



National Policy and Procedure of Hand Hygiene



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Acronyms

ABHR	Alcohols-Based Hand Rub
CDCP	Centre for Disease Control and Prevention
DIPC	Department of Infection Prevention and Control
KPIs	Key Performance Indicators
HCF	Healthcare Facility
HCWs	Healthcare Workers
НН	Hand Hygiene
IPC	Infection Prevention and Control
ICC	Infection Control Committee
МоН	Ministry of Health
UV	Ultraviolet

1. Introduction

The Ministry of Health (MoH) is committed to ensuring the health and safety of all patients and visitors within its healthcare facilities while also maintaining a safe and healthy working environment for all staff. Hands are highly susceptible to contamination with microorganisms during healthcare delivery, making hand hygiene a critical practice. Adherence to proper hand hygiene is recognized as the most effective measure in preventing healthcare-associated infections. This policy and procedure outline the essential steps for maintaining optimal hand hygiene practices to safeguard the well-being of both patients and staff.

2. Purpose

- **2.1.** To standardize the process of Hand Hygiene in the different health care facilities.
- **2.2.** To ensure compliance of hand hygiene among all health care workers.
- **2.3.** To increase hand hygiene compliance to reduce healthcare acquired infections associated infection.

3. Scope

This policy applies to all healthcare workers in all healthcare facilities.

4. Definitions

- **4.1.** Hand hygiene: A general term that applies to either handwashing, antiseptic hand wash, antiseptic hand rub, or surgical hand antisepsis.
- **4.2.** Handwashing: Washing hands with plain or antimicrobial soap and water.
- **4.3.** Alcohol-based hand rub: An alcohol-containing preparation (liquid, gel or foam) designed for application to the hands to inactivate microorganisms and/or temporarily suppress their growth.
- **4.4.** Antimicrobial soap: solution containing an antiseptic agent at a concentration sufficient to inactivate microorganisms and/or temporarily suppress their growth.
- **4.5.** Surgical hand antisepsis. Antiseptic hand wash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient and reduce resident hand flora.
- **4.6.** Patient zone: Concept related to the "geographical" area containing the patient and immediate surroundings.
- **4.7.** Point-of-care: The place where the following three elements occur together: the patient, the healthcare worker and care or treatment involving contact with the patient or his/her surroundings (within the patient zone). Point-of-care products should be accessible without leaving the patient zone.

4.8. Moments of hand hygiene: a term that describes the hand hygiene opportunities that prevent infection transmission linked to healthcare activities.

5. Policy

All healthcare facilities are committed to implementing a comprehensive hand hygiene policy to prevent and reduce the risk of healthcare-associated infections. This policy aims to minimize the transmission of infections through the hands of healthcare workers in both Ministry of Health (MoH) and non-MoH healthcare settings.

6. Procedure

6.1. Indications for Hand Hygiene:

- 6.1.1. Five moments of hand hygiene in patient zone: see annex (1)
 - Before touching a patient
 - Before clean/aseptic procedures
 - After body fluid exposure risk
 - After touching a patient
 - After touching patient's surroundings

6.1.2. Other indications for hand hygiene:

- After contact with a source of microorganisms (body fluids and substances, mucous membranes, non-intact skin, surfaces that are likely to be contaminated).
- Before and after using the gloves.
- After contact with inanimate objects (including medical equipment) in the immediate vicinity of the patient.
- After bodily functions (e.g. using the toilet, blowing one's nose, sneezing).
- After touching waste.

6.1.3. Indications for Hand washing:

- When hands are visibly contaminated or soiled.
- When caring for patient with diarrhea or suspected exposure to Clostridium difficile, Bacillus anthracis (Anthrax).
- After cleaning process e.g. medical equipment and other items

6.2. Techniques of Hand Hygiene:

- 6.2.1. Hand washing technique:
 - i. Wash hands for a minimum of 40-60 seconds.
 - ii. Remove excess jewelry (bracelets, watches etc.) and roll up sleeves, if necessary.
 - iii. Select a comfortable water temperature and follow the technique shown in annex (2).

- iv. Bar soaps are not suitable for any clinical setting, as they easily become contaminated with microbes.
- v. If foot or elbow-controlled taps are not available, use a paper towel to turn off taps to prevent recontamination of the hands.

6.2.2. Alcohol Hand Rub Technique:

- i. Use alcohol-based hand antiseptic rub for a minimum of 20-30 seconds.
- ii. Remove excess jewelry (bracelets, watches etc.) and roll up sleeves, if necessary.
- iii. Follow the technique as shown in annex (2).
- iv. Wait for the skin to dry rather than rub it to avoid cracking (skin excoriation may lead to bacteria colonizing the skin).

6.2.3. Surgical Hand Rub Technique:

- i. Remove all jewelry and wristwatches before entering the operating room suite.
- ii. Follow the proper technique for 2-5 minutes- see annex (3).
- iii. The use of a scrub brush is no longer recommended. A scrub brush is not required to reduce bacterial counts and can damage the skin, resulting in higher amounts of gram-negative bacteria and candida. Evidence suggests that using friction maximizes the effectiveness of a surgical scrub surgical hand scrub with antimicrobial soap.

6.3. Hand Hygiene and Use of Gloves:

- 6.3.1. The use of gloves does not replace the need for hand hygiene.
- 6.3.2. Wear gloves when it can be reasonably anticipated that contact with blood or other potentially infectious materials, mucous membranes, or non-intact skin will occur.
- 6.3.3. Remove gloves after any procedure with a patient.
- 6.3.4. Change or remove gloves during patient care when moving from a contaminated body site to another body site (including non-intact skin, mucous membranes, or a medical device) within the same patient or the environment.
- 6.3.5. Change gloves between patients.
- 6.3.6. Identify the indications and the correct type of glove to be used -Refer to annex (4).

6.4. Other Considerations:

- 6.4.1. Hand hygiene signage should be strategically placed throughout the healthcare facility.
- 6.4.2. Jewelry: Remove rings, wristwatch, and bracelets before beginning hand hygiene. Wearing rings or other jewelry during direct patient care is strongly discouraged.
- 6.4.3. Nails are to be maintained clean and short, i.e., should not extend ¼ inch past the tip of the finger. Artificial nails, nail polish, nail gel, and extenders and/or enhancements are not acceptable in the clinical area, as they have been shown to harbor microorganisms.
- 6.4.4. Care of Hands:
 - Use hand moisturizers to replace the oils lost by frequent hand hygiene procedures.

- Ensure that the skin on your hands is intact. Cover non-intact skin areas with an occlusive dressing.
- Do not use petroleum-based lotions, as they may interfere with glove integrity.

6.5. Hand Hygiene Program:

- 6.5.1. Hand hygiene program should be developed, maintained and actively supported in each healthcare facility include formal hand hygiene training program for their staffs and hand hygiene compliance audit.
- 6.5.2. The WHO Multimodal Hand Hygiene Improvement Strategy provides a guide for implementation of a sustainable hand hygiene program at health care facilities.
- 6.5.3. Resources should be provided to ensure that adherence to hand hygiene is a priority for the facility and an expectation of all healthcare workers.
- 6.5.4. Multimodal strategies (e.g., administrative support, role models, education, audit and feedback, patient/family involvement) should be used to improve adherence to hand hygiene recommendations.
- 6.5.5. The use of champions or role models has been shown to improve hand hygiene practices.



6.6. Education and Training:

- 6.6.1. Education is a cornerstone for improvement with hand hygiene practices.
- 6.6.2. Hand hygiene education programs should be ongoing and include contents based on this policy and should be mandatory at induction and at least every two years.
- 6.6.3. After completing training, staff will demonstrate their competency in performing proper hand hygiene according to the competency form annex (5) by the Infection Preventionist or designated trainer.
- 6.6.4. Education can be delivered face-to-face, by an e-learning programme or by a combination of both.
- 6.6.5. A variety of educational tools such as pamphlets, posters, and fact sheets should be considered when developing educational materials.
- 6.6.6.UV products can be used for awareness, training and attention to optimal hand hygiene. UV light is used to make it visible whether all parts of the hand have been 'covered' and are completely rubbed in.

- 6.6.7. Actively engage patients in their care by encouraging patient and family participation in hand hygiene practices.
- 6.6.8. Providing visitors and patients with educational guidance (Hand Hygiene pamphlet) and support to adhere to the hand hygiene policy.

6.7. Monitoring and Feedback:

- 6.7.1. Hand hygiene compliance can be monitored both directly and indirectly. The direct monitoring by observation of hand hygiene compliance. Indirect hand hygiene monitoring, such as monitoring the consumption of hand hygiene products (e.g., soap, ABHR, paper towels).
- 6.7.2. Ongoing hand hygiene compliance monitoring shall be conducted at least quarterly by anonymous trained observers (e.g. IP team, in-charge nurse, focal point, HOD, Supervisors, etc.) with feedback should take place in all healthcare settings.
- 6.7.3. The compliance audit should be done by using approved validated audit tool e.g. (ref: https://www.who.int/teams/integrated-health-services/infection-prevention-control/hand-hygiene/monitoring-tools)
- 6.7.4. The compliance audits will be recorded either on a paper-based audit form or on using the hand hygiene observation app.
- 6.7.5. Each quarterly months, the data should be gathered, organized, and analyzed to prepare for the development of the hand hygiene compliance quarterly reports. These quarterly reports may include:
 - Overall facility compliance rates
 - Compliance rates per professional categories
 - Compliance rates per indications
 - Compliance rates by location (i.e. unit locations) if applicable
 - Compliance by time and shift (i.e. days, evening, nights) if applicable
 - Comparison of trending of compliance rates over time compared to the facility's benchmark data and targeted goal
 - **NOTE:** The analysis of hand hygiene data will utilize the percentage rate of compliance for meeting opportunities for performing hand hygiene. This is calculated by using the number of compliant hand hygiene actions divided by the total number of observed opportunities and then multiplied by 100
- 6.7.6. Audit results should be used to inform quality improvement plans and to provide real-time action to improve performance.
- 6.7.7. Audit compliance results should be shared with all stakeholders (the Infection Control Committee, Quality, and national IPC) as well as with frontline HCWs.
- 6.7.8. During outbreaks, increased rates in HAIs beyond baseline, increased audits are highly recommended.

6.8. Hand Hygiene Equipment:

6.8.1. All alcohol-based hand rub (ABHR) and liquid soap products in use should be approved by the Infection Prevention and Control team.

- 6.8.2. Determination the locations of hand hygiene facilities should be involve Infection Control team.
- 6.8.3. Ensure that dispensers are accessible at the point of care
- 6.8.4. Ensure that dispensers' function adequately and reliably and deliver an appropriate volume of the product.
- 6.8.5. Do not add soap or alcohol-based formulations to a partially empty soap dispenser. If soap dispensers are reused, follow recommended procedures for cleansing.
- 6.8.6. Alcohol-based hand rub contain ethanol, isopropanol, n-propanol or a combination of two of these products, 60–80% alcohol are most effective(a higher concentration is less effective)
- 6.8.7. Wall-mounted ABHR dispensers shall be installed in consultation with appropriate stakeholders. These include, but are not limited to:
 - At point-of-care, within 3 feet of the patient bed, unless there are safety concerns (e.g. psychiatry).
 - Nursing stations.
 - Affixed to the mobile work carts such as portable medication carts; vital sign carts, dressing carts, housekeeping carts, and others.
 - Entrance to each patient room.
 - Multi-use computer stations and other multi-use devices.
 - Entrances to facilities, lifts and units.
 - Cafeteria entrances.
 - Entrance to soiled utility rooms, medication rooms, treatment room, clean supply rooms.
 - In any location where personal protective equipment is donned or doffed.

6.8.8. Specification of Hand Wash basins:

- Sink should be designed with appropriate size and deep to prevent splashing to enable good hand hygiene techniques. Have curved sides, to minimize splashing.
- Made of porcelain, stainless steel, or solid surface materials and be easy to clean.
- Have suitable taps; with hands-free taps that may be sensor taps, wall mounted elbow taps, foot/knee operated.
- Surfaces behind and around sinks should be water-resistant and smooth to prevent water damage and microbial growth.
- The water flow should not be directed straight into the drain to avoid splashing or aerosolization from the drain.
- Have water delivered at a suitable temperature to allow hand washing under running water.
- Hand washing signs (water resistant) should be posted above each hand-washing sink in patient care point.
- Hand washing basin should be strictly used for handwashing purpose only and should not be used for equipment cleaning, blood, body fluid, waste disposal, or food preparation.

• Hand hygiene stations should be equipped with wall-mounted dispensers that contain soft, absorbent, disposable paper towels.

7. Responsibilities:

- **7.1.** Central Department of Infection Prevention and Control:
 - Evaluate hand hygiene products.
 - Ensure existence of hand hygiene program in HCFs.
 - Update the hand hygiene policy.
 - National level Data analysis for hand hygiene compliance.
 - Conducting hand hygiene Training for health care worker.
 - Encourage HCF to celebrate world hand hygiene day.

7.2. Facility Infection Control Team:

- Ensure the availability and implementation of hand hygiene program within the HCF
- Ensure the availability of hand hygiene products within the HCF
- Conducting hand hygiene audit in the HCF at least quarterly or conducting by other trained observer.
- Report hand hygiene compliance of the facility to the ICC and national IPC.
- Report hand hygiene compliance and others like KPIs to the respective departments within their HCF.
- Training of health care workers on hand hygiene practice.

7.3. HCF Administration:

- Ensure the availability of all resources necessary for the implementation of hand hygiene program in their facility.
- Ensure that lapses in hand hygiene practices is part of incident/safety reporting system in their HCF.
- Involve in hand hygiene activities to recognize the importance of hand hygiene.

7.4. Engineering Department:

- Ensure that the clean water supply within the health-care setting is physically separated from drainage and sewerage, and provides routine system monitoring and management.
- Fixation of hand hygiene dispensers.

7.5. Department/Unit In-charge:

- Ensure that hand rubs within their area are promptly replaced when empty.
- Ensure that HCWs in their unit are trained and adherent to the hand hygiene practice.
- Ensure reporting of lapses in hand hygiene practice and timely feedback given to the involved staff.
- Collaborate with IPC in conducting of hand hygiene audit.
- Act as 'role models' for good hand hygiene practice and encourage compliance to hand hygiene.

7.6. Healthcare Workers:

- Ensuring to complete mandatory hand hygiene education.
- Adhere to the "5 Moments of Hand Hygiene" and have competency in its technique.
- Staff in clinical areas are responsible for ensuring that ABHR is always available.
- All staff are encouraged and expected to stop and remind any other staff member in a professional manner to perform hand hygiene if they have not cleaned their hands.
- Each member of staff is responsible for ensuring that they have read and adhere to the hand hygiene policy.

8. Document History and Version Control

Version	Description	Review Date
1	Initial Release	September 2022
2	Version 2	August 2030

9. References:

- **9.1.** GCC-Infection Prevention & Control Manual 3rd edition- Hand Hygiene, 2018
- **9.2.** The Centers for Disease Control and Prevention (CDC), Hand Hygiene Guidelines, 2016, available at website https://www.cdc.gov/handhygiene/providers/guideline.html
- **9.3.** World Health Organization (WHO), Guidelines on Hand Hygiene in Health Care, 2009 available at website http://apps.who.int/iris/bitstream/10665/44102/1/9789241597906_eng.pdf
- **9.4.** APIC Text of Infection Control and Epidemiology- 4th edition, Hand Hygiene, Janet Hass, 2014
- **9.5.** Joint Commission- Measuring Hand Hygiene Adherence: Overcoming the Challenges, 2009 available at website https://www.jointcommission.org/media/tjc/documents/resources/hai/hh_monograph.pdf

10. Annex:

Annex (1): The 5 Moment for Hand Hygiene





Annex (3): Surgical Hand Rub Technique

Surgical hand preparation technique using an alcohol-based hand rub5

The hand-rubbing technique for surgical hand preparation must be performed on perfectly clean, dry hands.

On arrival in the operating theatre and after having donned theatre clothing (cap/hat/bonnet and mask), hands must be washed with soap and water.

After the operation when removing gloves, hands must be rubbed with an alcohol-based formulation or washed with soap and water if any residual talc or biological fluids are present (e.g. the glove is punctured).

Surgical procedures may be carried out one after the other without the need for handwashing, provided that the hand-rubbing technique for surgical hand preparation is followed (Images 1 to 17).



Put approximately 5 ml (3 doses) of alcohol-based hand rub in the palm of your left hand, using the elbow of your other arm to operate the dispenser



Dip the fingertips of your right hand in the hand rub to decontaminate under the nails (5 seconds)



Images 3–7: Smear the handrub 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 hand rub has fully evaporated (10–15 seconds)



See legend for Image 3



See legend for Image 3



See legend for Image 3



See legend for Image 3



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



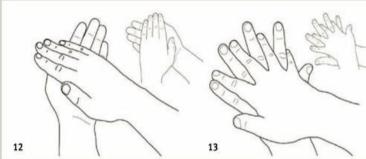
Dip the fingertips of your left hand in the hand rub to decontaminate under the nails (5 seconds)



Smear the hand rub on the left forearm up to the elbow. Ensure that the whole skin area is covered by using circular movements around the forearm until the hand rub has fully evaporated (10-15 seconds)



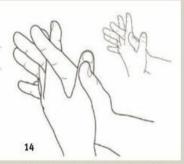
Put approximately 5 ml (3 doses) of alcohol-based hand rub in the palm of your left hand, using the elbow of your other arm to operate the dispenser. Rub both hands at the same time up to the wrists, and ensure that all the steps represented in Images 12-17 are followed (20-30 seconds)



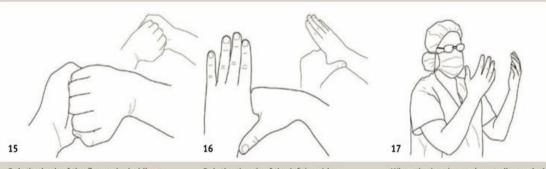
Cover the whole surface of the hands up to the wrist with alcohol-based hand rub, rubbing palm against palm with a rotating movement



Rub the back of the left hand, including the wrist, moving the right palm back and forth, and vice-versa



Rub palm against palm back and forth with fingers interlinked



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

Rub the thumb of the left hand by rotating it in the clasped palm of the right hand and vice-versa

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

Repeat the above-illustrated sequence (average duration, 60 seconds) according to the number of times corresponding to the total duration recommended by the manufacturer for surgical hand preparation with an alcohol-based hand rub.

Annex (4): Pyramid on Glove Use



Any surgical procedure; vaginal delivery; invasive radiological procedures; performing vascular access and procedures (central lines); preparing total parental nutrition and chemotherapeutic agents.

EXAMINATION GLOVES INDICATED IN CLINICAL SITUATIONS

Potential for touching blood, body fluids, secretions, excretions and items visibly soiled by body fluids.

DIRECT PATIENT EXPOSURE: Contact with blood; contact with mucous membrane and with non-intact skin; potential presence of highly infectious and dangerous organism; epidemic or emergency situations; IV insertion and removal; drawing blood; discontinuation of venous line; pelvic and vaginal examination; suctioning non-closed systems of endotracheal tubes.

INDIRECT PATIENT EXPOSURE: Emptying emesis basins; handling/cleaning instruments; handling waste; cleaning up spills of body fluids.

GLOVES NOT INDICATED (except for CONTACT precautions)

No potential for exposure to blood or body fluids, or contaminated environment

DIRECT PATIENT EXPOSURE: Taking blood pressure, temperature and pulse; performing SC and IM injections; bathing and dressing the patient; transporting patient; caring for eyes and ears (without secretions); any vascular line manipulation in absence of blood leakage.

INDIRECT PATIENT EXPOSURE: Using the telephone; writing in the patient chart; giving oral medications; distributing or collecting patient dietary trays; removing and replacing linen for patient bed; placing non-invasive ventilation equipment and oxygen cannula; moving patient furniture.

Annex (5): Competency Training Checklist for Hand Hygiene



Competency Checklist for Hand Hy	giene	
Performance Checklist	Competent	Non competer
Able to verbalize 5 moment of hand hygiene		
Apply a palm full of the alcohol gel in a cupped hand		
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 the left palm and vice versa.		
Dry your hands.		
	Performance Checklist Able to verbalize 5 moment of hand hygiene Apply a palm full of the alcohol gel in a cupped hand 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 the left palm and vice versa.	Performance Checklist Able to verbalize 5 moment of hand hygiene Apply a palm full of the alcohol gel in a cupped hand 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 the left palm and vice versa.