direct or indirect contact with the patient or their environment which cannot be reliably contained by standard precautions alone. Contact precautions include consideration for the use of disposable non-sterile gloves, an apron or fluid resistant long sleeved gown or other PPE, depending on a risk assessment for the degree of anticipated exposure to blood and / or bodily fluids.
<b>CDNA</b>	<b>Communicable Diseases Network Australia</b> Provides national public health advice for the prevention and control of communicable diseases, including through the <a href="#">Series of National Guidelines (SoNGs)</a> .
<b>COVID-19</b>	The name of the disease caused by the virus SARS-CoV-2.
<b>Droplet precautions</b>	A set of infection prevention practices used for patients suspected or known to be infected with agents transmitted primarily by larger respiratory droplets that do not remain suspended in the air and generally only travel short distances (i.e. require close contact). Droplet precautions include the use of a mask and protective eyewear and other personal protective equipment as required for standard precautions.
<b>Fit check</b>	The minimum standard at the point of use for HCWs to ensure a particulate filter respirator is properly applied, that a good seal is achieved over the bridge of the nose and mouth and there are no gaps between the face and respirator. No clinical activity must be undertaken until a satisfactory fit

	Definition
	check has been achieved each time a particulate filter respirator is put on. Also known as a user seal check.
<b>Fit test</b>	A validated method to determine whether the type of respirator being worn provides an adequate seal with a person's face. This quantitative testing is performed while a person is wearing a particulate filter respirator attached to a testing unit and performs several physical movements and talking exercises.
<b>HCF</b>	<b>Healthcare facility</b> Includes all public hospitals and contracted health entities, nursing posts, satellite dialysis centres, child and mental health services The guidance provided in this document may also be adopted by private hospitals, and the same principles, where appropriate, applied in residential and primary care settings.
<b>HCWs</b>	<b>Healthcare workers</b> Any person whose activities involve the provision of direct or indirect care to patients in a healthcare or laboratory setting, and includes those who are employed, honorary, contracted, on student placement or volunteering at the facility. The term is generally applied to all persons working in a healthcare facility.
<b>HEPA filter</b>	<b>High-efficiency particulate air filter</b> A type of air filter designed to remove at least 99.97% of airborne particles $\geq 0.3$ microns in diameter.
<b>Human metapneumovirus</b>	Viruses that are part of the <i>Paramyxoviridae</i> family and can cause upper and lower respiratory disease in people of all ages, especially young children, older adults and people with weakened immune systems.
<b>Influenza</b>	An acute respiratory infection generally caused by influenza A and/or B viruses which circulate globally causing seasonal epidemics. Symptoms typically include fever, chills, muscle aches, cough, congestion, runny nose, headaches, and fatigue. Influenza C virus is detected less frequently and usually causes mild infections.
<b>Incubation period</b>	The time between exposure to an infectious agent and development of disease. It can take days or weeks for an infection with a virus or bacterium to cause an obvious illness.
<b>IPC</b>	<b>Infection prevention and control</b>

	Definition
	The policies, procedures and practices used in healthcare settings to prevent the spread of infections to patients, healthcare workers and visitors.
<b>MERS-CoV</b>	<p><b>Middle East respiratory syndrome coronavirus</b></p> <p>A zoonotic coronavirus which can be transmitted to humans via exposure to infected camels and raw camel products in the Middle East. Person-to-person transmission can also occur, particularly in healthcare settings and within households. Clinical presentation ranges from asymptomatic infection to acute upper respiratory illness, pneumonia or pneumonitis. It can be severe, with a fatality rate of around 39%.</p>
<b>mRAT</b>	<p><b>Multiplex rapid antigen test</b></p> <p>A point of care test on nasal specimens that detect protein antigens from viruses that cause respiratory disease (e.g. COVID-19, influenza A, influenza B and respiratory syncytial virus).</p>
<b>NPIR</b>	<p><b>Negative pressure isolation room</b></p> <p>Is a single room with an ensuite and an anteroom, that is not shared and is used for patients who require isolation to reduce airborne transmission of disease e.g., varicella, measles or pulmonary tuberculosis. The air handling system operates at a lower pressure with respect to adjacent areas such as the anteroom and corridor and should provide at least twelve air changes per hour. Air in negative pressure rooms will be exhausted to the outside in accordance with AS 1668.2 or ASHRAE 170:2021 to prevent air recirculation. <a href="#">Refer to the Australasian Health Facility Guidelines – Part D.</a></p>
<b>Outbreak</b>	A greater number of cases than what is normally expected in a given population. In closed populations, such as a healthcare or residential care facility, health authorities may define an outbreak as two or more linked cases in a given time period.
<b>Parainfluenza viruses</b>	Viruses that are part of the <i>Paramyxoviridae</i> family and cause respiratory infections like colds, croup, bronchiolitis, bronchitis and pneumonia. They primarily affect infants, young children and those with weakened immune systems. Symptoms include fever, runny nose, cough, sneezing and sore throat.
<b>PCR</b>	<b>Polymerase chain reaction</b>

	Definition
	A laboratory technique used to rapidly amplify and detect small amounts of genetic material, enabling the identification of infectious agents with high sensitivity and specificity.
<b>PFRs</b>	<b>Particulate filter respirators</b> In WA these include the P2 or N95 respirators that filter at least 94% of 0.3 micron particles from the air. Both types of PFRs are appropriate for use with airborne precautions.
<b>PPE</b>	<b>Personal protective equipment</b> In this document refers to equipment worn by healthcare workers to protect themselves and minimise exposure to biological hazards by interrupting transmission pathways of pathogens.
<b>Pertussis</b>	A highly contagious respiratory disease caused by the <i>Bordetella pertussis</i> bacterium. Transmission mainly occurs via inhalation or direct deposition onto mucous membranes of large respiratory droplets exhaled or expelled from an infectious individual during coughing or sneezing. The typical clinical presentation includes an initial catarrhal phase characterised by rhinorrhoea, sneezing, absent or low-grade fever, and a mild occasional cough. The cough gradually becomes paroxysmal, and may end in vomiting, cyanosis and/or a characteristic high-pitched inspiratory 'whoop'. Infants are less likely to have an inspiratory whoop and a significant catarrhal stage and are more likely to present with gagging, gasping, cyanosis, apnoea or non-specific signs such as poor feeding or seizures.
<b>PAPR</b>	<b>Powered air purifying respirators</b> A respirator that uses a power source to force ambient air through a high efficiency particulate air filter prior to inhalation. PAPRs are an alternative to particulate filter respirators for the care of patients requiring airborne precautions and should only be used by those who are trained and deemed competent in their use.
<b>RSV</b>	<b>Respiratory syncytial virus</b> A virus that belongs to the <i>Pneumoviridae</i> family and causes upper and lower respiratory tract infection. Infants, especially those under 6 months of age, are at highest risk of severe RSV disease and death. RSV can also cause severe disease among elderly people and those with underlying illnesses.
<b>RAT</b>	<b>Rapid antigen test</b> Testing method which detects the presence of specific proteins of the virus. They are most accurate when used to

	Definition
	test symptomatic individuals and can be used unsupervised with self-collected specimens. These tests generally have lower sensitivity and specificity when compared to PCR tests at detecting the virus.
<b>Respirator</b>	Equipment that is designed to prevent the inhalation of hazardous or infectious material. The most common devices in WA public hospitals are particulate filter respirators, powered air purifying respirators and elastomeric respirators. The term is identical to respiratory protective equipment and respiratory protective device used in other jurisdictions.
<b>Respiratory hygiene</b>	The practice of covering the mouth and nose during coughing or sneezing (using a mask, tissues, a sleeve or flexed elbow), followed by hand hygiene, to reduce the dispersal of respiratory secretions that may contain infectious particles.
<b>Residential aged care home</b>	Registered facilities that provide 24-hour non-acute personal and/or nursing care, primarily to people who are aged and/or not able to live independently. This includes nursing homes, transitional care placement, hostels and hospices.
<b>Rhinovirus</b>	A virus that is one of the most frequent causes for the common cold that usually causes very mild cold or flu-like symptoms.
<b>Standard precautions</b>	Standard precautions are the work practices required to achieve a basic level of infection prevention and control. The use of standard precautions aims to minimise, and where possible, eliminate the risk of transmission of infection.
<b>SARS-CoV-2</b>	<b>Severe acute respiratory syndrome coronavirus 2</b> The infectious agent that causes COVID-19 disease, and the ninth coronavirus documented to affect humans. SARS-CoV-2 is most commonly transmitted person-to-person, primarily through inhalation of respiratory droplets or smaller aerosolised particles. Most transmission occurs through close contact with an infected individual, although transmission may also occur over larger distances in poorly ventilated indoor settings.
<b>Transmission based precautions</b>	Practices used in addition to standard precautions to prevent transmission of infection and include contact, droplet and airborne precautions and are used for patients known or suspected to be infected or colonised with epidemiologically important or highly transmissible pathogens. They are implemented based upon the mode of transmission of the pathogen and level of identified transmission risk.

## 2. Purpose

The Acute Respiratory Infections Infection Prevention and Control in Western Australian Healthcare Facilities Guideline (the *Guideline*) describes infection prevention and control (IPC) guidance for managing patients and healthcare workers (HCWs) with suspected or confirmed acute respiratory infections (ARIs) in Western Australian (WA) healthcare facilities (HCFs), with the aim of minimising or eliminating the transmission of these infections. This Guideline should be read in conjunction with the:

- WA Infectious Disease Emergency Response (IDER) Plan (pending)
- [Australian Guidelines for the Prevention and Control of Infection in Healthcare](#).

## 3. Scope

COVID-19, influenza and respiratory syncytial virus (RSV) represent the ARIs of greatest significance in HCFs due to their prevalence, virulence, communicability and potential to cause outbreaks. However, these Guidelines can also apply to other pathogens that can cause an acute respiratory illness, such as:

- adenovirus
- *Bordetella pertussis*
- enterovirus
- human metapneumovirus
- human parainfluenza viruses
- *Mycoplasma pneumoniae*
- rhinovirus
- seasonal coronavirus.

For further information on respiratory pathogens of public health importance, including COVID-19, influenza and pertussis, refer to the relevant Communicable Diseases Network Australia (CDNA) [Series of National Guidelines](#) which provide detail on the infectious agent, mode of transmission, case definitions, infectious and incubation periods, testing and contact tracing advice.<sup>1-3</sup>

Guidance for less common but high-consequence infections such as Middle East respiratory syndrome coronavirus (MERS-CoV)<sup>4</sup> or avian influenza<sup>5</sup> is not within the scope of this guideline. When clinically or epidemiologically indicated, suspected or confirmed cases of these diseases must be discussed urgently with both infectious diseases/microbiology and [public health](#).

## 4. Introduction

Respiratory infections are primarily transmitted through inhalation of small respiratory droplets and infectious particles, or by direct deposition of respiratory droplets and infectious particles onto exposed mucous membranes. These droplets and particles may be released from an infectious person's mouth or nose into the surrounding air during breathing, talking, singing, spitting, coughing, sneezing or during healthcare interventions that increase aerosolisation, such as intubation or nebuliser use.<sup>6</sup>

This Guideline recognises transmission occurring across a continuum of respiratory particle sizes and supports a risk-based application of standard and transmission-based precautions in HCFs.

Historically, IPC teams have categorised transmission of respiratory pathogens as either droplet or airborne. While these epidemiologic categories describe commonly observed patterns of short- versus long-range transmission and particle size, they do not fully capture the continuum of respiratory particle behaviour or the spectrum of respiratory pathogen transmission through the air.<sup>6, 7</sup>

The symptoms of ARIs are often similar, regardless of the pathogen causing the illness, and it is usually not possible to distinguish the causative organism based on clinical presentation alone. People with an ARI may also be asymptomatic or infectious prior to the onset of symptoms. Clinical judgement should be applied where there are alternative clinical explanations for symptoms or non-specific symptoms are present.

See [Appendix 1](#) for a summary of the incubation and infectious periods of the respiratory infections included in this Guideline.

Symptoms of ARI may include cough, breathing difficulty, sore throat and rhinorrhoea / nasal congestion, with or without other symptoms. Other symptoms of an ARI may include:

- headache, myalgia, fatigue, diarrhoea, nausea/vomiting, loss of appetite, loss of smell or loss of taste, or increased work of breathing
- fever ( $\geq 37.5^{\circ}\text{C}$ ) or history of fever (e.g. night sweats or chills)
- in the frail elderly, fever is often absent with infection instead causing new or increased confusion, change in baseline behaviour, falls, and exacerbation of underlying chronic illness.

Early identification of cases and prompt initiation of IPC interventions, testing of symptomatic patients and HCWs, and initiation of treatment including antivirals, where applicable, are essential in minimising transmission and reducing the risk of serious illness or death.

## 5. Requirements of the Guideline

All WA HCFs should have local plans, procedures and policies in place to assess, manage, admit and/or transfer patients, and manage HCWs, with a suspected or confirmed ARI that align with the general recommendations described in this Guideline. These local documents should include local risk assessment, testing algorithms, bed placement and surge capacity using established IPC principles outlined in this Guideline.

### 5.1 Patient risk assessment

A risk assessment that considers clinical and epidemiological risk factors, including travel history, should be performed for all patients presenting to a HCF with symptoms suggestive of an ARI. Uncommon or other highly transmissible infectious diseases (e.g. measles) can also present with symptoms consistent with an ARI. Clinicians should maintain a high index of suspicion for these infectious diseases, particularly where there is

a clinically compatible illness and relevant exposure or travel history, and promptly seek infectious diseases, clinical microbiology and/or public health advice and follow appropriate IPC precautions. Early recognition and prompt isolation of symptomatic and positive patients is essential to reduce transmission within HCFs.<sup>8</sup>

The Australian Commission on Safety and Quality in Health Care [Use of the hierarchy of controls in infection prevention and control – factsheet](#) provides a framework to assess and address risks and develop mitigation strategies. Personal protective equipment (PPE) is a critical component of IPC; however, it should be considered the last line of defence within the broader hierarchy of controls framework, which emphasises minimising risk through the implementation of administrative, engineering and other controls supported by the appropriate use of PPE. Refer to [Appendix 3](#) for examples of hierarchy of control measures for minimising the transmission of ARIs.

## 5.2 Standard and transmission-based precautions

Preventing ARI transmission in HCFs relies on applying both standard and transmission-based precautions within the hierarchy of controls.<sup>9</sup> Standard precautions must be applied at all times to all patient care, irrespective of whether an ARI is suspected or confirmed. Standard precautions also reduce the risk of exposure to, and infection from, asymptomatic or pre-symptomatic individuals with an ARI.

Standard precautions include:

- hand hygiene
- appropriate and correct use of PPE
- respiratory hygiene and cough etiquette
- reprocessing of reusable medical devices
- cleaning of shared equipment
- aseptic technique
- appropriate sharps and waste handling and disposal
- appropriate handling of linen
- routine environmental cleaning.<sup>9</sup>

Healthcare facilities must ensure that transmission-based precautions for respiratory infections are implemented in accordance with local hospital policies and procedures. This includes the appropriate use of PPE, adherence to isolation protocols, and application of environmental controls. Symptomatic patients tested for an ARI should remain isolated under transmission-based precautions until the results of any tests are known, the respiratory pathogen is identified, and the infectious period has passed (refer to [Appendix 1](#)), or there has been at least 24 hours since the resolution of acute symptoms and fever without use of antipyretics.

## 5.3 Patient placement

Patient placement for patients with an ARI is dependent on the availability of accommodation types in each HCF, including negative pressure isolation rooms (NPIR), single rooms with an ensuite, and single rooms with shared bathrooms, as well as isolation requirements of patients with other infectious diseases such as tuberculosis or measles.

[Table 1](#) summarises patient placement. Symptomatic patients awaiting laboratory confirmation should be spatially separated from others and provided with a surgical mask to (wear where appropriate, not indicated in children < 5 years of age) until the appropriate transmission-based precautions can be implemented and testing completed.

When a NPIR is required and unavailable, a standard isolation room with a portable air purifier and ensuite is preferred; alternatively, a single room with a portable air purifier and dedicated bathroom should be used. If a high-consequence respiratory infection is suspected in a patient, such as severe acute respiratory syndrome (SARS), MERS-CoV or avian influenza, place patient into a NPIR and urgently escalate to infectious diseases/clinical microbiology and public health to discuss patient management.

**Table 1: Placement of patients with an acute respiratory infection**

Respiratory infection	Patient placement (decreasing order of preference)
ARI prior to laboratory confirmation	<ul style="list-style-type: none"> <li>• Single room with ensuite, a portable air purifier unit recommended</li> <li>• Single room with designated bathroom both with door closed. A portable air purifier unit is recommended.</li> </ul>
Confirmed COVID-19, influenza, RSV, human metapneumovirus, parainfluenza, pertussis <sup>a</sup> or rhinovirus <sup>b</sup>	<ul style="list-style-type: none"> <li>• Single room with ensuite and consider a portable air purifier unit</li> <li>• Cohort<sup>c</sup> with same infectious agent, and a portable air purifier unit is recommended.</li> </ul>
Confirmed ARI with frequent aerosol generating procedures or behaviours <sup>b</sup>	<ul style="list-style-type: none"> <li>• NPIR, if available</li> <li>• Single room with ensuite and with a portable air purifier unit.</li> </ul>

**Notes:**

- Only HCWs and visitors who have received a pertussis-containing vaccine in the last 10 years should enter the room.
- Place patient in a NPIR when aerosol generating procedures are performed
- Cohorting should only occur based on known results i.e. same respiratory pathogen, risk assessment and as directed by IPC or Infectious Diseases/clinical microbiology team. [Refer to section 5.5 on cohorting.](#)

## 5.4 Diagnostic testing

All patients presenting to a HCF who are symptomatic of an ARI should have a multiplex rapid antigen test (mRAT) and/or polymerase chain reaction (PCR) test performed to guide treatment options and IPC management. Table 2 outlines the recommended testing and IPC actions for patients with ARI symptoms who are anticipated to require admission or who develop new-onset ARI symptoms while receiving care.

**Table 2: Testing of symptomatic patients requiring admission with multiplex rapid antigen tests**

Multiplex rapid antigen test (mRAT) result	Actions
<b>mRAT positive</b>	<p><b>Perform specific PCR (COVID-19/influenza/RSV) as indicated by mRAT result</b></p> <ul style="list-style-type: none"> <li>• implement transmission-based precautions dependent on result and as per local policy and notify IPC team</li> <li>• record mRAT date, time and result in patient medical record</li> <li>• additional testing may be indicated as per clinical review and management</li> </ul>
<b>mRAT negative</b>	<p><b>Perform multiplex PCR for respiratory viruses including COVID-19 and/or other testing based on clinical assessment to confirm diagnosis.</b></p> <ul style="list-style-type: none"> <li>• implement transmission-based precautions as per local policy, place patient in a single room with ensuite bathroom, if available, and air purifier unit or NPIR where significant AGBs exist or AGPs are required</li> <li>• document mRAT date, time and result in patient medical record</li> <li>• establish travel history and exposure history to check for epidemiological risk factors e.g. MERS-CoV or avian influenza.</li> <li>• Await results of PCR test prior to removing from isolation unless alternative non-infectious source for the symptoms is identified.</li> </ul>

**Notes:**

1. mRAT is not recommended for children less than 6 years of age.
2. Perform up-front multiplex PCR:
  - a. if no consent (from parent or adult under Mental Health Act/Guardianship and Administration Act order) for second nasal swab.
  - b. patient behaviour issues allows/permits only one nasal swab (to be performed).
3. All invalid results need to be repeated.
4. The reason for all PCR testing must be documented on the pathology request form.
5. Appropriate PPE should be worn by HCWs performing respiratory virus testing.
6. Standard precautions apply for handling and transportation of specimens.

Any medical or nurse practitioner, or pathologist, that suspects a patient has a notifiable infectious disease or a related condition has a legal obligation to report the diagnosis to the Department of Health – see [Notification of infectious diseases and related conditions](#) for further details and [online notification form](#).

## 5.5 Cohorting

It may be necessary to place patients with an ARI in shared rooms at times of increased disease prevalence and associated hospitalisation. The decision to create cohort rooms and wards must be undertaken in discussion with the healthcare facilities’ IPC team, infectious diseases physicians and/or clinical microbiologists. However, the following general principles should be applied:

1. Signage clearly indicating the appropriate transmission-based precautions and required PPE must be placed at the entrance to the cohort area.
2. Reducing bed numbers in shared rooms e.g. reducing a four-bed room to two beds should be considered.
3. The use of portable air purifiers is recommended in cohort rooms. Where four or more patients are to be cohorted the use of at least two air purifiers are recommended.
4. All patients with confirmed ARI, should be encouraged to wear a surgical mask if their clinical condition allows.
5. Only patients testing positive to the same laboratory confirmed, single respiratory pathogen are to be cohorted.
6. Patient groups that must **not** be cohorted include those:
  - with both an ARI and another infectious condition e.g. *Clostridioides difficile*, varicella-zoster virus infection
  - that are immunocompromised and at greater risk of severe disease as they frequently shed high levels of virus into the environment and also remain at increased risk of acquiring a second infection
  - those with different micro-alert requiring contact precautions e.g. micro V and G
  - with ARI symptoms but unconfirmed disease.
7. HCWs are required to follow the recommended IPC interventions and measures for the management of inpatients as described in [Table 3](#), noting that:
  - adherence to the '5 Moments' for Hand Hygiene is required
  - PPE should be changed when moving between patients that are cohorted together. The extended use of PPE items can increase the risk of cross infection for patients and healthcare workers and the risk of environmental contamination. Any decision to allow extended use of PPE must be made in consultation with the IPC team. <sup>9</sup>
  - when extended use of PPE is supported in a cohort area, the particulate filter respirator (PFR) and eye protection (including face shields and goggles) are not required to be changed between episodes of patient care, unless they become visibly soiled, damaged or inadvertently touched. The HCWs should remove themselves from the cohort area before replacing this PPE.
  - increased environmental cleaning and disinfection frequency of cohort rooms (especially bathrooms) must be undertaken. It is recommended a minimum of high touch surface cleaning twice a day in cohort room and bathroom and where possible the shared bathroom should be cleaned and disinfected after each patient has showered.
8. Upon leaving the cohort area HCWs must remove and discard all PPE.
9. Patients cohorted for IPC purposes may be removed from the cohort room when their period of infectivity is completed (refer to [Table 4](#) for details on the specific infection).

## 5.6 Infection prevention and control inpatient management

The recommended IPC interventions and measures for the management of inpatients with a confirmed ARI are described in [Table 3](#). Standard precautions must be applied to all

patients at all times, as per the [Australian Guidelines for the Prevention and Control of Infection in Healthcare](#).

**Table 3: Infection prevention and control measures for positive inpatients**

Criteria	Recommendations
<b>Hand hygiene</b>	<ul style="list-style-type: none"> <li>• HCWs must strictly adhere to the ‘5 moments’ for hand hygiene, in addition to the requirements associated with donning and doffing PPE.</li> <li>• HCWs must adhere to bare below the elbow’s principles when providing clinical care.</li> <li>• Wearing gloves does not negate the need to perform hand hygiene. HCWs must avoid touching, and therefore contaminating environmental surfaces (e.g. light switches, door handles) when gloves are worn.</li> </ul>
<b>Personal protective equipment</b>	<ul style="list-style-type: none"> <li>• Signage clearly indicating the appropriate transmission-based precautions and required PPE must be placed at the entrance of the patient room or in a prominent position at the entry to the designated isolation area.</li> <li>• PPE must be readily available and accessible. Donning and doffing areas should be clearly identified and segregated. Supplies must be available outside the patient room or in the anteroom if present. Gloves must be available in the patient room.</li> <li>• PPE must be utilised as per standard precautions following a review of patient risk factors for transmission, that is, where there is a risk of exposure to blood or body fluids and when delivery of direct patient care is anticipated.</li> <li>• At a minimum, a surgical mask or fit checked/fit tested PFR and eye protection (face shield or goggles) must be donned prior to entering a patient room or cohort area.</li> <li>• Gloves and/or gown must be removed at the patient door and prior to exiting with mask and eyewear removed after leaving the room or alternatively remove all PPE in anteroom if present.</li> </ul>
<b>Cleaning and disinfection</b>	<ul style="list-style-type: none"> <li>• HCFs must implement policies and procedures for environmental cleaning, in accordance with the <a href="#">National Safety and Quality Health Service Standards</a><sup>10</sup> and the <a href="#">Australian Guidelines for the Prevention and Control of Infection in Healthcare</a>. A risk-based cleaning schedule and regular cleaning audits should be implemented.</li> <li>• Routine environmental cleaning must include daily cleaning and disinfection of the patient room and bathroom and all frequently touched surfaces and patient care equipment.</li> <li>• Disinfectant must be approved by the <a href="#">Therapeutic Goods Administration</a> (TGA), hospital grade with viricidal and bactericidal properties and be approved for use by the healthcare facility.</li> <li>• The room, bathroom, toilet and all frequently touched surfaces and items must be cleaned and disinfected following patient discharge.</li> <li>• Cleaning regimens must include all horizontal surfaces, any walls that are visibly contaminated and frequently touched items, such as door handles, bed rails, IV poles, light switches, call bells, bedside lockers, over-bed tables and lift buttons.</li> </ul>

Criteria	Recommendations
<b>Patient equipment</b>	<ul style="list-style-type: none"> <li>• Dedicated non-critical items (e.g. stethoscope, wheelchair and commodes) should be allocated to the patient room and disposable, single-use patient equipment (e.g. tourniquet and BP cuffs) used wherever possible.</li> <li>• Minimal stocks of disposable items (e.g. dressings), should be stored in patient rooms. These items must be discarded on patient discharge.</li> <li>• Any reusable equipment must be cleaned and disinfected after use and before use on another patient.</li> </ul>
<b>Catering</b>	<ul style="list-style-type: none"> <li>• Food delivery HCWs must wear PPE (e.g. PFR and eye protection) as per transmission-based precautions if taking trays into a patient room or area. Gown and gloves are not required to be worn during catering service delivery, unless significant direct contact with the patient or the environment is anticipated.</li> <li>• Standard precautions should be used when handling used crockery and cutlery.</li> <li>• The combination of hot water and detergents used in automatic dishwashers is sufficient to decontaminate these items. Disposable crockery or cutlery is not required.</li> <li>• Food delivery HCWs must perform hand hygiene when they are leaving the patient room or area.</li> </ul>
<b>Linen</b>	<ul style="list-style-type: none"> <li>• Standard precautions must be applied when handling linen. Laundry practice must conform to <i>Australian Standard 4146:2024 Laundry Practice</i></li> <li>• A linen skip must be dedicated to the room and used linen placed directly into the linen skip. Linen that is heavily soiled should be placed in a plastic or soluble bag as per requirements of the HCF linen service.</li> <li>• HCWs must avoid contact with used linen by holding items away from the body and avoid agitating the linen which can cause aerosolisation of infectious particles.</li> <li>• The linen skip must be replaced when three quarters full.</li> <li>• Linen or other supplies must not be stockpiled in patient rooms.</li> <li>• Any unused linen from the patient room must be placed directly into the linen skip for laundering and not returned to the clean linen trolley.</li> </ul>
<b>Waste</b>	<ul style="list-style-type: none"> <li>• Standard precautions must be applied, and the <a href="#">WA Health Code of Practice for Clinical and Related Waste Management</a> and the healthcare facilities' guidelines for classification and disposal of general, clinical and sharps waste followed.</li> <li>• Most waste, including PPE, can be classified as general waste.</li> <li>• The need for increased frequency of emptying waste bins used for the disposal of PPE in clinical areas should be considered.</li> <li>• All waste must be bagged and securely sealed prior to exiting the patient room.</li> </ul>
<b>Medical records and patient charts</b>	<ul style="list-style-type: none"> <li>• Standard precautions must be applied to the management of all patient records. Performing hand hygiene prior to and following handling of patient records minimises the risk of contamination and transmission.</li> <li>• Patient charts must be left outside the room wherever possible. Patient charts must be separated from clinical care areas when cohort wards are established. In intensive care units, chart trolleys should be positioned as far away from the patient area as is reasonably possible.</li> </ul>

Criteria	Recommendations
	<ul style="list-style-type: none"> <li>• HCWs must not perform any documentation, either paper based or electronic, without first removing gloves and performing hand hygiene.</li> <li>• HCF that utilise electronic systems must ensure shared computer equipment can be cleaned and disinfected.</li> </ul>
<b>Patient transfer</b>	<p><b>Internal</b></p> <ul style="list-style-type: none"> <li>• Limit non-essential patient movements wherever possible. However, if required, the patient must wear a surgical mask whilst in transit (if an oxygen mask is not in use).</li> <li>• If on oxygen therapy, the patient should be transitioned to nasal prongs if their condition allows and a surgical mask worn over the top. If the patient is unable to transition to nasal prongs, a surgical mask should be placed over the Hudson mask prior to transport within the healthcare facility.</li> <li>• HCWs involved with the transfer should wear a PFR and eye protection, at a minimum. Other PPE to be worn as indicated by standard precautions.</li> <li>• The receiving department must be notified of the patient's infectious status and need for transmission-based precautions prior to transfer.</li> <li>• Contaminated PPE must be doffed and appropriately disposed of and hand hygiene performed, prior to patient transfer.</li> </ul> <p><b>External</b></p> <ul style="list-style-type: none"> <li>• The receiving facility and transport services must be notified of the patient's infectious status prior to transfer to ensure appropriate bed allocation occurs.</li> <li>• All relevant medical and nursing documentation accompanying the patient must clearly state details of the patient's history.</li> </ul>
<b>Patient education</b>	<ul style="list-style-type: none"> <li>• The patient and/or carer/family should be provided education about the identified ARI, including the transmission risks to others.</li> <li>• Support patient compliance with personal and respiratory hygiene practices, including access to hand hygiene facilities, including patients with limited mobility or those confined to bed (e.g. alcohol-based hand rub or hand wipes for their use), ready access to tissues and a disposal bag.</li> <li>• Discourage the patient from moving around the hospital and using communal areas.</li> <li>• The patient must wear a surgical mask when outside their room or cohort zone, if able or tolerated. The patient should be provided with additional masks to allow for changing the mask every 4 hours or if damp, soiled or damaged. Masks must be worn correctly, but the requirement for patients to wear a mask must not compromise their clinical care.</li> </ul>
<b>Duration of precautions</b>	<ul style="list-style-type: none"> <li>• The duration of transmission-based precautions and release from isolation will depend on the infectious period of the ARI, resolution of symptoms, whether the patient has completed a course of antivirals (if applicable), and whether the patient is immunocompromised. <a href="#">5.9 Refer to Isolation and restriction guidance.</a></li> </ul>

## 5.7 Visitors

Visitors play an important role in supporting patients and maintaining wellbeing. At the same time, unwell visitors may introduce or amplify the spread of ARIs within HCFs.

- All HCFs should display clear signage at facility entrances and key points, advising the public not to visit if unwell and outlining what symptoms require avoidance of in-person visitation
- Visitors with ARI symptoms should be discouraged or prevented from entering HCFs. If they are symptomatic then this should be restricted to essential visits only (e.g. end-of-life care, or carers of vulnerable patients) with requirement to wear a surgical mask and minimal duration of visitation.
- Visitors must be instructed to perform hand hygiene prior to entering, and on leaving, the patient room and following any patient contact.
- All visitors should be strongly encouraged to wear a surgical mask whilst visiting patients who have a suspected or confirmed ARI.
- High-risk areas and units (e.g. oncology, transplant, NICU, or geriatrics wards) may implement additional measures, such as:
  - limiting the number of visitors per patient
  - requiring masks for all visitors regardless of symptoms
  - temporarily restricting entry during outbreaks or high ARI burden
  - enforcing stricter exclusion of symptomatic visitors.
- In clinical areas such as paediatric wards, parents and carers who are staying at the bedside of or visiting a child with an ARI should be advised that they are unable to use common facilities such as parent and family rooms whilst their child is infectious. Parents should use the child's ensuite rather than parent bathrooms on the ward.

## 5.8 Patient discharge to residential aged care

The decision to discharge a patient back to a residential aged care home must be agreed to by the consultant/senior medical practitioner and the receiving facility. New and returning residents with an ARI can be admitted or returned to a residential aged care home from a hospital or emergency department with appropriate IPC measures in place.

## 5.9 Isolation and restriction guidance

Release from isolation should consider both patient factors such as immunocompromise (due to disease or age), and facility factors (such as whether the patient is in a high-risk area such as intensive care).

**Table 4: Patient release from isolation**

Pathogen	Release from isolation guidance
All respiratory pathogens	Patients who are <b>significantly immunocompromised</b> may have an atypical clinical course or prolonged infectious period and should be discussed with an infectious disease physician and/or clinical microbiologist before release from isolation.
COVID-19	After 5 days since onset of symptoms (or positive test if asymptomatic), <b>and</b> resolution of acute symptoms <b>and</b> COVID-19 RAT is negative <b>OR</b> After 7 days since onset of symptoms <b>and</b> resolution of acute symptoms <b>and</b> afebrile for at least 24 hours (no testing required)

<b>Influenza</b>	After 72 hours since commencement of effective antiviral medication <b>and</b> resolution of acute symptoms <b>and</b> afebrile without the use of antipyretics for at least 24 hours <b>OR</b> After 5 days have elapsed from onset of symptoms if <b>not</b> treated with effective antiviral medication <b>and</b> resolution of acute symptoms <b>and</b> afebrile for at least 24 hours
<b>Pertussis</b>	After completion of a 5-day course of an appropriate antibiotic <b>OR</b> After 21 days since onset of any cough <b>OR</b> After 14 days since onset of paroxysmal cough (if onset is known)
<b>Other respiratory pathogens (including RSV)</b>	Once acute symptoms resolved; children must be asymptomatic <b>and</b> reviewed by the medical team

Notes:

1. Also refer to the relevant CDNA [Series of National Guidelines](#) where one is available.
2. Patients with high-consequence infections such as MERS-CoV or avian influenza must be discussed with an infectious disease physician, clinical microbiologist and/or public health physician before release of isolation.

## 5.10 Outbreak management

Outbreaks of ARIs are more likely to occur in HCFs when the level of community transmission is high and should generally be managed at the facility level. The possible triggers for escalation of an outbreak to the HCFs executive team will vary depending on the size and location of the hospital. For example, earlier escalation may be indicated for a smaller hospital in a remote location.

However, the HCFs outbreak management committee should consider the following possible triggers for escalation:

- if there are significant exposures within the hospital, such as large numbers of HCWs furloughed
- if there is an outbreak in a vulnerable cohort, such as immunocompromised patients or infants
- if there is ongoing, widespread transmission
- if the hospital exceeds capacity at either a hospital-wide or specialist level e.g. an oncology ward.

In addition to the legal requirement for medical and nurse practitioners to report notifiable infectious diseases to the WA Department of Health, outbreaks occurring in WA HCFs should be notified to the Infection Prevention and Policy Surveillance Unit (IPPSU) in the WA Department of Health and/or the relevant [public health unit](#) depending on the implicated ARI. Additional control measures should then be considered in discussion with these groups, to support effective outbreak management.

## 5.11 Escalation of personal protective equipment use

The [Work Health and Safety Act 2020](#) provides a framework to protect the health, safety and welfare of HCWs in WA workplaces.

### **Strategic mask-wearing for healthcare workers**

COVID-19, influenza, RSV and other respiratory viruses can cause mild or asymptomatic infections, so HCWs, patients or visitors may not always realise they are infected with an ARI. However, asymptomatic and presymptomatic individuals can still be infectious and transmit disease to others.<sup>11</sup> In consultation with local IPC experts, infectious disease physicians and/or clinical microbiologists Health Service Provider (HSPs) may decide to implement mandatory mask-wearing recommendations for HCWs throughout the facility or in designated areas:

- as part of their winter respiratory virus strategy, should the degree of acute respiratory virus activity warrant it
- during specific situations, such as a ward respiratory virus outbreak
- if an inter-seasonal respiratory virus surge occurs due to the introduction of a novel highly transmissible and/or virulent variant into WA.

In addition, individual HCFs may have specific areas e.g. bone marrow transplant or oncology units where mask-wearing by HCWs remains routine and as determined by the individual facility.

## **5.12 Ventilation and filtration**

Improving indoor air quality through optimising natural and/or mechanical ventilation helps to reduce circulating infectious particles in the air and can reduce the transmission of ARIs within healthcare facilities.

All HCFs should assess their heating, ventilation and air conditioning (HVAC) systems to determine suitability of accommodations and ensure that supply and exhaust systems meet minimum air exchange requirements:

- at least six air changes per hour for a standard room
- at least twelve air changes per hour for rooms where patients are requiring airborne precautions or aerosol generating procedures are being performed.

Any single room or designated isolation area must be assessed for positive, neutral or negative air pressure. Rooms or areas with positive pressure to adjacent areas should not be used for patients with a suspected or confirmed ARI.

A review of HVAC systems, air flows and air exchanges should also be undertaken before any area is designated as an isolation or cohort area. Planning for these areas must be completed in conjunction with the healthcare facility's IPC experts.

For further information refer to the Australian Commission on Safety and Quality in Health Care [Optimising ventilation for infection prevention and control in healthcare settings](#) guidance document.

### **Use of portable air purifiers**

The use of portable air purifiers with HEPA filtration can also reduce the number of circulating infectious respiratory particles in the air and should be considered for use in

areas where existing HVAC systems are sub-optimal, where negative pressure facilities have been exhausted, and in cohort areas.

When using an air purifier, it is important to:

- ensure the unit has a HEPA filter, which is managed in accordance with local protocols and manufacturer's instructions for use
- ensure the unit is the appropriate size for the space
- develop local policies for use and maintenance of devices, including the replacement of HEPA filters as per manufacturer's instructions for use.

Each healthcare facility should assess the need for the use of portable air purifiers. Location and positioning of the air purifiers will vary and will be dependent on individual facility configurations and risk assessment. Placement of portable air purifiers may be indicated in the following settings:

- close to the patient in single or cohort rooms without negative pressure air handling
- corridors of high-risk areas, such as haematology and geriatrics wards
- in procedure or treatment rooms where aerosol-generating procedures are performed
- multi-bed shared rooms
- dialysis settings
- areas of high traffic flow, such as emergency departments
- where there is an increased risk of transmission such as HCWs tea rooms, reception areas and nurses' stations
- patient waiting areas.

### 5.13 Healthcare worker management

Although patient care may be adversely impacted by a reduction in HCW numbers due to absences while unwell, an infectious HCW can expose vulnerable patients to ARIs and may facilitate a broader outbreak in a healthcare setting. Therefore, all HCFs should have policies in place to address testing, exclusion and return-to-work for HCWs with an ARI, and management of contacts, tailored to the specific setting type, level of risk and potential clinical consequences of an incursion.

In addition to complying with the IPC advice as outlined in this *Guideline* when providing patient care, it is recommended that HCWs:

- self-monitor for symptoms of ARI, particularly during periods of increased ARI activity in the community or following known exposure to someone with an ARI
- exclude themselves from work immediately if they develop symptoms of an ARI, and, at least until acute symptoms resolve (see [Table 5](#) for further details)
- seek prompt medical assessment and/or testing for ARIs, including COVID-19 and follow workplace advice.

#### **Management of healthcare worker contacts**

Although contact management is not routinely undertaken for all ARIs, it may be recommended or considered in healthcare and other high-risk settings and/or during outbreaks. Additionally, some infections may have additional recommendations for close,

high-risk or household-like contacts – where available, the relevant CDNA [Series of National Guidelines](#) should be accessed for further information and contact definitions. For example, HCWs who are asymptomatic close contacts of someone with pertussis, are recommended to be excluded from clinical duties (particularly from working with infants under 6 months and individuals in the last month of pregnancy) until they have completed a 5-day course of an appropriate antibiotic or after 14 days from first exposure to the infectious case.

Healthcare facilities' local policy should include information about risk assessment of asymptomatic HCW contacts of individuals with an ARI and their ability to continue working with or without additional risk mitigation strategies in place. These may include wearing a surgical mask while at work, testing, avoiding care of high-risk patients, or limiting use of shared or common HCWs areas. While such risk mitigation strategies aim to reduce exposure in healthcare settings, it is acknowledged that risk cannot be eliminated and that exposures may still occur both within and outside of the healthcare setting.

It is the responsibility of the healthcare facility to conduct any necessary contact tracing within their workplace for all HCWs with an ARI who are at work during their infectious period.

### Return-to-work advice for healthcare workers

It is recommended that HCWs with an ARI should be excluded from the workplace at least until acute symptoms resolve. During the exclusion period, the HCW should follow any current public health advice for positive cases.

**Table 5: Return-to-work advice for healthcare workers**

ARI	Return-to-work advice
<b>COVID-19 (RAT or PCR)</b>	<p>After 5 days since onset of symptoms (or positive test if asymptomatic) <b>and</b> resolution of acute symptoms <b>and</b> negative COVID-19 RAT within 24 hours of return-to-work</p> <p><b>OR</b></p> <p>After 6 days since onset of symptom (or positive test if asymptomatic) <b>and</b> resolution of acute symptoms (no testing required)</p> <p><b>AND</b></p> <p>Risk mitigation strategies in place until day 10 as per local HSP policy, such as the HCW must be alert to ARI symptoms, wear a surgical mask or PFR while at work, and avoid (where possible) or limit time spent in shared or common HCWs areas including tearooms</p>
<b>Influenza (RAT or PCR)</b>	<p>After 72 hours since commencement of effective antiviral medication</p> <p><b>OR</b></p> <p>After 5 days since onset of symptoms if <b>not</b> treated with effective antiviral medication <b>and</b> resolution of acute symptoms</p>
<b>Pertussis</b>	<p>After completion of a 5-day course of an appropriate antibiotic</p> <p><b>OR</b></p> <p>After 21 days since onset of any cough</p> <p><b>OR</b></p> <p>After 14 days since onset of paroxysmal cough (if onset is known)</p>

ARI	Return-to-work advice
Other common respiratory pathogens (including RSV)	Once acute symptoms have resolved <b>or</b> after 5 days since onset of acute symptoms, whichever is earliest.

Note: HCWs with high-consequence infections such as MERS-CoV or avian influenza must be discussed with an infectious diseases physician, clinical microbiologist and/or public health physician before returning to work.

### Vaccination

COVID-19, pertussis and seasonal influenza vaccination is recommended for HCWs and remains an important measure to protect patients from secondary transmission of these infections.

## 6. Relevant legislation

[Work Health and Safety Act 2020](#)

## 7. Additional resources

- [Respiratory Protection Guidelines for Western Australian Healthcare Facilities](#)
- [Donning and fit checking the Cupped respirator \(external site\)](#)
- [Donning and fit checking the Duckbill style P2 or N95 respirator \(external site\)](#)
- [Donning and fit checking the flat fold respirator \(external site\)](#)
- [New South Wales Clinical Excellence Commission – donning and fit check videos](#)
- [Donning and doffing PPE poster \(PDF 1MB\)](#)
- [How to wash hands poster \(PDF 1MB\)](#)
- [N95 and P2 respirator options for WA Health care facilities \(PDF 207KB\)](#)
- [Protect yourself and others poster \(PDF 882KB\)](#)
- [Stop the spread poster \(PDF 848KB\)](#)
- [Wearing a cup style respirator \(PDF 899KB\)](#)
- [Wearing a flat style respirator \(PDF 899KB\)](#)

## 8. Guideline contact

Enquiries relating to this Guideline may be directed to:

Infection Prevention Policy Surveillance Unit  
 Communicable Disease Control Directorate  
 Email: [IPPSU@health.wa.gov.au](mailto:IPPSU@health.wa.gov.au)

## 9. Document control

Guideline number	Version	Published	Review Date	Amendments
0029	V.1.	25/05/2026	01/05/2029	Original version

## 10. Approval

Approved by	Dr Paul Armstrong Director, Communicable Disease Control Directorate Department of Health
Approval date	14 May 2026

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## 12. Appendices





### Appendix 1: Incubation and infectious periods of respiratory pathogens

Pathogen	Incubation period	Infectious period
<b>Adenovirus</b>	Most commonly 4-8 days (range of 2-14 days)	From symptom onset until recovery, prolonged viral shedding may occur for weeks, particularly in children and immunocompromised people.
<b>COVID-19</b>	Most commonly 3-6 days (range of 1-14 days)	From 1-2 days prior to symptom onset, until 7-10 days after symptom onset. Infectiousness is higher while symptoms persist. Individuals with severe disease, or who are significantly immunocompromised may be infectious for longer periods. <sup>1, 12</sup>
<b>Enterovirus</b>	Varies by serotype, most commonly 3-6 days	Variable, but most infectious during acute illness; respiratory shedding usually approximately 1 week but stool shedding can persist for several weeks. <sup>13</sup>
<b>Human metapneumovirus</b>	Most commonly 3-6 days	Usually for the duration of symptoms; viral shedding from 5 days up to 2 weeks post-illness, but children and immunocompromised people may shed virus for longer. <sup>12,14</sup>
<b>Influenza A and B</b>	Most commonly 2-3 days (range of 1-7 days)	Up to 24 hours before to 7 days after onset of symptoms. Children and immunocompromised people may shed virus for longer. <sup>2, 12</sup>
<b><i>Mycoplasma pneumoniae</i></b>	Most commonly 1-4 weeks	Infectious during symptomatic illness; may persist for several weeks without treatment; transmissibility reduces after effective antibiotics. <sup>15</sup>
<b>Parainfluenza virus</b>	Most commonly 3-5 days (range of 2-7 days)	Most infectious during the early stage of illness, but children with primary infection can shed virus up to 1 week before onset and up to 1-3 weeks after symptom resolution. <sup>14</sup>
<b>Pertussis</b>	Most commonly 7-10 days (range of 4-21 days)	From the onset of catarrhal symptoms until earliest of 21 days after the onset of any cough, 14 days after onset of paroxysmal cough (where known), or completion of 5 days of appropriate antibiotics. <sup>3 16</sup>
<b>Respiratory syncytial virus (RSV)</b>	Most commonly 5 days (range of 2-8 days)	From just before symptoms start until recovery, which is usually up to 10 days after symptom onset. Infants and immunocompromised people may shed virus for up to 4 weeks. <sup>17</sup>
<b>Rhinovirus</b>	Most commonly 1-3 days	From about 1 day before symptoms begin and for the first 5 days of the illness; viral shedding is highest the first 2-3 days of infection and usually stops by 7-10 days but can last up to 3 weeks. <sup>14</sup>

## Appendix 2: Personal protective equipment

These Guidelines should be read in combination with the [Respiratory Personal Protective Equipment Policy \(MP 0172/22\)](#) and [Respiratory Protection Guidelines for Western Australian Healthcare Facilities](#). Also refer to Educational material on the correct sequencing of PPE in [additional resources](#).

**Table 7: Personal protective equipment required for acute respiratory infections**

Personal protective equipment required			
Gloves	Gown	Mask	Protective eyewear
			
As per standard precautions; change gloves and perform hand hygiene as required per the 5 Moments for Hand Hygiene	As per standard precautions	PFR (P2 or N95)	Use protective eyewear

### General advice

- PPE is only protective when used correctly. Fit checking of PFRs and donning and doffing procedures are essential for correct use and subsequently reducing exposure risk.
- Loose hair must be tied back securely prior to donning PPE.
- HCWs must be diligent not to touch their eyes, nose, mouth or hair while wearing PPE.
- Hand hygiene products and gloves must be available in the room to facilitate compliance with the [5 Moments for Hand Hygiene](#).
- Doffing of gloves and gowns should occur in the anteroom or at the doorway if patient is in a single room (i.e. just prior to leaving patient's room). Eyewear and surgical masks or PFRs should be removed in the anteroom or outside the patient room, or greater than 1.5 metres from the patient under precautions.
- Regular breaks for HCWs to reduce fatigue related to PPE use and for hydration are recommended; the PPE doffing sequence and hand hygiene must be adhered to prior to taking a break.
- Care must be taken not to contaminate any clean stocks of PPE stored in the vicinity when doffing PPE.

### Types of personal protective equipment

#### Gowns

- Worn to protect the healthcare worker's exposed body areas and prevent contamination of clothing with potentially infectious material during direct care.
- Disposable/single use isolation gowns are designed to be discarded after a single use and are typically constructed of nonwoven materials alone or in combination with plastic films or other materials that offer increased protection from liquid penetration. These gowns should offer an impervious or fluid resistance barrier.

## **Aprons**

- A plastic apron is a suitable alternative in situations where the risk of splash is low. Aprons may also be a suitable alternative for brief aerosol generating procedures in asymptomatic patients, such as suctioning in intensive care units, intubation and extubating.

## **Gloves**

- Non-sterile, latex free single use medical gloves protect both patients and healthcare workers from exposure to infectious agents that may be carried on hands.

## **Masks**

- Mask and respirators should be removed when moist, soiled, following any aerosol generating procedures or behaviours, or when it is difficult to breathe through. Masks and respirators should be replaced following any shift or meal breaks and at least every 4 hours or more frequently as required to relieve pressure.
- The most common PFRs are P2 or N95 respirators:
  - P2 respirators are those that comply with the *Australian Standard AS/NZS 1716:2012 Selection, use and maintenance of respiratory protective devices*
  - 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.

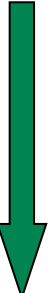

## **Fit testing**

- HCWs must perform a fit check each time they don a PFR to ensure it is correctly applied and a correct seal is obtained. The PFR must be securely fitted over the bridge of the nose and under the chin ensuring there are no gaps between the mask and the face. Facial hair, including beards, moustaches, sideburns and stubble between the sealing surface of the respirator and the wearers skin will prevent a good seal.
- It is essential there is a correct facial fit (i.e. a tight seal between the mask and the wearer's face) for a PFR to offer the maximum desired protection – the two distinct procedures used to achieve this are known as the 'fit test' and the 'fit check'.
- HSPs must ensure HCWs receive appropriate training on donning and doffing and performing a fit check for all types of PFRs they have been correctly fitted for.
- All HCWs wearing a PFR must have undertaken a fit test, know the brand and size of PFR that they achieved a satisfactory fit to, and have access to that specific mask as required.
- All HCWs must receive education in accordance with the manufacturers' advice, in relation to donning a PFR and the procedure to perform a fit check for each specific mask worn.
- A fit check must be performed after donning a PFR 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.

## Protective eyewear

- Designated protective eyewear may include a combined mask/shield, face shield/visor or goggles.
- Personal prescription spectacles provide inadequate protection for transmission of infection through the eyes mucosa and must be worn with additional protective eyewear.
- Protective eyewear should be single use and disposed of after use. If reusable protective eyewear is used, it must be cleaned and disinfected with approved products and kept for use by the same HCW.
- Wearing double protective eyewear (e.g. both goggles and a face shield), is not recommended and may lead to increased fatigue and poor visibility.
- Protective eyewear must comply with *Australian/New Zealand Standards AS/NZS 1336:2014* and prescription protective eyewear with *AS/NZS 1337.6:2012* to prevent impact injury. Prescription protective eyewear can be assessed by IPC or work health and safety teams as suitable for blood or body fluid splash if: they are close fitting, particularly from the corners of the eye and across the brow; they include side protection that is indirectly vented; and can be cleaned and disinfected between use.

**Table 8: Sequence for donning and doffing**

Donning PPE	Doffing PPE
 <ul style="list-style-type: none"> <li>Perform hand hygiene</li> <li>Gown</li> <li>Mask</li> <li>Protective eyewear/visor</li> <li>Perform hand hygiene</li> <li>Gloves</li> </ul>	 <ul style="list-style-type: none"> <li>Gloves</li> <li>Perform hand hygiene</li> <li>Gown/apron</li> <li>Perform hand hygiene</li> <li>Protective eyewear</li> <li>Perform hand hygiene</li> <li>Mask</li> <li>Perform hand hygiene</li> </ul>

Note: Refer to the [Donning and doffing poster](#) and the [Donning and doffing video](#).

## Appendix 3: Examples of hierarchy of control measures for minimising transmission

Hierarchy of control category	Examples of control measures
<b>Elimination:</b> Reduce the opportunities for the virus to spread	<ul style="list-style-type: none"> <li>• Avoidance of hospital admissions for patients with an ARI unless clinically necessary</li> <li>• Excluding unwell HCWs exclusion from the workplace</li> <li>• Screening for symptomatic persons</li> <li>• Use of telehealth, where appropriate</li> <li>• Reducing the number of HCWs who enter isolation rooms</li> </ul>
<b>Substitution:</b> Find alternative ways of providing care that reduces the potential for transmission	<ul style="list-style-type: none"> <li>• Administering aerosolised medicine with spacers instead of nebulisers</li> <li>• Substituting in-person appointments with telehealth services, where appropriate</li> </ul>
<b>Isolation:</b> Isolate people from the hazard	<ul style="list-style-type: none"> <li>• Using NPIR for patients with COVID-19, or a standard isolation room or single room with a private bathroom if a NPIR is not available</li> <li>• Cohorting patients with an ARI in dedicated wards or zones to separate from uninfected patients and those of uncertain ARI status</li> </ul>
<b>Engineering controls:</b> Use physical barriers and other forms of hazard reduction	<ul style="list-style-type: none"> <li>• Assessing HVAC systems and optimising air changes, air flow, air filtration, temperature and humidity</li> <li>• Placing physical barriers such as glass or plastic screens in triage and reception areas where physical distancing is difficult to maintain</li> <li>• Redesigning work areas to limit number of workers at workstations</li> <li>• Maintaining airflow direction away from HCWs workstations towards patient care areas wherever possible</li> </ul>
<b>Administrative controls:</b> Effective and consistent implementation of policies and procedures	<ul style="list-style-type: none"> <li>• Allocating surgical masks for source control to patients with acute respiratory symptoms to use when they are outside of their ward or room, and educating patients on safe use and disposal</li> <li>• Performing hand hygiene</li> <li>• Environmental cleaning and disinfection, and conducting regular checks, according to risk</li> <li>• Use signage (in appropriate languages) at the facility entrance to instruct visitors not to attend while unwell</li> </ul>
<b>PPE:</b> Use of correct personal protective equipment	<ul style="list-style-type: none"> <li>• Risk-assessing PPE recommendations for specific HCWs roles and activities</li> <li>• Training HCWs to perform a fit check (seal check) every time a PFR (P2/N95 or equivalent) is used</li> <li>• Fit testing those wearing a PFR</li> <li>• Educating and communicating on appropriate PPE use for standard, contact, droplet, and airborne precautions</li> <li>• Conducting regular HCWs PPE training and donning (putting on) and</li> </ul>

Source: [Australian Commission on Safety and Quality in Health Care, Using the hierarchy of controls in conjunction with infection prevention and control systems to identify and manage infection risks.](#)

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