



2.5 Hand hygiene

Hand hygiene needs to be a consistent IPC activity across the quarantine site and appropriate resources including instructional posters, alcohol-based hand rub (ABHR) and sinks with handwash need to be provided in logical places. Education and training on how and when to perform effective hand hygiene needs to occur during staff orientation.

Recommendations for COVID-19 were for ABHR to contain a minimum of 70% alcohol to be effective. Posters representing hand hygiene methods are readily available online. The posters chosen should be laminated and placed throughout the quarantine facility at points where ABHR is positioned and above all sinks.

Hand hygiene training and guides is freely accessible through the World Health Organisation (WHO), the guidelines for hand hygiene in health care is the resource to action.⁸

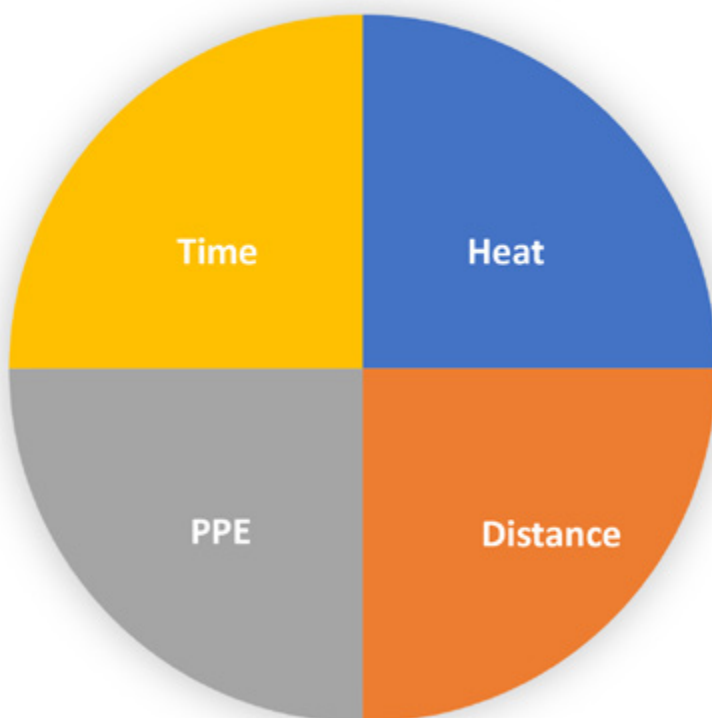


2.6 Personal protective equipment (PPE)

The quarantine and isolation facility has the responsibility to provide appropriate and quality personal protective equipment (PPE) to their staff. During the COVID-19 pandemic there were many issues with lack of access to appropriate PPE with many clinical areas unable to sustain the level of PPE required during the COVID-19 pandemic.

It is necessary to adapt levels of PPE to the epidemiology in the community and the facility. For example, PPE at quarantine facilities with outdoor resident management (such as that at CNR) are required to include consideration for weather elements. Factors such as working in hot conditions in PPE present a risk for heat stress, and therefore time restrictions are required when wearing PPE. Other specific equipment such as N95 masks need to pass staff fit-testing whilst also being comfortable to wear.

Challenging Environmental Elements for CNR



Section 2: Figure 2: Centre for National Resilience, challenging environmental elements identified by staff when wearing personal protective equipment.

This complex overview of personal protective equipment (PPE) in quarantine is focussed on staff requirements for safe management of residents in quarantine and isolation. Information on PPE specifically for residents can be found in Section 4: Resident Care. Education and training of PPE has been covered under Section 3: Health Workforce as part of the orientation of new staff. In this section PPE refresher sessions and competency information has been provided in the Appendices. Posters to demonstrate the donning and doffing process have been provided in the PPE sections for Infection Prevention and Control.

PPE refers to the equipment used to protect quarantine staff and residents from disease transmission. With the increased global use of PPE during COVID-19 maintaining adequate stock was problematic and procurement of equipment needs to be established early (with recommendations to use local industry where possible). In Australia, PPE was assessed against Standards Australia (AS) and the Australian Register of Therapeutic Goods (TGA).^{9,10}

There is a minimum level of PPE required for safe interaction with residents in quarantine and this is referred to as MEG- mask, eye protection and gloves. When physical distancing of 1.5 meters cannot/will not be maintained with residents, an additional level is added as a minimum requirement and this referred to as GMEG- gown, mask, eye protection and gloves.

The hierarchy of PPE is based on the recommendations from the Australian and New Zealand College of Anaesthetists (ANZCA) (page 11).¹¹

Transmission-based precautions are used in an escalating and cumulative fashion in addition to standard precautions where the suspected or confirmed presence of infectious agents represents an increased risk of transmission

- I. Contact precautions comprise the use of gloves, a theatre scrub suit or protective gown and/or apron.*
- II. Droplet precautions comprise a surgical mask (minimum level 2 barrier), eye shield or goggle protection, an impervious apron or long sleeve gown and gloves.*
- III. Airborne precautions for the primary airway proceduralist and team include N95/P2 respirator, eye shield/goggle protection, long-sleeved fluid impervious gowns, gloves +/- double gloves for intubation. The use of powered air purifying respirators (PAPRs) and elastomeric respirators may also be considered but it is acknowledged that their use requires specific training in donning, doffing and cleaning, and that supply may be limited. It is imperative that disposable headwear be worn in operating theatres and if required by local infection control policy and discarded safely after any case. Local guidelines on treatment of footwear should be followed, as these vary considerably.*

2.6.1 Underpinning knowledge and understanding of PPE for the quarantine environment

The quarantine facility has the responsibility to ensure staff are aware of the policies and standards of practice in place relating to the sites infection prevention and control including standard precautions and PPE. The highest rates of healthcare worker (HCW) acquired infections occur when changing PPE, or where PPE is worn inappropriately or poorly applied.

Key points for staff to acknowledge are:

- A 'buddy' system is considered mandatory for staff wearing PPE and entering resident zones.
- Wearing PPE, particularly in stressful situations, can lead to emotional and physical exhaustion. Staff members should be on alert for others around them who are overwhelmed, and provide support and assistance as required.
- All donning of PPE should occur in green zones.
- All doffing of PPE should occur in orange zones.
- Minimise equipment entering a red or orange zone recognising these will be considered contaminated and will need to be cleaned or discarded on exiting the zone.
- No more than 2 hours should elapse between PPE changes, to allow for adequate rest and rehydration. More frequent changes may be required.
- Remember hand hygiene when doffing each PPE item.

2.6.2 Staff uniforms

It is recommended quarantine facilities invest in scrubs for their staff and require staff to change into their scrubs on arrival to work and change again prior to leaving the facility. Scrubs can then be laundered separately to other laundry (through contract arrangements if not able to be done on site).

Closed footwear is to be worn at all times and shoes worn into red and orange zones are to be left onsite. For staff who do not change their footwear onsite but enter the resident zones, it is a requirement they clean their shoes with disinfectant wipes before they leave the zone.



2.6.3 Types of PPE

2.6.3.1 Masks

Masks are designed to cover the mouth and the nose and range from cloth, disposable surgical masks to respirators. Surgical masks are graded from 1 to 3 in relation to the level of protection they offer the wearer and vary in their ability to act as a barrier to the transmission of droplets, fluid and aerosols. The higher the level the more protection the mask offers. Surgical masks are recommended to be provided to residents for use during their quarantine time.

2.3.6.2 Mask fit testing

Mask fit testing provides an additional layer of risk mitigation by ensuring quarantine workers entering orange and red zones in quarantine, wear well-fitting masks to reduce the risk of transmission. Routine mask suitability and fit checking (which should be completed prior to equipment procurement) involves ensuring the mask is comfortable, not itchy and has an acceptable smell. The staff should be able to perform a routine fit test by checking for leaks on inhalation and exhalation or on movement.

All N95/P2 masks should be formally assessed for their fit, and this can be completed with respirator fit testing. Fit testing, as defined in the Australian/New Zealand Standard 1715: 2009, is a validated method for matching P2/N95 respirators with an individual's facial shape.¹²

Fit testing should be performed by an appropriately trained person. Every staff member who enters an orange and/or red zone, including workers and visitors, are required to be fit tested. A range of styles and sizes of P2/N95 respirators may need to be fit-tested to find one that achieves a protective seal.

Healthcare workers who wear P2/N95 respirators should complete fit testing before first use and perform a fit check properly each time they are used. Fit checking ensures the respirator fits the user's face snugly (i.e. creates a seal) to minimise the number of particles that can bypass the filter through gaps between the user's skin and the respirator seal, which can be checked by gently inhaling. If the mask is not drawn in towards the face, or air leaks around the face seal, readjust the mask and repeat the process or check for defects in the mask.

- If a suitable P2/N95 respirator cannot be found an alternative should be considered.

An airtight protective seal is difficult to achieve in the presence of facial hair that underlies the edge of the P2/N95 respirator.

- The face must be smooth and/or clean-shaven to achieve a good airtight seal.
- Facial hair should be removed or an alternative type of P2/N95 respirator be considered, refer to Appendices C which presents a Centres for Disease Control resources on facial hair and masks.¹³

Fit testing does not guarantee a respirator will not leak, particularly if a different type or size is used to one previously fit tested. A repeat fit test is required if a different P2/N95 respirator is utilised.

- This reinforces the need to fit check each time a respirator is used.¹⁴

Fit testing should be conducted annually, and after significant changes in weight or after facial surgery of a staff member. The IPC Team needs to maintain a record of all fit test results and make them available to staff members.

Fit testing devices

Fit testing devices are used to test the facial fit of negative pressure respirators. It utilises a nebuliser (particle generator) to produce a sodium chloride aerosol which is then sampled from inside the face piece of the respirator and the ambient atmosphere.

The particles are counted both inside the respirator and ambient air and a fit factor based on the ratio of these particle counts is recorded.

Each individual fit test involves several exercises including different head movements and talking, to simulate the effects of movement within the working environment. Fit factors for each exercise are combined to give an overall fit factor, which is used to determine whether the tested respirator gives an adequate fit for the individual.

The fit testing device is fitted with an internal N-95, which selects particles of size 0.04µm for the fit test. This is the particle size at which P2 particulate filters are most efficient. By doing this the filter efficiency is removed as a variable in the test and the variations in particle count will be due to facial fit rather than filter efficiency. Disposable Class P2 respirators must be tested with the N95 enabled and with the particle generator on.

Staff need to be aware prior to their first test they should not smoke, drink strong coffee or chew mentholated gum or lozenges as these can negatively affect the fit test. Additionally people are required to be clean shaven for a fit testing device to be considered effective.

2.3.6.3 Mask-wearing recommendations

- Masks can be worn for up to 4 hours unless soiled or damp.
- Do not touch the mask or face whilst wearing a mask. Treat the front of the mask as contaminated.
- Hand hygiene must be performed upon touching or discarding a used mask.
- Masks must be discarded after removal. They are never to be reapplied, stored or reused.
- Masks are not to be worn under the nose or left dangling around the neck or ear.
- Perform hand hygiene before putting on and after taking off a mask.
- Be aware of how a mask may affect communication and adapt voice volume and behaviour to accommodate this.

Putting on your mask

Colour faces outside
Nose clip on top




Place mask over nose and mouth, hook behind your ears.





Fit nose clips
Pull under chin



Section 2: Table 1: Description, purpose, TGA requirements and uses of different mask types.

Mask type	Description	Purpose	Requirements	Use examples
Surgical Mask Level 1 barrier	<p>Disposable masks which are graded from 1-3 level that should fit snugly over the mouth and nose.</p> <p>They are fitted on the nose by pinching a metal strip.</p> <p>These masks are recommend to be worn for 4 hours and should be replaced if they become damp or damaged.</p>	<p>General patient care and medical procedures where the wearer is not at risk of blood or body fluid splash.</p> <p>Protect staff and/or the patient from droplet exposure to microorganisms</p>	<ul style="list-style-type: none"> • TGA certification • AS4381: 2015 Single-use face masks for use in health care 	<p>Droplet transmission based precautions for COVID-19</p>
Surgical Mask Level 2 barrier	<p>Medical procedures where minimal blood or other fluid droplet exposure is likely to occur</p>	<p>Medical procedures where minimal blood or other fluid droplet exposure is likely to occur</p>	<ul style="list-style-type: none"> • TGA certification • AS4381: 2015 Single-use face masks for use in health care 	<p>Changing dressings on small or healing wounds.</p>
Surgical Mask Level 3 barrier		<p>Surgical procedures, major trauma first aid or in any area where the health care worker is at risk of blood or body fluid splash</p>	<ul style="list-style-type: none"> • TGA certification • AS4381: 2015 Single-use face masks for use in health care 	<p>Operating Theatres</p> <p>Emergency Department major trauma first aid areas</p>

N95/P2	The respirator mask covers the nose and mouth with a tight seal and offer protection against airborne infectious agents.	Prevention of aerosol transmission during an Aerosol Generating Procedure (AGP)	<ul style="list-style-type: none"> • TGA certification • AS1716: 2012 Respiratory protective devices 	Aerosol Generating Procedure without risk of blood or body fluid splash
N95/P2 with Level 3 barrier	<p>They are graded as either surgical or non-surgical with surgical respirators being fluid resistant and non-surgical respirators are not fluid resistant.</p> <p>P2 and N95 are both respirator masks.</p> 	Prevention of aerosol transmission during Aerosol Generating Procedure during surgical procedures, major trauma first aid or in any area where the health care worker is at risk of blood or body fluid splash	<ul style="list-style-type: none"> • TGA certification • AS1716: 2012 Respiratory protective devices AND • AS4381: 2015 Single-use face masks for use in health care 	Aerosol Generating Procedure WITH risk of blood or body fluid splash
Cloth Mask	<p>These masks also referred to as utility masks can be washed and are reusable. They are made of fabric with recommendations for three layers of fabric required with a water-resistant outer layer for the mask to be effective.</p> <p>These are for use in community settings and are not deemed appropriate for quarantine or isolation PPE requirements.</p> 	General protection from droplet exposure to microorganisms where the wearer is not at risk of blood or body fluid splash.		<p>Non-clinical / non-public facing HCW roles.</p> <p>Patient/visitor protection</p>

2.6.3.2 Body protection- Gowns and shoe coverings



These coverings are used to protect the body and clothing, and single-use gowns are recommended for quarantine and isolation PPE requirements. It is advised gowns are fluid-resistant, have long sleeves (to the wrist), and cover the neck to the knees. Depending on the type of role and activities to be performed it may be necessary for gowns that fully cover the back and do not separate when the person is sitting (for example if they were required to travel in a vehicle in PPE, the gown should cover their back). Impervious blue gowns are ranked from level 1-4 in accordance with their level of protection against fluid. They are not ranked by the TGA.

A gown suitability check should be performed before procurement of equipment to check the sleeves cover the staff to the wrists and they reach from neck to knees. If required gowns need to provide adequate overlap at the back so the gown does not separate when the wearer sits and the gown reaches below the knee when sitting. In addition the gown should be comfortable to wear and easy to remove without risk of contamination to the wearer.




Shoe coverings are not recommended in quarantine and isolation environments, in accordance with the World Health Organisations recommendations, contamination of COVID-19 from shoes was considered very low.¹⁵ It is instead recommended that staff have a set of shoes which are left at work/quarantine facility and used for their quarantine work only.

Section 2: Table 2: Types of gowns and their barrier against fluids.		
Gown Barrier	Risk of exposure	Gown Description
Level 1	Minimal fluid	Used for situations where risk of exposure to blood, body fluids/ substances or irrigation fluids is MINIMAL Provides a barrier to small volumes of fluid Single test of water impacting the surface of the gown material is conducted to assess barrier protection performance.
Level 2	Low fluid	Used for situations where risk of exposure to blood, body substances or irrigation fluids is LOW 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: 1. Water impacting the surface of the gown material 2. Pressurising the material

Level 3	Moderate fluid	<p>Used for situations where the risk of exposure to blood, body substances or irrigation fluids is MODERATE</p> <p>Provides a barrier to larger amounts of fluid penetration through splatter and more fluid exposure through soaking than Level 2</p> <p>Two tests are conducted to test barrier protection performance:</p> <ol style="list-style-type: none"> 1. Water impacting the surface of the gown material 2. Pressurising the material
Level 4	Highest fluid and microbial barrier	<p>Used for situations where the risk of exposure to blood, body substances or irrigation fluids is HIGH</p> <p>Provides a barrier to large volumes of fluid penetration and greater resistance to fluid soaking than Level 3</p> <p>In addition to the other tests conducted under levels 1-3, barrier level performance is tested with simulated blood containing a virus – if no virus is found at the end of the test, the gown passes</p>
Shoe coverings	Range from minimal to moderate protection against droplets	<p>Provide a physical barrier between the shoe and the environment. Considered single-use and disposable.</p>
Head covering	Range from minimal to moderate protection against droplets	<p>Recommended for use by quarantine staff who wear a hijab or head covering. Provide a physical barrier to cover the hijab (Note the head covering is recommended to be doffed after removing the gown and gloves, then perform hand hygiene and then remove the goggles).</p>

2.6.3.3 Gloves

These are used to protect the hands against body fluids and contamination. They are all single-use and disposable with three main types- sterile, non-sterile and utility. Gloves are made from different materials with the most common being latex, nitrile and vinyl. Due to latex allergies, it is recommended a variety of glove types are available in quarantine and isolation and they should be powder-free. Long cuff gloves are available and these reach further up the wrist. These are suitable for certain processes in quarantine where activities may increase the risk of a gap occurring between the gown and the glove (such as viral screening or manual activities).

Section 2: Table 4: Glove types, descriptions and purpose.		
Glove type	Description	Purpose
Sterile gloves		Used for sterile procedures. May be used in quarantine and isolation for viral screening. Available with long cuffs.
Non-sterile gloves		For general use as PPE and the most suitable glove for quarantine.
Utility gloves		Used for non-resident processes and can be re-usable, although they are not recommended for reuse in the quarantine setting unless they can be safely cleaned.

2.6.3.4 Face shields and goggles

Face shields and eye goggles are designed to protect the wearer’s eyes from exposure to droplets and splashes of body fluids. Glasses worn as corrective eyewear are not suitable for use as PPE and if required a face shield is required to be worn over glasses unless goggles which are specifically designed to fit over glasses can be sourced. It is also advised goggles are acquired which contain an anti-fog component.

Section 2: Table 5: Face shield and goggles/eye protection description and uses			
Type	Description	Reusable or disposable	Uses
Goggles	<p>These are designed to protect the eyes from body fluids and splashes.</p> <p>They have clear lenses and side shields and need to fit snugly to the face, particularly from the corners of the eye across the brow).</p> <p>Available as uncorrected (non-prescription) or corrected (prescription) goggles</p>	Can be disposable or cleaned for reuse	General use in quarantine and isolation as part of standard PPE
Face shields/visors	<p>A transparent face shield to protect the whole face. They can be worn over the top of other PPE and corrective eye glasses.</p> <p>They are available in various designs with foam or plastic headbands or arms like glasses.</p> <p>Face shields extending from chin to crown provide better face and eye protection from splashes and sprays; face shields that wrap around the sides may reduce splashes around the edge of the shield.</p>		For use when performing viral screening or if corrective eyewear is required.



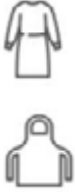



2.6.4 Guide for levels of PPE

The use of PPE is required for confirmed, suspected, quarantined or isolated cases of disease and the level of PPE required varies on level of contact between people or as advised by CHO Directions. All PPE recommendations should be aligned with National Guidelines.¹ During COVID-19 the general recommendation was for quarantine staff to wear a surgical mask, however in quarantine facilities where staff are often working with infected people at times when there is limited information regarding disease aetiology and characterises it is recommended the higher level of N95/P2 mask be used.

For staff safety all resident arrivals require staff to wear full PPE (GMEG) no matter what their task is. This point on the resident journey can be unpredictable and residents may be unwell requiring immediate intervention. All residents are considered potentially infected when they arrive at the quarantine facility.

Gloves, mask and eye protection can be retained for up to 2 hours whilst in the zone, but should be safely doffed if moist or contaminated (including touching surfaces that may be contaminated) or a breach (such as glove tear) occurs.

2.6.4.1 PPE guidance

Section 2: Table 6: Presentation of PPE requirements determined by contact level and user role.							
Contact level	For use by	Hand hygiene	Disposable gloves	Disposable gown	Surgical mask	P2 or N95 mask	Goggles or face shield
							
General public	All staff, and departing residents	✓					
General public restrictions as directed by the Chief Health Officer	All staff, visitors and departing residents	✓			✓		
Droplet, airborne and contact precautions	All care/exposure with residents; <ul style="list-style-type: none"> provided more than 1.5m away from resident 	✓	✓			✓	✓
Droplet, airborne and contact precautions	All care/exposure with residents; <ul style="list-style-type: none"> provided within 1.5m of the resident on resident arrivals 	✓	✓	✓	✓	✓	✓

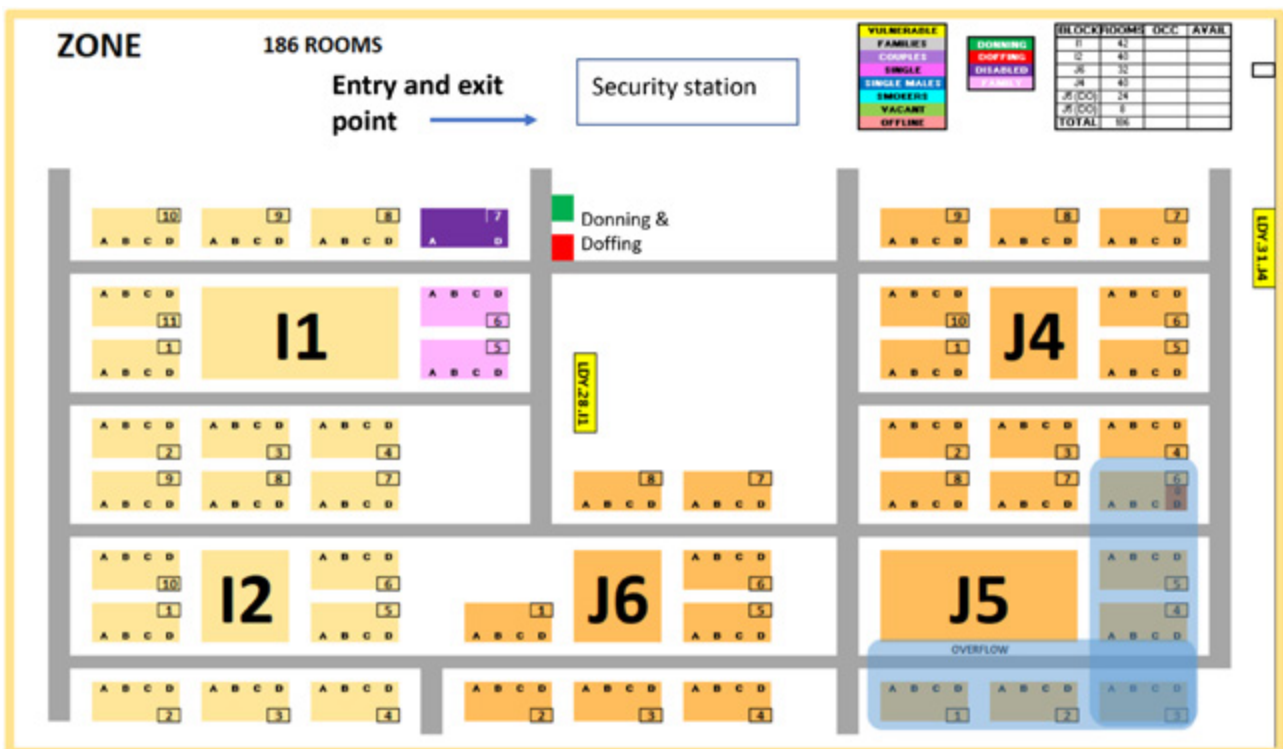
2.6.4 Buddy system

A buddy system is mandatory within the facility and this requires two staff members to be present to ensure PPE is correctly donned and it is safely doffed. The routine for a buddy system is for one person (usually the nurse) to be in the contact/full PPE role and one person (administration) to be in non-contact PPE.

The buddy system forms part of staff safety measures and this covers the following factors:

- All staff entering zones to interact with residents are visibly checked to ensure their PPE is correctly and safely donned.
- If there are altercations with residents, staff are less vulnerable in pairs (noting residents do not routinely have criminal record checks, and some residents may have mental health or anger problems exacerbated by being in quarantine).
- Staff can keep each other safe by monitoring their tolerance to environmental risks such as heat stress whilst in PPE and have a backup for any arising health emergencies (both for staff or residents).
- Staff doffing PPE is correctly and safely completed ensuring there is no risk for contamination to be transferred to the individual, quarantine staff and community.

Section 2: Figure 3 Layout of the resident orange zone at CNR: blocks of resident rooms (viewed as A, B, C, D) and pathways for staff, security station and entry point with donning and doffing stations.



2.6.5 Donning and doffing

The procedure for donning and doffing PPE needs to be standardised across the facility and be consistent with the current health guidelines. This means all staff/teams must practice the same donning and doffing process in accordance with the level of contact precautions required.

All staff are required to pass a donning and doffing competency prior to entering a resident zone to demonstrate they understand the process and can safely perform this. A PPE competency should then be expected of all staff entering resident zone every 2 weeks to ensure they remain competent and confident with the process. Regular PPE refreshers are also recommended to maintain staff investment in this process. These sessions can be more informal and incorporate different approaches such as using paint or quizzes. A copy of the competency form has been provided in Appendices A and examples of PPE refresher session activities have been provided in Appendices B.



2.6.5.1 Donning PPE

Donning should be conducted in the green zone, a space that is considered always clean. Donning stations all need to be prepared exactly the same with PPE organised in the order it will be donned. They need to be clearly labelled as being in the green zone and have all required PPE and posters to ensure staff are supported to correctly don their PPE. The donning station should only contain the PPE required.

In quarantine facilities, the security station is recommended to be positioned at the donning station this has three main advantages:

1. Security can record all staff entering and exiting the resident zone ensuring staff safety and as an additional quality and safety auditing record.
2. Security are an additional person to ensure PPE is correctly and safely donned prior to entering the zones.
3. Adds to resident safety by having a manned contact point at resident/zone entry points.

Hand hygiene with alcohol-based hand rub (ABHR) is important when donning as staff will be touching their face to apply their mask and eye protection. In addition, consideration needs to be given to any equipment being taken into the zone. This should be cleanable with alcohol wipes/disinfectant or will need to be disposable. Paper for example should not leave the zone, in the case of paper notes, a photo image of these needs to be acquired at the doffing station and the paper then disposed of as contaminated waste. If phones are taken in these must remain in the hand (not put in pockets due to risk of contaminating uniforms) and need to be cleaned on exit. Placing phones in clear ziplock bags with disposal of the bag on exit is another approach.






























2.6.5.2 Staff attire when wearing PPE

- Arms are bare below the elbows when entering the quarantine zone (enables good hand hygiene).
- All jewellery to be removed.
- Long hair is to be tied up and secured.
- Beards should be trimmed to improve the effectiveness of PPE (recognising beards impact the seal of a mask potentially allowing viral particle transmission, therefore making masks less effective).

Donning steps need to be simple and clear, the mnemonic of MEG and GMEG are helpful to remind staff of the required donning steps.

Section 2: Figure 4: Donning of personal protective equipment for non-contact (MEG) and full contact (GMEG) roles.

<p>MEG</p> <ul style="list-style-type: none"> • Mask • Eye protection • Gloves <p>MEG is used for non-contact roles</p>	<p style="text-align: center;">Donning PPE – non-contact</p> <p style="text-align: center;">If more than 1.5 metres from residents in an orange zone</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th style="width: 25%;">Hand hygiene</th> <th style="width: 25%;">N95 Mask</th> <th style="width: 25%;">Eye protection</th> <th style="width: 25%;">Gloves</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>= MEG</td> </tr> </tbody> </table>	Hand hygiene	N95 Mask	Eye protection	Gloves						= MEG		
Hand hygiene	N95 Mask	Eye protection	Gloves										
				= MEG									
<p>GMEG</p> <ul style="list-style-type: none"> • Gown • Mask • Eye protection • Gloves <p>GMEG is used for contact roles</p>	<p style="text-align: center;">Donning PPE – full/contact</p> <p style="text-align: center;">If you are in the RED zone or within 1.5m of a resident</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th style="width: 20%;">Hand hygiene</th> <th style="width: 15%;">Gown</th> <th style="width: 20%;">N95 Mask</th> <th style="width: 20%;">Eye protection</th> <th style="width: 25%;">Gloves</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>= GMEG</td> </tr> </tbody> </table>	Hand hygiene	Gown	N95 Mask	Eye protection	Gloves							= GMEG
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					= GMEG								

2.6.6 PPE- When in the zone

As soon as staff leave the donning station and enter the orange zone they are considered to be in a potentially contaminated area and must conduct all activities in the assumption that viral particles/ risk of contamination is throughout the zone. When in the orange or red zone with residents it is important staff remain in their buddy system and only the person in the contact role is ever within 1.5 meters of residents. Team members in the zone need to have master keys for resident rooms and have maps of the zone (If required).

Staff need to be self-aware of their behaviour in the zone:

- Don't touch their face, hair, mask or eye protection.
- Don't touch anyone else (helping with mask etc).
- Ensure all required equipment is carried in the hands or in a cleanable container – for example, phones, pens and clipboards are carried in the hands (ensuring staff don't put their hands in their pockets).
- Any equipment which goes into the zone needs to be cleaned or disposed of on exit.
- Any PPE breaches need to be immediately assessed for their level of risk and appropriate actions taken to ensure staff safety (for example leaving the zone to replace torn gloves) with the breach reported.





































2.6.7 Doffing PPE

Doffing is a critical part of quarantine safety and needs to be situated in the orange zone (away from the donning area). The buddy system is an important and supportive part of the doffing process ensuring staff are safe when doffing and eliminating risk of disease transmission to the individual, quarantine facility staff and wider community. The same doffing process must be followed by all staff with the doffing stations set up with required equipment (alcohol-based hand rub), waste disposal bins and posters to guide practice.

Once staff have completed doffing, and exited the orange zone they should notify the security staff situated at the donning station so their exit from the zone is recorded.

Doffing steps need to be simple and clear, the mnemonic of GEM and GGEM are helpful to remind staff of the required doffing steps.

Section 2: Figure 5: Doffing of personal protective equipment for non-contact (GEM) and full contact (GGEM) roles.

<p>GEM</p> <ul style="list-style-type: none"> • Gloves • Eye protection • Mask <p>GEM is used for non-contact roles</p>	<h2 style="text-align: center;">Doffing PPE – non-contact</h2> <table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="475 383 710 573"> <p>STEP 1 Remove gloves</p>  </td> <td data-bbox="710 383 938 573"> <p>STEP 2 Remove face shield or goggles</p>  </td> <td data-bbox="938 383 1262 573"> <p>STEP 3 Remove mask</p>  </td> <td data-bbox="1262 383 1406 573"></td> </tr> <tr> <td data-bbox="475 573 710 815"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="710 573 938 815"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="938 573 1262 815"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="1262 573 1406 815"> <p>=</p> <p>GEM</p> </td> </tr> </table>	<p>STEP 1 Remove gloves</p> 	<p>STEP 2 Remove face shield or goggles</p> 	<p>STEP 3 Remove mask</p> 		<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>=</p> <p>GEM</p>
<p>STEP 1 Remove gloves</p> 	<p>STEP 2 Remove face shield or goggles</p> 	<p>STEP 3 Remove mask</p> 							
<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>=</p> <p>GEM</p>						
<p>GGEM</p> <ul style="list-style-type: none"> • Gown • Gloves • Eye protection • Mask <p>GGEM is used for contact roles</p>	<h2 style="text-align: center;">Doffing PPE –full/contact</h2> <table border="1" style="width: 100%; text-align: center;"> <tr> <td data-bbox="475 954 746 1160"> <p>STEP 1 Remove gown with gloves</p>  </td> <td data-bbox="746 954 970 1160"> <p>STEP 2 Remove face shield or goggles</p>  </td> <td data-bbox="970 954 1305 1160"> <p>STEP 3 Remove mask</p>  </td> <td data-bbox="1305 954 1417 1160"></td> </tr> <tr> <td data-bbox="475 1160 746 1406"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="746 1160 970 1406"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="970 1160 1305 1406"> <p>+</p> <p>Perform hand hygiene</p>  </td> <td data-bbox="1305 1160 1417 1406"> <p>=</p> <p>GGEM</p> </td> </tr> </table>	<p>STEP 1 Remove gown with gloves</p> 	<p>STEP 2 Remove face shield or goggles</p> 	<p>STEP 3 Remove mask</p> 		<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>=</p> <p>GGEM</p>
<p>STEP 1 Remove gown with gloves</p> 	<p>STEP 2 Remove face shield or goggles</p> 	<p>STEP 3 Remove mask</p> 							
<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>+</p> <p>Perform hand hygiene</p> 	<p>=</p> <p>GGEM</p>						

2.6.8 Video resource for donning and doffing of PPE.



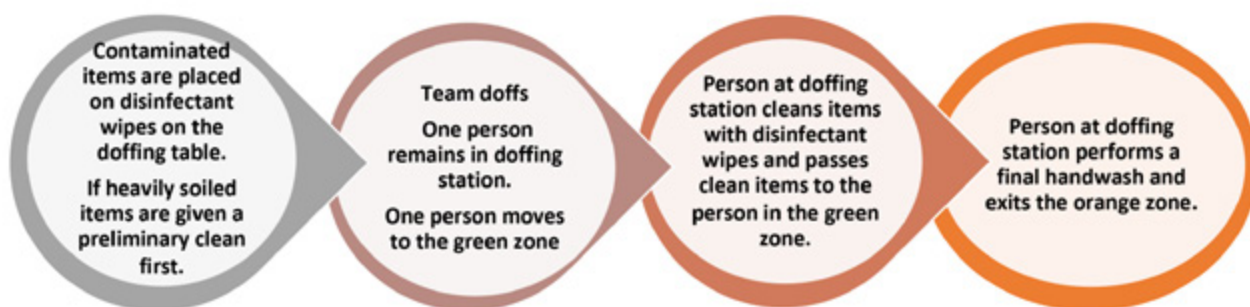
<https://www.youtube.com/watch?v=dXgN7DssBd8>

2.6.9 Sanitising of reusable items

Any equipment taken into the zones must be cleaned on the exit. It is recommended there are buckets of disinfectant located at each doffing station for equipment that can be soaked to be cleaned such as goggles. Items that cannot be soaked need to be thoroughly cleaned with disinfectant wipes. If a number of items need to be cleaned the below process is recommended.

Section 2: Figure 6: Process of cleaning and sanitising items when leaving the orange or red zones.

Cleaning items when exiting the orange zone



2.6.9.1 Soaking of reusable items process

- Mix solution into the CLEAN bucket (check the ratio of bleach per water required. This is usually 20mls bleach in 5 litres water).
- Allow the reusable item to soak for 30 minutes.
- Once 30 minutes has passed, take the reusable item out of the solution with tongs or heavy duty gloves and lay out on a towel to air dry.
- Once reusable item is dry it can be reused.

2.6.10 IPC/PPE breach management

Quarantine services need a clear pathway and strategy to respond to IPC/PPE breaches and staff need to be aware of their responsibility when a breach occurs. Training in what constitutes a breach and required actions should occur as part of the staff orientation process. In quarantine, there are five core risk areas for breaches to occur.

1. Donning and doffing of PPE: this includes unsafe or incomplete donning & doffing, incorrect or missed hand hygiene, failure of the buddy system, poor waste disposal, inadequate or lack of cleaning of equipment
2. Personal protective equipment: failure or breakage of PPE or lack of PPE equipment
3. Environmental factors: weather- extreme heat/sweating and rain, site accidents or hazards
4. Staff behaviours: touching the face in PPE, using phones in PPE, lack of awareness of zones
5. Resident behaviours: touching staff, coughing or sneezing on staff, young children's unpredictable behaviours

Breaches of concern are those in which possible transmission of viral particles has occurred resulting in staff potentially being infected. These incidents require immediate intervention to reduce the risk of disease transmission, such as leaving the zone with their buddy, doffing and washing contaminated area (if appropriate), isolating the staff whilst the buddy report to the Pod Team Leader and Medical Team for review. In high-risk breaches the Medical Team should intervene with the IPC professionals and decisions made on whether the individual at risk requires isolation/quarantine.

It is important to have a reporting system for breaches as this identifies where further education and training may be required, a review of processes should be undertaken or PPE equipment assessed for suitability and durability.

Recommendations if a IPC/PPE breach occurs

- If a breach occurs ensure staff remain calm.
- Move straight to the doffing space with a buddy and doff avoiding any further self-contamination.
- Doff PPE and with the buddy system to ensure staff are safe and no further breach or risk of contamination occurs.
- Isolate staff the member if deemed necessary and report to the Health Team Leader.
- All PPE breaches are to be recorded.
- If required seek medical advice from the Infection Control Nurse or onsite Medical Officer

2.6.11 PPE Auditing

An infection control audit is directed by the Infection Prevention and Control professional leader or their IPC delegate. An audit of IPC/PPE practice is recommended to be performed daily with teams who are interacting with residents. These reports then should be provided to the Director or Nursing and Director of Medical Services and reviewed by the IPC committee.

Auditing the PPE donning and doffing process is a valuable tool to inform the Education Team where further education and training is required. It provides an ad hoc education opportunity, informs the auditor of PPE suitability and adds to the overall safety of the staff and site. Specific times when additional audits should be performed in relation to PPE is on the arrival of residents to the quarantine site as this is considered one of the more riskier points of resident interaction.

An example of an auditing form has been provided on the next page.

Personal Protective Equipment Auditing Form

Date	Activity (i.e.: resident arrival process, resident health screening team)									
Area										
Number of Audits	1	2	3	4	5	6	7	8	9	10
Healthcare worker type <i>H=Nurse, D=Doctor, AO=Admin officer, C=Catering, Con=Contractors, P=Police, ADF= Australian Defence Force, O=Other</i>										
Equipment & Waste										
PPE is available and easily accessible										
PPE available is correct										
A waste receptacle is available										
Signage is clearly displayed										
Total Compliance										
Donning PPE										
1. Performs hand hygiene										
2. Dons disposable surgical gown/apron										
3. Dons appropriate mask correctly +/- fit check										
4. Dons eye protection correctly										
5. Dons gloves										
6. Buddy check										
Total Donning Compliance										
Comments										