

Infection Prevention and Control

Management of COVID-19 in Healthcare Settings

Version 3.3



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Introduction

The Clinical Excellence Commission (CEC) provides guidance and policies on infection prevention and control to protect our patients/clients, health workers and healthcare environments. As the COVID-19 pandemic situation is evolving, advice and resources for clinicians and the public are being updated to meet changing needs. Health workers (HWs) should check the [NSW Health COVID-19](#) and the [Clinical Excellence Commission \(CEC\) Infection Prevention and Control COVID-19](#) web pages for the most up-to-date information.

This guidance supersedes the earlier version two (2) Infection Prevention and Control Novel Coronavirus 2019 (2019-nCoV)-Hospital setting 9 Feb 2020.

Scope and purpose

This guidance was developed by the CEC Infection Prevention and Control (IPAC) Expert Group and endorsed by the CEC IPAC Expert Advisory Committee and CEC IPAC Steering Committee. The purpose is to provide guidance on infection prevention and control requirements for the management of patients with suspected, probable or confirmed COVID-19 and the use of personal protective equipment (PPE) in New South Wales (NSW) healthcare settings. This guidance is based on the available evidence, expert advice and risk assessment of the current status of the COVID-19 pandemic in NSW.

This guidance should be used in conjunction with the existing policy framework and local procedures. More detail can be sourced from key NSW and national sources:

- [NSW Infection Prevention and Control Policy Directive](#)
- [NSW Infection Prevention and Control Practice Handbook](#)
- [NSW Clinical Excellence Commission \(CEC\) Infection Prevention and Control web site](#)
- [National updates – Department of Health](#)
- [National CDNA National Guidelines for Public Health - Coronavirus Disease 2019](#)

Main highlights of this guidance

The main changes compared to other COVID-19 infection prevention and control guidance are:

- combined transmission-based precautions for suspected, probable or confirmed COVID-19
- inclusion of individual and organisational risk assessment at local level to inform PPE use
- recommendation of extended (sessional) use of some PPE items
- recommendation on patient use of masks

The routine infection prevention and control precautions, including PPE if required, should be used for the management and clinical care of patients who are not suspected of COVID-19.

Principles of safe working for all health workers (HWs)

The adherence to infection prevention and control principles including use of PPE is key in the prevention and control of inadvertent exposure to pathogens. The following outlines the key principles of safe working for HWs:

- HWs are trained on donning and doffing PPE; [videos](#) are available for training
- HWs are to know what PPE they should wear for each setting and context
- HWs have access to the PPE that protects them for the appropriate setting and context
- HWs are bare below the elbows during clinical care unless wearing approved PPE
- Gloves are subject to single use as per Standard Precautions with disposal after each patient contact and changed when clinically indicated
- Aprons and gowns can be worn for a [session of work](#) in higher risk areas given that the item does not come in contact with patients or their environment, are not used during AGPs and not visibly contaminated
- Fluid resistant surgical mask and eye protection can be used for a session or extended period of work rather than a single patient contact
- Hand hygiene must be performed after removing any element of PPE
- Avoid touching the face
- Hair to be tied back during clinical care
- HWs are to take regular breaks and rest periods.

General principles for infection prevention and control to prevent or limit transmission of COVID-19

1. Early recognition of patients who have confirmed, probable or suspected COVID-19

The definitions are documented on the NSW Ministry of Health Website: [COVID-19 \(Coronavirus\) testing advice/Case Definitions](#)

Geographically localised areas with elevated risk of community transmission, as defined by public health authorities should broaden the scope of testing to known areas of local transmission. Clinical judgement should be exercised in testing hospitalised patients.

2. Physical distancing during COVID-19 outbreak

Physical distancing, where possible, is to be practiced at all times within clinics and wards, between HWs and patients, and between HWs to limit the transmission of COVID-19. This includes:

- Waiting room chairs and other seating separated by greater than 1.5 metres
- Direct communications between HWs and patients conducted at a distance where practical, if not HWs to wear appropriate PPE

- Where practical, health workers and patients to remain greater than 1.5 metres apart with the exception of clinical examinations and procedures, acknowledging that in some environments such as ambulance and transport this may not be possible.

3. Respiratory hygiene and cough etiquette

The following measures to contain respiratory secretions are recommended for everyone:

- Cover your mouth and nose with a tissue when coughing or sneezing
- If you don't have a tissue, cough or sneeze into your elbow
- Use the nearest waste receptacle to dispose of the tissue after use
- Perform hand hygiene e.g. hand washing with soap and water for 20 seconds or use alcohol-based hand rub after coughing or sneezing or if contaminated objects/materials/equipment are touched.

See Clinical Excellence Commission website: [Respiratory Hygiene \(Cough Etiquette\)](#)

4. Management of patients with acute respiratory symptoms and/or suspected or proven COVID19

In all clinical areas, communal waiting areas and during transportation, it is recommended that suspected, probable or confirmed COVID-19 patients wear a surgical mask if this can be tolerated. The aim is to minimise the dispersal of respiratory secretions and reduce both direct transmission risk and environmental contamination. A surgical mask should not be worn by patients if there is potential for their clinical care to be compromised for example, when receiving oxygen therapy via a mask. The surgical mask can be worn until damp or is uncomfortable for the wearer. Once the patient is isolated in a single room, the need for wearing of a mask by the patient is no longer required.

5. Application of Standard Precautions for all patients at all times

Standard Precautions represent the minimum infection prevention measures that apply to all patient care, regardless of suspected or confirmed infection status of the patient, in any setting where healthcare is delivered. These evidence-based practices are designed to both protect and prevent spread of infection among patients and HWs. Standard Precautions comprise the following measures:

- Hand hygiene
- Respiratory hygiene (cough etiquette)
- PPE if in contact with blood or body fluids
- Aseptic technique for clinical procedures
- Occupational exposures prevention: needlestick/sharps injuries or blood and body fluid splashes
- Cleaning and disinfection of the healthcare environment and shared patient care equipment
- Handle and dispose of waste and used linen safely

See Clinical Excellence Commission website: [Standard Precautions](#)

6. Implement Transmission-Based Precautions

Transmission-based precautions should be used when Standard Precautions alone are insufficient to interrupt the transmission of a microorganism based on the mode(s) of transmission. Transmission-based precautions include Contact, Droplet and Airborne, which are precautions designed to limit transmission of certain organisms and clinical conditions. Health workers must have an understanding of the basic principles of Contact, Droplet and Airborne precautions as they are applied individually.

- **Contact Precautions** protect HWs by minimising the COVID-19 transmission risk from direct physical contact with the patient, indirect contact from shared patient care equipment or from contaminated environmental surfaces.
- **Droplet Precautions** protect HWs' nose, mouth and eyes mucosa from droplets produced by the patient's coughing and sneezing. Droplets are infectious particles larger than 5 microns in size. Respiratory droplets transmit infection when they travel directly from the respiratory tract of the infected person to susceptible mucosal surfaces (nasal, conjunctival or oral) of another person, generally over short distances. Droplet distribution is limited by the force of expulsion and gravity and is usually no more than 1 metre (ACSQHC 2019)
- **Airborne Precautions** protect HWs' respiratory tract from very small and unseen airborne droplets that become suspended in the air. Airborne transmission may occur via small-particle aerosols (often smaller than 5 microns) containing infectious agents that remain infective over time and distance. The available evidence (Guo ZD et al 2020) shows that the maximum transmission distance of SARS-CoV-2 aerosol might be 13 feet or 4 meters¹⁵. During aerosol generating procedures, these small and unseen airborne droplets become aerosolised. Although aerosols may carry small amounts of virus, they become very diffuse the further you are from the patient and are effectively managed by modern ventilation systems. A correctly fit checked P2/N95 mask will protect the wearer against these aerosolised droplets.

Combined **Contact and Droplet Precautions in addition to Standard Precautions** must be in place while you are caring for, or in contact with a symptomatic suspected OR confirmed COVID-19 case, including during initial triaging.

In addition to **Contact and Droplet Precautions**, **Airborne Precautions** are required for aerosol generating procedures (AGPs).

See [My Health Learning](#) (Course Code 294450660) for PPE donning and doffing videos.

Risk assessment

HWs should consider the need for Contact, Droplet and Airborne Precautions based on the nature of care or task being undertaken. Risk assessment refers to utilising PPE when there is an anticipated or likely risk of contamination with splashes, droplets of blood or body substances.

Perform a risk assessment on the use of PPE for clinical care of suspected, probable or confirmed COVID-19 patients according to current epidemiological data, local prevalence and

clinical features that might indicate elevated COVID-19 risk. Any variation in PPE selection (e.g. mask, gown) must be based on local risk assessment and made in conjunction with facility management, local infectious diseases, public health unit, infection prevention and control and advice from the CEC.

Infectious period

The infectious period of COVID-19 remains unknown, however there is some evidence to support the occurrence of pre-symptomatic or asymptomatic transmission. As a precautionary approach, cases are considered to be infectious 48-hours prior to onset of symptoms. Cases are considered to pose a risk of onward transmission and require isolation until criteria listed in the [Coronavirus Disease 2019 \(COVID-19\) CDNA National Guidelines for Public Health Units section: the release from isolation](#) have been met.

PPE donning

For most contacts between HWs and patients, the following PPE is safe and effective and should be donned before entering the patient's room or zone.

HWs should be bare below the elbows and tie long hair back when providing care and donning PPE. The sequence of donning is:

- apron* or fluid resistant long-sleeved or isolation gown
- surgical mask
- eye protection
- perform hand hygiene** and don disposable nonsterile gloves upon entering the room before contact with the patient

*Apron use can be considered based on your anticipated contact/exposure to droplets while caring for symptomatic COVID-19 patients.

**Do not apply alcohol sanitiser to the outside of a glove once it's on your hand - sanitisers can create pinholes in gloves unless the glove is designed to be sanitised.

Use of boots or shoe covers is not recommended unless gross contamination is anticipated or required as standard attire in operating theatre or trauma room.

A head covering is not required except as part of standard operating theatre attire or when performing a sterile/aseptic procedure (e.g. central line insertion) to prevent contact between HWs hair and patients/equipment and to reduce shedding of skin squamous/hair and associated bacteria into the field.

While wearing PPE avoid self-contamination and the spread of microorganisms by:

- Keeping hands away from face
- Limiting surfaces touched
- Changing gloves when torn or visibly contaminated
- Performing hand hygiene

HWs caring for patients meeting the COVID-19 case definition should comply with Contact and Droplet Precautions for **contacts within 1.5 metres** including high-risk clinical areas (see list below). When performing AGPs comply with Contact, Droplet **and** add Airborne Precautions.

High-risk clinical areas include:

- Intensive Care Units (ICU)*
- Emergency Departments (ED)*
- COVID-19 Wards
- Acute Respiratory Assessment Clinics

***Note:** Dedicated non-COVID-19 zones of ICU and ED should not be regarded as high risk clinical areas and the PPE requirement should be based on risk assessment, epidemiological or clinical features that indicate elevated COVID-19 risk.

PPE in specific settings during COVID-19 pandemic

Visitors Screening

- For HWs undertaking health status screening of patients, visitors or HWs whilst maintaining greater than 1.5 metres distance there is **no need for any PPE**. Frequent hand hygiene is recommended
- If HWs undertaking visitors screening within 1.5 metres, use a surgical mask and hand hygiene. Extended/sessional use of surgical mask is recommended (see [Table 1](#) for extended or sessional and optimal use of PPE)
- HWs undertaking visitor screening including taking tympanic thermometer or infrared thermometer screening of visitors in high risk areas e.g. cancer care centres within 1.5 metres should wear a surgical mask and perform hand hygiene. Glove use is optional, and if worn, must be changed and hand hygiene performed in between visitors
- HWs undertaking general public specimen collection should wear an apron or gown, surgical mask, eye protection and gloves. The reception staff or person confirming the pathology request (not within 1.5 metres) does not need to wear any PPE. Refer to [CEC Drive through Specimen Collection Interim Guidance](#)
- Change gloves between each patient and perform hand hygiene; masks and eye protection can be worn for extended use until moist, wet or contaminated. Extended or sessional use of apron or gown can be considered based on the risk assessment and potential for contamination
- While conducting procedures or providing care, HWs to keep a safe distance where possible from the patient to reduce the potential for PPE contamination
- If any item (apron or gown, mask or eye protection) is contaminated between patients, for example by being touched with contaminated hands, it should be changed. The extended and optimal use of PPE should be based on risk of contamination, patient settings and individual risk assessment.

Intensive care unit (ICU)

- Contact and Droplet Precautions should be used for general care of COVID-19 patients in ICU e.g. a patient not requiring ventilation or AGPs
- Contact, Droplet and Airborne precautions should be used for care of COVID-19 patients in ICU requiring AGPs

Wards, including care of critically ill patients outside of the ICU setting

- Contact and Droplet Precautions should be used for care of COVID-19 patients in general wards

- Contact, Droplet and Airborne Precautions should be used for care of COVID-19 patients in general wards, when performing an AGP

Emergency departments

- Contact and Droplet Precautions should be used for routine care of COVID-19 patients in the emergency department except when an AGP (including passage of an endotracheal tube) is required
- Contact, Droplet and Airborne precautions should be used for care of COVID-19 patients when performing an AGP or when interacting with a patient with respiratory distress or when performing ENT/eye exam or procedure on a patient with high probability of COVID-19 infection.

Refer to [CEC Emergency Department – PPE Quick Reference Guide](#) for more information

Operating suite

For procedures performed on patients in an operating suite who are NOT suspected or confirmed cases of COVID-19, the usual surgical PPE for the clinical circumstances should be used, i.e., surgical mask, theatre cap, gown, gloves and eye protection.

- Surgical procedures on patients with suspected, probable or confirmed COVID-19 should be performed only in an emergency
- Contact and Droplet Precautions for anaesthetic or surgical procedures not involving AGPs in patients with suspected, probable or confirmed COVID-19
- Contact, Droplet and Airborne Precautions for anaesthetic or surgical procedures involving AGPs with suspected, probable or confirmed COVID-19
- During surgical procedures on patients suspected, probable or confirmed to have COVID-19 infection it is recommended that the operating room ventilation in both laminar flow and conventionally ventilated theatres should remain **fully on**. Those closest to aerosol generation procedures are most at risk. The rapid dilution of these aerosols by operating theatre ventilation and the high number of air changes per hour will protect operating room staff. Air passing from operating theatres to adjacent areas will be highly diluted and is not considered to be a risk.

Refer to [CEC Positive COVID-19 - Infection Prevention and Control and Access to Surgery](#) for more information

Maternity and Neonatal Services

Within NSW, the number of maternity patients with locally acquired suspected, probable or confirmed COVID-19 is very low. While these numbers remain low, infection prevention and control strategies will be based on best available evidence on infection prevention and control approaches to control the spread of the virus within maternity and neonatal services. For detailed information [refer to appendix 1](#).

Table 1. Recommended PPE for HW in clinical settings

Setting	Context COVID-19 Case	DISPOSABLE GLOVES	PLASTIC APRON	FLUID RESISTANT OR ISOLATION GOWN	SURGICAL MASK	P2/N95 MASK	EYE PROTECTION ¹
Acute hospital inpatient and emergency departments, dental and maternity setting	Working in an inpatient area with suspected, probable or confirmed case(s) ¹ (not within 1.5metres) No AGP	✗	✗	✗ <i>STANDARD PRECAUTIONS</i>	✗	✗	✗
	Performing a single AGP ² on a suspected, probable or confirmed case(s) ¹ in any setting	✓ single use ³	✗	✓ single use ³	✗	✓ single use ³	✓ single use ³ / clean reusable in between use ⁴
	Working in a higher risk acute care area ⁵ with suspected, probable or confirmed case(s) ¹ - direct patient care (within 1.5metres) No AGP	✓ single use ³	✓ single/ extended use ⁶	OR RA ⁷ single/ extended use ⁶	✓ single/ extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴
	Working in an inpatient area with suspected, probable or confirmed case(s) ¹ – direct patient care (within 1.5metres)	✓ single use ³	✓ single/ extended use ⁶	OR RA ⁷ single/ extended use ⁶	✓ single/ extended use ⁶	✗	✓ single/ extended use ⁶ clean reusable in between use ⁴
	Working in an emergency department / acute assessment area with suspected, probable or confirmed case(s) ¹ – direct patient care (within 1.5 metres)	✓ single use ³	✓ single/extended use ⁶	OR RA ⁷ single/ extended use ⁶	✓ single/extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴

Acute hospital inpatient and emergency departments, dental and maternity setting (cont.)	Context COVID-19 Case	DISPOSABLE GLOVES	PLASTIC APRON	FLUID RESISTANT OR ISOLATION GOWN	SURGICAL MASK	P2/N95 MASK	EYE PROTECTION ¹
	Working in a procedural area such as radiology, with suspected, probable or confirmed case(s) ¹ – direct patient care (within 1.5 metres) follow same precautions as per inpatient unit	✓ single use ³	✓ single/extended use ⁶	OR RA ⁷ single/extended use ⁶	✓ single/extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴
All individuals transferring suspected, probable or confirmed case(s) ¹ (within 1.5metres)	✓ single use ³	✓ RA ⁷ single/extended use ⁶	✗	✓ single/extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴	
Working in an Operating Theatre (non-scrubbed staff) with suspected, probable or confirmed case(s) ¹ – no AGPs ²	✓ single use ³	✓ Single use ³	OR RA Single use ³	✓ single/extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴	
Working in a delivery/birthing suite with suspected, probable or confirmed case(s) ¹	✓ single use ³	✓ single/extended use ⁶	OR RA ⁷ single/extended use ⁶	✓ single use ³	✗	✓ single use ³ clean reusable in between use ⁴	
Cleaning a room or zone after a suspected, probable or confirmed case(s) ¹	✓ single use ³	✓ single use ³	✗	✓ single/extended use ⁶	RA ⁷ within 30minutes of an AGP	✓ single/extended use ⁶ clean reusable in between use ⁴	
When providing care to vulnerable ⁸ patient groups (within 1.5 metres)	✓ single use ³	✓ single use ³	✗	✓ single/extended use ⁶	✗	✗	

Context COVID-19 Case		DISPOSABLE GLOVES	PLASTIC APRON	FLUID RESISTANT OR ISOLATION GOWN	SURGICAL MASK	P2/N95 MASK	EYE PROTECTION ¹
Out patients	Respiratory specimen collection in fever clinics, COVID-19 clinics, GP practices where in hospital or outpatient setting	✓ single use ³	✓ single/extended use ⁶	OR RA single/ extended use ⁶	✓ single/ extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴
	Working in Primary Care, ambulatory and outpatient - with suspected, probable or confirmed case(s) ¹	✓ single use ³	✓ single/extended use ⁶	OR RA' single/ extended use ⁶	✓ single/ extended use ⁶	✗	✓ single/extended use ⁶ clean reusable in between use ⁴

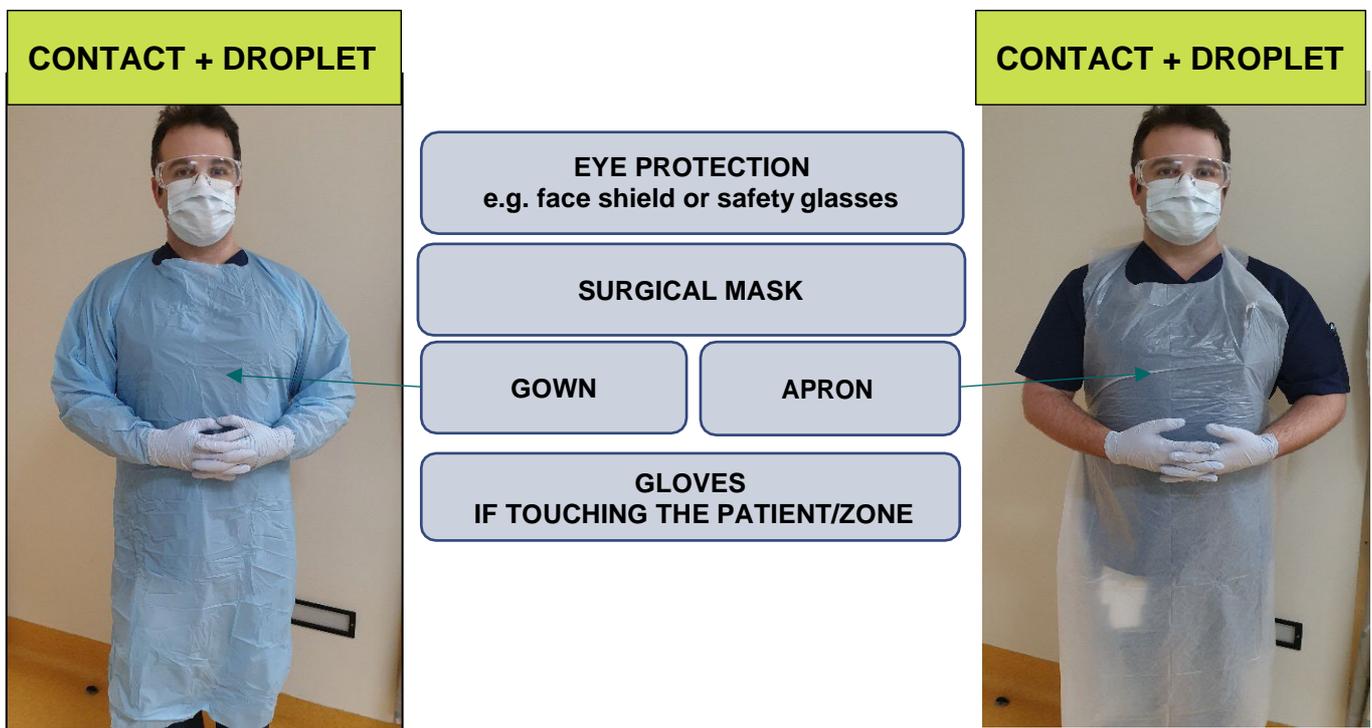
Adapted from Public Health England 2020

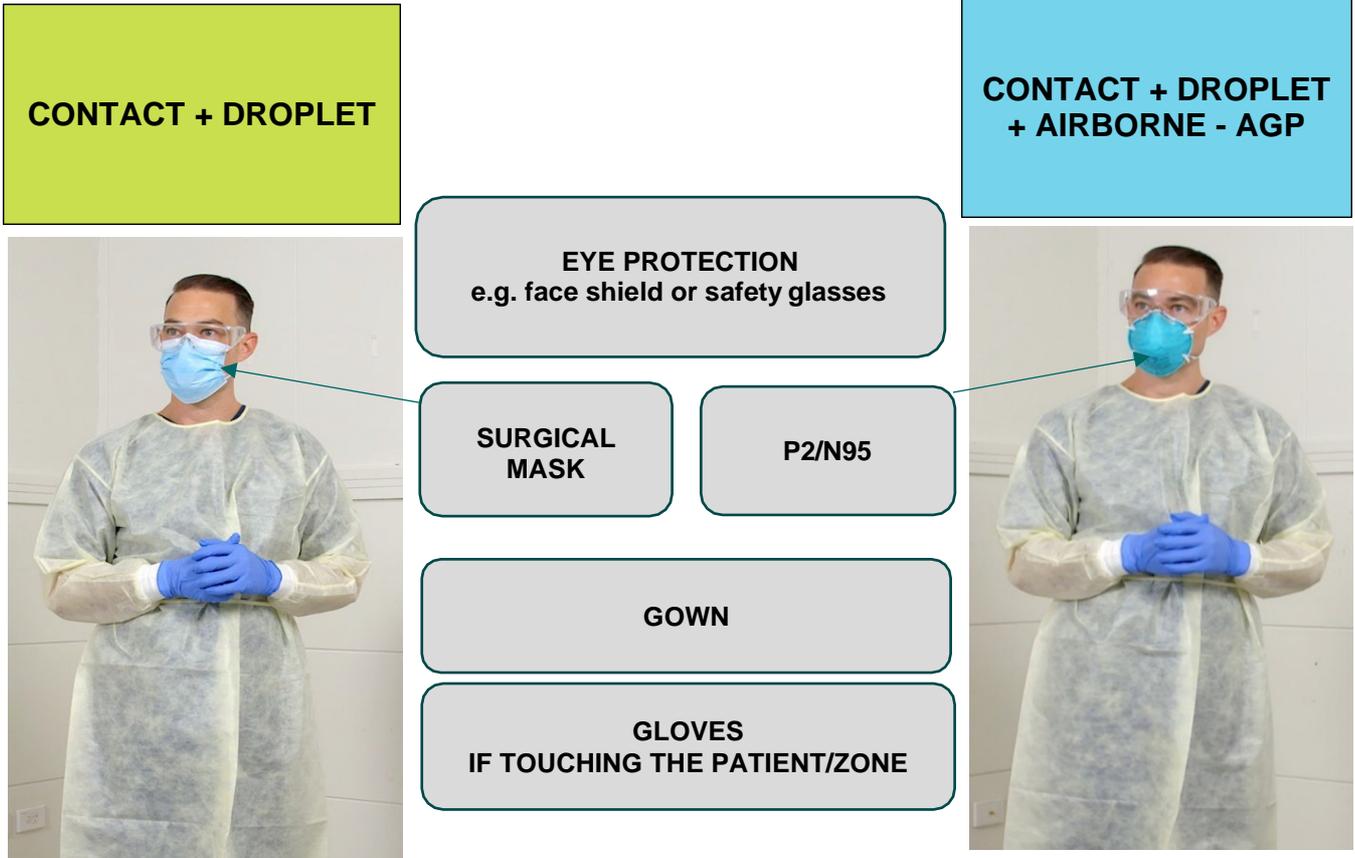
1. A case is any individual meeting the case definition for a suspected, probable or confirmed case.
2. The list of aerosol-generating procedures (AGPs) can be found in the section “Airborne precautions, aerosol-generating procedures (AGPs) and room management” below.
3. Single use refers to disposal of PPE or decontamination of reusable items e.g. reusable respirator, after each patient and/or following completion of a procedure or task; dispose or decontaminate reusable items after each patient contact as per Infection Control Standard Precautions.
4. This may be reusable face/eye protection/ face shield, safety glasses or goggles.
5. High-risk clinical areas include: Intensive Care Units (ICU), Emergency Departments (ED), COVID-19 Wards, Acute Respiratory Assessment Clinics.
6. An extended use or sessional use refers to a period of time where a health worker (HW) is undertaking duties in a specific care setting/exposure environment e.g. on a ward round; providing ongoing care for inpatients. A session ends when the HW leaves the care setting/exposure environment. Sessional use should always be risk assessed and considered where there are high numbers of hospital cases. Extended use of aprons/gowns can be considered if there is minimal contact of the apron or gown with the patient or their surroundings, the apron or gown is not used during an AGP and it is not visibly contaminated. PPE should be disposed of after each session or earlier if damaged, soiled, moist or uncomfortable.
7. Risk assessment (RA) refers to utilising PPE for appropriate protection when there is an anticipated/likely risk of contamination with splashes, droplets, or blood or body fluids.
8. Vulnerable people may include the following based on disease severity, history or treatment levels: solid organ transplant recipients, cancer patients, patients with severe respiratory conditions, patients with rare diseases and immunosuppressed individuals.

A visual guide to safe PPE

- Gloves should be changed and hand hygiene performed between patients; change or remove gloves when clinically indicated, if contaminated, or moving from dirty to clean site on the same patient or when damaged or torn
- Perform hand hygiene immediately after removing gloves and other PPE if there is risk of contamination between steps
- Gown/apron should be removed and discarded appropriately upon completion of care (session) and /or on leaving the room/zone
- Reusable eye protection should be cleaned/disinfected between use
- Clean and disinfect reusable shared patient equipment and high touchpoints

- International guidance states that surgical masks can be worn not more than 4 hours and P2/N95 up to 8 hours uninterrupted or continuous use^{***}. Once they are removed for clinical reasons or meal breaks or moist/soiled they must be discarded, and a new mask used.
- The mask wearer should not touch the contaminated surface of the mask and the mask should be discarded if contaminated with blood or bodily substances and following AGPs. Extended use can also cause discomfort to the wearer from wearing it for longer than usual. Remove or replace if the mask becomes hard to breathe through, no longer fits correctly or becomes moist or loose.





Extended use refers to the practice of wearing the same PPE (P2/N95, surgical mask, gown, apron or eye protection) for repeated close contact episodes with more than one patient, without removing them between patient care based on risk assessment and contamination risk.

***For more information refer to [Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Face Piece Respirators in Healthcare Settings](#)

PPE for Contact and Droplet Precautions should be applied as per a risk assessment. Risk assessed use refers to utilising PPE when there is an anticipated/likely risk of contamination with splashes, droplets of blood or body fluids.

When performing an AGP on a COVID-19 suspected, probable or confirmed case, the main modification to PPE (airborne precautions), is the use of a P2/N95 mask or equivalent instead of a surgical mask.

PPE removal

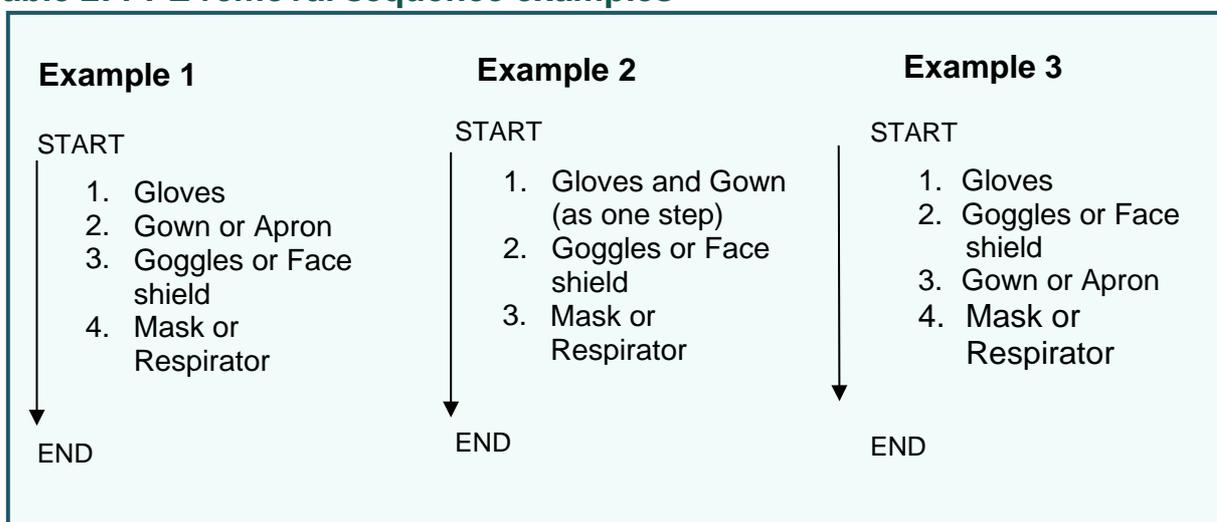
The proper removal (doffing) and disposal of contaminated PPE is the most important step in preventing inadvertent exposure to pathogens. **There are a variety of ways to safely remove PPE** without contaminating your clothing, skin, or mucous membranes with potentially infectious materials.

Remove all PPE upon exiting the patient zone/room removing mask and protective eyewear last after leaving room or zone and closing the door. Always **perform hand hygiene if there is risk of contamination between steps and immediately after removing gloves and when the sequence of PPE doffing has been completed.**

Note:

- Dispose removed PPE into the general waste unless visibly contaminated with blood or body substance
- Gown and gloves can be removed as one step
- Avoid touching your face at all times
- Examples of PPE removal sequence are shown in Table 2
- Facilities can adopt other safe ways of PPE removal according to local guidelines and procedures.

Table 2: PPE removal sequence examples



Other precautions

- For patient care activities, use disposable or dedicated equipment.
- Avoid transferring patient out of room or zone unless medically necessary. Where required patients should wear surgical/procedural mask during transfer, perform hand hygiene and follow respiratory hygiene and cough etiquette.
- Limit number of HW interactions by bundling the patient care activities or cohorting HWs for COVID-19 symptomatic cases where possible or practical.
- Consider limiting visitors pre-emptively, provide alternative visiting modes (virtual visiting or telephone)

Airborne precautions, aerosol-generating procedures (AGPs) and room management

The highest risk of transmission of respiratory viruses is during aerosol-generating procedures (AGPs) of the respiratory tract. For patients with suspected, probable or confirmed COVID-19, any of these potentially infectious respiratory AGPs should only be carried out when essential. The combined **Contact, Droplet** and **Airborne** Precautions should be used during respiratory AGPs on a COVID-19 suspected, probable or confirmed case.

Development of a comprehensive list of AGPs for healthcare settings has not been possible, due to limitations in available data on which procedures may generate potentially infectious aerosols and the challenges in determining if reported transmissions during AGPs are due to aerosols or other exposures. There is neither expert consensus, nor sufficient supporting data, to create a definitive and comprehensive list of AGPs for healthcare settings. However, CEC is working towards a more inclusive list and will be released later as an appendix.

The following examples are illustrative of a range of AGPs currently considered to be potentially infectious respiratory AGPs for COVID-19: ([Coronavirus Disease 2019 \(COVID-19\) CDNA National Guidelines for Public Health Units](#))

Instrumentation or surgical procedures on the respiratory tract including:

- insertion or removal of endotracheal tube
- deliberate or inadvertent disconnection/reconnection of a closed ventilator circuit
- high frequency oscillatory ventilation (HFOV)
- open oropharyngeal or tracheal suctioning
- upper respiratory instrumentation or surgery e.g. bronchoscopy, tracheotomy, ENT surgery
- surgical or post-mortem procedures on respiratory tract involving high-speed devices
- intercostal catheter insertion for relief of pneumothorax
- thoracic surgery that involves entering the lung
- manual or non-invasive ventilation (NIV)
 - bi-level positive airway pressure ventilation (BiPAP)
 - continuous positive airway pressure ventilation (CPAP)
- collection of induced sputum
- high flow nasal oxygen (HFNO)
- chest physiotherapy
- transoesophageal echocardiography
- cardiopulmonary resuscitation (CPR)
 - chest compression and defibrillation during resuscitation are not considered AGPs
 - first responders can commence resuscitation without the need for airborne precautions while awaiting the arrival of clinicians to undertake airway manoeuvres.

NB: The use of nebulisers should be avoided and alternative means of delivering medication used (such as a spacer).

Environments for AGPs:

- Place patient in negative pressure isolation room (where available)
- Alternatively, an adequately ventilated single room with the door closed could be used in addition to airborne precaution PPE for health workers
- Limit number of people in the room when performing the procedure.

Personal protective equipment for AGPs

PPE for **Contact**, **Droplet** and **Airborne** Precautions should be donned before entering the patient's room as follows:

- Fluid resistant long-sleeved or isolation gown
- P2/N95 mask – should be **fit-checked** with each use. When putting on a P2/N95 mask, always perform the seal-check⁶. Note that if the wearer has facial hair (beard) this can prevent a proper mask fit⁶
- Eye protection - safety glasses or face shield
- Disposable nonsterile gloves when in contact with the patient (hand hygiene before donning and after removing gloves).

Note:

- The requirement to leave a room vacant following a patient in Airborne Precautions or an AGP is associated with risk of airborne particles and the time lapse required for enough air changes to remove potentially infectious material (see [Table 3](#) CDC-Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency)
- Areas in the facility where suspected, probable or confirmed COVID-19 cases have been cared for without AGPs being performed, do not need to be left vacant for any time period and the HW cleaning areas should wear appropriate PPE as per Standard Precautions when cleaning.
- Following an AGP on a COVID-19 patient, cleaners should wear Airborne Precaution PPE if cleaning within 35 minutes of the AGP (the time can vary based on the ACH within the procedure room)

Table 3: Air exchange per hour and time required for airborne contaminant removal¹⁴

ACH §	Times (mins.) required to removal 99% efficiency	Time (mins.) required for removal 99.9% efficiency
2	138	207
4	69	104
6*	46	69
8	35	52
10*	28	41
12*	23	35
15*	18	28
20	14	21
50	6	8

*This table is revised from Table S3-1 in reference 4 and has been adapted from the formula for the rate of purging airborne contaminant presented in reference 1435.

§ACH – Air changes per hour

Procedures NOT considered as aerosol-generating

Certain procedures or equipment may generate an aerosol from material other than patient respiratory secretions but are not considered to represent a significant infectious risk. Eye protection and surgical mask should be used in accordance with a Standard Precautions risk assessment model. It is safe and appropriate to use Contact and Droplet Precautions for non-AGPs on a suspected, probable or confirmed COVID-19 patient with examples as follows:

- Administration of pressurised humidified oxygen, entonox
- Regional anaesthesia and local infiltration
- Conscious sedation
- Vascular access (peripheral intravenous, central venous catheter, arterial)
- During recovery from an AGP after an appropriate period of time has elapsed (refer to room air changes/hour)

Use of powered air purifying respirator (PAPR)

Powered air purifying respirator (PAPRs) are an alternative to P2/N95 respirators in selected circumstances. A number of different types of relatively lightweight, comfortable PAPRs are now available and should be used according to the manufacturer's instructions. Particular care should be taken on removal of PAPR, which is associated with a high risk of contamination.

- Only PPE marked as reusable should be reused and cleaned/disinfected between uses according to the manufacturer's instructions. All other PPE must be disposed of after use.

- HWs caring for patients with suspected, probable or confirmed COVID-19 (or any communicable disease) should be trained in the correct use of PPE. This also applies to the use of PAPRs, if required. Training in the use of PAPRs must be done by the manufacturer or distributor or someone who has been trained as a trainer in the use of these specialist items or designated health professional and infection prevention and control professional as the lead.
- Incorrect removal of PPE is associated with a risk of contamination.
- If PAPRs are used there must be a clearly described process in place for the cleaning and disinfection of all components to reduce the risk of a HW donning an item that has not been effectively reprocessed since its last use.

Optimal use of PPE through extended or sessional use

Extended use refers to the practice of wearing the same PPE (P2/N95, surgical mask, gown, apron or eye protection) for repeated close contact episodes with several patients, without removing them between patient care. This approach could be used while attending to multiple patients with suspected or confirmed COVID-19.

Similarly, **sessional use** refers to a period of time where a HW is undertaking duties in a specific clinical care setting or exposure environment. For example, a session might comprise a ward round, or taking observations of several patients in a cohort bay or ward. A session ends when the HW leaves the clinical care setting or exposure environment.

However, the wearer needs to ensure they do not touch the contaminated surface of the PPE and PPE should be discarded if contaminated with blood or body substance and following AGPs.

Once the PPE has been removed it should be disposed of safely. The duration of a single session will vary depending on the clinical activity being undertaken.

The terms *extended* or *sessional* are interchangeable in this document

The rationale for recommending extended/sessional use of some PPE in certain circumstances is to reduce risk of inadvertent transmission of microorganism during clinical care provision and PPE removal. Also, frequent handling of PPE after use to discard or replace may lead to increased face touching or self-contamination during PPE removal, which could theoretically increase the risk of exposure in high clinical demand environments.

- PPE should not be subject to continued use if damaged, soiled, compromised or uncomfortable to the wearer - in this case a session should be ended
- While the duration of a session is not specified here, the duration of use of PPE items should not exceed manufacturer's instructions
- Appropriateness of single vs sessional use is dependent on the nature of the task or activity being undertaken and the local context
- A session ends when the health worker leaves the care setting/exposure environment
- Extended or sessional use of mask and eye protection is indicated if there is perceived to be close or prolonged interaction with patients
- International guidance state that surgical masks can be worn for up to 4 hours and P2/N95 for up to 8 hours. Once they are removed for clinical reasons or meal breaks, they must be discarded and a new mask used. However, the use of one mask for

longer than 4 hours is likely to be poorly tolerated (increasing risk of self-contamination) and is not recommended

- P2/N95 respirators (masks) should be used only when required (for AGPs or airborne precautions) and fit checked with each use.
- Extended use of mask and eye protection can also cause discomfort to the wearer from wearing it for longer than usual periods. Remove or replace the mask if it becomes hard to breathe through, no longer fits correctly or becomes moist or loose.

For more information refer to [Recommended Guidance for Extended Use and Limited Reuse of N95 Filtering Face piece Respirators in Healthcare Settings](#)

Training around the selection, use and disposal of PPE is required to ensure safe use (refer to [CEC PPE donning and Doffing Videos](#)).

Some of the potential issues for cross contamination to consider for training are:

- How to minimise unnecessary contact with the mask surface
- Importance of adherence to hand hygiene, and
- How to ensure adherence to proper PPE donning and doffing technique

Wearing a mask

Do not:

- Touch your mask when you are wearing it, or you will contaminate it and/or your hands
- Pull your mask below your nose or mouth
- Leave hanging around the neck
- Touch your face
- If you need to remove the mask, perform hand hygiene, remove and discard the mask into the general waste bin and put another mask on.

Do:

- Change when the mask becomes moist
- Change if sprayed or splashed on
- Clean your hands if you accidentally touch it.

Gown

- Gown or apron once removed should be discarded appropriately
- Extended use of apron or gown can be considered when there is no physical/close contact between the HW and the patient (e.g. fever clinic, drive through clinic, low risk clinical areas)
- At any stage if the gown is contaminated with blood or body substance it should be changed.

Eye protection

- Single use eye protection can be worn for an extended period unless moist, wet or contaminated, and disposed of at the end of the session

- Reusable eye protection should be cleaned and disinfected between uses. There must be a clearly described process in place for the cleaning and disinfection of reusable eye protection to reduce the risk of a HW donning an item that has not been effectively reprocessed since its last use.

Gloves

- Gloves must be removed:
 - between each patient and hand hygiene performed
 - if contaminated or moving from dirty to clean site on same patient
 - when damaged or torn
- Hand hygiene must be performed each time gloves are donned and doffed.

Collecting specimens

When collecting respiratory specimens from patients suspected, probable or confirmed to have COVID-19, transmission-based precautions should be observed whether or not respiratory symptoms are present. For more information see [Coronavirus Disease 2019 \(COVID-19\) CDNA National Guidelines for Public Health Units SARS-CoV-2 Laboratory testing information](#).

For most patients collection of respiratory (nasopharyngeal) specimens is a low risk procedure, but can induce cough or sneezing. Specimens can be collected using **Contact** and **Droplet** Precautions:

- Perform hand hygiene before donning apron/gown, surgical mask; eye protection and gloves
- To collect throat or nasopharyngeal swab stand to the side of the patient to avoid exposure to respiratory secretions, should the patient cough or sneeze.

Collecting a nasopharyngeal swab (collected from the nasal septum, not just the anterior nares)

- Stand at side of patient
- Place non dominant hand on forehead and thumb at tip of nose
- Swab the nasopharynx by gently inserting the swab along the floor of the nasal cavity parallel to the palate until resistance is encountered, and rotate gently for 10-15 seconds, collecting the epithelial cells (not mucous)
- Withdraw and repeat the process in the other nostril
- Insert swab into the labelled tube (fully insert the swab into the tube, snap the swab and discard the residual shaft) and tighten the cap

Collecting a throat swab

- Stand at the side of the patient
- Ensure the patient's head is resting against the wall
- Place your hand on the patient's forehead (non-dominant hand)
- Ask the patient to open their mouth widely and say 'argh'
- Insert the swab into mouth avoiding any saliva

- Swab the tonsillar beds and the back of the throat, avoiding the tongue. Place sideways pressure on the swab in order to collect epithelial cells from the tonsillar fossa at the side of the pharynx, not the mucous.

At completion of specimen collection, remove gloves and perform hand hygiene. The extended use of gown/apron, mask and eye protection should be based on the setting and risk of contamination.

Wipe any contacted/contaminated surfaces with detergent/disinfectant.

Samples to be marked 'Urgent' and taken to local pathology specimen reception area, specify if patient is an ED inpatient, ward inpatient or health worker. For more information refer to [COVID-19 testing prioritisation](#) and NSW Health [Collection of nasal and throat swabs for respiratory virus testing](#).

NB: PPE requirements may differ in outpatient clinics such as fever clinics or drive through clinics, refer to [CEC Drive through specimen collection interim guidance](#) for more information.

Duration of isolation precautions for confirmed COVID-19 patients

Discontinuation of isolation precautions should be based on current national guidelines ([CDNA National Guidelines for Public Health - Coronavirus Disease 2019](#)) and should be determined on a case-by-case basis on factors including presence of symptoms related to COVID-19 infection, date symptoms resolved, duration of illness, other conditions that would require specific precautions and laboratory information reflecting clinical status.

The decision should also be made in consultation with the treating doctor and/or local infection prevention and control team and/or local Public Health Unit. If a patient is well enough to be discharged while still symptomatic, home isolation should be continued until criteria for release from isolation are met. The patient transfer should be based on the Patient Transport guidance (see below).

Response to COVID-19 or acute respiratory illness in a staff member

HWs with acute respiratory illness must not attend work and should seek medical care as appropriate. They should be assessed as to whether they require testing for COVID-19 based on the current case definition ([NSW Health COVID-19](#)). Return to work should be based on medical direction. HWs who have travelled overseas or have been in close contact with a confirmed case of COVID-19 **without appropriate** PPE, should not return to work and should self-quarantine for 14 days after their return or last contact.

If a HW has been at work while unwell, heightened surveillance for COVID-19 or acute respiratory illness should be initiated within the facility. The facilities must have systems in place to arrange for the rapid medical assessment and, if recommended, testing of health care workers for COVID-19. The facility should consider this an opportunity to review influenza vaccination status of health workers and patients. For more information refer to [COVID-19 CDNA National Guidelines for Public Health Units](#) and [NSW Health COVID-19 \(Coronavirus\)](#)

Environmental cleaning

Cleaning and disinfection is recommended to decontaminate the environment: (2-step clean or 2-in-1 step clean)

- HWs should observe Contact and Droplet Precautions when cleaning a room or zone with a COVID-19 suspected, probable or confirmed case.
- After discharge or transfer of a patient where suspected, probable or confirmed COVID-19 cases have been cared for without AGPs being performed, HW cleaning the area should wear appropriate PPE as per Standard Precautions when cleaning.
- Following an AGP on a COVID-19 patient, cleaners should wear Airborne Precautions PPE if cleaning within 35 minutes of the AGP (the time lapse can vary based on the ACH within the room or zone) (refer to table 3 for more information)
- Ensure adherence to the cleaning/disinfection product manufacturer's recommended contact time
- Use a Therapeutic Goods Administration (TGA) registered hospital grade disinfectant listed on the list of disinfectants for use against COVID-19 in the ARTG for legal supply in Australia at <https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia> Products in this category continue to evolve, where disinfectants with specific claims are not available, use hospital grade disinfectant, with proven virucidal activity (listed on TGA).
- Terminal clean room/zone on discharge or transfer from inpatient units
- For procedural rooms with short patient stays (e.g. CT scan, MRI, fever clinics) clean and disinfect frequently touched surfaces between cases and terminal clean the area as per local policies e.g. at the end of the session/day
- Minimise equipment and items in the patient areas including personal items owned by the patient (to reduce clutter)
- Ensure cleaning audits within functional risk area/COVID-19 wards are maintained monthly. Refer to the [Environmental Cleaning Policy Directive](#) and CEC [Environmental Cleaning Standard Operating Procedure](#) for further information

NB: Use a chlorine-based product such as sodium hypochlorite if unsure of properties of your disinfectant provided by the facility.

Handling of linen

Management of linen from a suspected, probable or confirmed COVID-19 case should be performed in accordance with Standard Precautions and routine procedure. Handle all used linen as per the Infection Prevention and Control Practice Handbook (section 4.7.1).

- Handle soiled laundry with minimum agitation to avoid contamination of the air, surfaces and persons (e.g. roll up)
- Used, soiled or wet linen should be placed into appropriate laundry receptacle at the point of generation
- Clear leak-proof bags are to be used to contain linen that is heavily soiled with blood, other body substances or other fluids (including water)
- Linen bags should be securely closed and not filled completely as this will increase the risk of rupture in transit and injury to bag handlers

- Reusable linen bags must be laundered before re-use
- Hand hygiene using soap and water for 20 seconds or alcohol-based hand rub must be performed following the handling of used linen.

Food service utensils

- Kitchen utensils should be cleaned through the routine cleaning cycle
- Food trolleys that have been utilised in contaminated areas should be cleaned and disinfected/sanitised
- Disposable wares are not required
- The meal ordering, delivery and collection of meal trays within COVID-19 patient zone/ward should be led/managed by the ward/clinical area and local facility management.

Handling of consumer paper health records

The risk of paper health record contamination and subsequent exposure to COVID-19 in the absence of a spill (or similar) is thought to be unlikely and considered extremely low. The available evidence does not support the idea of holding notes for 5 days prior to scanning and this is an unnecessary step and may increase the risk of separating notes from where they may be needed. It is acknowledged that some paper records/forms may require handling by patients during their hospital journey.

A local process should be implemented to manage these health records and the following steps may assist in reducing the risk of cross contamination of these items:

- Hand Hygiene before/after contact with notes (patients and HWs)
- Clean pens and accessories
- Keeping desk areas clean and tidy – cleaning of work stations and work sites
- Attending admin areas with clean hands and no PPE
- Move to electronic notes where able
- Zone/modelling to reduce notes going directly in to patient care zone

Waste management

All waste from COVID-19 patients do not require special/additional management and should be considered as general waste and segregated according to existing definitions. Manage waste in accordance with routine procedures:

- Clinical waste should be disposed of in clinical waste streams
- All non-clinical waste should be disposed of into general waste stream
- PPE is considered general waste unless contaminated with blood and or body substances.

Curtains

- Change bed screens and curtains (including disposable curtains/screens) that are soiled or contaminated for all patients
- Reusable curtains should be changed/replaced after positive COVID-19 patient discharge/transfer

- For disposable curtains check with the manufacturers for the efficacy against COVID-19, if unsure, dispose after transfer/discharge of suspected or confirmed COVID-19 cases.

Patient transport

All agencies involved in the transfer/transport of COVID-19 suspected, probable or confirmed patients are to implement their agency specific standard, droplet and contact precautions. If tolerated, a surgical mask should be placed on patients during the transfer.

The transferring health facility is to notify the NSW ambulance or other transport agencies on patient condition to ensure all staff involved in the patient transfer are aware of the PPE requirement prior to arrival. The transporting agency is to notify the area receiving the patient where possible.

Reprocessing of reusable medical devices (RMD)

Follow routine procedures. There is no need for any special treatment of RMDs used on COVID-19 suspected or confirmed cases. DO NOT LABEL used RMDs as “COVID-19 CASE”.

Management of deceased bodies

Health workers are unlikely to contract COVID-19 when transmission based (contact and droplet) precautions are used when handling the deceased. However, the following precautionary strategies should be used to minimise risks and to prevent the spread of COVID-19 disease. Routine processes apply to the management of deceased bodies, with the same precautions in place after death as were in place prior to death.

When handling or transferring deceased confirmed, probable or suspected COVID-19 cases:

- Health workers handling deceased bodies to wear apron/gown, gloves, masks and face shield/safety glasses
- Avoid unnecessary manipulation of the body that may expel air or fluid from the lungs
- When transporting the deceased, the body must be placed and secured in a bag or wrapping in a manner that prevents the leakage of any body exudate or other substance; double bagging may be required to achieve this
- Label the outer bag “COVID-19 – Handle with care”
- Family members should not kiss or touch the deceased to minimise the risk of transmission
- If a family member does touch the body, they should wash their hands with soap and water immediately afterwards or use an alcohol-based hand rub.

For more information refer to NSW Health [Handling of deceased bodies with suspected and confirmed COVID-19 by hospital staff \(non-Coroners\)](#)

Appendix 1 Maternity and Neonatal Services

Revision history for Appendix 1			
Version	Date	Revised by	Changes
	22/10/2020	CEC	Revised: <ol style="list-style-type: none"> 1. Addresses attendance by partners and/or support persons during labour and birth 2. Risk assessment of number of people who can support the women in labour and birth 3. Vertical/horizontal transmission from an affected mother to a newborn baby is possible but not of common occurrence. 4. A partner and/or support person who has confirmed, probable or suspected COVID19 should not: <ol style="list-style-type: none"> a. escort the woman to hospital or attend her labour and birth b. attend the labour and birth unless they have an exemption and approval from the facility 5. Routine carbon monoxide monitoring.

Within NSW, the number of maternity patients with locally acquired suspected, probable or confirmed COVID-19 is very low. While these numbers remain low, infection prevention and control strategies will be phased according to:

- Number of suspected or confirmed maternal or neonatal cases of COVID-19 within a hospital
- Number of suspected or confirmed maternal or neonatal cases of COVID-19 within a local health district
- Increasing community spread of COVID-19 affecting maternity patients
- Changes to NSW Health response measures
- Changes to international or national evidence for assessment and/or management of maternity or neonatal patients with suspected or confirmed COVID-19
- Significant adverse events or complaints related to maternity or neonatal patients with suspected or confirmed COVID-19 notified into IIMS+

NSW Ministry of Health and the CEC recognises the number of clinical experts within maternity and neonatal services who are available to provide ongoing advice throughout this phased approach. This guidance will be subject to ongoing review over the varying course of the pandemic.

This guidance is based on best available evidence on infection prevention and control approaches to control the spread of the virus within maternity and neonatal services. There continues to be uncertainty on how specific approaches to maternity and neonatal services should be applied within NSW Health. Current COVID-19 evidence is from countries with rapid and sustained community transmission of COVID-19. Their rigorous strategies are difficult to adapt for the current very low numbers of maternity cases within NSW hospitals. NSW does not have rapid and sustained community transmission at present.

Recommendations

The following recommendations have been made after extensive consultation including with the NSW Infection Prevention and Control Community of Practice, NSW Maternity and Neonatal Community of Practice, Obstetric Anaesthesia Working Group, NSW Anaesthetic Community of Practice.

Please note that if you have questions that are not addressed in this document then please forward them to the relevant Community of Practice.

Context	Risks	Infection Prevention and Control Strategies
1. Room requirements for a woman during labour and birth with suspected, probable or confirmed COVID-19 case	Not all sites have negative pressure rooms available.	<p>Negative pressure room (if possible, particularly if AGPs are expected) OR</p> <p>Single room with ensuite bathroom (door closed).</p> <p>There should be a defined area for staff to put on and remove PPE.</p> <p>Regular spot cleaning of the birth room needs to be undertaken during the time spent in the room.</p> <p><i>If there is an AGP performed during occupation, then the room must be left for the number of air changes/hour and time required ** post use to enable the correct number of air changes to occur in the air conditioning (refer to table 3)</i></p> <p>Link to list AGP procedures</p>
2. Attendance of a partner(s) and/or support person(s) during labour and birth	<p>An individual risk assessment should be undertaken on partners and/or support persons attending the labour and birth.</p> <p>The risk of transmission is increased when the partner and/or support person in the labour room are not from the same household or the women's support network. This information to be included in the risk assessment however it should not affect decisions on their attendance during labour and birth.</p> <p>If partners and/or support</p>	<p>A partner and/or support person who has confirmed, probable or suspected COVID19 should not:</p> <ol style="list-style-type: none"> escort the woman to hospital or attend her labour and birth attend the labour and birth unless they have an exemption and approval from the facility <p>Partners and support persons are required to meet all the screening criteria for COVID-19.</p> <p>Partners and/or support persons should be provided with education on hand hygiene, PPE and the requirements for entering and leaving</p>

Context	Risks	Infection Prevention and Control Strategies
	<p>persons are asymptomatic but in self isolation and wish to attend as a support person, they can request an exemption. The person in self-isolation can contact Service NSW on 13 77 88 to discuss their situation with the COVID-19 hotline. Link to guidance for self-isolation here.</p>	<p>the room.</p> <p>Partners and/or support persons should comply with physical distancing if and when appropriate.</p> <p>Partners and/or support persons should meet the requirements for face masks which will be dependent upon the COVID-19 Infection Prevention and Control Response and Escalation Framework: the framework outlines the management for the changing COVID-19 transmission risk within NSW communities and the appropriate infection prevention and control response for healthcare facilities. A key focus during escalation is the use of PPE, including surgical masks. Continual risk assessment of patients should continue to apply in all clinical areas.</p> <p>The number of support persons in the room should be locally managed by each facility and may depend on the size of the birthing unit and prevalence of COVID-19 in the local community, particularly if they are in areas targeted for increased testing and surveillance.</p> <p>Ensure that any personal mobile devices and other relevant items used in the room are cleaned on entry and prior to leaving.</p>
<p>3. PPE requirements for labour and birth of suspected, probable or confirmed COVID-19 case</p>	<p>Birthing is not an aerosol generating procedure</p> <p>NOTE: Previous advice to use airborne precautions for care of patients with severe coughing has been withdrawn</p> <p>This guidance was issued by the Australian Government Department of Health on 26th April 2020</p> <p>Guidance on the use of PPE in hospitals during the COVID-19</p>	<p>Care during labour and birth:</p> <p>Health Workers (HW): use standard precautions plus contact and droplet precautions when caring for women during labour and birth with suspected or positive COVID-19.</p> <p>Support person: use standard precautions plus contact and droplet precautions. If they decline, then they must be informed of risks associated with not using the prescribed precautions.</p> <p>Contact, droplet and airborne</p>

Context	Risks	Infection Prevention and Control Strategies
	<p>outbreak</p>	<p>precautions are only required when performing Aerosol Generating Procedures (AGPs).</p> <p>All HW entering the room must be made aware of the precautions required. Signage should be displayed on the external door.</p>
<p>4. PPE for women in labour and during birthing suspected, probable or confirmed COVID-19 case</p>	<p>Women should be advised that a surgical mask is offered to reduce the risk of transmission to the people in the room with her, but it is not mandatory, and it can be removed at any time she is unable to tolerate it.</p> <p>The woman may not be comfortable to wear a mask throughout labour and birthing particularly in active 2nd stage of labour.</p>	<p>A surgical mask should be considered and offered to women with suspected, probable or confirmed COVID-19.</p> <p>The wearing of a surgical mask during labour will be dependent on acceptability to the woman and whether she is able to wear and tolerate a mask.</p> <p>A surgical mask is required if the woman is being transferred from the birth room e.g. to a ward or operating theatre.</p> <p>Provide the woman support with respiratory etiquette and access to alcohol-based hand rub.</p> <p>Offer tissues to the woman to cover her mouth when coughing.</p> <p>Provide a specified waste bin in easy reach to dispose of tissues.</p>
<p>5. The use of Entonox during labour</p>	<p>It is important to undertake a comprehensive assessment of each woman and to provide her with the information she needs to make informed decisions including the most appropriate pain relief for her individual situation.</p> <p>An early epidural should be recommended in labour to women with suspected or confirmed COVID-19, particularly those with acute respiratory symptoms, to minimise the need for general anaesthesia if urgent intervention for birth is needed.</p>	<p>There is currently a lack of evidence that the routine use of Entonox is an aerosol-generating procedure.</p> <p>Entonox can be used with a single-patient viral/microbiological filter that performs at or above 99.997% efficiency.</p> <p>Check with the nitrous oxide equipment manufacturer to determine if there are recommendations for filters to be added into an individual delivery system in relation to COVID-19. The make, model, other associated parts and delivery systems will be different across NSW hospitals.</p>

Context	Risks	Infection Prevention and Control Strategies
<p>6. Precautions required for the resuscitation of a newborn baby at birth of a mother with suspected, probable or confirmed COVID-19.</p>	<p>The newborn baby is classed as a close contact, but not a suspected or confirmed case.</p> <p>Vertical/horizontal transmission from an affected mother to a newborn baby is possible but not of common occurrence.</p> <p>IPPV, CPAP and intubation of the infant at birth are NOT regarded as COVID-19 aerosolising procedures.</p>	<p>Unless indicated by fetal heart rate monitoring or from a clinical decision, a neonatal or paediatric team is not required to routinely attend the birth of a baby from a mother with suspected, probable or confirmed COVID-19.</p> <p>Local procedures for newborn life support are to be applied and escalated as required.</p> <p>Only required HWs should be in the room i.e. a minimal number of people to be in the room.</p> <p>For resuscitation of the neonate in a birth room or theatre: Contact and Droplet precautions. If procedures are being performed that require airborne precautions, then these will be required by all present in the room.</p> <p>The neonatal team should be given enough notice at the time of birth, to allow them to attend and don required PPE before entering the room/theatre.</p>
<p>7. Co-location of mothers and babies after birth</p>	<p>There is limited data to guide the postnatal management of babies of mothers who tested positive for COVID-19 in the third trimester of pregnancy.</p> <p>Literature from China has suggested separate isolation of the infected mother and her baby for 14 days. There is no current evidence to support this practice and this has not been adopted throughout Europe or North America.</p> <p>Precautionary separation of a mother and a healthy baby should not be undertaken lightly, given the potential detrimental effects on feeding and bonding.</p> <p>Shared decision making between the mother and the neonatal / paediatric team</p>	<p>Given the current limited evidence, we advise that a mother and healthy newborn baby, not otherwise requiring neonatal / nursery care, are kept together in the immediate, post-partum period.</p> <p>Co-location of a baby and mother is recommended during this phase of the pandemic.</p> <p>If a temporary separation is required, the risks and benefits must be discussed with the mother. This will be determined on an individual basis. The risk/benefits decision to be based on:</p> <ul style="list-style-type: none"> - How sick the mother is with COVID-19 - Her ability to provide care and responsibility for the baby - Her ability to understand and manage respiratory etiquette and hand hygiene

Context	Risks	Infection Prevention and Control Strategies
	should take place.	<ul style="list-style-type: none"> - Ability to wear a surgical face mask if less than 1.5 meters from their baby - Capacity of the maternity ward - Breast feeding choices - Current evidence regarding COVID-19 - Other individual clinical decisions from the team <p>Routine Infection Prevention and Control Practices</p> <p>Waste bins must be available for all single use equipment and other waste. This is to be sealed/tied prior to removal from the room.</p> <p>This is to be managed as per routine practices.</p> <p>A linen skip to be available in the room. This is to be managed as per routine practices.</p> <p>All shared patient care equipment and surfaces to be cleaned as soon as possible. The initial cleaning is to reduce environmental contamination and risk of transmission. The mother, support person and baby may remain in the room.</p>
8. Transferring a woman with suspected or confirmed COVID-19 and / or her newborn baby within healthcare facilities	Important to remember that the bed and equipment are a source of transmission	<p>HWs should wear PPE throughout the transfer process– Contact and Droplet precautions are required</p> <p>Woman with suspected or confirmed COVID- 19 to wear a surgical mask during transfer</p> <p>e.g. to the operating theatre or post-natal ward.</p> <p>Hand hygiene is required when leaving the room and on arrival at the destination as a minimum</p> <p>A well newborn baby is classed as a close contact and therefore should be transferred in a closed system e.g. an incubator where possible.</p>

Context	Risks	Infection Prevention and Control Strategies
9. Carbon monoxide monitoring in pregnancy	Routine carbon monoxide monitoring is supported by NSW Health.	For full information access: CEC- COVID-19 Infection Prevention and Control Guidance for carbon monoxide testing in pregnancy

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The Healthcare Associated Infections (HAI) Program provides expertise in Infection Prevention and Control and assists local health districts and specialty networks in NSW to manage and monitor the prevention and control of HAIs.

