



Summary

Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019)

What are the Australian Guidelines for the Prevention and Control of Infection in Healthcare (the guidelines)?

The guidelines are produced by the National Health and Medical Research Council (NHMRC) in collaboration with the Australian Commission on Safety and Quality in Health Care (ACQSHC).

There are over 165,000 healthcare associated infections in Australian acute healthcare facilities every year. This makes healthcare associated infections the most common complication affecting patients in hospital. But this problem does not just affect patients and workers in hospitals – healthcare associated infections can occur in any healthcare setting, including office-based practices (e.g. general practice clinics, dental clinics, community health facilities), the setting in which paramedics work and long-term care facilities.

Effective infection prevention and control is central to providing high quality healthcare for patients and a safe working environment for those who work in healthcare settings. The guidelines provide evidence-based recommendations that outline the critical aspects of infection prevention and control, focusing on core principles and priority areas for action.

The guidelines are for use by all working in healthcare – including healthcare workers, management and support staff. They provide a risk-management framework to ensure the basic principles of infection prevention and control can be applied to a wide range of healthcare settings. The level of risk may differ in different types of healthcare facilities; risk assessments are encouraged as part of the decision making and use of guideline recommendations.

When implementing these recommendations all healthcare facilities need to consider the risk of transmission of infection and implement according to their specific setting and circumstances.

Why have they been revised?

The guidelines are widely used to develop policies and protocols in healthcare facilities across a range of acute and non-acute healthcare settings. Healthcare facilities need current and accurate advice for infection prevention and control based on the latest national and international evidence.

What is the evidence based on?

NHMRC has undertaken a rigorous and comprehensive approach to updating the guidelines to ensure that they reflect the best available evidence and expert advice on infection prevention and control. The evidence which has informed the updated guidelines includes: international infection prevention and control guidelines, national infection prevention and control guidelines on specific topics, literature reviews and systematic reviews.

The update of the guidelines was led by the NHMRC Infection Control Guidelines Advisory Committee (ICGAC) which comprised experts in infection prevention, epidemiology and infectious diseases, and representation of the Consumers Health Forum of Australia. The update was overseen by the Council of NHMRC and ACSQHC Inter-jurisdictional Committee.

What has changed in the 2019 update of the Guidelines?

Infection prevention and control basics

Many infection prevention and control practices are well-established and supported by empirical evidence and/or expert advice; and work, health and safety principles that are sometimes articulated in state and territory or Commonwealth legislation. Guidance on these practices, such as hand hygiene and the wearing of personal protective equipment, has been updated where necessary to reflect any new national and international evidence.

A patient-centred approach

The guidelines have an improved focus on involving patients and their carers in infection prevention and control. Patients need to be sufficiently informed to be able to participate in reducing the risk of transmission of infectious agents. Healthcare workers should ensure that patients are involved in hand hygiene and offer the opportunity to clean their hands when appropriate, as well as be suitably empowered to ask their healthcare provider if they have performed hand hygiene prior to and after their clinical care episode.

Emerging disinfection methods

Since the release of the 2010 guidelines, new technologies have emerged or undergone further development including novel modes of disinfection and the use of antimicrobial surfaces. Systematic reviews were undertaken by independent reviewers to assess the evidence on these practices and NHMRC used the results to inform new recommendations in the guidelines. The overarching finding was that there is not yet enough high quality evidence on the efficacy of hydrogen peroxide vapour, ultra-violet light or antimicrobial surfaces to support their routine use for infection prevention and control in Australian healthcare facilities.

The use of hydrogen peroxide vapour and ultra-violet light may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.

If emerging disinfectants are already being used in healthcare facilities, it is advised that they should always be used in addition to standard cleaning practices.

Antimicrobial resistance

Antimicrobial resistance has been identified by the World Health Organization as a key global public health priority requiring urgent action. The guidelines provide updated information and evidence on the management of multi-resistant organisms (MROs) in healthcare facilities, including the use of surveillance systems to record the presence of all MROs.

Replacement of Peripheral Intravenous Catheters (PIVCs)

Invasive medical devices are a common source of healthcare associated infections and provide a route for infectious agents to enter the body. They should only be used when clinically indicated.

Healthcare facility policies on the replacement of PIVCs should be based on a formal risk assessment. The guidelines advise that in considering the risk assessment, healthcare facilities may routinely follow one of the following two options for adults:

- Option 1: Replace a PIVC every 72 hours
- Option 2: Replace a PIVC based on clinical indication.

PIVCs should not be routinely replaced in neonates and children.

Clinical handover

Patient safety and communication between healthcare workers can be maximised when effective clinical handover processes are in place. The guidelines advise healthcare facilities to develop and implement a structured system for clinical handover, including documented policies and protocols.

Chlorhexidine

Chlorhexidine is an antiseptic antibacterial agent which is widely used in healthcare facilities, general practice and aged care settings. Skin cleansing with chlorhexidine plays an important role in reducing the incidence of healthcare associated infections.

The guidelines provide specific advice on the importance of using chlorhexidine appropriately and only when clinically indicated, as this can assist in preventing chlorhexidine resistance and adverse reactions. The guidelines also advise that any adverse reactions to chlorhexidine should be maintained in an organisational risk register and reported to the Therapeutic Goods Administration.

Immunisations for healthcare workers

Vaccination not only protects individuals, but also protects others in the community by increasing the overall level of immunity in the population and thereby minimising the spread of infection. The guidelines recommend that healthcare workers are vaccinated in accordance with the recommendations in the [Australian Immunisation Handbook](#).

Norovirus

Norovirus is the most frequently occurring cause of community-acquired acute gastroenteritis in people of all ages. It is one of the most common causes of outbreaks in healthcare settings, affecting both long-term care facilities and acute care hospitals.

The guidelines advise healthcare workers to adhere to exclusion periods and remain away from work until 48 hours after symptom resolution. Rather than closing an entire ward or unit to manage an outbreak of norovirus in a healthcare facility, it may be more efficient to control an outbreak by grouping similarly symptomatic patients in bays. If taken, this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in combination with adequate infection control strategies.

Therapeutic Goods Administration (TGA)-listed hard surface disinfectants

The guidelines recommend the use of TGA-listed hospital-grade disinfectants with specific claims for the disinfection of hard surfaces in healthcare facilities.

This change reflects reduced regulation for hard surface disinfectants which have been implemented by TGA. The streamlining of the regulatory pathway has resulted in changes to terminology and requirements of entry:

- Hard surface disinfectants which were previously 'listed' (hospital grade without specific claims) are now 'exempt' from the requirements of entry in the ARTG.
- Hard surface disinfectants which were previously 'registered' (hospital grade with specific claims) are now 'listed' other therapeutics goods (OTG).

In addition, TGO 54 (Standard for Disinfectants and Sterilants) was superseded by TGO 104 (Standard for Disinfectants and Sanitary Products) on 1 April 2019.

'Living Guidelines'

For these guidelines, NHMRC has piloted MAGICapp, an online platform that allows for the creation of a 'living' document that can be updated easily and accessed offline on a range of devices. The Guidelines have retained their three part structure, with a few minor changes to improve usability and streamline content including the creation of Appendices where all risk-management case studies and supplementary information are now contained.

GRADE

In applying a structured process for considering the body of evidence relevant to the review questions, FORM¹ was applied in 2010 whereas GRADE² has been applied for the 2019 guidelines. A transparent and consistent approach was implemented to manage the transition of the 2010 recommendations into the updated format, ensuring the supporting evidence, expert decisions and strength of recommendation were appropriate.

¹ FORM: An Australian method for formulating and grading recommendations in evidence-based clinical guidelines. [BMC Medical Research Methodology 2011, 11:23](#); recommendations rated as A, B, C or D.

² NHMRC developed guidelines are now using [GRADE](#) (Grading of Recommendations, Assessment, Development and Evaluation), an internationally recognised approach to rate the quality of the evidence and the strength of recommendations; recommendations are either 'strong' or 'weak'.

What are the Guideline recommendations, statutory requirements and practice statements?

Hand Hygiene	
1.Recommendation	<p>It is recommended that routine hand hygiene is performed:</p> <ul style="list-style-type: none"> • before touching a patient • before a procedure • after a procedure or body substance exposure risk • after touching a patient • after touching a patient’s surroundings. <p>Hand hygiene must also be performed before putting on gloves and after the removal of gloves.</p>
2. Practice Statement	<p>It is good practice for patients to perform hand hygiene and be educated about the benefits of hand hygiene for infection prevention and control.</p> <p>Patients should be involved in hand hygiene and offered the opportunity to clean their hands when appropriate, including before meals and after using the toilet, commode or bedpan/urinal. Patient preferences for hand hygiene products may differ, and they should be provided with the option of alcohol-based hand rubs, hand wipes or access to hand wash basins, based on any specific needs.</p>
3. Recommendation	<p>It is recommended that alcohol-based hand rubs that contain between 60% and 80% v/v ethanol or equivalent should be used for all routine hand hygiene practices.</p>
4. Statutory Requirement	<p>It is good practice that alcohol-based hand rubs that meet the requirements of European Standard EN 1500 are used for all routine hand hygiene practices.</p> <p><i>Note: This advice aligns with mandatory requirements as set by Australia's Therapeutic Goods Administration regarding testing standards for bactericidal effect (Therapeutic Goods Act 1989).</i></p>
5. Recommendation	<p>It is recommended that soap and water should be used for hand hygiene when hands are visibly soiled.</p>

6. Recommendation	<p>It is suggested that hand hygiene is performed in the presence of known or suspected <i>Clostridium difficile</i> and non-enveloped viruses such as norovirus as follows:</p> <ul style="list-style-type: none"> • If gloves have not been worn, if gloves have been breached or if there is visible contamination of the hands despite glove use, use soap and water to facilitate the mechanical removal of spores. After washing, hands should be dried thoroughly with a single-use towel. • If gloves have been worn, a lower density of contamination of the hands would be expected and alcohol-based hand rub remains the agent of choice for hand hygiene.
Handling of Sharps	
7. Statutory Requirement	<p>It is good practice to follow safe sharp handling practices including:</p> <ul style="list-style-type: none"> • not passing sharps directly from hand to hand • keep handling to a minimum • not recapping, bending or breaking needles after use. <p><i>Note: This advice reflects best practice as advised by expert consensus and available evidence. Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (Work Health and Safety Act 2011).</i></p>
8. Practice Statement	<p>It is good practice to dispose of single-use sharps immediately into an approved sharps container at the point-of-use.</p> <p>The person who has used the single-use sharp must be responsible for its immediate safe disposal. Sharps containers must not be filled above the mark that indicates the maximum fill level.</p>
Routine management of the physical environment (cleaning and disinfecting)	
9. Practice Statement	<p>It is good practice to routinely clean surfaces as follows:</p> <ul style="list-style-type: none"> • Clean frequently touched surfaces with detergent solution at least daily, when visibly soiled and after every known contamination. • Clean general surfaces and fittings when visibly soiled and immediately after spillage.

10.Practice Statement	<p>It is good practice for shared clinical equipment to be cleaned with a detergent solution between patient uses, and disinfected where indicated.</p> <p>Exceptions to this should be justified by risk assessment.</p>
11. Practice Statement	<p>It is good practice that surface barriers are used to protect clinical surfaces (including equipment) that are:</p> <ul style="list-style-type: none"> • touched frequently with gloved hands during the delivery of patient care • likely to become contaminated with blood or body substances • difficult to clean. <p>Exceptions to this should be justified by risk assessment. Equipment should be appropriately cleaned between patients or uses, regardless of whether a surface barrier has been used.</p>
12.Recommendation	<p>It is suggested that site decontamination should occur after spills of blood or other potentially infectious materials.</p> <p>Spills of blood or other potentially infectious materials should be promptly cleaned as follows:</p> <ul style="list-style-type: none"> • wear gloves and other personal protective equipment appropriate to the task • confine and contain spill, clean visible matter with disposable absorbent material and discard the used cleaning materials in the appropriate waste container • clean the spill area with a cloth or paper towels using detergent solution. <p>Use of Therapeutic Goods Administration-listed hospital-grade disinfectants with specific claims or a chlorine-based product such as sodium hypochlorite should be based on assessment of risk of transmission of infectious agents from that spill (see Section 3.1.3). The decision to use disinfectants should be dependent upon the compatibility of the disinfectant with the materials where the spill occurred.</p>
13.Practice Statement	<p>It is good practice to use a chlorine-based product such as sodium hypochlorite or a Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims in addition to standard cleaning practices to effectively manage norovirus specific outbreaks.</p>

Emerging disinfection methods

14.Recommendation	<p>It is suggested that sodium hypochlorite disinfection be used as an adjunct to standard cleaning in healthcare facilities.</p> <p>The use of sodium hypochlorite disinfection in addition to a detergent solution is suggested for terminal cleans of rooms of patients known or suspected to have <i>C. difficile</i> associated disease or multi-drug resistant organisms.</p> <p>The use of sodium hypochlorite disinfection in addition to detergent solution is suggested to terminate outbreaks of <i>C. difficile</i>.</p>
15.Recommendation	<p>The effectiveness of hydrogen peroxide vapour disinfection as an adjunct to routine cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.</p> <p>Hydrogen peroxide vapour may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.</p>
16.Recommendation	<p>The effectiveness of ultra-violet light disinfection as an adjunct to routine terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.</p> <p>Ultra-violet light disinfection may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.</p>
17.Recommendation	<p>The effectiveness of ultra-violet light disinfection in combination with sodium hypochlorite for terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.</p> <p>Ultra-violet light disinfection in combination with sodium hypochlorite may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.</p>
18.Recommendation	<p>The effectiveness of surfaces, fittings or furnishing containing materials with antimicrobial properties in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.</p>

Aseptic Technique	
19. Recommendation	It is suggested that sterile gloves are used for aseptic procedures and contact with sterile sites.
Contact precautions	
20. Recommendation	It is suggested that contact precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.
21. Recommendation	<p>It is suggested that appropriate hand hygiene be undertaken and personal protective equipment worn to prevent contact transmission.</p> <p>It is suggested that when working with patients who require contact precautions, healthcare workers should:</p> <ul style="list-style-type: none"> • perform hand hygiene • put on gloves and gown upon entry to the patient-care area • if performing multiple tasks whilst in the patient-care area, apply the principles of standard precautions and remove gloves, perform hand hygiene and apply clean gloves between tasks when required to minimise risk of infection transmission • ensure that clothing and skin do not contact potentially contaminated environmental surfaces • remove gown and gloves and perform hand hygiene before leaving the patient-care area.
22. Recommendation	<p>It is suggested that patient-dedicated equipment or single-use patient-care equipment be used for patients on contact precautions.</p> <p>If common use of equipment for multiple patients is unavoidable, clean the equipment and allow it to dry before use on another patient.</p>
Droplet precautions	
23. Recommendation	It is suggested that droplet precautions, in addition to standard precautions, are implemented for patients known or suspected to be infected with agents transmitted by respiratory droplets that are generated by a patient when coughing, sneezing or talking.

24. Recommendation	It is suggested that a surgical mask should be worn when entering a patient-care environment to prevent droplet transmission.
25. Practice Statement	It is good practice to place patients who require droplet precautions in a single-patient room.
Airborne precautions	
26. Recommendation	It is recommended that airborne precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are transmitted person-to-person by the airborne route.
27. Recommendation	It is suggested that a correctly fitted P2 respirator is worn when entering the patient-care area when an airborne-transmissible infectious agent is known or suspected to be present.
28. Practice Statement	It is good practice to place patients on airborne precautions in a negative pressure room (Class N/Type 5) with bathroom facilities or in a room from which air does not circulate to other areas. Exceptions to this should be justified by risk assessment.
Personal protective equipment	
29. Recommendation	It is suggested that clean aprons/gowns should: <ul style="list-style-type: none"> • be appropriate to the task being undertaken • be worn for a single procedure or episode of patient care where contamination with body substances is likely. The used apron/gown should be removed in the area where the episode of patient care takes place.
30. Recommendation	It is suggested that face and eye protection should be worn during procedures that generate splashes or sprays of blood and body substances into the face and eyes.

31. Recommendation	<p>It is suggested that single-use, fit for purpose gloves are worn for:</p> <ul style="list-style-type: none"> • each invasive procedure • contact with sterile sites and non-intact skin or mucous membranes • activity that has been assessed as carrying a risk of exposure to blood and body substances. <p>Hand hygiene should be performed prior to donning gloves and after gloves are removed.</p> <p>Gloves must be changed between patients and after every episode of individual care.</p>
Management of multi-resistant organisms	
32. Recommendation	<p>It is suggested that contact precautions be considered for all patients colonised or infected with a multi-resistant organism (MRO) where there is anticipated patient and/or environmental contact, including:</p> <ul style="list-style-type: none"> • performing hand hygiene and putting on gloves and gowns before entering the patient-care area • using patient-dedicated or single-use non-critical patient-care equipment • using a single-patient room or, if unavailable, cohorting patients with the same strain of MRO in designated patient-care areas (upon approval from the healthcare facility's Infection Control Team) • ensuring consistent cleaning and disinfection of surfaces in close proximity to the patient and those likely to be touched by the patient and healthcare workers.
33. Practice Statement	<p>It is good practice for healthcare facilities to maintain a surveillance system to record the presence of all multi-resistant organisms.</p>
Outbreak investigation and management	
34. Practice Statement	<p>It is good practice for all outbreaks, however minor, to be investigated promptly and thoroughly and the outcomes of the investigations documented.</p>

35. Practice Statement	<p>It is good practice to consider the use of early bay closures to control known or suspected norovirus outbreaks rather than ward/unit closures.</p> <p>Rather than closing an entire ward or unit to manage an outbreak of norovirus in a healthcare facility, it may be more efficient to control an outbreak through cohorting symptomatic patients in bays. If taken, this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in combination with adequate infection control strategies.</p>
Invasive medical devices	
36. Practice Statement	<p>It is good practice for healthcare facilities to develop, implement and review processes to address the insertion, use and maintenance, and removal of invasive medical devices. These processes should be centred on the principles of only using devices if they are deemed essential, and removing them as soon as no longer needed.</p> <p>Healthcare facilities should undertake a risk assessment to assist with determining appropriate procedures and timing for the removal of invasive medical devices and for the surveillance and management of invasive medical devices.</p>
Clinical governance	
37. Practice Statement	<p>It is good practice for healthcare facilities to have effective clinical handover processes in place that includes infection risks.</p> <p>Healthcare facilities should develop and implement a structured system for clinical handover, including documented policies and protocols.</p>
Risk management	
38. Practice Statement	<p>It is good practice to use chlorhexidine in appropriate situations and only when clinically indicated.</p> <p>Healthcare professionals should consider the appropriateness of using chlorhexidine in every clinical situation, as discussed in these Guidelines.</p> <p>Chlorhexidine-containing products, devices or solutions must never be used on or around patients with known chlorhexidine sensitivity.</p>

39. Practice Statement	It is good practice to include chlorhexidine in a healthcare facility's chemical register. Any adverse reactions to chlorhexidine should be maintained in an organisational risk register and reported to the Therapeutic Goods Administration.
Health status screening and immunisation	
40. Statutory Requirement	<p>It is recommended that all healthcare workers to be vaccinated in accordance with the recommendations for healthcare workers in the <i>Australian Immunisation Handbook</i>.</p> <p><i>Note: The advice reflects recommended practice supported by strong evidence. Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.</i></p>
Exclusion periods for healthcare workers with acute infections	
41. Practice Statement	<p>It is good practice for healthcare workers and visitors to adhere to norovirus exclusion periods.</p> <p>Healthcare workers should not be at work from symptom onset until 48 hours after symptom resolution. On returning to the healthcare facility, healthcare workers should adhere to appropriate hand hygiene practices.</p>
Education and Training	
42. Practice Statement	It is good practice for infection control professionals to partake in ongoing professional development in order to gain the necessary expertise to fulfil their role. Infection prevention and control staff at all levels should be supported to access formal and informal education and training relevant to their role.

Contact information

If you have any questions, please contact NHMRC's Infection Prevention and Control Team via email - icg@nhmrc.gov.au.