HEALTH HOLDING

HAFER ALBATIN HEALTH CLUSTER
MATERNITY AND CHILDREN HOSPITAL

Department:	Infection Prevention and Control Department		
Document:	Administrative Policy and Procedure (APP)		
Title:	Hand Hygiene		
Applies To:	MCH staff		
Preparation Date:	November 14, 2024	**Index No:**	IPC-APP-013
Approval Date:	November 28, 2024	**Version :**	2
Effective Date:	December 28, 2024	**Replacement No.:**	IPC-APP-013(1)
Review Date:	December 28, 2027	**No. of Pages:**	11

1. PURPOSE:

1.1 To emphasize the importance of hand hygiene (HH) as the single most effective measure for preventing disease transmission in the healthcare setting; and, to describe indications and techniques for hand hygiene.

2. DEFINITONS:

2.1 Hand hygiene (HH) is the single most effective measure for preventing disease transmission in the healthcare setting; and, to describe indications and techniques for hand hygiene.

2.2 Resident flora (resident bacteria) refers to the microorganisms residing under the superficial cells of the stratum corneum and also found on the surface of the skin

2.3 Transient flora (transient bacteria) refers to the microorganisms that colonize the superficial layers of the skin and are easily removed by routine hand hygiene.

3. POLICY:

3.1 Hand hygiene is a critical component of patient & staff safety. Effective patient safety and infection prevention & control programs require that healthcare personnel must be familiar with hand hygiene recommendations and consistently adhere to them.

3.2 All personnel, physicians, nurses, technicians and others who are responsible for complying with the hand hygiene policy should lead by example considering infection control to be everyone's responsibility. HCWs will perform hand hygiene properly (appropriate technique and recommended duration).

3.3 Artificial nails and chipped nail polish may be associated with an increase in the number of bacteria on finger nails and should not be used.

3.4 Hand washing facilities and supplies (sinks with hot and cold water, plain and antimicrobial soap, and towels) are available and easily accessible (at least one sink for every 2-4 beds in the critical care areas and at least one sink per patient's room). Availability of following supplies: Plain (non-antimicrobial) soap / Antimicrobial soap / Paper Towels for drying

3.5 Alcohol - based hand rub dispensers are available in adequate numbers (one dispenser per patient's bed, one at every nursing station, and at any service area). Availability of hand hygiene supply (Alcohol based hand sanitizers, antiseptic soaps, paper towels etc.) in all patient care areas, nursing stations and other appropriate places is crucial for effective implementation of hand hygiene program.

3.6 Visual alerts for hand hygiene are available (WHO 5 moments - hand wash techniques - hand rub techniques) and HCWs are oriented about it.

3.7 WHO hand hygiene Improvement strategy tools are applied to improve the quality of hand hygiene.

3.8 Hand hygiene Compliance Rate is reported to Hafer Al Batin Directorate Infection Control Department and Ministry of Health , General Directorate Infection Prevention and Control (GDIPC).

3.9 Hand Hygiene Compliance : Compliance wih hand hygiene is the ratio of the number of performed actions to the number of opportunities and is expressed by the following formula. See attachment 5.1 Observation Form. Compliance (%)= $\frac{\text{Performed actions}}{\text{Opportunities}} \times 100$

3.10 Hand hygiene compliance rate is regularly monitored, and results are discussed in IPC committee meetings for corrective actions. Monitoring for adherence:

3.10.1 Direct observation of sample of hand hygiene opportunities and calculate the rate of adherence (Number of hand hygiene episodes performed / Number of hand hygiene opportunities) by ward or service

3.10.2 Assess the quality of hand hygiene adherence (time spent per hand hygiene episode, whether soap was used during hand washing, etc.)

3.10.3 Monitor the volume of specific hand hygiene products.

4. PROCEDURE:

4.1 Types of hand hygiene: Hand hygiene is a general term referring to hand washing, antiseptic hand rub, or surgical hand antisepsis.

4.1.1 **Hand washing** – washing hands with plain or antimicrobial soap and water. Wash hands for a minimum of 40-60 seconds:

4.1.1.1 Hand wash with water and soap: When hands are visibly soiled, potential exposure to spore forming organism (Clostridium difficile, Bacillus anthracis), before eating and after using a restroom etc.

Techniques (see appendices 7.1)

4.1.1.1.1 Remove excess jewelry;

4.1.1.1.2 Select a comfortable water temperature;

4.1.1.1.3 Wet hands with running water;

4.1.1.1.4 Apply soap to cover all surfaces of the hands;

4.1.1.1.5 Rub hands palm to palm;

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

4.1.1.1.7 Palm to palm with fingers interlaced;

4.1.1.1.8 Backs of fingers to opposing palms with fingers interlaced;

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

4.1.1.1.10 Rotational rubbing backward and forward with clasped fingers of the right hand in the left palm and vice versa;

4.1.1.1.11 Rinse the hands with running water to remove all soap residue, while holding hands in upward position over the sink;

4.1.1.1.12 Dry the hands with a paper towel; and

4.1.1.1.13 Turn the faucet off with the used paper towel.

4.1.1.2 Supplies:

4.1.1.2.1 Plain (non-antimicrobial) soap: These soaps are detergent-based and will remove lipids, adhering dirt, and organic matter. They have no antimicrobial activity. Such soaps can remove transient flora from the skin.

4.1.1.2.2 Antimicrobial soap: These soaps are detergent-based and will remove lipids, adhering dirt, and organic matter. They have antimicrobial activity

4.1.2 **Hand rubbing** – Applying an antiseptic hand rub to reduce or inhibit the growth of microorganisms without the need for an exogenous source of water and requiring no rinsing or drying with towels or other devices. Use alcohol-based hand antiseptic and rub for a minimum of 20-30 seconds:

4.1.2.1 Waterless, alcohol-based hand rubs are now the preferred products for routine hand hygiene in healthcare settings, unless hands are visibly soiled.

4.1.2.2 Hand rub Techniques (See appendices 7.1)

4.1.2.2.1 Apply to dry, visibly clean hands;

4.1.2.2.2 Rub hands vigorously to apply hand antiseptic to all surfaces of hands (as in steps 4.1.1.1.5 to 4.1.1.1.5.10 above); and

4.1.2.2.3 Allow hands to dry

4.1.2.3 Alcohol-based hand rub is a solution that contains 60% to 95% alcohol and is designed to be applied to hands to reduce the number of viable microorganism on the hands. Although ethyl alcohol and isopropyl alcohol are both effective against bacteria, fungi, and viruses, isopropyl alcohol has slightly greater activity against bacteria & ethyl alcohol has greater activity against viruses.

4.1.2.4 Alcohol - based hand rub dispensers are available in adequate numbers (one dispenser per patient's bed, one at every nursing station and at any service area)

4.1.3 **Surgical hand antisepsis** – An antiseptic hand wash or antiseptic hand rub performed preoperatively by surgical personnel to eliminate transient and reduce resident flora.

4.1.3.1 Remove all jewelry and wristwatches before entering the operating room (OR) suite.

4.1.3.2 Wash hands and arms up to the elbows with an antimicrobial soap before entering the OR area.

4.1.3.3 Use a nail cleaner for the first surgical hand scrub of the day.

4.1.3.4 Surgical hand scrub with antimicrobial soap

4.1.3.4.1 Start timing and then scrub each side of each finger, between the fingers and the back and front of the hand for two minutes.

4.1.3.4.2 Scrub the arms, keeping hands higher than the arms at all times

4.1.3.4.3 Wash each side of the arm from wrist to the elbow for one minute, repeating the process on the other hand and arm.

4.1.3.4.4 Rinse hands and arms by passing them through the water in one direction (from fingertip to elbow), always keeping the hands above the elbows

4.1.3.4.5 Proceed to the OR holding hands above the elbows.

4.1.3.4.6 Dry hands with a sterile towel and use aseptic technique to put on gloves.

4.1.3.4.7 NB: The duration of the procedure depends on the ingredients and the manufacturer's instructions (can range from 3-5 minutes).

4.1.3.5 Surgical hand rub with the hospital-approved alcohol-base preparation. See appendices 7.3

4.1.3.5.1 Start timing

4.1.3.5.2 Use sufficient product to keep hands and forearms wet with the hand rub throughout the procedure.

4.1.3.5.3 After application of the product, allow hands and forearms to dry before donning sterile gloves.

4.1.3.5.4 Proceed to the OR holding hands above the elbows.

4.1.3.5.5 NB: The duration of the procedure depends on the ingredients and the manufacturer's instructions and should last until hands are dry.

4.2 Indications:

4.2.1 Five moments of hand hygiene:

4.2.1.1 Moment 1: Before touching the patient.

4.2.1.1.1 Why? To protect the patient against harmful germs carried on hands

4.2.1.1.2 When? Clean your hands before touching a patient when approaching him/her.

4.2.1.1.3 Examples of Moment 1:

A. Before assisting a patient in daily activities: moving, taking a bath, eating, getting dressed, etc...

B. Before delivering care and other non-invasive treatments: apply an oxygen mask, and give a massage.

C. Before performing a physical non-invasive examination: taking pulse, blood pressure, chest auscultation, recording ECG

4.2.1.2 Moment 2: Before clean/aseptic procedures.

4.2.1.2.1 Why? To protect the patient against infection with harmful germs, including his/her own germs entering his/her body

4.2.1.2.2 When? Clean your hands immediately before performing a clean/aseptic procedure.

4.2.1.2.3 Examples of Moment 2:

A. Before dressing a wound.

B. Before inserting an invasive medical device (nasal cannula, nasogastric tube, endotracheal tube, urinary probe, percutaneous catheter, drainage).

4.2.1.3 Moment 3: After body fluid exposure/risk.

4.2.1.3.1 Why? To protect yourself and the healthcare environment from harmful patient germs.

4.2.1.3.2 When? Clean your hands as soon as the task involving an exposure risk to body fluids has ended (and after glove removal).

4.2.1.3.3 Examples of Moment 3:

A. After contact with a mucous membrane and non-intact skin.

B. After a percutaneous injection or puncture, after inserting an invasive medical device (vascular access, catheter, tube, drain, etc.); after disrupting and opening an invasive circuit.

C. After removing an invasive medical device.

D. After removing any form of material offering protection (napkin, dressing, gauze, sanitary towel, etc.).

4.2.1.4 Moment 4: After touching a patient.

4.2.1.4.1 Why? To protect yourself and the health-care environment from harmful patient germs.

4.2.1.4.2 When? Clean your hands after touching a patient and her/his immediate surroundings, when leaving the patient's side

4.2.1.4.3 Examples of Moment 4:

A. After shaking hands, stroking a child's forehead

B. After you have assisted the patient in personal activities: to move, to bath, to eat, to dress, etc.

C. After delivering care and other non-invasive treatment: changing bed linen as the patient is in, applying an oxygen mask, and giving a massage.

D. After performing a physical non-invasive examination: taking pulse, blood pressure chest auscultation, recording ECG.

4.2.1.5 Moment 5: After touching the patient's surroundings.

4.2.1.5.1 Why? To protect yourself and the health-care environment from harmful patient germs.

4.2.1.5.2 When? Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving – even if the patient has not been touched.

4.2.1.5.3 Examples of Moment 5: See attachment 7.3

This Moment 5 applies in the following situations if they correspond to the last contact with the patient's surroundings, without having touched the patient:

A. After an activity involving physical contact with the patient's 'immediate environment: changing bed linen with the patient out of the bed, holding a bed trail, clearing a bedside table.

B. After a care activity: adjusting perfusion speed, clearing a monitoring alarm.

C. After other contacts with surfaces or inanimate objects.

4.3 Other Opportunities for Hand Hygiene:

4.3.1 Moving from a contaminated body site to another body site during care of the same patient.

4.3.2 Before starting and finishing the duty shift.

4.3.3 Before entering and leaving patient's room.

4.3.4 Before applying or removing personal protective equipment (PPE).
4.3.5 After handling contaminated waste.
4.3.6 When preparing or handling food, drinks, or medication for patients.
4.3.7 Whenever hands are visibly soiled.
4.3.8 After bodily functions (e.g., using the toilet, blowing one's nose, sneezing)

4.4 Agents used for HH

4.4.1 Water:

4.4.1.1 Water is described as the universal solvent for a large number of substances.
4.4.1.2 When used alone, water cannot remove dirt from hands.

4.4.2 Drying Methods

4.4.2.1 Drying practice is a critical factor to determine the level of bacterial residue.
4.4.2.2 Use paper towels
4.4.2.3 Pat the skin dry rather than rub it to avoid cracking (skin excoriation may lead to bacteria colonizing the skin).
4.4.2.4 Do not reuse or share hand drying towels.

4.4.3 Plain (Non-Antimicrobial) Soap:

4.4.3.1 These soaps are detergent-based and will remove lipids, adhering dirt, and organic matter
4.4.3.2 They have no antimicrobial activity. Such soaps can remove transient flora from the skin
4.4.3.3 Such soaps can remove transient flora from the skin.

4.4.4 Antimicrobial Soap:

4.4.4.1 These soaps are detergent-based and will remove lipids, adhering dirt, and organic matter. They have antimicrobial activity
4.4.4.2 They can remove transient and resident flora from the skin. (Examples: Alcohol, chlorhexidine, chlorine, Quaternary ammonium compounds etc)

4.4.5 Alcohols

4.4.5.1 Alcohol-based hand rub is a solution that contains 60% to 95% alcohol and is designed to be applied to hands to reduce the number of viable microorganism on the hands. Although ethyl alcohol and isopropyl alcohol are both effective against bacteria, fungi, and viruses, isopropyl alcohol has slightly greater activity against bacteria & ethyl alcohol has greater activity against viruses.
4.4.5.2 They have the ability to denature proteins
4.4.5.3 They are rapidly germicidal.
4.4.5.4 Such antiseptics are available in gels, liquid, and foam.

4.5 Effective hand hygiene practices:

4.5.1 Use the appropriate HH products with appropriate technique and duration.
4.5.2 Fingernails should be kept short
4.5.3 Artificial nails or nail enhancements should be avoided.
4.5.4 Wrist and hand jewelry should be avoided.
4.5.5 Cuts and abrasions should be covered with a waterproof dressing.

4.6 Care of Hands

4.6.1 Use hand moisturizers to replace the oils lost by frequent hand hygiene procedures.
4.6.2 Ensure that the skin on your hands is intact. Cover non-intact skin areas with an occlusive dressing
4.6.3 Do not use petroleum-based lotions, as they may interfere with glove integrity.

4.7 Medical Assessment

4.7.1 Seek medical assessment for any suspicion of dermatological conditions such as exudative and vesicular lesions. It must be evaluated by an Employee Health Physician or the appropriate medical service.
4.7.2 HCWs that have exudative lesions or vesicular dermatitis should refrain from all direct patient care and from handling patient care equipment until the condition is resolved.

4.8 Use of Gloves. See appendices 7.5

4.8.1 Do not use gloves as an alternative for hand hygiene.

4.8.2 Identify the correct type of glove to be used
4.8.3 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
4.8.4 Change or remove gloves during patient care if moving from a contaminated body site to either another body site (including non-intact skin, mucous membrane or a medical device) within the same patient or the environment
4.8.5 Change gloves between patients
4.8.6 Remove gloves after any procedure with a patient
4.8.7 Dispose gloves before leaving the patient's room or procedure area.

4.9 WHO Hand Hygiene Improvement Strategy tools are applied to improve the quality of hand hygiene.

4.9.1 Successful and sustained hand hygiene improvement is achieved by implementing multiple actions to tackle different obstacles and behavioral barriers. Based on the evidence and recommendations from the WHO Guidelines on Hand Hygiene in Health Care, several components make up an effective multimodal strategy for hand hygiene.

4.9.2 The WHO multimodal hand hygiene improvement strategy has been proposed to translate into practice the WHO recommendations on hand hygiene and is accompanied by a wide range of practical tools (implementation toolkit) ready to use for implementation.

4.9.3 The key components of the "WHO" Multimodal Hand Hygiene Improvement strategy are:

4.9.3.1 System change:

4.9.3.1.1 Ensuring that the necessary infrastructure is in place to allow health-careworkers to practice hand hygiene. This includes two essential elements: Access to a safe, continuous water supply as well as to soap and towels and Readily accessible alcohol-based hand rub at the point of care

4.9.3.2 Training / Education:

4.9.3.2.1 Providing regular training on the importance of hand hygiene, based on the "My 5 Moments for Hand Hygiene" approach, and the correct procedures for hand rubbing and hand washing, to all health-care workers.

4.9.3.3 Evaluation and feedback:

4.9.3.3.1 Monitoring hand hygiene practices and infrastructure, along with related perceptions and knowledge among health-care workers, while providing performance and results feedback to staff.

4.9.3.4 Reminders in the workplace:

4.9.3.4.1 Prompting and reminding health-care workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.

4.9.3.5 Institutional safety climate:

4.9.3.5.1 Prompting and reminding health-care workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.

4.9.3.6 Institutional safety climate:

4.9.3.6.1 Creating an environment and the perceptions that facilitate awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all level.

5. MATERIALS AND EQUIPMENT:

5.1 **Forms and Records:**

5.1.1 Hand hygiene Observation Form

5.2 **Materials and Equipment**

5.2.1 N/A

6. RESPONSIBILITIES:

6.1 Hospital Administrator: Ensuring compliance of this policy and procedures as everyone's responsibility.

6.2 Infection Prevention and Control Staff: IPC staff is responsible for the education, follow up and monitoring of compliance of all healthcare workers and must ensure during daily/ weekly rounds that hand washing facilities are available that meet the needs of the unit and are clean and in good repair.

6.3 Ward Nurse / Supervisor:

- 6.3.1 Ensure availability of a continuous supply of soap, paper towels, skin moisturizers and a readily accessible alcohol based hand rub (ABHR) at the point of patient care in the wards/or department under their supervision.
- 6.3.2 Advise patients and visitors on hand hygiene practices
- 6.3.3 Report to infection control staff any incidents where failures in hand hygiene have occurred of where there are product/facilities issues that affect adequate hand hygiene practice.

6.4 All HCWs

- 6.4.1 HCWs are required to be familiar with the recent hand hygiene recommendations, understand and consistently adhere and comply with the recommendations.
- 6.4.2 Infection Control Links - responsible for monitoring and data collection of hand hygiene compliance in their respective unit assignment

6.5 Visitors: Comply with the hand hygiene practice at least before and after visiting.

7. APPENDICES:

7.1 How to Handrub and how to handwash
7.2 Your 5 moments of hand hygiene
7.3 Surgical hand antisepsis
7.4 Pyramid on Glove use.

8. REFERENCES:

8.1 General Directorate of Infection Prevention and Control in Healthcare Facilities (GDIPC). Basic Infection Control Skills License (BICSL) Manual. 2024 Version 3.0

8.2 GCC Manual 3rd Edition, 2018. file:///C:/Users/SPawar/Downloads/The-GCC-Infection-Prevention-and-Control-Manual-3rd-Edition.pdf

8.3 Saudi Central Board for Accreditation of Healthcare Institutions (CBAHI) Standards 3rd Edition. 1436-2015. Effective 1 January 2016

9. APPROVALS:

	Name	Title	Signature	Date
Prepared by:	Ms. Marilou C. Magallano	IPC Practitioner		November 14, 2024
	Ms. Wadha Mohd Al Shammari	IPC Coordinator		November 14, 2024
Reviewed by:	Dr. Fahad Obeid Al Shammari	Head of PICU / Pediatrics		November 17, 2024
Reviewed by:	Dr. Sarhan Al Shammari	Head of NICU		November 17, 2024
Reviewed by:	Dr. Affif Elsid	Head of Pediatric Surgery		November 18, 2024
Reviewed by:	Dr. Mohannad Yaghmour	Gyne-OBS Head of Department		November 18, 2024
Reviewed by:	Dr. Kawther Abdou	Consultant Clinical Pathologist		November 19, 2024
Reviewed by:	Dr. Abdulgani Ibrahim	Head of OT/ ICU		November 19, 2024
Reviewed by:	Mr. Hamed Al Dafery	Head of Public Health & Waste Management		November 20, 2024
Reviewed by:	Dr. Mutlaq Al Dhafeeri	Head of Pharmacy		November 20, 2024
Reviewed by:	Mr. Metab Al Dahomishy	Head of Engineering and Housekeeping Department		November 21, 2024
Reviewed by:	Mr. Abdulaziz Al Anizy	Head of CSSD		November 21, 2024
Reviewed by:	Ms. Dalal Khalifa Al Shammari	Head of Dietary Services		November 21, 2024
Reviewed by:	Ms. Noora Al Anizy	Head of Laboratory		November 24, 2024
Reviewed by:	Dr. Abdullah Al Dhaferi	Head of Medical Supply		November 24, 2024
Reviewed by:	Ms. Awatif Hamoud Al Harbi	IPC Director		November 24, 2024
Reviewed by:	Mr. Sabah Turayhib Al Harbi	Nursing Director		November 25, 2024
Reviewed by:	Mr. Abdulellah Ayed Al Mutairi	QM&PS Director		November 25, 2024
Reviewed by:	Mr. Thamer Al Shamlani	Head of Administrative & Financial Department		November 26, 2024
Reviewed by:	Dr. Thamer Naguib	Medical Director		November 27, 2024
Approved by:	Mr. Fahad Hazam Al Shammari	Hospital Director & IPC Committee Chairman		November 28, 2024

Attachment:

5.1 Hand hygiene Observation Form

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Observation Form

Facility:		Period Number*:		Session Number*:	
Service:		Date: (dd/mm/yy)	/ /	Observer: (initials)	
Ward:		Start/End time: (hh:mm)	: / :	Page N°:	
Department:		Session duration: (mm)		City**:	
Country**:					

Prof.cat Code N°				Prof.cat Code N°				Prof.cat Code N°				Prof.cat Code N°			
Opp.	Indication	HH Action		Opp.	Indication	HH Action		Opp.	Indication	HH Action		Opp.	Indication	HH Action	
1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ◯ missed ◯ gloves		1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ◯ missed ◯ gloves		1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ◯ missed ◯ gloves		1	☐ bef-pat. ☐ bef-asept. ☐ aft-b.f. ☐ aft-pat. ☐ aft.p.surr.	☐ HR ☐ HW ◯ missed ◯ gloves	

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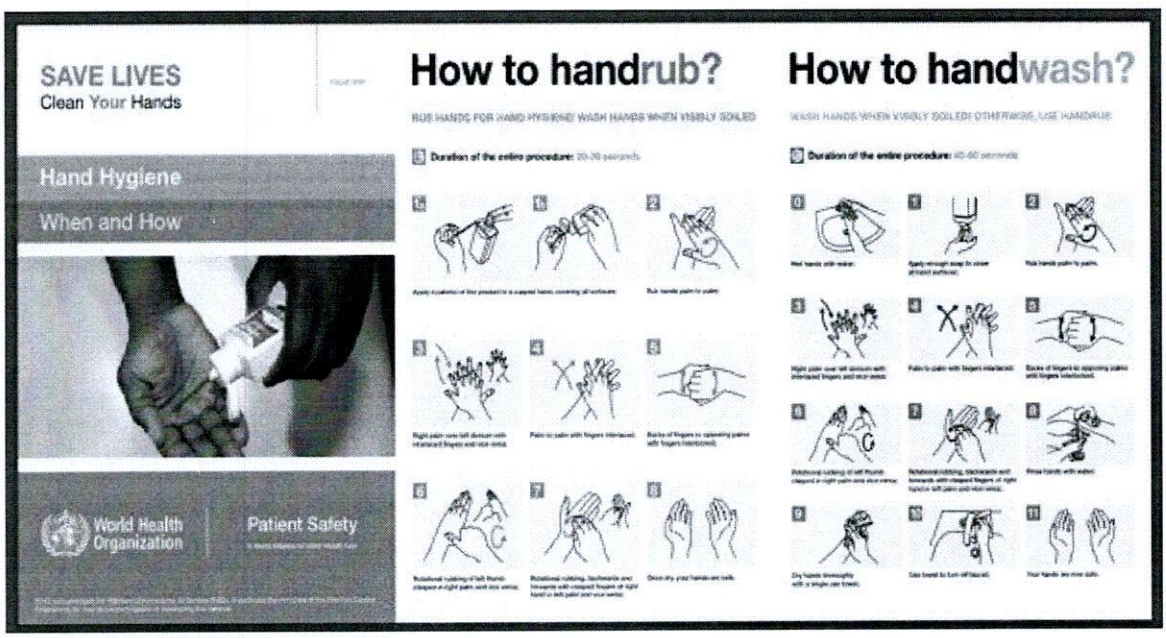
Observation Form – Basic Compliance Calculation

	Facility: Prof.cat.			Prof.cat.			Period: Prof.cat.			Setting: Prof.cat.			Total per session		
Session N°	Opp (n)	HW (n)	HR (n)	Opp (n)	HW (n)	HR (n)	Opp (n)	HW (n)	HR (n)	Opp (n)	HW (n)	HR (n)	Opp (n)	HW (n)	HR (n)
1															
2															
3															
4															

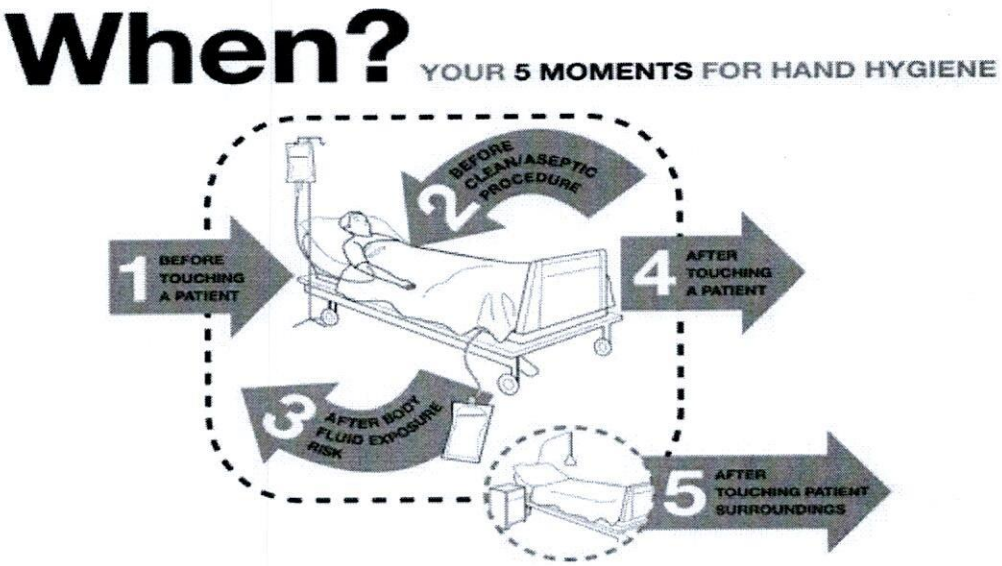
Calculation	Act (n) = / Opp (n) =	Act (n) = / Opp (n) =	Act (n) = / Opp (n) =	Act (n) = / Opp (n) =	Act (n) = / Opp (n) =
Compliance					

Compliance (%) = $\frac{\text{Actions}}{\text{Opportunities}}$ x 100

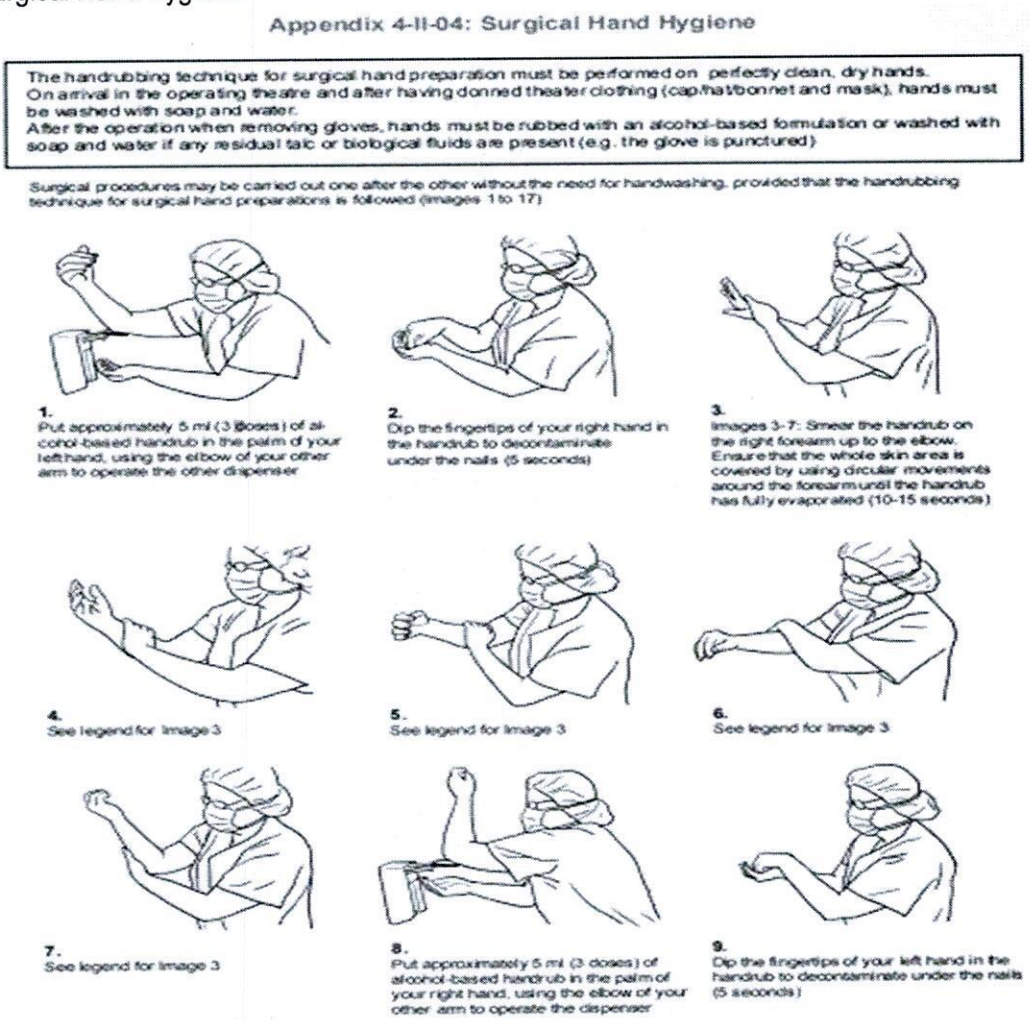
7.1 How to Handwash and how to handrub



7.2 Your 5 moments of hand hygiene



7.3 Surgical Hand Hygiene



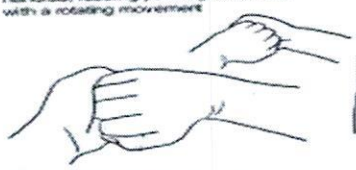
10.
Smear the handrub on the left forearm up to the elbow. Ensure the whole skin area is covered by using circular movements around the forearm until the handrub has fully evaporated (10-15 seconds)

11.
Put approximately 5 ml (3 doses) of alcohol-based handrub in the palm of your left hand, using the elbow of your other arm to operate the distributor. Rub both hands at the same time up to the wrists, and ensure that all the steps represented in the images 12-17 are followed (20-30 seconds)

12.
Cover the whole surface of the hands up to the wrist with alcohol-based handrub, rubbing palm against palm with a rotating movement

13.
Rub the back of the left hand, including the wrist, moving the right palm back and forth, and vice versa

14.
Rub palm against palm back and forth with fingers interlinked



15.
Rub the back of the fingers by holding them in the palm of the other hand with a sideways back and forth movement

16.
Rub the thumb of the left hand by rotating it in the clasped palm of the right hand and vice versa

17.
When the hands are dry, sterile surgical clothing and gloves can be donned.

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

7.4 Pyramid on Glove use

Appendix 3-II-04: Pyramid on Glove Use