

Particulate Filter Respirator (PFR) (e.g. P2/N95 or equivalent) Virtual Education

Developed in collaboration with Office for Ageing Well
and COVID Operations Infection Control Service
February 2022



**Government
of South Australia**

SA Health



Acknowledgement of Country

- > I begin today by acknowledging the Traditional Custodians of the land on which we meet today, and pay my respects to their Elders past and present. I extend that respect to Aboriginal and Torres Strait Islander peoples here today.



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- ❖ SA Health COVID Operations Infection Control Service
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- ❖ SA Health Workforce Services/Corporate and System Support Services

Note: Information provided in this PowerPoint presentation is current as per the date of approval authority and may be subject to change in accordance with national guidelines.



Disclaimer

- > This content is for educational purposes only and does not replace the requirement for facilities and providers to ensure staff are provided with education and training in all aspects of the required Personal Protective Equipment (PPE) as per relevant Australian Standards, Worker Health & Safety requirements and Infection Prevention and Control guidelines.



Disclaimer cont.

- > **The PFR fit checking information provided in this PowerPoint does not replace the need for each facility to undertake a risk assessment and identify fit testing requirements for their staff.**
- > RACFs must also undertake their own education and training needs analysis and implement education and training accordingly. Refer to national and state guidelines for further information.



Worker Health & Safety legislation

- > Work health and safety legislation requires employees to be trained and supervised to carry out their work safely, including in the requirement and use of Personal Protective Equipment.



Target audience

- > The target audience for this PowerPoint is healthcare workers working in Residential Aged Care Facilities (RACF).



Assumed level of knowledge

- > It is assumed that RACF healthcare workers have already received education and training in:
 - Infection Prevention and Control
 - Worker Health and Safety
 - Knowledge in how to select and use the correct Personal Protective Equipment (PPE), including how to put on (don) and take off (doff) PPE
 - PPE practices as part of their existing healthcare roles and work practices
 - COVID-19



Objective

- This PowerPoint is to provide healthcare workers with a refresher and general introduction regarding PFRs.
- This presentation will not cover how to put on (don) and take off (doff) all items of required PPE.
- For further information about the other items of required PPE, refer to the SA Health and Commonwealth Department of Health (DoH) web pages.
 - [SA Health](#)
 - [Department of Health](#)
 - [Australian Government Aged Care Quality and Safety Commission](#)



Contents

- > Background and Australian Standards and National Guidelines regarding PFRs.
- > What is PPE and why is it needed?
- > Recommended PPE for COVID-19
- > What is a Particulate Filter Respirator (PFR) e.g. P2/N95 or equivalent?
- > What is PFR fit testing and fit checking?
- > How to put on and take off a PFR.



Australian/New Zealand Standard – Respiratory Protection

- > As per the Australian/New Zealand Standard AS/NZS 1715-2009 - before the respirator is issued, a qualitative or quantitative fit test as set out in the Clause 8.5 should be performed to assure the choice of a suitable respirator



Australian National Guidelines: PFR Fit Testing and Fit Checking

- > Healthcare workers who wear a PFR (e.g. P2/N95 or equivalent) should first complete fit testing before the first use of a PFR, and also perform a fit check (check the seal) every time a PFR is put on.
- > However, as per the current national guidelines, *in situations where fit testing has not yet been carried out, and a PFR is recommended for use, a fit-checked PFR is preferred to a surgical mask.*



Fit Test Program Administrator

- > **The Australian/New Zealand Standard 1715:2009 requires that:**
- > An individual is assigned the responsibility to implement and coordinate the respiratory protection program
- > Should be suitably trained with an understanding of the key principles of respiratory protection and an understanding of workplace hazards.



Fit Test Program Administrator Cont.

- > To establish a respiratory protection program the standard recommends:
- > the administrator is an occupational health and safety professional.
- > In small companies, the program may be directed by the employer, foreperson, or other supervisory personnel.
- > This will include:
 - A local fit test training program
 - Conducting train the trainer fit testing
 - Conduct annual competency assessment of fit test trainers



Australian National Guidelines: Healthcare Workers Access to PFRs

- > All healthcare workers providing direct patient care or working within the patient/client/resident zone for individuals with suspected or confirmed COVID-19 should have access to PFR supplies.



What is PPE and why is it required?

- > PPE stands for Personal Protective Equipment.
- > PPE can include gloves, gowns, aprons, respiratory protection (e.g. masks, PFR), eye protection (e.g. goggles and face shields).
- > PPE should be worn according to Standard and Transmission-based precautions (in health care settings) and as per current national and state guidelines.
- > PPE aims to prevent exposure of workers to infectious agents (e.g. COVID-19) and also source control.



Recommended PPE for COVID-19

As per current National guidelines:

- Following a risk assessment and when there is likely high-risk of SARS-CoV-2 transmission (virus which causes COVID-19):
- *Healthcare workers providing direct care or working within the patient/client/resident zone to individuals where assessment suggests a high-risk of transmission, should use P2/N95 respirators rather than face masks, along with other PPE required.*
- Note: PFR (e.g P2/N95 or equivalent)



What is a Particulate Filter Respirator (PFR)?

- A PFR is a close fitting respiratory protective device.
- PFRs come in various sizes and designs, including flat fold and cup style designs. Some like the Detmold PFR also require a “Fit Clip”.
- PFRs are worn by healthcare workers when implementing airborne precautions. They help prevent the inhalation of small infectious particles transmitted via the airborne route.
- PFRs should be used with other items of PPE as determined by local policy and risk assessment.
- PFRs must be used correctly, as incorrect use may increase a healthcare workers risk of exposure to infectious particles.

FIT TESTING	FIT CHECKING
<p>Objective method, using specialised equipment (Portacount™ or similar machine) OR a more subjective method involving a hood covering the head using saccharine or a bitter tasting substance.</p> <p>Usually fit testing is done by a fit tester, prior to the wearer using a PFR for the first time.</p>	<p>Subjective assessment performed by the wearer – every time a PFR is put on.</p> <p>Relies on the wearers interpretation of if they have achieved a seal of the PFR.</p>
<p>Determines the correct PFR, by brand, size and model for the wearer.</p>	<p>Helps to check the seal between the PFR and the face of the wearer, at the time of putting the PFR on.</p>
<p>Repeat fit testing may be required, including if the wearers facial features change significantly (weight changes, facial surgery etc).</p>	<p>Fit checking must be undertaken by the wearer every time a PFR is put on, to check that there are no air leakages and there is a seal between the face and PFR.</p>
<p>Adhere to PFR manufacturers instructions for use.</p>	



Factors that can affect the PFR seal

- Jewellery - there should be no jewellery worn that interferes with the PFR seal/straps
- Facial hair – wearers should be clean shaven
- Facial shape – fit testing will identify the best fitting PFR to individual face shapes.
- Makeup – avoid excessive make up that may affect the seal.
- Long hair - hair should be off the face and well secured e.g. high pony tail or bun.



Putting on (donning) a PFR

- Don PPE as per SA Health Sequence for putting on (donning) and taking off (doffing) Personal Protective Equipment
- You should use the PFR to which you have been fit tested to wear.
- Always perform hand hygiene before donning PPE including the PFR.
- PFR fit check must be completed every time a PFR is donned



How to perform a PFR Fit Check

- Select the correct PFR.
- Mould the nose piece then place on the face, covering the mouth, nose and chin.
- Adjust the PFR straps on the back of the head as per manufactures' instructions.
- Shape PFR nose piece to create a seal.



How to perform a PFR Fit Check Cont.

- Once the PFR is in position:
 - holding nose piece, perform jaw drop movement.
 - perform head movements, side to side/up and down
 - check seal by cupping hands above and below the PFR, check if air can be felt around the seal when breathing out and does the mask indent when breathing in?
- If a seal is not achieved, readjust the PFR and repeat fit check as per above steps.
- Video available at the end of this presentation

Putting on (donning) and fit checking of a Detmold D95

Donning – correctly fitting the D95+ respirator mask



1. Prior to donning, practice hand hygiene.
2. Ensure you select the correct size D95+ mask that you have been fitted for (small, regular or large).
3. Move the Fitclip™ to the band on your preferred side for donning*



4. Open the mask, flattening the nose piece.
5. Lean chin into the mask and lift bands toward the crown of the head, securing onto the Fitclip™.
6. Adjust mask bands for a secure and comfortable fit.

Now, you must perform a fit check



Fit Check – Must be performed each time a D95+ respirator mask is donned.

1. Mould the nose wire securely. Pinch the nose piece (angled over the nostril) and drop the jaw gently to take the natural shape of the face.



2. Look left, right, up and down. Ensure there is NO movement in the mask at the nose piece.
3. Placing hands above the mask, deeply inhale and exhale feeling for escape of air.



Taking off (doffing) a PFR

- To avoid the risk of self contamination during doffing, staff must be trained in how to remove PFRs safely in a controlled movement.
- Keep the front of the PFR away from the face and body of the wearer during doffing.
- Perform hand hygiene after doffing PPE/PFR.
- Refer to SA Health web pages for further information about putting on (donning) and taking off (doffing) PPE.
- Remember remove “MASK LAST”



Other PFR safety considerations

- PFRs are single use only, they must not be reused and must be discarded after each use.
- PFRs may be worn during a single episode of care however must be changed if damp, damaged or contaminated.
- PPE or other items not visibly contaminated with gross amounts of blood and/or body fluids to be disposed of as general waste.
- PPE or other items visibly contaminated with gross amounts of blood and/or body fluids to be disposed of as medical (clinical) waste. Also refer to local waste management policies.
- For further information refer to the [SA Health waste management fact sheet](#).

How to don, fit check and doff a Detmold PFR



How to don, fit check and doff a cupped style PFR (P2/N95)



Donning and Doffing PPE poster

The SA Health donning and doffing PPE poster can be found [HERE](#).

SA Health
Sequence for donning (putting on) and doffing (taking off)
Personal Protective Equipment

To reduce the risk of transmission of infectious agents, personal protective equipment (PPE) must be used appropriately. The following tables outline sequences and procedures for donning (putting on) and doffing (removing) PPE. This signage has been adapted by the [NHMRC Australian Guidelines for Prevention and Control of Infection in Healthcare](#).

Sequence for DONNING (putting on) PPE	Sequence for DOFFING (taking off) PPE
<p>Put on PPE before entering the person's room and before person contact.</p> <p>1. PERFORM HAND HYGIENE</p> <ul style="list-style-type: none">Wash hands or use an alcohol-based hand rub. <p>2. PUT ON GOWN</p> <ul style="list-style-type: none">Ensure the gown fully covers the torso and neck to knees, arms to end of wrist and wrap the around the back.Fasten / tie at the back of neck and waist. <p>3. PUT ON MASK</p> <p>Surgical mask or particulate filtration respirator (PFR) (i.e. P2/N95 or equivalent)</p> <p>Surgical mask</p> <ul style="list-style-type: none">Secure ties or ear loopsMould the nose piece into the maskPosition surgical mask over nose, mouth then chin. <p>PFR</p> <ul style="list-style-type: none">Position according to training and manufacturer's instructionsPerform fit check. <p>4. PUT ON EYE PROTECTION</p> <p>goggles, safety glasses or face shield</p> <ul style="list-style-type: none">Place over face and eyes (and over prescription glasses if worn)Adjust to fit. <p>Note - prescription glasses are not considered as eye protection</p> <p>5. PUT ON GLOVES</p> <ul style="list-style-type: none">Fit gloves over the cuffs ensuring the gown sleeves are covered by the glove. <p>6. PPE CHECK</p> <ul style="list-style-type: none">Check all items of PPE are correctly in place.Check integrity of PPE. <p>Note - Do not touch mask or eye protection again once PPE check has been completed</p> <p>Consider using a staff member 'buddy' to assist with correct donning and doffing</p> <p>For more information Infection Control Service Communicable Diseases Control Branch infection@health.sa.gov.au / COVID2019 Version 1.0 (December 2019)</p>	<p>Begin PPE removal at person's doorway or in anteroom. Eye protection and mask/respirator to be removed outside the room. Outside surfaces of PPE are considered to be contaminated.</p> <p>1. REMOVE GLOVES</p> <ul style="list-style-type: none">Grasp outside with opposite gloved hand, peel offHold removed glove in the gloved handSlide fingers of ungloved hand under the remaining glove at wristPeel glove off over first gloveDiscard gloves in waste container. <p>2. PERFORM HAND HYGIENE</p> <ul style="list-style-type: none">Wash hands or use an alcohol-based hand rub. <p>3. REMOVE GOWN</p> <ul style="list-style-type: none">Undo fasteners or tiesPull away from neck and shoulders, touching inside of the gown onlyTurn gown inside out, away from clothingFold or roll into a bundle and discard in waste container. <p>Note - eye protection is to remain on at this stage</p> <p>4. PERFORM HAND HYGIENE</p> <ul style="list-style-type: none">Wash hands or use an alcohol-based hand rub. <p>Note - If practising PPE decontamination, stop doffing at stage 4. Check PPE for any integrity breaches or visible contamination</p> <p>5. REMOVE EYE PROTECTION</p> <p>goggles, safety glasses or face shield</p> <ul style="list-style-type: none">Do not touch the front surfacesHandle by head band or side armsPlace in designated container for reprocessing or in waste container. <p>Note - remove outside the person's room</p> <p>6. PERFORM HAND HYGIENE</p> <ul style="list-style-type: none">Wash hands or use an alcohol-based hand rub. <p>7. REMOVE MASK</p> <p>Surgical mask or particulate filtration respirator (PFR) (i.e. P2/N95 or equivalent)</p> <ul style="list-style-type: none">Do not touch the front of the maskGrasp lower, then top ties or elastics and remove as per labelling and manufacturer's guidelines to avoid self-contaminationDiscard in waste container. <p>8. PERFORM HAND HYGIENE</p> <ul style="list-style-type: none">Wash hands or use an alcohol-based hand rub immediately after removing all PPE.

Additional Resources

- [P2/N95 respirator \(flat or cupped\) donning and fit checking \(PDF 501KB\)](#)
- [Donning \(putting on\) and doffing \(taking off\) the D95 respirator mask \(PDF 439KB\)](#)
- [D95 Surgical Respirator by Detmold Medical FAQ \(PDF 960KB\)](#)
- [COVID-19 Infection Control Training](#)
- [Infection control education and training](#)
- [PPE for HCWs, Residential aged care workers and non-healthcare workers](#)
- [National guidance on the use of personal protective equipment \(PPE\) for health care workers in the context of COVID-19](#)
- [The use of face masks and respirators in the context of COVID-19](#)
- [Hand Hygiene – how to wash or sanitise your hands](#)



Additional Resources – Videos:

- [Personal Protective Equipment](#) (The University of Adelaide - Adelaide Health Simulation videos)
 - Nasopharyngeal & Oropharyngeal Swab Collection
 - Airborne Precautions (Donning and Doffing)
 - Contact Precautions (Donning and Doffing)
 - Droplet Precautions (Donning and Doffing)
 - Hand Sanitising
 - Hand Washing
- [How to handwash? With soap and water](#)
- [How to handrub? With alcohol-based formulation](#)
- [Cross-contamination while using disposable gloves](#)
- [Donning and Fit Checking of Respirator](#)
- [D95 Respirator Mask Donning and Doffing](#)



References

- > *Guidance on the use of personal protective equipment (PPE) for health care workers in the context of COVID-19*
- > *AS/NZS 1715-2009: Selection, use and maintenance of respiratory protective equipment*
- > *The use of face masks and respirators in the context of COVID-19*
- > *Infection control and personal protective equipment (PPE) advice*



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