INFECTION PREVENTION AND CONTROL
APPLICATION OF PPE DURING COVID-19

Version 2.3

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Introduction

The Clinical Excellence Commission (CEC) provides guidance for Infection Prevention and Control practitioners and managers on the selection and utilisation of personal protective equipment (PPE) for COVID-19. This guidance relates solely to considerations of PPE and represents one section of infection prevention and control guidance for COVID-19. Other infectious diseases requiring PPE as part of standard and transmission-based precautions are not addressed in this document. This document should be used in conjunction with the New South Wales (NSW) Infection and Prevention Control Policy Directive, Infection Prevention and Control: Management of COVID-19 in Healthcare Settings and local procedures and guidance.

For clinical care of patients who are NOT suspected, probable or confirmed COVID-19, standard precautions - including use of PPE if required - should be observed i.e. business as usual.

Scope and purpose

The development of this guidance was led by the Clinical Excellence Commission and endorsed by the Infection Prevention and Control Community of Practice. This guidance is based on the available evidence, expert advice and risk assessment of the current status of the COVID-19 pandemic in NSW.

As the COVID-19 pandemic situation is evolving, this PPE guidance will be revised and updated as new information becomes available to meet changing needs. Health workers (HWs) should check the NSW Health COVID-19 and Clinical Excellence Commission (CEC) Infection Prevention and Control COVID-19 webpages for the most up-to-date information.

Additional resources are:

- CEC Infection Prevention and Control Practice Handbook
- Australian Government Department of Health COVID-19 updates
- CDNA National Guidelines for Public Health - Coronavirus Disease 2019

Main changes from previous version

This guidance has been updated to reflect the pandemic’s evolution and changing level of risk of healthcare exposure to COVID-19.

The main changes are:

- Addition of guidance on extended or sessional use of PPE
- Addition of guidance on Powered Air Purifying Respirator (PAPR) and elastomeric respirators
- Incorporation of Recommended Guidance on Mask Use in NSW Health interim document
- Guidance on mask utilisation during a pandemic
How COVID-19 spreads

SARS-CoV-2 (causing COVID-19 disease) is spread mainly from person-to-person through respiratory droplets produced when an infected person coughs, sneezes, or talks. The virus is spread between people who are in close contact with one another (within 1.5 metres) and may be spread by people who are not showing symptoms (asymptomatic or pre-symptomatic).

SARS-CoV-2 is principally spread by droplets and contact via:

- Virus-laden respiratory droplets produced when an infected person coughs, sneezes or talks and reaches the nose/eyes/mouth of a person close by and/or
- Touching surfaces that have been contaminated by these droplets and then contaminating your eyes/nose/mouth.
- In some instances, when airborne particles have been artificially created, such as during respiratory aerosol-generating procedure (AGPs) on COVID-19 patients.

Aerosol generating procedures (AGPs) are defined as any medical and patient care procedure that results in the production of airborne particles (aerosols) less than 5 micrometres (µm) in size which can remain suspended in the air, travel over a distance and may cause infection if they are inhaled. Generally, SARS CoV-2 is spread by larger respiratory particles of liquid referred to as droplets. These larger droplet particles tend to fall on adjacent surfaces (e.g. floor, tabletop) relatively quickly and do not travel long distances. Travelling over long distances on air currents is generally not a significant factor in the spread of this infection.

The virus does not spread easily in other ways, for example:

- **From touching surfaces or objects.** It may be possible that a person can get COVID-19 by touching a surface or object that has the virus on it and then touching their own mouth, nose, or possibly their eyes. This is not thought to be the main way the virus spreads.

- **From animals to people.** At this time, the risk of COVID-19 spreading from animals to people is considered to be extremely low.

- **From people to animals.** It appears that the virus that causes COVID-19 can spread from people to animals in some situations. A small number of pets worldwide, including cats and dogs, have been reported to be infected with the virus that causes COVID-19, mostly after close contact with people with COVID-19. The virus is not thought to be viable from these pets.

Precautions for COVID-19

There are two tiers of precautions to prevent the transmission of infectious agents; standard precautions and transmission-based precautions.

Standard precautions must be applied to the care of all patients in healthcare, regardless of whether the presence of an infectious agent is suspected or has been confirmed. Implementation of standard precautions is the primary strategy for the prevention of disease.
transmission in a healthcare setting and the prevention of exposure to blood and body fluids. Irrespective of patients’ COVID-19 status, standard precautions must be followed at all times. Transmission-based precautions are implemented for patients known or suspected to be infected or colonised with an infectious agent, where transmission cannot completely be prevented using standard precautions alone. The three categories of transmission-based precautions are contact, droplet and airborne precautions, and are implemented based on the route of transmission of the infectious agent.

SARS-CoV-2 is transmitted between people through close contact and droplets. The virus does not appear to be readily transmissible via small, airborne particles under non-aerosolising conditions. When performed, a respiratory AGP can disperse large volume and smaller particles into the air where Health Workers (HWs) require airborne protection. The people most at risk are those who are in close contact with patients with symptomatic COVID-19. Choice of PPE is based on likely risk of exposure to, and the means of transmission of an infectious organism.

The precautions for COVID-19 are:
- **Contact** and **droplet** precautions
- Addition of **airborne** precautions for respiratory AGPs
- Hand hygiene
- Environmental cleaning
- Cleaning of shared patient care equipment.

### Summary principles for selecting PPE

Using PPE optimally is important for health worker safety. This means selecting appropriate PPE at the right time, in the right setting, for the right patient and then applying (donning) and removing (doffing) it in line with the current COVID-19 guidance.

- HWs caring for patients with COVID-19 should be trained in the correct use of PPE including donning and doffing.
- Incorrect removal of PPE is associated with an increased risk of contamination.
- Only PPE labelled as reusable should be cleaned and disinfected and reused, according to the manufacturer’s reprocessing instructions. All other PPE must be disposed of after use.
- Extended or sessional use of PPE is only recommended when caring for patients suspected, probable or confirmed to have COVID-19.
- Isolation aprons/gowns (Level 1, 2, 3 and 4) which are impervious or fluid resistant are suitable for contact, droplet and airborne precautions.
- Sterile surgical gowns (Level 1, 2, 3 and 4) should only be used in surgical environments and for sterile procedures. Please refer to [CEC guidance](#) on surgical gown selection.
- When caring for patients with suspected, probable or confirmed COVID-19, eye protection should be used along with wearing a surgical mask or P2/N95 respirator.
• Fluid resistant surgical masks (Levels 1, 2 and 3) are all suitable for protection against contact and droplet precautions (COVID-19).

• P2/N95 respirators are used for airborne precautions when respiratory AGPs are conducted on patients with suspected, probable or confirmed COVID-19 and must be discarded following the AGP.

• P2/N95 respirators should only be used when required and fit checked at each use, when it is put on and prior to performing an AGP on a patient with suspected, probable or confirmed COVID-19.

Appendix A Recommended PPE for health workers in clinical settings summarises recommended PPE for HWs in clinical settings and Visual guide to application of PPE (Appendix C)

Refer to the CEC training module Personal protective equipment for combined transmission-based precautions available through HETI My Health Learning (Course Code 294450660) for step-by-step guidance on PPE donning and doffing.

Training around the appropriate selection, use and disposal of PPE is required to ensure the safe use of PPE. Some of the potential issues to consider are:

• How to minimise unnecessary contact with the mask surface,

• Importance of adherence to hand hygiene, and

• How to ensure adherence to proper PPE donning and doffing technique.

Health worker responsibility

HWs have duties in relation to PPE under Regulation 46 of the Work Health and Safety Regulations 2017 NSW. A worker who is provided with PPE by their employer must:

• Use or wear the PPE in accordance with any information, training or reasonable instruction provided by the facility, so far as they are reasonably able.

• Not intentionally misuse or damage the PPE.

• Inform the facility of any damage, defect or need to clean or decontaminate (if reusable) any of the PPE if they become aware of it.

HWs should not use or add to prescribed PPE that are not documented in NSW Ministry of Health policy directives, Clinical Excellence Commission COVID-19 guidance and local policy or procedures. PPE requirements may vary between clinical areas such as operating theatre and general wards. PPE ‘creep’ has been identified during the pandemic as a risk to HWs who add or choose PPE that is not recommended for transmission-based precautions e.g. a cloth or disposable surgical scrub cap and overshoes outside of operating theatre, an apron over a long sleeved disposable gown, PPE adornments. This will potentially increase the risk of self-contamination, particularly on PPE removal.

If the PPE is uncomfortable, does not fit properly, or the health worker has an adverse reaction using it, they should consult their manager.
Gloves

Gloves are worn as a barrier to protect the wearer’s hands from contamination or to prevent the transfer of microorganisms already on the hands to patients or the environment.

- Intact gloves must be worn on both hands and must be used in situations where the HW is potentially exposed to blood or body substances.
- Double gloving is only recommended in theatre settings and/or on a risk-based approach for specifically determined procedures. They are usually implemented to allow a seamless transition from within a procedure from “dirty” to “clean(er)” steps.
- Double gloving is not recommended for routine care of patients with suspected, probable or confirmed COVID-19.
- Alcohol sanitiser should not be applied to the outside of a glove when they are being worn - sanitisers can create pinholes in gloves. If a glove manufacturer states that alcohol sanitisers can be used on gloves, evidence must be provided, and staff educated on how and when it can be used safely.
- Gloves should always be put on immediately before a procedure, cleaning shared patient care equipment or contact with blood or body fluids and when cleaning the patient care environment.
- Gloves should not be worn in non-patient zones unless directly handling blood or body fluid such as pathology specimens or cleaning up a blood or body fluid spill.

Wearing gloves does not eliminate the need for hand hygiene and in all circumstances, hand hygiene must be performed immediately:

- Before putting on gloves to avoid contamination of the outer surface of the gloves; and
- After removing gloves to avoid transfer of microorganisms to another person, patient’s environment, clinical equipment from wearer’s hands and to protect the HW.

Aprons and gowns

Disposable plastic aprons or gowns are designed to protect uniforms or clothing from moisture or soiling from blood, body fluid or transmissible microorganisms during direct patient care. They also protect the patient during direct contact.

Disposable, fluid resistant aprons are recommended for general clinical use when close contact with the patient, materials or equipment to prevent contamination of uniforms or other clothing. Apron use can be considered based on anticipated contact or exposure to droplets while caring for symptomatic COVID-19 patients. Refer to Appendix A: Recommended PPE for health workers in clinical settings for guidance.

There are mainly two types of gowns available: isolation gowns and surgical gowns.

Fluid resistant single use isolation gowns are intended to protect either the patient or HW from the transfer of microorganisms, blood, body substances, and particulate material when they are in contact with each other. A gown provides an increased coverage compared with an apron.
In some cases, where extensive contamination with blood or body substance is anticipated or when the patient requires a significant amount of direct care with close skin-to-skin contact, a long-sleeved fluid impervious or fluid resistant gown may be more appropriate. The need for, and type of gown selected, is based on the nature of the patient interaction, including the anticipated degree of contact with infectious material and potential for blood and body fluid penetration of the barrier.

**Isolation gowns** currently available on the marketplace offer varying resistance to blood and other bodily fluids depending on the type of the material, its impermeability, and wear and tear. Isolation gowns are generally classified as “disposable/single-use” or “reusable/multi-use. Disposable (single-use) isolation gowns are designed to be discarded after a single use and are typically constructed of nonwoven materials alone or in combination with materials that offer increased protection from liquid penetration, such as plastic films. These gowns should offer an impervious or fluid resistance barrier.

**Single use surgical gowns** are a fluid-resistant, disposable garment made of natural and/or synthetic materials worn over a scrub suit to cover the arms, trunk, and upper legs, during a surgical and aseptic procedures, to help protect both the patient and operating room personnel from the transfer of microorganisms, body fluids, and particulate material. It also provides an aseptic barrier during procedures.

A correctly fitted surgical gown covers the wearer from the neck to the knees with sleeves finishing at the wrists with cuffs. They should have enough overlap at the back that they do not separate when the person wearing them is sitting and come to below the knee.

Refer to **Appendix D**: Association for the Advancement of Medical Instrumentation (AAMI) Level Standards for Gowns for more information.

**Respiratory and facial protective equipment**

Respiratory Protective Equipment (RPE) is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer’s risk of inhaling hazardous airborne particles (including dust particles and infectious agents), gases, or vapours. There is a range of PPE available, that provides facial and respiratory protection, and this includes either a surgical mask or a respirator, with or without eye protection.

Respiratory and facial protection is required for those organisms that are usually transmitted via the droplet or airborne route, or when airborne particles have been artificially created, such as during AGPs.

In the majority of situations where respiratory protection is required, a surgical mask will be adequate. For a very small number of pathogens that are truly transmissible via the airborne route, or where AGPs involving infectious body fluids are being undertaken, a respirator will be required. The requirement for eye protection will largely be determined by the risk of splashing or spraying of blood and/or body fluids to the eyes/face.
**Eye protection**

Evidence shows that the mucous membranes including conjunctivae of HWs can be exposed to infective droplets and aerosols from symptomatic patients with suspected, probable or confirmed COVID-19 during close contact. Eye protection must be worn when there is risk of body substances splashing or spraying into the conjunctiva.

Eye protection such as safety glasses, mask visor, goggles or a face shield is recommended for close contact within 1.5 metres of a patient with suspected, probable or confirmed COVID-19. Use a mask visor or a face shield if you are anticipating exposure to an excessive amount of splash or spray.

Personal or prescription glasses are not a suitable substitute for eye protection unless they are specified as safety glasses. If reusable eye protection is used, they should be cleaned and disinfected in accordance with the manufacturer’s instructions for use.

- Single use eye protection can be worn for an extended period unless moist, wet or contaminated, and disposed of at the end of the session
- Reusable eye protection should be cleaned and disinfected between uses. There must be a clearly described process in place for the cleaning, disinfection, drying and storage of reusable eye protection to reduce the risk of a health worker donning an item that has not been effectively reprocessed since its last use.

**Visors**

Visors are transparent personal protective device intended to shield the face and eyes of a health worker and are suitable for use with prescription glasses and protective masks.

**Surgical masks**

Surgical face masks provide a barrier to splashes and droplets impacting on the wearer’s nose, mouth and respiratory tract. They do not provide protection against airborne (aerosol) particles and are not classed as RPE. Although not classified as RPE, surgical face masks used for protection against microorganisms must be fluid repellent, disposable, and loose-fitting protection devices to create a physical barrier between the mouth and nose of the wearer. Some surgical masks have an integral eye protection shield.

Surgical masks are for use in clinical care, dental settings and surgery as per standard precautions.

Surgical masks should be worn for the duration of the relevant exposure, task or procedure. They should be changed if they become damaged or contaminated with respiratory secretions, only worn once, and discarded following use.

In most situations, a surgical mask is recommended when caring for patients with suspected, probable or confirmed COVID-19. Masks have different properties and colours depending on the manufacturer. Each mask barrier level (Levels 1, 2 and 3) will provide protection against droplet organisms from a patient with COVID-19.

See Appendix E AS 4381:2015 Single use surgical face mask standard for more details on mask barrier levels and properties.
When you are wearing a mask, it is important to remember the following:

**Do not:**
- Touch your mask or face as this contaminates the mask
- Pull your mask below your nose or chin
- Leave it hanging around your neck or on top of your head
- Touch your face

**Do:**
- Change when mask becomes moist
- Change if sprayed or splashed on
- Immediately perform hand hygiene if you accidentally touch the mask, (change mask if contaminated with blood or body fluids)
- If you need to remove the mask: perform hand hygiene, remove and discard into the general waste bin and put another mask on.
- Report mask pressure injuries to your supervisor or manager, following local reporting processes and usual Work Health and Safety processes

**Points to remember**

- **Use of boots or shoe covers** is not recommended unless gross contamination is anticipated or required as standard attire in the operating theatre or the trauma room.

- A **head covering** is not required except as part of standard operating theatre attire or when performing a sterile/aseptic procedure (e.g. central line insertion) to prevent contact between HWs hair and patients/equipment and to reduce shedding of skin squamous/hair and associated bacteria into the field.

- **PPE adornments** or extra equipment such as cloth caps are not to be used. If HWs have WHS safety concerns regarding skin integrity they should be raised via their normal reporting processes for such matters.

- The use of a **mask loop holder** whilst recognised as available should only be used if all other avenues to secure PPE have been exhausted. Their use can increase the risk of contamination and contribute to issues with both donning and doffing.

- Coveralls are **NOT** recommended for use in NSW health facilities based on evidence on COVID-19 modes of transmission and increased risk of contamination on removal. Currently there are no guidelines from the World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention (CDC), nor the U.S. Occupational Safety and Health Administration (OSHA) or Communicable Diseases Network of Australia (CDNA) regarding use of coveralls for protection from COVID-19 during patient care. If a determination is made to use protective coveralls, then the selection of appropriate protective coveralls should be based upon a site-specific risk assessment conducted by qualified individuals such as those working in infection prevention and control and infectious diseases roles.
• Considerations for mask loop holder use:
  o Single versus reusable use
  o Additional steps for donning and doffing
  o Addition may interfere with required seal (for P2/N95 respirators).

**Discarding surgical mask after use**

A surgical mask should be:

- **Discarded and replaced** if contaminated with blood, respiratory or nasal secretions, or other bodily fluids
- **Discarded and replaced** if it becomes moist, wet or hard to breathe through
- **Removed** outside of patient care areas (e.g. between rooms or patient zones, break room, reception area) and before proceeding to care for patients that are not isolated for COVID-19
- **Discarded** following close contact with, or exit from, the care area of any patient co-infected with an infectious disease requiring other precautions.

**Respirators**

A respirator is used by an individual to provide respiratory protection. In the healthcare setting, the most common RPE relates to the filtering half face mask. There are many types of respirators available and they include:

- Particulate respirators, which filter out airborne particles
- "Gas masks," which filter out chemicals and gases
- Airline respirators, which use compressed air from a remote source
- Self-contained breathing apparatus, which include their own air supply.

The category of particulate respirator can be further divided into:

- Disposable or filtering facepiece respirators, where the entire respirator is discarded when it becomes unsuitable for further use due to excessive resistance, sorbent exhaustion, or physical damage
- Reusable or elastomeric respirators, where the facepiece is cleaned and reused but the filter cartridges are discarded and replaced when they become unsuitable for further use
- Powered air purifying respirators (PAPRs), where a battery-powered blower moves the air flow through the filters.

Before selecting respiratory protection, the following should be considered:

- Identification of a hazard
- Assessment of the hazard
- Selection of suitable personal protective equipment for the task
  - A tight-fitting respirator such as a disposable P2/N95 mask or a reusable respirator should be fit (seal) checked at every use.
  - A respiratory protection program should be in place and consideration for fit testing only after fit (seal) check is fully implemented. Fit testing may provide additional information to determine the type(s) of P2/N95 mask suitable as a baseline.

Note: a P2/N95 mask should not be sealed with tape. It should be fit checked and if unable to form a seal, a different mask should be used.

Respirators with exhalation valves protect the wearer from COVID-19 but may not prevent the virus spreading from the wearer to others because exhaled particles may leave the respirator via the valve and enter the surrounding environment, potentially expose other people. The exhalation valve is designed to open during exhalation to allow exhaled air to exit the respirator and then close tightly during inhalation.

Until data are available to describe how effective respirators with exhalation valves are in preventing the spread of COVID-19 from the wearer to others:

- HWs to wear a respirator without an exhalation valve.
- If only a respirator with an exhalation valve is available, cover the exhalation valve with a surgical mask that does not interfere with the respirator fit.

### Examples of different types of respirators

<table>
<thead>
<tr>
<th>Half-Face Disposable</th>
<th>Half-Face Reusable</th>
<th>Full-Face Reusable</th>
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<tr>
<td><img src="image1" alt="Half-Face Disposable" /></td>
<td><img src="image2" alt="Half-Face Reusable" /></td>
<td><img src="image3" alt="Full-Face Reusable" /></td>
</tr>
<tr>
<td><img src="image4" alt="Half-Face Disposable" /></td>
<td><img src="image5" alt="Half-Face Reusable" /></td>
<td><img src="image6" alt="Full-Face Reusable" /></td>
</tr>
<tr>
<td><img src="image7" alt="Half-Face Disposable" /></td>
<td><img src="image8" alt="Half-Face Reusable" /></td>
<td><img src="image9" alt="Full-Face Reusable" /></td>
</tr>
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Disposable High Particulate Respirators (P2/N95 masks)

A P2 or N95 respirator is one of nine types of disposable particulate respirators. These respirators protect only against particles - not gases or vapours. Since airborne biological agents such as bacteria or viruses are particles, they can be filtered by the particulate respirators.

Disposable P2/N95 face masks (also known as P2/N95 respirators) are able to filter out very fine particles (less than 0.5 micron) from the air when worn correct.

Disposable high particulate face masks or respirators are typically categorised with a ‘P’ rating and the “P” refers to the particle size of the particulate matter that the mask is designed to protect against.

Particulate filters are classified and marked as P1, P2 or P3, with P3 providing the highest level of protection. However, P3 protection can only be achieved if the P3 filter is used in a full-face respirator. P3 filters are currently not part of the standards or readily available for use in Australian healthcare.

- P1 = low efficiency filters
- P2 = medium efficiency filters
- P3 = high efficiency filters

N95 masks (respirators) and P2 masks (respirators) are similar and applied equally to the same conditions. The differences are due to the slight difference in testing and certification practices between Australia and the USA (Table 1).

The term P2/N95 mask or respirator is interchangeable in this document.

**Table 1: Difference between P2/N95 respirator testing**

<table>
<thead>
<tr>
<th></th>
<th>P2 Masks (Australian &amp; New Zealand Standard)</th>
<th>N95 Masks (USA NIOSH Standard)</th>
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<tbody>
<tr>
<td>Filter efficiency</td>
<td>at least 94%</td>
<td>at least 95%</td>
</tr>
<tr>
<td>Testing substance</td>
<td>Sodium Chloride Aerosol</td>
<td>Sodium Chloride Aerosol</td>
</tr>
<tr>
<td>Aerosol flow rate</td>
<td>95 litres per minute</td>
<td>85 litres per minute</td>
</tr>
<tr>
<td>Aerosol particle size</td>
<td>0.3 to 0.6 microns</td>
<td>0.3 microns</td>
</tr>
</tbody>
</table>

For COVID-19, the use of P2/N95 respirators or masks is reserved for staff conducting respiratory AGPs on patients with suspected, probable or confirmed COVID-19 or if a risk assessment places the patient on airborne precautions. There are two types of P2/N95 respirators: surgical and standard.
Use of Surgical and Standard P2/N95 respirator

**Surgical** P2/N95 respirators have a fluid resistance barrier whereas **non-surgical** P2/N95 respirator do not have a fluid resistance barrier and do not provide protection where a fluid resistance barrier is required.

Use a surgical P2/N95 respirator when:

- performing tasks, such as surgery, that may expose HWs to high pressure streams that produce aerosols of blood or body fluid
- performing a high risk respiratory AGP on a patient with suspected, probable or confirmed COVID-19
- performing a high risk respiratory AGP on a patient suspected, probable or confirmed to have an infectious respiratory illness (refer to [CEC Infection Prevention and Control Practice Handbook](#)).

For respiratory AGPs on suspected, probable or confirmed COVID-19 cases, a standard P2/N95 respirator together with a face shield or a visor could be used.

Standard P2/N95 respirator can be used for dry airborne situations such as Tuberculosis, Measles or Chickenpox where minimal exposure to droplets are expected.

For more information refer to **Appendix F**: Properties of P2 and N95 Masks; **Appendix G**: P2/N95 Mask Range within NSW Health and **Appendix H**: Recommended Guidance on Mask Use in NSW Health.

**Optimal use of P2/N95 respirator**

For the optimal use of a P2/N95 respirator, the following should be considered:

- P2/N95 respirators must be prioritised for HWs performing respiratory AGPs on patients suspected, probable or confirmed to have COVID-19 and whilst caring for patients under airborne precautions.
- Minimise the number of individuals who need to use respiratory protection through the preferential use of engineering and administrative controls, such as:
  - physical distancing of 1.5 metres
  - minimising number of HWs in the room
  - well-ventilated isolation rooms
  - air-handling systems (with appropriate directionality, filtration, exchange rate, etc.) that are properly installed and maintained
  - appropriate triage and placement of patients
  - patients with acute respiratory symptoms wearing a surgical mask
  - patients educated regarding respiratory and hand hygiene
  - training of HWs.
- P2/N95 respirator alternatives e.g. other classes of filtering face piece respirators or powered air purifying respirators, risk assessed, fit for use in healthcare and specific...
use is to be endorsed by LHD/SHN Clinical Governance and Infection prevention and control/Infectious Diseases services.

- Implement practices allowing extended or sessional use when acceptable or practical within COVID-19 areas/zones.
- HWs to wear a respirator without an exhalation valve. The exhalation valve allows droplets and particles exhaled by the user to escape which will impede the ability to maintain a sterile field when working in a sterile area such as an operating room or potentially expose other patients or HWs with exhaled particles when source control is required.

Discarding P2/N95 respirators after use

A P2/N95 respirator should be:

- **Discarded** and **replaced** if contaminated with blood, respiratory or nasal secretions, or other bodily fluids
- **Discarded** and **replaced** if it becomes hard to breathe through or if the mask no longer conforms to the face or loses its shape or fit
- **Removed** outside of patient care areas (e.g. between rooms or patient zones, break room, reception area) and before proceeding to care for patients that are not isolated for COVID-19
- **Discarded** following an AGP on a suspected, probable or confirmed COVID-19 case
- **Discarded** following close contact with, or exit from, the care area of any patient co-infected with an infectious disease requiring other precautions.

Use of a Powered-Air Purifying Respirator (PAPR)

A PAPR is a battery-powered blower that provides positive airflow through a filter, cartridge, or canister to a hood or face piece. The type and amount of airborne contaminant will dictate the type of filter, cartridge or canister required for the PAPR. PAPRs are often supplied with a loose-fitting disposable or reusable hood that eliminates the need to perform fit testing and allows use by a broad range of individuals. Some of the more recent versions may be supplied and used without a hood.

PAPR respirators use a rechargeable battery pack to power an air blower. This blower pulls contaminated air into the particulate or gas filter, then into the face mask. Depending on the model, this air may blow constantly or be activated by breath. Used air then escapes from the face mask through an exhalation valve. Selection of a PAPR should be done so in the context of healthcare and fit for purpose for use in healthcare. Considerations include:

- If a health worker is required to remain in the patient’s room continuously for a long period to perform multiple procedures e.g. more than one hour, where practical and available, the use of a powered air purifying respirator (PAPR) may be considered for additional comfort and visibility.
- A number of different types of relatively lightweight, comfortable PAPRs are now available and where risk assessed as suitable should be used according to the
manufacturer’s instructions. Particular care should be taken on removal of the PAPR, which is associated with a higher risk of contamination.

- Use of a PAPR requires health worker training and competency assessment prior to implementation.

- A designated doffing assistant or colleague should be considered, especially in doffing with the powered air purifying respirator (PAPR) option.

- Reusable components of the PAPR should be reprocessed following use, according to the manufacturers’ recommendations and comply with Australian/New Zealand Standard 4187:2014 Reprocessing of reusable medical devices in health service organisations and local facility or service processes.

- These items must only be purchased in consultation with the facility infection prevention and control team and/or infectious disease advice in accordance with facility/service capacity to reprocess these items.

- PAPR with exhalation valves should not be used due to risk of unfiltered air or SARS-CoV-2 (from an infected wearer) coming out of the exhalation valve and may contaminate the surrounding environment and potentially expose other people.

**Elastomeric Respirators**

An elastomeric respirator is a reusable device with exchangeable cartridge filters and is a possible alternative to some of the current disposable P2/N95 respirators. They are tight fitting respirators that are generally either a half facepiece or full facepiece where the facepieces are made of synthetic or natural rubber material with a removable filter. Elastomeric respirators may not be assessed in the context for use in healthcare. There are no standardised procedures for cleaning and disinfection of these items within healthcare environments and the issue of transmission via a contaminated respirator serving as a fomite would remain a challenge.

Depending on the model, a process must be established for the environment where an elastomeric respirator may be used including detailed process of cleaning, disinfection and storage.

**Figure 1: An Example of Reusable Elastomeric Respirator**

*Adapted from Reusable Elastomeric Respirators in Health Care: Considerations for Routine and Surge Use.*
What is the difference between disposable P2/N95 masks and elastomeric respirators?

The most significant difference between reusable elastomeric respirators and disposable respirators is that reusable respirators must be maintained and inspected after each use, including cleaning and disinfection of the elastomeric components such as facepiece valves, valve covers, and straps.

Considerations for use of elastomeric respirators during COVID-19 pandemic in healthcare settings

There are two distinct circumstances in which reusable elastomeric respirators could be considered for use in healthcare settings - routine use and surge use. Surge use is defined as use in times when there is a sharp increase in demand for the respirators, such as when there is a sudden or rapidly progressive influx of patients at a given point in time with COVID-19.

There are a number of implementation issues that arise from the nature of healthcare work, relevant policies and practices, and the current design of reusable elastomeric respirators. These issues include:

1. Storage, cleaning, and disinfection and capability to comply with manufacturer’s instructions for reprocessing within the health facility
2. Medical clearance before fit testing to identify HW tolerability of the respirator, and respirator issuance
3. Procurement and supply logistics and emergency stockpiles
4. Safety culture and risk perception
5. Other issues such as regulatory and policy issues, and guidelines
6. Just-in-time training - including training on fit testing, proper use during a pandemic that enables limited time and resources.

Use of elastomeric respirators in healthcare is not recommended for routine use during the COVID-19 pandemic. Decisions on the selection and purchase of respirators for use in healthcare facilities should involve input from infection prevention and control, Work Health and Safety, biomedical engineering, sterilization department and product evaluation committee or local procurement. The design of respirators significantly influences their use. Even the most “protective” of devices is not effective if it is not comfortable for the user. The following should be considered when a facility decides to procure reusable elastomeric respirators:

- Ensure that the respirator is designed for healthcare and has Therapeutic Goods Administration (TGA) approval and Australian Register of Therapeutic Goods (ARTG) number
- As models may vary, an individual assessment of each of these needs to be done prior to determining whether to use these respirators in healthcare settings
- They do not provide fluid resistance based on their NIOSH approval, but they can
provide at least equivalent protection to aerosols as a standard P2/N95 mask

- They require maintenance and a supply of replaceable components including straps, inhalation and exhalation valves, valve covers, and filters, cartridges, or canisters
- Additional maintenance requirements which also include cleaning and disinfection of the facepiece components such as straps, valves, and valve covers
- While it is often possible to decontaminate the hard-outer casing of filters, the filter material itself typically cannot be cleaned or disinfected for reuse. Instead, filter components should be discarded when they become damaged, soiled, or clogged
- Depending on use, one manufacturer recommends the filter be discarded after each use, while another recommends the filter cartridge be disposed no later than 30 days after the first use if no oil mists are present
- HW training on safe and appropriate use is essential
- Determining if it will be shared or allocated to an individual HW. The sharing of these devices along with the complexities of reprocessing potentially increases the risk of cross contamination between wearers
- Communication may be difficult when wearing these items and full mask version may fog up in use and an antifogging adapter ensuring that exhaled air passes through the filters and not into the mask should be used
- Fit testing (quantitative) is required for all users of these respirators, initial and annual fit testing, or when there are any changes in the employee’s physical condition, such as weight gain or loss, facial scarring, or dental changes that could alter fit of the facepiece, as well as, a user seal check each time the respirator is used

**Caution**: Elastomeric respirators with exhalation valves should not be used due to concerns that unfiltered air or SARS-CoV-2 (from an infected wearer) coming out of the exhalation valve may contaminate the surrounding environment and potentially other people.

**Reprocessing**

Depending on the model some respirators’ elastomeric components cannot be cleaned with solvents (e.g., acetone, ethanol) or exposed to temperatures greater than 50°C (122°F).

The facilities using these respirators must ensure that the reprocessing process complies with AS 4187: 2014 and the manufacturer’s instructions for use (IFU). Depending on the model the facepiece components are removed from the facepiece to be cleaned and disinfected. There are several basic steps to clean and disinfect a respirator – remove, clean, disinfect, rinse and dry, inspect and repair or replace, and store.

The facilities should organise the following based on manufacturers IFU:

- Clean
- Chemical or thermal disinfection
- Dry and store
- Inspect
• Particulate filter replacement
• Training
• Respirator storage
• Training for reprocessing

Bringing your own PPE and/or PPE brought in without approval

In the decision-making process regarding use of privately-owned PPE and/or PPE brought by clinicians, a local and LHD/SHN or state-wide service level approval is required on the suitability of the item in the clinical setting before using. The facility should also identify the following:

• All PPE must conform to AS/NZS standards and approval for use in including validation for use in healthcare
• ARTG registration and certificate
• Approval for use via HealthShare and by the clinical department concerned, the hospital concerned and the LHD/SHN Executive (PPE strategic Committee). Full approval process of the equipment must be documented
• Work Health and Safety and Infection Prevention and Control risk assessment
• All reusable PPE must be classified as a reusable medical device and must comply with appropriate AS/NZS and TGA standards. This information is required from the PPE manufacturer.
• Manufacturer’s IFU on reprocessing, filter management, maintenance and a supply of replaceable components including straps, inhalation and exhalation valves, valve covers, and filters, cartridges, or canisters
• Insurance coverage for privately owned PPE that requires reprocessing within the health facility
• Local procurement processes and biomedical engineering requirements and sterilisation department capacity
• Appropriate training is required for the safe use of all PPE. Training and education should be clearly documented
• The manufacturer may be obligated to provide training in the proper use of the PPE
• Decision on who will provide and take responsibility for the training and assessment of the HW wearing or using own PPE
• Donning and doffing procedures may need to be altered to accommodate non-standard equipment and this will need assessing by Infection Prevention and Control
• PPE must be assessed and accepted by Infection Prevention and Control, unit managers for use within the facility and with the facility’s sterilising service manager, who will undertake service compatibility and risk assessment for reprocessing between uses within the capacity of their sterilising facility
• Key stakeholders and their roles and responsibilities, local governance and accountability

• The financial and resource implications, including the capacity to accommodate the volume, complexity, storage and resources required for reprocessing.

**Mask fit checking and fit testing**

Fit checking or user seal check is a process to ensure that the P2/N95 respirator fits the wearer’s face snugly (i.e. creates a seal) to minimise the number of particles that bypass the filter through gaps between the wearer’s skin and the mask seal.

Fit checking involves a check - each time the mask is put on - to ensure that the respirator is properly applied and is the appropriate minimum standard at the point of use for healthcare workers using P2/N95 respirators.

The mask must be put on (donned) and taken off (doffed) correctly and worn throughout the exposure or period required. Refer to manufacturer’s instructions on donning, fit checking and doffing of a P2/N95 respirator. See below one example of the procedure for performing a P2/N95 respirator donning and fit check. Also refer to Principles of Fit Checking and CEC PPE donning and doffing training video for more information.

- Place the respirator on your face.
- Place the headband or ties over your head and at the back of your neck.
- Compress the respirator to ensure a seal across your face, cheeks and the bridge of your nose.
- Gently conform/press the nosepiece across the bridge of your nose by pressing down with fingers using both hands until the fit is snug.
- Continue to adjust the mask along the outside until you feel you have achieved a good and comfortable facial fit.
- Gently place hands around the edge to enable you to feel any air escaping when the fit check is assessed.

**Positive pressure: Breathing out**

- Check the positive pressure seal of the respirator by gently exhaling. If air escapes, the respirator needs to be adjusted.
- Positive pressure fit checking of disposable respirator without exhalation valves requires the wearer to completely cover the mask with both hands before exhaling sharply
- When testing reusable respirator (with exhalation valve) for positive fit, the wearer should close of the exhalation valve and exhale gently.

**Negative pressure: Breathing in**

- Check the negative pressure seal of the respirator by gently inhaling. If the respirator is not drawn in towards your face, or air leaks around the face seal, readjust the respirator and repeat process, or check for defects in the respirator.
• A negative-pressure check requires the wearer to completely cover the mask with both hands before inhaling sharply.

• Negative pressure fit testing reusable respirator (with exhalation valve) requires the user to close off air supply and inhale gently.

Always refer to the manufacturer’s instructions for fit checking of individual brands and types of P2/N95 respirators.

Healthcare settings are to ensure that a range of models and sizes of P2/N5 respirator are available for HWs, so that users can have access to masks that achieves a seal against their face.

• HWs are to perform a fit check each time a respirator is donned to check that a good facial seal is achieved i.e. the mask is sealed over the bridge of the nose and mouth and there are no gaps between the respirator and the face.

• Fit checking is a process used for all P2/N95 respirators regardless of whether or not fit testing is conducted.

• It is important to know that HWs with any amount of facial hair around the chin may NOT be able to achieve a seal with a disposable half face respirator (P2/N95). Australian and New Zealand standards and P2/N95 respirator manufacturers’ IFU require no facial hair for the wearer to achieve a good facial seal (refer to Appendix I for examples of acceptable facial hair styles). A risk assessment should be conducted on the possibility of redeployment or alternative respiratory protective device provision where the HW cannot achieve an adequate facial seal.

• In NSW much of the fit checking and education for fit checking is with duckbill type masks but it should be highlighted that there are differences in donning and fit checking depending on which mask is in use, and the manufacturer’s instructions for fit check for the specific mask in use should always be followed.

• User seal check may vary depending on the brand or model and wearers to follow manufacturer’s instructions for use.

Fit testing is performed to determine whether a specific type, model and size of mask is a suitable fit for the wearer and that it is worn correctly to achieve a facial seal and comfort.

Facepiece fit test methods are classified as either qualitative or quantitative:

• A qualitative fit test is a pass/fail test that relies on the wearer’s sensory detection of a test agent, such as taste, smell, or involuntary cough (a reaction to irritant smoke). This method uses a hood and an odour or taste solution to determine the ability of the mask wearer to smell or taste the test agent.

• A quantitative fit test uses an instrument to numerically measure the effectiveness of the mask by electronic equipment that measures air leakage into the respirator/masks.

**Requirements for fit testing**

A key component of a successful RPP is the assignment of responsibilities for the implementation and coordination of the program. The program should be overseen by a suitably trained person with an understanding of the principles of respiratory protection and the authority
to implement the program. This is best led in a collaborative between WHS and IPAC.

A fit testing program includes the following components:

- Identification of a dedicated fit testing coordinator or assessor
- Training of an adequate number of internal staff to be competent in fit testing training and assessment
- A process to identify which employees are to be included in a fit testing program including those working in high risk clinical areas, and the priority for training
- Selection of appropriately certified P2/N95 respirators for fit testing which are same make, model and size of masks that employees are expected to use in practice
- Appropriate storage of disposable respirators according to manufacturer’s specifications (e.g. temperature and humidity) and stock should be controlled and rotated based on a use by date, expiry date or manufactured date
- Non-disposable respirators: A procedure and schedule for storing, inspecting and disposing of respirators, and cleaning, disinfecting, repairing and maintaining respirators as per manufacturer’s instructions
- Training for staff in understanding transmission risk of airborne pathogens
- Training for staff in the proper use of masks including fit checking
- An evaluation framework to ensure the program responds to the needs of employees based on local risk assessment
- The fit testing assessors should undergo an annual competency assessment
- Documentation system should be established to record HW fit testing results (baseline and ongoing). This should be accessible to both HWs and managers providing the ability to continually determine the type of individuals fit tested respirator(s), including between LHDs/SHNs

Who should be fit tested?

A risk-management approach should be applied to ensure that HWs routinely and regularly working in areas with a significant risk of exposure to diseases transmitted via the airborne route are fit tested and are aware of how to perform a fit check. Fit testing will not negate the need for fit checking every time a P2/N95 respirator is put on.

Issues to consider when fit testing

- One mask can’t fit everyone
- People experience physiological changes such as weight gain or loss
- HWs with facial hair
- Particles and environmental conditions while testing
- Accessibility of the exact same make, model, style, and size respirator used to fit test
- Stock availability during pandemic
• Time and resource implications

Aerosol generating procedures

Airborne precautions are required when performing a respiratory aerosol generating procedure (AGPs) on a COVID-19 suspected, probable or confirmed patient. Examples of AGPs can be found on Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units)

NB: The use of nebulisers should be avoided and alternative means of delivering medication (such as pressurised metered-dose inhaler or a spacer) should be used.

If the use of a nebuliser cannot be avoided in a patient with suspected, probable or confirmed acute respiratory viral illness (including COVID-19) then:

• Isolate the patient.
• Use a negative-pressure room, if available. If not available and there is no alternative, use a single room with the door closed.
• HWs administering nebulisers should wear airborne precaution PPE, including impervious gown and gloves, P2/N95 mask, and protective eyewear. If staying in the room continue these precautions for at least 30 minutes after the nebuliser treatment.

Extended or sessional use of PPE

Extended use or sessional use of PPE refers to a period of time where a health worker is undertaking duties in a specific care setting/exposure environment and is wearing the same PPE for repeated close contact episodes with several patients, e.g. on a ward round, providing ongoing care for multiple inpatients in a cohort area.

Extended use is well suited to situations wherein multiple patients are infected with the same microorganisms and patients are placed together in dedicated waiting rooms or hospital wards.

Extended or sessional use of PPE is only recommended when caring for patients suspected, probable or confirmed to have COVID-19.

• The decision on extended or sessional use of PPE must be based on risk assessment, clinical situation, local facility needs and consultation with facility infection prevention and control team.
• A single session refers to a period of time where a HW is undertaking duties in a specific clinical care setting or exposure environment. A session ends when the health worker leaves the care setting/exposure environment.
• Extended or sessional use of mask and eye protection is indicated if there is perceived to be close or prolonged interaction with patients.
• International guidance states that surgical masks can be worn for not more than 4 hours and a P2/N95 respirator for up to 8 hours continuously or uninterrupted for multiple patients without removing the mask unless damaged, soiled or contaminated. However, the use of one mask for longer than 4 hours is likely to be poorly tolerated (increasing risk of self-contamination) and is not
recommended.

- The duration of use of PPE items should not exceed manufacturer’s instructions.
- Also refer to Appendix B: Mask Utilisation Priority during Pandemic Planning – NSW Health.
- Extended or sessional use of apron or gown, (where no physical or close contact with a patient or patient zone is expected), based on HWs risk assessment on a case-by-case approach. The assessment must include the risk for transmission of multi-resistant organisms (MROs).
- PPE (gloves and apron or gown) must be changed in between all other patients (if worn) including known multidrug resistant organisms.
- Gloves must be removed, and hand hygiene performed in between patients

For guidance on appropriate use of PPE in community and home visits refer to COVID-19 Infection Prevention and Control Guidance for Home Visits

Reprocessing of PPE during COVID-19 pandemic

The CEC does not recommend or endorse any strategies for PPE use that differ from standard infection prevention and control practice. In times of a pandemic and global supply shortages, temporary emergency strategies can be considered.

Manufacturer’s instructions for reprocessing including cleaning and disinfecting should be followed and HWs must be trained as needed to ensure that equipment is reprocessed after each use.

If an organisation is considering reprocessing single-use face masks and gowns for reuse, then it is likely that these items will be subjected to disinfection processes, rather than a sterilisation process that has been validated to deliver a known sterility assurance level.

It is important that organisations considering reprocessing medical devices intended for single use understand the following points:

- Disinfection or re-sterilisation alone is not sufficient to render the device fit for reuse.
- Reprocessing (cleaning and disinfection and/or sterilisation) may have a severe deleterious effect on the safety and performance of the masks and gowns that may not be obvious to the end user.
- Any individual or entity reprocessing medical devices for reuse meets the legislative definition of a manufacturer under the therapeutic goods legislation and will need to meet all legislative obligations and responsibilities for manufacturers.
- These responsibilities include ensuring that reprocessing activities (such as repeated cleaning and disinfection or sterilisation) do not affect the material properties or effectiveness of the device.
- Check the original manufacturer's instructions for use and reprocessing information.
- Some masks, such as P2/N95 respirators, may not be compatible with reprocessing activities, including gamma and ionizing radiation, as these activities damage or impair the device.
• Reprocessing of single-use medical devices must demonstrate that the device will continue to perform as originally intended following their reprocessing activities, noting that damage to the device may not be apparent during a visual inspection.

Reprocessing of single use PPE

The reprocessing of single use PPE is not recommended and should only be considered as one of the temporary emergency strategies when the supply of new items is inadequate.

The reprocessing of single use medical devices is considered as “off-label” use and the healthcare setting is responsible for all risks and associated liabilities with "off-label" use of medical devices.

When a single use item is reprocessed for reuse, the healthcare facility responsible for carrying out reprocessing activities meets the legislative definition of a manufacturer as per ARTG Therapeutic Goods Act 1989, as they have:

- changed the intended purpose of the device
- certified the device is suitable for reuse
- assumed legal liability for the quality, safety and performance of the device.

Factors to consider when reprocessing single-use medical devices for reuse in order to meet the Essential Principles include the following:

- Reprocessing single-use PPE must not be undertaken without prior written approval from the NSW Ministry of Health.
- Requires approval by an LHD/SHN PPE Governance Committee
- Procedures and safeguards be implemented to prevent inadvertent environmental contamination with hazardous microorganisms (including from the point of collection environment through to the reprocessing environment)
- Procedures and safeguards be implemented to prevent inadvertent exposure of individuals in these environments to hazardous microorganisms
- Processes should be established for reprocessed items to enable traceability and tracking during reprocessing and reuse.
References


9. Australian Government Control guidelines for public health units (National Guidelines)

10. Australian Government Department of Health: Guidance on the use of PPE in hospitals during the COVID-19 outbreak


## Appendix A: Recommended PPE for health workers in clinical settings

<table>
<thead>
<tr>
<th>Setting</th>
<th>Context COVID-19 Case</th>
<th>DISPOSABLE GLOVES</th>
<th>PLASTIC APRON</th>
<th>FLUID RESISTANT OR ISOLATION GOWN</th>
<th>SURGICAL MASK</th>
<th>P2/N95 MASK</th>
<th>EYE PROTECTION¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hospital inpatient and emergency departments, dental and maternity setting</td>
<td>Working with patients NOT suspected of COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Performing AGPs on patients NOT suspected of COVID-19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Working in an inpatient area with suspected, probable or confirmed case(s)¹ (not within 1.5 metres) No AGP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Performing a single AGP² on a suspected, probable or confirmed case(s)¹ in any setting</td>
<td>✓ single use³</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Working in a higher risk acute care area⁶ with suspected, probable or confirmed case(s)¹ - direct patient care (within 1.5 metres) No AGP</td>
<td>✓ single use³</td>
<td></td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use³/ clean reusable in between use⁴</td>
</tr>
<tr>
<td></td>
<td>Working in an inpatient area with suspected, probable or confirmed case(s)¹ – direct patient care (within 1.5 metres)</td>
<td>✓ single use³</td>
<td></td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use⁶</td>
<td>✓ single/ extended use³/ clean reusable in between use⁴</td>
</tr>
</tbody>
</table>

¹ For other infectious diseases refer to the Handbook.
### Acute hospital inpatient and emergency departments, dental and maternity setting (cont.)

<table>
<thead>
<tr>
<th>Context COVID-19 Case</th>
<th>DISPOSABLE GLOVES</th>
<th>PLASTIC APRON</th>
<th>FLUID RESISTANT OR ISOLATION GOWN</th>
<th>SURGICAL MASK</th>
<th>P2/N95 MASK</th>
<th>EYE PROTECTION¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working in an emergency department / acute assessment area with suspected, probable or confirmed case(s)¹ – direct patient care <strong>(within 1.5 metres)</strong></td>
<td>✓</td>
<td>✓</td>
<td>RA⁷</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>single use³</td>
<td>single/ extended use⁶</td>
<td>OR</td>
<td>single/ extended use⁶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working in a procedural area such as radiology, with suspected, probable or confirmed case(s)¹ – direct patient care <strong>(within 1.5 metres)</strong></td>
<td>✓</td>
<td>✓</td>
<td>RA⁷</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>single use³</td>
<td>single/ extended use⁶</td>
<td>OR</td>
<td>single/ extended use⁶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All individuals transferring suspected, probable or confirmed case(s)¹ <strong>(within 1.5 metres)</strong></td>
<td>✓</td>
<td>✓</td>
<td>RA⁷</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>single use³</td>
<td>single/ extended use⁶</td>
<td>OR</td>
<td>single/ extended use⁶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working in an Operating Theatre (non-scrubbed staff) with suspected, probable or confirmed case(s)¹ – <strong>no AGPs²</strong></td>
<td>✓</td>
<td>✓</td>
<td>RA⁷</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>single use³</td>
<td>Single use³</td>
<td>OR</td>
<td>Single use³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working in a delivery/birthing suite with suspected, probable or confirmed case(s)¹</td>
<td>✓</td>
<td>✓</td>
<td>RA⁷</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td></td>
<td>single use³</td>
<td>single/ extended use⁶</td>
<td>OR</td>
<td>single/ extended use⁶</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Eye protection refers to the type of eye protection required for the specific context and situation.
<table>
<thead>
<tr>
<th>Context</th>
<th>DISPOSABLE GLOVES</th>
<th>PLASTIC APRON</th>
<th>FLUID RESISTANT OR ISOLATION GOWN</th>
<th>SURGICAL MASK</th>
<th>P2/N95 MASK</th>
<th>EYE PROTECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute hospital inpatient and emergency departments, dental and maternity setting (cont.)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cleaning a room or zone after a suspected, probable or confirmed case(s)(^1)</td>
<td>single use(^3)</td>
<td>single use(^3)</td>
<td></td>
<td></td>
<td>RA7 within 30 minutes of an AGP</td>
<td>single/extended use(^6) clean reusable in between use(^4)</td>
</tr>
<tr>
<td>When providing care to vulnerable(^8) patient groups during (within 1.5 metres) use protective precautions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>single use(^3)</td>
<td>single use(^3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatients</td>
<td>Respiratory specimen collection in fever clinics, COVID-19 clinics, GP practices where in hospital or outpatient setting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>single use(^3)</td>
<td>single/extended use(^6) OR</td>
<td>RA7 single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6) clean reusable in between use(^4)</td>
</tr>
<tr>
<td>Working in Primary Care, ambulatory and outpatient - with suspected, probable or confirmed case(s)(^1)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>single use(^3)</td>
<td>single/extended use(^6) OR</td>
<td>RA7 single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6) clean reusable in between use(^4)</td>
</tr>
<tr>
<td>Patient Transport Services</td>
<td>Working with patients suspected, probable or confirmed to have COVID-19</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>✓</td>
<td>single use(^3)</td>
<td>single/extended use(^6)</td>
<td>RA7 single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6)</td>
<td>single/extended use(^6) clean reusable in between use(^4)</td>
</tr>
</tbody>
</table>
Notes for Appendix A

1. A case is any individual meeting the case definition for a suspected, probable or confirmed case.
2. The list of aerosol-generating procedures (AGPs) can be found in the section “Airborne precautions, aerosol-generating procedures (AGPs) and room management” below.
3. Single use refers to disposal of PPE or decontamination of reusable items e.g. reusable respirator, after each patient and/or following completion of a procedure or task; dispose or decontaminate reusable items after each patient contact as per Infection Control Standard Precautions.
4. This may be reusable face/eye protection/ face shield, safety glasses orgoggles.
5. High-risk clinical areas include: Intensive Care Units (ICU), Emergency Departments (ED), COVID-19 Wards, Acute Respiratory Assessment Clinics.
6. An extended use or sessional use refers to a period of time where a health worker (HW) is undertaking duties in a specific care setting/exposure environment e.g. on a ward round; providing ongoing care for inpatients. A session ends when the HW leaves the care setting/exposure environment. Sessional use should always be risk assessed and considered where there are high numbers of hospital cases. Extended use of aprons/gowns can be considered if there is minimal contact of the apron or gown with the patient or their surroundings, the apron or gown is not used during an AGP and it is not visibly contaminated. PPE should be disposed of after each session or earlier if damaged, soiled, moist or uncomfortable.
7. Risk assessment (RA) refers to utilising PPE for appropriate protection when there is an anticipated/likely risk of contamination with splashes, droplets, or blood or body fluids.
8. Vulnerable people may include the following based on disease severity, history or treatment levels: solid organ transplant recipients, cancer patients, patients with severe respiratory conditions, patients with rare diseases and immunosuppressed individuals.
### Appendix B: Mask Utilisation Priority during Pandemic Planning – NSW Health

**AIM:** PROVIDE GUIDANCE ON RATIONAL, RISK-BASED USE OF MASKS TO ENSURE OPTIMAL USE

The level of demand should be calculated based on local risk assessment and made in conjunction with facility management, local infectious diseases, public health unit, infection prevention and control and advice from the CEC.

<table>
<thead>
<tr>
<th>Mask type</th>
<th>Normal Demand</th>
<th>Increased Demand - CAUTION</th>
<th>High Demand - ALERT</th>
</tr>
</thead>
</table>
| Surgical Masks | Health workers to use surgical mask:  
- While performing any procedure where there is a likelihood of blood or body substances exposure (Standard Precautions) including terminal cleaning  
- When in contact within 1.5 metres of a suspected or confirmed COVID-19 case or any other communicable disease capable of transmitting by the droplet route i.e. influenza, acute respiratory illness (ARI), pertussis  
- Patients to use surgical mask:  
  - At the time of presentation to a healthcare facility with an ARI  
  - If symptomatic confirmed and suspected cases of COVID-19 or ARI when out of their allocated zone and while in transit  
  - When unwell with symptoms of ARI (coughing, runny nose, fever) while in the public area | Health workers to use surgical mask: Minimise the number of individuals who need to use respiratory protection through:  
- Preferential use of engineering and administrative controls (e.g. social distancing, room configuration, equipment that maintains closed circuits, cohorting of patients)  
- Implement and document practices allowing optimal and extended/sessional use*  
- Prioritise use for those personnel performing procedures that place them at the highest risk of contracting an infection  
- Wear face shield for risk of splash or spray  
- Reserve mask use to HWs inside patient zone only (e.g. surgery, patient room) | Health workers to use surgical mask:  
- For symptomatic patients confirmed as having a droplet spread infection including COVID-19 or influenza while providing care within 1.5 metres  
- Implement practices allowing optimal and extended/sessional use*  
- Re-consider elective procedures that can be delayed or postponed  
- Patients to use surgical mask:  
  - Symptomatic confirmed influenza or COVID-19 when out of their allocated zone  
  - Restrict visitors while patient is in infective stage  
  - Patients with ARI to postpone their routine appointments/seek phone advice or phone ahead when safe to do so |

---

*extended/sessional use*
<table>
<thead>
<tr>
<th>Advice for patients:</th>
<th>Patients to use surgical mask:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>NB:</strong> Recommend staying at home if unwell and not to attend events, shopping or crowded areas.</td>
<td>• If symptomatic confirmed influenza or COVID-19 when out of their allocated zone</td>
</tr>
</tbody>
</table>

Advice for patients:

• **NB:** Patients with ARI to postpone their routine appointments/seek phone advice or phone ahead when safe to do so

- Respiratory hygiene/cough etiquette and hand hygiene remain important

**CONSIDER EXTENDED USE, DO NOT REUSE MASK AT ANY STAGE:** Once removed, a mask should not be reapplied.
<table>
<thead>
<tr>
<th>Mask type</th>
<th>Normal Demand</th>
<th>Increased Demand - CAUTION</th>
<th>High Demand - ALERT</th>
</tr>
</thead>
</table>
| P2/N95 respirator (that are fit checked) | Health workers to use P2/N95 mask:  
- While caring for patients with communicable disease capable of transmitting via airborne route (e.g. Tuberculosis, Measles, Chickenpox)  
- Respiratory Aerosol Generating Procedures (AGPs) in a suspected, probable or confirmed COVID-19 case | Health workers to use P2/N95 respirator:  
- For patients on airborne precautions  
- During AGPs for patients with acute respiratory illness or suspected/probable/confirmed COVID-19  
**Minimise the number of individuals who need to use respiratory protection through:**  
- Preferential use of engineering and administrative controls (room configuration, isolation, ventilation controls)  
- Implement practices allowing optimal and extended/sessional use*  
- Postpone or delay home visits while patient is in infective stage if safe to do so | Health workers to use P2/N95 mask for:  
- Patients on airborne precautions  
- During AGPs  
- Optimal and extended/sessional use* where practical  
- Bundle care activities across all health worker types, limit face to face interactions and implement alternate methods such as telephone/video calls  
Exclude visitors and organise virtual visiting on a case by case basis |

**Advice for patients:**  
- DO NOT USE P2/N95 mask. **Respiratory hygiene/cough etiquette and hand hygiene remain important**

![Traffic Light Diagram](image)
Appendix C: Visual Guide to Application of PPE

- Gloves should be changed and hand hygiene performed between patients; change or remove gloves when clinically indicated, if contaminated, or moving from dirty to clean site on the same patient or when damaged or torn.
- Perform hand hygiene immediately after removing gloves and other PPE if there is risk of contamination between steps.
- Gown/apron should be removed and discarded appropriately upon completion of care (session) and/or on leaving the room/zone.
- Reusable eye protection should be cleaned/disinfected between use.
- Clean and disinfect reusable shared patient equipment and high touch points.

**CONTACT + DROPLET**

**CONTACT + DROPLET**

**CONTACT + DROPLET**

**CONTACT + DROPLET + AIRBORNE - AGP**
## Appendix D: AAMI Level Standards for Gowns


<table>
<thead>
<tr>
<th>Barrier Performance</th>
<th>Barrier Protection</th>
<th>Resistance Measure</th>
<th>Description</th>
</tr>
</thead>
</table>
| **Level 1**         | Minimal            | Liquid penetration | • Used for MINIMAL risk situations  
• Provides a slight barrier to small amounts of fluid penetration  
• Single test of water impacting the surface of the gown material is conducted to assess barrier protection performance. |
| **Level 2**         | Low                | Liquid penetration | • Used in LOW risk situations  
• Provides a barrier to larger amounts of fluid penetration through splatter and some fluid exposure through soaking  
• Two tests are conducted to assess barrier protection performance:  
  o Water impacting the surface of the gown material  
  o Pressurising the material |
| **Level 3**         | Moderate           | Liquid penetration | • Used in MODERATE risk situations  
• Provides a barrier to larger amounts of fluid penetration through splatter and more fluid exposure through soaking than Level 2  
• Two tests are conducted to test barrier protection performance:  
  o Water impacting the surface of the gown material  
  o Pressurising the material |
| **Level 4**         | High               | Liquid and viral penetration | • Used in HIGH risk situations  
• Prevents all fluid penetration for up to 1 hour  
• May prevent VIRUS penetration for up to 1 hour  
• In addition to the other tests conducted under Levels 1-3, barrier level performance is tested with a simulated blood containing a virus – if no virus is found at the end of the test, the gown passes. |
Appendix E: AS 4381:2015 Single use surgical face mask standard


<table>
<thead>
<tr>
<th>Testing</th>
<th>Barrier Performance</th>
<th>Bacterial Filtration Efficiency (BFE) %</th>
<th>Differential pressure (AP), mmH2O/cm²</th>
<th>Resistance to penetration by synthetic blood (fluid resistance) minimum pressure in mmHg for pass result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mask materials are evaluated for resistance to penetration by synthetic blood, bacterial filtration efficiency and differential pressure</td>
<td>Level 1</td>
<td>≥ 95%</td>
<td>&lt; 4.0</td>
<td>80mm Hg</td>
</tr>
<tr>
<td></td>
<td>Level 2</td>
<td>≥ 98%</td>
<td>&lt; 5.0</td>
<td>120mm Hg</td>
</tr>
<tr>
<td></td>
<td>Level 3</td>
<td>≥ 98%</td>
<td>&lt; 5.0</td>
<td>160mm Hg</td>
</tr>
<tr>
<td></td>
<td>Test method</td>
<td>ASTM F2101-14 or EN 14683:2014</td>
<td>EN 14683:2014</td>
<td>ASTM F1862 /F1862M-13 or ISO 22609</td>
</tr>
</tbody>
</table>

Also Refer to Appendix A: Mask Utilisation Priority during Pandemic Planning – NSW Health
### Appendix F: Properties of P2 and N95 masks

<table>
<thead>
<tr>
<th>Properties</th>
<th>P2 masks</th>
<th>N95 masks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other names</strong></td>
<td>N95 masks, respiratory protection device, particulate respirator</td>
<td>P2 respirator, respiratory protection device, particulate respirator</td>
</tr>
<tr>
<td><strong>Characteristics</strong></td>
<td>P2 particulate filtering respirators/ masks must have a filter efficiency of at least 94% when tested with sodium chloride aerosol at a flow rate of 95 litres/minute. Under the EN system, aerosol testing is similar to Standard AS/ NZS 1716: 2012 but have additional filter efficiency testing with paraffin oil aerosol that must also meet the minimum 94% filter efficiency to be classified as P2. The particle size of this aerosol has a mass median diameter of 0.3 to 0.6 microns with a range of particles in the 0.02 to 2 micron size range.</td>
<td>NIOSH classified N95 particulate filtering respirators/masks must have a filter efficiency of at least 95% when tested with sodium chloride aerosol at a flow rate of 85 litres/minute. N95 respirator masks can only be used for oil free aerosols. The particle size of this aerosol is ~0.3 micron.</td>
</tr>
<tr>
<td><strong>Sealing</strong></td>
<td>Tie at crown and bottom of head, pliable metal nose bridge</td>
<td>Recommend Fit checking all respirators, Fit testing based on risk category</td>
</tr>
<tr>
<td><strong>Intended use</strong></td>
<td>Routine care of patients on airborne precautions&lt;br&gt;High-risk procedures (or AGPs) such as bronchoscopy when the patient’s infectious status is unknown, or the patient is suspected or confirmed to have COVID-19&lt;br&gt;Procedures that involve aerosolisation of particles that may contain specific known pathogens (AGPs)</td>
<td></td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>Care must be taken if placing respirators on patients and must suit clinical need i.e. if the patient has chronic obstructive airways disease (COAD) or is in respiratory distress, the respirator will exacerbate symptoms.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Australian Guidelines for the Prevention and Control of Infection in Healthcare, 2019
## Appendix G: P2 and N95 Mask Range within NSW Health (Surgical)

<table>
<thead>
<tr>
<th>Mask</th>
<th>Description</th>
<th>P2/N95</th>
<th>Fluid resistant</th>
<th>Standard</th>
<th>Precautions suited to</th>
<th>Specifications and additional information</th>
</tr>
</thead>
</table>
| BSN Medical (Aust) Pty Ltd Code:848174     | Mask, Particulate Respirator, Face, P2/N95 Filter, Medium, Pleated, Double Strap (Proshield) | P2/N95 | 160mmHg         | AS/NZS 1716:2012  | Airborne / AGP        | • Bacterial Filtration Efficiency (BFE) of greater than 99% for media greater than 3 microns.  
• The super high Particulate Filtration Efficiency (PFE) material filters more than 99% of particles greater than 0.1 microns.  
• The N95 mask is NIOSH approved as an N95 particulate filter respirator. It meets or exceeds the standard performance criteria demanded by the US National Institute for Occupational Safety and Health (NIOSH) for the management of Tuberculosis  
• The fluid resistant qualities of the mask provide protection against fluid strikethrough. |
| BSN Medical (Aust) Pty Ltd Code:848175     | Mask, Particulate Respirator, Face, P2/N95 Filter, Small, Pleated, Double Strap (Proshield) | P2/N95 | 160mmHg         | AS/NZS 1716:2012  | Airborne / AGP        | • NIOSH certified N95  
• Meets CDC guidelines for Mycobacterium tuberculosis exposure control  
• FDA cleared for use as a surgical mask  
• Bacterial Filtration Efficiency (BFE) more than 99% according to ASTM F2101  
• Fluid resistant according to ASTM F1862 at 120 mmHg  
• Mould nose clip to wearer’s nose shape to help reduce eyewear fogging and ensure a better seal/fit  
• Respirator contains no components made from natural rubber latex |
| 3M Australia Pty Ltd Code: 832352          | P2 masks 1860                                                               | P2/N95 | 120mmHg         | AS/NZS 1716:2012  | Airborne / AGP        | • NIOSH certified N95  
• Meets CDC guidelines for Mycobacterium tuberculosis exposure control  
• FDA cleared for use as a surgical mask  
• Bacterial Filtration Efficiency (BFE) more than 99% according to ASTM F2101  
• Fluid resistant according to ASTM F1862 at 120 mmHg  
• Mould nose clip to wearer’s nose shape to help reduce eyewear fogging and ensure a better seal/fit  
• Respirator contains no components made from natural rubber latex |
<table>
<thead>
<tr>
<th>Mask</th>
<th>Description</th>
<th>P2/N95</th>
<th>Fluid resistant</th>
<th>Standard</th>
<th>Precautions suited to</th>
<th>Specifications and additional information</th>
</tr>
</thead>
</table>
| 3M Australia Pty Ltd Code: 832353 | P2 masks1870 | P2/N95 | 160mmHg | AS/NZS 1716:2012 | Airborne / AGP | • NIOSH certified N95  
• Meets CDC guidelines for Mycobacterium tuberculosis exposure control  
• FDA cleared for use as a surgical mask  
• Bacterial Filtration Efficiency (BFE) more than 99% according to ASTM F2101  
• Fluid resistant according to ASTM F1862 at 160 mm Hg  
• Respirator contains no components made from natural rubber latex  
• Red coloured head straps for health care use  
• Mould nose clip to wearer’s nose shape to help reduce eyewear fogging and ensure a better seal/fit |
## P2 and N95 Mask Range within NSW Health (Standard)

<table>
<thead>
<tr>
<th>Mask</th>
<th>Description</th>
<th>P2/N95</th>
<th>Fluid resistant</th>
<th>Standard</th>
<th>Precautions suited to</th>
<th>Specifications and additional information</th>
</tr>
</thead>
<tbody>
<tr>
<td>3M Australia Pty Ltd Code: 832382</td>
<td>P2 masks 8210</td>
<td>P2</td>
<td>N/A</td>
<td>AS/NZS 1716:2012</td>
<td>Dry airborne*&lt;br&gt;For AGPs wear with face shield or a surgical mask on top of P2</td>
<td>• 8210 can be used in certain applications against some bio-aerosols&lt;br&gt;• Lightweight construction for added comfort that may increase wearer time&lt;br&gt;• Mould nose clip to the wearer’s nose shape to help reduce eyewear fogging and for a better seal and fit&lt;br&gt;• Made from 3M™ Advanced Electret Filter Material for effective filtration with low breathing resistance&lt;br&gt;• Does not contain components made from natural rubber latex&lt;br&gt;• P2 rated filtration efficiency&lt;br&gt;• Protects against hazards such as dusts, mists, smoke and fume&lt;br&gt;• Complies with AS/NZS 1716:2012&lt;br&gt;• Fluid Resistant (ASTM F1862) - not applicable</td>
</tr>
<tr>
<td>3M Australia Pty Ltd Code:832383</td>
<td>P2 masks 8110S</td>
<td>P2</td>
<td>N/A</td>
<td>AS/NZS 1716: 2012</td>
<td>Dry airborne*&lt;br&gt;For AGPs wear with face shield or a surgical mask on top of P2</td>
<td>• Lightweight construction for added comfort that may increase wearer time&lt;br&gt;• Mould nose clip to the wearer’s nose shape to help reduce eyewear fogging and for a better seal and fit&lt;br&gt;• Made from 3M™ Advanced Electret Filter Material for effective filtration with low breathing resistance&lt;br&gt;• Does not contain components made from natural rubber latex&lt;br&gt;• Fluid Resistant (ASTM F1862) - not applicable&lt;br&gt;• N95 (similar to Class P2) rated filtration efficiency&lt;br&gt;• Protects against hazards such as dusts, mists, smoke and fume</td>
</tr>
<tr>
<td>KN95 ⁴</td>
<td>N95 masks</td>
<td>N95</td>
<td>N/A</td>
<td>GB2626-2006</td>
<td>Dry airborne*</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>-----</td>
<td>-----</td>
<td>-------------</td>
<td>--------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>For AGPs wear with face shield or a surgical mask on top of P2</td>
<td></td>
</tr>
</tbody>
</table>

- Meets performance requirements of AS/NZS 1716 (P2) and complies with NIOSH N95
- Material: Non-woven fabric
- Standard: KN95
- Protection Class: KN95/FFP2
- Filtering Rate: ≥95% (0.075μm particles)
- Applications: daily life, factory workshop, hospitals, outpatient clinics
- Fluid Resistant (ASTM F1862) - not applicable

*Standard P2/N95 respirator can be used for dry airborne situations such as Tuberculosis, Measles or Chickenpox where minimal exposure to droplets are expected.

⁴KN95 respirators/masks are the Chinese standards for respirators. N95 masks are the USA standards for respirator masks. There are requirements that the USA National Institute for Occupational Safety and Health requires manufacturers to meet in order to label their masks as N95s. Mask standards for Europe (FFP2), Australia (P2), Korea (KMOEL), and Japan (DS) are also highly similar. There are different brands and levels of KN95 respirators available, when selecting a KN95 respirator ensure to check the particulate filtration level and fluid resistance aligns with the requirements of P2/N95 respirators. Some P2/N95 respirators are not fluid resistant, if fluid resistance status is unknown, for AGPs wear with face shield or a surgical mask on top of P2/N95.
## Appendix H: Recommended Guidance on Mask Use in NSW Health

<table>
<thead>
<tr>
<th>Healthcare –inpatient settings</th>
<th>Healthcare-community settings</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Surgical Masks</strong></td>
<td>The use of fluid resistant surgical mask (Level 1, 2 or 3) is recommended for the following:</td>
<td>- Healthy people including those who provide services to the general public <strong>DO NOT NEED</strong> to wear a mask.</td>
</tr>
<tr>
<td><strong>Health worker</strong></td>
<td>- Procedures where spray and/or droplets are produced (including surgery)</td>
<td><strong>Adhere to</strong></td>
</tr>
<tr>
<td>- When in close contact with patients known or suspected to have a communicable disease capable of transmitting by the droplet route (i.e. Influenza, Pertussis)</td>
<td>- <strong>Respiratory hygiene/cough etiquette and hand hygiene remain important</strong></td>
<td></td>
</tr>
<tr>
<td>- When providing care for symptomatic suspected, probable or confirmed COVID-19 cases within 1.5 metres</td>
<td>- Community measures such as social distancing anywhere greater than 1.5 metres</td>
<td></td>
</tr>
<tr>
<td>- As above until the patient meets the clearance guidelines as recommended by the facility</td>
<td>- Environmental measures such as routine surface cleaning including high touch surfaces at work/home</td>
<td></td>
</tr>
<tr>
<td>The use of surgical mask minimum level 1 is recommended for the following:</td>
<td><strong>Home isolation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Patients</strong></td>
<td>- Procedures where spray and/or droplets are produced</td>
<td>- Wear a surgical mask when interacting with others</td>
</tr>
<tr>
<td>- Patients with an acute respiratory illness at the time of presentation to a healthcare facility</td>
<td>In exceptional circumstance where leaving isolation is unavoidable a mask must be worn.</td>
<td></td>
</tr>
<tr>
<td>- Confirmed and suspected cases of COVID-19 whether or not respiratory symptoms are present</td>
<td><strong>NB:</strong> <strong>recommend staying at home if unwell and not to attend events, shopping or crowded areas.</strong></td>
<td></td>
</tr>
<tr>
<td>- Patients with respiratory symptoms when out of their allocated zone and while in transit</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Visitors</strong></td>
<td>- Procedure involving MRI or any procedure involving minimal risk of exposure to droplets or other body substances</td>
<td></td>
</tr>
<tr>
<td>- Family members when visiting a COVID-19 patient</td>
<td><strong>Patients</strong></td>
<td></td>
</tr>
<tr>
<td><strong>NB:</strong> Do not visit when symptomatic with an acute respiratory illness.</td>
<td>People with acute respiratory symptoms while in close proximity to other people</td>
<td></td>
</tr>
</tbody>
</table>

**Surgical Masks** | The use of surgical mask (Level 1, 2 or 3) is recommended for the following: | **NB:** If in the community/home visit and no face-to-face contact within 1.5 metres mask use is not required |
| **Health worker** | - Procedures where spray and/or droplets are produced | |
| - When providing care for COVID-19 /acute respiratory illness suspected or confirmed cases with symptoms in community settings within 1.5 metres | **NB:** |
| **Health worker** | - Procedures where low amounts of fluid, spray and/or droplets are produced* e.g. collecting respiratory specimens in low symptomatic patients NB eye protection is also recommended | |
| - Procedure involving MRI or any procedure involving minimal risk of exposure to droplets or other body substances | |
| **Patients** | People with acute respiratory symptoms while in close proximity to other people | |

---

*End of Table*
<table>
<thead>
<tr>
<th>Healthcare –inpatient settings</th>
<th>Healthcare-community settings</th>
<th>Community</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P2/N95 respirator</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• The use of P2/N95 mask is recommended for the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health worker</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Airborne precautions: Tuberculosis, Measles, Chickenpox and any other infection requiring airborne precautions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Suspected, probable or confirmed COVID-19 cases with respiratory Aerosol Generating Procedures (AGPs)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The use of P2/N95 mask is not routinely recommended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The use of P2/N95 mask is not recommended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** Immunocompromised patients who can tolerate P2/N95 respirator when near a construction zone or as prescribed by the treating doctor. A surgical mask will be an alternative substitute if P2/N95 mask is not available.

**NB:** The pictures displayed in this document represents samples only, not endorsement of product.

*this may include drive through clinics, GP practices, delivering food in clinical settings, sorting of used linen in laundry area, transport vehicle drivers, drive through clinics both collector and requester, fever clinics. This list is not exhaustive but provides types of scenarios where low amounts of fluid, spray and/or droplets are produced.
Appendix I: CDC – Facial Hairstyles and Filtering Facepiece Respirators

Facial Hairstyles and Filtering Facepiece Respirators

Intended for workers who wear tight-fitting respirators

CLEAN SHAVEN
STUBBLE
LONG STUBBLE
FULL BEARD
FRENCH FOKK
Ducktail
VERDI
GARBALDI
BANDHOLZ
SOUL PATCH
GOATEE
CHIN CURTAIN
EXTENDED GOATEE
CIRCLE BEARD
ANCHOR
BALBO
VAN DYKE
IMPERIAL
SIDE WHISKERS
MUTTON CHOPS
HULHEE
HORSESHOE
ZAPPA
WALRUS
PAINTER'S BRUSH
CHEVRON
HANDLEBAR
PENCIL
TOOTHPARTH
LAMPSHADE
ZORRO
VILLAIN
FU MANCHU
ENGLISH
DALL

*If your respirator has an exhalation valve, some of these styles may interfere with the valve working properly if the facial hair comes in contact with it.
*The graphic may not include all types of facial hairstyles. For any style, hair should not cross under the respirator sealing surface.

Source: OSHA Respiratory Protection Standard 1910.134, 2010

Further Reading: NIOSH Respirator Trusted Source Webpage
https://www.niosh.gov/tnet/nioshnet-document-repository-nt-20716

CDC and MSHA
NSW Government