



Procedure for Hand Hygiene

CATEGORY:	Procedure
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PURPOSE	To reduce the risk of cross infection to staff, patients and the general public
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Contents

Paragraph		Page
1	Introduction	3
2	Microbiology of the Hands	3
3	Aim of Effective Hand Disinfection	4
4	Basic Rules of Hand washing	4
5	Correct Hand Washing Technique	5
6	Looking After Your Hands	6
7	Hand Cleansing Products	7
8	Easy Access to Hand Decontamination	9
9	Advantages of Cleaning Hands with Alcohol Based Hand Rubs	9
10	Surgical Scrub	10
11	References	11
Appendix A	Hand Cleaning Techniques	13
Appendix B	WHO 5 Moments of Hand Hygiene	14
Appendix C	How to perform surgical hand preparation.	15
Appendix D	Surgical Scrub Flowchart	16
Appendix E	Hand Wash Flowchart	17

Version Control

Version	Title	Issue Date
1	Infection Control procedure for Hand Hygiene	July 2008
2	Procedure for Hand Hygiene	18/09/2009
3	Procedure for Hand Hygiene	19/07/2011
4	Procedure for Hand Hygiene	19/06/2013
5	Procedure for Hand Hygiene	31/05/2016
6	Procedure for Hand Hygiene	16/03/2022

1. Introduction

- 1.1 The purpose of this procedure is to reduce the risk of cross-infection to staff, patients and the general public.
- 1.2 The procedure forms the essence of infection control practice. It informs Trust staff of the availability and appropriate use of hand decontamination agents in use throughout the Trust. Effective hand hygiene can only be achieved if nails remain short, jewellery and clothing does not interfere with hand decontamination and skin care is maintained
 - 1.1.1. Many studies have confirmed that health care workers can reduce hospital infection rates by decontaminating their hands between patients.
 - 1.1.2. The terms 'Healthcare associated infection or 'nosocomial infection' are used to describe any infection that is known to be associated with healthcare facilities. The causative organism may have been acquired from another person either directly or indirectly (cross infection), or was one that the patient themselves was formerly carrying in another site (self-infection or auto infection).
 - 1.1.3. Cross infection in hospitals is most commonly spread by contaminated hands and equipment. Some micro-organisms will inhabit and multiply on skin; these are known as resident flora or commensals. Others will be picked up by contact and passed on by contact; these are known as transient micro-organisms.
 - 1.1.4. The term 'hand hygiene' includes both hand washing with both soap and water or the use of alcohol based products containing emollients that do not require the use of water.
 - 1.1.5. University Hospitals Birmingham NHS Foundation Trust (UHBFT) encourages patients to 'speak up'. Remember you may be challenged by patients if they do not see you wash/decontaminate your hands.

2. Microbiology of the Hands

2.1 There are two types of micro-organisms which make up the skin flora – resident (or colonising) flora and transient (or contaminating) flora. The differences between the two types of micro-organisms are:

Flora	Features
Resident	Live and grow on normal skin. Consist almost exclusively of coagulase-negative staphylococci, <i>Staphylococcus aureus</i> and micrococci together with smaller numbers of

	diphtheroid (or 'coryneform') bacilli. Protect skin from invasion by other harmful species. Difficult to remove. Minimal pathogenicity but can cause infection during invasive procedures.
Transient	Do not normally colonise the skin. Acquired on hands through contact with other sites on the same individual, other people or the environment (cross-infection). Easy to remove by hand washing.

2.2 The most important way to minimise the risk of skin damage is to use hand creams with an oil/water base. This should be applied regularly to the hands and forearms to protect the skin from the drying effects of regular hand decontamination. These are supplied by the Trust.

3. Aim of Effective Hand Disinfection

The aim of hand disinfection is to significantly reduce the carriage of potential micro-organisms on the hands. The extent of micro-organism reduction required depends on the type of hand disinfection used.

4. Basic Rules of Hand Washing

4.1. Sinks

Sinks for washing hands must be used solely for that purpose and not for disposing of liquids.

4.2. Bare Below the Elbow

For clinical staff who do not wear a short sleeved uniform, sleeves of their own clothing must be either short or rolled up above the elbow.

4.3. Fingernails and Artificial Nails

- 4.3.1. Natural nail tips should be kept short; they should not be visible when viewing the hand from the palm side.
- 4.3.2. Nail varnish or false nails must not be worn by clinical staff or those dealing with food.

4.3 Nail Brushes

Nail brushes should not be used outside of theatre (or areas where surgical scrubbing is required). They must be soft bristled; single use (used once and disposed of). During the scrub process nail brushes must never be used on skin.

4.4 Jewellery

Page 4 of 16

- 4.4.1 When undertaking clinical work a plain metal band ring may be worn, no rings with stones or grooves are permitted.
- 4.4.2 Wrist watches must be removed.
- 4.4.3 Anyone wishing to wear particular types of clothing/jewellery for medical, religious, creed or cultural reasons will be asked to discuss with their line manager, who will seek advice from the infection prevention and control team (Please also refer to the Dress Code Policy for further information).

4.5 Skin Care

- 4.5.1 Skin should be kept in good condition.
- 4.5.2 Prevent excessive drying of skin by using emollient cream.
- 4.5.3 Any break in the skin MUST be covered with an occlusive dressing.
- 4.5.4 Cotton Liners (QEHB Site Only) It is advised that staff who have to wear cotton liners should have their duties restricted. In particular clinical duties such as changing dressings, administering medicines and inserting IV lines are to be avoided if a person has to wear cotton liners.
- 4.5.5 Frequent hand decontamination by healthcare workers may increase the risk of skin irritation, therefore, regular use of moisturisers should be undertaken to minimise the risk of skin damage and to maintain an intact barrier against water loss (Bissett, 2007).
- 4.5.6 Damaged skin is associated with changes in the composition of microbial flora of the hands such as colonisation with more species and increased prevalence of certain significant microorganisms (Gruendemann & Mangum, 2001).

4.6 Gloves

- 4.6.1 Clean hands before donning and after removing gloves.
- 4.6.2 Gloves are single use items and should not be worn for more than one task.

5. Correct Hand Washing Technique

5.1. Always wet hands under running water before applying any soap or antiseptic solution.

Page **5** of **16**

- 5.2. Hands should be thoroughly rinsed to remove residual soap.
- 5.3. Hands should be dried carefully, pat the skin dry, rather than rubbing it to avoid cracking the skin. Paying particular attention to the forearm and between the fingers.
- 5.4. See appendix A for Hand Cleaning Techniques.

6. Looking After Your Hands

6.1. Hand Creams

- 6.1.1. Hand creams with an oil/water base should be applied regularly to the hands to protect the skin from the drying effects of regular hand decontamination.
- 6.1.2. Skin moisturiser should be wall mounted or pump dispensed to reduce the risk of product contamination.
- 6.1.3. Tubes of hand cream should be for individual use only.
- 6.1.4. Moisturisers increase skin hydration contributing to the barrier function of the skin.

6.2 Causes of Skin Irritation and Dryness

- 6.2.1 Frequent hand washing with soap and water may cause skin irritation and dryness for some individuals.
 - 6.2.1.1 This can be caused by:-
 - 6.2.1.2 Applying liquid soap to dry hands.
 - 6.2.1.3 Failure to ensure soap is completely rinsed off.
 - 6.2.1.4 Failure to dry hands properly.
 - 6.2.1.5 Putting gloves on while hands are still wet from either hand washing / alcohol gel.
 - 6.2.1.6 Failure to look after hands out of work.
- 6.2.2 Frequent hand cleansing with alcohol hand rubs may cause skin irritation and dryness for some individuals. Modern alcohol based hand rub contains skin conditioners (emollients) that help prevent the drying effects of alcohol. Frequent use of alcohol gel can lead to a build-up of gel on the skin creating a film like layer reducing the effectiveness of the products action against microorganisms. To prevent this, hands should be washed with soap and water after regular use (after fourth application of alcohol hand rub).

Page **6** of **16**

7. Hand Cleansing Products

7.1. There are a range of products available for hand disinfection and the choice of product relates to the activity the healthcare worker intends to perform. The main products available can be split into three categories: soap and water, alcohol based preparations and aqueous antiseptic solutions.

7.2. Liquid Soap

- 7.2.1. The primary action of plain liquid soap is the mechanical removal of viable transient micro-organisms (Larson, 1995).
- 7.2.2. Available from the Domestic Department.
- 7.2.3. Liquid soap is dispensed from a sealed container that does not require venting or topping up thereby preventing contamination of the product.
- 7.2.4. You should decontaminate your hands with soap and water (see appendix B):
 - 7.2.4.1. After contact with a patient (environment) with a suspected or confirmed infection e.g. patients with *Clostridium Difficile* infection as the spores are resistant to alcohol gel.
 - 7.2.4.2. Before and after patient contact.
 - 7.2.4.3. Before putting on and after removing gloves.
 - 7.2.4.4. If your hands are likely to have been or are visibly contaminated with blood or body fluids.
 - 7.2.4.5. Before eating.
 - 7.2.4.6. After using the toilet.

7.3. Alcohol based Preparations

- 7.3.1. Alcohol based hand rub is used as an alternative to hand washing. Alcohol gels are not a cleansing agent and can only be used when hands are not likely to be or are visibly soiled or contaminated.
- 7.3.2. Alcohol based hand rub contains an emollient to reduce the drying effect on the skin.
- 7.3.3. Apply 1 pump from the pump dispenser to the palm of one hand.

Page **7** of **16**

- and rub hands together, ensuring that there is enough of the hand rub to cover both hands.
- 7.3.4. Cover <u>all</u> surfaces of your hand and fingers. Include areas around/under fingernails.
- 7.3.5. Continue rubbing hands together until hand rub dries.
- 7.3.6. If you have applied a sufficient amount of alcohol gel, it should take <u>at least</u> 10-15 seconds of rubbing before your hands feel dry.

7.4. Access to hand hygiene facilities.

- 7.4.1. All beds within the Trust must have alcohol based hand rub attached or positioned in an easy to access location within the bed space.
- 7.4.2. All clinical areas must have adequate wall mounted alcohol based hand rub to allow easy access during clinical procedures as advised by infection prevention and control team.
- 7.4.3. Access to hand washing sinks must be kept clear, with adequate supplies of hand decontamination supplies.

8. Advantages of Cleaning Hands with Alcohol based Hand Rubs

- 8.1. When compared to traditional soap and water hand washing; alcohol hand rubs have the following advantages:
 - 8.1.1. Take less time to use.
 - 8.1.2. Can be made more accessible than sinks.
 - 8.1.3. Cause less skin irritation and dryness.
 - 8.1.4. Are more effective in reducing the number of bacteria on hands.
 - 8.1.5. Makes alcohol based hand rubs readily available to personnel.
 - 8.1.6. Has led to improved hand hygiene practices.

9. Surgical Scrub

- 9.1. An aqueous antiseptic preparation containing Chlorhexidine is the preferred solution for surgical hand hygiene. Alcohol hand gel can be used as an alternative
- 9.2. Wristwatches and stoned rings must be removed when in the clinical

Page 8 of 16

- area especially prior to surgical hand hygiene.
- 9.3. Surgical hand hygiene must take place at least:
 - 9.3.1. Before performing or assisting with a surgical procedure including minor operations
 - 9.3.2. Between each and every surgical procedure or intervention on a theatre list
 - 9.3.3. Before significantly invasive procedures such as insertion of central lines, dialysis catheters, arterial lines or chest drains.
- 9.4. A sterile, single use, nail brush or nail pick may be used, if necessary, to clean the finger nails during the first hand hygiene of the day.
- 9.5. Routine scrubbing of the skin and nails on visibly clean hands is not necessary.
- 9.6. Hands that are decontaminated using an aqueous antiseptic preparation must be:
 - 9.6.1. Wet with warm water before the application of the aqueous antiseptic preparation
 - 9.6.2. The preparation must come into contact with all surfaces of the hands (using the 6-step method).
 - 9.6.3. Vigorously rubbed together repeatedly for a minimum of 30 seconds for each of the 6 steps
 - 9.6.4. Rinse thoroughly using warm water with hands raised so that water drains from the elbows
 - 9.6.5. Dried thoroughly using a sterile disposable paper towel beginning at the finger tips and working in one direction only towards the elbows.
- 9.7. Don gloves only when the alcohol hand gel has been sufficiently rubbed into the skin.
- 9.8. Staff that still continue to have a reaction after using Dermol 500 lotion followed by the standard Apply alcohol based hand rub (ABHR) should re-referred to OH. A change to use an alternative ABHR (e.g. Purell® hand sanitizer or Foam GOJO). This must be applied as per appendix 1.
- 9.9. See appendix D for surgical scrub flowchart.

Page 9 of 16

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Page 10 of 16

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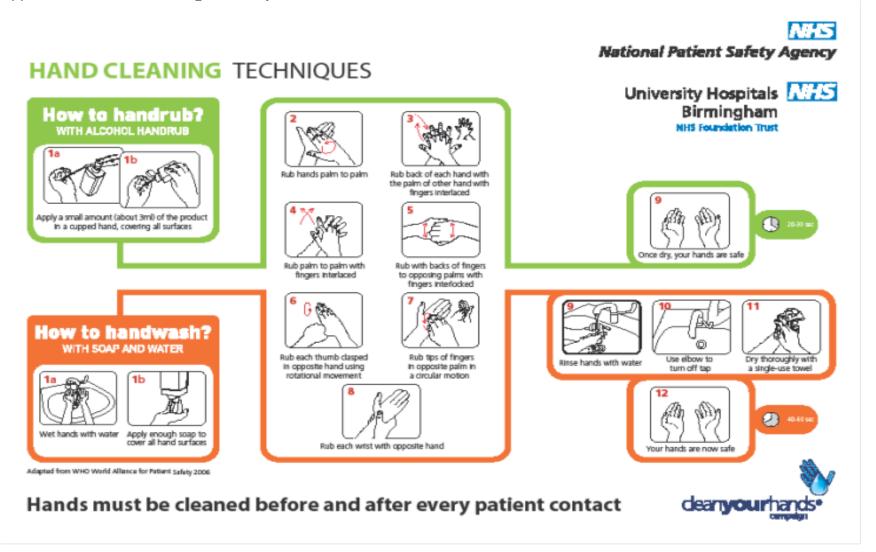
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Appendix A: Hand Cleaning Techniques

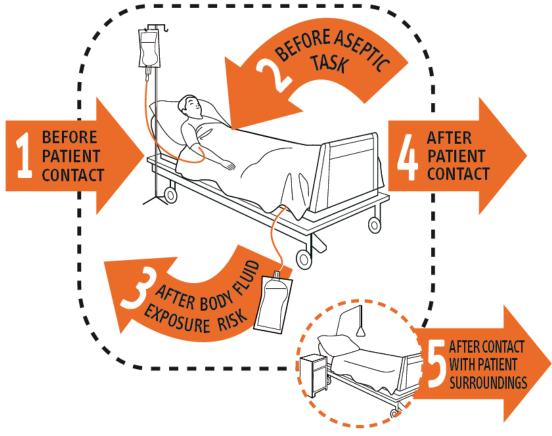


Page 12 of 16

Procedure for Hand Hygiene Issue Date: 16/03/2022

Controlled Document Number: 388 Version: 6

Your 5 moments for HAND HYGIENE



1 BEFORE PATIENT CONTACT	WHEN? Clean your hands before touching a patient when approaching him or her WHY? To protect the patient against harmful germs carried on your hands
2 BEFORE AN ASEPTIC TASK	WHEN? Clean your hands immediately before any aseptic task WHY? To protect the patient against harmful germs, including the patient's own germs, entering his or her body
3 AFTER BODY FLUID EXPOSURE RISK	WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal) WHY? To protect yourself and the health-care environment from harmful patient germs
AFTER PATIENT CONTACT	WHEN? Clean your hands after touching a patient and his or her immediate surroundings when leaving WHY? To protect yourself and the health-care environment from harmful patient germs
5 AFTER CONTACT WITH PATIENT SURROUNDINGS	WHEN? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving - even without touching the patient WHY? To protect yourself and the health-care environment from harmful patient germs

Appendix C: How to perform surgical hand preparation.

HOW TO PERFORM SURGICAL HAND PREPARATION?



Put approx. 5 ml (3 doses) of alcohol-based handrub in the palm of your left hand.



Dip the fingertips of your right hand in the handrub to decontaminate under the



Images 3-7: Smear the handrub See legend for image 3. on the right forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the handrub has fully evaporated (10-15 sec).





See legend for image 3.



See legend for image 3.



See legend for image 3.



Put approx. 5 ml (3 doses) of alcohol-based handrub in the palm of your right hand, using the elbow of your other arm to operate the dispenser.



Dip the fingertips of your left hand in the handrub to deconta- forearm up the elbow. Ensure minate under the nails (5 sec).



Smear the handrub on the left that the whole skin area is covered by using circular movements around the forearm until the handrub has fully evaporated (10-15 sec).



Put approx. 5 ml (3 doses) of alcohol-based handrub in the palm of your left hand. Rub both hands at the same time against palm with a rotating up to the wrists and ensure that all the steps represented in images 12-17 are followed (20-30 sec).



Cover the whole surface of the hands up to the wrist with alcohol-based handrub, rubbing palm right palm back and forth and



Rub the back of the left hand, including the wrist, moving the vice-versa



and forth with fingers inter-



Rub the back of the fingers by holding them in the palm of the other hand with a sideways back and forth movement. versa.



Rub the thumb of the left hand by rotating it in the clasped palm of the right hand and vice be donned.



When the hands are dry, sterile surgical clothing and gloves can

Repeat the above-illustrated sequence (average duration, 60 sec) with an alcohol-based hand rub corresponding to the total duration recommended by the manufacturer.

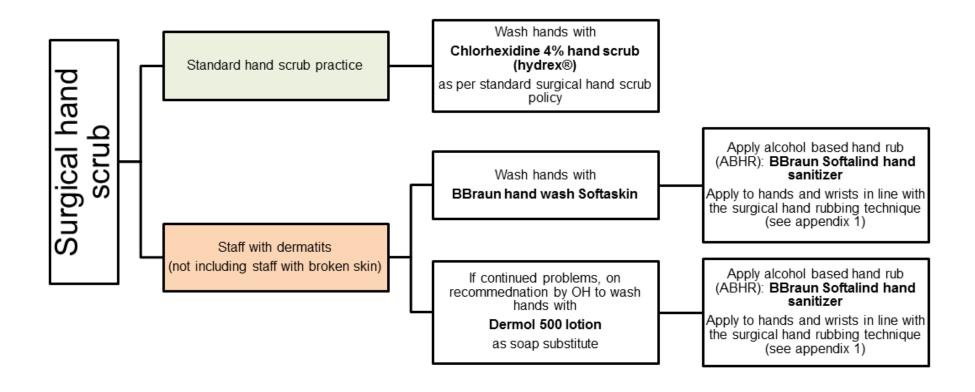
Procedure for Hand Hygiene

Controlled Document Number: 388

Issue Date: 16/03/2022

Version: 6

Appendix D: Surgical Scrub Flowchart

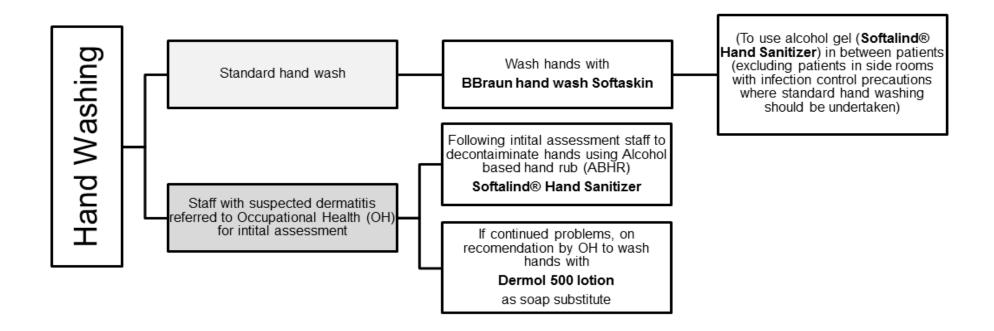


Page **15** of **16**

Procedure for Hand Hygiene Issue Date: 16/03/2022

Controlled Document Number: 388 Version: 6

Appendix E: Hand Wash Flowchart



Page **16** of **16**

Procedure for Hand Hygiene Issue Date: 16/03/2022

Controlled Document Number: 388 Version: 6