

|  |
| --- |
| Victorian Respiratory Protection Program guidelines |
| 8 August 2022 (Version 1.2.2) |
| OFFICIAL |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Revision historyVersion 1.0 first published 19/09/2020

| Version | Date | Revised by | Changes |
| --- | --- | --- | --- |
| Version 1.1 | 25/09/2020 | Health and Wellbeing division | * Title changed from ‘Victorian Respiratory Protection Program’ to ‘Victorian Respiratory Protection Program guidelines’
* Page 2 updated to include a accessibility tag and imprint.
* 4.4 Selection of respiratory protection equipment (RPE) figure converted to an accessible table
* 5.2 Prioritisation for fit testing figure converted to an accessible format
 |
| Version 1.2 | 13 July 2022 | Commissioning and System Improvement division  | * 1.2.Expanded scope
* 2. Definition of HCW expanded
* 4.1-Revised Risk assessment advice
* 4.4-Revised definitions of respirators and PAPR advice
* 4.6 Additional resources including links to donning and doffing videos and posters
* 5.1- Determining when fit testing is required- additional advice
* 5.5 Facial hair and reference to Singh Thatta technique (new)
* 5.6 Competencies of fit testers (new)
* 5.8 Fit testing of students on clinical placements (new)
* 5.11 Revised advice for health services if a HCW is unable to achieve a fit with any respirator available at the time of testing.
* Section 6- Further resources and links
 |

 |
|  |

Contents

[1. Introduction 4](#_Toc109599429)

[1.1 Objectives 4](#_Toc109599430)

[1.2 Scope 4](#_Toc109599431)

[2. Definitions 5](#_Toc109599432)

[3. Roles and responsibilities 6](#_Toc109599433)

[4. Respiratory Protection Program requirements 6](#_Toc109599434)

[4.1 Risk assessment of respiratory hazards 6](#_Toc109599435)

[4.2 Commencement and establishment of a Respiratory Protection Program 7](#_Toc109599436)

[4.3 Appointment of a program administrator 7](#_Toc109599437)

[4.4 Selection of respiratory protection equipment (RPE) 8](#_Toc109599438)

[4.5 Medical evaluation 10](#_Toc109599439)

[4.6 Education and training 10](#_Toc109599440)

[4.7 Use of RPE 11](#_Toc109599441)

[4.8 Maintenance 12](#_Toc109599442)

[4.9 Record keeping 13](#_Toc109599443)

[5. Fit testing 14](#_Toc109599444)

[5.1 Determining when fit testing is required 14](#_Toc109599445)

[5.2 Prioritisation for fit testing 14](#_Toc109599446)

[5.4 Fit testing methodology 15](#_Toc109599447)

[5.5 Facial hair 16](#_Toc109599448)

[5.6 Competency of fit testers 16](#_Toc109599449)

[5.7 Just-in-time fit testing 17](#_Toc109599450)

[5.8 Fit-testing students on clinical placement 17](#_Toc109599451)

[5.9 User seal check (fit check) 17](#_Toc109599452)

[5.10 Infection control 18](#_Toc109599453)

[5.11 Data, reporting and record keeping of fit testing 18](#_Toc109599454)

[5.12 Support following fit testing 18](#_Toc109599455)

[6. Relevant information 19](#_Toc109599456)

[Australian/New Zealand Standards 19](#_Toc109599457)

[Occupational Health and Safety Act 2004 19](#_Toc109599458)

[Further Resources 20](#_Toc109599459)

# 1. Introduction

The COVID-19 pandemic has resulted in a significant increase in the use of personal protective equipment (PPE) and more specifically the use of respiratory protective equipment (RPE). Whilst COVID-19 has reinforced how essential RPE is, it is important to note that respiratory hazards extend beyond infectious diseases (i.e. COVID-19, tuberculosis, measles, varicella, influenza and other airborne precautions) and includes exposure to certain chemicals, such as disinfectants, surgical smoke and other chemical/biological/radiological hazards.

Given the significant uptake in usage of RPE and the subsequent need for health care workers (HCWs) to be trained and supported to wear and use RPE effectively, a Respiratory Protection Program (RPP) has been developed as to how to best implement respiratory protection processes to minimise the risk respiratory hazards, such as infectious agents and diseases.

The use of the RPE is the last line of defence in the hierarchy of controls and infection prevention measures, which includes immunisation, isolation, engineering controls, environmental measures, administrative controls, hand hygiene and lastly PPE including RPE.

Supporting information is available from [WorkSafe Victoria](https://www.worksafe.vic.gov.au/prevention-and-management-exposure-coronavirus-covid-19-healthcare-and-social-assistance-industry) <https://www.worksafe.vic.gov.au/prevention-and-management-exposure-coronavirus-covid-19-healthcare-and-social-assistance-industry> and the [Department of Healths (DH)](https://www.dhhs.vic.gov.au/personal-protective-equipment-ppe-covid-19) <https://www.dhhs.vic.gov.au/personal-protective-equipment-ppe-covid-19>.

## 1.1 Objectives

The objectives of this document are to:

* provide guidance and outline the expectations that health services should adhere to when implementing their respiratory protection programs.
* improve HCW and health service knowledge of RPE to minimise HCW exposure to respiratory hazards.

## 1.2 Scope

All Victorian health services where health care workers including volunteers and students on clinical placement, have the potential to be exposed to respiratory hazards are required to establish and maintain an RPP.

# 2. Definitions

**Aerosol means:** a mist composed of very small, lightweight particles that can remain suspended in the air for long periods of time and can travel long distances. These particles can penetrate the lower parts of the respiratory system and are generally <5 microns in diameter.

**Aerosol Generating Behaviours (AGBs) means:** behaviours such as screaming, shouting, crying out or vomiting that may be exhibited by patients who are agitated, delirious, acutely disturbed, have a behavioural disturbance from a mental health condition or any other reason.

**Aerosol-Generating Procedures (AGP) means:** procedures that are more likely to generate higher concentrations of respiratory aerosols than coughing, sneezing or breathing. Includes procedures such as bronchoscopy, tracheal intubation, non-invasive ventilation etc.

**Airborne transmission means:** the spread of an infectious agent caused by the dissemination of droplet nuclei (aerosols) that remain infectious when suspended in air over long distances and time.

**Droplet transmission means:** when a person is in close contact (within 1.5 metres) with an infected person who has respiratory symptoms (e.g. coughing or sneezing) or who is talking or singing; in these circumstances, respiratory droplets that include virus can reach the mouth, nose or eyes of a person and can result in infection.

**Fit check (user seal check) means:** a process of ensuring RPE achieves a good seal once it has been applied and should occur each time RPE is donned, even if fit testing has previously been undertaken.

**Fit test means:** a validated method of matching RPE to an individual. There are two methods of facial fit test – qualitative and quantitative.

**Healthcare Worker (HCW) means:** for the purposes of this document includes all staff working in the health and aged care sector, including volunteers and students on clinical placement. This includes registered health practitioners, self-regulated health practitioners, diagnostic, administration, food services and ancillary staff.

**Powered air-purifying respirator (PAPR) means:** A device incorporating a half facepiece, full facepiece or hood which provides the wearer with air filtered through a powered filtering unit, comprising a filter or filters, and an electrically operated blower unit.

**Respiratory Infection means:** an infectious process affecting any part of the upper or lower respiratory tract. Symptoms can include fever, runny nose, sore throat and cough, joint or muscle pain, lethargy, chest pain and difficulty breathing.

**Respiratory Protective Equipment (RPE) means:** equipment designed to protect the wearer and prevent the inhalation of contaminated air (e.g. ‘P2 respirator’). Includes filtering face piece respirators, elastomeric respirators and PAPR.

**Single use surgical mask (levels 1, 2 or 3 barrier) means:** a loose-fitting, single-use, fluid resistant disposable mask that creates a physical barrier between the mouth/nose of the wearer and direct droplet spray, as well as reducing the spread of respiratory droplets from the wearer. Single use surgical masks are not designed to provide respiratory protection to the user. They are designed to reduce the spread of infection from the user to the patient and provide limited respiratory protection to the wearer against aerosols.

# 3. Roles and responsibilities

Where it is identified that there is a risk of respiratory hazards, including COVID-19, at a workplace, employers must eliminate the risk to the greatest degree possible. Where it is not possible to eliminate the risk, it must be controlled so far as is reasonably practicable.

Where it is identified by a risk assessment that a HCW is required to use RPE, the health service has a responsibility to implement the RPP.

Health services are responsible for:

* familiarising themselves and complying with this document and relevant standards
* documenting and implementing a RPP in line with this document
* providing adequate resourcing to ensure the program’s continued effectiveness
* assigning and providing full support to the program administrator
* providing RPE to minimise the risk to health and safety, including ensuring equipment is suitable for the nature of work and the hazard
* consulting with workers when selecting RPE
* providing education and training on the use of selected RPE
* undertaking HCW medical evaluation (as necessary) to support RPE selection.

The program administrator is responsible for:

* the effective management of the program (see section 4.3).

HCWs are responsible for:

* using RPE in accordance with the education and training they are provided
* reporting any damage, defects or non-function of the RPE provided
* reporting any physical or medical limitations that may have an impact on their ability to wear and use RPE correctly.

Further information on employer responsibilities in relation to COVID-19 can be found at [Worksafe – Coronavirus (COVID-19)](https://www.worksafe.vic.gov.au/coronavirus-covid-19) <https://www.worksafe.vic.gov.au/coronavirus-covid-19>.

# 4. Respiratory Protection Program requirements

A Respiratory Protection Program includes several elements designed to protect workers from workplace respiratory hazards including airborne infectious agents, dust and other particles. It is the responsibility of each health service that the elements contained within these guidelines are included in a workplace RPP.

## 4.1 Risk assessment of respiratory hazards

It is essential that an appropriate risk assessment of respiratory hazards is undertaken prior to implementation of an RPP and that the risk assessments are regularly reviewed. Risk assessment is the process of determining the likelihood of a person being exposed to a health hazard and the impact on that person’s health that exposure has. Risk assessment is also used to determine whether the controls currently in place are adequate and where RPE is required to assist in controlling the risk, what type of RPE is needed.

The effective management of risks to health is achieved by identifying hazards, assessing the risk and controlling the risks to health using the hierarchy of controls.

Health services are required to perform a risk assessment of respiratory hazards within their workplace to determine the likelihood of a person being exposed to a hazard. Within health services, the risk to HCWs will vary between wards, occupational tasks, and other non-clinical areas. For example, workers in emergency departments or clinical areas where airborne precautions are required will have a different risk profile to other clinical areas that do not have infectious respiratory conditions, as well as non-clinical settings (for example, office-based staff, engineering or kitchen staff) in areas where there is no patient interaction. Not all HCWs will require the protection of a fitted respirator (P2 or N95), however for those HCWs who do require this level of protection should befit tested, receive user seal check (fit check) training, and should routinely perform a user seal check to ensure that their fit continues to be acceptable.

A risk assessment of workers’ exposure to health hazards must be undertaken by a competent person, which may include an occupational hygienist, an infection prevention and control professional, or another suitably qualified occupational health and safety professional. The risk assessment must document the control measures in place to eliminate or otherwise mitigate risks to health, so far as is reasonably practicable.

Further information:

WorkSafe Victoria The Hierarchy of Control <https://www.worksafe.vic.gov.au/hierarchy-control>

 Infection Clinical Expert Group Minimising the risk of infectious respiratory disease transmission in the context of COVID-19: The hierarchy of controls <https://www.health.gov.au/resources/publications/minimising-the-risk-of-infectious-respiratory-disease-transmission-in-the-context-of-covid-19-the-hierarchy-of-controls>.

## 4.2 Commencement and establishment of a Respiratory Protection Program

An RPP should be established once it is identified that RPE is required as a control measure to protect HCW exposure to respiratory hazards, or as soon as reasonably practicable from the date of this document.

For further information please see Establishing a fit testing program guideline <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program>

## 4.3 Appointment of a program administrator

Each health service must appoint a competent person to lead its RPP. Typically, the individual is an occupational hygienist, a health and safety professional or an infection prevention and control professional with relevant experience with respiratory protection programs.

This person should be familiar with relevant Occupational Health and Safety Standards as well as the use and application of the RPE within their healthcare setting. They are responsible for ensuring that the employees of their workplace are provided with RPE and that training and education are delivered to protect workers from risks of respiratory hazards.

It is essential that this person consults and works with local infection control specialists to ensure the RPP complies with relevant infection control practices and is aligned with health service policies and protocols.

The program administrator will be the first point of call for HCWs to discuss their respiratory protection, how and what equipment they are using, as well as how to dispose of and maintain their equipment appropriately.

### Responsibilities of the program administrator

The program administrator is responsible for administering the RPP. Accountabilities include:

* identifying work areas, processes or tasks that require HCW to wear RPE and evaluating hazards
* ensuring staff are provided with appropriate RPE
* organising and/or conducting RPE training
* ensuring staff use RPE in accordance with training and these guidelines
* ensuring appropriate storage, cleaning and inspection and maintenance of RPE is undertaken
* ensuring fit testing is conducted for all HCWs who are required to wear RPE
* writing and updating the program where required
* ensuring appropriate records for the RPP are maintained.

## 4.4 Selection of respiratory protection equipment (RPE)

### Difference between surgical masks and RPE.

It is important to understand the difference between surgical masks and RPE:

* single-use surgical masks are designed for use in procedures that do not require respiratory protection for the wearer from the airborne transmission pathway
* RPE is designed to protect the wearer and prevent the inhalation of contaminated air (e.g. ‘P2 respirator’).

There are many types of RPE across a range of brands, designs and models. All RPE used in Victorian health services should be listed on the Australian Register of Therapeutic Goods (ARTG) by the Therapeutic Goods Administration (TGA).

### Manufacturing standards

In Australia and New Zealand, RPE is designed to provide protection against respirable biological particles (aerosols) and are classified and marked as P1, P2 or P3, in accordance with AS/NZS 1716-2012. An increase in the value of the P-number translates to an increase in particle removal (filtration) efficiency of the RPE, and if correctly fitted, increasing levels of respiratory protection.

There are additional international standards to which RPE is designed and manufactured. These include the American N95 (NIOSH-42C FR84) and European FFP2 (EN 149-2001) standards.

It is important that regardless of what standard is used to manufacture the RPE, that it is fit for purpose, can demonstrate that it meets the required level of protection and is registered on the ARTG by the TGA.

The terms P2 and N95 respirator are often used interchangeably to describe filtering facepiece respirators (see below for further information), but while similar, they are not identical. The difference between the classifications is the different regulatory standards they are required to meet around the world.

### Types of RPE

RPE comes in three major forms, summarised in the figure below. All RPE is designed to filter airborne particles, but there is a variety of designs to achieve this result. The most common form used in Victoria healthcare settings is a filtering facepiece respirator (FFR). It is a requirement that RPE is fit tested to an individual, to ensure it provides adequate protection. For information on fit testing, see section 5.

| Type of respirator | Description |
| --- | --- |
| **Filtering facepiece respirators** | * These disposable respirators are designed to form a seal around the nose and mouth. While there are a number of models and efficiency levels, in healthcare they are commonly called a P2/N95 respirator.
* Some models have exhalation valves that can make breathing out easier to help reduce heat build-up, however, these valves do not filter the air that is exhaled and are generally not recommended for use in Victoria due to the risk of unfiltered air or SARS-CoV-2 (from an infected wearer) being expelled through the exhalation valve contaminating the surrounding environment and potentially exposing other individuals. However, during situations where protecting the wearer from infected individuals is the priority, such as in a setting with confirmed COVID positive individuals, reusable respirators with no filter can provide a suitable option. An assessment would need to be made on where such respirators may be used as there will be some situations where their use is not recommended such as in sterile areas and operating theatres.[[1]](#footnote-2)
* Some models are fluid resistant. Where a FFR is not fluid resistant it could be worn with a full face shield if there is a risk of bodily fluids and splashes.
 |
| **Elastomeric respirators** | * These generally reusable respirators are designed to form a seal around the nose and mouth. While there are a number of models and efficiency levels, in healthcare they should contain at a minimum an N95/P2 filter.
* Some models have exhalation valves that can make breathing out easier to help reduce heat build-up. In models that do not filter the air that is exhaled, they are currently not recommended for use in Victoria.
* Some models are fluid resistant. Where an elastomeric is not fluid resistant, it should be worn with a full face shield if there is a risk of bodily fluids and splashes.
 |
| **Powered air-purifying respirators (PAPRs)** | * Powered air purifying respirators (PAPRs) are a form of personal protective equipment (PPE), in the sub-category respiratory protective equipment (RPE), designed to protect against air contaminants such as pathogens, and typically against splashes and other risks to the face. The components are largely reusable and easily cleaned, with long-lasting air-filters and rechargeable battery packs.
* PAPR approved by the Therapeutic Goods Administration (TGA) may be considered as an alternative form of respiratory protective equipment in some circumstances. Situations where RPE would be appropriate include increased comfort during prolonged RPE use (such as an entire shift) in a COVID streaming area, and circumstances when staff are unable to achieve a face seal (for example, due to beards or facial contours).Refer to: Position Statement: Powered air purifying respirators, <https://www.health.vic.gov.au/position-statement-powered-air-purifying-respirators>
 |

Further information can be found at [Personal Protective Equipment (PPE)](https://www.health.vic.gov.au/worker-health-wellbeing/protective-personal-equipment-ppe) <https://www.health.vic.gov.au/worker-health-wellbeing/protective-personal-equipment-ppe>>

### Selection of RPE

The type of RPE selected needs to consider the following:

* be aligned with advice from the Victorian Department of Health
* must be listed on the Australian Register of Therapeutic Goods (ARTG)

Guidance has been developed to help HCWs, managers and procurement staff confirm which respirators can be used in occupational settings. Refer to: Selecting the correct P2/N95 respirator, https://www.health.vic.gov.au/publications/selecting-the-correct-p2-n95-respirator-guidance-for-healthcare-workers

* medical evaluation of wearers for psychological and physical suitability
* human factors including comfort, compatibility with other PPE, vision, communication etc
* effective fit
* maintenance requirements, if any, including cleaning, disinfection and availability including of spare parts
* disposal requirements.

Each health service’s RPP must outline the type(s) of RPE to be used at the workplace and when they are to be used. This information must be clearly signposted on noticeboards and/or in procedures for workers to reference.

Facial hair needs special consideration as even stubble can cause leaking around seals of RPE. Refer to Section 5.

## 4.5 Medical evaluation

There is the potential for RPE to cause physical and psychological stress on users. Where an individual HCW identifies as having a condition which may be impacted on by the use of RPE, they should be assessed to determine whether it is safe for them use to RPE.

Physiological considerations include whether they have any cardiac or respiratory conditions especially for prolonged use or heavy work. Psychological considerations include claustrophobia, anxiety or isolation. Training can be given to help users overcome these concerns.

## 4.6 Education and training

Education and training are essential components of minimising HCW’s exposure to respiratory hazards. Where RPE is to be used, education and training must be provided by a competent person on its safe use and the limitations of the RPE selected. This training should be provided routinely with training provided to users when they are required to use new and/or different forms of RPE (including different brands, models etc.).

Training must:

* be provided prior to the commencement of use of the RPE, or as soon as reasonably possible
* name the work areas and/or tasks where RPE is required
* explain the type of RPE for use
* explain the importance of proper fitting
* demonstrate how the RPE is to be donned / doffed and disposed
* demonstrate a fit check
* explain the limitations of the RPE selected
* describe maintenance and storage requirements (if relevant)
* be repeated regularly, e.g. at least annually
* improve supervisor’s knowledge of RPE, so they can ensure that RPE is used effectively by staff under their management.

Training principles:

* Training can be provided in any format that the program administrator deems appropriate and suitable for their place of work.
* Training must be completed in a way that is comprehensible for HCWs. This means that the training should be tailored specifically for workers to best understand the content based on their general education and background.
* Workers are expected to be able to demonstrate knowledge of proper use of RPE. This can be done through reviewing training either orally or in writing and by reviewing HCW use in a safe and controlled environment.
* User seal check (fit check) training should be undertaken annually.

Training should occur regularly, and additional training provided where there are changes in the workplace, type of respirators made available, or any other situation where retraining appears to be required to ensure safe use of RPE.

Additional resources:

Standard sequence for putting on (donning) and taking off (doffing) personal protective equipment (PPE) https://www.health.vic.gov.au/standard-sequence-putting-on-taking-off-ppe-covid-19-doc

Additional PPE resources including guidelines, fact sheets and posters are available on the Infection prevention control resources - COVID-19 tile under the PPE tab. <https://www.health.vic.gov.au/covid-19/infection-prevention-control-resources-covid-19>

## 4.7 Use of RPE

Users must ensure that RPE is used in accordance with manufacturer’s instructions and current departmental guidelines. It is important that HCWs consider the following when using RPE:

* Avoid touching RPE (such as readjusting) to ensure a safe and secure fit at all times.
* If the RPE needs to be touched, ensure a fit check is conducted (see 5.5 Fit Checking) and hand hygiene should be performed before and after.
* RPE should only be touched at the straps or harness and not worn around the neck. A face shield may be worn over RPE for eye protection.
* Wearers must be clean shaven every time close fitting RPE is required to be worn.
* All HCWs must remove and dispose of RPE before going on a break and replaced before resuming work.
* Upon removal of RPE, HCWs must always perform hand hygiene and should remember to hydrate themselves.
* Reusable RPE must be maintained according to manufacturer instructions and routinely cleaned and disinfected in line with local infection prevention and control policies.

HCWs must be made aware that wearing RPE can result in detrimental effects to both the user and the performance of their role. This includes negative impact on communication, skin irritation, reduced field of vision, musculoskeletal strain on face, neck and shoulders etc.

**Associated health issues**

**Pressure injuries -** Where tight-fitting RPE may be required, especially for extended periods of time or on a regular basis, this may lead to pressure injuries. Pressure injuries are any breach of skin integrity caused by unrelieved pressure on soft tissue that has been compressed.

Injury to the sealed contact area of RPE may not be fully avoidable, however the severity of injury can be minimised and managed in several ways, including:

* ensuring RPE is only used when required
* maintaining good skincare practices – moisturising regularly and avoiding harsh chemical solutions
* application of a liquid skin sealant/protectant or moisturising lotion on skin surfaces that will be in contact with PPE without interfering with the seal
* where possible, workers can go to a safe environment and remove RPE for a short time every few hours - if RPE is removed, it must be replaced with a new one

Workers should always perform a user seal check (fit check) after adjusting or replacing the RPE, and report discomfort or skin injury arising from their RPE to their supervisor.

Further information: Caring for facial skin applying dressings under PPE, <https://www.health.vic.gov.au/caring-for-facial-skin-applying-dressings-under-PPE-covid-19>

**Compliance issues for wearing RPE -** Where RPE is causing discomfort for the user this can lead to compliance issues where the RPE is adjusted and/or moved to no longer appropriately seal to provide adequate protection from airborne pathogens.

If adjustments are required, RPE should only be adjusted via the ties and a fit check should be subsequently conducted as well as hand hygiene procedures.

## 4.8 Maintenance

It is recommended that most RPE utilised in Victorian health services is single use FFR. For RPE that is not single use, it is essential that HCW are provided with the necessary tools and equipment to clean, disinfect and ensure equipment is operationally effective. To do this, a system of RPE care and maintenance should be implemented as part of the RPP. A system must be established so that RPE is:

* Maintained and inspected in accordance with manufacturer’s instructions to ensure they function and fit correctly. This includes:
	+ a thorough visual inspection for cleanliness and defects as well as a fit check to ensure a proper fit can be achieved.
	+ Examination of the facepiece, valves (where applicable), head straps, filters/cartridges and air supply systems should all be inspected for breakages, distortion, cracks, residue or dirt as well as any applicable hoses and/or connections.
	+ Taking out of circulation for repair or disposal if they cannot be properly maintained.
* Cleaned and disinfected in accordance with local infection control and prevention policies at a designated respirator cleaning station in an area that is free of respiratory hazards, away from other work areas.
* Components are repaired or replaced as necessary
* Stored appropriately according to infection control protocols

## 4.9 Record keeping

To ensure that compliance with a RPP can be demonstrated, records should be kept that relate to:

* regular evaluation of the workplace to determine the components of an RPP required
* implementation information on components of an RPP in place
* respirator fit testing schedules and results
* maintenance of reusable equipment
* training records (might include training conducted elsewhere in a workplace for example in the use of personal protective equipment more broadly)

This information should be included in health service COVIDSafe plans.

# 5. Fit testing

The effectiveness of close-fitting respiratory protection relies on achieving a seal against the wearers face. The purpose of fit testing is to verify which selected makes, models and sizes of close-fitting RPE adequately fits the wearer.

Fit testing does not replace the need for HCWs to perform a user seal check (fit check) every time they wear RPE. A fit check is the routine process of checking RPE achieves a good seal once it has been applied (see 5.5 Fit Checking).

## 5.1 Determining when fit testing is required

Where HCWs are required to wear RPE, fit testing must be provided to those individuals. This includes:

* prior to first use
* when a new brand/model of RPE is made available (and healthcare workers who have not previously achieved a fit to a respirator should be fit tested to a new respirator is on the market)
* for all new starters in higher risk roles (including students and volunteers), or for people transferring from lower risk into higher risk roles
* A significant change to physical appearance:
	+ Significant weight loss or gain (a change of more than 5 per cent)
	+ Pregnancy
	+ Facial trauma / surgery
	+ Scarring or cosmetic surgery
	+ Extensive dental work including extractions and new dentures
	+ Any other reason for suspecting a mask leak including a worker suspected of acquiring a respiratory illness at a workplace despite wearing RPE.

Where it is not possible to achieve testing and/or the recommended frequency of testing, for example during periods of high demand such as a pandemic, HCWs must as a minimum undertake a fit check.

For further information, please see Repeat fit testing guidance for health service organisations, and guidance on the conventional use of PPE.

<[Repeat fit testing guidance for health service organisations | health.vic.gov.au](https://www.health.vic.gov.au/publications/repeat-fit-testing-guidance-for-health-service-organisations)>

< <https://www.health.vic.gov.au/guide-conventional-use-ppe-covid-19-doc>>

The Department may issue Pandemic or Emergency orders which will influence how health services should employ their infection prevention and control measures, and their RPP. Health services should closely monitor the advice in these circumstances.

## 5.2 Prioritisation for fit testing

Conducting fit testing requires specific equipment and training (see section 5.3 and 5.4). When a fit testing program is implemented for the first time, the first people to be tested should be those at the greatest risk of exposure to respiratory hazards.

The following diagram provides an example of how a prioritisation framework for Victorian health services might be designed to consider both the role and setting of a wearer. This may be modified to accommodate local variables.



**High risk workers** for the purposes of this document are defined as:

* clinicians who have exposure to patients with infectious respiratory diseases
* emergency and first responders e.g. ambulance operational staff any other staff identified as being at high risk of exposure
* ancillary staff, e.g. hotel services, cleaners, and others who work in isolation rooms, outbreak zones and areas where there are patients with infectious respiratory conditions.
* staff who may have exposure to other respiratory hazards, such as dental procedures All other workers (who require fit testing) should be fit tested as required following the completion of high priority HCWs.

## 5.4 Fit testing methodology

In Victoria, it is preferred that quantitative fit testing is conducted. Quantitative fit testing requires the use of specialised particle counting equipment (such as a PortaCount™ Plus machine) to provide quantitative, or numerical, measurements of the amount of face seal leakage present when a given RPE model is donned by a particular user. Qualitative fit testing is subjective to the wearer and should be avoided.

It is recommended that fit testing be undertaken using FFR only. Where a HCW can’t fit any available FFR a decision should be made as to how to remove them from risk of respiratory hazards.

Efficiently and effectively undertaking quantitative fit testing involves the following elements:

* Persons who perform fit testing have undergone training to be competent to do so.
* Workers to be tested are scheduled according to priority (see section 5.2).
* Appropriate infection control procedures are followed (see section 5.10).
* A minimum of 3 FFR make/models are tested, to ensure options are available for a worker.
* Information on worker demographics and test results are securely recorded(see section 5.7).
* advice is available for workers after testing to translate their results into practice, for example what is available for them if a successful fit was not achieved on any FFR (see section 5.8)
* a designated person is nominated to ensure that fit testing equipment is used and maintained correctly as per the manufacturer’s instructions by a trained operator.

Organisations may wish to partner locally to ensure a fit testing service is continually available where it is impractical to maintain their own service, for example between health services, aged care and community-based organisations.

Qualitative fit testing as an alternative method to quantitative fit testing is **not recommended** for healthcare workers in healthcare settings.

For further information about fit testing protocols, please see Respiratory fit testing protocols guide <https://www.health.vic.gov.au/publications/respiratory-fit-testing-protocol-guide>

## 5.5 Facial hair

Fit testing is an important protection measure for healthcare workers who wear P2/N95 masks on a daily basis. Facial hair interferes with the seal of close-fitting respiratory protection thereby significantly reducing the effectiveness of the device. Current international standards require that fit testing must not occur on an individual who has facial hair present. Discussions should be held with HCWs regarding remaining clean shaven or changing the type of RPE to avoid seal issues with facial hair. These conversations should acknowledge that some HCWs may have facial hair for religious, cultural or medical reasons and they are unable to shave.

The primary recommendation for all healthcare workers for achieving a fit-testing seal, with a tight-fitting respirator, requires a clean-shaven face.

A research trial is currently underway to evaluate the Singh Thattha technique for HCWs who are unable to shave due to religious, cultural or medical reasons. The Singh Thatta technique involves using a beard cover technique to cover the entire beard, chin, and cheeks by using an elastic band over the beard and tied at the top of the head. The respirator is then worn with the seal formed on the band. The Department of Health is also supporting an Implementation study based on the initial trial to assess the feasibility, and acceptance and ongoing roles and responsibilities of implementing the Singh Thattha technique in selected Victorian health services.

HCWs who are unable to be clean shaven and be fit tested due to a religious, cultural or medical reason are invited to contact the Royal Melbourne Hospital Respiratory Protection Program to discuss the potential for participating in the study. Please email respiratoryprotectionprogram@mh.org.au to register in study. Those wishing to participate in the study must seek approval from the health service at which they are employed, volunteering or completing a clinical placement as part of their studies.

Further information, Victorian Respiratory Protection Program – Fit testing guidelines: Supporting Healthcare Workers who are unable or unwilling to be fit tested, <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program>

## 5.6 Competency of fit testers

When undertaking fit testing it is important that health services ensure that they have the required expertise available to ensure the results of the testing can be trusted. This may require health services to seek specialist providers to assist them in implementing the testing.

All persons who perform fit testing must be competent to do so. No matter the tight-fitting respirator brand, there must be confidence that a true indication of fit (or lack of fit) has been achieved through a validated methodology and protocol by a competent person. A competent person may be an occupational hygienist, another type of health and safety professional, an internal employee who has undertaken appropriate training or an external fit test service provider.

AS/NZS 1715 and ISO 16975-3 should be used for determining whether a person is considered competent. ISO 16975-3 provides detailed guidance of the knowledge and practical skills that fit test operators should have. Health services can contact the Australian Institute of Occupational Hygienists (AIOH) for further information.

A sample fit tester Position Description and competency tool can be found at: <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program>

## 5.7 Just-in-time fit testing

During public health emergency responses, it may be necessary to fit test a significant number of workers who are not normally required to wear respirators because their job does not typically place them at risk for exposure to respiratory hazards. This may occur across the whole health system, or in localised areas in response to an outbreak. Only in these circumstances, ‘just-in-time’ fit testing may be implemented as a way to fit test large numbers of workers quickly.

‘Just-in-time’ fit testing involves an experienced fit test operator providing training for up to 5 people simultaneously to be fit test operators. This simplified training should ensure the new fit test operators are competent and safe with basic fit test protocols and be condensed into a short timeframe, for example less than two hours. Those five people can then conduct fit tests for the remaining workers. The result is six operators fit testing up to five people each at a time, thus the number of people being tested in a day is much higher. These fit test operators must undergo standard training if they wish to continue the role of fit testing after the pandemic is over.

If sufficient equipment for quantitative fit testing is not available, qualitative fit testing methodology can be used.

Just-In-Time fit testing is only recommended in critical health emergency responses.

## 5.8 Fit-testing students on clinical placement

Where health services require students to wear P2/N95 respirators, students should be fit-tested, either prior to commencement, as part of their onboarding process, or as soon as possible upon commencing their clinical placement. Health services are advised to continue to follow departmental guidance specific to student clinical placements, Student clinical placements COVID-19 guidance, <https://www.health.vic.gov.au/student-clinical-placements-covid-19-guidance-doc>

## 5.9 User seal check (fit check)

A user seal check (fit check), is the process of ensuring close-fitting respiratory protection achieves a good seal once it has been applied and should occur each time a respirator is donned, even if fit testing has previously been undertaken.

HCWs must perform a user seal check every time they put on close-fitting respiratory protection to ensure a facial seal is achieved.

HCWs who have facial hair (including 1–2 days of stubble), must be aware that an adequate seal is likely not to be achieved between close-fitting respiratory protection and the wearer’s face. The wearer must either shave or seek an alternative form of protection. Refer section 5.5.

No clinical activity should be undertaken until a satisfactory fit has been achieved. A user seal check provides the best routine indicator of whether the respirator is sealed (for example over the bridge of the nose and mouth for a half face respirator) and that there are no gaps between the respirator and face. HCWs must be informed about how to perform a user seal check correctly.

The procedure for a user seal checking an FFP includes:

* placement of the respirator on the face so the top rests on your nose and the bottom is secured under your chin.
* placement of the top strap or ties over the head and position it high on the back of the head.
* pull the bottom strap over your head and position it around your neck and below your ears.
* place fingertips from both hands at the top of the nosepiece. Using two hands, mould the nose area to the shape of your nose by pushing inward while moving your fingertips down both sides of the nosepiece.
* checking the negative pressure seal of the respirator by covering the filter with both hands or a non-permeable substance (for example, plastic bag) and inhaling sharply. If the respirator is not drawn in towards the face, or air leaks around the face seal, readjust the respirator and repeat process, or check for defects in the respirator.
* always refer to the manufacturer’s instructions for a user seal check of individual brands and types of P2/N95 respirator.

Appropriate procedures should be in place to ensure HCWs understand how to perform a fit check for all types of respiratory protection.

## 5.10 Infection control

It is imperative that relevant infection control procedures are followed throughout the fit testing process. This includes appropriate donning/doffing procedures, cleaning and disposal protocols for equipment.

The program administer should ensure that they work in consultation with local infection control practitioners to ensure that the RPP is aligned with local infection control protocols and procedures. All reusable equipment must be cleaned and disinfected before use on the next person following manufacturer’s instructions and organisational procedures.

## 5.11 Data, reporting and record keeping of fit testing

Data should be captured and recorded on each individual who undergoes fit testing.

This should include worker name or identification number, the date of the test and specifics of the respirators tested (including make, model, if a clip was used etc). Results are ideally recorded with a specific measure achieved and a yes/no pass result.

Additional demographic data are useful to predict supply requirements into the future. This includes information such as gender, date of birth, ethnicity and weight.

Each health service is required to have an internal reporting and record keeping system.

Further information on the format of fit test results to provide to healthcare workers is outlined in Transferability of Fit testing records, <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program>

If data is required to assess the suitability of a new P2/N95 respirator, health services may be requested to fit test healthcare workers and provide the fit test data to the relevant departmental team. This will assist with any future purchasing decisions.

## 5.12 Support following fit testing

Immediately following fit testing, workers should be offered support to interpret their results and how it may impact on their working arrangements. Common areas of advice include:

* Reassurance that the make/model of respirator a worker requires is available for their use
* Reminder of fit checking protocols to ensure a respirator is fitting at each wear, and what to do if it doesn’t
* Discussion on a process of identifying alternative respirator or work arrangements if a worker is unable to achieve a fit with any respirator available at the time of testing. Depending on the role and the current public health directions, suitable alternatives may include:
* facilitating the ability to work from home
* offering hypo-allergenic masks
* trying different brands of masks (different materials and chemicals used in manufacturing process)
* redeployment to alternative duties that are not public-facing or do not involve working in a shared space.

# 6. Relevant information

This Standard provides information on general principles of respiratory protection for workers and supports the following legislation and standards.

## Australian/New Zealand Standards

* 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 4381:2015 - Single-use face masks for use in healthcare

[Victorian Infection Prevention and Control Guidelines – Coronavirus disease 2019](https://www.dhhs.vic.gov.au/coronavirus-covid-19-infection-control-guidelines-version-2-21-june-2020) <https://www.dhhs.vic.gov.au/coronavirus-covid-19-infection-control-guidelines-version-2-21-june-2020>

* Recommends that where there is a high probability of airborne transmission due to the nature of the infectious agent or procedure then a correctly fitted P2/N95 respirator should be worn.

## Occupational Health and Safety Act 2004

The *Occupational Health and Safety Act 2004* (OHS Act) is the main workplace health and safety law in Victoria. It sets out key duties, principles and rights about occupational health and safety.

The Occupational Health and Safety Regulations 2017 (OHS Regulations) build on the OHS Act. They set out how to fulfil duties and obligations and in particular processes in relation to a limited list of hazards, that support the OHS Act.

Adherence to these guidelines forms part of the development of a safe system of work, however, adherence with this plan does not mean an employer, self-employed person, or employee has fully complied with all their duties under the OHS Act and OHS Regulations.

In addition to adhering to this RPP standard, employers, self-employed persons and employees must ensure they comply with all obligations under the OHS Act and Regulations. Information on obligations can be found at [Worksafe](https://www.worksafe.vic.gov.au/coronavirus-covid-19) <https://www.worksafe.vic.gov.au/>.

## Further Resources

[WorkSafe Victoria: Face masks in the workplace](https://www.worksafe.vic.gov.au/managing-coronavirus-covid-19-risks-face-masks-workplaces)

<<https://www.worksafe.vic.gov.au/managing-coronavirus-covid-19-risks-face-masks-workplaces>>

The WorkSafe Victoria - Managing COVID-19 risks: healthcare and social assistance industry – Respiratory Protective Equipment (RPE) refers in the section: Additional considerations for wearing and fitting of N95/P2 respirators:  make sure that they are clean-shaven where the N95/P2 respirator touches the face

<<https://www.worksafe.vic.gov.au/managing-coronavirus-covid-19-risks-healthcare-and-social-assistance-industry-respiratory> >

Bewell.besafe provides information for health services in relation to infection control, donning/doffing respirators

<<https://www2.health.vic.gov.au/health-workforce/worker-health-wellbeing/be-well-be-safe>>

 RPP Resources

Victorian Respiratory Protection Program resource page <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program>

Student clinical placements COVID-19 guidance <https://www.health.vic.gov.au/student-clinical-placements-covid-19-guidance-doc>

|  |
| --- |
| To receive this document in another format, phone, using the National Relay Service 13 36 77 if required, or email <vicrpp@health.vic.gov.au  |
| Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne. |
| © State of Victoria, Australia, Department of Health, 25 July 2022. |
| **ISBN** 978-1-76096-942-4 **(pdf/online/MS word)** |
| Available at the Victorian Respiratory Protection Program website  |
| <https://www.health.vic.gov.au/quality-safety-service/victorian-respiratory-protection-program> |

1. <https://www.worksafe.vic.gov.au/managing-coronavirus-covid-19-risks-healthcare-and-social-assistance-industry-respiratory> [↑](#footnote-ref-2)