Interim recommendations for the use of personal protective equipment (PPE) during hospital care of people with Coronavirus disease (COVID-19)

The Australian Health Protection Principal Committee has endorsed the following interim recommendations for the use of PPE during hospital care for people with possible COVID-19. Note that these interim recommendations are based on current evidence and may be subject to change as more information becomes available.

These recommendations are intended for hospital personnel who enter a clinical space with COVID-19 patients, including wards persons, food delivers, cleaners and clinical personnel.

Background

Although Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-COV-2) which causes COVID-19 has spread rapidly and widely in mainland China, there is now local transmission occurring in other countries including Iran, the Republic of Korea, and Italy. At the time of writing, the crude mortality (~2%) in China is based on laboratory confirmed cases; many milder cases are almost certainly not being tested and the mortality is likely to be lower. Most cases in Australia have been relatively mild but there has been a small number of deaths. While a number of healthcare-associated infections have been reported with COVID-19 (in healthcare workers and patients) – as occurred with SARS and MERS - the risk for COVID-19 is likely to be very low, when infection control precautions are adhered to correctly.

General principles

- **Standard precautions, including hand hygiene (5 Moments)** for all patients with respiratory infections. Patients and staff should observe cough etiquette and respiratory hygiene.
- **Transmission-based precautions** for patients with suspected or confirmed COVID-19:
    - **Contact and droplet precautions** are recommended for **routine care** of patients.
    - **Contact and airborne precautions** are recommended when performing **aerosol generating procedures (AGPs)**, including intubation and bronchoscopy.

Contact and droplet precautions for use in routine care

Contact and droplet precautions can be safely used for routine patient care of inpatients with suspected or confirmed COVID-19 (see Novel Coronavirus 2019 (2019-nCoV) National Guidelines for Public Health Units for case definition).

On presentation or admission to hospital, the patient should be:

- Given a surgical mask to put on; and
- Placed in a single room (ensuring air does not circulate to other areas); or
- Placed in a negative pressure room (in the event of AGPs being performed).

If transfer outside of the room is essential, the patient should wear a surgical mask during transfer and follow respiratory hygiene and cough etiquette.

For most inpatient contacts between health care staff and patients, the following PPE is safe and appropriate and should be put on before entering the patient's room:

- Long-sleeved gown
- Surgical mask
- Face shield or goggles
- Disposable non-sterile gloves when in contact with patient (use hand hygiene before donning and after removing gloves)

For hospitalised patients requiring frequent attendance by medical and nursing staff, a P2/N95 respirator should be considered for prolonged or very close contact.

Contact and airborne precautions for aerosol-generating procedures (AGPs) and care of clinically ill patients requiring high level/high volume hands-on contact outside of ICU

Contact and **airborne precautions should be used routinely for AGPs**, which include:

- tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy (and bronchoalveolar lavage), high flow nasal oxygen
- The use of nebulisers should be avoided and alternative medication administration devices (e.g. spacers) used.

PPE for contact and airborne procedures should be put on before entering a patient's room:

- Long-sleeved gown
- P2/N95 respirator – should be fit-checked with each use
- Face shield or goggles
- Disposable nonsterile gloves when in contact with patient (hand hygiene before donning and after removing gloves)

P2/N95 respirators should be used only when required.

Unless used correctly (i.e. with fit-checking), a P2/N95 respirator is unlikely to protect against airborne pathogen spread.

- An air tight seal may be difficult to achieve for people with facial hair. A range of P2/N95 respirators must be fit-checked to assess the most suitable one to achieve a protective seal. If a tight seal cannot be achieved, facial hair should be removed.

Care of critically ill patients in ICU

Patients who require admission to ICU with severe COVID-19 are likely to have a high viral load, particularly in the lower respiratory tract.

Contact and airborne precautions (as above) are required for patient care and are adequate for most AGPs.

- The risk of aerosol transmission is reduced once the patient is intubated with a closed ventilator circuit but there is a potential, but unknown, risk of transmission from other body fluids such as diarrhoeal stool or vomitus or inadvertent circuit disconnection.

If a health care professional is required to remain in the patient's room continuously for a long period (e.g. more than one hour) because of the need to perform multiple procedures, 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 should be used according to the manufacturer's instructions. Only **PPE marked as reusable** should be reused, following **reprocessing** according to the manufacturer's instructions. All other PPE must be disposed of after use.

ICU staff caring for patients with COVID-19 (or any other potentially serious infectious disease) should be trained in the correct use of PPE, including by an infection control professional. This also applies to the use of PAPRs, if required. Particular care should be taken on removal of PAPR, which is associated with a risk of contamination.

Additional precautions

Staff

- A staff log for each room entry should be maintained, to allow monitoring of potential breaches of infection control and allow follow-up of contacts, if necessary.

Disposal of PPE and other waste

- Waste should be disposed in the normal way for clinical waste.
- All non-clinical waste is disposed of into general waste.

Handling of linen

- Routine procedures for handling of infectious linen should be followed.
- Visibly soiled linen should be placed in a (soluble) plastic bag inside a linen skip.

Environmental cleaning of patient care areas

- Cleaners should observe contact and droplet precautions (as above).
- Frequently touched surfaces (such as door handles, bedrails, tabletops, light switches, patient handsets) in the patient's room should be cleaned daily.
- Terminal cleaning of all surfaces in the room (as above plus floor, ceiling, walls, blinds) should be performed after the patient is discharged.
- A combined cleaning and disinfection procedure should be used, either 2-step – detergent clean, followed by disinfectant; or 2-in-1 step – using a product that has both cleaning and disinfectant properties. Any hospital-grade, TGA-listed disinfectant that is commonly used against norovirus is suitable, if used according to the manufacturer's instructions.

Where can I get more information?

For the latest advice, information and resources go to www.health.gov.au

Call the National Coronavirus Health Information Line on 1800 020 080. The line operates 24 hours a day, seven days a week. If you require translating or interpreting services, call 131 450.

The telephone number of your state or territory public health authority is available on the coronavirus page at www.health.gov.au/state-territory-contacts