



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

Communicable Disease Control Directorate Guideline

Respiratory Protection Guidelines for Western Australian Healthcare Facilities

Guideline 11 v2.0 / April 2025

Classification: Official

health.wa.gov.au

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1. Definitions

Abbreviation	Definition
Aerosols	Consist of microscopic particles < 5 microns in size that are the residue of evaporated droplets and 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 in a room or beyond, to adjacent spaces or areas.
Aerosol generating behaviours (AGB)	Behaviours that are likely to generate higher volumes of respiratory secretions and thus increase the risk of transmission via aerosols.
Aerosol generating procedure (AGP)	Procedures that promote the generation of fine airborne particles (aerosols) that may result in the risk of airborne transmission of disease.
Airborne precautions	Practices used to prevent the transmission of pathogens spread by the airborne route via particles in the respirable size range that remain infective over time and distance. Airborne precautions require the use of a particulate filter respirator, protective eyewear and other personal protective equipment as required as per standard precautions. The patient is accommodated in a Negative Pressure Isolation Room (NPIR) when possible.
Droplet precautions	Practices used to prevent transmission of pathogens that are spread by respiratory droplets i.e. large particles > 5 microns. Transmission via large droplets requires close contact as the droplets do not remain suspended in the air and generally only travel short distances. Droplet precautions include the use of a surgical mask and protective eyewear and other personal protective equipment as required as per standard precautions.
Enhanced personal protective equipment (PPE)	Enhanced PPE is used for high-consequence infectious diseases includes specialised equipment designed to protect staff from highly contagious pathogens. This PPE includes powered air-purifying respirators, double gloves, wimple (hood), boot covers and fluid resistant gown. It provides comprehensive barrier protection for Staff to mucosal surfaces, skin and clothing.
Fit check	A fit check is the minimum standard at the point of use for healthcare workers using a particulate filter respirator. No clinical activity shall be undertaken until a satisfactory fit check has been achieved. It involves a fit check each time a particulate filter respirator is put on to ensure the 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. Also known as a user seal check.

Abbreviation	Definition
Fit test	A quantitative fit test is a validated method to determine whether the type of respirator being worn provides an adequate seal with a person's face. The testing is done while a person is wearing a particulate filter respirator attached to a testing unit while performing several physical movements and talking exercises.
Health Service Provider (HSP)	Health Service Provider means a Health Service Provider established under section 32 of the <i>Health Services Act 2016</i> and may include North Metropolitan Health Service (NMHS), South Metropolitan Health Service (SMHS), Child and Adolescent Health Service (CAHS), WA Country Health Service (WACHS), East Metropolitan Health Service (EMHS), PathWest, Quadriplegic Centre and Health Support Services (HSS).
High consequence infectious diseases (HCIDs)	Infectious diseases that are not established in the Western Australian population and whereby there is a potential for human-to-human or animal-to-human spread and the disease has a potential to impact healthcare system and public health. Examples include viral haemorrhagic fevers, Middle East respiratory syndrome.
N95 respirator	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.
Particulate filter respirators (PFR)	PFRs used in Western Australia (WA) are the P2 or N95 respirators that filter at least 94 percent of 0.3 micron particles from the air. Both PFRs are appropriate for use with airborne precautions.
Powered air purifying respirators (PAPR)	A respirator that uses a power source to force ambient air through a high efficiency particulate air filter (HEPA) prior to inhalation. PAPRs are an alternative to P2 or N95 respirators for the care of patients requiring airborne precautions and should only be used by those trained and who are deemed competent in their use.
P2 respirator	P2 respirator are those that comply with the Australian Standard AS/NZS 1716:2012 Selection, use and maintenance of Respiratory protective devices.
Respirator	Equipment that is designed to prevent the inhalation of hazardous/infectious material. In WA public hospitals the most common devices are PFRs, PAPRs and elastomeric respirators. The term is identical to respiratory protective equipment and respiratory protective device used in other jurisdictions.
Respiratory protective equipment (RPE)	Equipment designed to protect the wearer and prevent the inhalation of contaminated air. Includes particulate filter respirators, elastomeric respirators and powered air purifying respirators.

Abbreviation	Definition
Respiratory protection program (RPP)	Program to protect healthcare workers against acquiring a respiratory illness by minimising the risk of exposure to respiratory pathogens. This risk mitigation includes education and training in the correct application of a respirator.
Staff member	<p>For the purposes of these guidelines, Staff member means a person:</p> <p>(a) employed in a Health Service Provider by an employing authority pursuant to the <i>Health Services Act 2016</i> and includes:</p> <ul style="list-style-type: none"> (i) the chief executive of the Health Service Provider (ii) a health executive employed in the Health Service Provider (iii) a person employed in the Health Service Provider under section 140 of the <i>Health Services Act 2016</i> (iv) a person seconded to the Health Service Provider under section 136 or 142 of the <i>Health Services Act 2016</i> <p>(b) engaged under a contract for services by a Health Service Provider pursuant to the <i>Health Services Act 2016</i>.</p>
Standard precautions	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.
Transmission based precautions	Practices used in addition to standard precautions to prevent transmission of infection. TBPs 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.

2. Purpose

This guideline outlines the key elements of a respiratory protection program (RPP) that Health Service Providers (HSPs) should implement to reduce the risk of staff member exposure to respiratory pathogens. The RPP is designed using a risk management approach based on the likelihood of exposure to these pathogens. It is intended to complement existing infection prevention and control (IPC) and Work Health and Safety (WHS) programs. This guideline is specifically aimed at safeguarding staff members from transmissible respiratory pathogens and does not cover exposure to other workplace environmental contaminants such as smoke or chemicals. The guidance in this document can be adopted by private facilities.

3. Introduction /Background

The emergence of COVID-19 highlighted a need for the implementation of a RPP in Western Australia. The AS/NZS 1715:2009 Selection use and maintenance of respiratory protective equipment outlines the requirements of an RPP and [MP 0172/22 Respiratory Personal Protective Equipment Policy](#) sets out the requirements for a RPP.

This guideline focuses on respiratory protection in relation to the use of particulate filter respirators (PFRs) and what is required to ensure they are managed, worn, and used safely. It does not address other aspects of infection prevention and control or other types of personal protective equipment (PPE). Fit checking of PFRs on each occasion of use continues to be the most reliable method of ensuring the staff member has achieved an optimal fit and required seal in real time. Any RPP should continue to promote fit checking every time a new PFR is applied or donned along with the other controls detailed in this document.

4. Requirements (of the Guideline)

A key component of a successful RPP is the assignment of responsibilities for the implementation and coordination of the program. Responsibilities related to the RPP include:

4.1 Department of Health (System Manager)

- The Infection Prevention and Policy Surveillance Unit maintains and reviews the relevant mandatory policy, guidelines, and resources.
- Recommend the [order of testing of respirators](#).
- The Infection Prevention and Policy Surveillance Unit of the Communicable Disease Control Directorate will monitor compliance in accordance with MP 0172/22 *Respiratory Personal Protective Equipment Policy*.

4.2 Health Service Providers

- Implement a RPP when risk assessment indicates respiratory protection is required for staff member safety i.e. PFR when providing care to patients under droplet or airborne precautions including when aerosol generating procedure (AGP) is performed or when a patient exhibits aerosol generating behaviour (AGB). (Refer to [Section 5.1 Risk assessment and management](#)).
- Data sharing of staff member fit test results across HSPs.

- Assign leadership responsibility, personnel, and resources to implement and comply with the requirements of the RPP.
- Ensure the RPP complies with the relevant WHS standards and IPC principles.
- Develop and implement processes and procedures to ensure:
 - appropriate selection, issue, fitting, and use of respiratory PPE
 - staff members to receive training in the use of PPE appropriate for their role and location
 - non-compliance with policies and procedures is managed appropriately
 - staff members from external organisations e.g. students and contractors, comply with PPE training and fit testing requirements
 - appropriate maintenance, storage and disposal of PPE and equipment required for fit testing
 - appropriate record keeping
 - review of the local risk assessment that identify staff members who will require the use of respiratory protection yearly at a minimum
 - annual evaluation of the RPP and timely implementation of indicated improvements.
- Identify core staff members who will undergo annual training including the application of infection prevention and control principles and assessment in the use (identification, donning and doffing sequences) of enhanced PPE to support the education and training of other staff at a point in time when enhanced PPE may be required to manage patients with a high consequence infectious disease (HCID).
- All staff receive education and training in the use of enhanced PPE prior to caring for patients who have a HCID.
- A register of enhanced PPE staff trainers is required to be maintained.
- Select a program administrator with suitable background as described in AS/NZS 1715:2009 to accurately evaluate workplace hazards.
 - The program administrator must have the authority to implement the program effectively.
 - The responsibilities and governance of this role may be integrated into existing structures and roles within the HSP.
 - Collaboration with WHS or IPC teams is essential for optimal program success.
- Ensure requirements of mandatory policies are met, including repeat fit test frequency and compliance monitoring.
- Maintain the quality of fit test data including accuracy, completeness, relevance, timeliness, reliability, integrity, and consistency to the business needs of the WA health system.
- Health Support Services (HSS) will maintain the WA Health N95 fit testing analysis dashboard, ensure adequate supply of the recommended PFRs, provide oversight on the recall and introduction of Therapeutic Goods Association (TGA) approved PFRs.
- The Clinical Protective Apparel contract managed by HSS. HSS to ensure the procurement of PPE meets the requirements in this guideline. Where PPE is purchased outside of HSS procurement processes then this responsibility must be met by the HSPs.

4.3 Staff Members

In accordance with [MP 0172/22 Respiratory Personal Protective Equipment Policy](#), staff members are to:

- Complete PPE education and training, including a practical assessment, on induction.

- Be assessed if they are required to wear a PFR and undertake education and training in their use and be fit tested as soon as possible following commencement.
- Staff members who have the responsibility of education and training of other staff members on the use of enhanced PPE must have annual training in:
 - enhanced PPE donning and doffing sequences
 - IPC principles when managing a patient with a HCID.
- Have knowledge of, and use the PPE recommended for them and use respiratory PPE in line with manufacturers' instructions for use (IFU) and relevant policies and procedures.
- Remove facial hair. Staff members who are unable to remove facial hair due to a medical condition or religious observance must seek an exemption and shall have a fit test performed using an approved beard cover technique.

5. Requirements of a Respiratory Protection Program

5.1 Risk Assessment and Management

Processes must be in place to recognise and manage the risk of staff member exposure to respiratory pathogens, aligning with [MP 0006/16 Risk Management Policy](#) and local risk management processes.

The risk management approach must include the following steps:

1. Identify the risk - which respiratory pathogens may be in the workplace, and situations where risk may be increased (for example with aerosol generating procedures).
2. Assess the risk - which staff members in a healthcare facility (HCF) are at risk of exposure, and in which situations.
3. Treat the risk - utilising the [hierarchy of control in infection prevention and control factsheet](#).
4. Document and report according to local processes.
5. Monitor and review – changes in levels of exposure risk may require an escalation or de-escalation of risk treatments. The risk assessment should be reviewed annually, and when the risk of exposure changes.

The assessment must include all staff member groups working within the ward/work area. An example risk assessment form for a ward/work area is provided in [Appendix 1](#). The form can also be used to prioritise the order of staff members to be fit tested for PFRs. The risks and treatment measures must be monitored for change and reviewed annually at a minimum or when a change is identified. Documentation and reporting will be conducted according to local risk management processes.

5.1.1 Aerosol generating procedures and behaviours

Consideration is to be given to AGPs and AGBs when assessing the risk of exposure to respiratory pathogens. The AGPs that promote generation of airborne respiratory particles (aerosols) and result in an increased risk of airborne transmission of disease may include, but are not limited to:

- insertion or removal of endotracheal tube
- intentional or inadvertent disconnection/reconnection of closed ventilator circuit
- high frequency oscillatory ventilation
- open oropharyngeal or tracheal suctioning
- upper respiratory tract instrumentation or surgery e.g. bronchoscopy, tracheostomy, ear nose throat surgery

- surgical / post-mortem procedures on respiratory tract involving high-speed devices
- intercostal catheter insertion
- thoracic surgery that involves entering the lungs
- dental/oral procedures utilising equipment that generates aerosols e.g. ultrasonic scalers and high-speed handpieces.

Other procedures that can generate respiratory aerosols include:

- nebulisers
- manual or non-invasive ventilation, including bi-level positive airway pressure and continuous positive airway pressure ventilation
- induced sputum collection
- high flow nasal oxygen
- diagnostic instrumentation of the upper digestive tract, including transesophageal echocardiography
- cardiopulmonary resuscitation.

Behaviours that generate aerosols tend to produce higher amounts of respiratory secretions, increasing the risk of disease transmission through respiratory particles, especially in enclosed and poorly ventilated areas. Examples of AGBs include persistent or severe coughing, shouting, screaming, singing and heavy breathing and panting in women during active labour.

5.2 Infection Prevention and Control Measures

Standard precautions are required for all patients at all times, and this includes appropriate use of PPE following a risk assessment of the patient's provisional diagnosis and any proposed procedure. This includes for all patients having a AGPs or when a patient exhibits a AGB i.e. facial protection including surgical mask with eye protection or minimum face shield.

5.2.1 Personal protective equipment

Appropriate PPE is required by staff members when providing care for any patient, irrespective of their infectious status, when there is a risk of exposure to blood or body fluids or when AGPs are being performed or when a patient is exhibiting AGBs.

PPE may include disposable non-sterile gloves, protective clothing (fluid resistant gowns or aprons), protective eyewear (safety goggles, face shields) and masks (surgical mask or PFR). In addition when enhanced PPE is required for high consequence infectious diseases (HCIDs) this may also include boot/leg covers, wimple and PAPR. Personal eyeglasses and contact lenses are not considered adequate eye protection. Some goggles fit adequately over prescription glasses, and prescription protection eyewear may be appropriate, in line with *AS/NZS 1336:2014 Eye and face protection - guideline* and *AS 1337.6:2012 Personal eye protection, Part 6: Prescription eye protectors against low and medium impact*.

Head coverings are not routinely recommended except in the setting of theatre attire or when a sterile procedure is performed. They can be worn to contain hair or for comfort reasons i.e. to form a barrier between hair and mask or face shield straps.

If a patient requires care under droplet precautions but an AGP is undertaken, then droplet precautions should be increased to airborne precautions for at least the duration of the procedure.

For more information on the effective use of PPE refer to the [NHMRC Australian Guidelines for Prevention and Control of Infection in Healthcare \(2019\)](#).

5.3 Respiratory Protective Equipment

A respirator is used by staff members to provide respiratory protection. There are three main types of respirators available to HSPs which include:

5.3.1 Particulate filter respirators

These disposable respirators are designed to form a seal around the nose and mouth. In healthcare they are commonly called a P2 or N95 respirator. PFRs are the preferred respirator, and the range available in HSPs is described in the [PFR \(N95/P2 respirator\) options poster](#).

The respirator is discarded after each use or episode of care or when it becomes unsuitable for use i.e. damp, soiled or damaged. Some models are fluid resistant. Where a PFR is not fluid resistant it should be worn with a full-face shield if there is a risk of exposure to bodily fluids and splashes.

5.3.2 Reusable elastomeric respirators

These respirators are designed to form a tight seal around the nose and mouth. While there are a number of models and efficiency levels, in healthcare they should contain at a minimum P2 filter.

The facepiece is cleaned and reused only if all components are in acceptable working order. The filter cartridges are discarded and replaced when they become unsuitable for further use or as directed by the respirator technical sheet or advice from manufacturer.

The reusable respirator should be considered for staff who are:

- unable to achieve a facial seal (fit check) with available PFRs
- and/or have not passed a fit test and cannot be re-deployed to a lower risk clinical area
- unable to wear a disposable PFR due to adverse skin reactions that cannot be managed by care steps in Appendix 2: and
- exposed to workplace hazards that require filter efficiency greater than just P2, e.g. where a Type A respirator filter is required.

5.3.3 Powered air purifying respirators (PAPRs)

Powered air purifying respirators (PAPRs) use a rechargeable battery pack to power an air blower. This blower pulls ambient air through a high efficiency particulate air filter, then into the face mask. Depending on the model, this air may blow constantly or be activated by inhaling. Air is expired through an exhalation valve.

PAPRs can be a loose-fitting hood and helmet, tight fitting half mask or tight-fitting full-face piece rely on a close seal to the wearer's face, while others use a hood or helmet.

PAPR are an alternative to PFRs. They may not provide greater protection than a correctly fitted and worn PFR. They may be considered for use from a comfort perspective when a staff member is required:

- to remain with a patient for extended time periods
- an alternative where a person is unable to achieve an adequate fit with available PFRs
- for use in HCID when recommended.

If a PAPR is to be used the following conditions must be fulfilled:

- the HSP must have an annual training program in place
- must only be used by staff members trained and assessed in their use, that includes identification of the correct equipment and the correct donning and doffing sequences
- manufacturer's instructions must be read, understood, and followed for all aspects of PAPR and accessories use, reprocessing, maintenance (like calibration and correct charging), and storage
- must be reprocessed after each use in accordance with the manufacturer's IFU and/local guidelines
- undergo a fit test if a 'close-fitting' PAPR is used
- the Cleanspace HALO should be used in accordance with the NSW Clinical Excellence Commission's [Respiratory Protection Program Manual \(2023\)](#). For other PAPR models e.g. 3M™ Versaflo™ PAPR Respiratory Systems, refer to local HCF guidance.

5.4 Considerations before using respirators

Respirators which rely on a seal with the wearer's face to provide the expected respiratory protection must be fit tested (see section [5.8 Fit Test](#)). Respirators must be approved for use as a medical device by the TGA, conform with *AS/NZS 1716:2012 Respiratory protective devices* or a recognised international authority or standardisation body where a recommendation is not available from Australian/New Zealand authorities. When selecting respirators consideration will be given to the:

- hazardous environment such as exposure to gases or oxygen depleted areas
- task and length of time worn
- compatibility with other PPE to be worn simultaneously
- limitations, such as to vision and communication
- comfort of the wearer
- maintenance requirements
- availability of equipment and components.

The NHMRC [Australian Guidelines for Prevention and Control of Infection in Healthcare](#) and [MP 0172/22 Respiratory Personal Protective Equipment Policy](#), as well as local HSP policies relating to standard and transmission based precautions guide the selection of PPE with consideration of the pathogen, task, user and limitations. Respirators must be used in accordance with *AS/NZS 1715:2009 Selection use and maintenance of respiratory protective equipment* and manufacturers' IFU at all times. Respirators with exhalation valves that do not include a filter are not to be worn.

Respirators must be stored, maintained, and disposed of in accordance with the manufacturers' IFU and local policies and procedures. They must be stored as close to the point of use as is practicable. If reusable respirators are issued for the exclusive use of a staff member, they must be marked with an identifier. Policies and procedures must be in place for the appropriate cleaning and disinfection of reusable respirators between users.

Replaceable filters must be replaced according to a schedule determined by the manufacturer's IFU in conjunction with an WHS professional so that an adequate safety margin is allowed. Replaceable filters must be marked with the date of issue. Out of date filters must be disposed of to prevent use.

5.5 Factors affecting adequate seal

Facial hair growth, certain hairstyles and other factors such as jewellery and adornments, makeup and creams may prevent an adequate seal between the wearer's face and the sealing surface of the respirator. Facial hair, including beards, moustaches, sideburns, and stubble between the sealing surface of the respirator and the wearer's skin will prevent a good seal. The resulting reduction in pressure in the breathing zone during inhalation may lead to leakage of the contaminant into the facepiece. Staff members with a medical or religious exemption from removing facial hair may use an approved beard cover technique (see section [5.9 Use of Beard Cover Technique](#))

5.6 Education and Training

Staff members must undergo training in the correct use of PPE, including identification of the correct PPE to be used, the correct donning and doffing sequences and a practical assessment component on induction for those staff required to wear a PFR.

Training will include the following components (see [section 7](#) for useful resources):

- respiratory protection e.g. the respiratory pathogens to which they are potentially exposed during routine and emergency situations
- correct donning, doffing and use of respirators
- correct PPE donning and doffing sequence
- mandatory fit check, training, and practical assessment for staff member's recommended respirator/s
- the requirement to perform a fit check at point of use, every time a respirator is used
- hygiene practices for re-useable respirators, helmets or hoods.

During times of increased need such as emergence of a novel respiratory pathogen, alternative PFRs may need to be sourced. Relevant staff members should be notified of the alternative brands available in their workplace and variation in donning and fit checking processes. Documentation of staff member's fit check practical assessment must be maintained.

For staff who may be required to wear enhanced PPE e.g. PAPR, training and education on selection, use, donning and doffing sequences must be in accordance with local policy.

5.6.1 Learning outcomes

Staff member's undertaking respiratory protection training and practical assessment are required to demonstrate the following learning outcomes:

- understanding of when respiratory protection is needed
- knowledge of their facility respiratory protection procedures and need for risk assessment fit testing and education
- describe the potential health impact from exposure to infectious agents to self and others if respiratory protection is not used properly
- identify internal and external resources for obtaining information on respiratory protection e.g. Manufacturers' IFU, [MP 0172/22 Respiratory Personal Protective Equipment Policy](#), resources listed in [section 7](#) and local procedures and resources.
- know what to do if a respiratory exposure occurs and whom to contact
- describe circumstances when a respirator should be used and the impact of not wearing a respirator that fits the wearer

- understand manufacturers' IFU, methods of care, storage and disposal procedure for their recommended respirator types
- describe the purpose of fit checking and when it should be performed
- demonstrate effective respiratory protection practice including correct donning, fit check and doffing procedures when included in transmission-based precautions.

5.7 Fit Check

A fit check, also known as a user seal check, is a process to ensure that the respirator fits the wearer's face snugly i.e. creates a seal over the bridge of the nose and mouth to minimise the number of particles that bypass the filter through gaps between the wearer's skin and the respirator seal. Staff members are to perform a fit check every time a respirator is donned to check that a good facial seal is achieved. It is recommended a second person assists with the fit check (spotter, buddy, or colleague), if possible or alternatively in front of a mirror.

Always refer to the manufacturer's IFU for fit checking of individual brands and types of respirators. Additional resources demonstrating the fit check for several styles of PFR are listed in [section 7.2](#).

5.8 Fit Test

A fit test is a validated method that determines the respirator provides an adequate match between the wearer's facial characteristics and the seal of a close-fitting respirator. [MP 0172/22 Respiratory Personal Protective Equipment Policy](#) requires HSPs ensure a quantitative fit test is conducted. Where staff members have had fit tests external to WA HSPs, only quantitative fit test results with correct PFR strap placement will be accepted.

HSPs are currently conducting fit testing using PortaCount® Respirator Fit Tester model 8048 with FitPro™ Ultra Fit Test Software. The PortaCount® Respirator Fit Tester measures the concentration of microscopic particles in the ambient air and concentration of those particles that leak into the respirator during the fit test. The ratio of these two concentrations is called the fit factor. For disposable PFRs a fit factor of 100 or greater indicates an adequate seal. For disposable and half-face reusable respirators, an overall fit factor of 100 or greater is needed to achieve an adequate seal. For full-face respirators, an overall fit factor of 500 or greater is required. The PortaCount® Respirator Fit Tester should be maintained according to manufacturer's guidance, and daily checks performed at the beginning of each period of use and when moving to a new testing environment.

Priority for fit testing and repeat fit testing is to be based on a risk assessment of those staff members that care for patients in an environment where respiratory protection is required. During times of increased need such as during a novel respiratory infectious disease pandemic or significant change in respirator availability, the first staff members to be fit tested or have a repeat fit test should be those at greatest risk of exposure to airborne or droplet infections (see [Appendix 1](#) for an example). The HSP risk assessment tool may identify staff members who no longer require the use of a respirator. In this instance, repeat fit testing is not required.

Fit tests must be conducted to include any equipment or product which may affect the fit of the respirator including prescription glasses, headwear, PPE, approved beard covers and products used to prevent skin injury. The PFR should then be used in the workplace with the same additional equipment as during the fit test; for example, the fit test is not

guaranteed if another dressing type or beard cover technique is used. Staff members are required to complete PFR training and practical assessment on induction and with each repeat fit test.

The RPP program must implement a risk assessment tool that identifies staff members providing care in high and low risk areas within the HCF.

The HSP must ensure staff members that are required to wear a respirator undergo a fit test as per [MP 0172/22 Respiratory Personal Protective Equipment Policy](#). Fit tests are to be conducted as soon as possible on commencement of employment or transition to a new role where a PFR is required, and must be repeated:

- at least once every two years and include assessment of correct PFR application and fit check procedure
- when the wearer is no longer able to achieve a fit check with the recommended PFR
- when a new brand / model of PFR is required to be used due to PFR recall or no longer being available
- when there is a significant change in the wearer's facial characteristics that alters the facial seal of the PFR e.g. facial surgery or substantial change in body weight.

5.8.1 Fit test process

The use of a specific fit test protocol is not required in Australia. The United States Occupational Safety and Health Administration Modified Ambient Aerosol Condensation Nuclei Counter Quantitative Fit Testing Protocol for Filtering Facepiece Respirators is recommended.

After donning the respirator, a five-minute period must be observed to allow the ambient particles trapped inside the respirator to be purged, enabling accurate fit test results, and to ensure the PFR is tolerable to the wearer. After this period, the wearer completes four exercises: bending over, talking, turning head side to side, and moving head up and down. While each physical movement completed during the test gives a fit factor result, the overall fit factor from the combined scores is used to determine if the respirator provides the level of protection required. It is possible to have an adequate overall fit factor even if one of the physical movements returns an inadequate fit factor. The PortaCount[®] Respirator Fit Tester will be set to terminate the test if an adequate overall fit factor cannot be achieved.

[MP 0172/22 Respiratory Personal Protective Equipment Policy](#) requires HSPs to ensure an alternative management plan is developed if the fit test is unsuccessful in identifying a suitable PFR from available supplies. Such alternatives include changes to work practices and/or location and use of PAPR or reusable elastomeric respirators.

Fit testers are to be trained by Fit test leads using the training material provided by WA Health. Fit test leads may modify the training material to suit the HSP.

5.8.2 Data collection

HSPs are required to keep a register of all staff members fit tested including date, time, PFR brand, model, size, and the result for each respirator. The FitPro Ultra[™] software

captures this data, but global settings must be set to record all tests, including those where an adequate fit factor was not achieved. Information is made available to approved officers across HSPs via the Fit Test Analytics Dashboard to improve efficiency in monitoring compliance for the safety of the mobile workforce.

5.9 Use of Beard Cover Technique

Staff members who are unable to remove facial hair due to a medical condition or religious observance can seek an exemption for the use of an approved beard cover technique when wearing a close-fitting respirator. These techniques cover the entire beard, chin, and cheeks with either an elastic band or a single-use balaclava (refer to section [7.3 Beard cover techniques](#)). The staff member shall undergo training in donning, doffing and fit checking, and fit testing using the beard cover technique. Consideration should be given to fit testing those staff members that use an approved beard cover technique more frequently to ensure consistency in donning and doffing technique.

Elastic bands must be cleaned/disinfected and replaced when they become wet, moist, or contaminated and every time the band is doffed or changed. Hold the elastic band at one end and wipe from top to bottom using a 2-in-1 detergent/disinfectant wipe. Balaclavas are single use only and must be disposed of after removal.

5.10 Prevention of Skin Injury

Skin injury can occur from pressure, friction, shear, and accumulation of moisture under the mask or respirator, face shield and goggles. Adverse skin reactions such as contact dermatitis, allergic reaction, and acne as well as the exacerbation of any other pre-existing underlying skin issues can occur. Personal Protective Equipment cannot be compromised, and recommendations should be followed to prevent skin injury prior to donning, during and when doffing. The use of products to prevent skin injury is described in [Appendix 2](#).

Staff members have an increased risk of acquiring facial pressure injuries and adverse skin reactions as a result of prolonged use of PFRs, face shields and goggles. To reduce the duration of pressure from PPE, where possible doff PPE every two hours for minimum of 15 minutes at doffing stations or outside the patient room/ward.

Where a staff member experiences signs of skin injury from a respirator, they may use a prophylactic dressing to prevent skin injury. They should work with IPC and/or WHS to determine the most appropriate approach and undergo repeat fit test to ensure the appropriate combination of prophylactic dressings and respirator.

6. Relevant Legislation and Standards

- [Work Health and Safety Act 2020](#)
- Standards Australia AS 4381:2015 *Single-use face masks for use in health care.*
- Standards Australia AS/NZS 1715:2009 *Selection, use and maintenance of respiratory protective equipment.*
- Standards Australia AS/NZS 1716:2012 *Respiratory protective devices.*
- Standards Australia AS/NZS 1337.6:2012 *Personal eye protection, Part 6: Prescription eye protectors against low and medium impact*
- Standards Australia AS/NZS 1336:2014 *Eye and face protection - Guidelines*
- National Safety and Quality Health Service 2021 - Preventing and Controlling Infections Standard.

- US Occupational Safety and Health Administration 1910.134 App A – Fit Testing Procedures (Mandatory).

7. Additional Resources

- [NHMRC Australian Guidelines for the Prevention & Control of Infection in Healthcare \(2019\)](#)
- [Western Australia Department of Health Respiratory Protection Program](#)
- [PortaCount® Respirator Fit Tester Models 8040 and 8048 Operation/User Manual](#)
- [MP 0006/16 Risk Management Policy](#)

7.1 Correct donning and doffing sequence

- [Donning and doffing PPE poster](#)

7.2 Donning, doffing and fit checking PFRs

- [Wearing a cup style respirator](#)
- [Wearing a flat style respirator](#)
- [Donning and Fit Checking of Respirator in NSW Healthcare Setting: Cupped respirator](#) (external site)
- [Donning and Fit Checking of Respirator in NSW Healthcare Setting: Flat fold respirator](#) (external site)
- [Donning and Fit Checking of Respirator in NSW Healthcare Setting: Duckbill style P2 or N95](#) (external site)

7.3 Beard cover techniques

- [Beard cover technique – Background](#) (external site)
- [Beard cover technique – Elastic Band](#) (external site)
- [Beard cover technique - Balaclava](#) (external site)

7.4 Fit tests

- PortaCount fit testing of P2 or N95 disposable respirator – Video 2A ([external site](#))
- Beard Cover Technique – Fit testing with a balaclava and elastic band ([external site](#))

8. Guideline Contact

Enquiries relating to this Guideline may be directed to:

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9. Document Control

Version	Published Date	Review Date	Approved By	Amendments
v.1	08/07/2022	12/12/2022	Jelena Maticcevic Acting Director Communicable Disease Control Directorate	Original version
v.1.2	04/08/2023	04/08/2026	Jelena Maticcevic Acting Director Communicable Disease Control Directorate	Amendments as listed below
<ul style="list-style-type: none"> • Removal of fit testing processes from the appendix section. • Updated examples of risk assessment frameworks in the appendix section. • The Cleanspace HALO reference updated from Guidelines on the use of the HALO CS3000 powered air purifying power unit to the RRP guidelines. • Updated the definitions section. • Removal of the mandatory line manager requirements for beard covering and medical screening for PFRs. • Removed the eye wear and surgical mask section and condensed the information into the PPE section. • Requirement for a risk assessment framework as part of the respiratory protection program and annual repeat fit test updated to risk assessment but cannot exceed two years. • Removal of WA Health COVID-19 Framework for System Alert and Response and other references from the additional resources section. • Included a statement that the guideline does not cover workplace environmental contaminants. • Updated the additional resource section and bibliography. • Inclusion of HSS as a HSP providing oversight on TGA approved PFRs and recalls as well as maintaining the dashboard. 				
v.2.0	16/04/2025	16/04/2028	Dr Paul Armstrong Director, Communicable Disease Control Directorate, Department of Health	Amendments as listed below

- Title of policy amended.
- Purpose section amended to clarify intention to protect staff from respiratory pathogens, along with interactions with existing policies and standards.
- Removal of reference to SARS-CoV-2/COVID-19.
- The requirement for annual PPE practical assessment for staff required to wear a respirator amended to be on induction.
- Inclusion of MP 0134/20 National Safety and Quality in Health Care and MP 0026/16 Student Clinical Placement Agreement Policy.
- Inclusion of AS/NZ 1415:2009 Selection use and maintenance of respiratory protective equipment.
- Removal of table and chart of hierarchy of controls.
- Link to the Australian Commission on Safety and Quality in Health care resource.
- Removal of Australian Guidelines for the Prevention and Control of Infection in Healthcare
- Definitions updated.
- Removal of vaccination program and compliance.
- Removal of PPE poster and donning and doffing video from related documents to supporting information.
- Refer to 'staff member' instead of 'healthcare worker' to align with the Mandatory Policy.

10. Approval

Approved by	Dr Paul Armstrong, Director, Communicable Disease Control Directorate, Department of Health
Approval date	14 April 2025

11. Bibliography

1. Singh, R. Safri, H.S. Singh, S. Ubhi, B.S. Singh, G. Alg, G.S. Randhawa, G. & Gill, S. Under-mask beard cover (Singh Thattha technique) for donning respirator masks in COVID-19 patient care. *Journal of Hospital Infection*. 2020 Dec; 106(4): 782-785. Accessed at <https://pubmed.ncbi.nlm.nih.gov/33022336/>
2. Padula WV, Cuddigan J, Ruotsi L, Black JM, Brienza D, Capasso V, et al. Best-Practices for Preventing Skin Injury Beneath Personal Protective Equipment During the COVID-19 Pandemic: A Position Paper from the National Pressure Injury Advisory Panel (NPIAP). *Journal of Clinical Nursing*. 2021 Feb 3. Accessed at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8013459/#jocn15682-bib-0011>

This document is produced with acknowledgement to the New South Wales Clinical Excellence Commission [Respiratory Protection Program Manual](#) (2022)

12. Appendices

Appendix 1: Examples of risk assessment tools for wards and/or work areas.

Example 1

Name	Signature
Title	
Ward/work area:	Number of Staff Members
Medical	
Nursing	
Allied Health	
Support Services	
Administration	
Other	
Description of risk assessment	
<p>Describe the potential exposure to recognised and unrecognised sources of airborne and aerosolised infectious agents in your area:</p> <p>Take into consideration:</p> <ul style="list-style-type: none"> • Exposure time • Frequency of exposure • Likelihood of exposure • Situation/activity risking exposure • Availability of respirators – disposable and reusable • Management of patients requiring airborne precautions • Management of patients requiring droplet precautions. • Other: 	
<p>List the current control measures in place, and those to be implemented, including:</p> <ul style="list-style-type: none"> • Vaccination compliance • Appropriate education and training in IPC procedures, including PPE • Adequate supply of PFRs • Adequate range of PFRs • Supply and control of alternative respirators, e.g. PAPRs • Relevant staff members compliant with fit test requirements • Access to fit testing • Fit checking embedded into education and practice • Other (refer to Figure 1: Hierarchy of control measures). 	

Example 2

Category	Priority Areas	Risk assessment
<p>Staff members providing direct care to patients in airborne/droplet precautions or are required to assist in care, including AGPs or AGB.</p> <p>Disease requiring airborne/droplet precautions e.g. Tuberculosis, Measles, Varicella, COVID-19 or emerging pathogens and any other diseases for which public health guidelines recommend airborne precautions.</p>	<ul style="list-style-type: none"> Anaesthetics Resuscitation / Intubation teams Critical care Infectious diseases Respiratory <p>Other areas as identified by local risk assessment</p>	High risk
<p>Other patient care areas</p> <p>Staff members who may be exposed to inhalation of infectious pathogens</p>	<ul style="list-style-type: none"> Oncology haematology Any other area / situation identified as high risk for airborne or droplet transmissible disease. 	High risk
<p>Staff members non-clinical areas</p>	<ul style="list-style-type: none"> Any other/ situation identified as low risk of exposure to pathogens transmitted via the airborne or droplet route. 	Low risk

NB: The above risk assessment tools can be used as a guide to assist HCFs to develop and implement a local risk assessment based on the cohort of patients and transmissibility of infectious respiratory pathogens within their local facility.

Appendix 2: Prevention of skin injury

Care of facial skin to prevent and reduce adverse skin reactions

- Use a pH neutral skin cleanser, a mild skin cleanser, soap substitute or micellar water at the beginning and end of the day to wash face or water skin cleansing wipes.
- Avoid soaps and use. Standard soap is alkaline and has been shown to change skin pH and can damage the skin barrier function.
- Moisturise with a light lotion regularly e.g. QV lotion. Progress to a cream e.g. QV cream, if tolerated and apply before going to bed.
- If prone to acne avoid greasy creams.
- Regular ongoing facial shaving is recommended and above skin care steps.
- Ensure regular hydration for general skin health.

Prior to donning respiratory PPE, implementation of preventative interventions to prevent skin injury and adverse skin conditions

- Ensure facial skin is washed one-to-two hours prior to commencing work and apply a light moisturiser allowing it to be absorbed and dry.
- Wearing makeup is not advised if skin sensitivities/issues have been previously identified.
- Take time to fit the mask and ensure correct positioning over the nose and chin, adjust the straps to ensure they are in the correct position on the head and not over-tightened.
- Check in a mirror and adjust PPE as required to ensure it is comfortable.
- Perform a fit check for respirators.
- Ensure goggles/ face shield are in the correct position and comfortable.
- Monitor the time PPE is worn and, where possible, allow for regular skin breaks for at least 15 minutes every two hours.
- Monitor skin appearance, identify and report any concerns to your relevant manager.
- Report any issues to your WHS Team.

Preventative interventions if friction, pressure and moisture or skin injuries develop when wearing a mask

- Assess your facial skin prior to wearing PPE and regularly following removal of PPE. Ensure hand hygiene is conducted prior to assessing skin for areas of potential injury e.g. bony prominence over nose or early signs of changes in the appearance of skin integrity.
- If areas of pain, burning, indentation, discolouration, erythema are noted then these areas require protection and cushioning using a low-profile dressing or tape.
- Anything placed between the skin and the mask or PFR should not interfere with the function of respiratory PPE. Advice and early application of prophylactic low-profile silicone dressing e.g. Mepilex lite or Mepitac silicon tape is recommended.
- If a wound care dressing or tape is required for skin protection, then a repeat fit test should be conducted with the dressing applied. Refer to (figures 2a and 2b) guides below to ensure appropriate fit prior to use.

Application of dressings guide

- Prior to applying dressings, skin should be cleansed gently with a wet wipe and allowed to dry. A liquid skin barrier should then be applied e.g. Cavilon wipe to forehead, nose, cheeks and ears. Allow to fully dry for at least 30 seconds.
- Thin prophylactic dressings can be cut into strips for the areas in contact with PPE e.g. nasal bridge, cheek bones and behind ears for masks and respirators or straps, and forehead for a facial shield.
- A dressing on the bridge of the nose may be sufficient.
- Comfy Ears may be used to protect skin from PFR straps. They are made from a high-tech moisture wicking material that is soft and silky for reduced friction while staying secure. They keep the skin dry and protect against pressure sores. Refer to figure 2c for the use of comfy ears.
- Do not stack multiple dressings.
- It is the responsibility of the wearer in the clinical setting to ensure their own personal safety through fit checks when the dressings are in situ during wear time throughout the shift.
- On removal of dressings use an adhesive remover wipe carefully avoiding eye area and assume dressings are contaminated and exercise caution with removal. It is recommended the eyes are closed and the breath held in exhalation during dressing removal to avoid aerosolised pathogens.
- Regular ongoing skin cleansing of the face with a natural pH skin cleanser or wet wipe, patting skin dry and application of regular light moisturising lotion or cream is advised. Do not use products like Vaseline.

Figure 1: Use of the soft silicone tape dressing/ interface between skin and PPE






Step 1	Step 2	Step 3
 <p>Perform hand hygiene and apply a no sting barrier to the face in the areas that the dressing will be applied.</p>	 <p>With clean hands, cut off a section of Mepitac fixation tape. Length required will vary depending on the size of face.</p>	 <p>Apply the tape to the cheeks and under the eyes where the face mask will be sitting and above the ears to prevent trauma from the straps of the mask.</p>
Step 4	Step 5	
 <p>Tape should be only fixed to the ear and firmly moulded to the skin.</p>	 <p>Position your mask and goggles/face shield on over the tape and perform a fit check.</p>	

Figure 2: Application of dressing to prevent skin injury



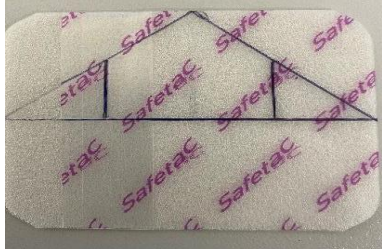




Step 1	Step 2	Step 3
 <p>Perform hand hygiene and apply a no sting barrier to the face in the areas that the dressing will be applied.</p>	 <p>Using a Mepilex lite 10cm x 10cm dressing, draw a triangle using half of the dressing.</p>	 <p>Draw in two lines for triangles and cut along these lines.</p>
 <p>Cut the dressing and ensure the size is correct for your face shape and covers all pressure points from the mask and goggles.</p>	 <p>Apply the dressing to your face and ensure that the dressing is adhered to your skin</p>	 <p>Apply your mask and ensure that it is fitting firmly over the dressing and the bridge of your nose.</p>
<p>Step 7</p>		
 <p>Apply your goggles/face shield and perform a fit check.</p>		

Figure 3: Use of comfy ears

Step 1	Step 2	Step 3
 <p data-bbox="167 779 518 891">Perform hand hygiene and remove Comfy Ears from packaging.</p>	 <p data-bbox="555 779 893 891">With clean hands, wrap Comfy Ears around the PFR strap/s.</p>	 <p data-bbox="975 763 1358 981">Apply PFR straps as per manufacturer's instructions for use and fit test. Apply additional PPE, and equipment in appropriate order. Perform a fit check</p>

Acknowledgement to Sir Charles Gardiner Hospital, Wound Management

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