Comparison of Grades of recommendation from adapted guidelines and NHMRC

Recommendations were drafted from existing international guidelines and systematic reviews. Graded recommendations from other guidelines were adapted to the NHMRC grades using the approach outlined below. The ICG Steering Committee (the Committee) considered each recommendation and its original grade and determined a corresponding NHMRC grade according to the evidence supporting the recommendation. Where an alternate grading scheme has been used in the adapted guidelines and the definitions are consistent with an NHMRC grade and level of evidence, it has been applied. Where there is no equivalent grade, a conservative approach has been adopted and a lower NHMRC grade has been applied. Where there were inconsistencies or discrepancies the evidence was revisited. Dissent amongst the Committee was noted.

<table>
<thead>
<tr>
<th>Corresponding grade categories and evidence description</th>
<th>CDC/HICPAC</th>
<th>EPIC</th>
<th>NHMRC</th>
<th>Rationale for application of NHMRC grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category IA: Strongly recommended for implementation and strongly supported by well designed experimental, clinical, or epidemiologic studies.</td>
<td>A At least one meta-analysis, systematic review, or randomised controlled trial (RCT) that is rated as 1++, and is directly applicable to the target population, or A systematic review of RCT or a body of evidence that consists principally of studies rated as 1+, is directly applicable to the target population and demonstrates overall consistency of results. Evidence drawn from a NICE technology appraisal</td>
<td>A One or more level I studies with a low risk of bias or several level II studies with a low risk of bias. All studies consistent. Very large clinical impact. Population/s studied in body of evidence are the same as the target population for the guideline. Directly applicable to Australian healthcare context.</td>
<td>A Excellent Body of evidence can be trusted to guide practice. Recommendation based on high quality evidence. Strongly recommended for implementation.</td>
<td></td>
</tr>
<tr>
<td>Category IA: Strongly recommended for implementation and strongly supported by well designed experimental, clinical, or epidemiologic studies.</td>
<td>B A body of evidence that includes studies rated as 2++, is directly applicable to the target population and demonstrates overall consistency of results, or Extrapolated evidence from studies rated as 1++ or 1+</td>
<td>B One or two level II studies with a low risk of bias or a SR/several level III studies with a low risk of bias. Most studies consistent and inconsistency may be explained. Substantial clinical impact. Population/s studied in the body of evidence are similar to the target population for the guideline. Applicable to Australian healthcare context with few caveats.</td>
<td>B Good Body of evidence can be trusted to guide practice in most situations. Recommendation based on good evidence. Strongly recommended for implementation.</td>
<td></td>
</tr>
<tr>
<td>Category IB: Strongly recommended for implementation and supported by some experimental, clinical, or epidemiologic studies and a strong theoretical rationale.</td>
<td>C A body of evidence that includes studies rated as 2+, is directly applicable to the target population and demonstrates overall consistency of results, or Extrapolated evidence from studies rated as 2++</td>
<td>C One or two level III studies with a low risk of bias, or level I or II studies with a moderate risk of bias. Some inconsistency reflecting genuine uncertainty around clinical question. Moderate clinical impact. Population/s studied in body of evidence differ to target population for guideline but it is clinically sensible to apply this evidence to target population. Probably applicable to Australian healthcare context with some caveats.</td>
<td>C Satisfactory Body of evidence provides some support for recommendation(s) but care should be taken in its application. Recommendation based on supportive evidence and a strong theoretical rationale. Recommended for implementation.</td>
<td></td>
</tr>
<tr>
<td>Category II</td>
<td>D</td>
<td>D</td>
<td>D Poor</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>---</td>
<td>---</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Suggested for implementation and supported by suggestive clinical or epidemiologic studies or a theoretical rationale.</td>
<td>Evidence consists of level IV studies, or level I to III studies/SRs with a high risk of bias. Evidence is inconsistent Clinical impact is slight or restricted. Population/s studied in body of evidence differ to target population and hard to judge whether it is sensible to generalise to target population. Not applicable to Australian healthcare context.</td>
<td>Evidence level 3 or 4, or Extrapolated evidence from studies rated as 2+, or Formal consensus</td>
<td>Body of evidence is weak and recommendation must be applied with caution. Recommendation based on limited, inconsistent or extrapolated evidence. Recommendation supported by expert opinion. Recommended for implementation.</td>
<td></td>
</tr>
</tbody>
</table>

**Category II**
Suggested for implementation and supported by suggestive clinical or epidemiologic studies or a theoretical rationale.

**GPP**
Evidence is weak or non existent.

**D (GPP)**
A good practice point (GPP) is a recommendation for best practice based on the experience of the Guideline Development Group

**GPP Good Practice Point**
Evidence limited or non existent. Recommendation based on current expert opinion and trends in clinical practice. Recommended for implementation.

---

**NB.** An additional category for CDC was Category IC: Required for implementation, as mandated by federal and/or state regulation or standard. This category has been converted to a GPP given it is not directly applicable to Australian standards and regulations. CDC Category IA and IB recommendations differ only in the strength of the supporting scientific evidence.

**CDC categories for 'No recommendation'**
Unresolved issue. Practices for which insufficient evidence or no consensus regarding efficacy exists. The ICG steering committee considered the issue and if necessary formulated a good practice point.

**EPIC Levels of Evidence for Intervention Studies**

1++ High-quality meta-analyses, systematic reviews of randomised controlled trials (RCT), or RCT with a very low risk of bias
1+ Well-conducted meta-analyses, systematic reviews of RCT, or RCT with a low risk of bias
1- Meta-analyses, systematic reviews of RCT, or RCT with a high risk of bias*
2++ High-quality systematic reviews of case–control or cohort studies. High-quality case–control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2+ Well-conducted case–control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2- Case–control or cohort studies with a high risk of confounding bias, or chance and a significant risk that the relationship is not causal*
3 Non-analytic studies (for example, case reports, case series)
4 Expert opinion, formal consensus

*Studies with a level of evidence '-' should not be used as a basis for making a recommendation
<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Source</th>
<th>Original grade (assigned by original guideline or systematic reviewer)</th>
<th>Converted NHMRC grade (assigned by ICG steering committee)</th>
<th>Rationale for applying NHMRC grade</th>
<th>References supporting recommendation</th>
</tr>
</thead>
</table>
| **Routine hand hygiene**
Hands must be decontaminated before and after every episode of patient contact. This includes:
- before touching a patient (50, 52, 73, 88, 110, 114, 121, 125, 126, 1006)
- before a procedure; (1007)
- after a procedure or body fluid exposure risk (50, 125, 127, 179);
- after touching a patient (73, 88, 125-127); and
- after touching a patient's surroundings. (73, 111, 112, 114, 125-127, 129, 130) | WHO | Category 1B (Category 1A after a procedure or body fluid exposure risk) | Grade B | Recommendation based on good evidence. Recommendation has an extremely high clinical impact across health care settings. Strongly recommended for implementation. | Reference numbers directly from WHO Guidelines 2009.
114. Hayden MK, Blom DW, Lyle EA, Moore CG, Weinstein RA. Risk of hand or glove contamination after contact with patients colonised with Vancomycin-
Resistant Enterococcus or the colonised patients’ environment. Infection Control and Hospital Epidemiology 2008; 29(2): 149-154.


**Choice of product for routine hand hygiene practices**

Alcohol-based handrubs containing at least 70% v/v ethanol or equivalent should be used for all routine hand hygiene practices

Maiwald, M. 2009. NHMRC systematic review

Graded directly from good quality evidence


Barbut F, Maury E, Goldwirt L, Boelle PY, Neyme D, Aman R, Rossi B, Offenstadt G (2007) Comparison of the antibacterial efficacy and acceptability of an alcohol-
in the healthcare environment.


3 Choice of hand hygiene product when hands are visibly soiled

If hands are visibly soiled, they should be washed with soap and water.

Centre for Disease Control and Prevention (CDC) Guideline for Isolation IA B


**Personal protective equipment**

4 **Wearing of aprons/gowns**

Aprons or gowns should be appropriate to the task being undertaken. They should be worn for a single procedure or episode of patient care and removed in the area where the episode of care takes place.


5 **Use of face and eye protection for procedures**

A surgical mask and goggles must be worn.

| Centre for Disease Control and Prevention (CDC) Guideline for | 1B/1C | C | Recommendation based on supportive evidence, strong |


6 **Wearing of gloves**

Gloves must be worn as a single use item for each:
- invasive procedure;
- contact with sterile sites and non-intact skin or mucous membranes; and
- activity that has been assessed as carrying a risk of exposure to blood, body fluids, secretions and excretions.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
| 7 Sterile gloves  
Sterile gloves must be used for aseptic procedures and contact with sterile sites. | ICG Steering Committee | GPP  
Recommendation based on sound theoretical principles and supported by expert opinion. Recommended for implementation  
Dissent: The committee was not unanimous. It was noted by one committee member that in some areas of primary care this recommendation may be difficult to implement. |
| Handling and disposal of sharps | Pratt RJ, Pellowe CM, Wilson JA, Loveday HP, Harper PJ, Jones SRLJ, McDougall C, Wilcox MH.  
Recommendation based on limited evidence, but on sound theoretical principles and supported by expert opinion. Recommended for implementation. |
| 8 Safe handling of sharps  
Sharps must not be passed directly from hand to hand and handling should be kept to a minimum. Needles must not be recapped, bent, broken or disassembled after use. |  
<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td><strong>Disposal of sharps</strong></td>
<td>The person who has used the sharp must be responsible for its immediate safe disposal. Used sharps must be discarded into an approved sharps container* at the point-of-use. These must not be filled above the mark that indicates the bin is three-quarters full.</td>
</tr>
<tr>
<td>10</td>
<td><strong>Routine cleaning of surfaces</strong></td>
<td>Frequently touched surfaces should be cleaned with detergent solution at least daily, and when visibly soiled and after every known contamination. Clean general surfaces and fittings when visibly soiled and immediately after spillage.</td>
</tr>
</tbody>
</table>

---

**References**


---


---

**Evidence limited or inconsistent. Recommendation based on current expert opinion and trends in clinical practice. Recommended for implementation.**

---

**Routine environmental cleaning**

---

**Routine cleaning of surfaces**

---

<table>
<thead>
<tr>
<th>11</th>
<th>Cleaning of shared clinical equipment</th>
<th>Guidelines for environmental infection control in health-care facilities. MMWR 2003; 52(RR10): 1-42.</th>
<th>II</th>
<th>GPP</th>
<th>Evidence limited or inconsistent. Recommendation based on current expert opinion and trends in clinical practice. Recommended for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Surface barriers</td>
<td>Guidelines for environmental infection control in health-care facilities. MMWR 2003; 52(RR10): 1-42.</td>
<td>II</td>
<td>GPP</td>
<td>Evidence limited or inconsistent. Recommendation based on current expert opinion and trends in clinical practice. Recommended for implementation</td>
</tr>
<tr>
<td>13</td>
<td>Site decontamination after spills of blood or other potentially infectious materials</td>
<td>Guidelines for environmental infection control in health-care facilities. MMWR 2003; 52(RR10): 1-42.</td>
<td>IB</td>
<td>C</td>
<td>Body of evidence provides some support for recommendation(s) but care should be taken in its application. Recommendation based on supportive evidence and a strong theoretical</td>
</tr>
</tbody>
</table>

References:
- appropriate waste container;
- **clean** the spill area with a cloth or paper towels using detergent solution.

Using chemical disinfectants such as sodium hypochlorite should be based on assessment of the risk of transmission of infectious agents from that spill.

| Transmission based precautions | | |
|--------------------------------|--------------------------------|
| **Contact precautions** | | |
| **14** **Implementation of contact precautions** | | |
| In addition to standard precautions, implement contact precautions 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. | Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007 http://www.cdc.gov/ncidod/dhqp/g1_isolation.html | No grade. Not a specific recommendation in CDC guidelines. |


| **15** **Hand hygiene and personal protective equipment to prevent contact transmission** | Centre for Disease Control and Prevention (CDC) Guideline for Isolation | 1B C |
| When working with patients who require | | |


### Contact Precautions

- Perform hand hygiene, and put on gloves and gown upon entry to the patient-care area.
- Ensure that clothing and skin do not contact potentially contaminated environmental surfaces; and
- Remove gown and gloves and perform hand hygiene when leaving the patient-care area.

**Precautions:**

- Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007

**Theoretical Rationale:**

Recommended for implementation.

---

### Hand Hygiene when *Clostridium difficile* is Suspected or Known to be Present

Matthias Maiwald. Systematic review 2009

GPP

**Evidence:**

- Limited or inconsistent. Recommendation based on current expert opinion and trends in clinical practice. Recommended for implementation.


### Patient Care Equipment for Patients on Contact Precautions

Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare

1B

**Recommendation:**

Based on supportive evidence and a strong theoretical rationale. Recommended for implementation.


### Implementation of droplet precautions

In addition to standard precautions, implement droplet precautions for patients known or suspected to be infected with agents transmitted by respiratory droplets (>5µ in size) that are generated by a patient when coughing, sneezing, talking, during suctioning or bronchoscopy.

<table>
<thead>
<tr>
<th>18</th>
<th>Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007 <a href="http://www.cdc.gov/ncidod/dhqp/gl_isolation.html">http://www.cdc.gov/ncidod/dhqp/gl_isolation.html</a></th>
<th>1B</th>
<th>C</th>
<th>Recommendatio n based on supportive evidence and a strong theoretical rationale. Recommended for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>755</td>
<td>Weaver GH. Value of the face mask and other measures. JAMA 1918;70:76.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1017</td>
<td>Gilmore A, Stuart J, Andrews N. Risk of secondary meningococcal disease in...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 19 | **Personal protective equipment to prevent droplet transmission**  
**CDC Guidelines**  

| 20 | **Placement of patients on droplet precautions**  
<table>
<thead>
<tr>
<th></th>
<th>Airborne precautions</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td><strong>Implementation of airborne precautions</strong>&lt;br&gt; In addition to standard precautions, implement airborne precautions for patients known or suspected to be infected with infectious agents that remain infective over time and distance and are transmitted person-to-person by the airborne route.</td>
<td>Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007 <a href="http://www.cdc.gov/ncidod/dhqp/gl_isolation.html">http://www.cdc.gov/ncidod/dhqp/gl_isolation.html</a></td>
<td>1A</td>
</tr>
<tr>
<td>22</td>
<td><strong>Personal protective equipment to prevent airborne transmission</strong>&lt;br&gt; Wear a correctly fitted P2 (N95) mask when entering the patient-care area when an airborne-transmissible infectious agent is known or suspected.</td>
<td>Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing</td>
<td>IB</td>
</tr>
</tbody>
</table>

---

34. CDC. Guidelines for preventing the transmission of Mycobacterium tuberculosis in health-care facilities. MMWR 1994;43(No. RR-13).
### Transmission of Infectious Agents in Healthcare Settings, June 2007

http://www.cdc.gov/ncidod/dhqp/gl_isolation.html

- **n supported by expert opinion. Recommended for implementation**

<table>
<thead>
<tr>
<th>23</th>
<th>Placement of patients who require airborne precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patients with known or suspected airborne infections should be placed in a negative pressure room or in a room where the air does not circulate to other areas. Exceptions to this should be justified by risk assessment.</td>
</tr>
</tbody>
</table>

### Centre for Disease Control and Prevention (CDC) Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007

http://www.cdc.gov/ncidod/dhqp/gl_isolation.html

- **II**
  - GPP
  - Evidence is limited or inconsistent. Based on sound theoretical principles and current practice.

<table>
<thead>
<tr>
<th>24</th>
<th>Implementation of core strategies in the control of MROs (MRSA, MRGN, VRE)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Implement transmission-based precautions routinely for all patients colonised or infected with a multi-resistant organism including:</td>
</tr>
<tr>
<td></td>
<td>- Putting on gloves and gowns before entry to the patient-care area;</td>
</tr>
</tbody>
</table>

### Centre for Disease Control and Prevention (CDC) Management of Multidrug-Resistant Organisms in Healthcare Settings, June 2007

http://www.cdc.gov/ncidod/dhqp/gl_isolation.html

- **IB**
  - C
  - Recommendations based on supportive evidence and a strong theoretical rationale. Recommended for

• Using patient-dedicated equipment or disposable non-critical patient-care equipment (e.g., blood pressure cuffs, stethoscope);
• Using a single-patient room or, if unavailable, cohorting patients with the same strain of multi-resistant organism in designated patient-care areas; and
• 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.

implementation


