

Hand Hygiene

Custodian/Review Officer: Centre for Healthcare Associated Infection Surveillance and Prevention (CHRISP)

Version no: 1

Applicable To: All Queensland Health employees, volunteers, contractors and students engaged in contact with patients or the patient's surroundings in Queensland Health facilities.

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Accreditation References:
HQCC Hand Hygiene Standard

1 Purpose

This protocol describes the appropriate processes for hand hygiene undertaken on behalf of Queensland Health.

2 Scope

Adherence to this protocol is required by all Queensland Health employees, volunteers, contractors and students engaged in contact with patients or the patient's surroundings in Queensland Health facilities.

3 Authorising Policy and Standard

- Prevention and Control of Healthcare Associated Infection (HAI) Policy
- Prevention and Control of Healthcare Associated Infection (HAI) Standard

4 Process for Hand Hygiene

The major route of transmission of micro-organisms, including multi-resistant organisms (MRO) such as methicillin resistant *Staphylococcus aureus* (MRSA), in healthcare facilities has been determined as the unwashed hands of healthcare workers (HCWs). On average, infections affect 7% to 10% of hospital admissions.

Hand hygiene is the cornerstone of all infection prevention and control programs.

Hand hygiene is the most important measure in preventing or reducing healthcare associated infections (HAI). HCWs must perform hand hygiene before touching a patient, before a procedure, after a procedure or body fluid exposure, after touching a patient or after touching a patient's surroundings.

Other opportunities for hand hygiene include but are not limited to food preparation, linen handling and staff involved in maintenance of facilities.

Location of Dispensers

The time required for a HCW to leave a patient's bedside, go to a sink, and wash and dry their hands before attending to the next patient can be a deterrent to frequent hand cleansing. To achieve a maximum effect and optimal compliance of HCWs with hand hygiene, alcohol-based hand hygiene products should be easily available through dispensers placed:

- close to the point of care

OR

- next to each patient's bed

OR

- attached to the frame of patient's beds

AND

- near the door to each patient room

AND

- at staff stations or chart and medication trolleys

AND

- not adjacent to sinks avoiding any confusion between soap and alcohol-based hand hygiene products

Continual monitoring needs to be undertaken to ensure alcohol-based hand hygiene product is not removed and bottles are replaced regularly. Refer to the Fire and Safety Issues fact sheet for detailed information on product placement and Occupational Health and Safety considerations. Available from:

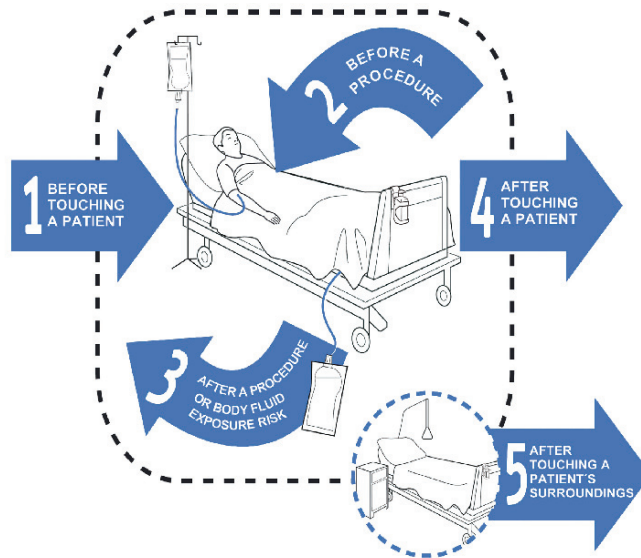
http://www.health.qld.gov.au/chrisp/hand_hygiene/safety.pdf

The 5 Moments for Hand Hygiene are described in Figure 1¹. For more detailed information on implementation and auditing hand hygiene compliance refer to the Hand Hygiene Australia (HHA) 5 Moments for Hand Hygiene Manual available from:

<http://www.hha.org.au/ForHealthcareWorkers.aspx#Manual>

Figure 1

5 Moments for HAND HYGIENE



There are three types of hand hygiene techniques:

1. Routine/Social – soap and water or alcohol-based hand product
2. Aseptic/Clinical
3. Surgical

4.1 Routine/Social Hand Hygiene¹⁻²

Plain liquid soaps have minimal, if any, antimicrobial activity and are suitable for routine/social handwashing. Handwashing with plain liquid soap can remove dirt, soil, and various organic substances from the hands and loosely adherent transient flora (micro-organisms).

Refer to the HHA 5 Moments for Hand Hygiene Manual to determine when to perform hand hygiene. Available from:

<http://www.hha.org.au/ForHealthcareWorkers.aspx#Manual>

Routine/Social Hand Hygiene - Soap and Water:

1. Remove jewellery
2. Wet hands thoroughly and lather vigorously using a neutral pH liquid soap for 15-30 seconds
3. Rub hands palm to palm
4. Right palm over left dorsum with interlaced fingers and vice versa
5. Palm to palm with fingers interlaced
6. Backs of fingers to opposing palms with fingers interlocked
7. Rotational rubbing of left thumb clasped in right palm and vice versa
8. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa
9. Rinse under running water

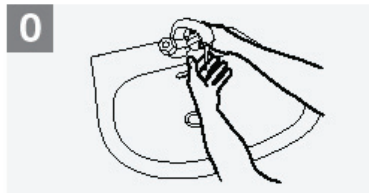
10. Do not touch taps with clean hands – if elbow or foot controls are not available, use paper towel to turn off taps
11. Pat hands dry using paper towel
12. Hand Wash posters (Figure 2) are available from:
http://www.health.qld.gov.au/chrisp/hand_hygiene/How_To_HandWash_web.pdf

Figure 2

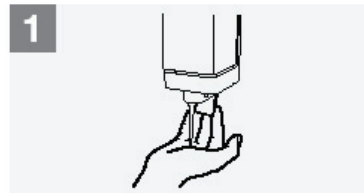
How to Handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

 Duration of the entire procedure: 40-60 seconds



Wet hands with water;



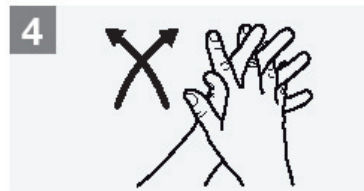
Apply enough soap to cover all hand surfaces;



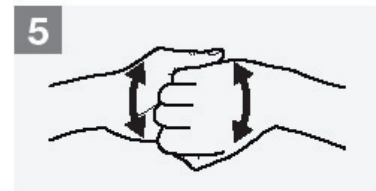
Rub hands palm to palm;



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



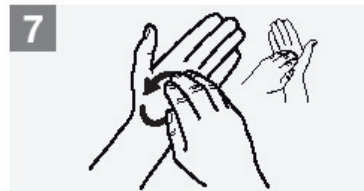
Palm to palm with fingers interlaced;



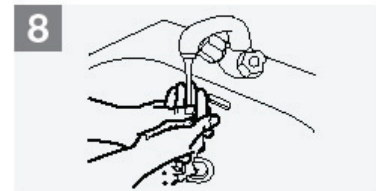
Backs of fingers to opposing palms with fingers interlocked;



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



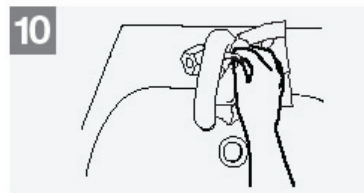
Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



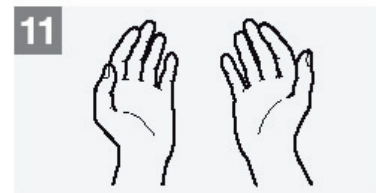
Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

Clean hands are life savers



Routine/Social Hand Hygiene - Alcohol-based hand product (ABHP)

ABHPs are more effective against most bacteria and many viruses than either plain liquid soap or antimicrobial soap ¹. If hands are visibly soiled they must be washed with soap and water.

1. Remove jewellery
2. Apply quantity of alcohol-based hand hygiene product as per manufacturer's recommendations into cupped hand
3. Rub hands palm to palm
4. Right palm over left dorsum with interlaced fingers and vice versa
5. Palm to palm with fingers interlaced
6. Backs of fingers to opposing palms with fingers interlaced
7. Rotational rubbing of left thumb clasped in right palm and vice versa
8. Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa
9. Rubbing hands together until hands are dry before continuing with patient care, do not rub off excess product
10. Alcohol based hand rub posters (Figure 3) are available from:
http://www.health.qld.gov.au/chrisp/hand_hygiene/How_To_HandRub_web.pdf

Figure 3

How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

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

<p>1a</p> 	<p>1b</p> 	<p>2</p> 
<p>Apply a palmful of the product in a cupped hand, covering all surfaces;</p>	<p>Rub hands palm to palm;</p>	<p>Rub hands palm to palm;</p>
<p>3</p> 	<p>4</p> 	<p>5</p> 
<p>Right palm over left dorsum with interlaced fingers and vice versa;</p>	<p>Palm to palm with fingers interlaced;</p>	<p>Backs of fingers to opposing palms with fingers interlocked;</p>
<p>6</p> 	<p>7</p> 	<p>8</p> 
<p>Rotational rubbing of left thumb clasped in right palm and vice versa;</p>	<p>Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;</p>	<p>Once dry, your hands are safe.</p>

Clean hands are life savers



4.2 Aseptic/Clinical Hand Hygiene¹⁻²

Aseptic/Clinical hand hygiene is undertaken to remove transient micro-organisms and inhibit the growth of resident micro-organisms prior to any care activity that implies a direct or indirect contact with a mucous membrane, non-intact skin or an invasive medical device. During such a procedure no micro-organisms should be transmitted³.

1. Remove jewellery
2. Wash hands thoroughly using an antimicrobial soap (e.g. chlorhexidine gluconate 2% soap) for one minute using the technique outlined in Routine/Social Hand Hygiene
3. Rinse carefully
4. Do not touch taps with clean hands – if elbow or foot controls are not available, use paper towel to turn off taps
5. Pat dry hands using clean paper towels

4.3 Surgical Hand Wash (extracted from ACORN Standards 2008)⁴

- A five minute scrub which includes cleaning of the fingernails is to be undertaken as the first scrub of the day
- Subsequent scrubs of three minutes duration (which omit the fingernails) are undertaken between cases
- Hands are kept higher than the elbows at all times to allow water to run in one direction only – from clean to dirty (hands to elbows)
- The bristles of the nail brush are used to clean the fingernails only
- Arms are washed in a circular motion, from the hands to the elbows without returning to the hands
- The antimicrobial soap used for the first scrub of the day should continue to be used for subsequent scrubs

Procedure: first scrub of the day five minutes:

Step 1: Duration 1 minute

1. Open and prepare a nail cleaner and scrub brush for later use. Note: single use disposable brush/sponges impregnated with antimicrobial soap are also available.
2. Rinse the hands and arms and wash with sufficient antimicrobial soap to ensure adequate skin coverage to 2.5 cm above the elbow and contact time with the antimicrobial soap
3. With the hands under gently running water, use the nail cleaner to remove debris from underneath the fingernails. The antimicrobial soap is left in contact with the forearms while the fingernails are cleaned
4. When finished with the nail cleaner discard in a safe manner and rinse the hands and forearms

Step 2: Duration 2 minutes

5. Apply antimicrobial soap to the bristles of the scrub brush and continue cleaning the fingernails.
6. Apply antimicrobial soap to the sponge side of the brush and wash all surfaces of hands and forearms working from the nail beds and between fingers before proceeding to wash the forearms (to the level of the elbow) using circular hand motions. Apply more antimicrobial soap if necessary. On completion, dispose of the scrub brush in a safe manner and rinse the hands and forearms.

Step 3: Duration 2 minutes

7. Hands and forearms are washed again using the same principles and procedures above, but stopping at mid forearm. On completion, rinse the hands and forearms.
8. Hands are washed again using the same principles and procedures.
9. Finally, the hands and forearms are rinsed thoroughly.
10. Remain at the scrub sink until the hands and arms are free of excess water, being careful to avoid splash, contamination or injury on wet surfaces.
11. Approach the gown trolley and grasp the sterile towel by one corner, being careful to avoid contamination of the sterile field with drips from hands (which are clean, not sterile)
12. Step back from the sterile field and with hands outstretched, allow the towel to unfold, being careful to avoid contamination by contact with unsterile scrub attire.
13. Using one half of the unfolded towel as a barrier between hands, pat dry or wipe the opposite fingers and hand, moving down the forearm to the elbow in a circular motion, without returning to the hand. This half of the towel comes in contact with skin above the elbow and is not used again.
14. Grasp the opposite half of the towel and release the contaminated half. Pat dry or wipe the opposite fingers and hand, moving down the forearm to the elbow in a circular motion, without returning to the hand.
15. Drop the used towel into an appropriate container being careful to avoid contamination from further handling of the towel. Hands are to remain above the waste level and away from the unsterile scrub suit at all times.

Procedure: subsequent scrubs of the day three minutes:

Step 1: Duration two minutes

1. Preliminary step: Rinse the hands and arms and wash with sufficient antimicrobial soap to 2.5cm above the elbows (20 seconds). This preliminary step ensures adequate skin coverage and contact time during Step 1.
2. Without rinsing, apply additional antimicrobial soap and wash all surfaces of hands and forearms working from nail beds and between fingers before proceeding to wash the forearms (to the level of the elbows) using circular motions. Apply more antimicrobial soap if necessary.
3. On completion, rinse the hands and forearms

Step 2: Duration one minute

4. Hands and forearms are washed again using the same principles and procedures above, but stopping at mid forearm. On completion rinse the hands and forearms. Finally, the hands and forearms are rinsed thoroughly and steps 10-15 above are followed

5 Supporting Documents

- Hand Hygiene Australia 5 Moments for Hand Hygiene

6 Definition of terms

Term	Definition	Source	See also
Aseptic Procedure	Any care activity that implies a direct or indirect contact with a mucous membrane, non-intact skin, an invasive medial device. During such a procedure no germs should be transmitted.	WHO Hand Hygiene: Why, How & When? Available from: http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf	<ul style="list-style-type: none"> • Procedure Hand Hygiene • Clinical/Aseptic Hand Hygiene

7 References and Suggested Reading

1. Commonwealth of Australia. Hand Hygiene Australia 5 Moments for Hand Hygiene. [Online] 2009 Jul [cited 2010 May 10]; Available from: URL: [http://www.hha.org.au/UserFiles/file/Manual/ManualJuly2009v2\(Nov09\).pdf](http://www.hha.org.au/UserFiles/file/Manual/ManualJuly2009v2(Nov09).pdf)
2. Australian Government Department of Health and Ageing. Infection Control Guidelines. [Online] 2008 Mar [cited 2010 May 10]; Available from: URL: <http://www.health.gov.au/internet/main/publishing.nsf/Content/icg-guidelines-index.htm>
3. World Health Organisation. Hand Hygiene. Why, How and When? [Online] 2009 Aug [cited 2010 July 28]; Available from URL: http://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf
4. Australian College of Operating Room Nurses. ACORN Standards for Perioperative Nursing 2008: including Nursing Roles, Guidelines and Position Statements. South Australia: The Australian College of Operating Room Nurses Ltd Adelaide; 2008.

8 Consultation

Key stakeholders (position and business area) who reviewed this version are:

- Infection Control Practitioners

9 Procedure Revision and Approval History

Version No	Modified by	Amendments authorised by	Approved by

