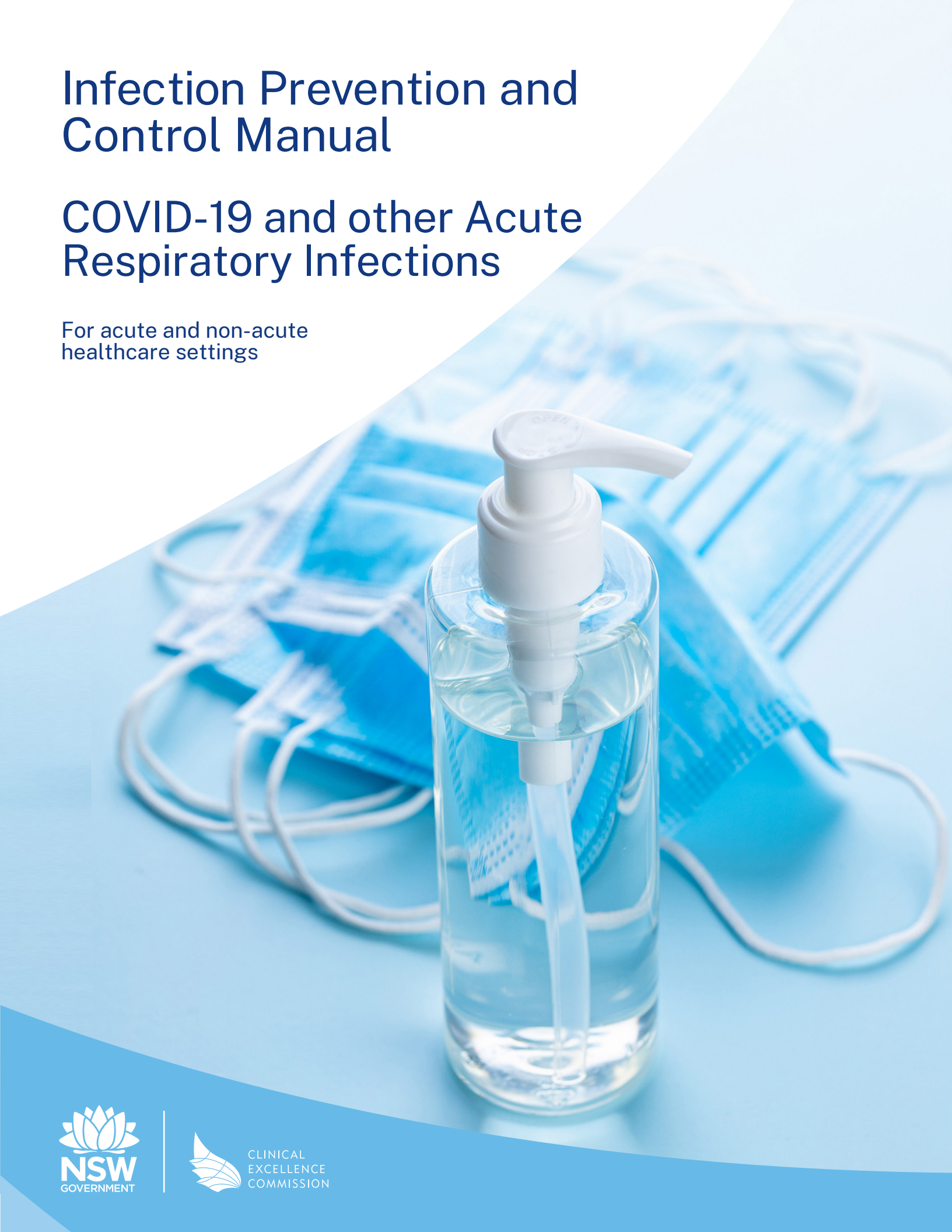
Infection Prevention and Control Manual

COVID-19 and other Acute Respiratory Infections

For acute and non-acute healthcare settings



NSW GOVERNMENT

CLINICAL EXCELLENCE COMMISSION

National Library of Australia Cataloguing-in Publication entry
Title: Clinical Excellence Commission Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections for acute and non-acute healthcare settings
Version 4.3
ISBN: 978-1-76023-651-9
SHPN: (CEC) 230843

Suggested citation
Clinical Excellence Commission, 2023, Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections for acute and non-acute healthcare settings, v4.3, Sydney, Australia: Clinical Excellence Commission

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Revision History (most recent updates are highlighted in yellow)		
Version	**Date**	**Changes**
Version 4.3	Nov 2023	Chapter 2 minor amendments, Chapter 3 and IPAC Risk Escalation Framework Addition of risk assessment principles for vulnerable patients Addition of considerations during outbreak/increased community transmission
Version 4.2	Aug 2023	Chapter 1: Clarification inclusion of MPS under Healthcare setting Chapter 2: Addition of Principles of risk assessment in the context of ARIs; requirements for HWs non-compliant with vaccination Chapter 5 - Appendix 5B: update to recommendations for adult breaths and airway management
Version 4.1	Jun 2023	Chapter 1 Addition of clinical definition Chapter 3 Alignment of Yellow Poster, FAQ and framework
Version 4.0	Jun 2023	Name change of manual General shift to include other Acute Respiratory Infections (ARI) Chapter 1 Addition of ARIs, removal of SHEOC and PHRB, addition of contact tracing principles Figure 1 CEC Infection Prevention and Control Safety Program Governance Structure updated Chapter 2 Movement to other sections, minor revisions Chapter 3 Response and escalation framework- Revised Framework, incorporating foundational level recommendations (Risk matrix, poster & FAQs); adjusting yellow level mask wearing recommended in clinical and patient facing areas. Removal of green FAQs and poster Chapter 4 & 5: minor revisions and clarification
Version 3.1	Feb 2023	2.6.7 Implement Transmission-Based Precautions, minor edits to Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities, Appendix 2B: Recommendations for COVID-19 surveillance testing in NSW healthcare facilities, Chapter 4 Personal protective equipment and Appendix 5A: Cardiopulmonary resuscitation.
Version 3.0	Nov 2022	Chapter 2: Terminology change from aerosols & droplets to particles, inclusion of Management of high and low risk COVID-19 exposures, Management of HWs noncompliant with vaccination. Amendments to section 2.6.1 Early recognition of patients with suspected or confirmed COVID-19, Surveillance Testing. Inclusion of Patient placement - Infection prevention and control risk assessment guide, Minor amendments to Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities amendments to Appendix 2B: Recommendations for COVID-19 surveillance testing in NSW healthcare facilities minor, Table A: Surveillance Testing for Patients (and Carers/Participants in Care), Addition of Appendix 2D: Cleaning and disinfection of virtual reality equipment Chapter 4: removal of Appendix 4K: Difference between elastomeric respirators & PAPRS Chapter 5: Reprocessing reusable devices - incorporated into Chapter 2. Chapter renamed to Chapter 5: Specific healthcare settings Chapter 6: specific healthcare settings, chapter 7: non-acute healthcare settings and chapter 8: home visits all incorporated into one chapter with modifications to each made. Updates of chapters 6,7 & 8 incorporated into Chapter 5: Specific healthcare settings.
Version 2.6	Oct 2022	Minor amendments to 6.2 Maternity and neonatal services-Carbon monoxide testing in pregnancy
Version 2.5	Sep 2022	Amendments to Yellow Alert Level, Chapter 3 Response and Escalation Framework; Addition to Chapter 6 Medical imaging; amendments to Chapter 2, Appendix 2B.
Version 2.4	July 2022	Minor amendments to Chapters 2 and 7. Change to post COVID susceptibility timeframe from 12 weeks to 4 weeks (28 days)
Version 2.3	June 2022	Minor amendments to Chapters 1, 2 and 4
Version 2.2	May 2022	Amendments to Chapter 3 – addition of yellow alert
Version 2.1	February 2022	Minor amendments in Chapters 1 (section 1.6), Chapter 2 (sections 2.6.6, 2.7 & Appendix 2A), Chapter 3 (sections 3.4, 3.7 & 3.8) and Chapter 4 (section 4.2)
Version 2.0	February 2022	Amendments to Chapter 2, Chapter 3, Chapter 4, Chapter 7, Chapter 8

		Addition of Appendices 2A, 2B & 2C.
Version 1.9	December 2021	Minor amendment Chapter 2: Section 2.2 New variants of the virus that causes COVID-19 and Testing post release from isolation
Version 1.8	November 2021	Minor amendment to Chapter 2: Section 2.5.6, Chapter 3: Sections 3.4, 3.7, 3.8
Version 1.7	October 2021	Minor amendment to Chapter 2: Section 2.5.6 Health Worker Mask Use Chapter 3: Sections 3.4 NSW Risk matrix, 3.5 Green alert poster, 3.6 Green alert FAQs, 3.7 Amber alert poster, 3.8 Amber alert FAQs, 3.10 Red alert poster & 3.11 Red alert FAQs
Version 1. 6	October 2021	Minor amendment: Section 1.6 Definitions Addition: Section 2.2, release and recovery of COVID-19 & Testing post release from isolation Minor amendment: 2.5.6 Health worker mask use & 2.6 Visiting patients/clients in healthcare facilities Minor amendment: 3.4 NSW Risk matrix, 3.5 Green alert poster, 3.7 Amber alert poster, 3.10 Red alert poster Minor amendment: 4.5 Types of PPE, 4.7 Extended or sessional use of PPE Chapter 6: Removal of maternity & neonatal services which now refers to NSW Health maternity & neonatal guidance & minor amendment to Carbon Monoxide screening Minor amendments: Chapter 7, Table 10 & addition: Re-opening or scaling up outpatient services Minor amendment: Appendix 8B
Version 1.5	July 2021	Minor amendments; Additional detail for Visiting, New Section - Occupational exposure, FAQs for CFHN – home visit
Version 1.4	July 2021	Amendments to case definition, Addition of a summary Table: *COVID-19 risk assessment guide for PPE selection for direct care of patients in* Chapter 3, changes made to Appendix 4A and Posters and FAQs – Green, Amber and Red alerts.
Version 1.3	June 2021	The content has not changed from version 1.2 but incorporated further clarity in Amber & Red risk level sessions.
Version 1.2	June 2021	Chapter 2 Infection Prevention and Control Strategies, Chapter 3 Response and Escalation Framework and Chapter 4 Personal Protective Equipment
Version 1.1	May 2021	Indications for airborne precautions and the recommendations on the use of P2/N95 respirator
Version 1.0	April 2021	Incorporated 20 COVID-19 IPAC documents

Contents

Chapter 1: Introduction to the manual

Contents

Acronyms and abbreviations

ARI	Acute respiratory infection
CDNA	Communicable Diseases Network of Australia
CoP	Community of practice
HAI	Healthcare-associated infection
HW	Health worker
IPAC	Infection prevention and control
MPS	Multi-purpose services
NSW	New South Wales
OMT	Outbreak management team
PHEOC/PHRB	Public health emergency operations centre / Public health response branch
PPE	Personal protective equipment
RACF	Residential aged care facility
SHEOC	State health emergency operations centre

1.1 Introduction

This document provides recommendations relating to infection prevention and control (IPAC) measures for COVID-19 and other acute respiratory infections (ARIs) in acute and non-acute health-care settings. Multi-purpose services (MPS), residential aged care facilities (RACF), disability group homes, community residential care group homes and mental health services are other congregate settings that are included with specific emphasis on COVID-19 and influenza. Principles can be applied as required to respiratory syncytial virus (RSV) and other respiratory pathogens.

The manual aligns with the principles outlined in the NSW Infection Prevention and Control Policy Directive and is consistent with the principles and practices within the Infection Prevention and Control Practice Handbook.

The guidance in this *Manual* also includes IPAC best practice information on COVID-19 and other ARIs, based on the known transmission characteristics, and is also responsive to the changing incidence and burden of infection in the health system. A risk assessment approach has been used to determine the level of precautions and the risk matrix is fully described and illustrated in *Chapter 3: NSW IPAC Response and escalation framework*.

For the latest information and updates on ARIs in general, health workers (HWs) should regularly check the NSW Health and the CEC Infection Prevention and Control (IPAC) and Healthcare Associated Infections (HAI) Program web pages.

The manual should be used in conjunction with the NSW IPAC policy directive, the Infection Prevention and Control Practice Handbook and local procedures. More detail can be sourced from key NSW and national sources if required:

- NSW Cleaning of the Healthcare Environment Policy Directive
- National updates – Department of Health
- Coronavirus (COVID-19) - CDNA National Guidelines for Public Health Units

1.2 Scope and purpose

The purpose of this manual is to provide guidance on IPAC requirements for patients or clients with suspected or confirmed ARIs (including COVID-19, influenza, RSV and other respiratory pathogens), the use of personal protective equipment (PPE), and transmission prevention strategies in NSW healthcare settings.

The target audience is NSW HWs, health and care staff working within acute and non-acute healthcare settings and residential care group homes including clinicians, infection control professionals, managers, and support staff.

Specific and targeted guidance for the Respiratory Protection Program is beyond the scope of this manual and is available on the CEC website.

NOTE: Neither NSW Health or the CEC endorse or promote any products or equipment identified in this guidance document.

1.3 Updates to the manual

The development of the manual was led by the CEC in collaboration with CEC IPAC Community of Practice (CoP) and endorsed by the IPAC Operational Steering Committee and expert advisory committees. Refer to *Figure 1: CEC Infection Prevention and Control Safety Program Governance Structure*. The manual will continue to evolve over time with additional information added to address IPAC strategies which will be guided by new or emerging evidence and national recommendations with genuine focus to maintain currency.

Any suggestions or feedback on the manual should be communicated to the CEC via email CEC-COVID19@health.nsw.gov.au.

1.4 Emergency response governance

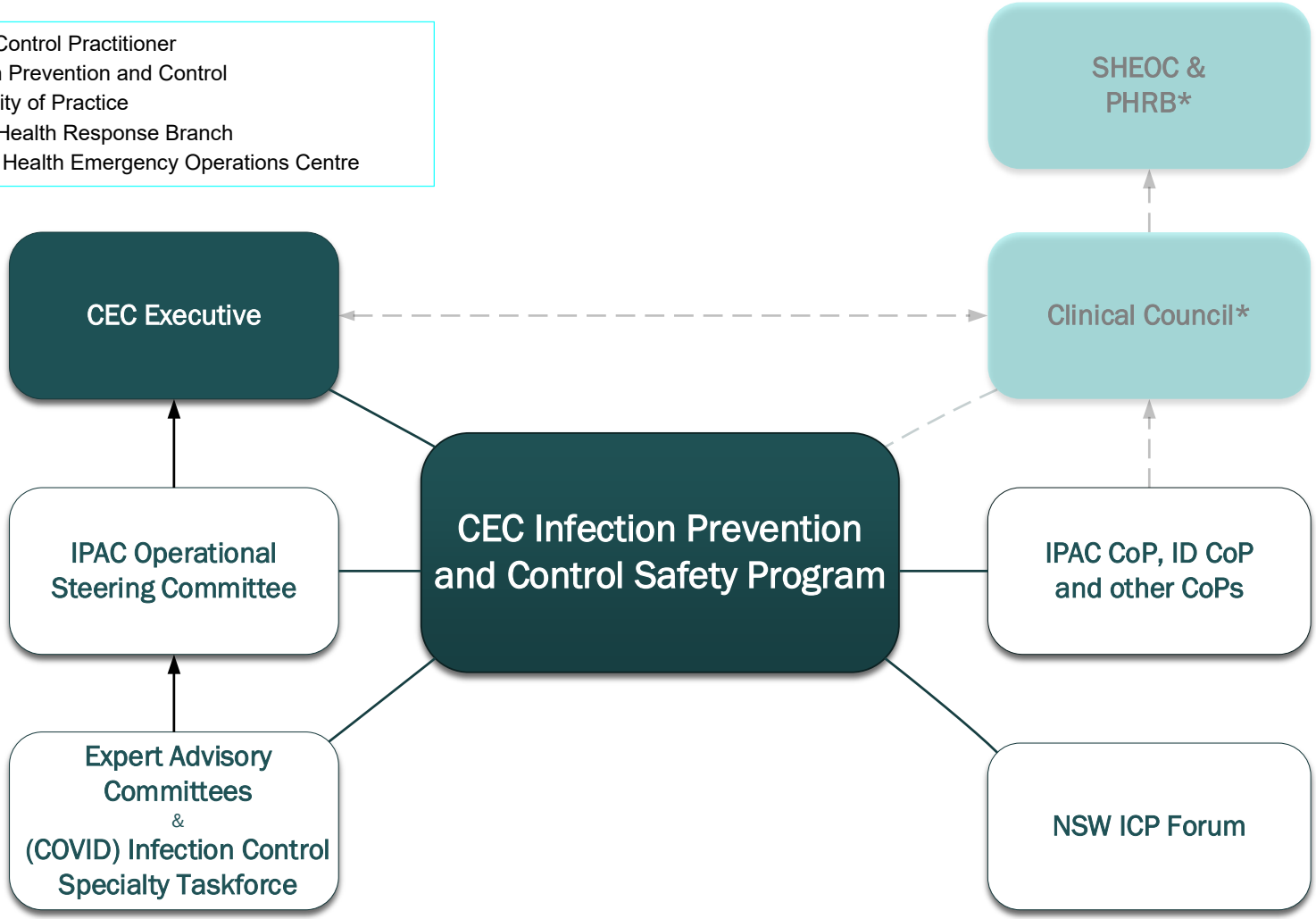
The NSW Health State Preparedness and Response Unit is responsible for 'whole of health' State-level preparedness and response to critical incidents and emergencies including infectious diseases. During an emergency response, NSW Health and partner agencies communicate regularly to determine the most effective and appropriate response. NSW Health coordinates a central, specialised response during the initial stage of a communicable disease of state or national significance management, including high consequence infectious diseases (HCID) to mitigate the risk of a public health emergency and associated healthcare system impacts. For more information refer to the NSW Health policy directive on Early Response to High Consequence Infectious Diseases.

Clinical Excellence Commission (CEC)

The CEC is a board-governed statutory health corporation, responsible for leading safety and quality improvement in the NSW public health system, including residential care group homes. The role of the CEC is to promote improved clinical care, safety and quality in health services across NSW. CEC also plays a pivotal role to reduce adverse events in acute and non-acute healthcare settings, support improvements in transparency and review these events in the health system. The CEC is the lead agency for Infection Prevention and Control (IPAC) and Health care associated infection (HAI) program for NSW Health.

FIGURE 1: CEC INFECTION PREVENTION AND CONTROL SAFETY PROGRAM GOVERNANCE STRUCTURE

ICP – Infection Control Practitioner
IPAC – Infection Prevention and Control
CoP – Community of Practice
PHRB – Public Health Response Branch
SHEOC – State Health Emergency Operations Centre



*Note: SHEOC, PHRB and Clinical Council are activated during an emergency response

1.5 Definitions

The following terms are used frequently in this document in the context of ARI management and prevention.

Acute respiratory infection (ARI) definition

Adult:

New onset of

At least **ONE** of the following:		At least **ONE** of the following systemic features:
- Cough - Sore throat or runny nose - Shortness of breath or difficulty breathing	**AND**	- Fever or feverishness - Lethargy, malaise, confusion, or decreased appetite - Headache - Myalgia

Paediatric and/or those patients who cannot mount an adequate immune response (e.g., oncology, elderly, pregnant or immunosuppressed patients):

New onset of

At least **ONE** of the following:		May or may not include any of the following systemic features:
- Cough - Sore throat or runny nose - Shortness of breath or difficulty breathing	**AND**	- Fever or feverishness - Lethargy, malaise, confusion, or decreased appetite - Headache - Myalgia

COVID-19

COVID-19 is a disease caused by a new strain of coronavirus. ‘CO’ stands for corona, ‘VI’ for virus, and ‘D’ for disease.

Clinical

Clinical refers to involving or related to the direct observation, examination and/or treatment of patients/clients.

Cluster

A cluster in relation to COVID-19 refers to two or more cases (who do not reside in the same household) that are epidemiologically related in time, place or person, that were diagnosed in the previous 14 days where a common source (such as an event or within a community) of infection is suspected but not yet established.

Contact tracing

Contact tracing is a process of identifying individuals who have had contact with someone with a transmissible infection in order to isolate, test or treat them. Contact tracing is an essential tool for the management, prevention and control of HAIs

Key Points for COVID-19 contact tracing within healthcare settings:

- Contact tracing should be prioritised to specific high-risk groups/settings
- Contact tracing should occur for in-room contacts
- Contact tracing may be beneficial in outbreaks
- Investigations should focus on COVID-19 cases and close contacts with onsets and exposures in the previous 5 days for settings and groups at increased risk
- Universal case investigation and contact tracing are not recommended for COVID-19

Day 0 for Isolation

The start of the isolation period is the date of the first positive test (day zero). In some circumstances, if reviewed by infectious disease specialists or their delegates, this could be backdated to the onset of symptoms if there was a delay in seeking a test.

Declare the outbreak over

COVID-19: Outbreaks can generally be declared over 7 days after the date of isolation of the last case. The decision to declare an outbreak over should be made by the outbreak management team (OMT) in consultation with the public health unit.

Other ARIs: Outbreaks are generally declared over following completion of the infectious period of the last case.

Healthcare-associated infection (HAI) COVID-19

Definite HAI COVID-19:

- Symptom onset on day >14 after admission.

Probable HAI COVID-19:

- Symptom onset on day 8-14 after admission, OR
- Symptom onset on day 3-7 after admission, if epidemiologically linked to a hospital exposure.

Community-associated COVID-19:

- Symptoms present on admission or with onset on day 1 or 2 after admission (unless epidemiologically linked to a hospital exposure during the last 14 days), OR
- Symptom onset on days 3-7 and a strong suspicion of community transmission.

Note: If onset of clinical features cannot be defined, a case-by-case assessment is required taking account of the date of sampling relative to the date of admission and epidemiological evidence of a link to hospital exposure.

HAI ARI

There are no formally agreed definitions for either healthcare acquired influenza or RSV infection. However, there are a number of publications assessing the impact of HAI

influenza or RSV. HAI influenza is more common in older adults (> 65years) and has been associated with significant rates of ICU admission including the need for mechanical ventilation.

Suggested definitions:

HAI Influenza

- A positive influenza RT-PCR and symptom onset > 72 hours after admission

HAI RSV

- A positive RSV PCR and symptom onset ≥ 96 hours after admission.

Outbreak

An outbreak is a state characterised by an incidence of an infection greater than what is typically expected in a particular healthcare setting. Typically, in healthcare this has been defined as two or more cases, which should trigger an outbreak management process.

For ARI, two or more cases should trigger a management plan and may be considered an outbreak depending on surrounding circumstances and transmission pathways. For more information on outbreak management refer to CEC Infection Prevention and Control Practice Handbook and for specific guidance on residential aged care and residential homes refer to this link.

Resolution of symptoms

Resolution of fever and significant improvement of ARI symptoms for at least the preceding 24 hours. Other symptoms such as headache, fatigue, anosmia, ageusia or a mild persistent cough may continue for some weeks and for HWs will not usually affect time to return to work.

Zone

A region, area, or section characterised by some distinctive feature or quality. A zone can be considered and used in the context of clinical patient and non-clinical zones, non-COVID zone, PPE zone, red, amber or green COVID zones. Functional areas for healthcare setting and zones may be interchangeable or functional areas may contain zones within these areas.

New variants of the virus that cause COVID-19

All viruses, including SARS-CoV-2, change over time. This may change transmissibility, pathogenicity, escape from natural, hybrid and/or vaccine induced immunity and response to therapeutic medicines. For more information on COVID-19 variants refer to WHO Tracking SARS-CoV-2 variants.

References

CDNA COVID-19 Outbreaks in Residential Care Facilities

ECDC Surveillance definitions for COVID-19

PD2023_008 Early Response to High Consequence Infectious Diseases

WHO policy brief: COVID-19 surveillance, 11 April 2023

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

This chapter is part of the Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections for acute and non-acute healthcare settings, Clinical Excellence Commission, 2023.

The publication summarises ARI infection prevention and control strategies and their implementation in healthcare settings.

Contents

Key points

- ARIs are mainly spread by direct contact with respiratory particles of various sizes. Some physical and environmental conditions can increase the spread of particles
- Virus variants will continue to emerge and may alter the risk of transmission of viruses
- The application of a hierarchy of controls as a bundle will significantly reduce the risk of transmission
- Understanding and application of standard and transmission-based precautions is essential in the management of ARIs
- 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: NSW IPAC Response and escalation framework*

Acronyms and abbreviations

ABHR	Alcohol-based hand rub
ACH	Air changes per hour
AGB	Aerosol-generating behaviour
AGP	Aerosol-generating procedure
ARI	Acute respiratory infection
ARTG	Australian Register of Therapeutic Goods
CDNA	Communicable Diseases Network of Australia
CT	Computerised tomography scan
HVAC	Heating, ventilation and air conditioning
HW	Health worker
ID	Infectious diseases
IFU	Instructions for use
IPAC	Infection prevention and control
MPS	Multi-purpose service

MRI	Magnetic resonance imaging
NSW	New South Wales
PIC	Participants in care
PPE	Personal protective equipment
R_0	Basic reproductive number
RACF	Residential aged care facility
RAT	Rapid antigen test
SARS-CoV-2	Severe Acute Respiratory Syndrome Coronavirus 2
TGA	Therapeutic Goods Administration
WHO	World Health Organization

2.1 Introduction

This chapter introduces best practice information for the prevention and management of COVID-19, influenza, and other respiratory pathogens. This manual was developed to create a single unified guidance to support a risk-based approach for the early identification and the ongoing management of acute respiratory infections (ARIs) and COVID-19. The principles of infection prevention and control (IPAC) are fundamental processes that keep health workers (HWs), patients and visitors safe.

2.2 How ARIs spread

Acute respiratory infections are transmitted between individuals when the virus is released from the respiratory tract of an infected person and is transferred through the environment, leading to infection of the respiratory tract of an exposed and susceptible person. There are several different routes (or modes) through which transmission could occur, the chance of which is modified by viral, host and environmental factors. ARIs differ in how readily they spread (transmissibility) and the mechanism (mode) of transmission.

Respiratory infections can be transmitted via four major modes of transmission: (large) droplets and (fine) aerosols, direct (physical) contact, indirect contact (fomite),

The primary mechanism of transmission of SARS-CoV-2 is via infected respiratory particles. 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.

Influenza viruses and respiratory syncytial viruses (RSV) are thought to spread from person to person primarily through large-particle respiratory droplet transmission (e.g., when an infected person coughs or sneezes near a susceptible person). RSV may also spread via fomites.

Most ARI transmission occurs through direct **close contact**:

- People who are physically near (within 1.5 metres) a person with an ARI, 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 particles when in close contact with someone who has an ARI. Respiratory particles of various sizes are produced by breathing, talking, coughing, sneezing and behaviours such as singing and shouting
- Respiratory particles 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 smaller particles. Circumstances where airborne transmission of ARIs 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 particles in the air space
- **Inadequate ventilation or air handling -** suspended small respiratory particles and particles from the air that were not adequately removed.

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 some of the most recent variants such as Omicron and its progeny. Around 1% of COVID-19 cases will develop symptoms more than 14 days after exposure.

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 symptom onset.

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.

Influenza incubation period is about 2 days, but ranges from one to four days (WHO) and for RSV is usually 3–6 days (ranging from 2 to 8 days).

2.3 Deisolation post ARI

Deisolation or release from isolation criteria in healthcare settings considers both patient factors (presence of immunocompromise) and setting (high risk settings such as healthcare).

COVID-19

The public health advice regarding isolation has changed to reflect overall pandemic management approach, and the most up to date advice can be found here. Advice for healthcare settings may include additional controls and differ from community advice. This has ongoing importance in protecting all patients, HWs and visitors in health facilities. There is also more information here Coronavirus (COVID-19) CDNA National Guidelines for Public Health Units.

HWs who have COVID-19 and are at home are required to comply with current NSW Health advice. Return to work advice for health workers is available here. 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*. For community settings more information can be found here.

Influenza

Patients

Three days after commencement of effective anti-influenza medication AND resolution of ARI symptoms for >24 hours (afebrile without the use of antipyretics)

OR

Five days after commencement of respiratory symptoms if not treated with effective anti-influenza medication AND afebrile /asymptomatic for >24 hours.

Health workers

Stay home if unwell, even with mild symptoms (5 days from symptom onset for influenza without antiviral treatment and 3 days after commencement of effective anti-influenza medication) AND resolution of ARI symptoms for >24 hours (afebrile without the use of antipyretics).

Respiratory syncytial virus (RSV)

Adults – must be asymptomatic for > 24 hours

Children – must be asymptomatic AND reviewed by medical team.

Return to work: HW must be asymptomatic for 24 hours or have resolution of ARI symptoms for >24 hours.

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 communicable disease.

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.*

Principles of risk assessment in the context of ARI

A risk-based approach to the selection of PPE considering the time of exposure, the proximity to the patient and the procedure/task. A risk-based approach to patient care should include risk factors such as patient vulnerability (examples include but not limited to immune compromised, immunodeficiency, transplant, or patients in protective precautions).

Risk assessment parameters should include risk of infection transmission inclusive of transmissibility of infection, impact of infection, patient factors, HW risk factors, practice/procedure factors and environmental factors, while taking into consideration of HW preference, desirable and undesirable anticipated effects and the balance between them, acceptability, and ease of implementation. The following points to be considered when applying a risk-based approach.

- Identify the risk:
    - Identifying tasks or activities that increase the risk of introducing or spreading infection such as aerosol generating procedure (AGPs), patient symptoms (cough or heavy breathing) behaviour (confused, agitated, shouting)
- Identifying likely transmission route(s)
    - Type of exposure e.g., parenteral (introduction of body substance into the body through piercing or puncturing), or non-parenteral (contamination of mucus membrane e.g., eyes mouth, non-intact skin) with body substance
- Quantify the impact
    - Intensity of exposure e.g., how close you are to the patient
    - Duration of exposure e.g., how long will you with the patient
- Does it need mitigation (yes/no) or can this be reduced or eliminated
- What the mitigation is e.g., single room, negative pressure or negative flow, standard precautions, transmission-based precautions, appropriate PPE.

For more information refer to Infection prevention and control practice handbook.

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, 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 and documentation in IMs+ or relevant local incident reporting system.

Management of HWs with occupational exposure to COVID-19

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

Based on the risk assessment (refer to *PPE breach risk assessment key principles* chart below), inform HWs of their level of exposure and likely actions required, while maintaining confidentiality.

- 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
- Support and encourage working from home or options to telework where possible
- Provide follow up and support as required and plan for return to work.

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

NSW Health entities may choose 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.

Management of COVID-19 exposures

For HWs exposed to COVID-19 in the community or in the workplace, refer to COVID-19 and other ARI: Managing Health Worker Exposures and Return to Work in a Healthcare Setting for specific advice. Contact tracing of HWs exposed to COVID-19 remains important for the ongoing management of risks within healthcare settings and this may differ from the advice provided for the community. Refer to Management of patient or visitor COVID-19 and other Acute respiratory infection exposures in healthcare facilities for more information on the assessment of risk level posed to patients including children and their parents or carers, participants in care (PIC) and/or visitors if there has been contact with a COVID-19 case. Appropriate actions to be taken to minimise the risk of further spread of COVID-19 within the health facility.

PPE breach risk assessment key principles

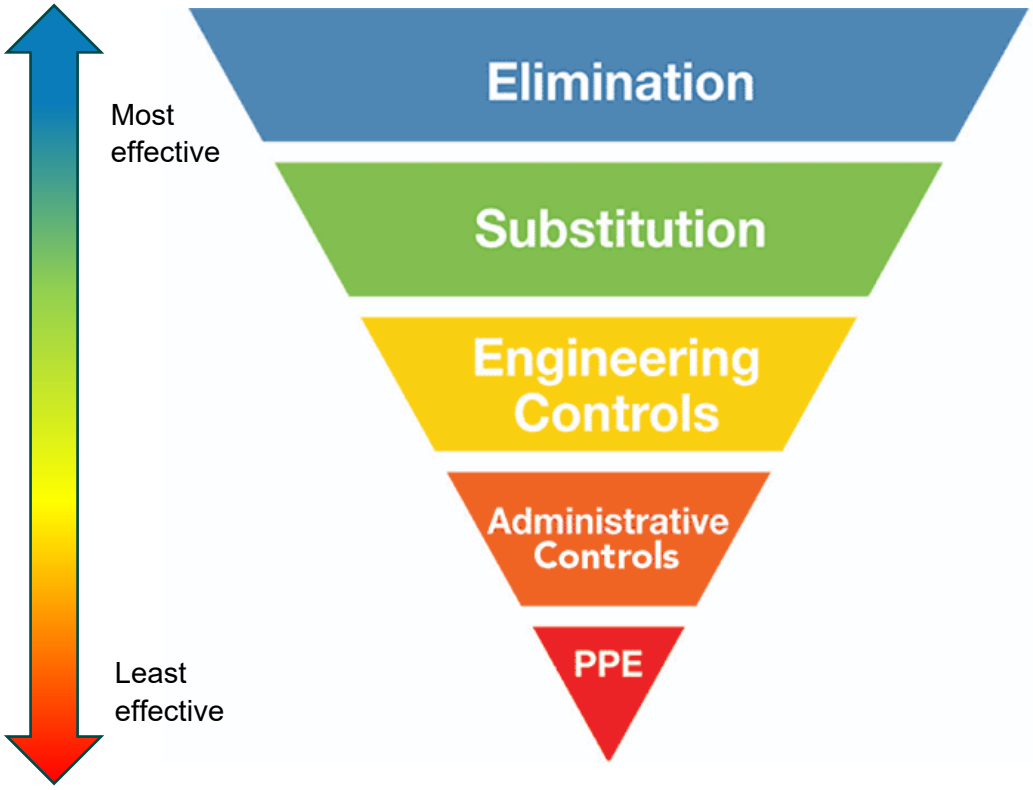
Perform a risk assessment to determine the level of exposure to a person with suspected/confirmed ARI. Where injury has occurred, perform immediate first aid. For more information refer to NSW Health Information for people exposed to COVID-19.

Low risk breach	Breaches in PPE that occur below the neck and managed immediately (e.g., torn glove)	Remove from situation Remove item Perform hand hygiene
Moderate risk breach **Increased risk of infection**	Incorrect use of PPE, incorrect PPE for task Contamination occurs during doffing (occurs above neck)	Remove from situation Remove PPE Perform hand hygiene Screening/testing and continuous monitoring
High risk breach **Likely risk of infection**	Exposure of mucous membranes by direct particles from a confirmed ARI positive (e.g. spitting in HW face by confirmed COVID-19 or influenza patient) Gross contamination during incorrect doffing Contamination occurs during doffing	Remove from situation Remove contamination and PPE Perform hand hygiene Closely monitor, screen/test Risk assess and monitor for symptoms

* Refer COVID-19 and other ARI: Managing Health Worker Exposures and Return to Work in a Healthcare Setting for more information. Removal from clinical duties may be required based on risk assessment

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



Hierarchy of Control Ranking	Examples of control measures to prevent transmission
Elimination Reduce the opportunities for the virus to be introduced	• Vaccination • Routine and targeted surveillance • Symptomatic HW and agency group to stay home and do not come to work • Remote working
Substitution Find alternative ways of providing care that reduce the potential for transmission	• Administer aerosolised medicine with spacers instead of nebulisers • Substitute in-person appointments with telehealth services, when appropriate
Engineering Controls Use physical barriers and other forms of hazard reduction for example: ventilation controls, patient separation	• Ventilation and improved air changes • Negative pressure rooms • Single room with ensuite • Isolation of patients
Administrative controls Effective and consistent implementation of policies & protocols	• 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 the hierarchy of controls for minimising the risk of COVID-19 transmission.

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.

Vaccination reduces the risk of both infection and the risk of disease requiring hospitalisation. NSW HWs are required to comply with the vaccination requirements of the NSW Health and ATAGI advice

HWs noncompliant (including exemptions) with influenza or COVID-19 vaccination, are required to wear a surgical mask as a minimum while in the health facility (clinical and non-clinical area). Where possible, meal and beverage breaks should be taken separate from other HWs (e.g., outdoors) during times when masks are removed. HWs may be reassigned to an area of lower risk under a risk management plan. Additional controls may also be implemented during local outbreak events. P2/N95 respirator is applied based on the risk assessment when a P2/N95 is indicated (suspected or confirmed COVID-19, ARI until diagnosis).

2.6 Strategies to prevent or minimise transmission of ARIs

The following strategies are to be applied to ensure HWs, patients and visitor safety, along with sustainable and continuous quality care provision within healthcare settings.

2.6.1 Early recognition of patients with suspected or confirmed ARI

Early recognition, identification, isolation, and reporting of ARIs and application of source control, including respiratory hygiene are central to effective containment and management of any communicable diseases.

As per Communicable Diseases Network Australia (CDNA) ARI includes recent onset of new or worsening acute respiratory symptoms: cough, breathing difficulty, sore throat, or runny nose/nasal congestion with or without other symptoms (see below).

Other symptoms may include:

- headache, muscle aches (myalgia), fatigue, nausea or vomiting and diarrhoea. Loss of smell and taste and loss of appetite can also occur with COVID-19, but is variable and its absence doesn't preclude COVID-19
- fever (≥37.5°C) can occur, however is less common in elderly individuals
- in the elderly, other symptoms to consider are new onset or increase in confusion, change in baseline behaviours, falling, or exacerbation of underlying chronic illness (e.g., increasing shortness of breath in someone with congestive heart failure).

Early recognition of patients who have suspected or confirmed ARI is essential to maintaining the health and well-being of HWs, patients/clients and the community. For more information refer to NSW Health Influenza control guideline and NSW Health Respiratory syncytial virus (RSV) control guideline.

The national case definition for COVID-19 is provided by CDNA. Case definitions 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

Testing for surveillance has continued to undergo transition as the COVID-19 pandemic has progressed and is a key strategy and tool for preventing and controlling infection in healthcare. Testing for surveillance and IPAC requires careful consideration and planning. Persons meeting the close contact definition may benefit from being tested for SARS-CoV-2. Information about COVID-19 testing is available here.

Visit Coronavirus (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 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
- Disposable surgical masks
- 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.

2.6.3 Advice for patients with an ARI

Patients with any ARI symptom 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 be worn by patients (educated on the correct wearing) where their clinical care is not compromised for example, when receiving oxygen therapy via an oxygen mask

- A surgical mask can be worn until it is damp, moist, damaged or uncomfortable for the wearer
- Once the patient is isolated in a single room, they do not need to routinely wear a mask
- Patients are to be encouraged to perform hand hygiene before leaving their room.

2.6.4 Application of infection prevention and control principles

When applying infection prevention and control principles, three main levels of control must be considered.

The first level consists of administrative controls, which are measures taken to ensure the entire system is working effectively. These controls include:

- Implementing procedures for triage of patients
- Detecting infections early
- Separating infectious patients from others
    - Consideration for the establishment of cohort areas/ zones within the functional clinical areas 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 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 correct 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 includes 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
- GL2023_009 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 airborne precautions

Room placement of 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 ARI 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 m^3 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.

2.6.5 Application of standard precautions for all patients at all times

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.

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 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.

Principles of risk assessment for individual patients should consider risk of acquisition and development of serious disease and requirement for additional strategies for example includes but not limited to immunocompromised patients, immunodeficiency, transplant, may require protective precautions.

These evidence-based practices are designed to both protect individuals and prevent the 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.

2.6.6 Implement transmission-based precautions

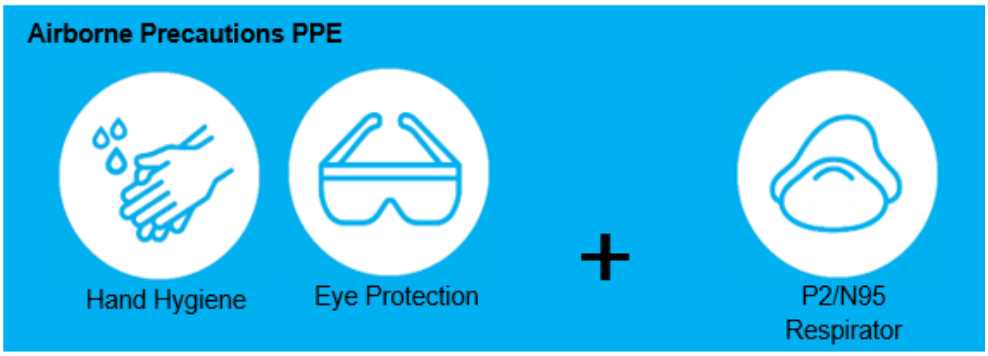
Transmission-based precautions should be used when standard precautions alone are insufficient to interrupt the transmission of a microorganism based on its mode(s) of transmission. Respiratory protection devices are an important aspect of IPAC, and aligning within the hierarchy of control as PPE, they should be considered as the last line of defence.

Droplet precautions (surgical mask and eye protection)

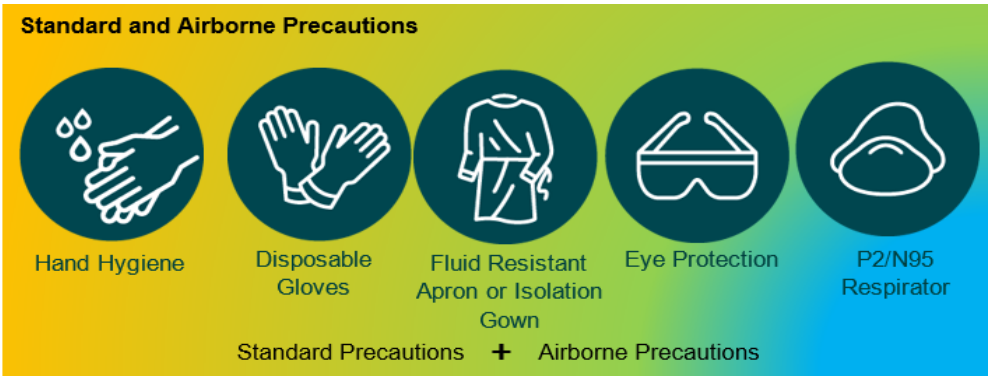
- Patients negative for COVID-19 without epidemiological link but present with an ARI or recent onset of fever without an alternative clinical focus. (Screening and testing for other respiratory viruses are recommended). Refer to Winter strategy: testing and IPAC for ARIs for more information.

Airborne precautions (P2/N95 respirator and eye protection)

- Confirmed COVID-19 cases AND
- Suspected cases (a person who meets clinical **AND** epidemiological criteria or a person identified as a high-risk contact, regardless of symptoms)



Use of gown/apron and gloves based on risk assessment, proximity, duration and intensity of exposure during care provision.



Note:

- Before entering room or patient zone – perform hand hygiene and a risk assessment on the need for apron/gown i.e., duration and type of patient contact or contact with blood or body substance (as per standard precautions)
- 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 tasks
- 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
- Whether an apron or a gown is worn, it should be changed between contact with patients or their environment. For more information refer to Gown or Apron: Principles for Risk Assessing.

Organisation of patient zones or cohorting

Zoning (cohorting) refers to the grouping of patients with the same pathogen in the same area. Ring fencing is cohorting of susceptible patients. 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.

Patient placement – infection prevention and control risk assessment guide

To ensure the safe and timely placement of a patient with a known or suspected transmissible infection, patient placement decisions should be made based on the guidance provided within the CEC Infection Prevention and Control Practice Handbook and a combined transmission based approach may require for specific communicable diseases. Please refer to the patient placement risk assessment guide below.

Risk factors to consider	Identify risks	Evaluate risks	Treat risks
Establish the context	**Source and mode of disease transmission**	**Clinical impact of transmission**	**Need for isolation, standard and transmission-based precautions**
• Acute Respiratory Infection/symptoms (ARI) • MRO colonised or infection • Transmissible infection (e.g., chicken pox) • Recently returned traveller from overseas • Presence/symptoms of diarrhoea, vomiting or incontinence • Patient/client risk factors e.g., falls risk • Cognitive ability e.g., dementia • Is the patient immunocompromised, immune deficient (e.g., chemotherapy) • Palliative/end of life care • Room air changes/ ventilation if sustained requirement for procedures such as BiPAP, NIV, nebuliser	How is the disease spread? Is the transmission route known? Spread from a single or multiple source? Spread from person to person?	• Risk to other patients in shared space • Possible mode of disease transmission • Bathroom/toilet availability/configuration • Presence of wounds or indwelling devices/drains • Post-operative • On immunosuppressive therapy	☐ Single room ☐ Negative pressure room ☐ Positive pressure room Precautions required: ☐ Contact ☐ Droplet ☐ Airborne ☐ Combined (contact, droplet and airborne)

2.7 Visiting patients/clients in healthcare facilities

Maintaining access for visitors is essential even during a pandemic or outbreak. NSW healthcare facilities should continue to support patients to receive visits from partners, family, friends, participants in care (PIC), carers and/or volunteers. Refer to *Appendix 2C: Visitors and participants in care visiting guidance during COVID-19 and ARI season*.

2.8 Environmental cleaning

Environmental cleaning and disinfection are crucial to preventing transmission of infection in the healthcare environment. Respiratory viruses 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

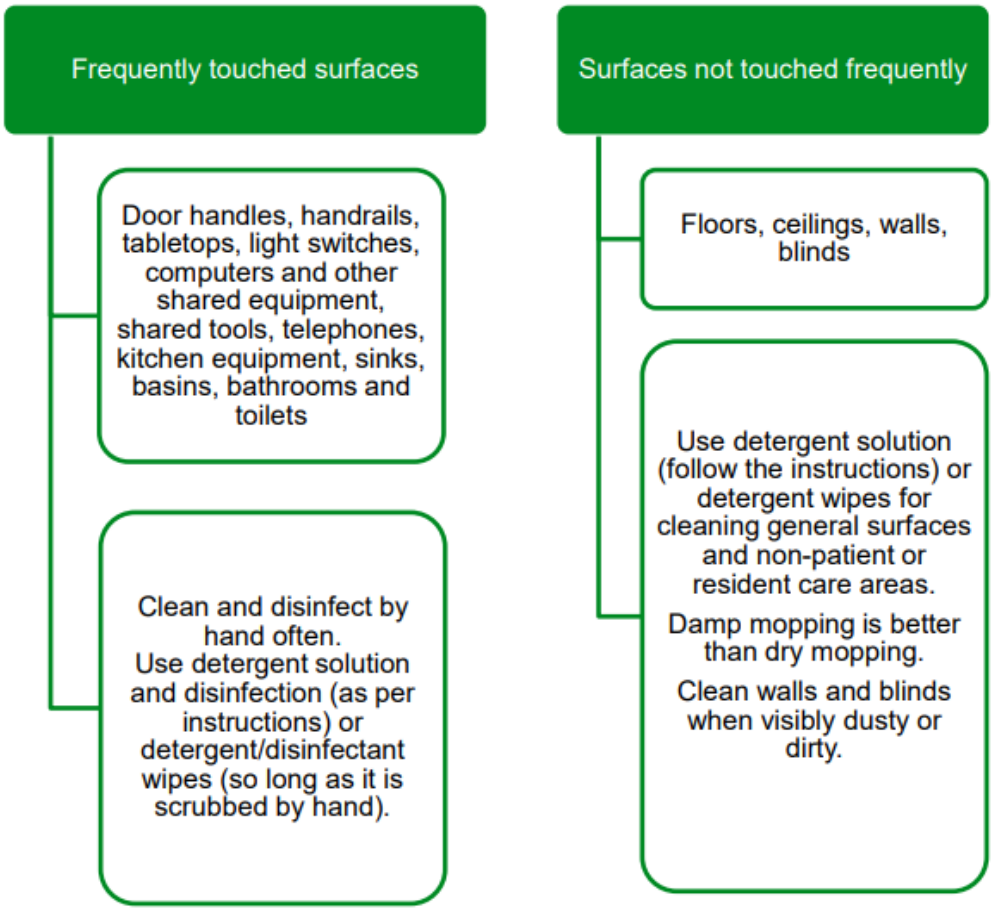
Routine cleaning should be undertaken using an appropriate detergent and disinfectant. High touch point cleaning is used to describe frequently touched surfaces by patients, HWs, volunteers and visitors within the healthcare environment. High touch points (such as doorknobs, bedrails, tabletops, light 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 both 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.

- Clean using an S-shaped motion from clean to dirty (see Figure 3)
- 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 4).

FIGURE 3: S-SHAPED METHOD FOR CLEANING (IMAGE FROM GAMA HEALTHCARE)

FIGURE 4: ROUTINE ENVIRONMENTAL CLEANING (FROM AUSTRALIAN GOVERNMENT, 2021B)



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 requires both thorough cleaning and disinfection.

- Terminally clean room/zone on discharge or transfer from inpatient units
- Always check with the nurse-in-charge before entering the room
- Following an aerosol generating procedure (AGP, cleaners should only enter the room after 35-45 minutes depending on the air changes per hour within the room)
- 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, RSV and multidrug resistant organisms if devices are shared between patients without cleaning and disinfection.

Any shared non-critical patient equipment should be cleaned and disinfected after use according to the manufacturer instructions for use (IFU). Standard precautions should be applied while cleaning these items. If cleaning occurs within the patient room apply precautions based on risk assessment.

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

Ensure cleaning audits within functional risk area are maintained. Refer to the CEC Environmental Cleaning Standard Operating Procedure for further information and NSW Health Cleaning of the Healthcare Environment Policy Directive.

Information for HWs that perform cleaning tasks in healthcare facilities

When cleaning rooms 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
- Use a TGA registered hospital-grade disinfectant
- 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.

Reprocessing reusable medical devices (RMDs)

Routine procedures for cleaning and disinfection for reprocessing RMDs such as surgical instruments, flexible endoscopes, ultrasound probes should be followed. No additional processing or procedures are required for RMDs used on ARI suspected or confirmed cases. Used RMDs should not be labelled as 'COVID-19 CASE'.

Reprocessing personal protective equipment

The CEC does not recommend or endorse any strategies for the reuse of single use PPE that differ from standard infection prevention and control practices. In times of a pandemic and global supply shortages, temporary emergency strategies can be considered. When a single use item is reprocessed for reuse, the healthcare facility responsible for carrying out reprocessing activities meets the legislative definition of a manufacturer as per the Australian Register of Therapeutic Goods ARTG Therapeutic Goods Act 1989. For more information refer to TGA - Guidance on Personal Protective Equipment for Health Professionals.

2.9 Handling of linen

Management of linen 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.

2.10 Waste management

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.

Non-clinical waste disposal

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) 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.

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 confirmed ARI patient discharge/transfer
- Disposable curtain use should be checked with the manufacturers for the efficacy against specific microorganism; if unsure, dispose after transfer/discharge of ARI cases.

2.12 Food service utensils (COVID-19)

- 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 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 ARI or COVID-19 in the absence of a spill (or similar) is thought to be unlikely and considered extremely low risk.

Minimise handling of paper records/forms by patients where able, risk of handling can be mitigated by asking patients to perform hand hygiene before touching records/forms.

2.14 Handling of deceased bodies (COVID-19)

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 (standard 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'.

More information is available on NSW Health COVID-19 – Handling of bodies by funeral directors and cemetery staff.

2.15 Transport

Inter-facility patient transport

All agencies involved in the transport of ARI suspected or confirmed patients are to implement their agency specific standard and droplet or airborne precautions including eye protection (based on risk assessment).

If tolerated, a surgical mask should be worn by ARI suspected or confirmed 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.

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 is two or more confirmed cases in a patient/resident, HW or visitor of a health facility or residential care facility. If an outbreak is identified in the facility the following steps are to be undertaken:

- Risk assess patients using the Management of patient or visitor COVID-19 and other acute respiratory infection exposures in healthcare facilities risk matrix and staff using the COVID-19 and other ARI: Managing health worker exposures and return to work in a healthcare setting risk matrix
- Notify the local Public Health Unit (PHU) of an outbreak when 2 or more patients/HW from the same ward/unit test positive to COVID-19, influenza, or RSV, within a 72-hour period and there have been transmission links identified
- In conjunction with local IPAC, collect data on cases and determine the index case, potentially exposed patients and HWs. Prepare an initial outbreak brief for relevant stakeholders
- Restrict non-essential patient visitors over the declared outbreak period (note: compassionate visitor exceptions require consideration). Closely risk-manage patient visitors (PPE and hand hygiene compliance required, screen for recent respiratory symptoms, provide information to visitor about potential risk acquisition)
- Notify other care facilities and hospitals where residents have had a high-risk exposure and have subsequently been transferred or require immediate transfer for care
- Outbreaks with significant ongoing transmission may require stricter limitation of visitors and/or ward closure to admissions if advised by the outbreak management team
- Consider COVID-19 positive patient eligibility for antiviral treatment and document if they decline or are considered ineligible
- Follow local documentation and reporting
- A decision to declare the outbreak over should be made by the internal OMT, in consultation with the IPAC and PHU. This should be at least 7 days since the last date of identified transmission.

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, and for residential care homes refer to Protocol to support joint management of a COVID-19 outbreak in a residential aged care facility in NSW.

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

This information covers advice for HW return to work after having COVID-19 infection 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 5 weeks of their previous positive test should have repeat 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 5 weeks of the previous test. However, 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.

For other ARIs refer to CEC Infection Prevention and Control Guidelines for Management and Assessment of Acute Respiratory Infection.

COVID-19 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.

For more information on COVID-19 and other ARI - Managing health worker exposures and return to work in a healthcare setting see here.

Recommendation on ARI testing see here.

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 ARI symptoms related to COVID-19 infection)
- Reinfection may occur. Symptomatic testing required and high-risk contact require assessment if more than 5 weeks after previous positive test.

Deisolation decisions			
	Patient returning to non-COVID ward, bed space or out of isolation if in RACF	**Discharge to the community**	**Outpatient appointment required after discharge**
Patient illness	**NOT IMMUNOCOMPROMISED**		
Mild-Moderate	After day 7 AND negative RAT or PCR OR Day 10 without testing	Recommend isolate at home until day 5 AND at least 24hrs after resolution of symptoms[1] Avoid high risk settings until day 7	Requires RAT or PCR if either ongoing symptoms OR visit is before day 10
Severe or Critical	After day 10 AND negative RAT or PCR OR Day 14 without testing	Recommend isolate at home at least until day 5 AND at least 24hrs after resolution of symptoms[1] Avoid high risk settings until day 14	Requires RAT or PCR if either ongoing symptoms OR visit is before day 14
	IMMUNOCOMPROMISED (See CDNA definitions)		
All categories of illness	**After day 14 AND** Two consecutive negative RATs 24 hours apart OR Negative PCR	Recommend 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	Requires RAT or PCR if visit is prior to day 21[2] See here for NSW SoNG appendix for more information

1. Routine RAT is not required for patients being discharged to complete isolation at home. RAT may be required if entering a high-risk facility
2. 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 mm^3 (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.

Appendix 2B: Recommendations for COVID-19 surveillance testing in NSW healthcare facilities

As an overriding principle, any testing should be done in conjunction with an assessment that includes a symptom check, contact status, whether they are immunocompromised and whether the person has recently recovered (for COVID-19 in the last 5 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.

COVID-19 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.

The following tables provides recommendations for COVID-19 surveillance testing for patients and HWs aligned with the response and escalation framework alert levels. Also refer Winter Strategy: Testing and IPAC for Acute Respiratory Infection.

TABLE A: COVID-19 SURVEILLANCE TESTING FOR PATIENTS (AND CARERS/PARTICIPANTS IN CARE)

⚠ **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.

	Alert Level see Risk Dashboard here			
	Foundational	**Yellow Low transmission**	**Amber Moderate to high transmission**	**Red High Transmission, outbreaks**
ED presentations – Adult	No routine testing	No routine testing	Test all symptomatic and targeted testing based on risk assessment	Recommend testing all ED presentations
ED presentations – children	No routine testing	No routine testing	Test all symptomatic and targeted testing based on risk assessment	Recommend testing all ED presentations
Admissions (adult and paediatric)	No routine testing	Consider targeted** testing admissions; no routine follow-up testing	Test all symptomatic and targeted testing based on risk assessment	Test all admissions and consider re-test days 3-5
Adult parents/carers staying with hospitalised children	No routine testing	No routine testing	Test parents/carer when child is tested	Test parents/carer when child is tested
Elective admissions (adult and paediatric)	No routine testing	No routine testing	Consider testing symptomatic admissions, prefer PCR* 24-48 hours prior to admission	Test **all** elective admissions, if using PCR*, 24-48 hours prior to admission
Emergency surgery	No routine testing	Consider targeted testing admissions PCR-rapid	Consider PCR-rapid test for all admissions	Test all Consider using PCR-rapid as primary test
Outpatient appointments - including home visits (community care)	No routine testing	No routine testing.	Test all symptomatic and targeted testing based on risk assessment	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**
Drop-in Clinics (SH Clinics, D&A)	No routine testing	No routine testing	Test all symptomatic and targeted testing based on risk assessment	All: RAT on presentation

Antenatal appointments and presentations	No routine testing	No routine testing	No routine testing	Telehealth where possible RAT prior if face-to-face for appointments longer than 15' and/or if mask needs to be removed for consultation**
Antenatal and postnatal wards: (only direct admissions, does not include those admitted through Birth Unit)	No routine testing	Consider targeted testing admissions	RAT or PCR-rapid on admission and Recommend retest days 3-5	Test all admissions with RAT or PCR-rapid and consider retesting days 3-5
Birthing Unit presentations	No routine testing	Consider targeted testing admissions	RAT or PCR-rapid on arrival	RAT or PCR-rapid test on arrival
Participants in care including support person	No routine testing	No routine testing	RAT or PCR- rapid on arrival. RAT 2–3x weekly while baby is in nursery	RAT or PCR-rapid on arrival. RAT 2-3x weekly while baby is in nursery
Elective caesarean section	No routine testing	No routine testing	PCR*, RAT or PCR-rapid on admission	PCR-rapid or RAT on day of admission PCR* testing the day prior to admission
Dialysis	No routine testing	Consider weekly testing	Test 2 – 3 x week at site depending on visit schedule	All: RAT on presentation or PCR-rapid
Chemotherapy/radiotherapy appointments	No routine testing	No routine testing Consider weekly testing for patients with frequent appointments	Test 2 – 3 x week at site or at community testing centre	All: RAT on presentation or PCR-rapid
Mental Health unit admissions	No routine testing	Consider RAT on admission	RAT or PCR-rapid on admission. Recommend retest days 3-5	Test all admissions and consider retest on day 3-5
Transfer back to RACF or Group home	Testing as per above guidelines for admissions. See here for more information. Absence of a test should not delay transfer of this patient group			

* 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

**Targeted testing: Identification of most vulnerable at highest risk of acquisition or transmission that warrants additional control strategies

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.

There is usually a seasonal increase of patients with respiratory pathogens, and it is expected to include patients with COVID-19. In the event of significantly increased community transmission, surveillance testing on admission and 3 - 5 days later may be recommended. This would initially be in high-risk settings and for high-risk patients. Any recommendations beyond this would be reviewed by the Risk Escalation Panel.

TABLE B: SURVEILLANCE TESTING FOR STAFF

	Alert Level see Risk Dashboard here			
	Foundational	**Yellow Low transmission**	**Amber Moderate to high transmission**	**Red High Transmission, outbreaks**
Staff who work in high-risk areas – ICU and ED	No routine testing	No routine testing	Consider testing 2-3 x/week PCR or RAT	Consider testing 2-3 x/week RAT or PCR
Staff in COVID wards/outbreaks	Consider testing 2-3 x/week RAT or PCR			
Staff working in transplant units, haematology, and oncology wards	No routine testing		Consider testing 2-3 x/week – RAT or PCR	

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.

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 PIC using the correct PPE and other 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 IPAC principles should be seen as how to engage, support and manage visitors in the health facility rather than how to restrict their attendance.

For more information on visitation guidance refer *Chapter 3: NSW IPAC Response and escalation framework*.

Chapter 3: NSW IPAC Response and escalation framework

This chapter is part of Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections (ARIs) for acute and non-acute healthcare settings, Clinical Excellence Commission, 2023.

The chapter summarises current evidence about ARIs including COVID-19 infection prevention and control strategies and interventions, and their implementation in healthcare settings.

Contents

Key points

- NSW provides a risk assessment for the health system as a whole
- The COVID-19 risk monitoring dashboard brings together data on cases, clusters, the public health response and the impact of COVID-19 on the workforce
- An expert panel reviews the dashboard and assigns a risk rating which informs infection prevention and control practices.

Acronyms and abbreviations

ACFs	Aged Care Facilities
ACI	Agency for Clinical Innovation
AGP	Aerosol-generating procedure
ARI	Acute respiratory infection
CEC	Clinical Excellence Commission
CHO	Chief Health Officer
DCF	Disability Care Facility
ED	Emergency Department
FAQs	Frequently asked questions
GP	General Practitioner
HW	Health worker
ICU	Intensive Care Unit
IPAC	Infection prevention and control
LHD	Local Health District
MoH	NSW Ministry of Health
MPS	Multi-Purpose Service
NSW	New South Wales
NSWA	New South Wales Ambulance
PHEOC	Public Health Emergency Operations Centre
PHO	Public Health Order

PPE	Personal protective equipment
RACF	Residential aged care facility
RERP	Risk Escalation Review Panel
SHN	Specialty Health Network
TB	Tuberculosis
WHS	Work Health and Safety

3.1 Introduction

The NSW Infection Prevention and Control (IPAC) response and escalation framework (risk matrix) has been developed to provide guidance to NSW health facilities, historically on levels of COVID-19 transmission risk, and now transitioning to include other acute respiratory infections and possible communicable diseases of state or national significance. The development of this framework has been informed by NSW, national and international evidence, and experience. The intent is that any state-wide changes to risk level is informed by consultation with the Ministry of Health (MoH), Local Health Districts (LHDs), Speciality Health Networks (SHNs) and other health organisations such as NSW Ambulance, closely monitored through health system metrics, and guided by the Risk Escalation Review Panel (RERP) with the baseline state alert level being directed by the Secretary of NSW Health. This model may also be utilised for future pandemics, communicable diseases of state or national significance or high consequences infectious diseases (HCID).

Transitioning to endemic controls for COVID-19 will incorporate COVID-19 monitoring and management into existing infection prevention and control risk management controls for transmissible infections.

The revised framework adopts a foundational level approach to ensure the application of robust infection prevention and control practices as a minimum on which escalation strategies are added to enhance IPAC strategies.

As the system moves to foundational IPAC, LHDs/SHNs may apply additional principles to outbreak management based on the framework, compliance with the IPAC policy directive and Triggers for Escalation guideline.

3.2 Escalation principles

During situations of increased risk, it is important to be able to escalate and provide a proportionate response with specific infection prevention and control precautions to align with the level of community transmission or level of healthcare transmission and impact. The State-wide level of risk including escalation or de-escalation is assessed and guided by the RERP.

This information is summarised in the risk monitoring dashboard available here.

Transition between risk levels

Although the risk of community transmission and consequent impact on health services varies across LHDs/SHNs, during a state-wide pandemic/outbreak response the agreed approach is to have a state-wide decision-making process. The criteria used to transition between risk levels, and the system impact are a composite of community transmission, the public health response, and the burden of infection in the health system. Where an LHD/SHN local community risk warrants additional assessment, this should be escalated by the Chief Executive of the LHD/SHN to the Chief Health Officer (CHO) who will call an extraordinary meeting of the RERP to agree on an NSW Health response. As information about the COVID-19 pandemic is continuing to evolve there may be additional advice provided by the CHO or other agencies which may result in enhancement of existing risk levels. Additional precautions may apply through Public Health Orders (PHO) where instructed based on community transmission and epidemiological risk.

Escalating to higher transmission risk levels requires LHD/SHNs to rapidly respond and implement key controls aligning with each risk level. De-escalation may require additional communication and implementation of changes may take longer.

Moving to the management of COVID-19 and other transmissible infections as part of routine operations will require LHDs/SHNs to ensure they have robust local IPAC strategies. This will require embedding foundational (baseline) IPAC practices to include outbreak management escalation and enhancements of strategies based on local epidemiology as determined by the IPAC program (refer to *NSW IPAC Response and escalation framework - Principles for IPAC monitoring and management of local implementation*).

Private and independent health care providers may refer to CEC advice for guidance and to inform their own local risk assessments.

3.2.1 System Impact

Added system impact to an alert is noted by the additional pressures of positive case numbers and high staff and/or service impact. The system impact alert level will be applied plus the risk level as allocated by the panel and the risk escalation framework and may cover impacts outside of IPAC. The development of this additional level has been informed by NSW, national and international experience and evidence. The intent is that any changes to risk level are state-wide, an approach informed by consultation with the MoH, LHD/SHNs and other health organisations such as NSW Ambulance and HealthShare NSW.

The system impact level considerations are added to the current risk alert level to provide a complete set of guidance for healthcare. Examples of triggers for system impact are in the table below.

System Impact Alert Level	
Workforce	Significant impact due to critical staff shortages; large furlough numbers, contact numbers and positive HW case numbers.
ICU Capacity	<20-25% ICU bed capacity including surge beds (either bed availability and/or staff to manage beds), unable to deliver usual services.
Hospital capacity	Hospital at capacity and/or unable to be staffed due to sick leave. Substantial delay in admissions, unable to admit elective patients.

ED Capacity	Either significant number of ED presentations (inadequate beds and/or inadequate staff numbers); serious delays in patient assessment times; inability to admit or delays in admission.
Transport Capacity	NSW Ambulance & HealthShare NSW: Either significant or marked increase in demand and or serious delays in transport timeliness and response times. A high proportion of COVID transports.
PPE Availability	Significant or marked increase in demand, major strategies to manage and ensure supply, with or without impact on stock cover.
Surgery	Emergency surgery only. • Risk assessment for day procedures to continue • Emergency day procedures where capacity and pressure on system continues to rise

3.2.2 Alert level plus

Where there are additional requirements required for a COVID-19 risk alert level that does not warrant a complete move to another level, the risk escalation panel may apply the alert level PLUS.

The details of additional requirements will be described in the risk escalation dashboard and could include elements such as PHO; IPAC strategies such as additional PPE requirements.

3.3 General principles for all settings and all scenarios

The following principles provide a robust framework for LHD/SHNs and other healthcare organisations to manage risk and apply to all settings and all scenarios. A key focus during escalation is to ensure that the hierarchy of controls are in place and to look at the use of PPE in response to the level of community transmission.

The foundational principles of infection prevention and control must always be applied across all settings. These principles apply across all scenarios and are listed below:

1. Administrative and engineering controls
   (Refer to *Chapter 2 – Implement transmission-based precautions*)
2. Physical distancing during amber and red alert risk level
3. Standard precautions for all healthcare interactions
   (Refer to *Chapter 2 – Application of standard precautions for all patients at all times*)
4. Hand hygiene
5. Enhanced cleaning of high touch surfaces
   (Refer to *Chapter 2 – Environmental cleaning*)
6. Ensure relevant HW have completed donning and doffing of PPE training
7. Ensure there is on-site, readily available testing of causative organism for HWs (e.g., COVID-19)
8. Health workers (HWs) stay at home if they are unwell
9. Entry screening for visitors and HW as per NSW Health guidelines.

NSW IPAC Response and escalation framework - Principles for IPAC monitoring and management for local implementation

The following should be read in conjunction with the below additional policies and guidelines:

- Infection Prevention and Control Policy
- Infection Prevention and Control Practice Handbook
- Triggers for Escalation Following Detection of Infection Outbreaks or Clusters

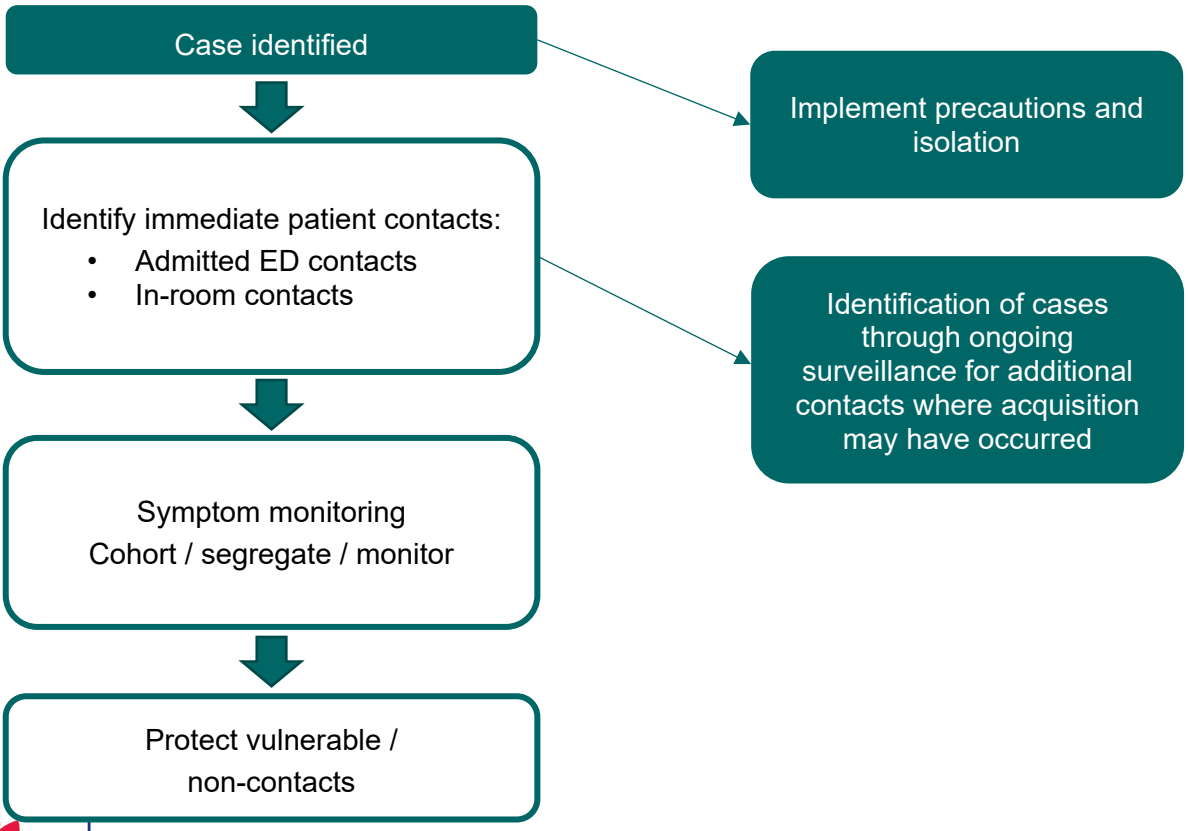
Monitoring measures for local IPAC programs supported by local systems:

- Monitor case numbers of ARI, COVID-19 and other communicable infections
- Targeted contact tracing as part of foundational level IPAC
- Identification and reporting through ongoing surveillance – ARI, COVID-19 and other communicable infections prevalence/incidents
- Occupancy rates of ARI, COVID-19 and other communicable infection cases
- Monitor staff furloughing numbers
- Monitor and manage Healthcare Associated Infections (HAIs)
- Screening and cohorting of patients
- Patient flow review to incorporate IPAC status supporting bed allocation for IPAC and minimising patient movements

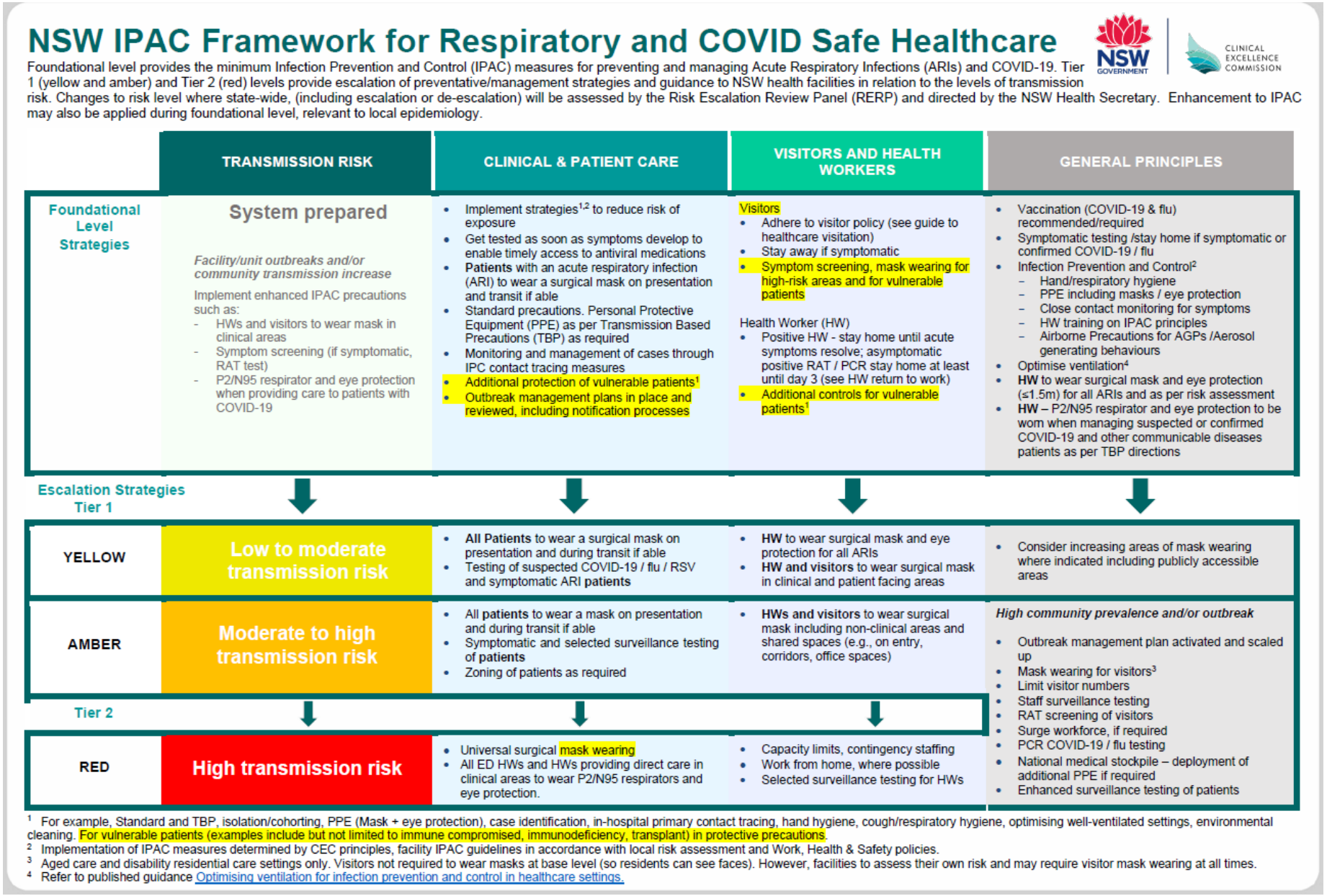
Escalation reasons for consideration: (monitored and directed by IPAC/ID)

- Increased case numbers (identified pathogen)
- Increased clusters / multiple outbreaks
- Significant staff furlough.
- Consideration of state-wide parameters/MOH directive

FIGURE 5: IN-HOSPITAL (MODIFIED) CONTACT TRACING



3.4 NSW Risk matrix summary



NSW IPAC Framework for Respiratory and COVID Safe Healthcare

Foundational level provides the minimum Infection Prevention and Control (IPAC) measures for preventing and managing Acute Respiratory Infections (ARIs) and COVID-19. Tier 1 (yellow and amber) and Tier 2 (red) levels provide escalation of preventative/management strategies and guidance to NSW health facilities in relation to the levels of transmission risk. Changes to risk level where state-wide, (including escalation or de-escalation) will be assessed by the Risk Escalation Review Panel (RERP) and directed by the NSW Health Secretary. Enhancement to IPAC may also be applied during foundational level, relevant to local epidemiology.

	TRANSMISSION RISK	CLINICAL & PATIENT CARE	VISITORS AND HEALTH WORKERS	GENERAL PRINCIPLES
Foundational Level Strategies	**System prepared** *Facility/unit outbreaks and/or community transmission increase* Implement enhanced IPAC precautions such as: - HWs and visitors to wear mask in clinical areas - Symptom screening (if symptomatic, RAT test) - P2/N95 respirator and eye protection when providing care to patients with COVID-19	• Implement strategies[1,2] to reduce risk of exposure • Get tested as soon as symptoms develop to enable timely access to antiviral medications • **Patients** with an acute respiratory infection (ARI) to wear a surgical mask on presentation and transit if able • Standard precautions. Personal Protective Equipment (PPE) as per Transmission Based Precautions (TBP) as required • Monitoring and management of cases through IPC contact tracing measures • Additional protection of vulnerable patients[1] • Outbreak management plans in place and reviewed, including notification processes	Visitors • Adhere to visitor policy (see guide to healthcare visitation) • Stay away if symptomatic • Symptom screening, mask wearing for high-risk areas and for vulnerable patients Health Worker (HW) • Positive HW - stay home until acute symptoms resolve; asymptomatic positive RAT / PCR stay home at least until day 3 (see HW return to work) • Additional controls for vulnerable patients[1]	• Vaccination (COVID-19 & flu) recommended/required • Symptomatic testing /stay home if symptomatic or confirmed COVID-19 / flu • Infection Prevention and Control[2] – Hand/respiratory hygiene – PPE including masks / eye protection – Close contact monitoring for symptoms – HW training on IPAC principles – Airborne Precautions for AGPs /Aerosol generating behaviours • Optimise ventilation[4] • **HW** to wear surgical mask and eye protection (≤1.5m) for all ARIs and as per risk assessment • **HW** – P2/N95 respirator and eye protection to be worn when managing suspected or confirmed COVID-19 and other communicable diseases patients as per TBP directions
Escalation Strategies Tier 1				
YELLOW	**Low to moderate transmission risk**	• **All Patients** to wear a surgical mask on presentation and during transit if able • Testing of suspected COVID-19 / flu / RSV and symptomatic ARI **patients**	• **HW** to wear surgical mask and eye protection for all ARIs • **HW and visitors** to wear surgical mask in clinical and patient facing areas	• Consider increasing areas of mask wearing where indicated including publicly accessible areas
AMBER	**Moderate to high transmission risk**	• All **patients** to wear a mask on presentation and during transit if able • Symptomatic and selected surveillance testing of **patients** • Zoning of patients as required	• **HWs and visitors** to wear surgical mask including non-clinical areas and shared spaces (e.g., on entry, corridors, office spaces)	*High community prevalence and/or outbreak* • Outbreak management plan activated and scaled up • Mask wearing for visitors[3] • Limit visitor numbers • Staff surveillance testing • RAT screening of visitors • Surge workforce, if required • PCR COVID-19 / flu testing • National medical stockpile – deployment of additional PPE if required • Enhanced surveillance testing of patients
Tier 2				
RED	**High transmission risk**	• Universal surgical mask wearing • All ED HWs and HWs providing direct care in clinical areas to wear P2/N95 respirators and eye protection.	• Capacity limits, contingency staffing • Work from home, where possible • Selected surveillance testing for HWs	

[1] For example, Standard and TBP, isolation/cohorting, PPE (Mask + eye protection), case identification, in-hospital primary contact tracing, hand hygiene, cough/respiratory hygiene, optimising well-ventilated settings, environmental cleaning. For vulnerable patients (examples include but not limited to immune compromised, immunodeficiency, transplant) in protective precautions.
[2] Implementation of IPAC measures determined by CEC principles, facility IPAC guidelines in accordance with local risk assessment and Work, Health & Safety policies.
[3] Aged care and disability residential care settings only. Visitors not required to wear masks at base level (so residents can see faces). However, facilities to assess their own risk and may require visitor mask wearing at all times.
[4] Refer to published guidance Optimising ventilation for infection prevention and control in healthcare settings.

3.5 NSW Risk matrix table

Health worker mask use

The risk of undetected introduction of ARI/COVID-19 into health facilities changes with the level of community transmission and features of the circulating strain. As this will continue to change, additional precautions including the routine use of masks and physical distancing (during amber and red alert risk level) may apply.

Recommended precautions:

- Airborne precautions: P2/N95 respirator and eye protection when providing care to patients with suspected or confirmed COVID-19, undiagnosed ARI or other communicable disease spread via airborne route
- Droplet precautions: Surgical mask and eye protection when providing care to patients with acute respiratory infection (ARI)
- Contact precautions: Apron/gown and gloves when direct and close contact with patients based on risk assessment
- Standard precautions: Includes hand hygiene, environmental cleaning, cough etiquette and respiratory hygiene – standard precautions apply to all settings where care is provided

Risk Matrix		Foundational System Prepared	Yellow Alert Low to Moderate Transmission	Amber Alert Moderate Transmission	Red Alert High Transmission
Patients	**Patients with an ARI to wear a surgical mask where able on presentation and transit if able**				
	All patients in hospital	Respiratory virus testing of symptomatic patients Isolate in single room/cohort Paediatrics: isolate in bedspace following risk assessment	Patients with ARI to be tested for respiratory viruses, single room isolation if possible. Targeted and risk assessed surveillance screening of admissions (See Appendix 2B). All patients to wear a surgical mask on presentation and during transit if able	Targeted surveillance screening of patients Manage suspected or confirmed COVID-19* patients in a single room where possible	All patients to wear a mask on presentation and during transit if able Surveillance screening of patients Manage suspected or confirmed COVID-19* patients in a single room where possible. Prioritise single rooms according to risk. Cohort if no single rooms available. Minimise patient movement where safe to do

*(or communicable disease of state or national significance)

Risk Matrix		Foundational System Prepared	Yellow Alert Low to Moderate Transmission	Amber Alert Moderate Transmission	Red Alert High Transmission
Patients (cont.)	Presenting directly to ED	All patients with **ARI** to wear a surgical mask on presentation and during transit if able	All patients to wear a surgical mask on presentation and during transit if able		Patients to wear a surgical mask when receiving care if able
	Patient presenting directly to Birth Suite, medical imaging, outpatients, rehabilitation groups and community health services	All patients with **ARI** to wear a mask on presentation and during transit if able	All patients to wear a surgical mask on presentation and during transit if able		
	Maternity (including presenting directly to birthing suite) AND paediatric patients	Mothers, parents, and participants in care with **ARI** to wear a surgical mask if able. Mother and baby to remain together. Children 12 years and under are not required to wear a mask	Mothers, parents, and participants in care wear a surgical mask if able Mother and baby to remain together Children 12 years and under are not required to wear a mask		
	Home based care (patients seen in their own home)	All patients with **ARI** to wear a surgical mask if able	Patients with **ARI** to wear a surgical mask if able, others depending on risk assessment		All patients to wear a surgical mask when receiving care if able
	Vulnerable patients[1]	All patients to wear a surgical mask when receiving care if able, protective isolation may apply			
	Dialysis	All patients with **ARI** to wear a surgical mask if able	All patients to wear a surgical mask where able	All patients to wear a surgical mask where able	
				Consider enhanced patient surveillance, dedicating HWs and limiting movement.	Consideration of hospital-based dialysis for most patients Surveillance screening of patients

Risk Matrix		Foundational System Prepared	Yellow Alert Low to Moderate Transmission	Amber Alert Moderate Transmission	Red Alert High Transmission
Health workers **(Acute facilities, non-acute facilities, MH, MPSs, health services and RCF)**	**HWs managing suspected or confirmed COVID-19 patients to wear P2/N95 respirator and eye protection**				
	Healthcare facility (HW working in ED refer to the below)	HW to wear a surgical mask and eye protection when providing care for patients suspected or confirmed with an ARI	HWs to wear surgical mask in clinical and patient facing areas. Eye protection when within 1.5m of a patient with ARI. P2/N95 for confirmed /suspected COVID-19	HWs to wear surgical mask when in healthcare facilities, this includes clinical and non-clinical areas (e.g., on entry, corridors, office spaces) Eye protection when within 1.5m of a patient	
	HWs working in ED	HWs to wear surgical mask and eye protection until risk assessment is applied	As above	As above	As above PLUS All ED HWs to wear P2/N95 respirators and eye protection in clinical areas when providing direct care
	Home based care (patients seen in their own home)	Standard precautions	Surgical mask when providing direct patient care Eye protection when within 1.5m of a patient		Symptom screening prior to visit Surgical masks (universal mask use) Eye protection when within 1.5m of a patient
	Residential aged care facility (RACF)	Standard precautions	Surgical mask when providing direct patient care Eye protection when within 1.5m of a patient		Surgical masks (universal mask use) Eye protection when within 1.5m of a patient
	Shared space e.g., team rooms	Standard precautions	Standard precautions; Cough etiquette and respiratory hygiene Consider masking if crowded	Manage the number of HWs using shared spaces HWs who are high risk contacts not to use shared spaces Mask wearing at all times Limit numbers in tea rooms	
	Basic Life Support (BLS)	Standard and droplet precautions for BLS Add airborne precautions (P2/N95 Respirator) if ARI		Airborne precautions (P2/N95 respirator) for all BLS	

Risk Matrix		Foundational System Prepared	Yellow Alert Low to Moderate Transmission	Amber Alert Moderate Transmission	Red Alert High Transmission
Health workers (cont.)	Facility/Unit outbreak/community transmission increase	Mask wearing in clinical areas Surgical mask and eye protection when providing care for patients suspected or confirmed with an ARI P2/N95 respirator and eye protection when providing care to patients suspected or confirmed COVID-19			
	Vulnerable patients[1]	Vulnerable patients are to be identified and managed as per the risk assessment If the patient/client requests specific IPAC practices from healthcare or care providers, it should be considered in context of increased community transmission of COVID-19 and patient/client vulnerability e.g., patient requests provider to wear a surgical mask. Information provided to patient/carer regarding COVID-19 and influenza vaccination should be documented in the patients' health record.			
Visitors (Including participants in care)	All visitors	Visitors to adhere to standard and transmission-based precautions as required Surgical mask as per risk assessment, recommended when a facility/unit outbreak/community transmission increase and when visiting vulnerable patients[1]	Standard precautions Surgical mask for visitors in clinical areas (wards/clinics) Support visitors - numbers as per local policy	Visitors must wear a mask before entering the facility and meet entry criteria, any exception managed by the LHDs Children 12 years and under are not required to wear a mask Consider limiting number of visitors, e.g., in high-risk areas consider 2 visitors per day Local policy to determine number of visitors in 4 bed bays and on wards	Any restrictions to be based on the NSW Health PHO Visitors must wear a mask before entering the facility (surgical or own approved cloth mask) and meet entry criteria. Exceptions managed by the LHDs Children 12 years and under are not required to wear a mask Visitors based on risk assessment and individual patient needs and circumstances

Risk Matrix		Foundational System Prepared	Yellow Alert Low to Moderate Transmission	Amber Alert Moderate Transmission	Red Alert High Transmission
Visitors (cont.)	A participant in care can be described as someone actively providing care, physical and/ or emotional support	Standard precautions	Participant(s) in care must wear a surgical mask in clinical areas (wards/clinics)	Participant(s) in care must wear a surgical mask before entering the facility Participants in care to be risk assessed to be able to continue providing care and support	Surgical masks (universal mask use) Participants in care to be risk assessed to be able to continue providing care and support. For more information refer to section 3.16
	Visitors to RACF	Based on local facility advice	Visitation to be based on the latest advice from Public Health Response Branch see NSW Health advice for RACFs		Visitors, including any children will require an exemption to visit NSW Health advice for RACFs

Note: Although these principles apply across healthcare environments, when caring for vulnerable patients/residents, individual circumstances should be considered.

Children 12 years and under are not required to wear a mask. This is based on the safety and overall interest of the child and the capacity to appropriately use a mask with minimal assistance.

1. Vulnerable patients (examples include but not limited to immune compromised, immunodeficiency, transplant) in protective precautions.

Summary table: COVID-19 and other ARI risk assessment guide for PPE selection for direct care of patients

Patient Characteristics			Precautions Required					
			 Frequent hand hygiene	 Surgical mask[3]	 P2/N95 Respirator[3,4]	 Eye Protection	 Fluid Resistant Gown/Apron	 Gloves
No acute respiratory infection (ARI) symptoms	STANDARD PRECAUTIONS FOR ALL[1]	Subject to current NSW Risk Level		As per standard precautions		As per standard precautions	As per standard precautions	As per standard precautions
With ARI symptoms (important to test for other respiratory viruses[##])		STANDARD + DROPLET					As per standard precautions	As per standard precautions
Patients with suspected[2] or confirmed COVID-19 OR as identified as a close contact		STANDARD + AIRBORNE[4]					As per standard precautions	As per standard precautions

Notes:

1. Standard precautions always include a risk assessment for the need for PPE
2. COVID-19 close contact as specified by CDNA COVID-19 SoNG
3. For extended use, masks or respirators can be worn for up to 4-8 hours respectively. Eye protection can also remain on between patients. Masks/respirators and eye protection should be discarded (or reprocessed in the case of reusable eye protection) if they are moist or contaminated with blood or bodily fluids and after removal
4. Health workers required to wear P2/N95 respirators should be trained in the correct use including fit checking, donning, and doffing. Fit testing as per Respiratory Protection Program (RPP). This also applies to the use of reusable respirators.

Risk assess ARI for use of respiratory protection (P2/N95) for AGPs/aerosol generating behaviors (AGBs) or other similar procedures

Adapted from *Personal Protective Equipment (PPE) for patient care with symptoms of acute respiratory illness including COVID-19*, HNELHD

3.7 Yellow alert poster

Targeted mask use within all clinical areas

STANDARD PRECAUTIONS ALWAYS APPLY

Ensure screening and triage processes are in place to manage patients with suspected COVID-19 or communicable disease of state or national significance

Patients

Standard precautions: hand hygiene, cough etiquette, respiratory hygiene, and personal hygiene

Unless urgent, exclude outpatients with suspected or confirmed COVID-19, communicable diseases of state or national significance

All patients to wear a surgical mask on presentation and during transit if able

Health workers (HW)

HW to wear surgical mask in clinical and patient facing areas

HW to wear a surgical mask and eye protection when providing care for patients with an ARI (within 1.5m)

Standard, droplet and airborne precautions (P2/N95 respirator) and eye protection are required when providing direct care for:

- patients with suspected or confirmed COVID-19
- close contact of a COVID-19 case
- Communicable diseases spread by airborne route

OR

Visitors

Visitors to wear surgical mask correctly in clinical and patient facing areas

Promote hand hygiene

3.8 Yellow alert frequently asked questions

The FAQs provide an explanation of when masks need to be worn by HWs, patients, visitors, carers and other people coming into NSW Health facilities.

HEALTH WORKERS	
When should I wear a mask?	Surgical masks and eye protection should be worn when assessing or providing care to any patient with ARI (within 1.5m) and are required in all clinical and patient facing areas.
Why do I need to wear a mask when working in the ED?	Surgical masks and eye protection should be worn when assessing or providing care to any patient with ARI (within 1.5m) and are required in all clinical and patient facing areas.
When in crowded areas of the hospital e.g., eating areas/cafeteria, do HWs need to wear a surgical mask?	Masks may be considered in publicly accessible spaces. Spaces, where large numbers of people congregate, you may consider wearing a mask e.g., large staff gatherings for educational events (refer to local procedures). Cough etiquette, respiratory hygiene and hand hygiene is always to be practiced.
When should HWs wear a P2/N95 respirator?	P2/N95 respirators including eye protection are worn when: • Providing care for suspected or confirmed COVID-19 patient • close contact of a COVID-19 case • care for patients with ARI during AGP/AGBs and communicable diseases spread via the airborne route.
Should HWs be wearing masks in safety huddles, meetings, family conferences etc. on the ward/other designated area?	Yes, a mask should be worn within all clinical areas (wards/clinics). Cough etiquette, respiratory hygiene and hand hygiene is always to be practiced.
If a HW is in a non-clinical area (non-public area) or office, should they wear a surgical mask?	No, masks do not need to be worn in these settings, however, if areas are crowded you may consider wearing a mask.
During yellow alert, should HWs with conditions that place them in a 'vulnerable' group be redeployed?	Vulnerable HWs should be individually risk assessed to determine their suitability for clinical areas. Wearing a surgical mask when in clinical areas will reduce this risk and should be considered in the risk assessment.

If a HW travels in a shared health vehicle with another HW, do they need to wear a surgical mask?	Masks are unlikely to be required, however, this can be based on HW's discretion.
Should HWs entering a school for the provision of a service wear a mask? (e.g., immunisation or school within a health facility)	For school-based programs, masks are not routinely recommended. However, a risk assessment must always be performed and there may be situations where a mask is worn. For schools located within health facilities, HWs can wear a mask and eye protection if they are required to provide direct care for high-risk patient/client (ARI) within 1.5m.
PATIENTS	
When should a patient wear a mask? (See questions regarding approved cloth masks below)	All patients to wear a mask on presentation and during transit if able. (including while in waiting areas) Patients with ARI or risk assessed as vulnerable may be instructed to wear a mask if outside room.
Once a patient is admitted to a clinical area, are they required to wear a surgical mask while they are an inpatient?	Patients will not usually be required to wear a mask once in their room. If they have ARI symptoms, fever or are suspected or confirmed COVID-19, they are required to wear a surgical mask if they are leaving their room, if able (for example going to the medical imaging department). Remember: some patients will not be able to tolerate wearing a mask.
Why don't children 12 years and under need to wear a mask if they have respiratory symptoms?	In general, it is not practical for children to be fitted with a mask. If a child is wearing a mask, then this can continue while the child is inside a health facility. Masks can be choking hazards for children under two and are not suitable for this age group. This advice is consistent with other jurisdictions.
Can a patient with suspected or confirmed COVID-19 wear a P2/N95 respirator?	Patients should not wear a P2/N95 respirator but are to wear a surgical mask when leaving the room if able.
APPROVED CLOTH MASKS	
Can a HW wear an approved cloth mask at work?	No, approved cloth masks vary in quality, effectiveness and may not be fluid resistant. An approved cloth mask can be worn by HWs outside the health facility e.g., travelling to and from work.

If a patient/client with an ARI or COVID-19 symptoms, comes in wearing an approved cloth mask, should it be changed to a surgical mask?	Yes, an approved cloth mask will become damp very quickly when someone has an ARI, fever or COVID-19 symptoms. The mask will be much less effective when damp and may be touched frequently by the patient. A surgical mask should be placed on the patient and usual admission/discharge processes for suspected or confirmed COVID-19 patients are to be followed. Access to tissues, ABHR and a bin are to be provided.
If a visitor comes in wearing an approved cloth mask, should it be changed to a surgical mask?	No, visitors can keep the same mask. If the visitor has ARI or fever, they should not be allowed entry as per screening criteria.
HOME VISITS	
Do HWs need to wear a surgical mask when they are visiting a patient in their home to provide healthcare?	A surgical mask should be worn when providing direct clinical care. A surgical mask and eye protection is recommended if the patient has an ARI or is in self-isolation. Patients are not required to wear a mask if they are not showing ARI symptoms but may choose to wear one.
CARER IN A HEALTHCARE SETTING	
Should a carer wear a surgical face mask if within 1.5 metres of a patient?	Yes, the carer should wear a mask in clinical areas (ward/clinics).
VISITORS	
Are visitors required to wear a mask if they come to a health facility?	Yes, they should wear a mask correctly within clinical and patient facing areas while in the health facility. If they have ARI symptoms, they need to defer their visit. Posters and information on mask use are available here.
What should be done if a visitor appears to have ARI symptoms?	Offer an alternative such as a virtual visit. The visitor should be asked to defer their visit if possible. They should be referred for testing and told to isolate.

AGED CARE FACILITIES (ACF) / MULTI-PURPOSE SERVICE (MPS)	
Does a resident in an ACF or MPS need to wear a surgical mask?	Not routinely, risk assess as per outbreak management.
PATIENTS WITH A DISABILITY, COGNITIVE IMPAIRMENT, BEHAVIOURAL ISSUES AND/OR MENTAL HEALTH CONDITIONS	
Should a HW/carer/visitor wear a surgical mask if within 1.5 metres of a patient?	A HW/carer/visitor in a disability care facility should take extra precautions including the use of masks. A surgical mask and eye protection is recommended for patients with an ARI and during clinical care of a patient. HWs should maintain physical distancing whenever possible. HWs, visitors and/or carers wearing a respirator, or a surgical mask may cause some patients distress or trigger changes to their behaviour or mental health condition. This will require a risk assessment and ongoing monitoring to determine the best way to manage the risk of transmission of COVID-19 when providing care within 1.5m of the patient. If a risk assessment determines that a mask will pose a physical risk to the patient, alternatives such as physical distancing and full-face shield should be considered. The risk assessment should determine the appropriate PPE for the HW. All decisions regarding the risk assessment should be documented in the patients' healthcare record
VOLUNTEERS IN A HEALTHCARE SETTING	
Are volunteers required to wear a mask?	Volunteers are required to wear a mask when they are entering into a clinical area (ward/clinics). If they are in a vulnerable group, they may choose to wear a mask while in all areas of the healthcare setting. Volunteers should not be interacting with patients with an ARI or suspected or confirmed COVID-19.
CONTRACTORS	
When should a contractor wear a surgical mask?	Masks are required when entering a clinical area (ward/clinics) or publicly accessible area, or they require one for dust/gas/environmental exposures.

STOCK DELIVERY TO CLINICAL AREAS – EXTERNAL DELIVERY/COURIER COMPANIES	
Do delivery/courier driver need to wear a mask (surgical or cloth) if they are making a delivery to clinical areas?	Yes, masks are required when they are entering into a clinical area (ward/clinics).
VALVE MASKS	
If a patient or a visitor is wearing a mask with a valve, do we need to change it to a surgical mask?	Yes, these masks should be changed. These masks should not be worn as the exhalation valve is generally not filtered and particles are able to be exhaled via the valve.
Reminder: continue to perform hand hygiene, avoid touching masks, encourage cough etiquette and respiratory hygiene.	

3.9 Amber alert poster

Mask use for everyone entering a health facility

STANDARD PRECAUTIONS ALWAYS APPLY

Ensure screening and triage processes are in place to manage patients with suspected COVID-19 or communicable disease of state or national significance

Patients

Patients presenting directly from the community, inter and intra hospital transfers are **required to wear a mask** if able

Children 12 years and under are not required to wear a mask

Note: Although these principles apply across healthcare environments when caring for vulnerable patients/residents, individual circumstances should be considered

Health workers (HW)

HWs to wear surgical mask when in healthcare facilities, this includes clinical and non-clinical areas (e.g., on entry, corridors, office spaces)

In a shared office space, HWs are required to wear a mask unless they are the only person working in the office

Eye protection when within 1.5m of a patient

OR

Standard, droplet and airborne precautions (**P2/N95 respirator**) and eye protection are required when providing direct care for:

- patients with suspected or confirmed COVID-19
- close contact of a COVID-19 case
- Communicable diseases spread by airborne route

Physical distancing, hand hygiene and regular cleaning are also important

Visitors

Consider limiting number of visitors (acknowledgement of individual patient needs)

Visitors must wear a mask before entering the facility (own mask or provided by the facility)

3.10 Amber alert frequently asked questions

The FAQs provide an explanation of when masks need to be worn by HWs, patients, visitors, carers and other people coming into NSW Health facilities.

HEALTH WORKERS	
What does our clinical area do if we have a limited number of surgical masks for a short period of time?	All issues related to PPE should be escalated immediately through usual organisational structures. This should be addressed at LHD/SHN PPE Governance Committees. *Chapter 4: Personal Protective Equipment* provides guidance on extended or sessional use of PPE. HWs are not expected to complete a task if the PPE required is unavailable. See question below.
Can a HW wear the same surgical mask for multiple patient interactions?	Yes, this is called extended or sessional use of PPE. If a surgical mask can be worn without pulling it down or removing it, for example to speak, it can be worn for up to four hours. If it is pulled down or removed, it must be discarded immediately, and hand hygiene performed. If the mask is touched, hand hygiene should be performed immediately. The mask should be removed if it becomes damp or loose. Extended or sessional use of a mask or respirator and eye protection can be used across different clinical areas if it is not contaminated. Contamination is likely when providing care for patients with COVID-19 or other infections transmitted via the respiratory route and must be changed prior to entering a different clinical area. Patient transport or NSW Ambulance (NSWA) HWs who move patients between facilities can wear the same mask for the duration of the transport but must discard and change their mask before the next patient transport. Ensure a comfortable fit if driving a vehicle. Safe mask use must always be considered.
When in crowded areas of the hospital e.g., eating areas/cafeteria, do HWs need to wear a surgical mask?	Yes, when in communal areas. Physical distancing, cough etiquette, respiratory hygiene and hand hygiene is always to be practiced. Masks should be worn if distancing is not possible.
When should HWs wear a P2/N95 respirator?	P2/N95 respirators including eye protection are worn when: • Providing care for suspected or confirmed COVID-19 /communicable diseases of state or national significance patients • Providing care for close contact of COVID-19 cases • Providing care or treatment to a patient with a communicable disease that is spread by the airborne route e.g., Tuberculosis (TB), measles

Should HWs be wearing masks in safety huddles, meetings, education sessions, family conferences etc. on the ward/other designated area?	Yes, if mask wearing is mandated HWs to wear surgical mask within clinical area and any communal (patient/visitor) area, on entry to hospitals and in corridors including shared spaces when with any other person. This includes spaces where there is no patient or visitor contact. Decision to conduct face-to-face education sessions should be balanced between need and ability to implement risk mitigation strategies (e.g., risk assessment on the level of transmission in the community, HW symptom screening, the ability to wear masks, physical distance, room capacity, environmental controls)
What should be done if a HW declines to wear a surgical mask when within 1.5m of a patient?	This is a WHS risk and should be managed within this legislation. Surgical masks, like other PPE are provided to protect HWs, patients and visitors. Where masks are prescribed for use, they must be consistently used by HWs and as such are not optional.
Should a HW wear a surgical mask when they are talking to a patient and can maintain a 1.5m physical distance?	Yes, a surgical mask is required within clinical areas and when providing direct care to patients.
During this amber alert, should HWs with conditions that place them in a 'vulnerable' group be redeployed?	Vulnerable HWs should be individually risk assessed to determine their suitability for clinical areas. Wearing a surgical mask when within 1.5m of any patient will reduce this risk and should be considered in the risk assessment.
If a HW is in a non-clinical area or office, should they wear a surgical mask?	Yes, if mask wearing is mandated during amber alert HWs to wear surgical mask when in healthcare facilities, this includes clinical and non-clinical areas (e.g., on entry, corridors, office spaces). In a shared office space and the office is co-located or part of a health facility, HWs are required to wear a mask unless they are the only person working in the office.
If a HW travels in a shared health vehicle with another HW, do they need to wear a surgical mask?	Yes, surgical mask required for HWs in non-clinical area and shared spaces
Should a HW wear a surgical mask when they are examining a baby or toddler?	Yes, a baby or toddler will always be accompanied by a parent or guardian. Our protection is for everyone. HWs providing direct care within 1.5m of any patient must wear a surgical mask.

Should HWs entering a school for the provision of a service wear a mask? (e.g., immunisation or school within a health facility)	For school-based programs, the decision to wear a mask should be based on a risk assessment considering the proximity, intensity and duration of contact with children in the school. For schools located within health facilities, HWs are to wear a mask if they are required to provide direct care within 1.5m.
PATIENTS	
When should a patient wear a mask? (See questions regarding approved cloth masks below)	On arrival to a health facility e.g., Emergency Department (ED), Outpatient Clinic, Birth Suite, Medical Imaging, Pathology. After they are admitted as an inpatient, patients are required to wear a surgical mask if they leave their room for any reason.
Once a patient is admitted to a clinical area, are they required to wear a surgical mask while they are an inpatient?	Patients will not usually be required to wear a mask once in their room. If they have acute respiratory symptoms, fever or are suspected or confirmed COVID-19, they are required to wear a surgical mask if they are leaving their room (for example going to the medical imaging department). If patients are to leave the room and physical distancing is not possible, then they will be asked to wear a surgical mask (**not a respirator**). Remember: some patients will not be able to tolerate wearing a mask.
When a patient discharged from a health facility (ED or as an inpatient) are they required to wear a mask?	Yes, while in the health facility (surgical or approved own approved cloth mask).
What should be done when a patient does not want to wear a mask on arrival (and is not confused or have cognitive impairment or other conditions that might cause difficulty with mask wearing)?	Check the reasons for declining to wear a mask and determine if there are alternatives that may be suitable for this patient. If they continue to decline the alternative, the patient should be placed 1.5m away from other patients and informed that they are not to walk around the clinical area until they are either discharged from the ED or admitted to their clinical area. Be mindful of the practicalities of wearing a mask for certain patient groups e.g., those with behavioural disorders or mental health conditions, cognitive impairment. Women in labour may find mask wearing difficult and may be unable to comply. Where there are no obvious barriers to mask-wearing, the patient should be informed of the current amber alert recommendations and their risk for COVID-19.

Why don't children 12 years and under need to wear a mask?	In general, it is not practical for children to be fitted with a mask. Parents/guardians are expected to wear a mask and to assist children in this age group with hand hygiene. If a child is wearing a mask, then this can continue while the child is inside a health facility. Masks can be choking hazards for children under two years; therefore, masks are not suitable for this age group. This advice is consistent with other jurisdictions.
Can a patient with suspected or confirmed COVID-19 wear a P2/N95 respirator?	Patients should not wear a P2/N95 respirator but may be asked to wear a surgical mask when in a shared space.
APPROVED CLOTH MASKS	
Can a HW wear an approved cloth mask at work?	No, approved cloth masks vary in quality, effectiveness and may not be fluid resistant. This means they will not prevent blood, body fluids and respiratory particles penetrating the mask. In proven incidents of sensitivity/allergy a cloth mask may be used as a primary layer to a surgical mask (this must be discussed with local IPAC) An approved cloth mask can be worn by HWs outside the health facility e.g., travelling to and from work.
If a visitor comes in wearing an approved cloth mask, should it be changed to a surgical mask?	No, a visitor can wear an approved cloth mask while visiting the health facility. If the visitor can wear the approved cloth mask without discomfort, they should continue to wear it. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask and cough etiquette, respiratory hygiene are to be provided. If the visitor has acute respiratory symptoms or fever, they need to defer their visit and have COVID-19 testing. They should be asked to change to a surgical mask.
If a patient/client, without any COVID-19 symptoms, comes in wearing an approved cloth mask, should it be changed to a surgical mask?	No, if the patient/client can wear the approved cloth mask without discomfort, they should continue to wear it. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask, cough etiquette and respiratory hygiene are to be provided.

If a patient/client, with an ARI or COVID-19 symptoms, comes in wearing an approved cloth mask, should it be changed to a surgical mask?	Yes, an approved cloth mask will become damp very quickly when someone has an ARI, fever or COVID-19 symptoms. The mask will be much less effective when damp and may be touched frequently by the patient. A surgical mask should be placed on the patient and usual admission/discharge processes for suspected or confirmed COVID-19 patients are to be followed. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask, cough etiquette and respiratory hygiene are to be provided. Access to tissues, ABHR and a bin is to be provided.
If a member of the community wears a towel, scarf, tea towel etc. into the health facility, is this classified as a 'approved cloth mask'?	No, these are not classified as approved cloth masks. NSW Health has released general guidance for approved cloth masks, this information should be followed.
HOME VISITS	
Do HWs need to wear a surgical mask when they are visiting a patient in their home to provide healthcare?	Yes, a surgical mask and eye protection should be worn if providing care within 1.5m. Wear a P2/N95 respirator and eye protection if the patient suspected or confirmed COVID-19. If physical distancing can be maintained during the visit, a surgical mask is not required. Patients are not required to wear a mask but may choose to wear one.
CARER IN A HEALTHCARE SETTING	
Should a carer wear a surgical face mask if within 1.5m of a patient?	Yes, they can also wear an approved cloth mask. If a carer is accompanying a patient/client into a healthcare facility, they should wear a mask (surgical or approved cloth mask).

VISITORS	
Are visitors required to wear a mask if they come to a health facility?	Yes, visitors are required to wear a mask if they are coming into a health facility for any reason. If they are already wearing an approved cloth or surgical mask, they can continue to wear this. See section above on approved cloth masks.
Birthing room If a partner or family member from the same household is supporting the woman during labour, do they need to wear a mask when they are in the room?	If the patient is in a single room, a mask is not required. When the visitor leaves the room, they are to wear a mask until they leave the hospital as per the current risk framework. During labour the partner would carry the same risk as the patient and therefore would not be required to routinely wear a mask. However, in the event of participants in care is COVID-19 positive (or communicable disease of state or national significance) or a close contact they will need to wear a mask at all times.
What should be done if a visitor declines to wear a mask?	The visitor should be informed of the current amber alert recommendations and the risk to the patient, themselves and others in the facility they are visiting. If they continue to decline to wear a mask, they should be risk assessed to determine the location of their visit and the patient they are visiting. Offer an alternative such as a virtual visit. They should only be asked to leave the health facility if it is determined that there will be a COVID-19 or communicable disease of state or national significance risk for the patient, themselves or to the clinical area they will be visiting.
Who will teach visitors how to wear a mask?	As visitors are screened at entry areas, HWs who are responsible for these areas should provide assistance on the correct mask use. Posters and information on mask use are available here.
AGED CARE FACILITIES (ACF) / MULTI-PURPOSE SERVICE (MPS)	
In an NSW Health operated ACF/MPS, do these rules for mask wearing apply to HWs?	Yes, HWs who work in ACFs should take extra precautions including the use of masks where there are areas for increased testing see NSW Health advice for RACFs for more detailed information. This includes aged care areas within an MPS. An ACF can recommend the wearing of surgical masks by HWs within 1.5m of residents. Approved cloth masks are not recommended for HWs.
Does a resident in an ACF or MPS need to wear a surgical mask?	No, this is classified as their home.

PATIENTS WITH A DISABILITY, COGNITIVE IMPAIRMENT, BEHAVIOURAL ISSUES AND/OR MENTAL HEALTH CONDITIONS	
Should a HW/carer/visitor wear a surgical mask if within 1.5m of a patient?	If possible. P2/N95 respirator is recommended for HWs when providing care for patients with suspected or confirmed COVID-19 or communicable disease of state or national significance. HWs, visitors and/or carers wearing a respirator, or a surgical mask may cause some patients distress or trigger changes to their behaviour or mental health condition. This will require a risk assessment and ongoing monitoring to determine the best way to manage the risk of transmission of COVID-19 when providing care within 1.5m of the patient. If a risk assessment determines that a mask will pose a physical risk to the patient, alternatives such as physical distancing and full-face shield should be considered. The risk assessment should determine the appropriate PPE for the HW. All decisions regarding the risk assessment should be documented in the patients' healthcare record.
VOLUNTEERS IN A HEALTHCARE SETTING	
Are volunteers required to wear a mask?	Yes, volunteers are required to wear a mask if they are coming into a health facility. Volunteers should not be within 1.5m of patients suspected or confirmed COVID-19. A risk assessment of vulnerable volunteers should be conducted based on community transmission case locations. Volunteers should not be interacting with patients with an ARI or suspected or confirmed COVID-19
CONTRACTORS	
When should a contractor wear a surgical mask?	Contractors are required to wear a mask if they are coming into a health facility. It is expected that contractors maintain adequate supplies of PPE and ABHR as part of their WHS obligations.
If a cafeteria is located within a health facility (contracted by the LHD/SHN), should the HW wear a mask when interacting with patients, HWs and visitors?	Yes, mask is required when interacting with patients, HWs and visitors.

STOCK DELIVERY TO CLINICAL AREAS – EXTERNAL DELIVERY/COURIER COMPANIES	
Do delivery/courier driver need to wear a mask (surgical or cloth) if they are making a delivery to clinical areas?	Yes, masks and ABHR should be made available to delivery/courier driver if they do not have their own approved cloth mask.
VALVE MASKS	
If a patient or a visitor is wearing a mask with a valve, do we need to change it to a surgical mask?	Yes, these masks should be changed. These masks should not be worn as the exhalation valve is generally not filtered and particles are able to be exhaled via the valve.
Reminders: Not to be onsite if you have acute respiratory symptoms or fever. Continue to perform hand hygiene, physical distancing, avoid touching masks, encourage cough etiquette and respiratory hygiene.	

3.10 Red alert poster

Mask use for everyone entering a health facility

STANDARD PRECAUTIONS ALWAYS APPLY

Ensure screening and triage processes are in place to manage patients with suspected COVID-19 or communicable disease of state or national significance

Patients

Patients presenting directly from the community, inter and intra-hospital transfers, and in waiting areas to wear a mask when able

Minimise patient movement where safe to do

Community Health Centre – patient/client to wear a mask

Home visit – patient/client to wear a mask

Health workers (HW)

Universal surgical mask use by all HWs when in the facility
Eye protection when within 1.5m of a patient

Standard, droplet and airborne precautions (P2/N95 respirator) and eye protection are required when providing direct care for:

- patients with suspected or confirmed COVID-19
- close contact of a COVID-19 case
- Communicable diseases spread via airborne route

OR

Visitors

Visitors based on risk assessment

Participants in care to be risk assessed to be able to continue providing care and support

All family members, carers and support services to wear a mask when entering and remaining in the health facility

3.11 Red alert frequently asked questions

The FAQs provide an explanation of when masks need to be worn by HWs, patients, visitors, carers and other people coming into NSW Health facilities.

HEALTH WORKERS	
What does our clinical area do if we have a limited number of surgical masks or P2/N95 respirators for a short period of time?	All issues related to PPE should be escalated immediately through usual organisational structures. This should be addressed at LHD/SHN PPE Governance Committees. *Chapter 4: Personal Protective Equipment* provides guidance on extended or sessional use of PPE. HWs are not expected to complete a task if the PPE required is unavailable. See question below.
Can a HW wear the same mask or P2/N95 respirator for multiple patient interactions?	Yes, this is called extended or sessional use of PPE. If a P2/N95 respirator can be worn without pulling it down or removing it for example, to speak, drink or eat, it can be worn for up to 8 hours continuously; 4 hours for a surgical mask. If it is pulled down or removed, it must be discarded immediately, and hand hygiene performed. HWs need to be allowed to take breaks so 4 hours is the maximum period of continuous wear that is recommended. If the mask/respirator is touched, hand hygiene should be performed immediately. The mask/respirator should be removed if it becomes damp or loose. Extended or sessional use of a mask or respirator can be used across different clinical areas if it is not contaminated. Contamination is likely when providing care for patients with COVID-19 or other infections transmitted via the respiratory route and must be changed prior to entering a different clinical area. Patient transport or NSWA HWs who move patients between facilities can wear the same mask/respirator for the duration of the transport but must discard and change their mask before the next patient transport. Ensure a comfortable fit if driving a vehicle. Safe mask/respirator use must always be considered.
When in crowded areas of the hospital e.g., eating areas/cafeteria, do HWs need to wear a surgical mask?	Yes, universal mask use applies during red alert. Physical distancing, cough etiquette, respiratory hygiene and hand hygiene is always to be practiced.

Can HWs wear a P2/N95 respirator for routine care of the patient?	Yes, P2/N95 respirators and eye protection are indicated for routine care of patients during red alert as per airborne precautions. Airborne precautions (includes the use of a P2/N95 respirator and eye protection) are required when caring for: • Suspected or confirmed COVID-19/communicable diseases of state or national significance patients • Close contact of a COVID-19 case • Patient with a communicable disease that is spread by the airborne route e.g., Tuberculosis (TB), Measles
Should HWs be wearing masks in safety huddles, meetings, family conferences etc. on the ward/other designated area?	Yes, universal mask use applies during red alert. Physical distancing also applies.
What should be done if a HW declines to wear a surgical mask/respirator during red alert?	This is a WHS risk and should be managed within this legislation. Surgical masks/respirators, like other PPE are provided to protect HWs, patients and visitors. Where masks/respirators are prescribed for use and risk assessed as required, they must be consistently used by HWs and as such are not optional.
Should a HW wear a surgical mask when they are talking to a patient and can maintain a 1.5m physical distance?	Yes, All HWs are required to wear a surgical mask for all patient/client care during red alert. Airborne precautions (includes the use of a P2/N95 respirator and eye protection) are required when caring for: • suspected or confirmed COVID-19/communicable diseases of state or national significance patients • close contact of a COVID-19 case • patient with a communicable disease that is spread by the airborne route e.g., Tuberculosis (TB), Measles
During red alert, should HWs with conditions that place them in a 'vulnerable' group be redeployed?	Vulnerable HWs should be individually risk assessed to determine their suitability for clinical areas. Wearing a surgical mask or P2/N95 respirator as required during patient care will reduce this risk and should be considered in the risk assessment.
If a HW is in a non-clinical area or office, should they wear a surgical mask?	Yes, universal surgical mask use is required during red alert. Physical distancing, cough etiquette, respiratory hygiene and hand hygiene are always to be practiced.

If a HW travels in a shared health vehicle with another HW, do they need to wear a surgical mask?	Yes, universal surgical mask use is required during red alert.
Should a HW wear a surgical mask when they are examining a baby or toddler?	Yes, a baby or toddler will always be accompanied by a parent or guardian. Our protection is for everyone. HWs providing direct care of any patient must wear a surgical mask.
Should HWs entering a school for the provision of a service wear a mask? (e.g., immunisation or school within a health facility)	Yes. Restrictions for attending may apply based on risk assessment. For school-based programs, the decision to attend even when wearing a mask should be based on a risk assessment considering the proximity, intensity and duration of contact with children in the school. For schools located within health facilities, HWs are to wear a mask.
PATIENTS	
When should a patient wear a mask? (See questions regarding approved cloth masks below)	On arrival to a health facility e.g., Emergency Department, Outpatient Clinic, Birth Suite, Medical Imaging, Pathology. After they are admitted as an inpatient, patients are required to wear a surgical mask when in shared rooms or if they leave their room for any reason and does not affect their clinical care.
Once a patient is admitted to a clinical area, are they required to wear a surgical mask while they are an inpatient?	Patients will not usually be required to wear a mask in a single room. If they have acute respiratory symptoms, fever or are suspected or confirmed COVID-19, they are required to wear a surgical mask if they are leaving their room (for example going to the medical imaging department). If patients are to leave the room and physical distancing is not possible, then they will be asked to wear a surgical mask (**not a respirator**). Patients that are cohorted in open spaces (avoid where able) may be recommended to wear a surgical mask while in this area. Remember: Some patients will not be able to tolerate wearing a mask.
When a patient is discharged from a health facility (ED or as an inpatient) are they required to wear a mask?	Yes, while transiting through the health facility (surgical mask).

What should be done when a patient does not want to wear a mask on arrival (and is not confused or have cognitive impairment or other conditions that might cause difficulty with mask wearing)?	Check the reasons for declining to wear a mask and determine if there are alternatives that may be suitable for this patient. If they continue to decline the alternative, the patient should be placed 1.5m away from other patients/clients and informed that they are not to walk around the clinical area until they are either discharged from the ED or admitted to their clinical area. Be mindful of the practicalities of wearing a mask for certain patient groups e.g., those with behavioural disorders or mental health conditions, cognitive impairment. Women in labour may find mask wearing difficult and may be unable to comply but it is strongly recommended during red alert. Where there are no obvious barriers to mask-wearing, the patient should be informed of the current red alert recommendations and their risk for COVID-19 and the risk to others.
Why don't children 12 years and under need to wear a mask?	In general, it is not practical for children to be fitted with a mask. Parents/guardians are expected to wear a mask and to assist children in this age group with hand hygiene. If a child is wearing a mask, then this can continue while the child is inside a health facility. Masks can be choking hazards for children under two years; therefore, masks are not suitable for this age group. This advice is consistent with other jurisdictions.
Can a patient with suspected or confirmed COVID-19 wear a P2/N95 respirator?	Patients should not wear a P2/N95 respirator but may be asked to wear a surgical mask when in a shared space. Surgical masks provide source control by the patient when wearing.
APPROVED CLOTH MASKS	
Can a HW wear an approved cloth mask at work?	No, approved cloth masks vary in quality, effectiveness and they are not fluid resistant. This means they will not prevent blood, body fluids and respiratory particles penetrating the mask. An approved cloth mask can be worn by HWs outside the health facility e.g., travelling to and from work.

If a visitor comes in wearing an approved cloth mask, should it be changed to a surgical mask?	No, a visitor can wear an approved cloth mask while visiting the health facility. If the visitor can wear the approved cloth mask without discomfort, they should continue to wear it. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask and cough etiquette, respiratory hygiene are to be provided. If the visitor has acute respiratory symptoms or fever, they need to defer their visit and have COVID-19 or appropriate ARI testing. They should be asked to change to a surgical mask.
If a patient/client, without any ARI, COVID-19 symptoms, comes in wearing an approved cloth mask, should it be changed to a surgical mask?	No, if the patient/client can wear an approved cloth mask without discomfort, they should continue to wear it. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask and cough etiquette, respiratory hygiene are to be provided.
If a patient/client, with an ARI or COVID-19 symptoms, comes in wearing an approved cloth mask, should it be changed to a surgical mask?	Yes, an approved cloth mask will become damp very quickly when someone has an ARI, fever or COVID-19 symptoms. The approved cloth mask will be much less effective when damp and may be touched frequently by the patient. A surgical mask should be placed on the patient and usual admission/discharge processes for suspected or confirmed COVID-19 / infectious disease patients are to be followed. Reminders regarding hand hygiene, physical distancing, avoiding touching their mask, cough etiquette and respiratory hygiene are to be provided. Access to tissues, ABHR and a bin is to be provided.
If a member of the community wears a towel, scarf, tea towel etc. into the health facility, is this classified as an 'approved cloth mask'?	No, these are not classified as approved cloth masks. NSW Health has released general guidance for approved cloth masks. This information should be followed.
HOME VISITS	
Do HWs need to wear a surgical mask when they are visiting a patient in their home to provide healthcare?	Yes, a surgical mask should be worn when providing care in the home. Wear a P2/N95 respirator and eye protection when providing care to patients with suspected or confirmed COVID-19. Patients are also recommended to wear a mask during visit where able.

CARER IN A HEALTHCARE SETTING	
Should a carer wear a surgical face mask?	Yes, they can also wear an approved cloth mask. If a carer is accompanying a patient/client into a health facility, they should wear a mask (surgical or approved cloth mask).
VISITORS – ALSO REFER TO SECTION 3.16 - SUPPORTING VISITOR ACCESS DURING RED ALERT	
Are visitors required to wear a mask if they come to a health facility?	Yes, visitors are required to wear a mask if they are coming into a health facility for any reason. If they are already wearing an approved cloth mask (as per NSW Health criteria) or surgical mask, they can continue to wear this. See section above on approved cloth masks. Reduce visitors to essential only and follow local procedures.
Birthing room If a partner or family member from the same household is supporting the women during labour, do they need to wear a mask when they are in the patient's room?	A mask is recommended for the mother and any support person(s). When the visitor leaves the room, they are to wear a mask until they leave the hospital as per the red alert risk level. Also refer to *Section 3.16 Supporting visitor access during red alert*
What should be done if a visitor declines to wear a mask?	The visitor should be informed of the current red alert recommendations and the risk to the patient, themselves and others in the facility they are visiting. If they continue to decline to wear a mask, they should be risk assessed to determine the location of their visit and the patient they are visiting. Offer an alternative such as a virtual visit.
Who will teach visitors how to wear a mask?	As visitors are screened at entry areas, HWs who are responsible for these areas should provide assistance on correct mask use. Posters and information on mask use are available here.
AGED CARE FACILITIES (ACF) / MULTI-PURPOSE SERVICE (MPS)	
In an NSW Health operated ACF/MPS, do these rules for mask wearing apply to HWs?	Yes, HWs who work in ACFs should take extra precautions including the use of masks where there are areas for increased testing see NSW Health advice for RACFs for more detailed information. This includes aged care areas within an MPS. P2/N95 respirator and eye protection is recommended for HWs when providing care for patients with suspected or confirmed COVID-19. Visitors, including any children may require an exemption to visit.

Does a resident in an ACF or MPS need to wear a surgical mask?	Risk assess. Focus should be on separation, segregation, and isolation. All HWs to wear appropriate PPE.
PATIENTS WITH A DISABILITY, COGNITIVE IMPAIRMENT, BEHAVIOURAL ISSUES AND/OR MENTAL HEALTH CONDITIONS	
Should a HW/carer/visitor wear a surgical mask?	Yes. P2/N95 respirator and eye protection is recommended for HWs when providing care for patients with suspected or confirmed COVID-19. HWs, visitors and/or carers wearing a P2/N95 respirator or a surgical mask (and eye protection) may cause some patients distress or trigger changes to their behaviour or mental health condition. This will require a risk assessment and ongoing monitoring to determine the best way to manage the risk of transmission of COVID-19 or communicable disease of state or national significance when providing care during red alert. If a risk assessment determines that a mask will pose a physical risk to the patient, alternatives such as physical distancing and full-face shield should be considered. The risk assessment should determine the appropriate PPE for the HW. All decisions regarding the risk assessment should be documented in the patients' healthcare record.
VOLUNTEERS IN A HEALTHCARE SETTING	
Are volunteers required to wear a mask?	Volunteers may be restricted during red alert. If a volunteer provides support or assistance in the facility, they are required to wear a surgical mask (this includes administrative areas). Reminders regarding hand hygiene, physical distancing, cough etiquette, respiratory hygiene and not coming to the facility if unwell are to be provided. A risk assessment of vulnerable volunteers should be conducted based on community transmission case locations. Volunteers should not be interacting with patients with an ARI or suspected or confirmed COVID-19 or communicable disease of state or national significance
CONTRACTORS	
When should a contractor wear a surgical mask?	They are required to wear a mask when they enter the facility. Universal surgical mask use will be in place during red alert. Reminders regarding hand hygiene, physical distancing, cough etiquette and respiratory hygiene are to be provided. It is expected that contractors maintain adequate supplies of PPE and ABHR as part of their WHS obligations.

If a cafeteria is located within a health facility (contracted by the LHD/SHN), should the HW wear a mask when interacting with patients, HWs and visitors?	Yes. Universal mask use (surgical or approved cloth mask) is required.
STOCK DELIVERY TO CLINICAL AREAS – EXTERNAL DELIVERY/COURIER COMPANIES	
Do delivery/courier driver need to wear a mask (surgical or own cloth) if they are making a delivery to clinical areas?	Yes, masks and ABHR should be made available to delivery/courier driver if they do not have their own approved cloth mask. Reminders regarding hand hygiene, physical distancing, cough etiquette, respiratory hygiene and not being onsite if they have acute respiratory symptoms or fever.
VALVE MASKS	
If a patient or a visitor is wearing a mask with a valve, do we need to change it to a surgical mask?	Yes, these masks should be changed. These masks should not be worn as the exhalation valve is generally not filtered and particles are able to be exhaled via the valve.
Reminders: Not to be onsite if you have acute respiratory symptoms or fever. Continue to perform hand hygiene, physical distancing, avoid touching masks, encourage cough etiquette and respiratory hygiene	

3.12 Physical distancing and use of shared space during amber and red alert

The provision of clinical care remains key in healthcare settings. Implementation of physical distancing is focused on reducing potential crowded areas between HWs and healthcare consumers. During increased community transmission of ARIs, application of physical distancing is recommended where possible and reasonably practical. This includes:

- Waiting room chairs and other seating separated by greater than 1.5m (NB: where this may not be practicable for provision of care patients/clients are recommended to wear a mask as able)
- Patients to remain distanced from each other, greater than 1.5m apart, in shared spaces. 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, break out 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.

When using shared spaces HWs are recommended to:

- Where possible maintain physical distancing requirements in any shared areas
- Masks to be worn as per risk alert levels. 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 masks need to be removed (e.g., eating or drinking) it should be done 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)
- Worker's car-pooling to and from work should be risk assessed
- Ensure ongoing enhanced cleaning of shared work environments and vehicles as per the local cleaning schedule.

3.13 Health worker transport during amber and red alert

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 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'
- 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
- 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.

3.14 Patient transport during amber and red alert

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) if required
- 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 or patients with communicable disease of state or national significance from hospitals that are medically cleared for discharge back to their home. In all cases patients should be assessed for same causative organisms for transport cohorting

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.

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 an ARI, 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.

When transporting a patient, 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. Do not spray any chemicals into the air conditioning vents.

Advice on self-organised patient carpooling during amber and red alert

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 ABHR 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).

3.15 Managing risks and benefits of visitors during amber alert

For the latest advice refer to NSW Health guide to healthcare visitation.

An exemption to visitor numbers may be considered as risk assessed on a case-by-case basis and considerations given to cultural needs.

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 patient's needs warrant consideration for additional visitor/PIC numbers to attend, there should be a case-by-case risk assessment.

Where there are families, visitors, PIC and carers diagnosed with COVID-19, influenza or communicable disease of state and national significance and are wishing to visit a patient, they should be risk assessed for risks and benefits of visitation in consultation with local IPAC and infectious disease teams.

Where a patient has any of the following, COVID-19, influenza or communicable disease of state and national significance positive or exposed, 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 or communicable disease of state and national significance 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 pathogen (e.g., COVID-19, communicable disease of state and national significance) 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

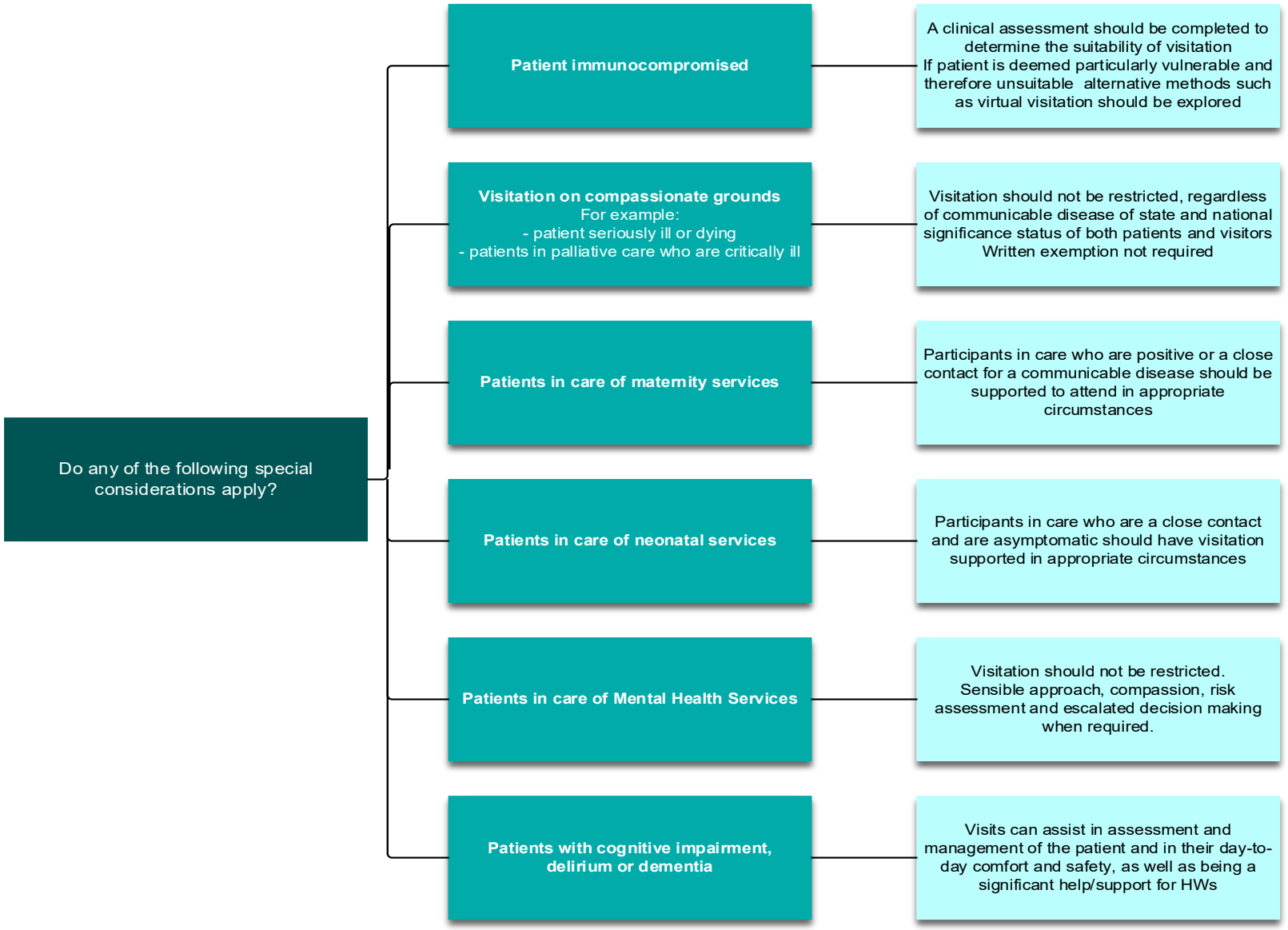
Permitting partners, family, friends, PIC, carers and/or volunteers visit:

- 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.

Flowchart to support visitation



3.16 Supporting visitor access during red alert

To promote safety and to reduce risk to patients and HWs during high community transmission (red alert), some hospitals may implement short-term restrictions in response to a local COVID-19 outbreak to minimise the risk of transmission and ensure the safety of patients and staff. In such circumstances 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.

TABLE 1: CRITERIA FOR VISITATION AND IPAC STRATEGIES

Visitor and patient category	Criteria for visitation	IPAC strategies for visitors
No COVID-19 risks both patient and visitor	If the visitor is unvaccinated or partially vaccinated and are the only person who can visit, they are permitted to enter with an exemption. E.g., If the visitor has cold or flu-like symptoms such as a cough, fever, sore throat or runny nose they should stay at home and not visit a healthcare setting until symptoms have resolved for at least 24 hours and where practical and available Rapid Antigen Test is recommended prior to visiting.	Delay visitation if unwell. Masks are required for people over 12 years of age, however, consider any lawful reasons for not wearing a mask. Refer to Guidance on wearing face masks for more information. Provide education and supervision on using the correct PPE (surgical mask and eye protection) as per the advice of HW. If the visitor is already wearing a respirator, they can choose to continue wearing it. An apron/gown or gloves are not needed unless they are engaged in personal care.
Patient – COVID-19 Positive or close contact	Case-by-case exemptions should be facilitated in consultation with 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 1.5m 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.	
Visitor – COVID-19 Positive or close contact	Visitation by this group will not always be possible due to the risk of transmission. A risk assessment should be conducted about the risks of visiting versus not visiting, and alternatives such as virtual visiting. Assessing if visitors can maintain at least 1.5m physical distance from the patient and HWs. If visitors are unable to maintain that distance, they should be provided with the appropriate PPE.	

Patient immunocompromised	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.	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. Respect a patient's right to say no to visitors. Comply with a HWs reasonable request to leave.
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. Visitors for patients in end-of-life/palliative care should not be restricted and visits by immediate family/support people 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 guide to hospital visitation.	
Children under 12 years as visitors	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.	
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. 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.	IPAC strategies above apply to this group

Chapter 4: Personal protective equipment

This chapter is part of the Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections for acute and non-acute healthcare settings, Clinical Excellence Commission, 2023.

This chapter summarises the PPE requirements when providing care to patients with an ARI.

Contents

Key points

- Personal protective equipment (PPE) is essential when caring for patients with an ARI
- PPE forms part of standard, contact, droplet and airborne precautions
- Understanding how to choose the appropriate PPE and how put it on (don) and remove it (doff) safely is essential for health worker (HW) safety
- Hand hygiene is a key part of donning and doffing PPE
- PPE training modules are available at HETI My Health Learning
- The use of P2/N95 respirators is accompanied by fit checking (at each point of use) and fit testing
- COVID-19 risk assessment and application of PPE should be aligned with the recommendations in *Chapter 3: NSW IPAC Response and escalation framework.*

Acronyms and abbreviations

AAMI	Association for the Advancement of Medical Instrumentation
ABHR	Alcohol-based hand rub
ACORN	Australian College of Perioperative Nurses
AGP	Aerosol-generating procedure
ANZCA	Australian and New Zealand Collage of Anaesthetists
APF	Assigned protection factor
ARTG	Australian Register of Therapeutic Goods
ASTM	American Society for Testing and Materials
BFE	Bacterial filtration efficiency
BiPAP	Bilevel Positive Airway Pressure
CDC	U.S. Centres for Disease Control and Prevention
CDNA	Communicable Diseases Network Australia

CPAP	Continuous positive airway pressure
ED	Emergency Department
ESLI	End of service life indicator
FDA	U.S Food and Drug Administration
HME	Heat and moisture exchanger
HW	Health worker
IFU	Instructions for use
IPAC	Infection prevention and control
NIOSH	U.S. National Institute for Occupational Health and Safety
ONS	Oncological Nursing Society
PAPR	Powered air purifying respirator
PEEP	Positive end expiratory pressure
PEL	Permissible exposure limit
PFE	Particle filtration efficiency
PPE	Personal protective equipment
RPD	Respiratory protection device
RPP	Respiratory protection program
SHPA	Society of Hospital Pharmacists of Australia
WHO	World Health Organization

4.1 Introduction

Personal protective equipment (PPE) protects the wearer from pathogenic microorganisms. Correct use helps to keep HWs safe and reduce the spread of acute respiratory infection (ARI) including COVID-19, influenza, respiratory syncytial virus (RSV) and other pathogens.

This chapter provides guidance on the use of PPE in acute and non-acute healthcare settings when providing care to patients with an ARI. The guidance in the chapter should be considered as the **minimum**.

4.2 General principles when using PPE

Using PPE optimally is important for HW safety. This means selecting appropriate PPE at the right time, in the right setting, for the right patient and then **applying** (donning) and **removing** (doffing) PPE in line with evidence-based practice is utmost important.

General principles when using PPE include:

- HWs should be trained in the correct use of PPE including donning and doffing. Training should include when hand hygiene and glove changes are required during different procedures or tasks on the same patient/client
- Only PPE labelled as reusable should be cleaned, disinfected, and reused according to the manufacturer's reprocessing instructions; all other PPE must be disposed of after use
- Extended or sessional use of a respirator is currently only recommended when caring for patients with suspected or confirmed COVID-19
- Isolation aprons/gowns (Levels 1, 2, 3 and 4) which are impervious, or fluid resistant are suitable for standard, and transmission-based precautions
- Sterile surgical gowns (Levels 1, 2, 3 and 4) should only be used in surgical environments and for sterile procedures
- When caring for patients with droplet and airborne precautions, eye protection is required along with a surgical mask or P2/N95 respirator
- Fluid resistant surgical masks (Levels 1, 2 and 3) are all suitable for standard and droplet precautions
- Fluid resistant P2/N95 respirators are used when providing care to patients with suspected or confirmed ARI
- P2/N95 respirators should be fit tested before first use and fit checked at every use
- Incorrect removal of PPE is associated with an increased risk of contamination.

For further information on recommended PPE refer to:

Appendix 4A: ARI risk assessment guide for PPE selection for direct care of patients

Appendix 4B: Application of transmission-based precautions - visual guide to PPE

Appendix 4C: Aerosol-generating procedures

Appendix 4D: ARI/COVID-19 PPE in Allied Health procedures

4.3 PPE training

Training on the appropriate selection, use and disposal of PPE is required to ensure safe use of PPE. Some of the potential issues to consider are:

- How to minimise unnecessary contact with a mask and eye protection
- Importance of adherence to hand hygiene before donning PPE and during the PPE doffing process
- When and how to change gloves between different procedures or tasks
- Correct removal and cleaning/disinfection of reusable items
- How to ensure adherence to proper PPE donning and doffing technique to reduce self-contamination.

Refer to HETI My Health Learning training modules in Table 2 below.

TABLE 2: MY HEALTH LEARNING MODULES RELEVANT TO PPE

Title	Course code
Step-by-step guidance on PPE donning and doffing	294450660
Donning and fit checking of P2/N95 respirators in NSW healthcare settings video series	319438161
Personal protective equipment for combined Transmission-Based Precautions	294450660
Infection Prevention – Transmission-Based Precautions	253093581
Infection Prevention – Enhanced Precautions for Pandemic Flu	289888589

4.4 PPE risk assessment

Risk assessment for PPE should be based on:

1. **Standard precautions** – use PPE when there is an anticipated or likely risk of contamination with splashes of blood or body substances and based on the nature of care or the task being undertaken
2. **Transmission-based precautions** – consider the need for contact, droplet and airborne precautions based on the mode of transmission when caring for patients with epidemiologically important or transmissible pathogens with high-risk consequences that can transmit or cause infection
3. **NSW IPAC Response and escalation framework** – the level and type of PPE for clinical care of suspected or confirmed COVID-19 patients should be based on the risk assessment (refer to *Chapter 3: NSW IPAC Response and escalation framework*).

4.5 Types of PPE

The type of PPE used will vary based on the level of precautions required, such as standard, contact, droplet or airborne precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

Appropriate PPE should be selected to prevent contamination of skin, mucous membranes and/or clothing. Selection should be guided by the anticipated type and amount of exposure to blood and body substances and the likely transmission route of microorganisms.

Aprons and gowns

Disposable fluid resistant aprons or gowns are designed to protect uniforms or clothing from moisture or soiling from blood, body substances and/or transmissible microorganisms during direct patient care. They also protect the patient during direct contact.

Disposable, **fluid resistant aprons** are recommended for general clinical use where the risk of contamination from blood or body substance is low e.g., when providing routine care for a patient who is not coughing, sneezing or vomiting. Apron use can be considered based on anticipated contact or exposure to particles while caring for symptomatic ARI patients. For guidance see *Appendix 4A: ARI risk assessment guide for PPE selection for direct care of patients.*

There are two main types of gowns available: isolation gowns and surgical gowns.

Isolation gowns offer varying resistance to blood and other bodily substances depending on the type of the material, permeability and wear and tear. Isolation gowns may be classified as ‘disposable/single-use’ or ‘reusable/multi-use’.

Single use surgical gowns are sterile, fluid-resistant, disposable garments made of natural and/or synthetic materials worn over uniform ‘scrubs’ and operating theatre attire during surgical and aseptic procedures. Surgical gowns help protect the patient, HWs performing the procedure and operating room personnel from the transfer of microorganisms, body substances and particulate material.

The Association for the Advancement of Medical Instrumentation (AAMI) is a recognised and collaborative organisation that develops international standards, information and guidance to

achieve safe use of medical devices (ACORN, 2018; CDC, 2015). According to AAMI classification a surgical gown with a level 1 classification provides the lowest level of protection and level 4 provides the highest level of protection (CDC, 2015). For more information refer to *Appendix 4F: AAMI level standards for gowns.*

Risk assessment and gown selection in procedural areas and operating suites

Risk assessment considers the anticipated risk of exposure to blood, body fluids/substances and irrigation fluid, the procedure itself, and the patient. Regardless of gown level, once fluid has penetrated the gown, the integrity of the protective barrier and sterility is compromised. It is recommended the gown is then changed (ACORN, 2018). Some common procedures are provided as examples in the tables below, to guide sterile gown selection based on the AAMI standard.

TABLE 3: STERILE SURGICAL GOWN SELECTION FOR ROUTINE SURGERY (CARDINAL HEALTH, CONSIDE2021; CDC, 2015; ASTM INTERNATIONAL 2017)

Examples of procedures drawn from industry supplier *This list is not exhaustive*	Barrier performance	Risk of exposure	Description
• Regional anaesthesia (epidural/spinal) • Biopsies, excision of superficial lesions • Minor gynaecological procedures (e.g., dilatation and curettage) • Minor orthopaedic surgery (e.g., carpal tunnel, wedge resection toenails)	Level 1 *Use sterile Level 2 gowns if Level 1 gowns are not available*	Minimal fluid	Used for situations where risk of exposure to blood, body fluids/substances or irrigation fluids is MINIMAL Provides a barrier to small volumes of fluid Single test of water impacting the surface of the gown material is conducted to assess barrier protection performance
• Minimally invasive surgery (e.g., laparoscopic, endoscopic) • Hernia repair • Breast reduction, plastic/cosmetic surgery • Orthopaedic arthroscopy (ankle) • Open reduction internal fixation • Dental surgery • Chest drain insertion	Level 2	Low fluid	Used for situations where risk of exposure to blood, body substances or irrigation fluids is LOW Provides a barrier to larger amounts of fluid penetration Two tests are conducted to assess barrier protection performance: • Water impacting the surface of the gown material • Pressurising the material

Examples of procedures drawn from industry supplier *This list is not exhaustive*	Barrier performance	Risk of exposure	Description
• Mastectomy • Urological procedures and hysteroscopy • Laparoscopic assisted hysterectomy/bowel resection • Joint replacement surgery • Neurosurgery & vascular surgery • Orthopaedic arthroscopy (shoulder/knees) • Burns	Level 3	Moderate fluid	Used for situations where risk of exposure to blood, body substances or irrigation fluids is MODERATE Provides a barrier to larger amounts of fluid penetration Two tests are conducted to test barrier protection performance: • Water impacting the surface of the gown material • Pressurising the material
• Major trauma • Knee/shoulder reconstruction • Lower segment caesarean section • Cardiac/thoracic – open procedures where the surgeon's hands/arms are in a body cavity throughout the procedure	Level 4	Highest fluid and microbial barrier	Used for situations where risk of exposure to blood, body substances or irrigation fluids is HIGH Provides a barrier to large volumes of fluid penetration and greater resistance to fluid soaking than Level 3

Gloves

HWs wear gloves as a barrier to protect their hands from contamination or to prevent the transfer of microorganisms on their hands to patients or the environment.

After entering a room or patient zone gloves should only be donned immediately before touching the patient or patients' surroundings.

Before donning gloves perform a risk assessment on the need for glove use i.e., contact with blood or body substance. Change or remove gloves (if worn) and perform hand hygiene in between dirty and clean tasks.

Key points for glove use include:

- Intact gloves must be worn on both hands and used where the HW is potentially exposed to blood or body substances or has direct or indirect contact with communicable diseases or multidrug-resistant organisms
- Double gloving is only recommended in theatre settings and/or on a risk-based approach for specifically determined procedures. Double gloving is usually

implemented to allow a seamless transition during a procedure from ‘dirty’ to ‘clean(er)’ steps or reduce the impact of sharps injuries for the surgeon

- Double gloving is not recommended as a protective measure against ARI/COVID-19 acquisition due to the increased incidence of dermatologic side effects including irritant dermatitis and eczema, excessive skin soakage with sweat and skin chapping
- The use of ABHR on gloves must be avoided as the effects of hand sanitisers are tested on the skin and application on gloved hands may affect gloves’ mechanical properties. In addition, alcohol is inactivated in the presence of organic matter, which can easily remain on used gloves, thus potentially driving viral transmission. Use of ABHR on the outside of gloves can affect the porosity of gloves, causing them to become more porous, create pinholes or cause the gloves to rupture after a short period of time
- If a glove manufacturer states that ABHR can be used on gloves, evidence must be provided, and HW educated on how and when it can be used safely
- Gloves should always be put on immediately before:
    - a procedure
    - cleaning shared patient care equipment
    - contact with blood or body substance
    - when cleaning the healthcare environment
- Gloves should not be worn in non-patient zones unless directly handling blood or body substance such as pathology specimens or cleaning up a blood or body substance spill or when in contact with cleaning chemicals.

Wearing gloves is not a substitute for hand hygiene. Hand hygiene must be performed immediately:

- before putting on gloves to avoid contamination of the outer surface of the gloves

  AND
- after removing gloves to avoid transfer of microorganisms to another person, the environment, clinical equipment or the HW.

Inappropriate glove use can result in transmission of pathogenic organisms:

- between different surfaces
- between the wearer and their face (eyes, nose, mouth)
- from the patient to biomedical or other equipment and furnishings.

Eye protection

Evidence shows that the mucous membranes including conjunctivae of HWs can be exposed to infective respiratory particles from patients with an ARI during close contact. Eye protection must be worn when there is risk of body substances splashing or spraying into the conjunctiva. Personal eyeglasses, prescription glasses and contact lenses are not considered adequate eye protection and are not a substitute for eye protection unless they are specified as safety glasses.

Eye protection such as safety glasses, mask visor, goggles or a face shield are required for close contact within 1.5m of a patient with ARI.

Goggles with a manufacturer's anti-fog coating provide reliable, practical eye protection from splashes, sprays, and respiratory particles from multiple angles.

Visors are transparent personal protective devices intended to shield the face and eyes of a HW and are suitable for use with prescription glasses and masks. Use a mask visor or a face shield if there is exposure to an excessive amount of splash or spray.

If reusable eye protection is used, it should be cleaned and disinfected in accordance with the manufacturer's instructions for use.

If HWs wish to use prescription protective eyewear, the eyewear needs to meet the appropriate standard for impact as described in AS/NZS 1337.6.2012 – Personal eye protection Prescription eye protectors against low and medium impact. Prescription eyewear is considered to provide appropriate eye protection for blood or body fluid splash or droplet exposure if:

- the eyewear is close fitting, particularly at the corners of the eye and across the brow
- includes side protection that is indirectly vented
- can be cleaned and disinfected between use.

Additional protective eyewear does not need to be worn with prescription eyewear that has these features.

HWs should note the following:

- Single use eye protection can be worn for an extended period unless moist, wet or contaminated, and disposed of at the end of the session
- Reusable eye protection requires cleaning and disinfection between use
- There must be a clearly described procedure in place for the cleaning, disinfection, drying and storage of reusable eye protection to reduce the risk of a HW donning an item that has not been effectively reprocessed since its last use.

Respiratory and facial protective equipment

A Respiratory Protective Device (RPD) is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer's risk of inhaling hazardous particles (including dust particles and infectious agents), gases or vapors. There is a range of RPDs available that provide facial and respiratory protection, and this includes either a surgical mask or a respirator, with or without eye protection.

Respiratory and facial protection is required for those organisms that are usually transmitted via the droplet or airborne route, including when particles have been artificially created, such as during AGPs.

Surgical masks

Surgical face masks provide a barrier to splashes and particles impacting on the wearer's nose, mouth and respiratory tract. They do not provide protection against airborne particles and are not classed as an RPD. They are loose-fitting protection devices that create a physical barrier for the mouth and nose of the wearer. Some surgical masks have an

integrated eye protection shield (mask visor). Surgical face masks used by HWs for protection against microorganisms must be fluid repellent and disposable.

Surgical masks are for use in clinical care, dental settings, and surgery as per standard precautions. Surgical masks should be worn for the duration of the relevant exposure, task or procedure.

Masks have different properties and colours depending on the manufacturer. Each mask barrier level will provide varying levels of fluid penetration resistance and protection against particles from a patient with an ARI.

See *Appendix 4G: AS 4381:2015 Single use surgical face mask us in healthcare* for more details on mask barrier levels and properties.

When wearing a mask, it is important to remember the following:

Do not:

- Touch the mask or face as this may contaminate the wearer
- Pull the mask below the nose or chin
- Hang the mask around the neck, ear or top of the head.

Do:

- Change the mask if it becomes moist or damp
- Change the mask if it is sprayed or splashed on
- Change the mask if contaminated with blood or body fluids
- Immediately perform hand hygiene if the mask is accidentally touched
- Perform hand hygiene after removing a mask
- Place the mask into a general waste bin, perform hand hygiene and replace with a new mask
- Report mask pressure injuries to the supervisor or manager, following local reporting processes and usual WHS processes
- Remove a mask outside of patient care areas or patients requiring other precautions (e.g., between rooms or patient zones, break room, reception area) and before proceeding to care for patients that are not isolated for ARI.

Respirators

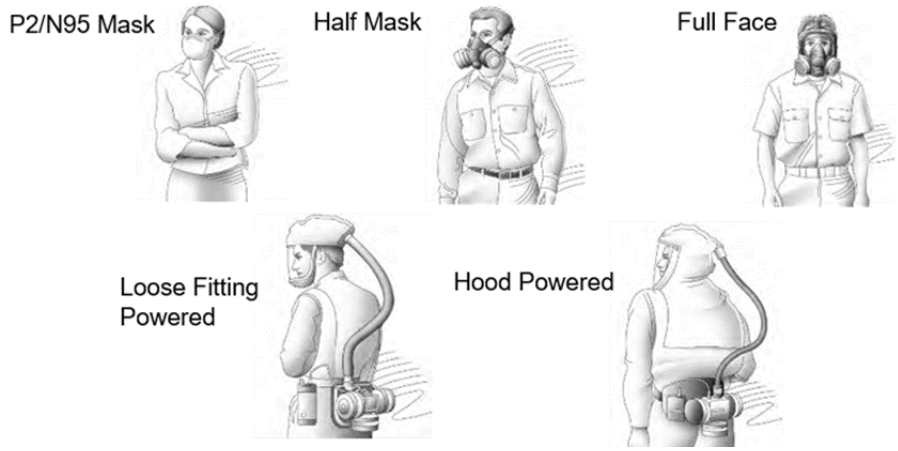
A respirator is used by an individual to provide respiratory protection. There are many types of respirators available which include:

- Air-purifying respirators which protect the wearer by filtering inhaled air. These types of respirators can be disposable or reusable and are either:
    - non-powered – uses inhalation to draw air through a filter
    - powered – uses a fan to draw air through a filter
- Supplied-air respirators which protect the wearer by supplying clean breathing air from an independent source such as an air compressor or compressed air cylinder.

In the healthcare setting, an air-purifying respirator (or particulate filtering respirator) most commonly relates to the disposable filtering half face respirator also known as a **P2 or N95 mask.**

There are a variety of respirators available, and these may differ between healthcare facilities. For more information refer to *Appendix 4H: Properties of P2 and N95 respirators* and *Appendix 4I: P2 and N95 respirator range within NSW Health.*

FIGURE 7: MAJOR TYPES OF RESPIRATORS (ADAPTED FROM OSHA)



The category of particulate filtering respirators can be further divided into:

- **Disposable particulate filtering respirators**, where the entire respirator is discarded at the end of a session of care, or when it becomes unsuitable for further use due to excessive resistance, sorbent exhaustion, or physical damage
- **Reusable particulate filtering respirators**, also called elastomeric respirators, may take the form of a reusable full-face or half-face respirator and harness fitted with particulate P2 or P3 filters that are activated passively by inhalation
- **Powered Air Purifying Respirators** (PAPRs) full-face or half-face PAPRS actively supply filtered air to the wearer and deliver positive air pressure via a battery-operated blower unit.

Reusable respirator facepieces are cleaned and reused but the filter cartridges are discarded and replaced when they become unsuitable for further use. All reusable items must be cleaned and disinfected in accordance with the manufacturer's recommendations and AS/NZS 4187:2014 Reprocessing of reusable medical devices in health service organisations.

Filter efficiency

Disposable P2/N95 face masks or respirators can filter out very fine particles (less than 0.5 micron) from the air when worn correctly.

AS/NZS1716:2012 Respiratory protective devices uses a classification system to identify the different types of particulate filters which are P1, P2 and P3. The 'P' refers to the particle size of the particulate matter that the respirator is designed to protect against.

Particulate filters are classified and marked as P1, P2 or P3, with P3 providing the highest level of protection. However, P3 protection can only be achieved if the P3 filter is used in a full-face respirator. P3 filters are currently not part of the Standards or readily available for use in Australian healthcare.

- P1 = 80% Filter efficiency
- P2 = 94% Filter efficiency
- P3 = 99% Filter efficiency.

Assigned protection factor

A respiratory protective device is considered adequate if it has the capacity to reduce the wearer's exposure to a hazardous substance to acceptable levels. Assigned protection factor (APF) refers to the level of respiratory protection that a respirator or class of respirators is expected to provide to users. The APF is the ratio of the airborne concentration of the substance outside the device to that inside the device (Table 4).

TABLE 4: FILTER TYPES AND ASSIGNED PROTECTION FACTORS

Conformité Européen Marked Particle Filter Type	Assigned Protection Factor (what is likely to be attained in practice)
P1	**4**
P2	**10**
P3	**20**

Elastomeric and PAPRs are regarded as having high levels of APF, particularly when used with full-face protection. The typical APF for a disposable N95 respirator and a half facepiece elastomeric is 10 and full facepiece elastomeric is 50. An APF of 10 means that the respirator (if used properly) can be safely used in an atmosphere that has a hazardous concentration of up to 10 times the Permissible Exposure Limit (PEL) or other exposure limit for that hazard.

N95 respirators and P2 respirators are similar and applied interchangeably to the same conditions. There are, however, differences in testing and certification practices between Australia and the USA (Table 5).

TABLE 5: DIFFERENCE BETWEEN TESTING OF P2 AND N95 RESPIRATORS

	P2 respirator (Australian & New Zealand Standard)	N95 respirator (USA NIOSH Standard)
Filter efficiency	at least 94%	at least 95%
Testing substance	Sodium Chloride Aerosol	Sodium Chloride Aerosol
Aerosol flow rate	95 litres per minute	85 litres per minute
Aerosol particle size	0.3 to 0.6 microns	0.3 microns

Surgical and standard P2/N95 respirators

There are two types of P2/N95 respirators: surgical and standard.

- **Surgical** P2/N95 respirators are fluid resistant
- **Standard** or **non-surgical** P2/N95 respirators are not fluid resistant.

Use a surgical P2/N95 respirator when:

- performing tasks such as surgery, that may expose HWs to high pressure streams that produce particles of blood or body fluid
- providing care for suspected or confirmed COVID-19 patients.

Standard P2/N95 respirators can be used for dry airborne situations where minimal exposure to wet particles is expected such as caring for patients with suspected or confirmed tuberculosis, measles or chickenpox. Standard P2/N95 respirators can be used together with a face shield, surgical mask or a visor (these additions must be approved by the product manufacturer) if fluid resistance is required.

For more information refer to *Appendix 4H: Properties of P2 and N95 respirator* and *Appendix 4I: P2 and N95 respirator range within NSW Health.*

Considerations before selecting respiratory protection devices

Before selecting RPD, the following should be considered:

- Identify hazards (e.g., the respiratory hazards to which HWs will be potentially exposed during routine and emergency situations)
- Proper donning, doffing and use of respirators
- Fit check (user seal check) at point of use every time a respirator is used. Refer to the donning and fit checking of P2/N95 respirators in NSW healthcare settings video series available through HETI My Health Learning (Course code 319438161) for more information
- Fit testing of respirators
- HWs are to ensure that they have the physiological ability to wear a respirator.

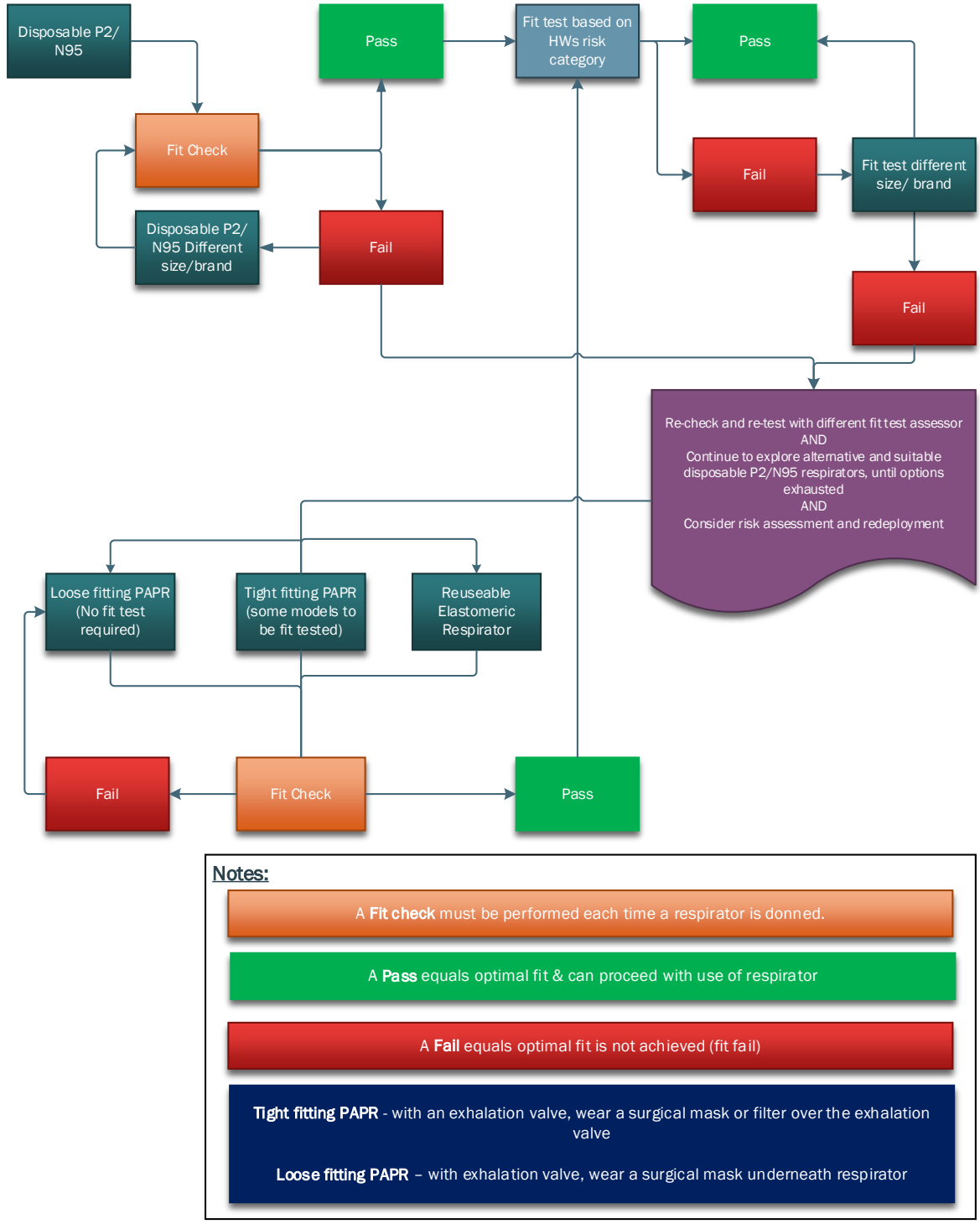
A respiratory protection program (RPP) should be in place including fit testing after fit (seal) checking is fully implemented. Fit testing provides additional information to determine the suitable type(s) of P2/N95 respirators for an individual. In situations where fit testing has not yet been carried out, and a P2/N95 respirator is recommended for use, a fit-checked P2/N95 respirator is preferred over a surgical mask.

Australian and New Zealand Standards and P2/N95 respirator manufacturers' instructions for use (IFU) require the wearer to have **no** facial hair to achieve a good facial seal. At all times when a HW is required to use a respirator; the HW must not have any facial hair present. This includes at the time of fit testing. However, HWs who are unable to remove facial hair to wear a tight-fitting respirator due to medical reasons, cultural or religious observance should be able to obtain an exemption to wear a beard cover technique.

No member of HW is required or expected to undertake any work requiring a P2/N95 respirator unless an adequate facial seal can be achieved. Ensure a risk assessment is conducted on the possibility of removing facial hair, redeployment, alternative respiratory

protective device provision or an exemption where the HW cannot achieve an adequate facial seal. For more information refer to CEC Respiratory Protection Program *Appendix 4A: Use of respiratory protective device with beard cover technique*. Also refer to *Figure 8: Flowchart for Respiratory Protection Fit Checking and Fit Testing Process*.

FIGURE 8: FLOWCHART – RESPIRATORY PROTECTION-FIT CHECKING AND FIT TESTING PROCESS



Discarding P2/N95 respirators after use

A P2/N95 respirator should be:

- **Discarded and replaced** if it becomes contaminated with blood, respiratory or nasal secretions, or other bodily fluids
- **Discarded and replaced** following an AGP, if it becomes hard to breathe through or if the respirator no longer conforms to the face or loses its shape or fit
- **Removed** outside of patient care areas or before caring for patients requiring other precautions (e.g., between rooms or patient zones, or before entering break rooms or reception areas) and before proceeding to care for patients that are not isolated for COVID-19.

Alternatives to disposable P2/N95 respirators

There are a variety of respirators used by HWs when caring for patients with a respiratory infection. In situations where there is a risk of airborne spread the recommended RPD is a particulate filter respirator. For some HWs and in some conditions, the available disposable P2N/95 respirators may not provide optimal fit.

A reusable respirator should be considered for HWs who are unable to achieve a facial seal (fit check) with available disposable P2/N95 respirators and/or have not passed a fit test and cannot be re-deployed to a lower risk clinical area due to their specialist skills. In this situation, alternatives to consider include reusable elastomeric respirators and PAPR.

Considering the complexities and challenges surrounding the use of reusable respirators in healthcare, the decisions on the selection and purchase of elastomeric respirators or PAPRs for use in healthcare facilities must involve specialists in infection prevention and control, work health and safety, biomedical engineering, reprocessing and the procurement or product evaluation committee.

Elastomeric respirators

Elastomeric respirators have historically had limited use in healthcare and their design may not comply with requirements of the healthcare environment and they are not recommended for routine use in healthcare. The illustrations in figure 9 is not an endorsement but as an illustration of different types for consideration. Decisions on the selection and purchase of these respirators for use in healthcare should follow the process for procurement including certification where required on ARTG.

For more information refer to CEC Respiratory protection program manual.

Powered air-purifying respirators

A PAPR is a battery-powered device that provides filtered air under positive pressure into either a loose-fitting hood or helmet or a tight-fitting facepiece. Because the filtered air is delivered under positive pressure, the device can compensate for an imperfect seal. For this reason, a PAPR is regarded as potentially providing a higher level of protection than other RPD but is more complex to use and maintain.

For more information refer to CEC Respiratory Protection Program resources.

FIGURE 9: EXAMPLES OF DIFFERENT TYPES OF RESPIRATORS

Difference between disposable P2/N95 respirators, reusable elastomeric respirators and PAPRs

The most significant difference between disposable respirators, reusable elastomeric respirators and PAPRs is that reusable respirators must be maintained and inspected after each use, including cleaning and disinfection of the reusable components such as facepiece valves, valve covers and straps.

4.6 PPE donning and doffing

HWs should understand PPE requirements, when to wear PPE and how to remove and dispose of PPE safely.

HW should not use PPE other than those prescribed in NSW Ministry of Health policy directives, CEC IPAC guidance and local policy or procedures.

PPE 'creep' has been identified during the pandemic as a risk to HWs who add or choose PPE that is not recommended for transmission-based precautions e.g., a cloth or disposable surgical scrub cap and overshoes, an apron over a long-sleeved disposable gown or other PPE adornments. This potentially increases the risk of self-contamination, particularly on PPE removal. If the PPE is uncomfortable, does not fit properly, or the HW has an adverse reaction using it, they should consult their manager or supervisor.

PPE donning

When providing care to patients under airborne precautions, the following PPE should be donned before entering the patient's room or zone.

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

- Perform hand hygiene
- Apron* or fluid resistant long-sleeved or isolation gown
- P2/N95 respirator
- Eye protection
- Perform hand hygiene** and don disposable nonsterile gloves upon entering the room before contact with the patient.

*Apron use can be considered when it is based on the anticipated contact/exposure to particles while providing care.

**Do not apply ABHR to the outside of a glove once the glove is on the hand – ABHR can create pinholes unless the glove is designed to be sanitised.

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

- Keeping hands away from face
- Limiting surfaces touched
- Changing gloves when torn or visibly contaminated
- Performing hand hygiene after PPE is removed.

Respirator fit checking and fit testing

Fit checking or user seal check is a process to ensure that the P2/N95 respirator fits the wearer's face snugly (i.e., creates a seal) to minimise the number of particles that bypass the filter through gaps between the wearer's skin and the mask seal. Fit checking involves a check each time the respirator is put on to ensure that the respirator is properly applied and is the appropriate minimum standard at the point of use for HWs using respirators.

Fit testing is performed to determine whether a specific type, model and size of respirator is a suitable fit for the wearer and that it is worn correctly to achieve a facial seal and comfort.

Healthcare settings are to ensure that a range of models and sizes of P2/N95 respirators are available for HWs so that users can have access to respirators that achieve a seal against their face.

Detailed fit checking and fit testing processes are explained in the CEC Respiratory Protection Program Manual. Also refer to Principles of Fit Checking and CEC PPE donning and doffing training videos for more information.

The following items are NOT required when in contact with a patient/client with suspected or confirmed COVID-19:

- Use of **boots or shoe covers** is not recommended as part of COVID-19 PPE. These are only required in the operating theatre or a trauma room
- A **head covering** is not required. Head coverings are part of operating theatre attire or when performing a sterile/aseptic procedure (e.g., central line insertion) to prevent

contact between a HWs hair and patient/equipment and to reduce shedding of skin squames/hair and associated bacteria into the sterile/aseptic field

- **PPE adornments** or extra equipment such as cloth caps are not to be used. If HWs have WHS concerns regarding their skin integrity around their hair area, they should be raised via their normal reporting processes
- The use of a **mask loop holder** should only be used if all other avenues to secure masks have been trialed. Their use can increase the risk of contamination and contribute to issues with both donning and doffing. If a mask loop holder is used, the following need consideration:
    - Whether to use a single use or a reusable item?
    - Are there any additional steps for donning and doffing that is required to be added to the procedure e.g., additional hand hygiene, cleaning/disinfection of the mask loop holder?
    - Do they interfere with the seal (for P2/N95 respirators)?
- **Coveralls** are NOT recommended for use in NSW health facilities based on evidence regarding COVID-19/ARI modes of transmission. There is an increased risk of contamination on removal as they are not used routinely or frequently to become proficient. Currently there are no guidelines from the World Health Organization (WHO), the U.S. Centers for Disease Control and Prevention (CDC), the U.S. Occupational Safety and Health Administration (OSHA) or Communicable Diseases Network of Australia (CDNA) regarding use of coveralls for protection from COVID-19/ARI during patient care. If a determination is made to use protective coveralls, then the selection of appropriate protective coveralls should be based upon a site-specific risk assessment conducted by qualified individuals such as those working in infection prevention and control and infectious diseases roles.

PPE removal

There are a variety of ways to safely remove PPE without contaminating clothing, skin, or mucous membranes with potentially infectious materials. Remove all PPE upon exiting the patient zone/room, removing mask and protective eyewear last after leaving room or zone and closing the door.

Always perform hand hygiene if there is risk of contamination between steps, immediately after removing gloves and when the sequence of PPE doffing has been completed.

Example 1: Suggested doffing sequence

1. Gloves
2. Hand hygiene
3. Apron or gown
4. Hand hygiene
5. Eye protection or face shield (if reusable, clean immediately)
6. Hand hygiene (if cleaned reusable protective eyewear)

7. Mask or respirator
8. Hand hygiene

Example 2: Suggested doffing sequence

1. Gloves and gown (as one step)
2. Perform hand hygiene
3. Goggles or face shield
4. Mask or respirator
5. Perform hand hygiene

Note:

- Dispose of removed PPE into the general waste unless visibly soiled or contaminated with blood or body substance
- Gown and gloves can be removed as one step
- Avoid touching the face while wearing PPE and during removal
- Facilities can adopt other safe ways of PPE removal according to local guidelines and procedures.

See posters on the CEC Infection Prevention and Control (IPAC) and Healthcare Associated Infections (HAI) Program for further guidance.

4.7 Extended or sessional use of PPE

Extended use of PPE refers to wearing the same PPE for repeated close contact episodes with more than one patient, without removing them between patient care based on risk assessment and contamination risk, e.g., on a ward round or providing ongoing care for multiple inpatients in a cohort area with suspected or confirmed COVID-19. Hand hygiene must be performed in between patients and care episodes.

Extended or sessional use of PPE is only recommended when caring for patients during a pandemic with suspected or confirmed COVID-19. This is not recommended for any infectious conditions outside of COVID-19 (e.g., Multidrug-resistant organisms). Evidence continues to evolve on the issue of increased healthcare associated infection when gown and gloves are not changed in between patients.

The following points should be considered when deciding on an extended or session use:

- Extended use of above neck PPE (mask/respirator and eye protection) is well suited to situations where multiple patients are confirmed with COVID-19 and patients are cohorted together in a dedicated waiting room or hospital inpatient clinical area
- The decision on extended or sessional use of PPE must be based on a risk assessment, clinical situation, local facility needs and consultation with the facility infection prevention and control team
- A single session refers to a period where a HW is undertaking duties in a specific clinical care setting or exposure environment. A session ends when the health worker leaves the care setting/exposure environment, PPE becomes contaminated or the HW requires food or drink

- Both surgical mask and P2/N95 respirator can be safely and comfortably worn for up to 4 hours continuously without removing the mask unless damaged, soiled, or contaminated
- The duration of use of PPE items should not exceed the manufacturer's instructions
- Gown and gloves must not be used in between patients and are to be removed on exit or before exiting the room along with hand hygiene. The exception for gown or apron extended use will be COVID-19 testing clinics or similar settings where there is limited contact with patients or low risk of gown/apron contamination e.g., meal tray collection. Gloves must always be changed, and hand hygiene performed in between patients.

For guidance on appropriate use of PPE in community and home visits refer to *Chapter 5*.

4.8 Bringing your own PPE

Clinicians must not bring any PPE (reusable or disposable) into a health facility unless it has been approved for use by the local facility, LHD/SHN, and/or NSW Health. Considerations include:

- Checking with HealthShare NSW if the PPE is available
- All PPE must conform to AS/NZS standards and Australian Register of Therapeutic Goods (ARTG) registration and certificate; this information is required from the PPE manufacturer
- Approval for use by the relevant clinical department, the hospital and LHD/SHN executive (PPE Strategic Committee) following HealthShare NSW procurement processes
- The full approval process of the equipment and the circumstances it is to be used in must be documented following:
    - PPE assessment and acceptance for use within the facility by Infection Prevention and Control, Work Health and Safety, biomedical engineering, unit manager and the facility sterilizing service manager, who will undertake service compatibility and risk assessment for reprocessing between uses within the capacity of their sterilizing facility
    - Manufacturer's IFU on reprocessing, filter management and maintenance, and a supply of replaceable components including straps, inhalation and exhalation valves, valve covers, filters, cartridges, and canisters
    - Insurance coverage for privately owned PPE that requires reprocessing within the health facility
    - Appropriate training required for the safe use of the PPE. Training and education should be clearly documented; the manufacturer may be obligated to provide training in the proper use of the PPE
    - Decision on who will provide and take responsibility for the training and assessment of the HW wearing or using their own PPE

- Donning and doffing procedures may need to be altered to accommodate non-standard equipment and this will need assessment by Infection Prevention and Control
- The financial and resource implications, including the capacity to accommodate the volume, complexity, storage, and resources required for reprocessing.

For more details on the management of reusable RPD refer to CEC Respiratory Protection Program Manual.

4.9 Mask use and skin sensitivity

Prolonged wearing of masks and eye protection can cause adverse skin reactions such as acne, contact dermatitis and skin injuries from pressure effects, as well as exacerbating any underlying skin conditions. This guidance relates solely to considerations to reduce skin irritation for disposable P2/N95 respirator or surgical mask use.

Facial skin care to reduce adverse effects of wearing masks

Advice for facial skin care to reduce adverse effects of wearing masks includes:

- Use a mild skin cleanser, soap substitute or micellar water at the beginning and end of the day. Standard soap is alkaline and has been shown to change skin pH and can damage the skin barrier function
- Moisturise regularly with simple formulations and avoid fragranced products
- Start with a less greasy lotion before progressing to a greasier cream if tolerated
- Avoid greasy creams if acne prone
- Anti-ageing skin care products containing glycolic acids or retinoids can be very irritating, especially when the skin barrier is damaged or compromised; these products may also exacerbate skin sensitivity
- Moisturise face before going to bed.

Mask fitting and skin sensitivity

To reduce the risk of skin sensitivity when fitting a mask:

- Perform hand hygiene before putting on the mask and after taking it off
- Find the best fitting mask and take time to fit the mask
- Do not overtighten the mask.

Wearing a mask if experiencing skin sensitivity

To help prevent or minimise skin problems while wearing a mask:

- Before going to work or 1 to 2 hours before donning a surgical mask
  - Wash face and hands well, dry thoroughly
  - Apply moisturiser to face and hands and let the skin dry

- At work, before donning a surgical mask
    - Apply skin barrier to dry face including forehead, nose, cheeks and ears
    - Let the skin dry
    - Don the surgical mask
- Try to minimise the time wearing a mask as much as possible and give skin regular breaks for at least 5 minutes, preferably every few hours
- Find the best fitting mask
- Remain hydrated for general skin health.

If friction is a problem, consider the following actions:

- Apply moisturising lotion at least 30 minutes before wearing a mask to lubricate the skin and reduce friction between the skin and surgical mask
- Apply silicone protectors such as a no-sting barrier film wipe which will protect the skin and prevent friction
- Barrier creams can also be used when wearing masks for an extended length of time, however these products tend to be greasy which may aggravate acne in which case a lighter silicone-based product is recommended.

Allergic reactions

There are very few chemicals used in masks, and reactions are most likely irritation rather than allergy. Allergic reactions rarely occur.

Monitor areas that may contribute to a reaction including:

- The glue strip along the nose
- The nose bridge that contains a metal wire for moulding
- Where the mask is in contact with cheeks.

Skin irritation

Irritant contact dermatitis is nearly always the cause of mild redness and dryness from masks. The following actions are suggested:

- Change the brand or type of a mask to a softer variety if available
- Put a soft dressing or a thin silicone pad or a barrier wipe under the surgical mask where irritation occurs (not indicated when using a tight-fitting respirator)
- Increase moisturiser use, particularly at night and consider using a greasier variety
- If significant dermatitis persists, low-strength topical steroids available over the pharmacy counter can be used.

If the irritation worsens, consider consulting a dermatologist and report the worsening condition to the HW line manager or supervisor for risk assessment.

Pressure injuries

Pressure from the mask can cause skin indentation and minor injuries. Most indentation will resolve spontaneously. Consider the following actions for pressure injuries from masks:

- Apply compresses with three to four layers of gauze soaked in cold water/normal saline to the skin for around 20 minutes every 2 to 3 hours
- Moisturisers can be applied to intact skin before and after wearing a surgical mask
- Use a silicone dressing (e.g., tape, thin pad) under the surgical mask, and behind the ears for skin protection; the pad redistributes pressure, and the dressings conform to the face to reduce pain, shear and friction and are gentle on removal
- Hydrocolloids may also protect the skin but are not indicated when wearing tight fitting respirators; care should be taken when removing the hydrocolloid to reduce trauma and monitor moisture build up
- Avoid using hot water or ethanol or other irritants to clean the skin
- If pressure from goggles is the main problem, switch to a visor
- If there is skin breakdown secondary to pressure, use a medical grade silicone-based cream cloth to moisturise, protect and restore the skin when a dressing can't be applied
- Consult a doctor or dermatologist if there is further aggravation of the skin condition
- Do not wear a mask whilst skin is broken and redeployment away from clinical care may be required until skin has recovered.

Use of prophylactic dressings to prevent facial skin injury due to tight fitting respirators

Prolonged wear of tight-fitting respirators may cause unintended skin injuries, despite taking steps to protect skin integrity. To prevent loss of skin integrity, the wearing of a prophylactic dressing may be appropriate. Certain prophylactic dressing can be worn under a respirator providing a 'fit test' pass is achieved. Prophylactic dressings (also known as dressings used to prevent injuries or moisture) are applied under a respirator to relieve pressure. A fit check must then be performed every time a respirator is applied. For more information refer to CEC Respiratory Protection Program and Fit testing and comfort evaluation of prophylactic dressing use for healthcare workers under N95/P2 respirators in one health service district in Australia.

Reporting incidents

HWs should notify a No person incident in ims+ when PPE has contributed to harm or near misses, such as masks with defective strings or ear loops.

HWs should notify a Worker incident case when PPE has caused a skin rash, allergic reaction or other adverse effect.

For health services that do not use ims+, HWs should use their usual local process (e.g., IIMS) for reporting incidents with or harm caused by PPE.

Mask wearing exemptions in healthcare facilities

During red alert risk level HWs risk of exposure may increase when inadequate PPE is worn. HWs who are unable to wear a mask at all should not come to work when mask wearing is mandatory within healthcare facilities. There may be HWs who can wear masks for shorter periods and should have a process to risk assess whether they could be accommodated doing suitable duties.

4.10 Uniforms and scrubs

The following information is provided to clarify the use of uniforms, scrubs, aprons and gowns in healthcare settings.

Uniform 'scrubs' are supplied by NSW Health to meet uniform requirements and are referred to as 'uniform' in this guidance.

Surgical scrubs are theatre attire worn by HWs in theatre or other specialities. They are supplied by NSW linen service and are referred to as 'surgical scrubs' in this guidance.

NSW Health stipulates when scrubs and uniforms should be worn, as outlined in the NSW Health policy directive Uniforms Policy (PD2019_012). Employees who are required to wear a uniform are required to comply with the policy, LHD/SHN Uniform and Dress Code requirements and the NSW Code of Conduct.

Perioperative attire (surgical scrubs) should not be worn outside of the perioperative area as per local procedures, with the exception of emergency attendance of patients within the hospital building. An outer gown should cover the front of the attire when leaving the peri-operative environment (ACORN, 2020).

The NSW Health Code of Conduct (PD2015_049) states that HW must:

> *"4.3.4 Dress in a way that is appropriate for the work they do and complies with any local dress requirements."*

A range of frequently asked questions are addressed below.

Is there specific advice in relation to scrubs or uniforms and PPE for clinical HWs?

Specific reference is made in relation to HW clothing in the Infection Prevention and Control Practice Handbook.

At any time, if a HWs clothing becomes contaminated with blood or body fluid, the clothing should be removed as soon as practical and before the HW attends to other patients.

If skin is contaminated with blood or body fluid, the HW must remove contaminated clothing/uniform or PPE and wash any affected skin, then perform hand hygiene.

PPE must not be worn outside the hospital setting unless it is specific for clinical service e.g., during a home visit, resuscitation/first aid on campus grounds, COVID-19 screening clinics.

How long can the COVID-19 virus live on the parts of the uniform not covered by an apron?

There have been no documented cases of transmission of the novel coronavirus via clothing at this point of the pandemic.

Chin et al. (2020) found no viable virus on clothing 2 days after exposure with coronavirus. There is no data that supports transmission of coronavirus via clothing.

Can I wear my uniform outside of the hospital setting?

HWs can wear a uniform outside the hospital and for community visits and use PPE when they are in contact with blood and body fluid. The PPE protects their uniforms when worn.

Standard and transmission-based precautions are both a requirement of NSW Health Infection Prevention and Control Policy (PD2017_013) and NSW Health Practitioner Regulation 2016: Schedule 3. These precautions protect clinical HW uniforms.

In acute healthcare settings HWs are required to use appropriate PPE for any close contact with blood or body substances. The risk of uniform contamination from wearing appropriate PPE is unlikely or extremely low.

In community settings the same principles apply, and the recommendations are the same as for acute healthcare settings. That is, if they anticipate close contact or exposure to blood and body fluid, PPE must be worn which includes wearing a fluid resistant apron or a gown.

If a uniform becomes contaminated during community care, the usual local procedures should be applied to remove, or spot clean any contamination.

The choice to change out of a uniform before leaving work is a personal one. Surgical scrubs are not to be worn outside the hospital setting.

Should HWs wear an apron or a gown for standard and contact precautions?

The choice of an apron or gown is based on a risk assessment and is documented in the Australian Guidelines for the Prevention and Control of Infection in Healthcare and also supported by the ICEG Guidance on the use of personal protective equipment (PPE) for health care workers in the context of COVID-19.

The risk assessment approach to choosing an apron or a gown for standard and contact precautions remains an option in any clinical care situation.

During the risk assessment, if the HW anticipates exposure to blood and body fluid on an uncovered part of their uniform, then the risk assessment will direct them to a gown for contact precautions.

References

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Appendix 4A: ARI risk assessment guide for PPE selection for direct care of patients

Patient Characteristics			Precautions Required					
			Frequent hand hygiene	Surgical mask[3]	P2/N95 Respirator[3,4]	Eye Protection	Fluid Resistant Gown	Gloves
No acute respiratory infection (ARI) symptoms	STANDARD PRECAUTIONS FOR ALL[1]	Subject to current NSW Risk Level	✓	As per standard precautions	✗	As per standard precautions	As per standard precautions	As per standard precautions
With ARI symptoms (important to test for other respiratory viruses ##)		STANDARD + DROPLET	✓	✓	✗	✓	As per standard precautions	As per standard precautions
Patients with suspected[2] or confirmed COVID-19 OR as identified as a close contact		STANDARD + AIRBORNE[4]	✓	✗	✓	✓	As per standard precautions	As per standard precautions

Notes:

1. Standard precautions always include a risk assessment of the need for PPE. All health workers require COVID-19 vaccination
2. COVID19 epidemiological evidence (in the past 14 days) as specified by CDNA COVID-19 SoNG https://www1.health.gov.au/internet/main/publishing.nsf/Content/cdna-song-novel-coronavirus.htm
3. For extended use, masks or respirators can be worn for up to 4-8 hours respectively. Eye protection can also remain on between patients. Masks/respirators and eye protection should be discarded (or reprocessed in the case of reusable eye protection) if they are moist or contaminated with blood or bodily fluids and after removal
4. HWs required to wear P2/N95 respirators should be trained in the correct use including fit checking, donning and doffing. This also applies to the use of reusable respirators

Risk assess ARI for use of respiratory protection (P2/N95) for AGPs or other similar procedures

Adapted from *Personal Protective Equipment (PPE) for patient care with symptoms of acute respiratory illness including COVID-19* – HNELHD.

Appendix 4B: Application of transmission-based precautions – visual guide to PPE

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

CONTACT + DROPLET

CONTACT + DROPLET

CONTACT + AIRBORNE

CONTACT + AIRBORNE

Appendix 4C: Aerosol-generating procedures

The notion of aerosol-generating procedures (AGPs) has undergone considerable debate and change during the COVID-19 pandemic. Of importance is the understanding that some procedures will generate aerosols and add considerable dispersion of infectious particles and should be considered during risk assessment for mitigation.

AGPs produce smaller respiratory particles due to air or gas flowing rapidly over a moist or wet surface. There are many procedures that may be 'aerosol-generating', and these are considered to increase the risk of transmission of respiratory viruses including SARS-CoV-2.

Note that other procedures that may cause aerosolisation of fluid or tissues that are not from the respiratory tract or lungs are not considered high risk AGPs for transmission of COVID-19 or other respiratory pathogens.

Some considerations include:

- AGPs on suspected or confirmed ARIs should be performed with a minimum number of HWs present and where possible, the most qualified person should carry out the procedure
- Nebulisers are not recommended and alternative means of delivering medication (such as pressurised metered-dose inhaler or a spacer) should be used. If the use of a nebuliser cannot be avoided, then:
    - Isolate the patient
    - Use a negative-pressure room if available, otherwise use a single room with the door closed
    - HWs administering nebulisers should wear airborne precaution PPE, including an impervious gown and gloves, P2/N95 respirator and eye protection
    - If staying in the room, depending on the air changes per hour, continue these precautions for at least 30 minutes after the nebuliser treatment. See link: CDC Air Changes.

For guidance regarding other specialised procedures related to **Allied Health procedures,** refer to *Appendix 4D*.

Cardiopulmonary resuscitation

While providing CPR for patients suspected or confirmed to have COVID-19 or ARI wear a P2/N95 respirator and eye protection. For more information refer to CPR during the pandemic National Clinical Taskforce.

References for Appendix 4C

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Appendix 4D: ARI/COVID-19 PPE in Allied Health procedures

The following advice is intended to support Allied Health decision making for the recommended use of PPE in hospitals, community health centres and other facilities. It was prepared by speech pathologists and physiotherapists and in collaboration with the NSW Health Chief Allied Health Officer and the CEC. Broad consultation with NSW Health physiotherapists, speech pathologists and the CEC Infection Prevention and Control Community of Practice and Expert Reference Committee was also undertaken during the development.

The presence and risks related to SARS-CoV-2 vary between locations and therefore this information should be used in collaboration with individualised advice received from LHD/SHNs and services according to *Chapter 3: NSW IPAC Response and escalation framework.*

Where it is considered that particular risks apply to a service, specialist advice should be sought from local specialist infectious diseases experts and infection prevention and control before deviating from the advice included in Figure 10.

Clinicians should refer to ACI Clinical practice guide for respiratory support in adults with COVID-19 and all other documents that are relevant to their specific clinical practice.

Underpinning this advice is the need for all Allied Health professionals to use a risk-based approach prior to undertaking clinical assessment, procedures and treatments to ensure that the appropriate PPE is always used, not only related to COVID-19.

General considerations

Apply transmission-based precautions for patients suspected or confirmed to have ARI/COVID-19.

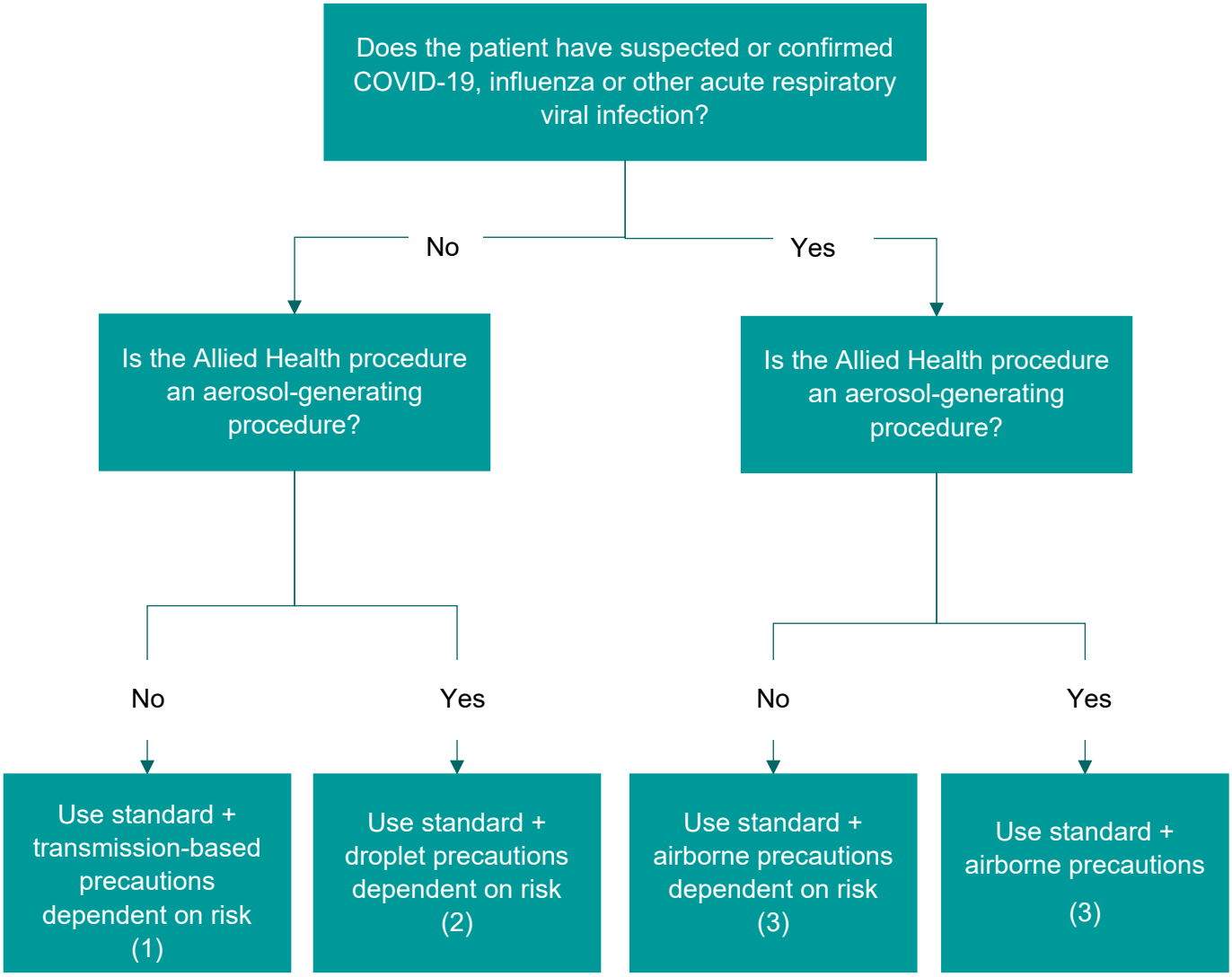
Risk factors

Risk factors to be considered:

- Cognition and cooperation of patient
- Secretion control/volume
- Cough etiquette and respiratory hygiene
- The position of the clinician during the procedure (e.g., behind or beside patient) where possible and practical
- The cumulative length of time spent with an individual patient (2 hours >1.5 metres over a 48-hour period is considered low risk). If this is longer or distance can't be maintained, additional PPE may be required.

If these circumstances put the clinician at risk of infection, droplet precautions should be considered.

FIGURE 10: DECISION ALGORITHM FOR RECOMMENDED PPE IN ALLIED HEALTH PROCEDURES



1. Allied Health procedures with no risk of droplet exposure

Standard precautions should always be adhered to, ensuring ongoing risk assessment approach during patient contact.

Examples of procedures (not exclusive):

- General mobilisation of patients
- Outpatient orthopaedics / hydrotherapy / musculoskeletal / lymphoedema / women's health / cardiac and pulmonary rehabilitation
- Videofluoroscopic swallow assessment / Modified barium swallow
- Clinical dysphagia assessment
- The presence of dysphonia, dysphasia or dyspraxia.

Transmission-based precautions are applied where patients are suspected or confirmed of an infectious disease according to mode of transmission.

2. Allied Health procedures with risk of exposure to particles or body fluids

Standard precautions, plus droplet precautions

Examples of procedures (not exclusive):

- Airway clearance techniques including, closed suction, sputum collection procedure, positioning / gravity assisted drainage techniques, active cycle of breathing technique (ACBT) and manual techniques (excluding where open suction is required)
- Manual assisted cough i.e., abdominal cough or cough with pressure
- Use of breathing devices with viral filter (positive end expiratory pressure (PEEP) devices, excluding non-invasive ventilation)
- Inspiratory and expiratory muscle strength training on non-ventilated patients
- Non-AGP assessment, weaning and treatment of tracheostomy patient (e.g., deflating cuff, changing inner cannula or placement of speaking value in non-ventilated patients)
- Assessment and treatment of laryngectomy patient including change of voice prosthesis / Heat Moisture Exchanger (HME) management where there is direct manipulation of stoma or treatment in close proximity
- Neonatal / paediatric feeding assessment where 1.5m distance cannot be maintained
- Treatment of head and neck cancer patient where 1.5m distance cannot be maintained
- Spirometry or peak flow meter device (to avoid contamination of the device consider using viral filter).

3. Allied Health aerosol-generating procedures

Examples of procedures (not exclusive):

- Use of positive pressure breathing devices, mechanical insufflation-exsufflation devices, intra/extra pulmonary high frequency oscillation devices
- Open suctioning of nasopharynx, oropharynx, tracheostomy, endotracheal tube or laryngectomy stoma
- Assessments where a patient is receiving non-invasive ventilation, high-flow nasal prongs, inhalation therapy or a nebuliser
- Manual hyperinflation and inspiratory muscle training device on ventilated patient
- Procedures that have risk of ventilator disconnection e.g., manual assisted cough, manual techniques, mobilising
- Induced sputum via ultrasonic jet nebuliser
- Fibreoptic endoscopic evaluation of swallowing assessment (Co-phenylcaine spray should not be used at present as aerosolises. It is recommended that this procedure should NOT be conducted on COVID-19 suspected/confirmed cases).

Explanatory Notes

- There is good evidence that COVID-19, like most respiratory viral infections, is predominantly transmitted by particles
- Clinical and epidemiological evidence suggest aerosolisation risks potentially increase when air circulation or air exchanges are poor
- Coughing, sneezing and shouting are known to increase the number and size range of particles produced
- By definition respiratory AGPs aerosolise respiratory particles hence the increased risk for transmission.

Appendix 4E: PPE guidance for NSW Health security HWs

In managing acute respiratory infections including COVID-19 risks, security HWs are advised to seek to eliminate the risk first, as far as is reasonably practicable. If it cannot be eliminated, the security HW must minimise the risk as far as is reasonably practicable. Adherence to risk level requirements applies during alerts.

Frequently asked questions

1. **What PPE is to be worn when:**
    a. in close proximity with an individual outside the hospital but on hospital grounds (e.g., when restraining or escorting off the premises or when enforcing smoking by-laws)?
    b. touching surfaces (e.g., as part of lock up / lock down)?
    c. managing hospital access points?
    d. conducting general patrols within a health campus?

No specific PPE is required for any of these situations unless in contact with blood or body fluids.

It is recommended that frequent hand hygiene is performed using alcohol-based hand rubs (ABHR) or washing with soap and water for 20 seconds at a hand wash basin.

Care should be taken to avoid touching the face.

Physical distancing (>1.5 m) should be utilised during amber and red alert risk level where practical.

Shared keys should be cleaned with a disposable cleaning cloth. This should occur before the start of the shift and at the end of each shift.

Standard precautions apply to all patient care and comprise of hand hygiene, respiratory hygiene (cough etiquette), PPE if in contact with blood or body substances, occupational exposures prevention, cleaning and disinfection of the healthcare environment and shared equipment, and appropriate waste disposal.

2. **What PPE is to be worn routinely while in attendance in a COVID clinic?**

COVID clinics are attended by people who are symptomatic for COVID-19 or are being tested if they have a known exposure.

Physical distancing should be utilised during amber and red alert risk level where practical.

It is recommended that standard and airborne precautions are applied if in direct contact with patients. This includes P2/N95 respirator, eye protection, plastic apron/gown and gloves based on risk assessment.

Gloves should be worn during direct contact with patients.

HWs wearing PPE must complete the My Health Learning training for donning and removal of PPE (Course Code 294450660).

Hand hygiene is performed using ABHR or washing with soap and water for 20 seconds before and after contact with patients or their surroundings.

Care should be taken to avoid touching the face.

3. What PPE is to be worn when restraint of a patient is required?

Patients with suspected or confirmed ARI/COVID-19 in hospital will be known. It is important to maintain security HW safety against respiratory particles by putting on the correct PPE prior to contact with the patient.

If called to a clinical area and restraint is required, the HW will inform the security HW what PPE is required which will include:

- P2/N95 respirator for suspected or confirmed COVID-19
- Surgical mask for other confirmed infections as per transmission -based precautions
- Protective eyewear
- Gloves (suspected exposure to blood or body substances)
- Apron/gown for close contact.

Appendix 4F: AAMI Level Standards for gowns

Extracted from Standard American Society for Testing and Materials – International (ASTM) F1670 / F1670M Standard Test Method for Resistance of Materials Used in Surgical Gowns to Penetration by Synthetic Blood.

Barrier Performance	Barrier Protection	Resistance Measure	Description
Level 1	Minimal	Liquid penetration	• Used for MINIMAL risk situations • Provides a slight barrier to small amounts of fluid penetration • Single test of water impacting the surface of the gown material is conducted to assess barrier protection performance

Level 2	Low	Liquid penetration	• Used in LOW-risk situations
			• Provides a barrier to larger amounts of fluid penetration through splatter and some fluid exposure through soaking
			• Two tests are conducted to assess barrier protection performance:
			  ○ Water impacting the surface of the gown material
			  ○ Pressurising the material

Level 3	Moderate	Liquid penetration	• Used in MODERATE risk situations
			• Provides a barrier to larger amounts of fluid penetration through splatter and more fluid exposure through soaking than Level 2
			• Two tests are conducted to test barrier protection performance:
			  ○ Water impacting the surface of the gown material
			  ○ Pressurising the material

Level 4	High	Liquid and viral penetration	• Used in HIGH-risk situations • Prevents all fluid penetration for up to 1 hour • May prevent VIRUS penetration for up to 1 hour • In addition to the other tests conducted under Levels 1-3, barrier level performance is tested with a simulated blood containing a virus – if no virus is found at the end of the test, the gown passes

Appendix 4G: AS 4381:2015 Single-use surgical face mask use in healthcare

Extracted from Australian Standard AS 4381: 2015 Single-use surgical face masks for use in healthcare.

Testing	Barrier Performance	Bacterial Filtration Efficiency (BFE) %	Differential pressure (ΔP), mm H_2O/cm^2	Resistance to penetration by synthetic blood (fluid resistance) minimum pressure in mmHg for pass result
Mask materials are evaluated for resistance to penetration by synthetic blood, bacterial filtration efficiency and differential pressure	Level 1	≥ 95%	< 4.0	80mm Hg
	Level 2	≥ 98%	< 5.0	120mm Hg
	Level 3	≥ 98%	< 5.0	160mm Hg
	Test method	ASTM F2101-14 or EN 14683:2014	EN 14683:2014	ASTM F1862 /F1862M-13 or ISO 22609

Appendix 4H: Properties of P2 and N95 respirators

Properties	P2 Respirator	N95 Respirator
Other names	N95 masks, respiratory protection device, particulate respirator	P2 respirator, respiratory protection device, particulate respirator
Characteristics	P2 particulate filtering respirators/masks must have a filter efficiency of at least 94% when tested with sodium chloride aerosol at a flow rate of 95 litres/minute Under the European Norms system, aerosol testing is similar to Standard AS/ NZS 1716: 2012 but has additional filter efficiency testing with paraffin oil aerosol that must also meet the minimum 94% filter efficiency to be classified as P2. The particle size of this aerosol has a median diameter of 0.3 to 0.6 microns with a range of particles in the 0.02 to 2-micron size range	NIOSH classified N95 particulate filtering respirators/masks must have a filter efficiency of at least 95% when tested with sodium chloride aerosol at a flow rate of 85 litres/minute
	• Raised dome or duckbill • 4–5 layers (outer polypropylene, central layers electret [charged polypropylene]) • Filtration through mechanical impaction and electrostatic capture • Designed to provide a good facial fit to minimise aerosol contamination of the mucous membranes of the nose and mouth	
Sealing	• Ties or straps at crown and bottom of head, pliable metal nose bridge • Recommend fit checking all respirators, fit testing based on risk category	
Australian Standards	Standard AS/NZS 1715: 2009 Standard AS/NZS 1716: 2012	Set by the US NIOSH classification (NIOSH Guidelines – Procedure No. TEB-APR-STP-0059)
Intended use	• Routine care of patients on airborne precautions • High-risk procedures (or AGPs) such as bronchoscopy when the patient's infectious status is unknown, or the patient has suspected or confirmed COVID-19 • Procedures that involve aerosolisation of particles that may contain specific known pathogens (AGPs)	

Source: Australian Guidelines for the Prevention and Control of Infection in Healthcare, 2019

Appendix 4I: P2 and N95 respirator range within NSW Health

This table is not exhaustive and additional products will be added on to the respiratory protection program fit testing algorithm

Respirator	Description	P2/N95	Fluid resistant	Standard	Precautions suited to	Specifications and additional information
BSN Medical (Aust) Pty Ltd 	P2/N95 Filter, Medium/ small Pleated, Double Strap (Proshield)	P2/ N95	160mmHg	AS/NZS 1716:2012 NIOSH	Airborne / AGP	• BFE greater than 99% for particles greater than 3 microns • The super high PFE material filters more than 99% of particles greater than 0.1 microns • The N95 mask is NIOSH approved as an N95 particulate filter respirator.
3M Australia Pty Ltd 	P2 masks 1860	P2/ N95	120mmHg	AS/NZS 1716:2012	Airborne / AGP	• NIOSH certified N95 • Meets CDC guidelines for *Mycobacterium tuberculosis* exposure control • FDA cleared for use as a surgical mask • BFE more than 99% according to ASTM F2101 • Fluid resistant according to ASTM F1862 at 120 mmHg • Respirator contains no components made from natural rubber latex

Respirator	Description	P2/N95	Fluid resistant	Standard	Precautions suited to	Specifications and additional information
Care Essentials MSK-004 		P2	160mmHg	AS/NZS 1716:2012	Airborne / AGP	• NIOSH certified N95 • Synthetic blood penetration resistance: 160 mmHg (Level 3 Fluid Resistance) • BFE ≥95% • This respirator does not contain components made from natural rubber latex
3M Australia Pty Ltd 	P2 masks 1870	P2/ N95	160mmHg	AS/NZS 1716:2012	Airborne / AGP	• NIOSH certified N95 • Meets CDC guidelines for *Mycobacterium tuberculosis* exposure control • FDA cleared for use as a surgical mask • BFE more than 99% according to ASTM F2101 • Fluid resistant according to ASTM F1862 at 160 mm Hg • Respirator contains no components made from natural rubber latex
Trident 	P2 respirator	P2	Level 3	AS/NZS 1716: 2012 AS 4381: 2015	Airborne / AGP	• Bacterial Filtration Efficiency (BFE) >99% • Fluid protection level 3, 160 mmHg • Proprietary adjustable foam nose pad to ensure consistent optimum facial seal and reduce fogging of eyewear
Respirator with an exhalation valve	Not recommended					

Chapter 5: Specific healthcare settings

This chapter is part of the Infection Prevention and Control Manual COVID-19 and other Acute Respiratory Infections for acute and non-acute healthcare settings, Clinical Excellence Commission, 2023.

The chapter summarises current evidence about ARI infection prevention and control strategies and interventions, and their implementation in healthcare settings.

Contents

Key points

- The components of ARI recognition and prevention must not impede routine care and necessary patient/client safety and quality programs
- Providers of care in these settings should continue to ensure there is minimal impact on patient/client care activities and models of care
- COVID-19 risk assessment should be aligned with the recommendations in *Chapter 3: NSW IPAC Response and escalation framework*

Acronyms and abbreviations

AGB	Aerosol-generating behaviour
AGP	Aerosol-generating procedure
CEC	Clinical Excellence Commission
CO	Carbon monoxide
COHb	Carboxyhaemoglobin
CO ppm	Carbon monoxide parts per million
CPAP	Continuous positive airway pressure
ECMO	Extracorporeal membrane oxygenation
HW	Health worker
IPAC	Infection prevention and control
IPPV	Intermittent positive pressure ventilation
LHD/SHN	Local Health District/Specialty Health Network
PACU	Post-anaesthesia care unit
PPE	Personal protective equipment
RMD	Reusable medical device

5.1 Introduction

This chapter provides advice on acute respiratory infection (ARI) including COVID-19 management in specific healthcare settings. Content will evolve over time and be updated as needed.

5.2 Maternity and neonatal services

Specific guidance relating to maternity is available on the NSW Health website: Guidance for maternity services and for information on neonatal services refer to Guidance for neonatal services.

Carbon monoxide testing in pregnancy

Smoking in pregnancy is one of the single most important avoidable causes of stillbirth and other adverse pregnancy outcomes. Carbon monoxide (CO) monitoring can be a very useful tool for smoking cessation.

NSW Health supports carbon monoxide monitoring for pregnant women as per LHD guidance, however this is dependent upon the transmission risk levels (refer to *Chapter 3: NSW IPAC Response and escalation framework)*.

During high (red alert) and moderate to high (amber alert) transmission risk levels this testing is not recommended, to enable women to maintain mask wearing during their antenatal appointments. However, this test should be provided based on risk assessment. During yellow and foundational, LHD should risk assess based on community transmission to inform the use of reusable or single patient use.

Note: Neither NSW Health nor the CEC endorses or promotes any products or equipment identified in this guidance.

Infection prevention and control measures for carbon monoxide measurement

NSW Health Maternity services use a handheld expired CO monitor to measure CO levels in the pregnant woman's breath. The monitor has a single-use mouthpiece for each user and the filters are changed when visibly soiled and according to the manufacturer's instructions for use.

Adhere to the following advice on infection prevention and control principles when using an expired CO monitor:

- Do not provide CO monitoring for a woman who answers 'yes' to any COVID-19 screening questions – refer to local LHD guidelines
- Both the HW and pregnant woman must perform hand hygiene prior to testing
- The HW should don non-sterile gloves if there is a risk of contact with blood or body fluid/respiratory particles
- The HW should wear a surgical mask during the procedure; refer to *Chapter 3: NSW IPAC Response and escalation framework*.

Procedure

1. The HW provides an explanation and offers the pregnant woman CO testing
2. Use a single-use mouthpiece (straw) for each woman
3. The HW inserts the mouthpiece into the expired CO monitor prior to handing the monitor to the woman
4. The woman holds the monitor while the test is being performed
5. Whilst the woman is exhaling, the HW should avoid positioning themselves in front of the exhaust port of the monitor
6. To start, press the symbol on the front of the monitor

7. Ask the woman to breathe in and hold when she sees the clock come up on the screen; ask the woman to keep holding her breath for the 15 second countdown
8. Two short beeps will sound during the last three seconds of the countdown
9. At the commencement of a long beep, ask the woman to blow slowly into the mouthpiece aiming to empty her lungs completely (over at least 5 seconds)
10. The CO parts per million (ppm) and equivalent % COHb levels appear on the screen
11. Refer to the NSW Health Fact Sheet on using an expired CO monitor for interpretation of the levels and additional information
12. Ask the woman to remove the single-use mouthpiece and dispose in the general waste on completion of the assessment
13. Hand hygiene to be performed following use of the monitor by both the HW and the woman.

Cleaning and storage

- Wipe the monitor and D-Piece external surfaces with neutral detergent wipes after each use
- Do not use cleaning solutions/wipes that contain alcohol or other organic solutions and refer to the manufacture's information for use
- Inspect the D-piece after each use and discard and replace if the filter is visibly soiled or contaminated
- Allow the monitor to be air dried prior to storage
- The monitor must be stored away from direct patient contact when not in use.

Additional information on CO monitoring

NSW Health Maternity Services currently use the Bedfont Smokerlyzer®. The manufacturer has a statement supporting the use of the device during COVID-19. The D-piece filter has been tested to filter viruses as small as 24 nanometres in diameter and the COVID-19 virus particle has a diameter of approximately 125 nanometres. Bedfont have concluded that bacterial and viral pathogens (including COVID-19) will effectively be removed by the D-piece filter at an efficiency rate of > 99% (bacteria) and > 97% (viruses).

FIGURE 11: EXAMPLE OF CARBON MONOXIDE MEASUREMENT EQUIPMENT

Information on the Bedfont Smokerlyzer®

Manufacturer information including user manual, infection control and maintenance guidelines are available on the Bedfont Smokerlyzer® website.

5.3 Access to surgery

Access to surgery may vary depending on the level of community transmission of COVID-19 and therefore it is important to check for up to date information at NSW Health Key principles for management of surgery during COVID-19 pandemic.

Surgery / Procedure

If the patient is suspected or confirmed to have COVID-19 and the decision is to proceed with surgery, then follow transmission-based precautions for droplet and airborne including standard precautions.

The decision to operate on a patient confirmed to have COVID-19 will be influenced by the level of transmission risk at a state level and the surgical need for each patient. The pathway for a patient from the emergency department (ED) or a ward bed to the operating theatre and return to the ward involves a number of interactions between HWs and the patient. Standard precautions always apply.

The following table outlines these steps and the actions needed to reduce the risk of transmission of SARS-CoV-2.

TABLE 6: RISK MANAGEMENT FOR SURGERY IN PATIENTS WITH SUSPECTED OR CONFIRMED COVID-19

Criteria	Action
PPE requirements	Standard and airborne precautions apply
Booking of surgery/procedure	Medical officer making booking to inform the Senior Nurse Manager/Patient Flow Coordinator, Anaesthetic Team and Procedural Charge Nurse of patient's COVID-19 status
Intubated patients for transfer	Isolate and contain resuscitaire for post-operative transfer if remaining intubated post procedure
Non-intubated patients with oxygen *in situ* transfer	Where possible consider using nasal prongs with a maximum O_2 flow of 4L under a surgical mask instead of a simple oxygen mask where possible
Arrival in procedural area	Transfer the patient directly to the operating / procedural room then continue completion of the pre-operative checklist where possible and practical
Arrival in operating/procedure room	Review transmission-based precautions and anaesthesia plan during sign-in
Anaesthesia induction	Follow COVID-19 airway management advice and resources
Procedural room	Avoid unnecessary entry and exiting of the procedural room following the patient's arrival
Extubation	HW to wear appropriate PPE
PACU (Recovery) – assess the risk	Depending on workload and resources recover the patient in the operating or procedure room. If this is not possible use a negative pressure or isolation

Criteria	Action
	room in the PACU if available or single room with door closed
Transfer to receiving department from procedural area	Sending department to inform receiving area and HW responsible for transferring the patient of patient's COVID-19 status Patient to wear a surgical/procedural mask where possible
Environmental cleaning	Apply routine procedures for PPE Follow advice for cleaning in Chapter 2
Reprocessing of reusable medical devices (RMDs)	Follow routine procedures. DO NOT LABEL USED RMDs as COVID-19 CASE
Handling of linen	Handle all used linen as per standard precautions
Waste management	Manage in accordance with routine procedures
Education	Ensure HWs understand how to choose, don and doff PPE safely

Further information is available at:

- Surgical Services Taskforce; NSW Health: Emergency Surgery Guidelines
- NSW elective surgery table at Key Principles for Management of Surgery during COVID-19
- NSW Health elective surgery table Elective Surgery Access Policy Directive

5.4 Blood transfusions

The following information provides guidance to clinical areas to maintain the integrity of and prevent wastage of blood and blood products when caring for patients with COVID-19. The CEC Blood Watch team developed this information for clinicians in consultation with the CEC Infection Prevention and Control team and NSW Health Pathology.

To maintain supply and prevent avoidable wastage of blood products, the principles of Patient Blood Management should be adhered to in conjunction with standard precautions.

Principles for clinical areas (non-emergency)

- Follow the facility policy for single unit transfusion practice
- Do not request collection of blood products from pathology until it is confirmed that both the clinical area and patient are ready for transfusion
- Blood components should only be taken to clinical areas immediately prior to transfusion
- Blood components should only be placed on surfaces that have been cleaned and are not at risk of respiratory droplet contamination (including satellite refrigerators, platelet incubators/agitators, transport containers or other cleaned surfaces). All blood products should continue to be handled with standard precautions i.e., using gloves as routinely required along with hand hygiene

Frequently Asked Questions

1. What is the risk of contamination if a blood pack is taken to potentially contaminated bedsides or clinical areas and not used?

   There is no evidence that the virus causing COVID-19 can permeate a blood pack (NHS 2020).

2. Is there any way of wiping a blood bag to clean or disinfect it?

   No. Lifeblood have advised they are unable to recommend any product to clean or disinfect blood component bags. There is no validated or approved product or method for this purpose (Australian Red Cross Lifeblood, 2020).

3. Where a blood product enters a COVID-19 specific area can it be accepted back into laboratory inventory?

   Where standard precautions have been applied, blood products should not pose a risk to HWs upon return to the laboratory. Single use plastic transport bags may be used.

4. Should blood products from any clinical area be accepted back into the inventory?

   Blood components should only go to the clinical area and the patient bedside when the transfusion is ready to commence.

   If a blood component has been out of controlled storage, has breached the cold chain requirements and is no longer required, the laboratory should be contacted.

   If a blood component has been correctly stored and is no longer required, it can be returned safely from clinical areas containing patients infected with COVID-19 with no special precautions. Local infection prevention and control teams can confirm local policy[1].

   Ensure standard precautions are used when blood components are returned and follow guidance about personal protection.

5. Should there be a quarantine box to keep in cases where particular groups or product stock levels are low?

   A quarantine box should not be needed if the blood bag is taken to the patient bedside or into a COVID-19 restricted area when it is ready to transfuse.

References

1. NHS Blood and Transplant COVID-19 and information for hospital transfusion laboratories – 6.4.20, https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/18211/faqs-part-2-060420.pdf (accessed 21 April 2020)

2. Australian Red Cross Lifeblood Communication, AHP Coronavirus update 8 April 2020.

5.5 Medical Imaging

The provision of medical imaging services for patients with suspected or confirmed COVID-19 must not be delayed and the care provision should be based on a risk assessment and clinical need.

5.6 Non-acute healthcare settings

Community, primary care, and outpatient services provide a diverse range of programs and health promotion activities to local populations or communities. The COVID-19 pandemic has highlighted the importance of maintaining services with risk mitigation strategies to ensure the safety and well-being of HWs and patients/clients.

The following table summarises the IPAC recommended for patient visits in a range of settings.

TABLE 7: RECOMMENDATIONS FOR COVID-19 INFECTION PREVENTION AND CONTROL FOR PRIMARY CARE, COMMUNITY AND OUTPATIENT SETTINGS DURING AMBER AND RED ALERT LEVEL

ACTIVITY	RECOMMENDATIONS
Telehealth	• Consider if telehealth options may be employed to ensure continuous care provision. Guidance in relation to telehealth is available at ACI- Virtual care
Screening	• Screening of patients for symptoms prior to attendance as part of routine clinical assessment and this can occur as the first available opportunity after entry
Waiting room signage (with language translations)	• Post signs at entrances and in waiting areas about infection prevention actions such as hand hygiene, respiratory hygiene, physical distancing and reporting to reception if unwell • If the number of people who can sit in a waiting area has been defined, this should be displayed at the entrance
Limiting the number of people/family members accompanying the patient/client	• Define the number of people/family members allowed; this will be determined by the type of setting and the services provided • Consider alternatives such as using telehealth to communicate with family members while the patient/client attends the visit
Physical distancing	• Create or define separate areas for patients with ARI and patients with other conditions
Hand hygiene	• Provide accessible supplies of alcohol-based hand rub (ABHR)
Respiratory etiquette/hygiene	• Provide information, tissues, ABHR and access to a waste bin
Personal protective equipment (PPE) stock levels	• The stock level will be determined by the services provided and risk of attendance of patients with an ARI/COVID-19 • Consider the level of contact required and the number of procedures performed for the number of patients who attend appointments • Check expiry dates, not to overstock
Shared patient	• Assess what equipment is shared

ACTIVITY	RECOMMENDATIONS
equipment	• Determine if any alternative single patient use or single use equipment is available • Review manufacturer instructions for cleaning equipment that is used on multiple patients • Ensure that there are adequate and accessible cleaning products available
Environmental cleaning	• Follow routine environmental cleaning processes within community health centres, primary care services, community services, and outpatient settings • Focus on high touch surfaces from patients/clients, HWs and accompanying people • Assess if surfaces, furniture and equipment can be cleaned easily e.g., avoid fabric chairs • Develop a plan for cleaning which should include terminal cleaning, type of chemical, scope of cleaning
Toys/books/magazines	• Remove books, magazines and unnecessary pamphlets from waiting areas • Pamphlets required are to be kept to a minimum • Remove toys that cannot be cleaned
Health promotion material	• Clean holders regularly – the frequency will depend on how often the materials are accessed by patients/clients

Pre-screening for routine and scheduled appointments

Prior to routine and scheduled face-to-face appointments, a risk assessment should be undertaken to identify any potential risk of ARI/COVID-19:

- Risk screening should be encouraged during periods of high transmission risk of COVID-19 and other respiratory pathogens, and this can occur as the first available opportunity after entry
- Assessment screening responses should be documented in clinical notes.

There are several mechanisms to determine the patient/client's risk of ARI/COVID-19 infection and other risks prior to a routine or scheduled appointment.

Vulnerable patients (at risk for COVID-19) should be identified and risks associated should be considered in the provision of primary, community or outpatient care. If the patient/client requests specific IPAC practices from healthcare or care providers, it should be considered in context of high community transmission of COVID-19 and patient/client vulnerability e.g., patient requests provider to wear a surgical mask. Information regarding COVID-19 and influenza vaccination should be documented in the patients' health record.

The table below provides suggestions for patient screening and actions during increased community transmission of ARI/COVID-19.

TABLE 8: PATIENT SCREENING TO DETERMINE INFECTION PREVENTION AND CONTROL REQUIREMENTS DURING INCREASED COMMUNITY TRANSMISSION OF ARI/COVID-19

BEFORE THE PATIENT/CLIENT ARRIVES	
Pre visit screening options	**Screening questions or action required**
SMS and/or telephone call to patient/client or carer prior to visit Or Pre-visit phone call if pre-screening questions were answered more than 24 hours prior to visit due to a cancelled or rescheduled appointment	• Reminder of appointment • Range of screening questions regarding ARI/COVID-19 (specific questions to be decided by the healthcare providers). The following examples are provided however, the LHD/SHN may determine the final screening questions. Examples may include: ○ Any symptoms for ARI/COVID-19 ○ Testing for ARI/COVID-19 undertaken recently ○ Confirmed COVID-19 infection in the last 5 weeks ○ Have you been identified as a close contact of a COVID-19 case in the past 14 days?
Cancellation or rescheduling appointment	• If a patient/client states that they have previously been diagnosed with COVID-19, determine if they are still within their period of infectivity or meet the criteria for de-isolation for the purpose of their visit (see *Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities*) • If the patient/client cannot be de-isolated for their visit, determine if: ○ Their appointment can be deferred without compromising their care ○ A virtual (telehealth) appointment or home visit may be an option if their appointment cannot be safely rescheduled
WHEN THE PATIENT/CLIENT ARRIVES	
On arrival	**Re-screening question and actions required**
Reception area If patient/client has ARI symptoms, provide them with a surgical mask (if not wearing one) and ask them to wait in the pre-determined area	• Rescreen using suggested screening questions above • Ask the patient/client to perform hand hygiene • Inform the patient/client where they are required to wait for the appointment • If possible, observe the waiting area for any person showing ARI symptoms • Provide their contact number to the home visiting team or GP if answers 'yes' to any at risk question to perform follow up screening

DURING THE APPOINTMENT	
Risk screening and ARI assessment to be undertaken by the allocated person	• Risk screening and ARI symptom assessment should be documented in the clinical notes; information is to be shared across the team • Ask the patient/client and accompanying person to perform hand hygiene prior to entering the room • Action should be taken to mitigate respiratory symptom risk factors e.g., respiratory hygiene, use of a surgical mask where practical • Consider the need for interpreter services (telehealth where practicable or face-to-face)
Patients without ARI symptoms or risk factors for COVID-19	• No change to routine care, treatment, or assessment. Use standard precautions and adhere to the current NSW Health risk level and LHDs local guideline.
Patient/client with suspected or confirmed ARI/COVID-19 and who requires an appointment	• For case definitions refer to CDNA National guidelines for public health units • Consider postponing an appointment or alternate model of care until the patient/client has met the criteria for de-isolation applicable to the specific healthcare setting (see *Appendix 2A: Deisolation criteria for COVID-19 within NSW healthcare facilities*) • If postponing is not possible, transmission-based precautions must be applied

Re-opening or scaling up outpatient services

During periods of increased community transmission of ARI/COVID-19, health facilities may cease or reduce their outpatient services. Re-opening or scaling up of outpatient services should align with usual routine operations and meet the requirements within the Management of Outpatient (Non-Admitted) Services. Ensuring that the most appropriate provision of care remains paramount.

5.7 Advice for Breast Screen NSW services

The following advice is provided for the safe operation of breast screening services during increased ARI/COVID-19 community transmission risk.

The recommendations are based on known transmission risks for ARI/COVID-19 and, as for all IPAC precautions, an individual risk assessment is required.

These recommendations should be read in conjunction with relevant LHD guidelines.

1. On presentation, reception HW to ask all clients about ARI/COVID-19 screening questions. Clients displaying any ARI symptoms will be triaged by a clinical HW and rescheduled as appropriate
2. Cleaning of frequently touched surfaces

3. Provide hand hygiene products for HWs and clients
4. Radiographers to use transmission-based precautions if indicated by risk assessment
5. Radiographers to undertake mammograms with minimal face to face contact by standing behind, or to the side of the client while positioning for the mammogram
6. Clean medical imaging equipment between clients as per usual practice.

5.8 Group community sessions and meetings

The purpose of this guidance is to enable LHD/SHNs to assess and manage risks associated with increased community transmission of ARI/COVID-19 when conducting community group meetings/sessions in a safe environment.

Given the diversity of group community sessions/meetings, the risk assessment framework is principle-based to enable each individual specialty service to design their own safe environment.

The lines of communication in each setting and for each group will need to be very clear so that when risks are identified, they are escalated to the person with the appropriate level of knowledge and authority to respond and mitigate the risks.

Guiding principles include:

- HWs need to remain vigilant in practicing IPAC principles including ARI/COVID-19 safe behaviour in health and outreach facilities, external health services group training / meeting activities and during school visits
- The appropriateness of telehealth will depend on the patient/client cohort and the health service/modality being offered. It is acknowledged there are certain interventions that are unsuitable to conduct via telehealth
- HWs need to maintain COVID-19 safe behaviours and model how they want the community to act within the group sessions/meetings
- NSW Public Health have developed resources containing suggested language for health professionals to use
- For information on COVID-19 safety for Early childhood education centres, see here.

5.9 Standing up testing clinics

When establishing drive-through, pop-up or mobile ARI/COVID-19 testing clinics, it is important to consult with the local IPAC team and to consider the following practices:

Physical set up of the COVID-19 testing clinic

- Location and workflow of the clinic
- Ventilation for enclosed pop-up clinics (established or temporary building or a pop-up tent)
- Signage to direct and inform patients, control traffic and/or queues, limit speed etc.
- Separate areas for HWs to don and doff PPE safely

- Allocated PPE-free zone for a HW break area
- Separated and enclosed storage for both used and reprocessed items, i.e., shared patient equipment and PPE. All reusable equipment/items must be reprocessed as per their manufacturer's instructions for use
- Waste collection areas
- Bathrooms for HWs.

Equipment/resources/consumables

Access to:

- ABHR at the point of care
- Equipment to enable specimen collection, security of specimens and access for pathology couriers to collect specimens
- PPE for standard and transmission-based precautions including uniforms (variations required for different weather conditions, operational hours, drive-through vs walk-in clinics)
- Products to enable routine and enhanced environmental cleaning
- Products to enable cleaning of shared patient care equipment (including chairs) after each use
- Patient information resources.

Staffing

- Allocation and delineation of various HW roles
- Orientation and education program for HWs in the pop-up clinic on infection prevention and control
- Ensure HWs have the training and resources to enable good practice in taking swabs
- Adequate security for HW safety.

High visibility apparel

High-visibility (high-vis) apparel is protective equipment for highlighting the physical location of a person/object and may be required for the safety of HWs working in outdoor environments such as COVID-19 drive-through clinics where:

- There is movement of machinery (motor vehicles)
- The clinic is open during evening or night-time hours
- Protection from the weather may be required.

High-vis apparel is not:

- A hierarchy of control for infection prevention and control strategies
- Intended for standard, contact and droplet precautions
- Protecting HWs from exposure to transmissible infections, such as SARS-CoV-2.

The workflow should consider who performs the administrative role (e.g., traffic control) and clinical role to ensure appropriate utilisation of PPE. High-vis apparel should be allocated to HWs responsible for directing traffic and/or where their work location requires high visibility.

It is recommended that HWs collecting specimens or assessing patients within 1.5m do not wear high-vis apparel. This will avoid added risk for self and cross-contamination between patient interactions and during doffing.

Collecting specimens

When collecting respiratory specimen transmission-based precautions should be observed whether or not respiratory symptoms are present. For most patients, the collection of respiratory specimens is a low-risk procedure and can be performed using standard and droplet precautions. Based on risk assessment, airborne precautions with eye protection to be used (refer to *Chapter 3: NSW IPAC Response and escalation framework* for further information).

For more information see: Public Health Laboratory Network (PHLN) guidance on laboratory testing for SARS-CoV-2 (the virus that causes COVID-19)

5.10 Home visits

Home visits from healthcare and NGO providers enable personalised and individualised care for patients/clients. Providers of home care will continue to ensure that there is minimal impact on patient/client care activities. The impact of ARI/COVID-19 recognition and prevention must not impede routine and necessary patient/client models of care, safety, and quality of care.

It is expected that home care providers maintain adequate supplies of appropriate PPE, cleaning materials and ABHR to protect themselves if caring for a patient/client with suspected or confirmed ARI/COVID-19, as part of their work health and safety (WHS) obligations in addition to preventing cross transmission.

Please check the NSW Health, Department of Health Managing home care through COVID-19 and Clinical Excellence Commission websites for the most up to date information.

The Commonwealth Department of Health Managing home care through COVID-19 remains the key document for providers for persons living at home.

Information for disability support providers webpage has several guidance documents and information for community-based services and home visiting to reduce the risk of COVID-19 for their residents.

For patients/clients and household members without symptoms or risk factors for COVID-19, there is no change to care, treatment or assessment. Usual infection prevention and control principles and practices are to be followed as per the Infection Prevention and Control Practice Handbook. Use of standard precautions and PPE according to the risk escalation framework (refer to *Chapter 3: NSW IPAC Response and escalation framework*).

5.10.1 Key IPAC principles for home visits

Early recognition of patients/clients who have suspected or confirmed ARI/COVID-19 is essential to maintaining the health and wellbeing of providers, carers, HWs and the community. The following key elements are important factors:

1. **Triage** and risk assessment through a screening process prior to arrival at the home or premises should be conducted. COVID-19 risk assessment of patients/clients should be undertaken by providers of care in the home prior to each visit.
2. **Respiratory hygiene and cough etiquette** to contain respiratory secretions are recommended for everyone and should be communicated to patients/clients
3. **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 and home care is delivered. These evidence-based practices are designed to both protect and prevent spread of infection among patients/clients, care providers and HWs.
4. **Transmission-based precautions** should be used when standard precautions alone are insufficient to interrupt the transmission of a microorganism (transmissible infection or communicable disease). Precautions are applied and based on the mode(s) of transmission.
5. **Challenging behaviours** include shouting or behaviours that result from agitation or difficulty following instructions. These behaviours in patients/clients can be particularly concerning during the first week of infection when viral load may be high, and risk of transmission is increased. HWs and care providers may be required to wear a particulate filter respirator (P2/N95 respirator) when caring for patients/clients suspected or confirmed with ARI/COVID-19 and with cognitive impairment or challenging behaviours.
6. **Assess and monitor risk** through routine risk screening and monitoring for patients/clients and the HW or care provider at each point in the episode of care. The risk screening and risk management required for the patient/client is inclusive and required for others who will be present at the appointment and/or living in the home.
7. **HW or care providers** must follow all requirements for assessing, monitoring and reporting their own health and risk factors associated with ARI/COVID-19 to ensure their own safety and the safety of those they provide care for.

   HW, care providers, healthcare students and volunteers who are suspected or confirmed with COVID-19 should follow the NSW Health Management and support after testing positive for COVID-19 guidance. Before returning to work, HWs must follow the COVID19 and other ARI: Managing Health Worker Exposures Return to Work in a Healthcare Setting.
8. **Vulnerable patients/clients** (at risk for COVID-19) should be identified and risks associated with specific COVID-19 vulnerability should be considered in the provision of home care.
9. **Vulnerable HWs and care providers** should be individually risk assessed to determine their suitability for care of patients/clients with suspected or confirmed COVID-19.

5.10.2 Education of patients/clients

It is important that patients/clients who require a home visit are provided basic IPAC education. This should include:

- Hand hygiene
- How to store and handle any sterile medical consumables required for dressings and/or treatment
- Reporting of an ARI, gastrointestinal symptoms, or rashes prior to a home visit by a HW or care provider
- What PPE the HW or care provider will be wearing and why it is required
- Up to date information on COVID-19 relevant to the patient/client.

5.11 Disability information

There are numerous resources available for people with disability and their carers or supporters. Table 9 includes links to resources and an email contact if PPE is not available.

TABLE 9: COVID-19 RESOURCES FOR PEOPLE WITH A DISABILITY AND THEIR CARERS OR SUPPORTERS

Information	Link or email
Providers unable to obtain sufficient PPE from existing supply sources	Email: MOH-NDIS@health.nsw.gov.au
Information and referrals for people with disability and their supporters about coronavirus (COVID-19) • Transitioned to 'Disability Gateway' • Resources for COVID-19 – easy read, AUSLAN	https://www.dss.gov.au/disability-and-carers/information-and-referrals-for-people-with-disability-and-their-supporters-about-coronavirus-covid-19
COVID-19 information for people with disability	https://www.health.nsw.gov.au/disability/covid-19/Pages/default.aspx
Updated guidance for disability service providers	https://www.health.nsw.gov.au/Infectious/covid-19/Pages/disability-support.aspx
Guidance for home care service providers	https://www.health.nsw.gov.au/Infectious/covid-19/Pages/home-care-latest-advice.aspx
COVID-19 advice for people with disability	https://www.nsw.gov.au/covid-19/how-to-protect-yourself-and-others/resources-for-people-with-disability Current info
Resources for carers	https://www.nsw.gov.au/covid-19/how-to-protect-yourself-and-others/resources-for-people-with-disability#resources-for-carers Current info

Information	Link or email
What you can and can't do under the rules	https://www.nsw.gov.au/covid-19/what-you-can-and-cant-do-under-rules Current info
COVID-19 Health Professionals Disability Advisory Service	https://www.health.gov.au/contacts/covid-19-health-professionals-disability-advisory-service Australian Gov department of health website
Coronavirus (COVID-19) Easy Read resources collection	https://www.health.gov.au/resources/collections/coronavirus-covid-19-easy-read-resources Australian Gov department of health website
Providing health care remotely during the COVID-19 pandemic	https://www.health.gov.au/news/health-alerts/novel-coronavirus-2019-ncov-health-alert/coronavirus-covid-19-advice-for-the-health-and-disability-sector/providing-health-care-remotely-during-covid-19#telehealth-services-

Appendix 5A: Further information relevant to aged and residential care

- For national updates – Department of Health and Aged Care
- Coronavirus (COVID-19) - CDNA National Guidelines for Public Health Units
- Managing a COVID-19 outbreak in residential aged care
- NDIS Quality and Safeguards Commission: NDIS Quality and Safeguards Commission - COVID-19 resources and information
- Advice to residential disability care facilities (RDCF)
- COVID-19 advice for people with disability
- COVID-19: Advice for aged care services
- Advice to residential aged care facilities (RACFs)

Appendix 5B: Cardiopulmonary resuscitation

First responders (HWs performing the home visit) can take the following action(s):

- If they have a mobile phone dial the emergency number for an ambulance, activating the speaker or hands-free option
- Can commence chest compressions, using standard and droplet precautions while awaiting the arrival of NSW Ambulance to undertake airway manoeuvres
- Rescue breaths are recommended for adults if equipment and PPE is available. The choice of technique for airway management will be dependent on the practitioner experience, the type of equipment available and the circumstances of the resuscitation
- Consider providing rescue breaths to infants and children in addition to chest compressions.

Reference:

1. COVID-19 infection risk to rescuers from patients in cardiac arrest
2. Caring for people with COVID-19
3. Preparedness for cardiopulmonary resuscitation during the COVID-19 pandemic
4. CPR during the pandemic, National clinical evidence taskforce