Respiratory Protection Program Guideline

PPE RIGHT WAY EVERY TIME

1. Overview

The aim of this document is to provide guidance and a minimum standard on how to introduce and maintain a Respiratory Protection Program (RPP) within Western Health. This procedure aims to improve staff and organisational knowledge on respiratory protection equipment (RPE) and to minimise Western Health staff exposure to respiratory hazards.

2. Applicability

The RPP is applicable to all management, staff, volunteers and contractors who introduce work in environment where there is the potential to be exposed to respiratory hazards. This guideline should be read in conjunction with the Western Health PPE guideline located here.

3. Responsibility

Western Health:

- documenting and implementing a respiratory protection program that meets the requirements of AS/NZS 1715:2009
- providing adequate resourcing to ensure the program's continued effectiveness
- assigning and providing full support to the program administrator
- Selecting RPE to minimise the risk to health and safety, including ensuring equipment is suitable for the nature of work and the hazard, a suitable size and fit for the individual who is required to use it and that it is reasonably comfortable
- Consulting with workers when selecting RPE
- providing education and training on the use of selected RPE
- undertaking staff medical evaluation (as necessary) to support RPE selection.

Program Administrator:

- Is responsible for the effective management of the program, and:
- Identifying work areas, processes or tasks that require staff 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 staff risk assessed as requiring fit testing.
- Writing and updating the program where required.
- Ensuring appropriate records for the RPP are maintained

Employees and Volunteers:

- using RPE in accordance with the education and training they are provided
- reporting any damage, defects or non-function of the respiratory protection provided
- reporting any physical or medical limitations that may impact their ability to wear and use respiratory protection correctly.
- co-operating with management actions and instructions regarding RPE use and IP controls.

OH&S Department Staff:

- Provide advice and guidance on the appropriate use of RPE.

4. Authority

The Director of Safety, Risk and Emergency Management has the authority to approve minor modifications to this procedure after suitable consultation with key stakeholders.

5. Definitions and Abbreviations

For purposes of this procedure, unless otherwise stated, the following definitions/abbreviations shall apply:

Aerosol	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 (AGB)	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)	Procedures that are more likely to generate higher concentrations of respiratory aerosols than coughing, sneezing or breathing.
Airborne Transmission	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	When a person is in close contact (within 1 metre) 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 susceptible person and can result in infection.
Fit Check (user seal check)	A procedure that is followed when donning close fitting RPE to check that it is fitted correctly. If any leaks are detected, then the respirator must not be used if a seal cannot be achieved.
Fit Test	A validated method of matching a respirator to an individual. There are two methods of facial fit test – qualitative and quantitative.

Powered air-purifying respirator (PAPR)	A device incorporating a half facepiece, full facepiece or hood which provides the wearer with air filtered through a powered filtering unit, comprising of a filter or filters and an electrically operated blower unit.
Respiratory Infection	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 Protection Equipment (RPE)	Equipment designed to protect the wearer and prevent the inhalation of contaminated air (e.g. 'P2/N95 respirator'). Includes filtering face piece respirators, elastomeric respirators and PAPR.
Single use face mask (levels 1, 2 or 3 barrier)	A loose-fitting, single-use, fluid resistant disposable facemask 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 face 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 do not provide respiratory protection against aerosols.
Staff	For the purposes of this document 'Staff' includes all staff working in the health and aged care sector. This includes registered health practitioners, self-regulated health practitioners, diagnostic, administration, food services and ancillary staff.

6. Procedure Detail

6.1 Respiratory Protection Program Requirements

A Respiratory Protection Program includes several elements designed to protect staff from workplace respiratory hazards including airborne infectious agents, dust and other particles.

6.1.1 Risk assessment

A risk management process which involves identifying, assessing, controlling respiratory hazards must be undertaken to identify to support the RPP. Regular reviews of tasks, hazards and risks, and controls implemented to mitigate risks must be included in the risk management process.

A risk assessment of workers exposure to health hazards must be facilitated by a competent person, which may include an occupational hygienist or suitably qualified 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.

6.1.2 Commencement and establishment of a Respiratory Protection Program

Once it is identified that RPE is required as a control measure to protect staff exposure to respiratory hazards, this RPP must be implemented as soon as reasonably practicable.

6.1.3 Appointment of a program administrator

Western Health will appoint a competent person to lead its RPP. Typically, the individual is an occupational hygienist, a health and safety professional or occupational physician with relevant experience in respiratory protection programs.

This person should be familiar with Occupational Health and Safety Standards as well as the use and application of the RPE within the healthcare setting. The Program Administrator is responsible for ensuring that the RPP outlines the provision of RPE for staff and, training and education programs are available to protect workers from risks of respiratory hazards.

It is essential that the RPP Program Administrator consults and works with local infection control specialists to ensure the RPP complies with relevant infection control practices and protocols.

The program administrator will monitor the day to day operations of the RPP through third party fit testing providers, staff trained to conduct fit testing and PPE champions. A COVID-19 Fit Testing email is available for all staff to enquire about any element of the RPP.

6.2 Selection of Respiratory Protection Equipment (RPE)

6.2.1 Difference between surgical masks and RPE

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

- Single-use surgical masks are described in AS 4381-20015 and are designed for use in procedures that do not require respiratory protection for the wearer from the airborne transmission pathway.
- RPE is described in AS/NZS 1715-2009 is designed to protect the wearer and prevent the inhalation of contaminated air (e.g. ‘P2/N95 respirator’)

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

6.2.2 Manufacturing standards

In Australia and New Zealand, RPE designed to provide protection against respirable biological particles (aerosols) 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 respirator, and if correctly fitted, increasing levels of respiratory protection.

There are additional international standards of which RPE is designed and manufactured to. 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, which it is fit for purpose, can demonstrate that it meets the required level of protection and is registered on the Australian Register of Therapeutic Goods (ARTG) by the Therapeutic Goods Administration (TGA).

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

6.2.3 Types of respirators

RPE comes in three major forms, summarised below. All respirators are 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 are filtering facepiece respirators (FFR). It is a requirement that respirators are fit tested to an individual, to it provides adequate protection.

- Filtering facepiece respirator:
  - Disposable respirators designed to form a seal around the nose and mouth.
  - Some models have exhalation valves to make breathing out easier and help reduce heat build-up; however, the valves do not filter expired air.
  - Where an FFR is not fluid resistant it should be worn with a full face shield if there is a risk of bodily fluids or splash.
- Elastomeric respirator:
  - Half or full face tight fitting design with replaceable filter cartridges.
  - Components of the respirator can be reused after appropriate cleaning and disinfection.
  - Not currently certified by the Therapeutic Goods Administration and are NOT RECOMMENDED for use in Victoria.
- Powered air-purifying respirator (PAPR):
  - Battery powered unit providing positive air pressure into the head or face covering through P2 filters before delivering the air to the wearer.
  - Components of the respirator can be reused after appropriate cleaning and disinfection.
  - **Please note:** Western Health will only allocate a PAPR to staff members in exceptional circumstances. Refer to 6.9.3 for further guidance

KN95 RPE is not to be used at Western Health.

6.2.4 Selection of RPE

The type of RPE selected needs to consider the following:

- be aligned with advice from DHHS;
- must be listed on the Australian Register of Therapeutic Goods (ARTG);
- 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 spare parts;
- disposal requirements.

Depending on state and national demand of RPE, Health Purchasing Victoria may restrict Western Health procuring RPE independently and rely on RPE provided solely through HPV.

Information regarding the types of RPE to use 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 masks. Discussion should be held with staff regarding remaining clean shaven or changing the type of RPE to avoid seal issues with facial hair. Conversations must acknowledge staff who have facial hair for religious or cultural reasons. Decisions regarding minimising individual staff exposure to respiratory hazards should be made as appropriate.

6.3 Medical Evaluation

There is the potential for RPE to cause physical and psychological stress on users. Where a staff member 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 to use PPE.

Psychological considerations include claustrophobia, anxiety or isolation especially when wearing helmet, hood and full facepiece especially if combined with full body protection. Staff with a psychological response to wearing of RPE are to be offered every opportunity to speak with an appropriately qualified support person.

6.4 Education and Training

Where RPE is to be used, education and training must be provided by a competent person in the safe use and limitations of the RPE selected.

Training must:

- Be provided prior to the commencement of use of the RPE, or as is reasonably practicable;
- 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;
- maintenance and storage requirements (if relevant);
- be repeated regularly, e.g. at least annually; and
- improve supervisors 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 staff. 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 staff use in a safe and controlled environment.

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.

6.5 Guidance for PPE

Western Health PPE guidance includes when to wear RPE. Information on priority areas for RPE use and when to wear P2/N95 and facemasks is located here.

Current DHHS guidance for PRE usage is as follows:

- the use of FFR is required when providing treatment to patients with Tuberculosis,
- FFR are required when providing care to patients with measles, and
- when providing care and treatment to COVID-19 patients.

6.6 Use of RPE

Staff must ensure that RPE is used in accordance with manufacturer's instructions and current departmental guidelines. It is important that staff 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 7.9.6 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. If wearing a face shield an appropriately fitted respirator should be worn concurrently.
- Wearers must be clean shaven where close fitting RPE is required to be worn.
- All staff must remove and dispose of RPE before going on a break and replaced before resuming work.
- Upon removal of RPE, staff should remember to practice hand hygiene, hydrate themselves and avoid touching their faces.

Staff 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 neck and shoulders etc.

6.6.1 Issuing of RPE

RPE is available through the logistics team. In times of high RPE need such as a pandemic or compromised air quality, a special PPE taskforce may be stood up to manage the increased demand.

RPE can be sourced through local area managers. Staff must be aware of the masks they can where determined through fit checking.

6.6.2 Associated health issues

Pressure injuries - Pressure, shear, friction and microclimate can all result in damage to soft tissue around the face as a result of wearing RPE. Tight-fitting RPE may be required for an appropriate fit which may lead to pressure injuries. Pressure injuries are any breach of skin integrity caused by unrelieved pressure on soft tissue that has been compressed. Refer to related Quick Reference Guide here

Injury to the sealed contact area of a mask may not be fully avoidable, however the severity of injury can be minimised and managed 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, staff 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; and
- allow any abrasions to heal where possible. Treat wounds with moisturizer, skin sealant or a thin dressing.

Staff should always perform a fit check after adjusting or replacing the RPE and report discomfort or skin injury arising from their RPE to their supervisor.

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

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

6.7 Maintenance

RPE that is not disposable, it is essential that staff are trained and competent to undertake the task. Staff must be provided with the necessary tools and equipment to clean, sanitise and ensure equipment is operationally effective. A system must be established to ensure 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.
    - Taken out of circulation for repair or disposal if they cannot be properly maintained.
- cleaned and disinfected as often as necessary 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; and
- stored appropriately according to infection control protocols

6.8 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; and
- Training records (might include training conducted elsewhere in a workplace for example in the use of personal protective equipment more broadly).

6.9 Fit Testing

The effectiveness of close-fitting respiratory protection relies on achieving a seal around 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 staff to fit check every time they wear RPE. A fit check is the process of ensuring a respirator achieves a good seal once it has been applied.

Please refer to the P2/N95 Fit-checking Escalation process here.

6.9.1 Determining when a fit test is required

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

- prior to first use
- when a new brand of respirator is to be tested for the individual
- when there is a significant change in the wearer's facial characteristics that could alter the facial seal of the respirator (e.g. facial surgery or significant change in body weight)
- annually

NOTE: Where it is not possible to achieve testing and/or the recommended frequency of testing, for example during a pandemic, staff must as a minimum undertake a fit check.

6.9.2 Prioritisation for fit testing

Priorities for fit testing staff is determined using a risk based approach. Considerations for determining what areas are high risk or a priority include:

The following diagram provides considerations for identifying who should be prioritised for fit testing. The below considerations do not negate the need for risk assessments to be conducted in support of this RPP.

High risk staff for the purpose of this document are defined as staff who work in the following areas:

- Designated COVID-19 Wards (subject to change)
- Intensive Care Units
- Emergency Departments (including during initial triaging) and associated radiology
- Aged Care Liaison and Outreach
- Respiratory Assessment Clinics (COVID-19 Clinics)

6.9.3 Fit testing methodology

Quantitative fit testing is the preferred method for fit testing P2 and N95 masks at Western Health and is in line with DHHS guidelines. 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.

Western Health will only fit test disposable P2/N95 masks available for staff.

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;
- appropriate infection control procedures are followed;
- a minimum of 3 FFR make/models are tested, to ensure options are available for a worker in times of unstable supply. Ideally, where more FFRs are available, 5 should be tested;
- information on worker demographics and test results are securely recorded and results are compiled to inform supply and procurement decisions;
- 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; and
- 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.

The alternative method of RPE fit testing is qualitative fit testing. A qualitative fit test is fast and simple but it can be influenced by the wearer. It relies on the wearer's senses to determine if there is a gap in the seal of the RPE to the wearer's face. A test agent such as saccharin or Bitrex™ (a bitter tasting substance) is used at a sensitivity level that demonstrates the user will be able to appropriately sense the presence of the test agent within the RPE by taste, smell or the urge to cough if the fit of the RPE is not adequate.

6.9.4 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 the staff member is unable to achieve a fit with any respirator available at the time of testing.

Please note: Involve Line Manager, Director OH&S and Chief Medical Officer if staff re-assignment not practical

6.9.4 Competence of fit testers

Western Health has access to third party providers for expertise when providing fit testing where no internal suitably competent staff are available.

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, and 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.

6.9.5 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 all Western Health sites or in localised areas in response to an outbreak. In these circumstances only, “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.

6.9.6 Fit checking

Fit checking 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.

Staff must perform fit checks every time they put on close-fitting respiratory protection to ensure a facial seal is achieved.

Please refer to the P2/N95 Fit-checking Escalation process here.

Staff who have facial hair (including 1–2 day 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, seek an alternative form of protection or remove them from the area that exposes them to respiratory hazards.

No clinical activity should be undertaken until a satisfactory fit has been achieved. Fit checks ensure 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. Staff must be informed about how to perform a fit check correctly.

Western Health procedure to perform a fit check is located on the intranet:
http://inside.wh.org.au/search/Pages/results.aspx?k=fit%20checking

6.9.7 Infection control

Western Health infection control procedures (aligned to DHHS guidelines) must be followed throughout the fit testing process. This includes minimising contact between staff, appropriate donning/doffing procedures, cleaning and disposal protocols for equipment.

Infection Control Procedures are located here:

http://inside.wh.org.au/departmentsandservices/InfectionPrevention/Pages/default.aspx

6.9.8 Data, reporting and record keeping of fit testing

Data is to be captured and recorded on each individual who undergoes fit testing so far as is reasonably practicable.

Data collection should include:

- worker name or identification number,
- the date of the test;
- specifics of the respirators tested (including make, model, if a clip was used etc); and
- 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.

10. Sponsor

Director of Occupational Health, Safety, Wellbeing and Emergency Management Services

11. Authorisation Authority

Executive Director of People, Culture and Communication