

# Australian Primary Health Care Nurses Association

## Basic Principles of Infection Prevention Control

Thursday 28<sup>th</sup> October 2021

Wednesday 3<sup>rd</sup> November 2021

Friday 5<sup>th</sup> November 2021

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# Acknowledgement of Country



We would like to acknowledge the traditional owners of country throughout Australia and their continuing connection to land, sea and community. We pay our respects to them, their cultures, and to Elders past, present and emerging.

# NQPHN IPC WEBINAR

# WELCOME!



## Sara Drew

Nurse Programs Manager  
RN | IPN  
Australian Primary Health Care Nurses  
Association



## Megan Reilly

Director of Hands-On Infection Control  
Registered Nurse | IPN

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# Basic Principles of Infection Prevention & Control

## Agenda

- ▶ Introduction
- ▶ IPC –Megan Reilly
- ▶ Summary & NQPHN Update - Sara Drew
- ▶ Q & A
- ▶ Evaluations
- ▶ Close

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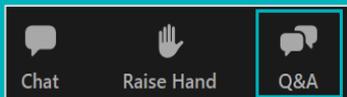
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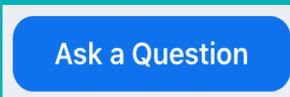
# Q & A Function

## Ask a question

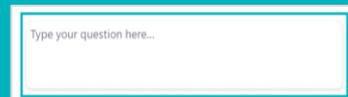
1. Click on 'Q&A'



2. Click 'Ask a Question'

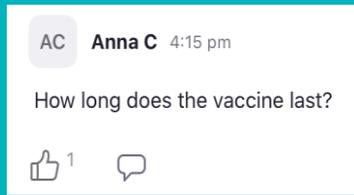


3. Type in your question



## 'Upvote' a question

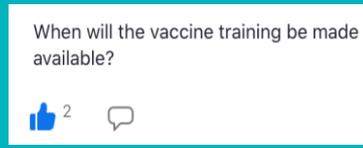
1. Read questions from others



2. Click to 'upvote'



Popular questions rise to the top



# Learning Outcomes

This webinar will focus on improving current knowledge and abilities for implementing workplace safety measures.

This will ensure business continuity while also preventing virus transmission.

1.

- Provide an overview of the basic principles of Infection Prevention Control (IPC)

2.

- Improve IPC knowledge by providing access to evidence-based IPC information

3.

- Explain how aspects of IPC can be utilised within the workplace to prevent the risk of a COVID-19 outbreak

# Infection Prevention and Control

- Infection prevention and control principles
- Basic microbiology and multi-resistant organisms
- Risk management methods for infectious agents and infectious diseases
- Environmental cleaning and sterilisation
- Healthcare workers screening and immunisation
- Management and investigation of outbreaks
- Controlling occupational exposure
- Epidemiology statistics
- Quality control and surveillance



Please Wash  
Your Hands

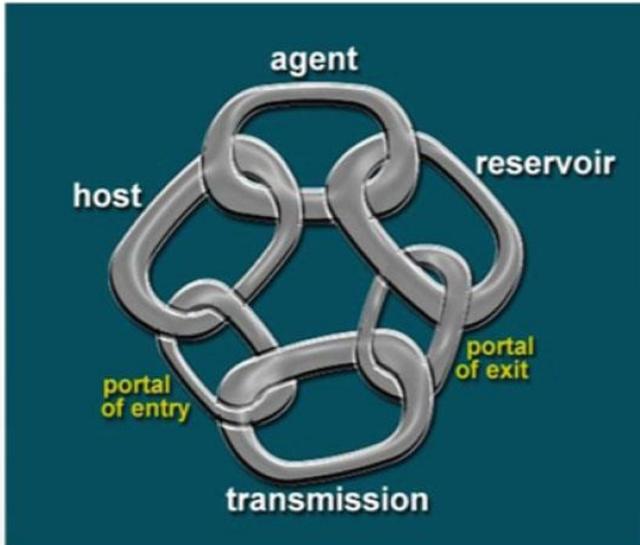
# Megan Reilly

Megan is a certified Immunisation Nurse and Hand Hygiene Gold Standard Auditor

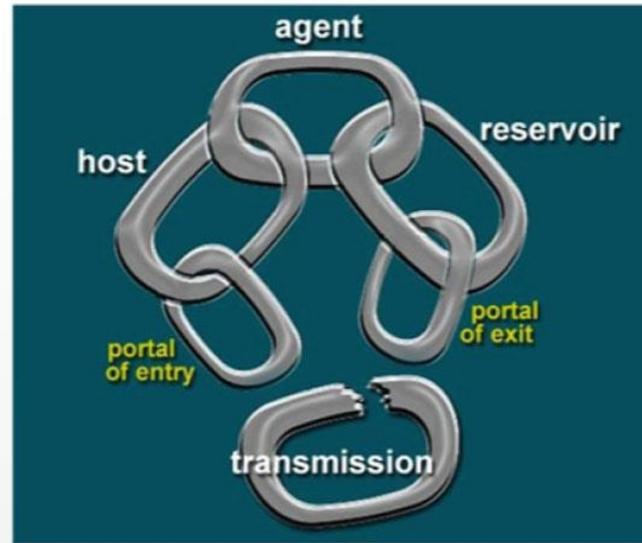
Megan holds a Certificate in Infection Control from Fremantle Hospital (1988). She achieved her Bachelor of Nursing at Edith Cowan University in 1999, Master of Health Science (Infection Control) with Honors at Griffith University in 2002 and TAE40116 Certificate IV in Training & Assessment in 2015

# Chain of Transmission

The Chain of Infection

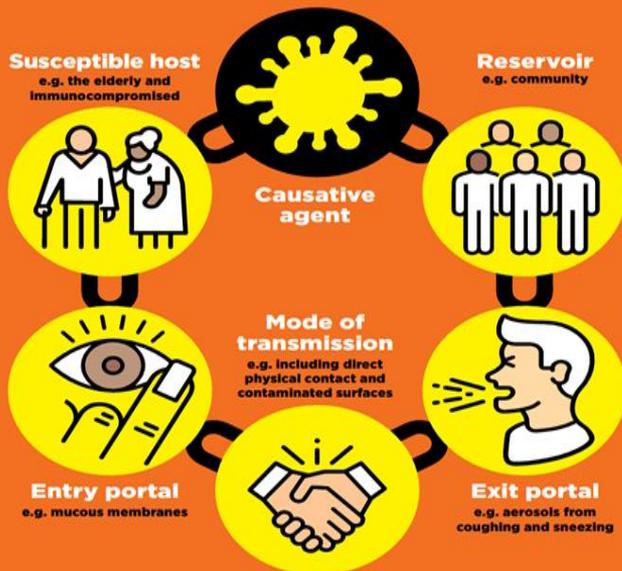


Breaking the Chain of Infection



# Break the chain of infection

## Stopping COVID-19



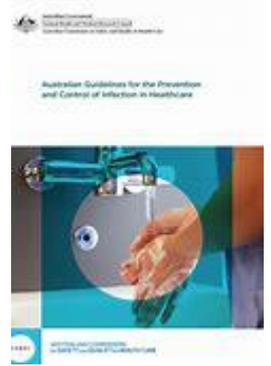
### BREAK THE CHAIN BY:

- WASHING** your hands frequently
- COVERING** your coughs and sneezes with a tissue or your inner elbow
- DISPOSING** of used tissue in bin immediately
- PRACTISING** social distancing
- USING** personal protective equipment appropriately
- CLEANING** frequently touched surfaces

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# Overarching Principles

- ▶ IPC aims to prevent or minimise the spread of infectious agents between people in the healthcare setting
- ▶ Utilises risk management and patient centred approaches to safe work practices and patient care activities
- ▶ In accordance with evidenced-based and best practice guidelines
- ▶ Successful IPC depends on effective work practices at each stage of patient care and involves everyone in the practice



## Standard Precautions

- ▶ Work practices that provide a first-line approach to IPC
- ▶ Adopted by all healthcare workers
- ▶ Apply to all patients, regardless of suspected or confirmed infection status, in any healthcare setting
- ▶ Used to reduce or prevent the transmission of infectious agents and to render and maintain objects and areas as free as possible from infectious agents

# Transmission-Based Precautions

- ▶ Additional risk minimisation practices
- ▶ Implemented when standard precautions alone are not sufficient to prevent the transmission of the disease or infectious agent
  - ▶ Triaging
  - ▶ Segregation
  - ▶ Cohorting patients with the same infectious agent
  - ▶ Restricting patient movement
  - ▶ Enhanced use of PPE
  - ▶ Dedicated patient care equipment
  - ▶ Air handling systems
  - ▶ Enhanced cleaning requirements
- ▶ Used in outbreak situations in an effort to contain the outbreak and prevent further transmission



# Standard Precautions

## Always follow these standard precautions



Perform hand hygiene before and after every patient contact



Clean and reprocess shared patient equipment



Use personal protective equipment when risk of body fluid exposure



Follow respiratory hygiene and cough etiquette



Use and dispose of sharps safely



Use aseptic technique



Perform routine environmental cleaning



Handle and dispose of waste and used linen safely

# Hand Hygiene

- ▶ Easy access to hands-free hand hygiene facilities for staff at the point of care, patients and visitors
- ▶ Select compatible products based on HH methods required
- ▶ TGA approved ABHRs that contain 60% - 80% v/v ethanol or equivalent that meet EN 1500 used for visibly clean hands
- ▶ Plain or antimicrobial liquid soap and water for visibly soiled hands and some alcohol-resistant organisms
- ▶ Maintenance of skin integrity
- ▶ Online ACSQHC NHHI – HH online learning modules: <https://www.safetyandquality.gov.au/our-work/infection-prevention-and-control/national-hand-hygiene-initiative/online-learning-hand-hygiene>



# Respiratory Hygiene/Cough Etiquette

- ▶ Post signs
- ▶ Provide tissues and no touch bins for disposal
- ▶ Provide resources and instructions for performing HH in common areas
- ▶ Conveniently locate ABHR dispensers
- ▶ Offer masks to coughing individuals
- ▶ Physical distancing



## Personal Protective Equipment (PPE)

- ▶ Readily available in the clinical environment at point of care
- ▶ Comply with relevant Australian Standards
- ▶ Consider different types of PPE and sizes required based on a risk assessment
- ▶ Selected and used correctly
  - ▶ Probability of exposure to blood and body substances
  - ▶ Amount of body substance involved
  - ▶ Probable type and route of transmission of infectious agents
- ▶ Fit testing and checking N95 respirators

# Aseptic Technique

Environmental Management

Decontamination and Protection

Aseptic Field Selection and Management

Non-Touch Technique

Preventing Cross-Infection  
Effective decontamination of the procedure area, equipment and the clinician is essential to break chains of infection

Flowchart adapted from:  
*ANTT® Risk Assessment*  
The Association for Safe Aseptic Practice  
<https://www.antt.org/>



## Linen and Waste Handling

- ▶ Standard precautions should be applied to the handling of used linen and waste
- ▶ Consider disposable linen
- ▶ Point of generation segregation and containment of waste and used linen in leak proof bags
- ▶ Utilise appropriate PPE and undertake hand hygiene afterwards
- ▶ Minimise storage of waste or used linen in clinical areas

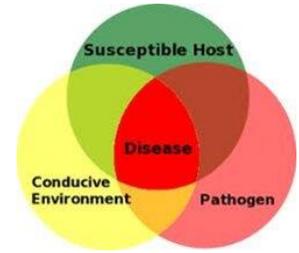


## Design and Maintenance of Premises

- ▶ Heating, ventilation and air-conditioning (HVAC) & water systems
- ▶ Ability to isolate, segregate, separate
- ▶ Easily cleaned & maintained surfaces and finishes
- ▶ Separation of clean & dirty workflows
- ▶ Adequate storage
- ▶ Ready access to hand hygiene facilities & PPE
- ▶ Waste management, cleaning & linen handling systems

# Environmental Cleaning

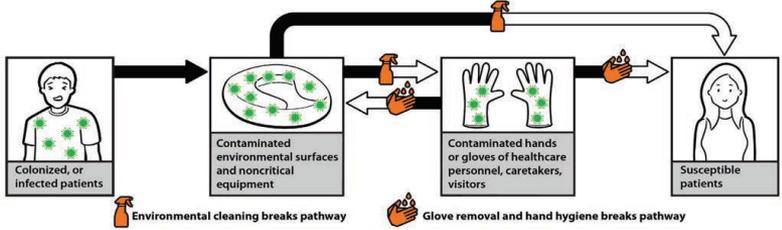
- Environmental contamination in healthcare settings plays a role in the transmission of HAIs
- Environmental cleaning is a fundamental intervention of IPC
- It is part of Standard Precautions
- To be effective, environmental cleaning activities must be implemented within the framework of the practice IPC program, and not a standalone intervention
- It is a multifaceted intervention that involves cleaning and disinfection (where indicated) of the environment, alongside other key program elements (e.g. leadership, support, training, monitoring, and feedback mechanisms)



# Environmental Transmission



- Environmental transmission of HAIs can occur by different pathways



Source: Centers for Disease Control & Prevention (CDC, 2019)

- Some healthcare associated pathogens can survive on environmental surfaces for varying periods; hours to months
- Actual survival times in healthcare settings vary considerably based on factors such as temperature, humidity and surface type
- Evidence is increasing that effective environmental cleaning strategies reduce the risk of transmission and contribute to outbreak and pandemic control

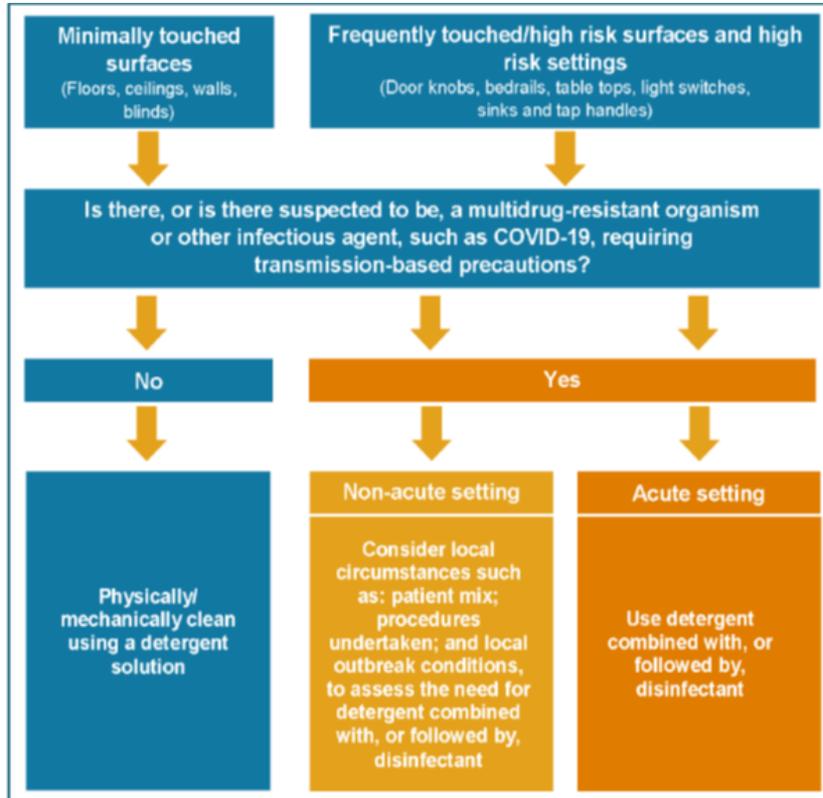
# Environmental Transmission



Risk assessment determines cleaning method, process, frequency and products used in routine and enhanced/contingency cleaning schedules for all patient care areas

- **Probability** of contamination with pathogens (heavy, moderate, light)
- **Vulnerability** of the population to infection (more susceptible, less susceptible)
- Potential for **exposure** (high touch vs low touch surfaces)

# Cleaning Methods and Processes



Source: Australian Commission on Safety & Quality in Health Care (ACSQHC, 2020)

- Routine cleaning
- Unscheduled blood and body fluid spills management
- Non-critical patient care equipment
- Enhanced cleaning and disinfection
- Scheduled cleaning
- Terminal cleaning



**Cleaning is the most important step!**

# Cleaning Frequency

- Should be justified by the risk of transmission of infection within the practice
- More frequent rigorous cleaning (with a different method or process) cleaning is required in areas of high risk
- Frequently touched surfaces should be cleaned:
  - At least daily, when visibly soiled, after every known contamination by a likely pathogen
- Surfaces that are subject to less frequent contact can be cleaned less frequently
- The risk of transmission of particular infections should be assessed and the cleaning schedule adjusted if a known infectious agent is present
  - Single case, community outbreak, pandemic



# Product Equipment and Selection



- Cleaning and disinfectant products
- Reusable/disposable supplies
- PPE used for cleaning
- 2-step clean vs 2-in-1 clean
- Microfiber vs Cotton
- Reusable vs Disposable
- Solution vs Wipes
- Detergent or Detergent /Disinfectant wipes

## Questions to ask when selecting disinfectants

Factors to consider	Questions to ask <sup>5-11</sup>
<b>Kill claims</b>	Does the product: <ul style="list-style-type: none"> <li>• Kill pathogens that cause most HAIs, outbreaks, and are a major issue in our facility (see Table 1)?</li> <li>• Have sustained activity once used on a surface?</li> <li>• Work in the presence of organic matter (blood, sputum, faeces)?</li> <li>• Testing match real life scenarios?</li> <li>• Kill pathogens quickly?</li> </ul>
<b>Wet-contact times</b>	<ul style="list-style-type: none"> <li>• Is it "fast-acting"?</li> <li>• Does it keep surfaces wet for enough time to kill pathogens?</li> <li>• How long before the disinfectant evaporates?</li> <li>• Is the product inactivated by organic material?</li> </ul>
<b>Compatibility</b>	<ul style="list-style-type: none"> <li>• Is it compatible with the surfaces in our facility?</li> <li>• Is it compatible with other products in use?</li> <li>• Is it compatible with medical equipment?</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>• What is the toxicity rating? (Consider exposure of staff, visitors and patients)</li> <li>• Is it approved by a relevant regulatory body?</li> <li>• What personal protective equipment will be required?</li> </ul>
<b>Ease of use</b>	<ul style="list-style-type: none"> <li>• Does it come in the forms that our facility needs (wipes, sprays, liquids)?</li> <li>• Are the instructions clear?</li> <li>• Does it need dilution?</li> <li>• Is it a two step or one step product?</li> <li>• How much training will be required and who will provide this training?</li> <li>• Can the product help you to standardise practices in your facility?</li> </ul>
<b>Value for money</b>	<ul style="list-style-type: none"> <li>• Is it the most cost effective option? (Consider product capabilities, efficiencies through improvements in cleaning compliance/standardisation and potential transmission avoided)</li> </ul>

Source: Australian Commission on Safety & Quality in Health Care (ACSQHC, 2020)

## TGA-listed hospital-grade agents<sup>1</sup>

<sup>1</sup>Available on TGA website: <https://www.tga.gov.au/disinfectants-use-against-covid-19-artg-legal-supply-australia>

# Material Compatibility Considerations

- Fittings, finishes, furnishings and patient care equipment can be cleaned and compatible with detergent and disinfectant products
- Decision making process and policy to guide selection and procurement
- Refer to manufacturer's Instructions for Use (IFU)

Characteristic	Selection guidance
Cleanable	Avoid items with hard-to-clean features (e.g., crevasses). Do not use carpet in patient care areas. Select material that can withstand repeated cleaning.
Easy to maintain and repair	Avoid materials that are prone to cracks, scratches, or chips, and quickly patch/repair if they occur. Select materials that are durable or easy to repair.
Resistant to microbial growth	Avoid materials that hold moisture, such as wood or cloth, because these facilitate microbial growth. Select metals and hard plastics.
Nonporous	Avoid items with porous surfaces, such as cotton, wood and nylon. Avoid porous plastics, such as polypropylene, in patient care areas.
Seamless	Avoid items with seams. Avoid upholstered furniture in patient care areas.

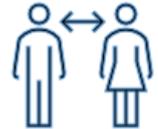


<https://www.youtube.com/watch?v=F5gXdHMoGGY>

Source: Centers for Disease Control & Prevention (CDC, 2019)

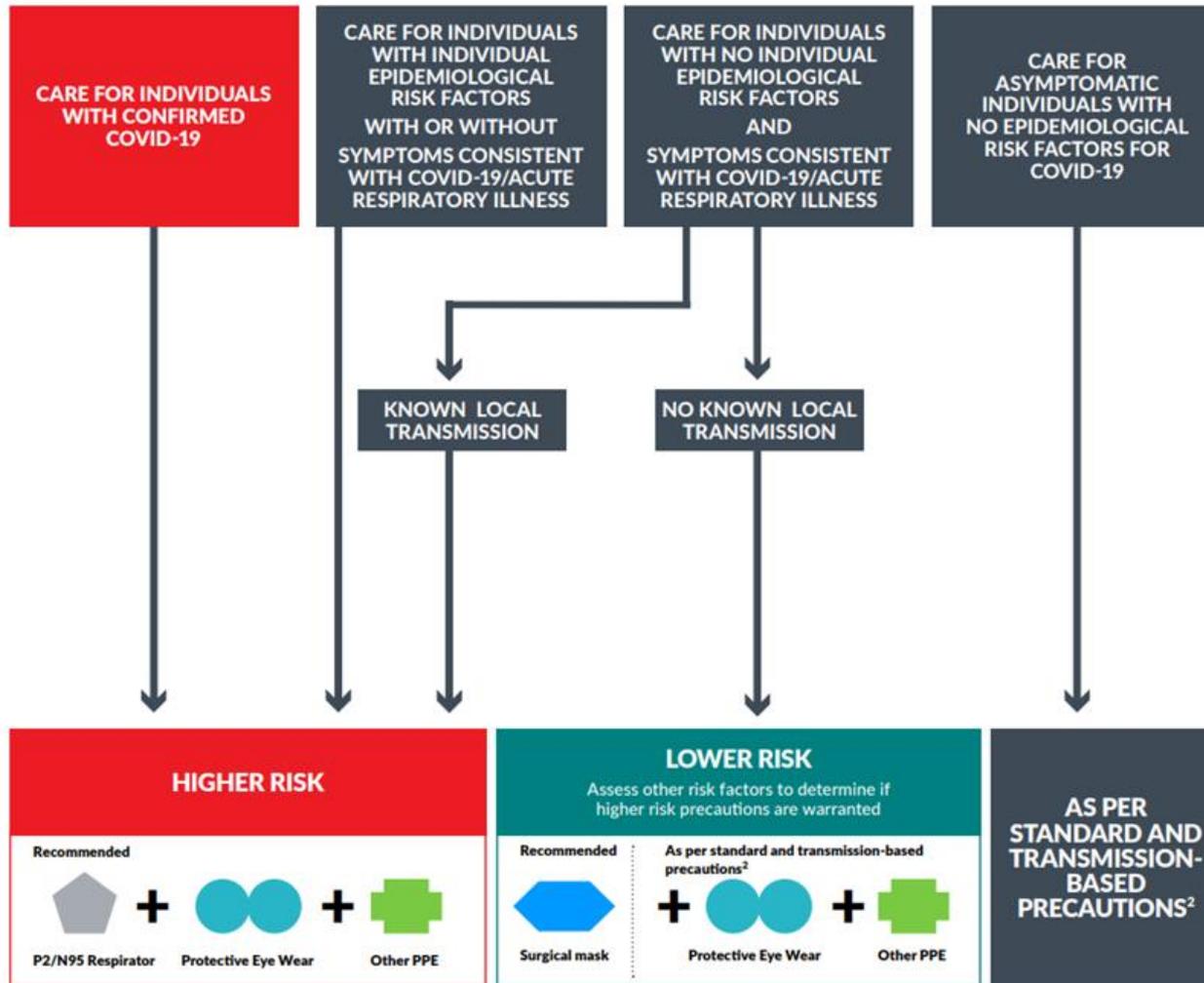
# Strategies to Minimise COVID-19 Risk

- ▶ Pre-booking (online, telephone)
- ▶ COVID-19 screening questions & infection control procedure provided at time of appointment scheduling (online, telephone)
- ▶ Screen staff, visitors & contractors on entrance
- ▶ Minimise people in waiting areas
  - ▶ Create alternative waiting areas where practicable (e.g, patient to wait in car in practice carpark prior to appointment)
  - ▶ Restrict attendance times
  - ▶ Limit people present in consultation to patient and 1 other person (dependent/carer/support person/translator)
  - ▶ Dedicated & separate pre/post waiting & vaccine administration rooms
- ▶ Physical distancing
  - ▶ Between patient chairs in waiting areas
  - ▶ Between staff and patient unless physical contact is required
  - ▶ Between staff in office setting
- ▶ Mask wearing by patients and staff
  - ▶ PPE use is dependent on community risk level & patient category
  - ▶ If treating a suspected or confirmed COVID-19 case or during known community transmission, refer to the PPE guidelines



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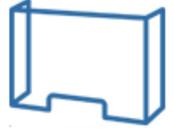
# ASSESSMENT OF LEVEL OF SARS-COV-2 EXPOSURE RISK



Extracted from:  
*Respiratory And Eye Protection For Healthcare Workers During The Covid-19 Pandemic*, Version 1 (26/08/21). National COVID-19 Clinical Evidence Taskforce.

# Strategies to Minimise COVID-19 Risk

- ▶ Display hand hygiene, respiratory hygiene, and physical distancing signage
- ▶ Make hands-free alcohol-based hand rub stations, tissues, and lined waste bins available
- ▶ Install sneeze guards/barriers
- ▶ Increase cleaning and disinfection of high touch surfaces using a TGA approved agent effective against COVID-19
  - ▶ E.g., Hourly cleaning waiting room chairs
  - ▶ Increased frequency for high touch areas
  - ▶ This includes shared staff workspaces
- ▶ Environmental management
  - ▶ Ensure adequate ventilation (increase the introduction of outdoor air, open windows and doors to increase outdoor air flow)
  - ▶ Check ventilation meets the indoor space requirements
  - ▶ Remove communal items (toys, magazines, water cooler etc.)
- ▶ Alternative/separate entry and exit (where possible)
- ▶ Roll up and get vaccinated



# What if You Identify Gaps?

- ▶ Take action to address gaps and meet your obligations
- ▶ Continue to maintain and update your knowledge
- ▶ Regularly undertake a CPD course in infection prevention and control



## The 'New NORMAL'



Maintain physical distancing (1.5m)



Wear a mask when distancing is not possible, and carry a mask at all times outside your residence



Maintain good hand hygiene



Stay at home when sick



Check in Qld app for effective contact tracing



Rapidly responding to outbreaks



Travel restrictions from hot spots



COVID Safe Checklist in place



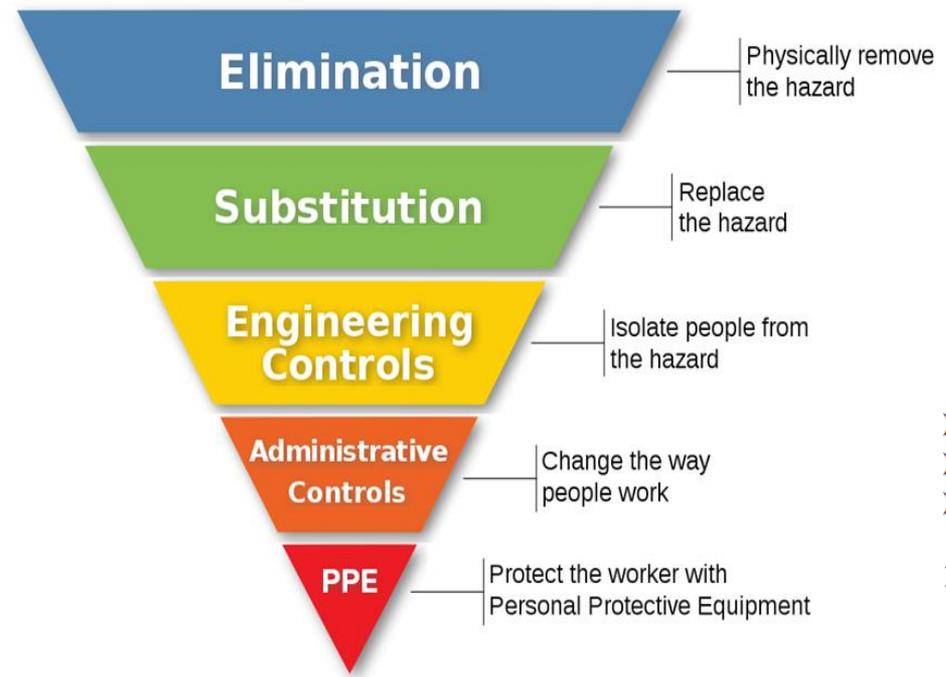
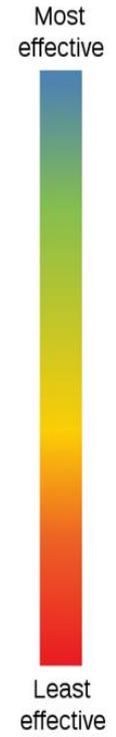
Get vaccinated

# Six Principles of COVID Safe Workplaces

- ▶ Practise physical distancing
  - ▶ Wear a face mask
  - ▶ Practise good hygiene
  - ▶ Keep electronic records and act quickly
  - ▶ Avoid interactions in enclosed spaces
  - ▶ Create workforce bubbles
- 
- ▶ How you can help keep Queensland COVID safe  
<https://www.covid19.qld.gov.au/government-actions/how-you-can-help-keep-queensland-covid-safe>
  - ▶ Keeping your workplace safe, clean and healthy during COVID-19  
<https://www.worksafe.qld.gov.au/resources/campaigns/coronavirus/keep-your-workplace-safe-clean-and-healthy-during-covid-19>



# Hierarchy of Controls



- Screening
- Immunisation
- Isolation
  
- Avoid AGPs
- Reassign high risk HCWs
  
- Facility design & set-up
- Ventilation
- SEMDs
  
- Policies & procedures
- Education & training
- Competencies
  
- Fit testing & fit checking

# Resources – Queensland Health | DoH

- ▶ **Interim infection prevention and control guidelines for the Management of COVID-19 in healthcare** <https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/novel-coronavirus-qld-clinicians/personal-protective-equipment-ppe>
- ▶ **DoH workplace permissions and restrictions framework for workers in health care settings** <https://www.health.gov.au/resources/publications/work-permissions-and-restrictions-framework-for-workers-in-health-care-settings>
- ▶ **Guidance on the use of PPE for health care workers in the context of COVID-19** <https://www.health.gov.au/resources/publications/guidance-on-the-use-of-personal-protective-equipment-ppe-for-health-care-workers-in-the-context-of-covid-19> <https://www.health.qld.gov.au/data/assets/pdf/file/0038/939656/qh-covid-19-Infection-controlguidelines.pdf>
- ▶ **Face masks COVID-19 (how to use, wear and change)** <https://www.qld.gov.au/health/conditions/health-alerts/coronavirus-covid-19/protect-yourself-others/face-masks>
- ▶ **DoH - The use of face masks and respirators in the context of COVID-19** <https://www.health.gov.au/resources/publications/the-use-of-face-masks-and-respirators-in-the-context-of-covid-19>

# Resources - RACGP

- ▶ **Checklist – keeping your practice COVID-safe** <https://www.racgp.org.au/clinical-resources/covid-19-resources/infection-control/keeping-your-practice-covid-safe>
- ▶ **COVID-19 infection-control principles**  
<https://www.racgp.org.au/getmedia/3619dbeb-0ad0-4766-9925-369bddb9d04e/RACGP-COVID-19-infection-control-principles.pdf.aspx>
- ▶ **PPE and Patient Alert Posters** <https://www.racgp.org.au/clinical-resources/covid-19-resources/infection-control/management-of-pandemics>
- ▶ **Responding to a COVID-19 case in the practice team**  
<https://www.racgp.org.au/FSDEDEV/media/documents/Clinical%20Resources/Guidelines/Responding-to-a-COVID-19-case-in-the-practice-team.pdf>
- ▶ **Infection prevention and control standards (5<sup>th</sup> Edition)**  
<https://www.racgp.org.au/FSDEDEV/media/documents/Running%20a%20practice/Practice%20standards/Infection-prevention-and-control.pdf>
- ▶ **Optimising the use of personal protective equipment in general practice during COVID-19** <https://www.racgp.org.au/clinical-resources/covid-19-resources/infection-control/optimising-the-use-of-ppe-in-general-practice>
- ▶ **Managing pandemics** <https://www.racgp.org.au/running-a-practice/practice-management/managing-emergencies-and-pandemics/managing-pandemics>

# NQPHN resources

**NQPHN resources** Health Pathways information on Provider Hub

- ▶ <https://www.nqphn.com.au/healthcare-professional/provider-hub-360/healthpathways>
- ▶ Site addresses:
  - ▶ [HealthPathways Far North Queensland](#)
  - ▶ [HealthPathways Townsville](#)
  - ▶ [HealthPathways Mackay](#)

**Digital Health Resources** on Provider Hub

- ▶ [Resources](#) to support use of Digital Health in primary care

**NQPHN COVID-19 Website** for Health Professionals

- ▶ COVID-19 for healthcare professionals <https://www.nqphn.com.au/coronavirus/information-healthcare-professionals>
- ▶ [Subscribe](#) to GP COVID update
- ▶ COVID-19 [testing, infection control and PPE information](#)
- ▶ [Mental Health support](#) for GPs, pharmacists and other healthcare providers

**COVID-19 enquiries**

- ▶ Email: [preparednessandrespondence@nqphn.com.au](mailto:preparednessandrespondence@nqphn.com.au)

# Questions from Zoom 'Q&A'



Evaluation QR Code

# Evaluations



THANK YOU FOR JOINING US



# References

- Australian Commission on Safety & Quality in Health Care. (2019, v11.9). *Australian guidelines for the prevention and control of infection in healthcare*. Canberra: National Health and Medical Research Council. Available from: <https://www.nhmrc.gov.au/about-us/publications/australian-guidelines-prevention-and-control-infection-healthcare-2019>
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