

# Conserving personal protective equipment (PPE)

## Queensland Health Guideline

### Purpose

This guideline provides recommendations to support rational use of personal protective equipment (PPE) in the context of a disrupted supply chain.

### Scope

This guideline provides information for all Queensland Health Hospital and Health Service (HHS) employees (permanent, temporary, and casual) and all organisations and individuals acting as its agents (including visiting Medical Officers and other partners, contractors, consultants and volunteers) and all Queensland licensed private health facilities. Compliance with this guideline is not mandatory, but sound reasoning must exist for departing from the recommended principles within a guideline.

### Related documents

This document should be read in conjunction with the below.

### Standards, procedures and guidelines

- [Queensland Health infection prevention and control guidelines for the management of COVID-19 in healthcare settings](#)
- [Escalation of personal protective equipment usage in healthcare delivery, community health and in-home care settings, and for healthcare delivery in correctional services](#)
- [Escalation of personal protective equipment usage in residential aged care and disability accommodation services](#)
- [Queensland COVID-19 vaccine rollout PPE advice](#)
- [Fit testing of particulate filter respirators in respiratory protection programs](#)

## Guideline for conserving PPE

### Reserve supply

Careful management of the supply chain should be in effect at all levels(1).

- The COVID-19 Supply Chain Surety Division has implemented monitoring and reporting of supply of critical items including PPE. HHS should maintain situational awareness of state-level PPE supply.

- Local implementation of careful monitoring and management of PPE. This should include measures at all levels of the supply chain, from the initial distribution and storage to patient care areas.
- All orders of PPE, particularly surgical masks and P2 respirators, should be scrutinised.
- PPE stock should be appropriately rotated to avoid stock reaching expiry.

Storage of P2 respirators and surgical masks should be secure.

- These items should not be accessible to staff, patients or general public except as required.
- Where there is a need to supply surgical masks for patient or visitor use these masks should be supervised by a staff member and not provided for patients and visitors to access directly.
- Managers of patient care areas should consider removing these items from general stock storage areas into a more secure location, for example a locked medication room.
- It is important to balance the stock security with the need for staff who require the PPE to gain access.

## Reduce use

The use of PPE should be reconsidered where possible.

Strategies to consider when introducing strategies to reduce PPE use are:

- Avoid unnecessary use of PPE:
  - Ensure health workers understand the principles of PPE use.
  - Encourage health workers to use PPE items according to transmission risk and perform risk assessment for appropriate PPE selection(1) for each clinical interaction.
- Bundling of care activities(1) to reduce the number of room visits.
- Using intercom systems or phones to communicate with patients in isolation.
- Using telehealth for outpatients when possible(1).
- Use of physical barriers to assist physical distancing when direct contact is not required. For example, use of screens at public-facing administrative desks.
- Where possible, PPE training should use expired stock.
- PPE should not be freely accessible to the public.
- Limit traffic of visitors and visiting staff to areas where PPE is required(1).

However:

- Any strategy to reduce the use of PPE should not reduce the safety of health workers.
- PPE should always be available to be used by staff who require it.

## Substitute products

Consideration can be given to using alternative products:

- Reusable gowns, including splash resistant gowns, may be considered for use in certain areas that currently use single use items.

- The use of plastic aprons instead of long-sleeved disposable gowns where appropriate.
- The use of re-usable eye protection instead of single use eye protection.
- The use of a face shield may enable use of face masks with lower levels of fluid resistance.
- Where possible, ensure that staff are fitted (fit-tested) for more than one type of P2 respirator.

## Extended use

Extended use is the practice of wearing the same PPE for repeated patient interactions without removing and replacing the PPE. Before extended use is considered, all efforts should be made, by other methods, to remove or reduce the necessity for PPE.

The extended use of some forms of PPE may be considered in the context of shortage where a local risk assessment of the situation has occurred(2) and there are processes for training staff in the appropriateness of extended use. This strategy is most appropriate in a health setting where COVID-19 patients are cohorted together in the same ward or waiting area.

Extended use is most appropriate for respirators, masks or eye protection, where a surgical mask, P2/N95 respirator and/or eye protection is left in-situ for multiple patient interactions as these items do not come directly into contact with a patient. Extended use of gowns may be used only in cohort areas, where patients with the same infection are being cared for in the one area.

If this strategy is used there are some considerations for each type of PPE that should be addressed locally before implementation.

### P2/N95 respirators

P2/N95 respirators should be:

- discarded after an aerosol generating procedure(2)
- discarded if contaminated with blood or bodily fluids(2)
- removed before proceeding to care for patients other than those who are isolated for COVID-19, or on leaving the cohort area(2)
- replaced if it becomes hard to breathe through or no longer holds its shape or no longer conforms to the wearers face(2).

Some guidelines state that respirators can be worn for up to 4 to 6 hours unless damaged soiled or contaminated(1, 3). It is likely that a health worker will remove or change a respirator for reasons such as taking a toilet break or leaving the patient care area before it is not performing correctly.

The worker should be reminded to occasionally check their respirator to ensure that the correct fit is maintained. To prevent self-contamination, hand hygiene must be performed before and after the wearer touches the front of the respirator to adjust the fit or maintain comfort(2).

Clear instructions and training about the criteria for changing a P2/N95 respirator should be provided to staff who will be using the respirators in an extended use area. Hand hygiene must be performed immediately before and immediately after removing a respirator.

## Surgical masks

Surgical masks should be:

- discarded if contaminated with blood or bodily fluids(2)
- removed before proceeding to care for patients other than those who are isolated for COVID-19(2)
- removed when it becomes wet or damp, or hard to breathe through(2).

Surgical masks are designed to be worn for extended periods of time. They are generally well tolerated on the face. Some guidelines state that surgical masks can be worn for 4 to 6 hours unless damaged, soiled, or contaminated(1, 3). It is likely that a health worker will remove or change a mask for reasons such as taking a toilet break or leaving the patient care area before the mask is not performing correctly. Masks should not be pulled down around the chin and neck and then re-worn. Hand hygiene must be performed immediately before and immediately after removing a mask or adjusting for fit or comfort.

## Eye protection

Eye protection can consist of items that protect the wearer's eyes from sprays and splashes. It may consist of reusable safety goggles, single use face shields or reusable frames fitted with single use lenses. Reusable eye protection should be cleaned and disinfected as per local procedure for non-critical medical devices before it is reused.

Eye protection should:

- be reprocessed or discarded if visibly contaminated with blood or body fluids
- not worn outside the patient care area
- removed before proceeding to care for patients other than those who are isolated for COVID-19

## Gowns

Extended use of gowns should only be considered for cohort areas. The following may be considered in the context of supply shortages relating to long-sleeved fluid resistant gowns:

- a plastic apron may be worn over the long-sleeved gown when providing care
- when using this option, a reusable long-sleeved gown may be used if splash protection is not required
- the plastic apron and gloves must be changed, and hand hygiene performed between contact with each patient
- the long-sleeved gown must be removed or changed:
  - when leaving the patient care area,
  - when proceeding to care for patients other than those who are isolated for COVID-19,
  - when visibly soiled with blood or body fluids,

- following extensive patient contact. E.g. providing care such as dressing large or complex wounds; hygiene cares for incontinent clients; hygiene cares or pressure area care when a client is fully dependent; urinary catheter cares.

## References

1. World Health Organization. Rational use of personal protective equipment for COVID-19 and considerations during severe shortages, Interim guidance 23 December 2020. [https://www.who.int/publications/i/item/rational-use-of-personal-protective-equipment-for-coronavirus-disease-\(covid-19\)-and-considerations-during-severe-shortages2020](https://www.who.int/publications/i/item/rational-use-of-personal-protective-equipment-for-coronavirus-disease-(covid-19)-and-considerations-during-severe-shortages2020).
2. Toomey EC, Conway Y, Burton C, Smith S, Smalle M, Chan XS, et al. Extended use or reuse of single-use surgical masks and filtering face-piece respirators during the coronavirus disease 2019 (COVID-19) pandemic: A rapid systematic review. *Infect Control Hosp Epidemiol.* 2021;42(1):75-83.
3. Clinical Excellence Commission. COVID-19 Infection Prevention and Control Manual for acute and non-acute healthcare settings. Sydney, Australia: Clinical Excellence Commission,; 2021.

Term	Definition / Explanation / Details	Source
P2/N95 respirator	P2/N95 respirators are designed to form a very close seal around the nose and mouth to protect the wearer from exposure to airborne particles, including pathogenic biological airborne particulates such as viruses and bacteria. These respirators have been tested for particulate filtration to ensure they remove a minimum of 95% solid and liquid aerosols that do not contain oil. P2/N95 respirators are a single use item.	Queensland Health Infection prevention and control guidelines for the management of COVID-19 in healthcare settings
Surgical mask	Surgical masks are single use, fluid-resistant, disposable and loose-fitting protection devices that create a physical barrier between the mouth and nose of the wearer and the immediate environment but do not achieve a close seal to the wearer's face.	Queensland Health Infection prevention and control guidelines for the management of COVID-19 in healthcare settings

## Document approval details

### Endorsement

PPE Working Group 14 December 2021

COVID-19 Health System Response Clinical Advisory Group 21 December 2021

COVID-19 System Response Group 22 December 2021

### Document custodian

PPE Working Group, Working Group of the COVID-19 Health System Response Advisory Group (CRG).

## Approval officer

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## Version Control

Version	Date	Comments
V0.4	7 March 2020	Produced by COVID-19 IMT
V1.1-2.0	18 November 2021 – 14 December 2021	<p>Review and update conducted by Rebecca Adams, CNC Infection Prevention and Control, Healthcare Improvement Unit. Addition of referencing. Addition of document approval details, version control and custodianship, related documents, definitions.</p> <p>Consulted: Statewide Infection Clinical Network, COVID-19 IMT, COVID-19 Supply Chain Surety Division.</p>

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