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# Guidelines for hand hygiene in Irish healthcare settings

Update of 2005 guidelines  
January 2015



HCAI



ROYAL COLLEGE OF  
PHYSICIANS OF IRELAND



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive  
Quality Improvement Division



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# Introduction

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Hand hygiene in the healthcare setting reduces the transmission of pathogens and the incidence of healthcare-associated infections (HCAI).<sup>1</sup> Improving hand hygiene is one of the aims of the National Clinical Programme on HCAI and Antimicrobial Resistance (AMR).

The first national guidelines for hand hygiene in the healthcare setting were published in 2005 by the Strategy for the Control of Antimicrobial Resistance in Ireland (SARI).<sup>2</sup> In 2009, the World Health Organization (WHO) issued comprehensive evidence-based guidelines on hand hygiene in healthcare,<sup>1</sup> which introduced the '5 moments of hand hygiene', which have been widely internationally adopted.

The Hand Hygiene Subcommittee of the Royal College of Physicians of Ireland Clinical Advisory Group on HCAI and AMR have revised and updated the national guidelines for hand hygiene in healthcare settings, based on the WHO guidelines, with input from other recently updated guidelines from the National Institute for Health and Clinical Excellence (2012),<sup>3</sup> epic3 (2013),<sup>4</sup> Public Health Ontario (2014),<sup>5</sup> and the Society for Healthcare Epidemiology of America/Infectious Diseases Society of America (2014).<sup>6</sup> The subcommittee agreed to broadly adopt the WHO guidelines, with some exceptions, which are highlighted in the recommendations.

A formal review of the evidence was not performed. The recommendations have been ranked, based on the ranking of evidence in the WHO guidelines. For a detailed review of the evidence underpinning the recommendations in this document, the reader is directed to the WHO guidelines, and to other guidelines, as indicated in the footnotes.

The purpose of this guideline is to assist Irish healthcare facilities and services to improve hand hygiene and thereby to reduce HCAI, through a series of recommendations that reflect best practice. The guidelines are aimed at all healthcare care workers and will also be of relevance to patients, visitors, carers and members of the public. The recommendations should be implemented in all settings in which healthcare is delivered in Ireland as part of an integrated multimodal infection prevention and control and patient safety strategy.

This guideline will be revised in 2018, or sooner, as required.

# Recommendations

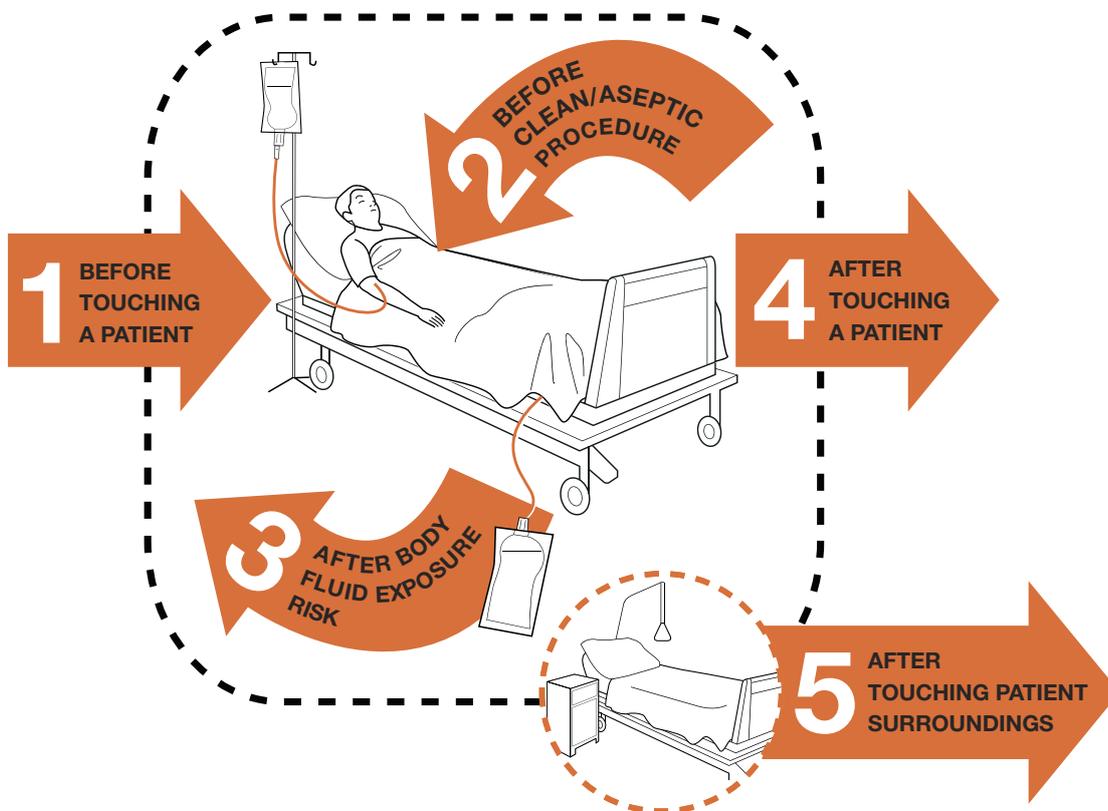
These recommendations are adopted from the WHO Guidelines on Hand Hygiene in Health Care (2009)<sup>1</sup>. The rationale for inclusion of any recommendation which differs from, or which is additional to the recommendations of the WHO guidelines is outlined in a footnote. Refer to Appendix 3.6 for an explanation of the ranking of evidence.

## 2.1 Indications for hand hygiene

### 5 moments for hand hygiene

Clean hands according to the WHO '5 moments for hand hygiene': -

- immediately before each episode of direct patient contact or care (IB)
- immediately before a clean/aseptic procedure (IB)
- immediately after contact with body fluids or excretions, mucous membranes, non-intact skin or wound dressings (IA)
- immediately after each episode of direct patient contact or care (IB)
- immediately after contact with objects and equipment in the immediate patient environment (IB)



Refer to the WHO Hand hygiene in outpatient and home-based care and long-term care facilities (2012)<sup>7</sup> for recommendations on the application of the '5 moments for hand hygiene' in outpatient settings, home-based care and long-term care facilities.

### Other indications for hand hygiene

Hands should also be cleaned: -

- when visibly dirty, or soiled with blood or other body fluids (IB)
- after using the toilet (II)
- before preparing medication (IB)
- before preparing food (IB)
- before putting on gloves (II\*)
- immediately after removing gloves (IB)

## 2.2 Hand hygiene and glove use

The use of gloves does not replace the need for hand hygiene (IB)

When using gloves, clean hands: -

- before putting on gloves (II\*)
- immediately after removal of gloves (IB)

## 2.3 When delivering clinical care

- Bare the wrists (e.g., short sleeved top or rolled up sleeves)<sup>a</sup> (II\*)
- Remove all wrist jewellery, including wristwatch<sup>b</sup> (II\*)
- Remove all hand jewellery (a single plain band may be worn)<sup>c</sup> (II\*)
- Keep fingernails short (tips less than 0.5cm) (II)
- Do not wear false nails or nail enhancements (e.g., gel nails)<sup>d</sup> (IA)
- Do not wear nail varnish<sup>e</sup> (II\*)
- Cover cuts and abrasions with a waterproof dressing<sup>f</sup> (II\*)

## 2.4 Which hand hygiene product to use

Use an alcohol hand rub for hand hygiene (IA), except in the following situations when hands must be washed with soap and water<sup>g</sup>:

- when hands are visibly soiled (IB)
- when caring for patients known or suspected to have *Clostridium difficile* infection (IB)

Alcohol hand rub used in healthcare settings should conform to the national specification for alcohol-based hand hygiene products<sup>h</sup> (II\*)

<sup>a</sup> Bare wrists facilitate effective hand hygiene. SARI hand hygiene guidelines (2005)<sup>2</sup> recommend that shirts should have short or turn up sleeves, NICE Clinical Guideline 2 (2012)<sup>3</sup> recommends wearing short-sleeved garments or being able to roll or push up sleeves and epic3 (2014)<sup>4</sup> recommends wearing short-sleeved clothing.

<sup>b</sup> Bare wrists facilitate effective hand hygiene. WHO (2009)<sup>1</sup> recommends removal of wrist jewellery for surgical hand preparation. SARI hand hygiene guidelines (2005)<sup>2</sup>, NICE Clinical Guideline 2 (2012)<sup>3</sup> and epic3 (2014)<sup>4</sup> recommend that wrist jewellery is removed.

<sup>c</sup> Wearing rings is associated with increased carriage of microorganisms. WHO (2009)<sup>1</sup> recommends removal of hand jewellery for surgical hand preparation. SARI hand hygiene guidelines (2005)<sup>2</sup> recommend that hand jewellery (except plain wedding bands) is removed; NICE Clinical Guideline 2 (2012)<sup>3</sup> and epic3 (2014)<sup>4</sup> recommend that hand jewellery is removed. Public Health Ontario guidelines (2014)<sup>5</sup> state that it is preferred that rings are not worn.

<sup>d</sup> Artificial nails and nail enhancements have been implicated in the transfer of pathogenic microorganisms, and artificial nails have been linked to surgical site infections and haemodialysis-related bloodstream infections. WHO (2009)<sup>1</sup> prohibits artificial nails for surgical hand preparation. SARI hand hygiene guidelines (2005)<sup>2</sup> and epic3 (2014)<sup>4</sup> recommend that false nails are not worn and Public Health Ontario guidelines (2014)<sup>5</sup> recommends that artificial nails or nail enhancements are not worn.

<sup>e</sup> Chipped nail polish or nail polish worn for longer than 4 days can harbour microorganisms that are not removed by hand hygiene. SARI hand hygiene guidelines (2005)<sup>2</sup>, NICE Clinical Guideline 2 (2012)<sup>3</sup> and epic3 (2014)<sup>4</sup> recommend that nail polish is not worn.

<sup>f</sup> Good practice. NICE Clinical Guideline 2 (2012)<sup>3</sup> and epic3 (2014)<sup>4</sup> recommend that cuts and abrasions are covered with waterproof dressings.

<sup>g</sup> There is conflicting evidence regarding the efficacy of hand hygiene products on norovirus. Studies suggest that norovirus is inactivated by alcohol concentrations  $\geq$  70%; this should be considered when evaluating alcohol hand rubs.

<sup>h</sup> National specification for AHR

## 2.5 Hand hygiene technique<sup>i</sup>

### Alcohol hand rub

- Do not use alcohol hand rub on visibly soiled hands (IB)
- Follow the manufacturer's instructions for application times<sup>j</sup> (II\*)
- Apply sufficient volume of hand rub solution to cover hands and wrists (IB)
- The hand rub solution must come into contact with all surfaces of the hands and wrists (IB)
- Rub hands together vigorously until the solution has evaporated and hands are dry (IB)

*Refer to Appendix 3.3.1 for WHO poster on alcohol hand rub technique*

### Hand washing with soap and water

- Wet hands under running water. Avoid using hot water (IIB)
- Apply sufficient amount of liquid or foam soap to cover all surfaces of the hands and wrists (IB)
- The soap solution must come into contact with all surfaces of the hands and wrists (II\*)
- Rub hands together vigorously for a minimum of 15 seconds<sup>k</sup> (II\*)
- Rinse hands thoroughly (II\*)
- Do not use clean hands to turn off taps (IB)
- If taps are not hands-free, use paper towel to turn off tap (IB)
- Dry hands thoroughly with disposable paper towels (IB)
- Discard towel into hands-free non-risk waste bin<sup>l</sup> (II\*)

*Refer to Appendix 3.3.2 for WHO poster on hand washing technique*

## 2.6 Surgical hand preparation (may also be referred to as surgical hand hygiene)

- Surgical hand preparation should be performed using either an antimicrobial soap or an alcohol-based hand rub with persistent antimicrobial activity (surgical hand rub) prior to donning sterile gloves when performing surgical procedures (IB)
- Do not sequentially combine surgical hand preparation with antimicrobial soap and a surgical hand rub (II)
- Remove all rings, wrist watch and bracelets (II)
- Keep fingernails short (less than 0.5cm) (II)
- Do not wear false nails or nail enhancements (e.g., gel nails) (IB)
- Do not wear nail varnish<sup>m</sup> (II\*)
- If hands are visibly soiled, wash with soap and warm water prior to surgical hand preparation (II)
- Remove debris from underneath nails using a nail cleaner (II)

### Surgical hand preparation with antimicrobial soap

- When performing a surgical hand preparation with antimicrobial soap, scrub hands and forearms for the length of time recommended by the manufacturer, usually 2-5 minutes. Longer scrub times (e.g., 10 minutes) are not necessary (IB)
- Pay special attention to nails, subungual areas, between fingers and between thumb and index finger<sup>n</sup> (II\*)
- The direction of the washing procedure is from the hands to the elbows, without returning to the cleaned hands.<sup>o</sup> Soap should be rinsed in the same manner (II\*)
- Brushes should not be used (IB)
- Dry hands and forearms with a sterile towel, from the hands to the elbows (II\*)
- Hands and forearms should be completely dry prior to donning gloves (IB)

<sup>i</sup> The SARI hand hygiene guidelines (2005)<sup>2</sup> referred to social, antiseptic and surgical hand hygiene. This categorisation has been superseded by the WHO guidelines (2009)<sup>3</sup> and the category of antiseptic handwashing is no longer relevant

<sup>j</sup> Good practice

<sup>k</sup> As there is variation between guidelines in the time for which hands should be rubbed together during hand washing with soap and water, the guideline development group agreed on a minimum of 15 seconds. WHO (2009)<sup>3</sup> recommends 40-60 seconds for the entire hand washing procedure; epic3 (2014)<sup>4</sup> recommends rubbing hands together for a minimum of 10- 15 seconds and Public Health Ontario guidelines (2014)<sup>5</sup> recommend rubbing hands together for a minimum of 15 seconds

<sup>l</sup> To prevent contamination of clean hands. SARI hand hygiene guidelines (2005)<sup>2</sup> recommend the use of hands free waste bins

<sup>m</sup> Chipped nail polish or nail polish worn for longer than 4 days can harbour microorganisms that are not removed by hand hygiene. SARI hand hygiene guidelines (2005)<sup>2</sup>, NICE Clinical Guideline 2 (2012)<sup>3</sup> and epic3 (2014)<sup>4</sup> recommend that nail polish is not worn

<sup>n</sup> To ensure effective surgical hand preparation. Recommended in Public Health Ontario guidelines (2014)<sup>5</sup>

<sup>o</sup> To prevent contamination of clean hands and forearms

**Surgical hand rub with an alcohol-based hand rub with persistent antimicrobial activity**

- When performing a surgical hand rub with an alcohol-based hand rub with persistent antimicrobial activity, follow the manufacturer's instructions for application times (II)
- Hands and forearms should be dry before alcohol hand rub is applied (IB)
- Use sufficient product to keep hands and forearms wet with the hand rub throughout the surgical hand rub procedure (IB)
- After the surgical hand rub, allow the hands and forearms to dry completely prior to donning gloves (IB)

## 2.7 Prevention of skin damage

- Educate staff about the potentially damaging effects of hand hygiene products and about practices to reduce the risk of skin damage (IB)
- Use an emollient hand cream frequently (IA)
- Avoid using hot water for hand washing (IB)
- Avoid using soap and alcohol hand rub at the same time (II)
- After hand washing, dry hands thoroughly with a patting motion rather than rubbing<sup>p</sup> (II\*)
- Avoid donning gloves while hands are wet<sup>q</sup> (II\*)
- Avoid prolonged and inappropriate use of gloves<sup>q</sup> (II\*)
- Consult the occupational health team or a general practitioner if skin irritation occurs from use of hand hygiene products in the healthcare setting<sup>r</sup> (II\*)
- Provide alternative hand hygiene products for healthcare workers with confirmed allergies or adverse reactions to standard products used in the healthcare setting (II)

## 2.8 Hand hygiene facilities

**Alcohol hand rub**

- Alcohol hand rub should be made available at the point of care in all healthcare facilities<sup>s</sup>(IB)
- A risk assessment should be performed to ensure that there is no risk of accidental or intentional ingestion of alcohol hand rub at the point of care by the individual patient<sup>r</sup> (II)
- Alcohol hand rub used in healthcare settings should conform to the national specification for alcohol-based hand hygiene products<sup>t</sup> (II\*)
- Disposable single use alcohol hand rub cartridges or containers should be used (II\*)

**Hand washing facilities<sup>u</sup>**

- Clinical hand wash sinks should be independent of patient and/or en-suite sinks<sup>v</sup>
- Clinical hand wash sinks should be dedicated for hand washing only<sup>w</sup> and labelled accordingly
- Clinical hand wash sinks should conform to HBN 00-10 Part C Sanitary Assemblies<sup>x</sup>
- Clinical hand wash sinks should be accessible and should not be situated behind curtain rails<sup>v</sup>
- Clinical hand wash sinks should be located so that they are convenient for use<sup>v</sup>
- Liquid or foam soap, disposable paper towels and warm water should be provided<sup>y</sup>
- Hand driers should not be used in clinical areas (II\*)

<sup>p</sup> To reduce friction of the skin. Recommended in SARI hand hygiene guidelines (2005)<sup>2</sup>

<sup>q</sup> To reduce hand irritation

<sup>r</sup> Good practice

<sup>s</sup> Personal alcohol hand rub, wall mounted dispenser, container fixed to patient bed, patient locker, dressing or medicine trolley, or BP/temperature apparatus, as appropriate

<sup>t</sup> National specification for AHR

<sup>u</sup> The WHO guidelines do not give detailed guidance on hand washing facilities in developed countries. The subcommittee agreed to update the recommendations in the existing national guidelines in line with the SARI Infection Prevention and Control Building Guidelines for Acute Hospitals in Ireland (2009), and other relevant UK Health Building Notes (HBN) and Health Technical Memoranda (HTM). The document from which each recommendation is taken is referenced

<sup>v</sup> HBN 00-09: Infection control in the built environment. Department of Health (UK). 2013

<sup>w</sup> Public Health Ontario guidelines (2014)<sup>5</sup>

<sup>x</sup> HBN 00-10 Part C: Sanitary assemblies. Department of Health (UK). 2013

<sup>y</sup> Recommendation of the guideline development group

- Disposable single use soap cartridges or containers should be used (II\*)
- Taps should be hands-free<sup>v</sup>
- A clinical hand wash sink should be provided in each single-bed patient room<sup>v,z</sup>, with the exception of mental health and learning disability settings<sup>v</sup>
- A clinical hand wash sink should be available by each bed space in intensive care and high-dependency units<sup>v</sup>
- A minimum of one clinical hand wash sink should be provided in each multi-bed room, with at least one sink per 4-6 beds. The requirement for additional sinks should be determined by local risk assessment, which should take into account the room layout and the patient population<sup>aa</sup>
- Where clinical procedures or examination of patients is undertaken in primary care and out-patient settings, a clinical hand wash sink should be provided where the procedure or examination is carried out<sup>v</sup>
- Where the location, number or type of clinical hand wash sinks does not conform to the guidelines, a risk assessment must be carried out and a remedial programme agreed locally (II\*)

### Emollient hand creams

- Emollient hand creams which are compatible with the hand hygiene products in use should be available in all clinical care areas (IA)
- Emollient hand creams should be provided in a wall mounted or pump dispenser. Disposable single use cartridges or containers should be used (II\*)

## 2.9 Audit of hand hygiene

- Regular audits of hand hygiene (the nature of which should be determined locally) with feedback should take place in all healthcare settings, and should be linked to an improvement programme (IA)
- Hand hygiene audits should form part of a broader programme of surveillance and audit (II\*)
- Audits should be performed in a standardised manner so that results can be compared over time (II\*)
- Results should be reported to senior management, clinicians and the infection prevention and control committee (where present) (II\*)

*Refer to Appendix 3.5 for suggested audit measures*

## 2.10 Hand hygiene education<sup>bb</sup>

- Completion of hand hygiene education for healthcare workers should be mandatory at induction and at least every two years thereafter (II\*)
- Hand hygiene education should be a mandatory component of all clinical course curricula and should be delivered to students prior to clinical placement (II\*)
- Adherence to appropriate hand hygiene should be assessed as part of the final clinical/professional examination (II\*)
- Content and learning outcomes should include the importance of hand hygiene, the evidence base for hand hygiene, the indications for hand hygiene (including the WHO 5 moments for hand hygiene), the choice of hand hygiene product, preparation for hand hygiene, technique for hand washing and use of alcohol hand rub, practical demonstration, and prevention of skin damage (II\*)
- The content and duration of hand hygiene education should be tailored to the particular healthcare setting and to the degree of clinical contact by healthcare workers (II\*)
- Education can be delivered face-to-face, by an e-learning programme or by a combination of both (II\*)

## 2.11 Patient participation in hand hygiene

- Patients, relatives and carers should be provided with information about the need for hand hygiene and how to keep their hands clean<sup>cc</sup> (II\*)
- Patients should be offered the opportunity to clean their hands before meals, after using the toilet, commode, bedpan or urinal, if involved in a clinical procedure and at other times, as appropriate<sup>cc</sup> (II\*)

<sup>v</sup> SARI. Infection prevention and control building guidelines for acute hospitals in Ireland. HPSC. 2009

<sup>aa</sup> HBN 00-09: Infection control in the built environment recommends two clinical hand wash basins in multi-bed rooms. The existing national guidelines recommend a minimum of one sink per 4-6 patients. As multi-bed rooms may have as little as two beds and as infrequently used sinks can encourage colonisation with *Legionella* and other microorganisms, the subcommittee agreed to recommend a minimum of one sink per multi-bed room, based on local risk assessment.

<sup>bb</sup> Recommendations of the guideline development group

## 2.12 Promotion of hand hygiene

- A multimodal hand hygiene improvement strategy, such as that developed by WHO<sup>dd</sup>, should be used in all healthcare services (IB)

## 2.13 Implementation of recommendations

- The CEO/General Manager of each healthcare facility/service has overall responsibility for implementation of these recommendations, including the provision of the resources necessary for implementation
- Each healthcare worker is responsible for performing appropriate hand hygiene during all aspects of patient care to reduce the risk of HCAI and AMR
- Each healthcare worker is responsible for ensuring that they complete mandatory hand hygiene education

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<sup>dd</sup>Recommended in epic3 (2014)<sup>4 dd</sup> A guide to the implementation of the WHO multimodal hand hygiene improvement strategy

# Appendices

## 3.1 Guideline development group membership

<b>Ms. Michelle Bergin</b>	Assistant Director of Nursing, Midlands Regional Hospital
<b>Ms. Roisin Breen</b>	Programme Manager, HCAI and AMR Clinical Programme
<b>Ms. Geraldine Crowley</b>	Clinical Nurse Specialist Infection Prevention and Control, Milford Care Centre (from September 2014)
<b>Dr. Rob Cunney</b>	National Clinical Lead for HCAI and AMR and Consultant Microbiologist, HPSC and Children's University Hospital, Temple Street (from October 2014)
<b>Ms. Margaret Dawson</b>	Director, MRSA and Families Network
<b>Ms. Sheila Donlon</b>	Infection Prevention and Control Nurse Manager, HPSC
<b>Dr. Susan FitzGerald</b>	Consultant Microbiologist, St. Vincent's University and St. Columcille's Hospitals (Chair)
<b>Dr. Fidelma Fitzpatrick</b>	National Clinical Lead for HCAI and AMR and Consultant Microbiologist, HPSC and Beaumont Hospital
<b>Ms. Maire Flynn</b>	ACNM3, Tralee Community Nursing Unit, (until September 2014)
<b>Ms. Margaret Nadin</b>	Project Manager (NMPD, Dublin, NE)
<b>Ms. Mary Francis O'Reilly</b>	Director NMPDU, HSE West Mid West
<b>Mr. Ajay Oza</b>	Surveillance Scientist, HPSC
<b>Ms. Maura Smiddy</b>	Department of Epidemiology and Public Health, UCC

## 3.2 Consultation process

The updated guidelines were circulated for consultation to the following groups in October 2014. Feedback from the consultation exercise was considered by the subcommittee in November 2014. The agreed guidelines were approved by the RCPI Clinical Advisory Group on HCAI and AMR in January 2015.

<p><b>Patients and members of the public</b></p>	<p>Publication on HSE website HSE patient advocacy Irish Patient Association</p>
<p><b>Clinical leaders and healthcare managers</b></p>	<p>HSE clinical directors HSE clinical leads and programme managers HSE regional quality and risk managers HSE regional HCAI committees Office of the nursing and midwifery services director</p>
<p><b>National committees</b></p>	<p>RCPI clinical advisory group on HCAI and AMR</p>
<p><b>Professional and other groups</b></p>	<p>Health Protection Surveillance Centre Irish College of General Practitioners Irish Society of Clinical Microbiologists Infection Prevention Society Irish Infection Society RCPI Faculty of Pathology RCPI Faculty of Public Health Medicine RCPI Faculty of Occupational Medicine Royal College of Surgeons in Ireland (RCSI)</p>

### 3.3 Hand hygiene technique posters

There is some variation in published hand hygiene techniques; the key element is that all surfaces of the hands and wrists are covered with hand hygiene product (alcohol hand rub or soap). The WHO hand hygiene techniques are shown below.

#### 3.3.1 WHO how to handrub

# How to Handrub?

**RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED**

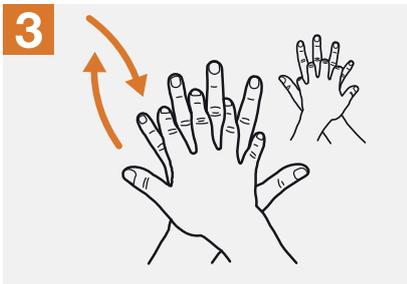
 **Duration of the entire procedure: 20-30 seconds**



**1a** Apply a palmful of the product in a cupped hand, covering all surfaces;



**2** Rub hands palm to palm;



**3** Right palm over left dorsum with interlaced fingers and vice versa;



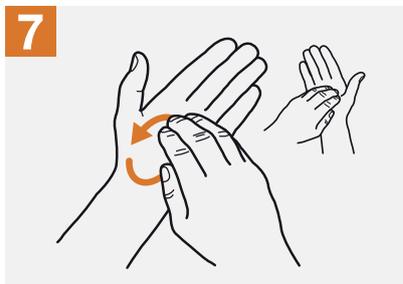
**4** Palm to palm with fingers interlaced;



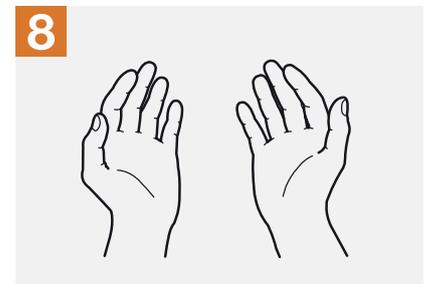
**5** Backs of fingers to opposing palms with fingers interlocked;



**6** Rotational rubbing of left thumb clasped in right palm and vice versa;



**7** Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;

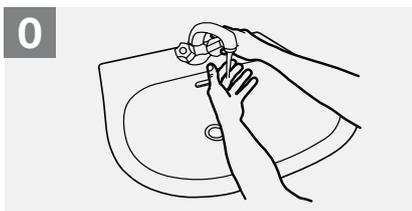


**8** Once dry, your hands are safe.

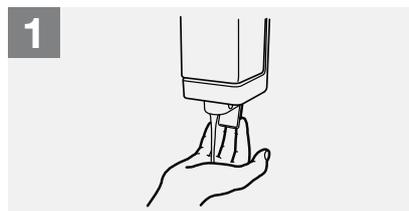
# How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

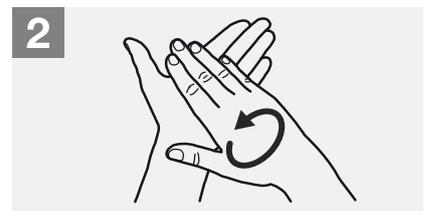
 **Duration of the entire procedure: 40-60 seconds**



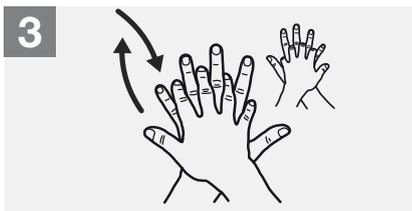
Wet hands with water;



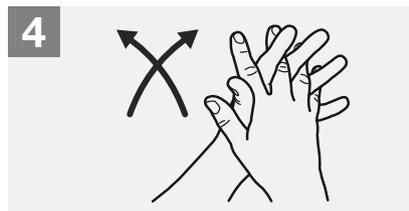
Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



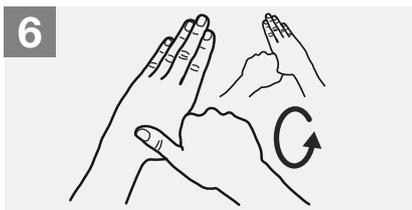
Right palm over left dorsum with interlaced fingers and vice versa;



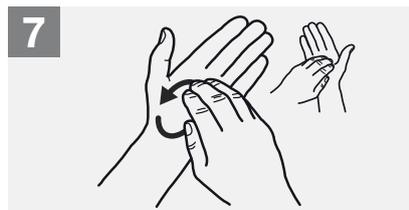
Palm to palm with fingers interlaced;



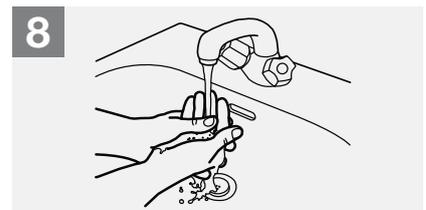
Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



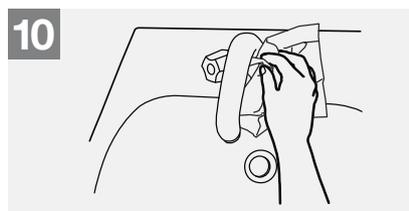
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



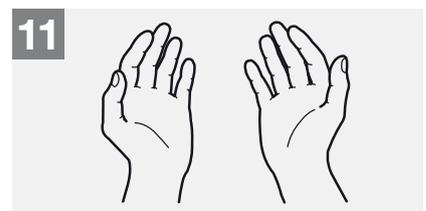
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

### 3.4 Useful resources

<p>Educational resources</p> <ul style="list-style-type: none"> <li>• Patients and the public</li> <li>• Healthcare staff</li> </ul>	<p>National Healthcare Charter <a href="http://www.hse.ie">www.hse.ie</a></p> <p>Factsheet <a href="http://www.hpsc.ie">www.hpsc.ie</a></p> <p>Resources for primary and secondary schoolchildren <a href="http://www.e-bug.eu">www.e-bug.eu</a></p> <p>WHO hand hygiene technical reference manual</p> <p>Videos and posters for hospital and primary care settings  <a href="#">HSE hand hygiene page</a>  <a href="#">HPSC posters and video</a>  <a href="#">WHO 5 moments poster</a></p> <p>5 moments game for staff in acute and non acute settings  <a href="http://www.npsa.nhs.uk">Wi-five game on www.npsa.nhs.uk</a></p> <p>HSE land e-learning <a href="http://www.hseland.ie">www.hseland.ie</a></p> <p>Newsletters <a href="http://www.hpsc.ie">www.hpsc.ie</a></p>
<p>Audit and improvement</p>	<p>HSE hand hygiene audit tool, SOP and data collection forms <a href="http://www.hpsc.ie">www.hpsc.ie</a></p> <p>WHO tools and resources <a href="http://www.who.int">www.who.int</a></p> <p>WHO hand hygiene self assessment framework. WHO. 2010</p> <p>A guide to the implementation of the WHO multimodal hand hygiene improvement strategy. WHO. 2009</p> <p>Template action plan for the implementation of the WHO multimodal hand hygiene improvement strategy. WHO. 2009</p> <p>Sustaining improvement – additional activities for consideration by healthcare facilities. WHO. 2009</p>
<p>Hand hygiene facilities</p>	<p>Health Building Note 00-09 Infection control in the built environment. Department of Health (UK). 2013</p> <p>Health Building Note 00-10 Part C: Sanitary Assemblies. Department of Health (UK). 2013</p> <p>SARI. Infection Prevention and Control Building Guidelines for Acute Hospitals in Ireland. Health Protection Surveillance Centre. 2009</p>

## Other relevant guidelines and key documents

National Clinical Programme on HCAI and AMR  
[www.hse.ie/hcai](http://www.hse.ie/hcai)

WHO. Guidelines on Hand Hygiene in Health Care. WHO. 2009

WHO Hand hygiene in outpatient and home-based care and long-term care facilities. WHO. 2012

Infection prevention and control for primary care in Ireland. A guide for general practice. HSE. 2013

Infection: prevention and control of healthcare-associated infections in primary and community care. Partial update of NICE Clinical Guideline 2. National Clinical Guideline Centre. 2012

Loveday HP, Wilson JA, Pratt RJ, Golsorki M, Tingle A, Bak A *et al.* epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *J Hosp Inf.* 2014;86 Suppl 1:S1-70

Provincial Infectious Diseases Advisory Committee. Best Practices for Hand Hygiene in all Health Care Settings, 4<sup>th</sup> edition. Public Health Ontario. 2014

Ellingson K, Haas JP, Aiello AE, Kusek L, Maragakis LL, Olmsted RN *et al.* Strategies to prevent healthcare-associated infections through hand hygiene. *Infect Control Hosp Epidemiol.* 2014;35(8):937-60.

National specification for alcohol-based hand hygiene products  
[www.hpsc.ie](http://www.hpsc.ie)

National standards for safer better healthcare. Health Information and Quality Authority. 2012.

National standards for the prevention and control of healthcare associated infections. Health Information and Quality Authority. 2009.

### 3.5 Suggested evaluation, audit and outcome measures

#### Suggested evaluation and audit measures

Compliance of healthcare workers with hand hygiene opportunities and/or technique

Barriers to effective hand hygiene technique

Proportion of healthcare workers that have completed hand hygiene education

Healthcare worker knowledge questionnaire

Evaluation of healthcare worker hand hygiene technique

Alcohol hand rub consumption

Soap consumption

Hand hygiene facilities

Availability of alcohol hand rub at point of care

Location of hand hygiene posters

Patient questionnaire

#### Suggested outcome measures

Facility/unit acquired *Clostridium difficile* infection

Facility/unit acquired multidrug resistant organisms (e.g., MRSA)

Facility/unit acquired catheter related bloodstream infections

### 3.6 Ranking of evidence explanation

Each recommendation is ranked, based on the ranking of evidence system used in the WHO Guidelines for Hand Hygiene in Health Care (2009)<sup>1</sup>, with the addition of a fifth category (II\*).

Category	Criteria
IA	Strongly recommended for implementation and strongly supported by well-designed experimental, clinical or epidemiological studies
IB	Strongly recommended for implementation and supported by some experimental, clinical or epidemiological studies and a strong theoretical rationale
IC	Required for implementation, as mandated by federal and/or state regulation or standard
II	Suggested for implementation and supported by suggestive clinical or epidemiological studies or a theoretical rationale or a consensus by a panel of experts
II*	Recommended by the guideline development group

## 3.7 Glossary of terms and abbreviations

### Terms

<b>Alcohol hand rub</b>	A liquid, gel or foam formulation of alcohol (e.g., ethanol, isopropanol) designed for application to the hands, which is used to reduce the number of microorganisms on hands when the hands are not visibly soiled
<b>Antimicrobial soap</b>	Soap that contains an antimicrobial agent (e.g., chlorhexidine, iodine) to reduce the number of microorganisms on the skin. Can also be referred to as antiseptic handwash solution
<b>Hand hygiene</b>	A general term referring to any action of hand cleansing. Hand hygiene can be performed using soap (plain or antimicrobial) and water, or an alcohol hand rub. Hand hygiene includes surgical hand preparation
<b>Hand washing</b>	The physical removal of microorganisms from the hands using soap and water
<b>Healthcare setting</b>	Any location where healthcare is provided, including settings where emergency care is provided, hospitals, general practice, long-term care facilities, mental health facilities, community health centres and clinics, physician offices, dental offices, and home care
<b>Liquid soap</b>	Liquid detergent that contains no added antimicrobial agents, or may contain these solely as preservatives
<b>Patient environment</b>	The immediate space around a patient (or client or resident) that may be touched by the patient (or client or resident) and may also be touched by the healthcare worker. In a single room, the patient environment is the room. In a multi-bed room, the patient environment is the area inside the individual's curtain. In a nursery/neonatal setting, the patient environment includes the inside of the cot or incubator, as well as the equipment outside the cot or incubator used for that infant (e.g., ventilator, monitor)
<b>Point of care</b>	The place where the three elements come together: the patient (or client or resident), the healthcare worker and care or treatment involving contact with the patient (or client or resident) or his/her surroundings
<b>Surgical hand antisepsis</b>	See surgical hand preparation
<b>Surgical hand hygiene</b>	See surgical hand preparation
<b>Surgical hand preparation</b>	The preparation of hands for surgery, using either an antimicrobial soap and water, or an alcohol hand rub that has persistent antimicrobial activity
<b>Surgical hand rub</b>	Surgical hand preparation with an alcohol hand rub that has persistent antimicrobial activity
<b>Visibly soiled hands</b>	Hands on which dirt or body fluids can be seen

## Abbreviations

<b>AHR</b>	Alcohol handrub
<b>AMR</b>	Antimicrobial resistance
<b>CEO</b>	Chief Executive Officer
<b>HBN</b>	Health Building Note
<b>HCAI</b>	Healthcare-associated infection
<b>HPSC</b>	Health Protection Surveillance Centre
<b>HSE</b>	Health Service Executive
<b>HTM</b>	Health Technical Memorandum
<b>NICE</b>	National Institute for Health and Clinical Excellence (UK)
<b>SARI</b>	Strategy for Control of Antimicrobial Resistance
<b>WHO</b>	World Health Organization

## References

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1. WHO. Guidelines on Hand Hygiene in Health Care. WHO. 2009
2. SARI Infection Control Subcommittee. Guidelines for Hand Hygiene in the Irish Health Care Settings. Health Protection Surveillance Centre. 2005
3. Infection: prevention and control of healthcare-associated infections in primary and community care. Partial update of NICE Clinical Guideline 2. National Clinical Guideline Centre. 2012
4. Loveday HP, Wilson JA, Pratt RJ, Golsorki M, Tingle A, Bak A *et al.* epic3: National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England. *J Hosp Inf.* 2014;86 Suppl 1:S1-70
5. Provincial Infectious Diseases Advisory Committee. Best Practices for Hand Hygiene in all Health Care Settings, 4<sup>th</sup> edition. Public Health Ontario. 2014
6. Ellingson K, Haas JP, Aiello AE, Kusek L, Maragakis LL, Olmsted RN *et al.* Strategies to prevent healthcare-associated infections through hand hygiene. *Infect Control Hosp Epidemiol.* 2014;35(8):937-60.
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