

This statement aligns with the Infection Control Expert Group endorsed infection control guidance. The Infection Control Expert Group (ICEG) provides expert advice and information to support best practice related to infection prevention and control in community, hospital and other institutional settings. ICEG advises the Australian Health Protection Principal Committee (AHPPC) and its other standing committees on infection prevention and control issues.



Joint Statement – Personal Protective Equipment (PPE) recommendations for staff and patients in haemodialysis units

This statement sets out the joint position of the Australian and New Zealand Society of Nephrology (ANZSN) and the Renal Society of Australasia (RSA) on the use of Personal Protective Equipment (PPE) in haemodialysis units during the COVID-19 pandemic.

The statement is intended to support the optimal use of PPE in Australian and Aotearoa New Zealand haemodialysis units, recognising that local circumstances and government and health service directives and policies, need to be taken into account in its adoption.

In Australia and Aotearoa New Zealand haemodialysis units deliver care for around 13,000 haemodialysis patients across the two jurisdictions, or an average 33,000 dialysis episodes of care per week in Australia and 6,000 in Aotearoa New Zealand.¹

This statement on the optimal use of PPE is intended to provide general information and guidance and should be read in conjunction with the ANZSN COVID-19 Dialysis Preparedness Checklist (3 April 2020) which can be found [here](#).

This statement is intended to provide general information and guidance. Please refer to the important notice at the end of the statement.

1. Factors that differentiate haemodialysis units from other healthcare settings

1.1 Unique nature of haemodialysis and increased risk of nosocomial transmission

Haemodialysis units are at particular risk for nosocomial transmission of COVID-19 due to the following factors:

- a) Patients receiving haemodialysis are an at-risk group for complicated COVID-19 infection due to their age and significant comorbidity.
- b) Treatment is given to these patients three times weekly for extended periods (4-5 hours).
- c) Treatment requires close contact for patients with transport staff, dialysis nursing staff and other patients. This increases the risk to patients and staff of

¹ <https://www.anzdata.org.au/>

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meeting the definition of a 'close contact' if a patient or staff member is diagnosed with COVID-19 in the 48 hours following treatment.²

- d) Haemodialysis nurses are highly specialised, with specific training, and their expertise is difficult to replace with redeployment of staff from other areas in the event of quarantine or illness.

1.2 PPE practices for haemodialysis nursing staff differs from other healthcare settings

- a) Haemodialysis nursing staff are exposed to a risk of 'blood splash' during patient treatment and are therefore recommended to wear eye and face protection in addition to disposable gloves and apron when performing procedures on haemodialysis patients (arteriovenous access cannulation or decannulation).
- b) For units that do not have access to face shields, the requirement for face and eye protection is met by the use of goggles in combination with a surgical mask. Face and eye protection in the pre-COVID era was typically applied for a limited duration of time at the beginning and end of a 'dialysis patient shift' when a dialysis nursing staff member will typically cannulate and decannulate multiple patients respectively.
- c) For units that use a surgical mask for face protection, typical practice is to remove the surgical mask when a shift of patients has been cannulated and to re-apply a new mask when patients are decannulated.
- d) Disposable aprons, gowns and gloves are removed following individual patient contact.

² Communicable Diseases Network Australia, Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units, v2.9, 5 May 2020, [https://www1.health.gov.au/internet/main/publishing.nsf/Content/7A8654A8CB144F5FCA2584F8001F91E2/\\$File/COVID-19-SoNG-v2.9.pdf](https://www1.health.gov.au/internet/main/publishing.nsf/Content/7A8654A8CB144F5FCA2584F8001F91E2/$File/COVID-19-SoNG-v2.9.pdf)

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2. Optimal PPE in haemodialysis units during the COVID-19 pandemic

In addition to other aspects of infection control, PPE has a clear and established role in reducing the risk of COVID-19 transmission for haemodialysis patients and staff.

Based on the available evidence the ANZSN and the RSA recommend the following as **optimal** PPE for the purpose of minimising this risk: ^{3 4 5 6}

ANZSN and RSA recommended optimal PPE for haemodialysis units

Recommendation 1: Staff performing aerosol generating procedures in COVID-19 infected or suspected patients should wear a long sleeve disposable gown, face and eye protection, gloves, hair cover and an N95 mask.

Recommendation 2: Staff providing routine care to COVID-19 positive or suspected patient should wear a long sleeve disposable gown, face and eye protection, gloves and a surgical mask.

Recommendation 3: In units where goggles rather than face shields are used for eye protection, haemodialysis nursing staff should wear a surgical mask for face protection as per standard haemodialysis PPE recommendations (refer above). Wearing the mask for an extended period after initial use (changed as per local infection control directives and reapplied following a meal break (new face mask)) is recommended during the COVID-19 pandemic. This recommendation is made on the basis that dialysis nursing staff who provide treatment to a patient who is asymptomatic but is diagnosed with COVID-19 in the 48 hours following treatment would otherwise be required to quarantine on the basis of meeting the case definition of a 'close contact'.

Recommendation 4: In haemodialysis units where face shields are in exclusive use for face and eye protection, haemodialysis nursing staff should also wear a surgical mask for the duration of their shift (changed following a meal break) if one of the following applies:

- a. there are locally-acquired clusters or community transmission of COVID-19;
- b. when treatment is provided to patients currently in self-isolation, quarantine or meeting the case definition of a 'suspected case' of COVID-19.⁷

³ *Recommendations for the Novel Coronavirus 2019 Epidemic*, International Society of Nephrology (ISN). <https://www.theisn.org/covid19/recommendations>

⁴ *WHO-Rational use of personal protective equipment for coronavirus disease (COVID-19)* https://apps.who.int/iris/bitstream/handle/10665/331695/WHO-2019-nCov-IPC_PPE_use-2020.3-eng.pdf

⁵ *Recommendation of Personal Protective Equipment (PPE) for Emergency Departments*, Australasian College for Emergency Medicine (ACEM). [https://acem.org.au/Content-Sources/Advancing-Emergency-Medicine/COVID-19/Resources/Clinical-Guidelines/Personal-Protective-Equipment-\(PPE\)](https://acem.org.au/Content-Sources/Advancing-Emergency-Medicine/COVID-19/Resources/Clinical-Guidelines/Personal-Protective-Equipment-(PPE))

⁶ *Recommendations for the Novel Coronavirus 2019 Epidemic* by International Society of Nephrology. <https://www.theisn.org/covid19/recommendations>

⁷ op cit. Communicable Diseases Network Australia, Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units, v2.9, 5 May 2020

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ANZSN and RSA recommended optimal PPE for haemodialysis units

Recommendation 5: Surgical masks should be worn by patients during transport* to and from a dialysis unit and for the duration of their dialysis session if one of the following applies:

- a. when there is known local or suspected community transmission, or if the patient has new respiratory symptoms or fever; **
- b. when they are in self-isolation, quarantine or a confirmed or suspected case of COVID-19.

Recommendation 6: Staff providing routine transport* to and from a haemodialysis unit should use a surgical mask at all times in addition to eye protection, disposable gloves and apron when in direct patient contact when one of the following applies:

- a) there is known local or suspected community transmission of COVID-19;
- b) when transport is provided to patients currently in self-isolation, quarantine or meeting the case definition of a suspected case of COVID-19. ⁸

Recommendation 7. Staff providing routine transport* to and from a haemodialysis unit for a confirmed case of COVID-19 should use a surgical mask at all time in addition to eye protection, disposable gloves and long sleeved gown when in direct patient contact.

Appendix 1 summarises recommendations for haemodialysis unit staff

*Local arrangements for transport modality and sharing for patients who are in quarantine, isolation or a confirmed or suspected case vary by jurisdiction.

**As per the recommendations within the ANZSN COVID-19 Dialysis Preparedness Checklist, patients who develop new respiratory symptoms or fever should notify their dialysis unit prior to their treatment to review their transport arrangements.

3. Local factors that may influence PPE practices and implications

The adoption of these optimal PPE recommendations may vary according to local factors, PPE availability and policy and directives applying to relevant units.

If adoption of these optimal PPE recommendations, in part or full, is not feasible, it is recommended that dialysis units review and acknowledge the risk of nosocomial COVID-19 transmission with local infection control and healthcare providers.

The following factors warrant consideration when a deviation from optimal utilisation of PPE as set out in this statement is contemplated:

⁸ *ibid.*

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- a) The ability of a dialysis unit to maintain service, should a proportion of its staff be unable to work due to COVID-19 exposure or disease. Units with lower potential resilience may wish to consider higher levels of baseline PPE to mitigate this risk. The working group identified that smaller units; units who have been unable to cohort staff and remote units would potentially fit this criterion. Units that are at risk of being unable to provide a service due to a significant proportion of staff being ill or in quarantine should develop a local disaster contingency for patients under their care.
- b) If the physical environment of the unit is not able to maintain physical distancing of patients as per general population recommendations (Australia 1.5m, NZ 2m) throughout treatment additional steps to reduce the risk of patient-patient transmission should be considered, as all dialysis procedures violates this rule.
- c) If the unit does not have the ability to dialyse confirmed or suspected COVID-19 cases in an isolation room and the unit is dialysing such a patient additional, PPE may be required for other patients and staff to minimise transmission.
- d) Patients who travel on shared transport will not be able to maintain recommended physical distancing. This will potentially increase the risk of patient-patient transmission and additional PPE for this patient group should be considered.
- e) When a unit provides routine haemodialysis to significant numbers of patients from an aged care facility, additional risk management strategies may be appropriate.
- f) Rates of community transmission will impact on rates of staff-staff, patient-staff and patient-patient transmission and specific consideration should be given to different PPE recommendations for the changing landscape of disease in the local community. Continued situational awareness and liaison with Infection Prevention and Control and Public Health will be critical to ensure this can occur.

Important notice

This statement has been developed by the Australian and New Zealand Society of Nephrology (ANZSN) for the information of Australian and New Zealand renal units to support their COVID-19 contingency planning.

The COVID-19 pandemic is rapidly evolving, and there is currently limited information about the COVID-19 disease aetiology or treatment. Application or use of this statement is to be considered in this context.

The ANZSN and RSA have each made reasonable efforts to ensure that the information in this statement is as accurate as possible, however neither organisation, jointly or severally, guarantees or warrants, in any way, the accuracy, completeness, currency or source of any material in this checklist.

The ANZSN and the RSA reserve the right to change any information in this checklist at any time.

This checklist is made available for general information purposes only, and should in no way be a considered as specific medical or clinical advice nor as a substitute for professional advice and judgement provided by a healthcare service, healthcare professional or other subject matter expert in individual cases.

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Each health service or organisation operating a renal unit is responsible for ensuring and assuring its own COVID-19 preparedness. This statement in no way overrides advice or directives issued by, or applicable in, any health service responsible for the operation of a renal unit. Where there appears to be any inconsistency between this statement and any such advice or directive, clarification should immediately be sought from the relevant governance authority for the health service, and if an inconsistency is confirmed, the specific advice or directive applicable in that health service prevails.

Neither the ANZSN or the RSA, jointly or severally, accepts liability for any loss or damage whatsoever suffered either directly or indirectly as a result of using or otherwise relying upon any material or information made available in this statement, or in connection with the suitability, for any purpose, of the contents of this statement.

This statement may be accessed from other countries around the world and may contain references to products, services, and programs that have not been announced in your country. These references do not imply that ANZSN or the RSA intend to announce such products, services or programs in your country.

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Appendix 1. Summary of PPE recommendations for Haemodialysis Unit staff								
Staff Role	PPE recommendations							
	Eye Protection*	Face protection	N95 mask*	Hair protection**	Surgical mask	Single use fluid resistant Apron*	Single use fluid resistant long sleeve gown*	Single use gloves**
Staff performing patient screening	Yes	Yes*			Yes	Yes		Yes
Staff providing routine care	Yes	Yes			Yes**	Yes		Yes
Healthcare worker undertaking an aerosol generating procedure on a confirmed or suspected COVID case	Yes	Yes	Yes	Yes			Yes	Yes
Staff providing routine care for a COVID positive or suspected patient	Yes	Yes			Yes		Yes	Yes
Transport staff providing routine transport					Yes	Yes		Yes
Transport staff providing transport to patients in quarantine, self-isolation or those who are a suspected case of COVID-19	Yes				Yes	Yes		Yes
Transport staff providing transport to patients when there are local clusters or community transmission of COVID	Yes				Yes	Yes		Yes
Transport staff providing transport to a proven case of COVID-19	Yes				Yes		Yes	Yes
Adapted from 'Recommendations for the Novel Coronavirus 2019 Epidemic' by International Society of Nephrology. https://www.theisn.org/covid19/recommendations *These PPE items should be removed when not in direct patient contact* **A surgical mask is part of routine dialysis PPE when eye protection is provided by goggles as opposed to a face shield. Extended mask wearing during the COVID-19 pandemic is recommended (see Recommendation 3 above). Surgical mask wearing when a face shield is used for face protection is recommended in particular circumstances (see Recommendation 4 above)								

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