Chapter 2: Infection prevention and control strategies for COVID-19

This chapter is part of the COVID-19 Infection Prevention and Control Manual, Clinical Excellence Commission, 2022.

The publication summarises current evidence about COVID-19 infection prevention and control strategies and interventions and their implementation in healthcare settings. The publication will continue to evolve with additional chapters over time that address infection prevention and control in other settings. As new resources become available, they will be added as hyperlinks to the resources section in each chapter or to the appendices.

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Key points

- SARS-CoV-2 is mainly spread by contact with respiratory droplets and these droplets can be of various sizes and can increase the spread of droplets in some specific conditions.
- Virus variants will continue to emerge and may alter the risk of transmission of the virus.
- The application of a hierarchy of controls will significantly reduce the risk of transmission.
- Understanding and application of Standard and Transmission-Based Precautions is essential in the management of COVID-19.
- The use of non-pharmaceutical interventions is required along with personal protective equipment.
- COVID-19 risk assessment should be aligned with the recommendations in Chapter 3: Response and Escalation Framework.

Acronyms and abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>ABHR</td>
<td>Alcohol-based hand rub</td>
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<tr>
<td>ACH</td>
<td>Air changes per hour</td>
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<tr>
<td>AGB</td>
<td>Aerosol-generating behaviour</td>
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<tr>
<td>AGP</td>
<td>Aerosol-generating procedure</td>
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<tr>
<td>ARI</td>
<td>Acute respiratory infection</td>
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<td>ARTG</td>
<td>Australian Register of Therapeutic Goods</td>
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<td>CDNA</td>
<td>Communicable Diseases Network of Australia</td>
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<tr>
<td>CT</td>
<td>Computerised tomography scan</td>
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<tr>
<td>HVAC</td>
<td>Heating, ventilation and air conditioning</td>
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<tr>
<td>HW</td>
<td>Health worker</td>
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<td>ID</td>
<td>Infectious diseases</td>
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2.1 Introduction

This chapter provides an introduction to understanding SARS-CoV-2, the virus that causes the disease COVID-19, and the worldwide pandemic that has evolved since January 2020. The principles of infection prevention and control (IPAC) are fundamental processes that keep health workers (HW), patients and visitors safe.

2.2 How COVID-19 spreads

The primary mechanism of transmission of SARS-CoV-2 is via infected respiratory droplets. SARS-CoV-2 replicates in the respiratory tract and the highest viral load is just prior to symptom onset or in the first 5 days of symptoms. Transmission also occurs with asymptomatic infection.

Infection occurs either by direct or indirect contact with respiratory droplets. Most transmission occurs through close contact:

- People who are physically near (within 1.5 metres) a person with COVID-19, or have direct contact with that person, are at greater risk of infection compared to individuals who remain >1.5 metres from cases. Transmission studies show household members are at the highest risk.

- Infections occur mainly through exposure to respiratory droplets when in close contact with someone who has COVID-19. Respiratory droplets of various sizes are produced by breathing, talking, coughing, sneezing and behaviours such as singing.
and shouting

- Respiratory droplets cause infection when they are inhaled or deposited on mucous membranes, such as those that line the inside of the nose and mouth.

Pathogens mainly transmitted by close contact can sometimes also be spread via airborne transmission through aerosols. Circumstances where airborne transmission of SARS-CoV-2 appears to have occurred include:

- **Enclosed spaces**, an infectious person exposes people at the same time or people were exposed shortly after the infectious person had left the space

- **Increased exposure to respiratory particles**, often generated with expiratory exertion (e.g., coughing, shouting, singing, exercising) that increase the concentration of suspended respiratory droplets in the air space

- **Inadequate ventilation or air handling** suspended small respiratory droplets and particles from the air that were not adequately removed.

Other considerations when assessing for airborne transmission risk:

- COVID-19 can be spread by exposure to the virus in small droplets and particles that can linger in the air for minutes to hours

- As respiratory droplets travel further from the person with COVID-19, the concentration of droplets decreases. Larger droplets fall out of the air due to gravity. Smaller droplets and particles spread apart in the air

- With passing time, the amount of infectious virus in respiratory droplets also decreases

- There is evidence that under certain conditions, people have been infected with SARS-CoV-2 despite being more than 1.5 metres away from someone with COVID-19. This has usually occurred within enclosed spaces with inadequate ventilation. Sometimes the infected person was breathing heavily, for example while singing or exercising

- Under these circumstances, scientists believe that the amount of infectious smaller droplets and particles produced by people with COVID-19 became concentrated enough to spread the virus to other people.

**Reproductive number of coronaviruses**

The reproductive number of coronaviruses provides an estimate of the possible extent of disease transmission. Estimates for the basic reproductive number (R₀) of SARS-CoV-2 range from 2-4, with R₀ for confined settings, e.g., cruise ships, at the higher end of this range. The estimated R₀ for the Delta variant is between 2 – 4 and for Omicron 4.4 times greater than Delta variant.

Estimates of the effective reproductive number vary between settings and at different time points and are dependent on a range of factors, including public health interventions such as isolation, quarantine and physical distancing to limit close contact between people (Liu et al. 2020; Zhao et al. 2020). The recent identification of SARS-CoV-2 variants has some strains with significantly higher transmission risk, and these are associated with increased viral load.
New variants of the virus that causes COVID-19

All viruses, including SARS-CoV-2, change over time. Some changes may affect the virus’s properties, such as how easily it spreads, the associated disease severity, the performance of vaccines, therapeutic medicines, diagnostic tools, other public health and social measures. For more information on COVID-19 variants refer to [WHO Tracking SARS-CoV-2 variants](https://www.who.int/en/). 

Incubation and infectious period

The incubation period is the duration between exposure to the virus and the onset of symptoms. The WHO currently estimates that the incubation period for COVID-19 ranges from 1 to 14 days, with a median incubation period of 5 to 6 days and only 3 days for Omicron. There are some case series which show that the incubation period may extend to 17 days. Most people become symptomatic 5 to 6 days after coming into contact with another infected person, with a range of 1 to 14 days. Around 1% of COVID-19 cases will develop symptoms more than 14 days after exposure. The advice in this guideline uses an upper range of 14 days to guide public health measures such as quarantine and isolation.

Epidemiological data to date suggests that most of the transmission occurs from symptomatic cases. COVID-19 appears to be infectious from 1-3 days prior to symptom onset with most onward transmission occurring early after infection.

Taking a precautionary approach, cases are currently considered infectious from 48 hours prior to the onset of symptoms until they meet criteria for release from isolation. More conservative periods (e.g., 72 hours prior to onset of symptoms) may be considered in high-risk settings at the discretion of the Public Health Unit. To prevent onward transmission, cases require isolation until release from isolation criteria have been met (Australian Government Department of Health, 2021a).

2.3 Deisolation and testing post COVID-19

Deisolation or release from isolation criteria consider both patient factors (presence of immunocompromise) and settings (high risk settings such as healthcare). Therefore, deisolation requirements for healthcare differ from those who remain in the community. More information on deisolation criteria for those in the community can be found [here](#).

The following information details the circumstances under which confirmed cases can be released from isolation. This includes confirmed cases infected with a SARS-CoV-2 variant of concern. For more information refer to [Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units](https://www.health.nsw.gov.au/healthprotection/coronavirus/covid19-nswnational-guidelines.html).

Patients with COVID-19 who are discharged back to their home environment need to comply with current NSW Health advice about isolation duration and conditions. HWs who have COVID-19 and are isolating at home are also required to comply with the current NSW Health advice about isolation duration and conditions. In some circumstances, a decision about return to work may be complex and advice from their GP, Infectious Disease/Clinical Microbiology or other specialist is recommended. For further information refer to [Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities](#).
2.4 Safe working principles

This section outlines the principles of the hierarchy of controls and safe working principles for acute and non-acute healthcare settings.

Work-related risk is managed under the Work Health and Safety Act (2011), Regulations, and the approved code of practice ‘How to Manage Work Health and Safety Risks’. These require all Australian workplaces to assess and manage risk ‘so far as is reasonably practicable’ (Safe Work Australia, 2018). This also applies to the assessment and management of risk related to the transmission of COVID-19.

Controlling exposures to occupational hazards is the main way to protect personnel in a workplace. Usually, a hierarchy is used to achieve practical and effective controls of workplace hazards. The hierarchy lists different risk avoidance or mitigation strategies in decreasing order of effectiveness. Multiple control strategies can be implemented at the same time and/or following on from each other.

The code of practice requires workplaces to undertake a risk assessment and apply controls using the hierarchy of controls – see Figure 2: An example of a hierarchy of control for COVID-19.

2.5 Occupational Exposure to COVID-19

Protection of HWs includes having appropriate risk assessment and risk mitigation strategies in place. However, there may be occupational exposures which need to be reported and investigated as soon as possible. The risk varies based on the type of work being performed, the potential for interaction with infected people, the type of PPE worn or not worn and contamination of the work environment and precautions in place. Caring for a patient in the correct PPE is not considered occupational exposure in this context.

An occupational exposure is defined as an incident which occurs during a person’s employment and involves contact with blood or other body substances. The greatest occupational exposure risk for COVID-19 is splash to eyes, nose/nares or mouth with respiratory particles.

Where such an exposure occurs, the following principles apply:

- Carry out first aid immediately:
  - Skin: wash the exposed site with soap and water
  - Eyes: rinse thoroughly while eyes are open with water/normal saline
  - Mouth: spit out and rinse with water several times
  - Clothing: remove and shower if necessary

- Notification of the incident to immediate supervisor or manager.

Management of HWs with occupational exposure to COVID-19

Any occupational exposure assessment and management should involve Occupational Staff Health, Infection Prevention and Control, Infectious Diseases (where available) and Public Health.

Classification of contacts outside the workplace for the purpose of contact tracing, NSW Health definitions and requirements apply.
• Based on the risk assessment (see PPE Breach Risk assessment key principles chart below), inform HWs of their level of exposure and likely actions required, while maintaining confidentiality
• Liaise with local PHU and follow advice on:
  o Quarantine of HW
  o Testing requirements
  o Provide information on the need to monitor for symptoms and importance of consistent adherence to all recommended mitigation strategies such as hand hygiene, mask wearing, cleaning and disinfection
  o Support and encourage working from home or options to telework where possible
  o Consider using a hotline or another method for HWs to voice concerns anonymously
  o Provide follow up and support as required and plan for return to work.

Recording and reporting of a positive rapid antigen test (RAT)

For all persons returning a positive COVID-19 RAT, there is mandatory reporting of the result through Service NSW. This may be done through the Service NSW app, website or phone service. For more information refer to Register a positive rapid antigen test result.

In addition, NSW Health entities are required to report RAT results through the StaffTrakr application, developed by eHealth NSW as a web-based, mobile-friendly application that allows HWs to record and share their test results with the appropriate managers within their entity and be advised on the next steps to take. For more information refer to StaffTrakr – app for recording rapid antigen test results.
PPE Breach Risk Assessment key principles

Perform a risk assessment to determine the level of exposure to a person with suspected/confirmed COVID-19.

Where injury has occurred, perform immediate first aid.

Where monitoring and surveillance returns a positive COVID-19 result refer to Incident Action Plan for public health responses to COVID-19 exposures in hospital settings for management of cases and contacts. For more information refer to NSW Health Information for people exposed to COVID-19.

<table>
<thead>
<tr>
<th>LOW RISK BREACH</th>
<th>MODERATE RISK BREACH</th>
<th>INCREASED RISK OF INFECTION</th>
<th>HIGH RISK BREACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breaches in PPE that occur below the neck and managed immediately (e.g., torn glove)</td>
<td>Incorrect use of PPE, incorrect PPE for task</td>
<td>Exposure of mucous membranes by direct droplets from confirmed COVID-19 positive (e.g., spitting in HW face by confirmed COVID-19 patient)</td>
<td></td>
</tr>
<tr>
<td>Remove from situation</td>
<td>Remove from situation</td>
<td>Remove PPE</td>
<td>Remove from situation</td>
</tr>
<tr>
<td>Remove PPE</td>
<td>Remove item</td>
<td>Contamination occurs during doffing (occurs above neck)</td>
<td>Remove PPE</td>
</tr>
<tr>
<td>Perform Hand Hygiene</td>
<td>Perform Hand Hygiene</td>
<td>Incorrect use of PPE, incorrect PPE for task</td>
<td>Closely Monitor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contamination occurs during doffing (occurs above neck)</td>
<td>screen/test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exposure of mucous membranes by direct droplets from confirmed COVID-19 positive (e.g., spitting in HW face by confirmed COVID-19 patient)</td>
<td>Risk assesses and likely removal from clinical duties*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gross contamination during incorrect doffing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contamination occurs during doffing</td>
<td></td>
</tr>
</tbody>
</table>

* Refer Healthcare worker COVID-19 exposure risk assessment matrix for more information

Adapted and modified from work developed by AUSMAT Quarantine management and operations compendium for the Howard Springs Quarantine Facility for the Repatriation of Australians at the Centre for National Resilience. National Critical Care and Trauma Response Centre. Darwin 2021.
**Figure 2: An example of a hierarchy of control for COVID-19**

<table>
<thead>
<tr>
<th>Hierarchy of Control</th>
<th>Examples of control measures to prevent transmission</th>
</tr>
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</table>
| **Elimination**      | • Vaccination
|                      | • Testing and quarantine at borders
|                      | • Travel restrictions |
| **Substitution**     | • Physical distancing
|                      | • Symptomatic HW and agency group to stay home and do not come to work
|                      | • Remote working
|                      | • Telehealth |
| **Engineering Controls** | • Ventilation and improved air changes
|                      | • Registration of all people entering the facility (symptom check, QR code)
|                      | • Negative pressure rooms
|                      | • Single room with ensuite
|                      | • Isolation of patients |
| **Administrative controls** | • Audit and feedback
|                      | • Hand hygiene
|                      | • Cleaning and disinfection
|                      | • Signs, posters, information sheets
|                      | • IPAC guidance documents
|                      | • Training and education of HW |
| **PPE**              | • Symptomatic patients wear surgical mask
|                      | • Correct transmission-based precautions, PPE worn when in contact with infectious patients |
For more information refer to the Australian Government Department of Health [Minimising the risk of infectious respiratory disease transmission in the context of COVID-19: the hierarchy of controls](https://www.gov.au/covid-19-information-source). The adherence to hierarchy of controls including use of PPE is key in the prevention and control of any exposure to communicable diseases and pathogenic organisms. PPE requirements should be based on clinical circumstances and risk assessment.

COVID-19 vaccination reduces the risk of both infection and the risk of disease requiring hospitalisation. Vaccination information is changing rapidly and for the most up-to-date advice see [COVID-19 vaccination in NSW](https://www.health.nsw.gov.au/). NSW HWs are required to comply with the vaccination requirements of the NSW Health Public Health Order and [ATAGI](https://www.atagi.org.au/) advice.

Risk assessment refers to utilising PPE when there is an anticipated or likely risk of contamination with splashes and/or droplets of blood or body substances. A risk assessment must be performed on the level and type of PPE required for clinical care of suspected or confirmed COVID-19 patients according to current epidemiological data, local prevalence and clinical features that might indicate elevated COVID-19 risk.

The following outlines the key elements of safe working for HWs:

- HWs are trained in the basic principles of infection prevention and control including donning and doffing of PPE; [videos](https://www.gov.au/covid-19-information-source) are available for training
- HWs know how to risk assess which PPE they should wear for their healthcare setting and clinical circumstance
- HWs have access to PPE that protects them for the appropriate setting and context
- HWs are bare below the elbows during clinical care to enable adequate hand hygiene practices
- Gloves are single use as per Standard Precautions and removed after each patient contact, task or changed when clinically indicated followed by hand hygiene
- Fluid resistant apron or gown can be worn for a session of care if the item does not come into contact with patients or their environment e.g., COVID-19 testing clinic, and are not visibly contaminated. If the apron or gown comes in contact with the patient or their environment during care, it must be doffed followed by hand hygiene
- Fluid resistant surgical masks, P2/N95 respirators 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.

### 2.6 Strategies to prevent or minimise transmission of COVID-19

To control or prevent the transmission of an infection it is essential to understand that the transmission pathway can be broken at any point in the chain of infection. Figure 3 illustrates the break in the chain of infection in the context of COVID-19.
FIGURE 3: BREAK THE CHAIN OF INFECTION (ADAPTED FROM THE AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE)

Stop COVID-19

Break the chain of infection

- **STAY HOME**
  - If you feel unwell and get tested

- **VACCINATE**
  - and keep up-to-date

- **PHYSICAL DISTANCING**
  - when outside your home

- **WEAR**
  - a mask as recommended

- **CLEAN**
  - hands frequently

- **CLEAN**
  - frequently touched surfaces

- **COVER**
  - coughs & sneezes with a tissue or your inner elbow and place used tissues in bin immediately

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTHCARE
Standard Precautions

Standard precautions represent the minimum infection prevention measures that apply to all patient/client care, regardless of suspected or confirmed infection status of the patient/client, in any setting where healthcare is delivered.

Standard precautions apply to all settings where care is provided or where there is a risk of blood or body fluid exposure including acute and subacute care facilities, home care settings, community settings and other settings such as mortuaries. HWs must perform hand hygiene in accordance with the National Hand Hygiene Initiative. All HWs having direct contact with patients or a patient’s environment should ensure they are bare below the elbow.

During the COVID-19 pandemic there will be additional infection prevention and control practices in place to prevent or limit the transmission of COVID-19 which are described below. Before deciding on the IPAC strategies for individual patient care HWs must perform a risk assessment on the type of patient interaction, the risk of transmission of the infectious agent, and the risk of contamination of the mucous membranes by patients’ blood, body substances, secretions or excretions and how long the PPE is likely to be required to be worn, along with patient placement or cohorting.

2.6.1 Early recognition of patients with suspected or confirmed COVID-19

Early recognition of patients who have suspected or confirmed COVID-19 is essential to maintaining the health and well-being of HWs, patients/clients and the community. The symptoms of COVID-19 include:

- fever (37.5°C or higher)
- cough
- sore/scratchy throat
- shortness of breath
- runny nose
- loss of smell (anosmia)
- loss of taste (ageusia)

There are a number of other reported symptoms which include:

- fatigue
- muscle pain
- joint pain
- headache
- diarrhoea
- nausea/vomiting
- loss of appetite
- chest pain
- conjunctivitis.

In more severe cases, infection can cause pneumonia with severe acute respiratory distress.

Note: NSW Health recommends that anyone with respiratory symptoms, loss of smell or taste, or unexplained fever is tested for COVID-19 and other acute respiratory infections (ARIs) such as influenza.
Case definition

The national case definition for COVID-19 is provided by the Communicable Diseases Network Australia (CDNA). Case definition may change over time based on variety of factors, including current epidemiology and testing capacity. Check the NSW Health website for advice on latest case definitions and testing criteria.

Surveillance Testing

Persons meeting the close contact definition should be tested for SARS-CoV-2. NSW Health COVID-19 clinics and information is available here. Refer to information from NSW Health Pathology regarding which laboratories can provide SARS-CoV-2 testing, appropriate specimen type, and specimen collection and transport.

Visit Coronavirus Disease 2019 (COVID-19) CDNA National Guidelines for Public Health Units for more information regarding IPAC recommendations when collecting specimens. Depending on the community transmission rates there should be a low threshold for COVID-19 testing for patients presenting to the Emergency Department or inpatients. In a setting of widespread community transmission and in the influenza season, more extensive testing of hospital patients is expected. Refer to CEC Winter strategy: Testing and IPAC for acute respiratory infection for more information.

2.6.2 Physical distancing and use of shared space

Where possible, physical distancing is to be practiced within healthcare facilities, 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
- Where practical, HWs and patients to remain greater than 1.5 metres apart except for clinical examinations and procedures, acknowledging that in some environments such as ambulance and transport, this may not be possible.

Additional precautions are required for workers in a shared space. Shared working space can include vehicles, small rooms, tea rooms, HW meeting rooms, conference rooms, breakout rooms, HW stations or any room which workers may use to congregate. As vehicles are enclosed and are confined spaces, there is an increased risk of cross transmission.

For more information refer to the Health worker safety tab on the CEC website. The additional precautions are:

- Where possible workers to maintain physical distancing requirements in any shared areas
- Ensure signage is displayed to advise on the number of people allowed in a tearoom at any given time
- Considerations should be given to safer ways to eat and drink when designated meal rooms or eating areas are not available (e.g., not removing or pulling down mask in clinical areas to have drink). Refer to IPAC Practice Handbook section 4.10.5 Food consumption by HWs for more information.
- When entering the tearoom or other shared space a mask is worn except when eating and drinking. Used masks are not to be left on the tables. (Mask removed and discarded prior to eating, hand hygiene performed, meal consumed, new mask applied and hand hygiene performed)
• In an enclosed space (vehicle or small room), if the situation arises where you must remove your mask (e.g., eating or drinking) make sure to do it in a safe way with only one person at a time removing their mask. If possible, allow external ventilation e.g., change car airflow to external exhaust not recirculate

• Use a surgical mask when sharing space with other people if physical distancing cannot be maintained (such as in a vehicle or confined tearoom space)

• Ensure safe mask use, dispose correctly and perform hand hygiene after disposal

• Use virtual meetings or gatherings where possible

• Worker's car-pooling to and from work should be risk assessed

• Workers are to perform hand hygiene when entering and exiting shared spaces

• Ensure hand hygiene products are available at the entrance and exit

• Avoid crowding and attempt to schedule breaks in advance with flexibility

• If room capacity is limited, consider choosing an alternative space, or if time permits wait for others to leave the area

• Where possible consider having a responsible person to perform unannounced checks of activity in these areas

• Ensure availability of neutral detergent wipes or solution for cleaning surfaces such as high touch points and equipment (e.g., tables, taps, kettles, fridge handles and microwaves)

• Ensure shared areas are kept clean and tidy after use

• Remove items that cannot be cleaned or wiped down (including magazines, books and clutter)

• Laminate signs or notices posted in shared workspaces to be wipe down with neutral detergent regularly

• Do not share stationary such as pens, post-it notes and writing pads

• Wipe down shared items such as computer keyboards, mouse, phone handsets, desk, keypad with neutral detergent before and after use

• Take all personal stationery and belongings when leaving a workspace and remove all personal belongings from tearooms

• Personal belongings should be stored in dedicated areas and not in shared workspaces

• Ensure ongoing enhanced cleaning of shared work environments as per the local cleaning schedule

• Designated person to ensure the cleaning has been undertaken and should maintain documentation

For further information on non-acute healthcare settings see Chapter 7.

2.6.3 Respiratory hygiene and cough etiquette

The following measures to contain respiratory secretions are recommended for everyone.
HWs are to provide education to patients/clients on:

- Covering the mouth and nose with a tissue when coughing or sneezing
- If a tissue is not available, cough or sneeze into the elbow
- Use the nearest bin 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 (ABHR) after coughing or sneezing or if contaminated objects, materials, or equipment are touched.

The following should be available in waiting areas for patients and visitors:

- Relevant signage and education resources/posters
- Tissues and no-touch receptacles for used tissue disposal
- Conveniently located dispensers of ABHR; where sinks are available ensure that supplies for hand washing (i.e., soap, disposable towels) are always available.

A poster on Respiratory Hygiene for waiting areas is available on the CEC website.

2.6.4 Provide advice for patients with acute respiratory symptoms and/or suspected or confirmed COVID-19

Patients with any acute respiratory infection (ARI) symptoms must be encouraged and supported to wear a surgical face mask providing it is tolerated and not detrimental to their medical or care needs. This is to minimise the dispersal of respiratory secretions and reduce both direct transmission risk and environmental contamination.

- A surgical mask should only be worn by patients if their clinical care is not compromised for example, when receiving oxygen therapy via an oxygen mask
- The surgical mask can be worn until it is damp, moist, damaged or uncomfortable for the wearer. Provide education on appropriate use, storage and cleaning if reusable
- Once the patient is isolated in a single room, they do not need to routinely wear a mask
- Patients should be encouraged to perform hand hygiene before leaving their room.

2.6.5 Application of infection prevention and control principles

When applying infection prevention and control principles, three main levels of controls must be considered. The first level consists of administrative controls, which are measures taken to ensure that the entire system is working effectively. These controls include:

- Implementing proper procedures for triage of patients
- Detecting infections early
- Separating infectious patients from others
  - Consideration for the establishment of cohort COVID zones within the functional clinical zones to separate infectious patients from others
  - Also consider the concept of ‘ring fencing’ (e.g., identifying a designated boundary or a zone for co-locating these patient groups) for potential high risk non-COVID patients such as high-risk surgery and immune suppressed patients
- Transporting patients safely
- Educating patients, carers and HWs
• Designating responsibilities clearly and correctly
• Communicating with all relevant partners.

The second level is environmental and engineering controls, including cleaning of the environment, spatial separation of patients with ARIs and the ventilation of spaces.

The third level of control to further decrease the risk of transmission is personal protection, which is the provision of appropriate PPE (e.g., masks, eye protection and respirators).

When implementing infection prevention and control principles in healthcare settings, all levels of controls (administrative controls, environmental and engineering controls, and personal protection) must be given proper attention for the system to work effectively, and for the different levels to support each other.

Environmental and engineering controls

Environmental and engineering controls are an integral part of IPAC that include standards for adequate ventilation according to specific areas in healthcare facilities, adapted structural design, spatial separation, as well as adequate environmental cleaning.

Heating, Ventilation and Air-conditioning (HVAC) design in Australian healthcare facilities is regulated through the following guidelines:

- Australian Health Facility Guidelines
- State design guidelines
- AS1668.2-2012 – Section 5 – use of ventilation and air conditioning in buildings
- HB260 – 2003 Hospital acquired infections, Engineering down the risk
- GL2021_014 Engineering Services

There are three methods that may be used to ventilate spaces within healthcare facilities: natural, mechanical and hybrid (mixed mode) ventilation. Each ventilation system has advantages and disadvantages, and any modifications to healthcare ventilation need to be made carefully, taking into consideration the cost, design, maintenance and potential impact on the airflow in other parts of the healthcare facility. For more information refer to Recirculating air filtration device use in NSW hospitals – Safety Information.

Ventilation requirements for management of COVID-19

Room placement of high-risk patients should ideally be in a negative pressure room with anteroom. Where not available, a standard isolation room or a single room where there is negative airflow with air conditioning or external exhaust air handling system (refer to facility engineering service) is an acceptable alternative. Rooms with positive pressure airflow must be avoided. Other design types require additional risk assessment (Australasian Health Facility Guidelines, part D, Infection Prevention and Control).

Where single rooms are not available confirmed COVID-19 patients may be cohorted based on additional risk assessment and management using local facility procedures as guidance.

Ensure ventilation systems operate properly and provide acceptable indoor air quality for the occupancy level for each space.

- A room with ≥12 air changes per hour (ACH) [equivalent to ≥80 L/s for a 4×2×3 m³ room] and controlled direction of air flow is recommended for Airborne Precautions.
• In addition to the requirement of ≥12 ACH, in a mechanically ventilated airborne precaution room negative pressure (class N) is required to control the direction of air flow.

Other considerations when managing patients suspected or confirmed to have COVID-19

• For patient care activities, use disposable or dedicated equipment. ALL reusable equipment must be cleaned and disinfected after use
• Intra-hospital transfers
  o Avoid transferring patient out of room or zone unless medically necessary
  o Avoid multiple patient bed moves within ward areas
  o Prior to transporting the patient, the receiving unit/location must be notified of the transfer and should have a single room or isolation area prepared for immediate occupancy
  o Where transfer is required, patients should wear a surgical mask during transfer, perform hand hygiene and follow respiratory hygiene and cough etiquette
  o Any HW transporting the patient should wear P2/N95 respirator and eye protection. Risk assess the need for gown/apron and gloves. Hand hygiene must be performed as per Five moments.
  o Patients should be transported using the most direct route to their destination
  o Clear elevator of occupants other than the patient and transport HW in appropriate PPE. Elevator rails and buttons are to be disinfected after transport
  o The chair or bed used to transport the patient must be cleaned and disinfected after use
  o Other IPAC strategies such as adequate air flow, ventilation, hand hygiene should be maintained during transport
• Allocating any necessary shared patient care equipment to the patient
• Limit the number of HW interactions by bundling patient care activities or allocating the same HWs where possible or practical.

2.6.6 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 individuals and prevent spread of infection among patients and HWs. Standard Precautions comprise of the following measures:

• Hand hygiene
• Respiratory hygiene (cough etiquette)
• PPE if contact with blood or body fluids is anticipated
• Aseptic technique for clinical procedures
• Occupational exposure prevention: management of needlestick/sharps injuries or blood and body fluid splashes
• Cleaning and disinfection of the healthcare environment and shared patient care equipment
- Safe handling of used linen and waste disposal.

**Health Worker Mask Use**

As COVID-19 will continue to be present in the community for some time, continued use of non-pharmaceutical interventions such as mask wearing will be required. This, including screening and physical distancing, may apply through the [NSW COVID-19 Public Health Order](#) (PHO) based on community transmission and epidemiological risks.

**Important message regarding mask use:**

- HWs should change PPE including masks throughout the day before breaks, moving between zones, or if masks become moist or damaged
- Avoid touching or manipulating mask once on
- Perform hand hygiene before and after changing a mask.

**2.6.7 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 its mode(s) of transmission.

Transmission-Based Precautions include Contact, Droplet and Airborne Precautions which are designed to limit transmission of certain communicable diseases and pathogenic or multi-resistant organisms. HWs must understand the basic principles of Contact, Droplet and Airborne Precautions as they are individually applied:

- **Contact Precautions** protect the HW by minimising the COVID-19 transmission risk from direct physical contact with patients or indirect contact from shared patient care equipment or from contaminated environmental surfaces.

- **Droplet Precautions** protect the HWs nose, mouth and eyes from droplets produced by the patient coughing and sneezing.
- **Airborne Precautions** protect the HWs respiratory tract from very small and unseen airborne particles that become suspended in the air.

Respiratory protection devices are an important aspect of infection prevention and control, and aligning within the hierarchy of control as PPE, they should be considered as the last line of defence.

Although the predominant mode of transmission of SARS-COV-2 appears to be via close contact with respiratory particles (droplet transmission), there are well documented transmission events which implicate small particles (airborne transmission), particularly in circumstances with poor ventilation.

Airborne precautions require the use of P2/N95 respirators and eye protection whereas droplet precautions are implemented using surgical masks and eye protection. Respirators have a tight fit around the wearer's face as the model and size of the respirator is specific to the wearer to ensure an adequate seal. Hence, respirators are recommended for HWs who provide care to COVID-19 patients.

The following recommendations are based on a critical evaluation of the existing evidence and experience from specific settings. These recommendations will continue to be revised as new research evidence or identified risks emerge.

**Droplet Precautions** (surgical mask and eye protection)

- Patients negative for COVID-19 without epidemiological link, but present with an ARI or recent onset of fever without an alternative clinical focus. (Screening and testing for other respiratory viruses are recommended). Refer to [Winter strategy: testing and IPAC for ARIs](#) for more information.

**Contact, Droplet and Airborne Precautions** (P2/N95 respirator and eye protection)

- Confirmed COVID-19 cases
• Suspected cases (a person who meets clinical AND epidemiological criteria or a person identified as a high-risk contact by the NSW Public Health Unit, regardless of symptoms)

Note:

• Before entering room or patient zone – perform hand hygiene and a risk assessment on the need for apron/gown i.e., type of patient contact or contact with blood or body substance
• After entering room or patient zone – perform hand hygiene and risk assessment on the need for gloves i.e., contact with blood or body substance. Change or remove gloves (if worn) and perform hand hygiene in between dirty and clean task
• The use of gloves is recommended as part of standard precautions to reduce the risk of contamination of HWs hands when exposure to blood and body substance is expected. COVID-19 is not transmitted via intact skin and therefore, gloves do not add a layer of protection against COVID-19
• The choice of wearing a fluid resistant apron or gown is based on a risk assessment around the level of contact to blood and body substance exposure; the approach remains the same during the COVID-19 pandemic
• If the HW anticipates direct contact with the patient, then the risk assessment will direct them to an apron or gown for standard and/or transmission-based precautions
• If there is no risk of a body substance exposure on their uniform or skin, an apron is suitable. Whether an apron or a gown is worn, it should be changed between contact with patients or their environment
• Extended use of a gown or apron is only acceptable in minimal contact areas such as COVID-19 testing centres/clinics. For more information refer to Gown or Apron: Principles for Risk Assessing.

For the care of confirmed or suspected COVID-19 patients:

• P2/N95 respirator and eye protection to be worn (extended use based on risk assessment and when caring for patients with similar pathogens)
• Apron or gowns and gloves must be removed on exiting the patient’s room
• Adhere to hand hygiene practices, cleaning of shared patient equipment in between patient care.

Organisation of patient zones or cohorting

Zoning (cohorting, ring fencing) refers to the grouping of patients with the same condition in the same area. The goal of zoning or cohorting patients (and the HW that attend to them) is
to minimise interaction between infectious and non-infectious patients as much as possible. For COVID-19 this would require keeping patients who are confirmed COVID-19 together in the same zone that is separate from those who are not infected. Alternatively, separating into an area of COVID-19 recovered or non-COVID patients together. If layout and staffing allow (may vary between facilities), consider the following factors before establishing zones.

The organisation of zones depends on factors such as:

- physical building space
- availability of single or shared rooms in a specific area to enable zoning
- ability of patients to be relocated
- staffing capacity
- number of suspected or confirmed COVID-19 cases
- acuity of COVID-19 positive patients
- number of contacts
- access to bathrooms.

The following are examples of how zoning could be applied for COVID-19:

1. **Red zone** – COVID-19 positive patients
2. **Amber zone** – COVID-19 high risk contacts or suspected cases
3. **Green zone** – patients that have been cleared of being COVID-19 cases or contacts
4. **Blue zone** – areas only accessed by staff.


### 2.7 Visiting patients/clients in healthcare facilities


### 2.8 Environmental cleaning

Environmental cleaning and disinfection are crucial to preventing transmission of infection in the healthcare environment. Coronavirus can persist on surfaces but can be effectively inactivated by appropriate disinfectants. It is important to clean before disinfecting as dirt and grime can affect how well a disinfectant works.

#### Routine cleaning and disinfection

Cleaning tasks of the COVID-19 patient care environment should be undertaken using an appropriate detergent and disinfectant solution by following Contact, Droplet and Airborne Precautions while cleaning.

High touch point cleaning is used to describe frequently touched surfaces by patients, HWs,
volunteers and visitors within the healthcare environment. High touch points (such as
doorknobs, bedrails, tabletops, light switches, patient handsets) in the patient’s room should
be cleaned at least daily or more frequently in high intensity or high traffic areas. High touch
point cleaning must be supported by good hand hygiene practices, correct use of PPE and
cleaning and disinfection chemicals.

Consideration should be given to increased frequency of routine cleaning and disinfection
of environmental surfaces and frequently touched surfaces in clinical areas where
suspected or confirmed COVID-19 cases are being accommodated.

- Clean using an S-shaped motion from clean to dirty (see Figure 4)
- Clean general surfaces and fittings straight away when visibly dirty and after spills
- Clean often touched surfaces with detergent solution or detergent/disinfectant wipes
  (see Figure 5).

**FIGURE 4: S-SHAPED METHOD FOR CLEANING (IMAGE FROM GAMA HEALTHCARE)**
The preferred routine cleaning process should involve either:

- **2-step clean:**
  Physical cleaning with detergent followed by disinfection with a Therapeutic Goods Administration (TGA) listed hospital-grade disinfectant with activity against viruses (according to label/product information) or a chlorine-based product such as sodium hypochlorite.

- **2-in-1 clean:**
  A physical clean using a combined detergent and TGA listed hospital-grade disinfectant with activity against viruses (according to label/product information) or a chlorine-based product such as sodium hypochlorite, where indicated for use, i.e., a combined detergent/disinfectant wipe or solution.

Disinfectant solutions should be made fresh daily, and gloves should be worn when handling and preparing solutions. Cleaning equipment, including mop heads and cloths, should be laundered in hot water, and completely dried before reuse. Cleaning equipment, such as buckets, should be emptied and cleaned with a new batch of cleaning and/or disinfectant solution and allowed to dry completely before reuse.
Terminal clean

Terminal cleaning of rooms occupied by patients or residents who have COVID-19 requires both thorough cleaning and disinfection.

- Terminally clean room/zone on discharge or transfer from inpatient units
- PPE with Contact, Droplet and Airborne Precautions should be used when cleaning
- Always check with the nurse-in-charge before entering the room
- Following an aerosol generating procedure (AGP) on a COVID-19 patient, cleaners should only enter the room after 35-45 minutes depending on the air changes per hour within the room
- Following discharge or transfer of the patient, prior to cleaning the room, the patient’s personal belongings should be removed, and fabric privacy curtains and window curtains, if present, should be removed for laundering
- For disposable curtains, follow local policy or follow manufacturer’s instructions including checking the expiry date
- Handle used linen and fabrics with minimum agitation to avoid contamination of air, surfaces and persons
- The room and all patient care equipment remaining in the room should be physically cleaned
- Follow or combine cleaning with a disinfectant process (see 2-step clean and 2-in-1 step clean)
- All furniture, patient equipment items, horizontal surfaces, frequently touched surfaces, e.g., light switches and call buttons, bathroom, toilet and shower area should be thoroughly cleaned and disinfected
- For procedural rooms with short patient stays (e.g., CT scan, MRI, fever clinics) clean and disinfect frequently touched surfaces between cases. **Clean and disinfect the area as per local** policies e.g., at the end of the session/day.

Patient care equipment

Patient care and patient assessment devices (e.g., thermometers, sphygmomanometers, glucometers, hoists, pat slides) may transmit microorganisms including COVID-19, influenza, and multidrug resistant organism if devices are shared between patients without cleaning and disinfection.

To reduce the risk of transmission, disposable or patient dedicated equipment is preferred. Equipment that is unable to be dedicated should be cleaned and disinfected after use, allowed to dry, and stored clean. See above in the routine cleaning section for advice on cleaning and disinfectant solutions.

HWs involved with the cleaning and storage of shared patient care equipment should be trained in cleaning techniques and choice of chemical.

- Decisions regarding responsibility for cleaning shared patient care equipment should be documented with clear lines of accountability in each clinical area
- Cleaning shared patient care equipment must be completed by following
manufacturer’s Instructions for Use (IFU) for cleaning, drying and storage

- Products for cleaning and or/disinfecting must be compatible with the equipment and manufacturer’s IFU – see below table for type of cleaning
- Minimise equipment and items to reduce clutter in the patient areas including personal items owned by the patient.

**TABLE 1: SUMMARY OF CLEANING RECOMMENDED FOR PATIENTS/CLIENTS WITH/WITHOUT COVID-19**

<table>
<thead>
<tr>
<th>Type of cleaning</th>
<th>Cleaning for shared equipment and/or surfaces</th>
<th>Cleaning frequency</th>
<th>Cleaning method</th>
<th>Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient/client NOT suspected or confirmed COVID-19</td>
<td>Detergent and routine chemicals for equipment (recommended by the manufacturer)</td>
<td>After use</td>
<td>Routine for all equipment and/or surfaces that are required to be cleaned</td>
<td>Standard Precautions</td>
</tr>
<tr>
<td>Patient/client WITH suspected or confirmed COVID-19</td>
<td>Detergent and hospital grade disinfectant (recommended by the manufacturer or compatible with the equipment)</td>
<td>After use</td>
<td>Thorough cleaning of equipment and/or surfaces touched or used by the patient/client</td>
<td>Standard precautions. If cleaning occurs within the patient room apply Contact and Airborne Precautions. Clean immediately. Any disposable cleaning items into general waste</td>
</tr>
</tbody>
</table>


**Hand hygiene**

Use ABHR when hands are not visibly soiled and use soap and water for hand hygiene when hands are visibly soiled/dirty. Regular hand cleaning also helps to reduce environmental contamination.

**Information for HWs that perform cleaning tasks in healthcare facilities**
There is less risk of getting COVID-19 when performing environmental cleaning than when face-to-face with a sick person. This is because the sick person may be coughing, sneezing or producing respiratory droplets, by shouting for example.

When cleaning rooms where patients with suspected or confirmed cases of COVID-19 have been treated, cleaners should:

- Avoid touching face, mouth, nose, and eyes when cleaning
- Be trained in the use and choice of correct PPE (including doffing)
- Wear a disposable apron or gown, impermeable disposable gloves, surgical mask or P2/N95 respirator, and eye protection or a face shield while cleaning (prescription glasses are not protective eyewear)
- Perform hand hygiene, either ABHR or using soap and water (when hands visibly soiled) before putting on and after taking off any item of PPE
- Always check with the nurse-in-charge before entering the room
- Check with nurse-in-charge on room resting time e.g., AGP
- Use a TGA registered hospital-grade disinfectant listed on the list of disinfectants for use against COVID-19 in the Australian Register of Therapeutic Goods (ARTG) for legal supply in 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 the TGA website)
- Ensure adherence to the cleaning/disinfection product manufacturer’s recommended contact time.

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

### 2.9 Handling of linen

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

- 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 an appropriate laundry receptacle at the point of generation
- Use clear leak-proof bags to contain linen that is heavily soiled with blood, 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 exposure to bag handlers
- Reusable linen bags must be laundered before re-use
- During outbreaks used linen should not be taken home by relatives for laundering. For more information on laundry services during outbreaks in Aged Care refer to Outbreak management planning in aged care
• Hand hygiene (using soap and water for 20 seconds or ABHR) must be performed following the handling of used linen.

2.10 Waste management

Non-clinical waste disposal:
All waste from COVID-19 patients is general waste and should be segregated and managed according to existing waste stream definitions.

Manage waste in accordance with routine procedures:
• All non-clinical waste should be segregated where possible and disposed of with the appropriate general waste stream
• Waste (used PPE) resulting from the management of COVID-19 patients is considered general waste unless contaminated with large amounts of blood and/or body substances

Clinical waste disposal:
• Clinical waste should be disposed of with the appropriate clinical waste stream
• Sharps should be discarded into a sharps bin

Waste storage and handling
• Waste storage, handling, labelling, containment, transport and disposal should be undertaken in accordance with routine procedures for relevant waste management

Waste minimisation
• The implementation of appropriate waste minimisation strategies, that do not compromise work standards, environmental outcomes, patient or HW safety should be considered.

2.11 Curtains and bed screens

• Change bed screens and curtains (including disposable curtains/screens) that are soiled or contaminated
• Reusable curtains should be changed/replaced after positive COVID-19 patient discharge/transfer
• Disposable curtains use should be checked with the manufacturers for the efficacy against COVID-19; if unsure, dispose after transfer/discharge of suspected or confirmed COVID-19 cases.

2.12 Food service utensils

• Disposable crockery and cutlery are not required for suspected or confirmed COVID-19 patients/clients
• Kitchen utensils should be cleaned using routine cleaning cycles
• Food trolleys that have been used in any COVID-19 clinical areas should be cleaned and disinfected before reuse
• The meal ordering, delivery and collection of meal trays within a COVID-19 patient zone/ward should be led and managed by the ward/clinical area and local facility management
• Food delivery HW to wear PPE as per Transmission-Based Precautions if taking trays into a patient room or area e.g., respirator and eye protection. Gown and gloves are not required if you are placing a food tray on the table or talking to the patient.

2.13 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 risk. The available evidence does not support holding notes for any period prior to scanning. This is unnecessary and may increase the risk of delay in the documentation and communication of patient information.

It is acknowledged that some paper records/forms may require handling by patients during their hospital journey, but this can be mitigated by asking patients to perform hand hygiene before touching records/forms.

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 workstations and work sites
• Attending administration areas with clean hands and no PPE
• Move to electronic notes where able
• Zone/modelling to reduce notes going directly into the patient care zone.

2.14 Handling of deceased bodies

Routine processes apply to the management of deceased bodies, with the same precautions in place after death as were in place prior to death.

HWs are unlikely to contract COVID-19 when Transmission-Based (Contact and Droplet) Precautions are used when handling the body of a deceased person. However, the following precautionary strategies should be used to minimise risks and to prevent the spread of COVID-19 when handling or transferring deceased suspected or confirmed cases:

• HWs handling deceased bodies are to wear apron/gown, gloves, masks and face shield/goggles
• Wear appropriate PPE without contaminating environmental surfaces
• Avoid unnecessary manipulation of the body that may expel air or fluid from the
lungs

- Inform family members they 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 ABHR
- When transporting the deceased, the body must be placed and secured in a body bag or wrapping in a manner that prevents the leakage of body fluid or other substance; double bagging may be required to achieve this
- Label the outer bag ‘COVID-19: Handle with care’.

For more information refer to NSW Health Handling of deceased bodies with suspected and confirmed COVID-19 by hospital HW (non-Coroners).

2.15 Transport

Inter-facility patient transport

All agencies involved in the transport of COVID-19 suspected or confirmed patients are to implement their agency specific Standard, Droplet and Airborne precautions including eye protection (based on risk assessment).

If tolerated, a surgical mask should be worn by patients during the transfer.

The transferring health facility is to notify NSW Ambulance or other transport agency on the patient’s condition to ensure all HWs 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.

The transport vehicle is to be cleaned and disinfected after the patient is transported. Follow local cleaning and disinfection procedures.

Health worker transport

The number of HWs who travel together in the same motor vehicle will depend on the size of the vehicle, the outcome of a risk assessment and the seating arrangements required. The Public Health Order (PHO) must also be checked for current advice on carpooling and requirements to wear masks.

The risk assessment may include the following considerations:

- HWs are well and have no ARI symptoms, particularly those symptoms that are usually classified as mild e.g., scratchy throat, ‘bit of a sniffle’ and have completed the HW screening symptom check, and questions related to visits to areas identified for increased COVID-19 testing and COVID-19 symptoms
- ABHR provided to be able to perform hand hygiene prior to getting into the motor vehicle
- Have completed their vaccinations as per the approved dosing schedule unless medically indicated
- Have bags that can be placed in the boot or on the floor
- Do not share drinks, snacks or other food
• Are comfortable to provide reminders to each other for face touching, hand hygiene, respiratory hygiene and high touch point cleaning of the vehicle
• Do not share mobile devices (individual HW passengers may accept work related phone calls or check emails); these mobile devices are regularly cleaned
• Transport vehicles air handling system must be set to external exhaust not ‘recirculate’
• Are in a motor vehicle that is kept clean and high touch points are cleaned between different drivers e.g., door handles, steering wheel
• Include other risks that are specific to the local team e.g., equipment that requires two people to carry, travel to a meeting/education session
• Health students should not be prevented from attending home visits if a patient/client has suspected or confirmed COVID-19 as this is a teaching opportunity.

Patient transport
Before transporting patients with suspected or confirmed COVID-19, perform a risk assessment on:

• the type of motor vehicle required
• physical capability of patient/client and if assistance will be required
• the ability of the patient/client to wear a surgical mask and practice respiratory etiquette (hygiene)
• no other patient transported at the same time (i.e., no multi-loading). Exemption to this approach can be applied with high community transmission and demand on the health service. Multi-loading vehicles are reintroduced to transport positive COVID-19 patients from hospitals that are medically cleared for discharge back to their home.

For suspected or confirmed COVID-19 patients, before entering the motor vehicle, both the driver or clinician and passenger are to perform hand hygiene with ABHR and driver to follow Airborne Precautions. Eye protection not required for drivers as this may obscure vision.

All handbags and hand luggage are to be placed on the floor and not on the seats. These can also be placed in the boot or rear of the vehicle if they are large.

Passenger to wear a surgical mask and sit in the allocated seating directed by the driver and or clinician.

If the passenger has symptoms of a respiratory illness or suspected or confirmed COVID-19, they should wear a surgical mask, perform hand hygiene and be educated regarding respiratory hygiene. They should be provided a plastic bag, tissues and ABHR.

HW to perform hand hygiene:

• before providing assistance to the passenger
• before entering the motor vehicle
• on exit from the motor vehicle
• after providing assistance to the passenger
• after dropping patient/client off and before returning to the motor vehicle.

When transporting a patient with suspected or confirmed COVID-19, the vehicle air flow should be checked to minimise recirculation by switching to non-recirculate. This setting will depend on the motor vehicle.
FIGURE 6: RECOMMENDED VEHICLE AIR FLOW

Recirculation button turned off – place on fresh air flow

Cleaning of the motor vehicle is to occur at the end of the journey. Remove any visible contamination with detergent and disinfectant wipes. Clean the seat area, door handles or other areas touched by the patient or client (high touch areas) with detergent and disinfectant wipes. Do not spray any chemicals into the air conditioning vents.

Patient transfers within a health organisation should use a route that minimises contact with the general hospital population if possible, including clinicians, for example dedicated lift service, external path.

Advice on self-organised patient carpooling

Do not share a car if you are unwell and/or have had a positive COVID-19 test and need to self-isolate

- Wash hands or use sanitiser before and after journey
- Wear mask (surgical or cloth)
- Share with the same small group
- Keep windows open
- Sit as far away as possible
- Clean car surfaces after every journey (including seatbelts and internal/external handles).

2.16 Outbreak management

An outbreak is a state characterised by an incidence of an infection greater than what is typically expected in a particular healthcare setting.

An outbreak for COVID-19 is two or more confirmed cases of COVID-19 in a patient/resident, HW or visitor of a health facility or residential care facility.

Each outbreak will differ according to the circumstances of the facility/department; therefore, the investigation and management will be applied based on identifying and understanding the features of the outbreak. For more information on outbreak response procedures refer to CEC Infection prevention and control practice handbook, section 11 and for residential care homes refer to Protocol to support joint management of a COVID-19 outbreak in one or more residential aged care facility (RACF) in NSW.
References


World Health Organization (WHO). Infection prevention and control during health care when novel coronavirus (nCoV) infection is suspected Interim guidance. 2020a, March 19. Available at: https://www.who.int/publications/i/item/10665-331495


Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities

This information covers advice for HW deisolation and their return to work and deisolation of patients in NSW Health Facilities and residential care facilities including those in RACFs, Multi-purpose services and disability group homes. It is for use by service managers and teams looking after patients with COVID-19. More specific information on residential aged care facilities refer to NSW Health Advice to residential aged care facilities.

Advice about deisolation is influenced by the viral kinetics and transmissibility of the predominant circulating strain/s and the likelihood of serious illness from infection. Therefore, this advice will need to be reviewed as evidence evolves. Deisolation includes both testing and non-testing strategies depending on symptoms and the time since test positivity.

Testing post-release from isolation

As an overriding principle, any testing should be done in conjunction with an assessment that includes a symptom check, vaccination status, contact status, whether they are immunocompromised and if they have had prior infection, when the person recovered from COVID-19.

Recovered cases do not need surveillance testing however, if they develop symptoms consistent with COVID-19 within 4 weeks of deisolation should have testing for COVID-19 and/or relevant respiratory pathogens.

Individuals are not considered a contact if the exposed HW, patient, or visitor has recovered from COVID-19 infection, is not immunocompromised and the exposure has occurred within 4 weeks of the previous infection. In addition, immunocompromised individuals (HW or patients) may be requested to meet the criteria below:

- Negative RAT on at least two consecutive respiratory specimens collected at least 24 hours apart, after 7 days have passed since the first positive test: OR
- Negative RAT on at least two consecutive respiratory specimens collected at least 24 hours apart, after 14 days have passed since the since the first positive test.

If more than 4 weeks have passed since release from isolation any high-risk exposure, whether household or workplace is to be managed as a close contact. There should be continued adherence to community and occupational recommendations to prevent infection (e.g., physical distancing, hand hygiene and appropriate PPE) and monitor for symptoms, and be tested if symptoms develop (Australian Government Department of Health, 2021a).

Rapid Antigen Tests (RAT)

The use of RATs for the diagnosis and clearance of people with COVID-19 continues to evolve. The performance of a RAT does depend on the adequacy of sampling and test procedure, therefore any HWs who are performing a RAT must follow the manufacturers’ instructions. For more information on Rapid Antigen Tests from NSW Health see here.

Note: People with symptoms who produce a negative RAT, will still proceed to PCR.
## HW return to work after COVID-19

Note: if HW is significantly immunocompromised or ongoing symptoms, they will need to seek advice from either their GP or relevant specialist.

| Day 0 | Isolate and notify as per local process  
Record RAT result in NSW service app and StaffTrakr |
|-------|--------------------------------------------------------------------------------------------------|
| Day 6 | Never symptomatic OR symptoms resolved for at least 24 hours and only if early return to work being considered, RAT on Day 7  
If the HW is working with significantly immunocompromised patients, a risk assessment must be performed before bringing the HW back before Day 10 |
| Day 7 | Conduct RAT and record result in StaffTrakr and notify manager  
RAT negative: Can return to work the next day (day 8) if asymptomatic and risk mitigation in place until day 10  
RAT not done: Can return to work at day 10 only if symptoms resolved for at least the 24 hours prior  
RAT positive: Can return to work at day 10 only if symptoms resolved for at least the 24 hours prior |
| Day 7-9 | RAT negative: Can return to work the day after the negative test if asymptomatic for at least the previous 24 hours and risk mitigation in place until day 10  
If continuing symptoms, (e.g., fever, headaches) advice should be sought from a GP and the relevant manager notified. Return to work may be delayed |
| Days 10-13 | May return to work if symptoms have resolved for at least 24 hours  
Return to work testing NOT required unless advised by GP or other service provider |
| Day 14 | If symptoms continuing, HW should contact IPAC or ID for further advice on their return date |

**Note:** If a HW has had COVID-19 they are not considered a close contact for 4 weeks after they have met deisolation criteria for that episode. Therefore, they do not require surveillance testing or isolation if they are a close contact unless they become symptomatic during this period.

**Resolution of symptoms:** resolution of fever and significant improvement of acute respiratory symptoms such as cough, runny nose and sore throat for at least the preceding 24 hours. Other symptoms such as headache, anosmia, ageusia or mild persistent cough may continue for some weeks and should not delay return to work.
Patient Deisolation Guidance

- Patients who are not isolated or cohorted (with other COVID-19 patients) during their infectious period should be assessed and contact tracing undertaken.
- Deisolation requires at least 24 hours of symptom resolution (of fever and acute respiratory symptoms related to COVID-19 infection).
- Reinfection may occur. Symptomatic testing required and high-risk contact require assessed if more than 4 weeks after deisolation.

<table>
<thead>
<tr>
<th>Deisolation decisions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient returning to non-COVID ward, bed space or out of isolation if in RACF</td>
<td>Discharge to the community</td>
</tr>
<tr>
<td>Patient illness</td>
<td>NOT IMMUNOCOMPROMISED</td>
</tr>
<tr>
<td>Mild-Moderate</td>
<td>After day 7 AND negative RAT or PCR OR Day 10 without testing</td>
</tr>
<tr>
<td>Severe or Critical</td>
<td>After day 10 AND negative RAT or PCR OR Day 14 without testing</td>
</tr>
</tbody>
</table>

IMMUNOCOMPROMISED (See CDNA definitions)

<table>
<thead>
<tr>
<th>All categories of illness</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>After day 14 AND Two consecutive negative RATs 24 hours apart OR Negative PCR</td>
<td>Isolate at home at least until day 7 since positive test and until at least 24hrs after resolution of symptoms^2 Avoid high risk settings until at least day 14</td>
</tr>
</tbody>
</table>

Additional assessment if still PCR positive

If PCR remains positive, consider release from isolation as follows:
- If the Ct value is high AND there is either a positive spike antibody test OR a negative RAT OR a negative culture

2. Routine RAT is not required for patients being discharged to complete isolation at home. RAT may be required if entering a high-risk facility
3. Severely immunocompromised patients may be culture positive for more than several weeks. RAT may also be required if entering a high-risk facility after 21 days. HWs to wear appropriate PPE when providing clinical care.
Immunocompromised
As per CDNA definitions [here](#).

Note: The CDNA definitions currently include patients on dialysis. Patients who are on dialysis but who do not meet other criteria for immunocompromise may not require extended isolation or testing for deisolation.

Significantly immunocompromised persons may include, but are not limited to, those who:

- have had an organ transplant and are on immune suppressive therapy
- have had a haematopoietic stem cell transplant in the past 2 years
- are on immune suppressive therapy for graft versus host disease
- have had an active haematological malignancy
- human immunodeficiency virus infection with CD4 T-lymphocyte count below 200 cells/per mm³ (age adjusted for children)
- are receiving dialysis (but additional risk assessment recommended)
- or other conditions specifically noted by the treating medical practitioner

Disease Severity Categories (for deisolation of some patients)
As per the National COVID-19 Evidence Taskforce see [here](#). These are replicated in this guidance.
## Disease Severity Adult

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mild</strong></td>
<td>An individual with no clinical features suggestive of moderate or more severe disease:</td>
</tr>
<tr>
<td></td>
<td>• no or mild symptoms and signs (fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhoea, loss of taste and smell)</td>
</tr>
<tr>
<td></td>
<td>• no new shortness of breath or difficulty breathing on exertion</td>
</tr>
<tr>
<td></td>
<td>• no evidence of lower respiratory tract disease during clinical assessment or on imaging (if performed)</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>A stable patient with evidence of lower respiratory tract disease:</td>
</tr>
<tr>
<td></td>
<td>• during clinical assessment, such as</td>
</tr>
<tr>
<td></td>
<td>o oxygen saturation 92-94% on room air at rest</td>
</tr>
<tr>
<td></td>
<td>o desaturation or breathlessness with mild exertion</td>
</tr>
<tr>
<td></td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>• on imaging with infiltrates consistent with COVID pneumonitis</td>
</tr>
<tr>
<td><strong>Severe</strong></td>
<td>A patient with signs of moderate disease who is deteriorating OR</td>
</tr>
<tr>
<td></td>
<td>A patient meeting any of the following criteria:</td>
</tr>
<tr>
<td></td>
<td>• respiratory rate ≥30 breaths/min</td>
</tr>
<tr>
<td></td>
<td>• oxygen saturation ≤92% on room air at rest or requiring oxygen</td>
</tr>
<tr>
<td></td>
<td>• lung infiltrates &gt;50%</td>
</tr>
<tr>
<td><strong>Critical</strong></td>
<td>A patient meeting any of the following criteria:</td>
</tr>
<tr>
<td></td>
<td>• Respiratory failure (defined as any of)</td>
</tr>
<tr>
<td></td>
<td>o severe respiratory failure (PaO₂/FiO₂ &lt;200)</td>
</tr>
<tr>
<td></td>
<td>o respiratory distress or acute respiratory distress syndrome (ARDS)</td>
</tr>
<tr>
<td></td>
<td>o deteriorating despite non-invasive forms of respiratory support (i.e. non-invasive ventilation (NIV), or high-flow nasal oxygen (HFNO))</td>
</tr>
<tr>
<td></td>
<td>o requiring mechanical ventilation</td>
</tr>
<tr>
<td></td>
<td>o hypotension or shock</td>
</tr>
<tr>
<td></td>
<td>• impairment of consciousness</td>
</tr>
<tr>
<td></td>
<td>• other organ failure</td>
</tr>
<tr>
<td>Clinical Disease Severity Children under 16 years</td>
<td>Feeding/hydration/conscious state</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Mild</td>
<td>Normal or mildly reduced feeding</td>
</tr>
<tr>
<td>Moderate</td>
<td>Poor feeding, unable to maintain hydration without nasogastric or IV fluids AND With normal conscious state</td>
</tr>
<tr>
<td>Severe</td>
<td>Poor feeding, unable to maintain hydration without nasogastric or IV fluids OR Drowsy / tired but easily rousable</td>
</tr>
<tr>
<td>Critical</td>
<td>Poor feeding, unable to maintain hydration without nasogastric or IV fluids OR Altered conscious state / unconscious</td>
</tr>
</tbody>
</table>

Based on the National COVID-19 Evidence Taskforce see [here](#).
Appendix 2B: Recommendations for COVID-19 surveillance testing in NSW healthcare facilities

This advice applies to surveillance testing for COVID-19 in acute and non-acute healthcare facilities including residential aged care, multi-purpose service, and disability group homes only. It does not replace existing NSW Health recommendations for symptomatic testing, testing in the community, for the management of contacts of COVID-19 cases, or surveillance testing in the (non-health) workplace.

Background

With the recent Delta outbreak, the arrival of Omicron, and the move from pandemic to endemic, appropriate use of SARS-CoV-2 testing is required during this transition as well as what is likely to be a prolonged endemic phase. Testing is performed for a variety of reasons, including to inform early diagnosis and management, contact tracing, surveillance and modelling, release and deisolation, and for bed and patient management within a health facility.

The early diagnosis of COVID-19 is important for the best management of patients, particularly with availability of new antivirals, monoclonal antibodies and other therapies. Testing of patients requiring admission to hospital can also assist in appropriate placement during their hospital stay, limiting movements around the facility and the recommended use of personal PPE. Vaccination breakthrough infection and onward transmission is being increasingly reported; however, infection is much more likely to be either asymptomatic or mild. From May 2022 NSW Health Pathology are transitioning from providing single pathogen PCR testing (COVID-19 or influenza) to Respiratory Triplex PCR testing. The triplex includes SARS-CoV2, influenza A and B, and depending on the platform, respiratory syncytial virus (RSV). Most sites will no longer have SARS-CoV-2 PCR as a single pathogen test available.

The advice contained in this document will continue to be reviewed as evidence and information changes.

General Principles

As an overriding principle, any testing should be done in conjunction with an assessment that includes a symptom check, vaccination status, contact status, whether they are immunocompromised and whether the person has recovered from COVID-19 in the last 4 weeks.

Note: In the absence of the recommended test or result being available, consultation, investigation or treatment should proceed using a risk assessment and implementing IPAC and hierarchy of controls including appropriate patient placement and PPE.

Specific Settings and Recommendations

Patients Being Transferred

Patients having a planned transfer from hospitals to residential aged care facilities or disability group homes/accommodation.

1. Routine testing of patients being transferred to residential aged care or other group homes, or accommodation is not required. If done, test (PCR or RAT) results should be available prior to transfer.
2. PCR testing should be done if the patient has symptoms consistent with COVID-19, is part of a local outbreak, is identified as a contact of a COVID-19 case or if there are concerns about increasing community transmission.

3. Patients with COVID-19 who are significantly immunocompromised as per the CDNA (see here) are required to have x 2 negative PCR results, collected at least 24 hrs apart after day 7 from symptom onset to be released from isolation and returned to their facility.

Children presenting to Emergency Departments

For children who present to an ED, local risk assessment is required for testing of asymptomatic and symptomatic patients.

Prior COVID-19 Diagnosis

If there has been a recent COVID-19 diagnosis, asymptomatic surveillance testing is not required for 4 weeks after clearance from isolation criteria has been met. If symptoms consistent with COVID-19 occur, retesting is recommended and may include testing for other respiratory viruses such as influenza. The most recent NSW Health advice can be accessed here.

Note: In some cases, a negative COVID-19 test may be followed by a weak positive test. Interpretation of weak positive PCR results for SARS-CoV-2 in this context are complex and expert advice should be sought.

Patients who are unable to access community testing centres

Testing for COVID-19 should be made available to those who require PCR tests and are unable to access COVID-19 testing centres.

Some Pathology providers have limited home testing as well as providing self-collection kits where nose/throat samples are collected at home for subsequent laboratory PCR testing. Any agreement for home PCR testing should be managed by the patient’s general practitioner or the treating facility.

Guidance for health care service providers and carers on alternative approaches to COVID-19 testing for people with disability see here.

Definitions

Fully vaccinated and not immunocompromised: must have completed the approved dosing schedule for a TGA registered or recognised COVID-19 vaccine see here more than 14 days prior to presentation and must not meet criteria for immunocompromise as per the CDNA SoNG here.

Not fully vaccinated and/or immunocompromised: anyone whose vaccination status is unknown or not completed as per the approved dosing schedule; those who have received vaccination with a vaccine not registered or recognised by the TGA; or those with immunocompromise irrespective of vaccination. See CDNA guidance as above.

Explanatory Notes

- Testing of patients or HWs who have compatible symptoms for COVID-19 or who have been identified as contacts of COVID-19 cases can be done by RAT. Advice on who should have a COVID-19 test as well as indications for PCR are here as per current NSW Health advice.
- During the influenza season, symptoms of COVID-19 may be very similar to those of influenza and other respiratory viral infections. Patients may also require testing for other respiratory viral pathogens. Advice should be available via local procedures and CEC Winter strategy: Testing and IPAC for acute respiratory infection
- PCR on nose/throat samples is considered the gold standard, but sensitivity varies depending on stage of illness and collection technique
- Owing to the short incubation period of SARS-CoV-2 infection, a screening test performed 72 hours beforehand will not exclude presence of infection
- An essential adjunct to any screening effort is to document whether the person has been vaccinated, has had past documented COVID-19 infection and/or has had recent exposures or symptoms compatible with COVID-19 infection
- Where the patient has arrived and not been able to source or complete a RAT and where the risk assessment deems testing a requirement, the responsibility for providing and completing falls to the LHD/SHN
- For indeterminate rapid antigen tests, confirmatory PCR testing is strongly recommended. This must be done as soon as practicable. Proceeding with treatment should be considered based on risk assessment and implementation of appropriate risk mitigation controls and strategies – IPAC, hierarchy of controls.

Testing Frequency

The utility of admission and repeated surveillance testing of asymptomatic inpatients is unclear and will vary depending on community prevalence, vaccine induced immunity and host factors such as immunocompromise. Where community prevalence is low and the patient has no risk factors for COVID-19 and is vaccinated, asymptomatic admission testing may not be required. When community prevalence is high or there is a local outbreak, universal admission and consideration for outpatient attendance testing is recommended. Repeat testing at between days 3–5 of admission is recommended where there is a local outbreak, community transmission is very high, and/or where patients are in multi-bed bays.

Testing prior to elective admissions and outpatient appointments should ideally be done within 24 hours of the appointment when PCR testing is being used for this purpose. Testing can be done 48 hours prior to admission or appointment if there are expected delays in obtaining a result.

During peak testing times where turnaround times for PCR results extends beyond 24hrs, LHD/SHNs should consider RATs on presentation to appointments/clinics.

These services need to discuss COVID-19 testing with their local ID and the pathology service provider.
**Note:** Symptomatic testing always applies

**Test type:** May be PCR standard, PCR-Rapid or RAT

**If a patient has not been able to source or complete a test and where the risk assessment deems testing is required, the responsibility for providing and completing falls to the LHD/SHN. In the absence of obtaining a result, patients’ consultation, investigation, or treatment should proceed using a risk assessment and implementing IPAC and hierarchy of controls including appropriate patient placement and PPE.**

<table>
<thead>
<tr>
<th><strong>Alert Level</strong></th>
<th><strong>Green</strong> Very low transmission</th>
<th><strong>Yellow</strong> Low transmission</th>
<th><strong>Amber</strong> Moderate to high transmission</th>
<th><strong>Red</strong> High Transmission, outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ED presentations – Adult</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Recommend testing all unvaccinated patients. Consider testing all patients</td>
<td>Recommend testing all ED presentations</td>
</tr>
<tr>
<td><strong>ED presentations – children</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Recommend testing all unvaccinated patients</td>
<td>Recommend testing all ED presentations</td>
</tr>
<tr>
<td><strong>Admissions (adult and paediatric)</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Test all unvaccinated admissions</td>
<td>Test all admissions and consider re-test days 3-5</td>
</tr>
<tr>
<td><strong>Adult parents/carers staying with hospitalised children</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Test parents/carer when child is tested</td>
<td>Test parents/carer when child is tested</td>
</tr>
<tr>
<td><strong>Elective admissions (adult and paediatric)</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Unvaccinated: Prefer PCR* 24-48 hours prior to admission; consider testing all admissions</td>
<td>Test all elective admissions, if using PCR*, 24-48 hours prior to admission</td>
</tr>
<tr>
<td><strong>Emergency surgery</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Unvaccinated: Consider PCR-rapid test; consider testing all admissions</td>
<td>Test all Consider using PCR-rapid as primary test</td>
</tr>
<tr>
<td><strong>Outpatient appointments - including home visits (community care)</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>If appointments are &gt; 15 minutes and/or patient needs to remove mask, then test PCR 24-48 hours prior OR RAT on presentation</td>
<td>Telehealth where possible Recommend RAT prior if face-to-face for appointments longer than 15’ and/or if mask needs to be removed for consultation**</td>
</tr>
<tr>
<td><strong>Drop-in Clinics (SH Clinics, D&amp;A)</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Unvaccinated: RAT on presentation</td>
<td>All: RAT on presentation</td>
</tr>
<tr>
<td><strong>Antenatal appointments and presentations</strong></td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Telehealth where possible RAT prior if face-to-face for appointments longer than 15’ and/or if mask needs to be removed for consultation**</td>
</tr>
<tr>
<td>Antenatal and postnatal wards: (only direct admissions, does not include those admitted through Birth Unit)</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td><strong>Unvaccinated</strong>: RAT or PCR-rapid on admission and 3-5; consider testing all</td>
<td>Test all admissions with RAT or PCR-rapid and consider retesting days 3-5</td>
</tr>
<tr>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Birthing Unit presentations</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td><strong>Unvaccinated</strong>: RAT or PCR-rapid on arrival, consider testing all</td>
<td>RAT or PCR-rapid test on arrival</td>
</tr>
<tr>
<td>Participants in care including support person</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td><strong>Unvaccinated</strong>: RAT or PCR- rapid on arrival. Consider testing all RAT 2–3x weekly while baby is in nursery</td>
<td>RAT or PCR-rapid on arrival. RAT 2-3x weekly while baby is in nursery</td>
</tr>
<tr>
<td>Elective caesarean section</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td><strong>Unvaccinated</strong>: PCR*, RAT or PCR-rapid on admission, consider testing all</td>
<td>PCR-rapid or RAT on day of admission PCR* testing the day prior to admission</td>
</tr>
<tr>
<td>Dialysis</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Test 2 – 3 x week at site depending on visit schedule</td>
<td>All: RAT on presentation or PCR-rapid</td>
</tr>
<tr>
<td>Chemotherapy/radiotherapy appointments</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Test 2 – 3 x week at site or at community testing centre</td>
<td>All: RAT on presentation or PCR-rapid</td>
</tr>
<tr>
<td>Mental Health unit admissions</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td><strong>Unvaccinated</strong>: RAT or PCR-rapid on admission. Recommend retest days 3-5; consider testing all</td>
<td>Test all admissions and consider retest on day 3-5</td>
</tr>
</tbody>
</table>

* PCR testing the day prior to admission is preferential if results are reliably available within 48 hours and providing local facilities can provide the testing.

NB: Where a positive test result is received, proceeding with the patient’s treatment should be accommodated using risk mitigation controls and ensuring delivery of safe, quality care maintaining HW safety.

During winter season and as visitor numbers potentially increase into our health facilities surveillance screening will considerably facilitate control of potential ongoing transmission. RAT or PCR surveillance is recommended with an understanding PCR may provide most reliable results where required and capable. High-risk patients (e.g., Oncology, Haematology) and long-term and high-risk patients (e.g., Rehabilitation) should be considered as part of surveillance testing. Surveillance testing should incorporate a day 0 and day 3-5 to capture cases.
<table>
<thead>
<tr>
<th>Alert Level</th>
<th>Green Very low transmission</th>
<th>Yellow Low transmission</th>
<th>Amber Moderate to high transmission</th>
<th>Red High Transmission, outbreaks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff who work in high-risk areas – ICU and ED</td>
<td>No routine testing</td>
<td>No routine testing</td>
<td>Consider testing 2-3 x/week PCR or RAT</td>
<td>Consider testing 2-3 x/week PCR or RAT</td>
</tr>
<tr>
<td>Staff in COVID wards</td>
<td></td>
<td>Consider testing 2-3 x/week PCR or RAT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff working in transplant units, haematology and oncology wards</td>
<td>No routine testing</td>
<td></td>
<td>Consider testing 2-3 x/week – PCR or RAT</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B: SURVEILLANCE TESTING FOR STAFF**
Test information

Nucleic Acid Tests (NAT or PCR)

Sample types for NAT

- **Combined deep nasal and throat swabs**: These are the traditional sample types consisting of a single flocked swab used to collect a throat sample followed by bilateral deep nasal sample for the highest sensitivity. Combined throat and deep nasal swabs are indicated for COVID-19 diagnosis in symptomatic individuals. They may be poorly tolerated in the repeated sampling required for routine surveillance testing.

- **Rhinoswabs**: Self-collected nasal mucosa sampling using the Rhinoswab device may be better tolerated but with lower sensitivity than combined nasopharyngeal and throat swabs. Rhinoswabs may be used for routine surveillance testing in asymptomatic staff in an attempt to maintain compliance. They should not be used for diagnostic purposes in symptomatic individuals.

- **Saliva**: Saliva testing usually has lower sensitivity compared to other sample types, and so may require daily testing to overcome this. If local validation shows high sensitivity, then saliva testing could be done third daily. Saliva testing was used for surveillance in individuals with professional contact with patients with COVID-19 such as border and quarantine workers.

Test platforms used for NAT

- **Standard NAT**: Typical run times are between 2 and 6 hours, with expected turnaround times of 12 to 48 hours depending on prioritisation and transport. Sample pooling has been validated on NSW Health Pathology platforms and is used to conserve reagents and increase testing capacity when the number of positives is low. Pooled testing is NATA accredited. Pooling is not suitable when the number of positives exceeds approximately 3% because of the need for a second round of PCR testing to identify the positive in a pool (leading to delays in diagnosis and increased reagent utilisation). The reduced testing capacity when prevalence and testing volumes are high results in extended turnaround times.

- **Rapid NAT**: Rapid NAT platforms provide shorter run times (GeneXpert 45 minutes, Roche Liat 20 minutes) but are of relatively limited availability due to constraints on consumables and throughput.

Rapid Antigen Tests (RATs)

- Rapid antigen tests can be performed outside of a laboratory, with a turnaround time of 10-15 minutes. The sensitivity of rapid antigen tests is approximately 70-90% in symptomatic cohorts, but only 50% in asymptomatic cohorts. While the specificity is 99.5%, in populations with a low prevalence, many positive RATs will be false positives, and so reflex NAT testing is required to confirm positive RAT tests.

The Public Health Laboratory Network provides useful and regularly updated guidance on laboratory testing [here](#).
Appendix 2C: Visitors and participants in care visiting guidance during COVID-19 and ARI season

NSW healthcare facilities should continue to support patients to receive visits from partners, family, friends, participants in care (PIC), carers and/or volunteers whilst maintaining a safe environment to minimise the risk of transmission of any infectious disease. Potentially, any microorganism may cause a healthcare associated infection (HAI). Although patients are usually the most vulnerable for a HAI, these can also affect visitors, volunteers, carers and health workers (HWs).

Supporting visitor access and management of visiting practices can be achieved through clear guidance and communication to visitors; screening or testing as appropriate for higher risk environments, encouraging vaccination, education and supervision of visitors and participants in care using the correct personal protective equipment (PPE) and other infection prevention and control (IPAC) strategies such as hand hygiene and physical distancing.

Implementation of local visitor policies supporting visits from partners, family, friends, PIC, carers and/or volunteers should be considerate of compassionate, support and care needs of the patient. The following IPAC principles should be seen as how to engage, support and manage visitors in the health facility rather than how to restrict their attendance.

Managing risks and benefits of visiting in hospital settings for yellow and amber risk level during COVID-19 and influenza season

Visitors to NSW Health hospitals, community health centres, and outreach clinics will be screened on entry and must always follow the advice of health worker.

Visitors will generally be permitted if they:

- Always wear a surgical mask correctly while in the facility (children under 12 are not required to wear a mask)
- Have not tested positive to COVID-19 within the last 10 days
- Have not tested positive to another acute respiratory infection in the last 7 days
- Do not have symptoms of COVID-19 or other acute respiratory infection
- Are not high risk contacts of someone who has COVID-19 in the previous 14 days
- Have not arrived from overseas in the past 7 days

An exemption to any of the above criteria may be permitted on compassionate grounds and on a case-by-case basis including maternity and neonatal services.

Additional numbers may be considered as risk assessed on a case-by-case basis and considerations given to cultural needs e.g., aboriginal and cultures with significant extended families.

LHD/SHNs should monitor visitor volumes throughout their facilities to minimise risk.

Where a visitor does not meet the above principles, a risk assessment may be conducted with adequate controls applied on a case-by-case basis to facilitate a visit where appropriate. Where the needs of the patient warrants consideration for additional visitor/PIC numbers to attend, there should be a case-by-case risk assessment.
Where families, visitor, PIC, and carers diagnosed with COVID or influenza and wishing to visit a patient should be risk assessed for benefits and risk of visitation in consultation with local IPAC and infectious disease teams.

Where a patient is COVID-19, influenza positive or a close contact, case-by-case exemptions should be facilitated with clear approval processes by unit management. Health facilities should consult patients and their families or carers about their preferences for visiting and engage them in conversations about the risks of visiting versus not visiting, and alternatives such as virtual visiting.

Patients should be encouraged to wear a surgical mask during visits if able.

**Visitation Conversation**

In circumstances where a suspected or confirmed COVID-19 case is involved, risks, benefits and alternatives to visitation should be discussed with families, carers and patients. These discussions should aim at encouraging and supporting visitors to find the most appropriate way to connect with patients. This is particularly important when the admitted patient is considered vulnerable. A patient’s vulnerability could be related to wellbeing, mental, clinical, or social needs including immunocompromised or receiving end of life care. This should be determined locally according to the LHD/SHN local processes but must be managed.

The following information should be considered in this conversation:

**Risks**

- Transmission of COVID-19 between individuals (carers, patients, health workers). This can be mitigated by appropriate use of PPE as per hospital policies, hand hygiene, distancing >1.5m where able and reducing visitation time.

**Benefits**

Permitting partners, family, friends, PIC, carers and/or volunteers visit:

- Can provide support and advocacy for the patient
- Can provide important improvement to quality and safe patient care
- Can provide important context and background information to enable holistic care
- Can significantly reduce the distress, confusion and wandering experienced by patients with cognitive impairment
- Can reduce the risk of harm to patients
- Ensure partners, family, friends, PIC, carers and/or volunteers are involved in decision-making during last days of life, and enable bereavement support to occur
- Enables them to identify and escalate their concerns about changes in a patient’s condition e.g., directly to a HW via REACH or similar patient and family activated response systems
- Not only benefits the patient and family experience of care, but also the experience of HWs caring for them through a partnership that contributes to safe quality care

**Alternatives to face-to-face visitation**

- Virtual communication can be facilitated between family/carers and HCWs caring for patients such a telephone call or video-call via mobile devices
- Additional or specialised staffing where possible and appropriate (for example, 1:1 health care assistant support for wandering patients)
- Facilitating caregiving in other ways, such as sending letters or food.
Do any of the following special considerations apply?

**Patient immunocompromised**

- A clinical assessment should be completed to determine the suitability of visitation.
- If patient is deemed particularly vulnerable and therefore unsuitable, alternative methods such as virtual visitation should be explored.

**Visitation on compassionate grounds**

For example:
- Patient seriously ill or dying
- Patients in palliative care who are critically ill

- Visitation should not be restricted, regardless of COVID-19 status of both patients and visitors.
- Written exemption not required.

**Patients in care of maternity services**

- Participants in care who are COVID positive or a close contact should be supported to attend in appropriate circumstances.
- For example, the visitor lives in the same household as mother.

**Patients in care of neonatal services**

- Participants in care who are a close contact and are asymptomatic should have visitation supported in appropriate circumstances.

**Patients in care of Mental Health Services**

- Visitation should not be restricted.
- Sensible approach, compassion, risk assessment and escalated decision making when required.

**Patients with cognitive impairment, delirium or dementia**

- Visits can assist in assessment and management of the patient and in their day-to-day comfort and safety, as well as being a significant help/support for HWs.
Supporting visitor access in NSW acute and non-acute healthcare facilities during COVID-19 Red Alert

To promote safety and to reduce risk to patients and HWs during high community transmission (Red Alert), there may be restrictions to visitors and/or to the number of visitors allowed into a clinical area. Restrictions should be considerate of compassionate, support and care needs of the patient. Visitors and participants in care must continue to follow vaccination requirements and infection prevention practices. For more information on visits in residential aged care facilities, multi-purpose services and disability group homes refer to NSW Health Visitor guidelines for NSW Health residential aged care services (SGRACFs and MPSs) during the COVID-19 pandemic.

TABLE 2: CRITERIA FOR VISITATION AND IPAC STRATEGIES

<table>
<thead>
<tr>
<th>Visitor and patient category</th>
<th>Criteria for visitation</th>
<th>IPAC strategies for visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>No COVID-19 risks both patient and visitor</td>
<td>Two fully vaccinated people over the age of 12 years can visit a patient per day without an exemption. If the visitor is unvaccinated or partially vaccinated and are the only person who can visit, they are permitted to enter with an exemption but must restrict movement through the facility. Where practical and available Rapid Antigen Test is recommended prior to visiting.</td>
<td>Delay visitation if unwell. Evidence of recommended doses of a TGA approved COVID-19 vaccine. Actively screened for COVID-19 risks and symptoms before entering the facility.</td>
</tr>
<tr>
<td>Patient – COVID-19 Positive or close contact</td>
<td>Case-by-case exemptions should be facilitated with clear approval processes by facility management. Healthcare facilities should consult patients and their families or carers about their preferences for visiting and engage them in conversations about the risks of visiting versus not visiting, and alternatives such as virtual visiting. Assessing if visitors can maintain at least 1.5 metre physical distance from the patient and HWs. If visitors are unable to maintain that distance when visiting a patient with suspected or confirmed COVID-19, they should be provided with the appropriate PPE.</td>
<td>Check-in via a QR code (if available upon entry). It is mandatory for people over 12 years of age to always wear a face mask, however, the PHO includes several lawful reasons for not wearing a mask. Refer to NSW face mask rules for more information.</td>
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<tr>
<td>Visitor – COVID-19 Positive or close contact</td>
<td>Visitation by this group will not always be possible due to the risk of transmission. An exemption should be requested via the approval process and additional restrictions will apply. Assessing if visitors can maintain at least 1.5 metre physical distance from the patient and HWs. If visitors are unable to maintain that distance, they should be provided with the appropriate PPE.</td>
<td>Provide education and supervision on using the correct PPE (surgical mask and eye protection) as per the advice of HW. If the visitor already wearing a respirator, they can choose to continue wearing it. There is no need for an apron/gown or gloves unless they are engaged in personal care.</td>
</tr>
<tr>
<td>Patient immunocompromised</td>
<td>Identifying patients who for clinical reasons should not have visitors (e.g., as they are deemed particularly vulnerable due to clinical condition, advanced age, co-morbidities etc.) and discussing alternative methods for meeting with their families and carers.</td>
<td></td>
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| Visitation on compassionate ground | Visits should be facilitated on compassionate grounds such as family member seriously ill or dying, including those patients in palliative care or who are critically ill. Exemptions do not necessarily require written approval. Visitors for patients in end-of-life/palliative care should not be restricted and visits by immediate family, support people and carers who meet the most current COVID-19 screening criteria on entry to the facility should be allowed. In circumstances where restricting visiting is necessary patients and their families, guardians and/or carers should be involved in discussions about the best ways to maintain connection (e.g., virtual visits).  
For more information refer to [NSW Health COVID-19 and end of life care in hospital - Palliative care](#) and [NSW Health guide to hospital visitation](#). |
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<td>Children under 12 years as visitors</td>
<td>Parents or guardians of children are to be involved in discussions about the best way to maintain support, care and connections of their child or children.</td>
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<tr>
<td>Siblings</td>
<td>Unvaccinated siblings under 12 years are unable to visit. An exemption for unvaccinated siblings of long-stay patients, where appropriate, may be obtained from the healthcare facility.</td>
</tr>
<tr>
<td>Visitors with an exemption</td>
<td>Any visitor exemption process should be reasonable with clear instructions and a clear escalation process for partners, family, friends, participants in care, carers and volunteers. Assessing the risks and benefits of visits by young children, including visits to aged care and multi-purpose services should be considered when risk assessing and making decision on visitation.</td>
</tr>
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</table>
| Participants in care (birthing partner) | Participants in care in maternity services who have suspected or confirmed COVID-19 or who have been told they are a close contact may be supported, in specific circumstances e.g., living together in the same household with the mother, to attend during labour and birthing room/environment to provide care. There is an exemption to PHO for participants in care / birth partners. Processes must be in place and LHDs need to consider if this can be facilitated.  
The Ministry of Health [Guidance for maternity services](#) provides further details on this. |

Comply with the advice of HW regarding putting on and taking off PPE.  
Perform hand hygiene before and after entering the patient’s room or immediate surroundings.  
Maintain physical distancing, respiratory hygiene, and cough etiquette.  
Comply with physical distancing advice.  
Before entering ward, patient’s room or immediate surroundings consult and follow the instructions of HWS on the ward.  
Provide correct contact information for contact tracing.  
Respect a patient’s right to say no to visitors.  
Comply with a HWS reasonable request to leave.  

IPAC strategies above apply to this group except that vaccine is not a requirement.