

State of Kuwait
Ministry of Health
Infection Control Directorate

Guidelines for Hand Hygiene in Healthcare Setting

December, 2011

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INTRODUCTION

Historical perspective on hand hygiene in health care

Hand washing with soap and water has been considered a measure of personal hygiene for centuries and has been generally embedded in religious and cultural habits.

In 1847, Semmelweis recommended that hands be scrubbed in a chlorinated lime solution before every patient contact and particularly after leaving the autopsy room. Following the implementation of this measure, the mortality rate fell dramatically to 3% in the clinic most affected and remained low thereafter.

Transmission of pathogens by hands

Transmission of health care-associated pathogens from one patient to another is mainly via HCWs' hands.

Relationship between hand hygiene and the acquisition of health care-associated pathogens

Many trials provided compelling evidence that when compared with no hand washing, hand cleansing with an antiseptic agent between patient contacts reduces transmission of health care associated pathogens. A number of studies have demonstrated the effect of hand cleansing on HCAI rates or the reduction in cross-transmission of antimicrobial resistant pathogens.

AIM OF THE POLICY

- To ensure that we have a proper hand hygiene program.
- To have a clear strategy to improve hand hygiene compliance.
- To achieve the annual targeted hand hygiene compliance .

DEFINITION OF TERMS:

Hand hygiene. A general term referring to any action of hand cleansing .

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.

Antimicrobial (medicated) soap. Soap (detergent) containing an antiseptic agent at a concentration sufficient to inactivate microorganisms and/or temporarily suppress their growth. The detergent activity of such soaps may also dislodge transient microorganisms or other contaminants from the skin to facilitate their subsequent removal by water.

Antiseptic agent. An antimicrobial substance that inactivates microorganisms or inhibits their growth on living tissues. Examples include alcohols, chlorhexidine gluconate (CHG), chlorine derivatives, iodine, chloroxylenol (PCMX), quaternary ammonium compounds and triclosan.

Detergent (surfactant). Compounds that possess a cleaning action. They are composed of a hydrophilic and a lipophilic part and can be divided into four groups: anionic, cationic, amphoteric and non-ionic. Although products used for handwashing or antiseptic handwash in health care represent various types of detergents, the term “soap” will be used to refer to such detergents in these guidelines.

Plain soap. Detergents that contain no added antimicrobial agents or may contain these solely as preservatives.

Antiseptic handwashing. Washing hands with soap and water or with other detergents containing an antiseptic agent.

Antiseptic handrubbing (or handrubbing). Applying an antiseptic handrub 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.

Hand antisepsis/decontamination/degerming. Reducing or inhibiting the growth of microorganisms by the application of an antiseptic handrub or by performing an antiseptic handwash.

Hand care. Actions to reduce the risk of skin damage or irritation.

Handwashing. Washing hands with plain or antimicrobial soap and water.

Hand cleansing. Action of performing hand hygiene for the purpose of physically or mechanically removing dirt, organic material and/or microorganisms.

Hand disinfection is extensively used as a term in some parts of the world and can refer to antiseptic handwash, antiseptic handrubbing, hand antisepsis/decontamination/degerming, handwashing with an antimicrobial soap and water, hygienic hand antisepsis, or hygienic handrub.

Hygienic hand antiseptics. Treatment of hands with either an antiseptic handrub or antiseptic handwash to reduce the transient microbial flora without necessarily affecting the resident skin flora.

Hygienic hand rub. Treatment of hands with an antiseptic handrub to reduce the transient flora without necessarily affecting the resident skin flora. These preparations are broad spectrum and fast-acting, and persistent activity is not necessary.

Hygienic hand wash. Treatment of hands with an antiseptic handwash and water to reduce the transient flora without necessarily affecting the resident skin flora. It is broad spectrum, but is usually less efficacious and acts more slowly than the hygienic handrub.

Surgical handscrub/presurgical scrub refer to surgical hand preparation with antimicrobial soap and water.

Efficacy/efficacious. The (possible) effect of the application of a hand hygiene formulation when tested in laboratory or in vivo situations.

Effectiveness/effective. The clinical conditions under which a hand hygiene product has been tested for its potential to reduce the spread of pathogens, e.g. field trials.

Health-care area. Concept related to the “geographical” visualization of key moments for hand hygiene. It contains all surfaces in the health-care setting outside the patient zone of patient X, i.e. other patients and their patient zones and the health-care facility environment.

Patient zone. Concept related to the “geographical” visualization of key moments for hand hygiene. It contains the patient X and his/her immediate surroundings. This typically includes the intact skin of the patient and all inanimate surfaces that are touched by or in direct physical contact with the patient such as the bed rails, bedside table, bed linen, infusion tubing and other medical equipment. It further contains surfaces frequently touched by HCWs while caring for the patient such as monitors, knobs and buttons as well as other “high frequency” touch surfaces.

Point of care. The place where three elements come together: the patient, the HCW, and care or treatment involving contact with the patient or his/her surroundings (within the patient zone). The concept embraces the need to perform hand hygiene at recommended moments exactly where care delivery takes place. This requires that a

hand hygiene product (e.g. alcohol-based handrub, if available) be easily accessible and as close as possible – within arm’s reach of where patient care or treatment is taking place. Point-of-care products should be accessible without HCWs having to leave the patient zone.

Visibly soiled hands. Hands on which dirt or body fluids are readily visible.

Resident flora (resident microbiota). Microorganisms residing under the superficial cells of the *stratum corneum* and also found on the surface of the skin.

Transient flora (transient microbiota). Microorganisms that colonize the superficial layers of the skin and are more amenable to removal by routine handwashing.

Humectant. Ingredient(s) added to hand hygiene products to moisturize the skin.

Persistent activity. The prolonged or extended antimicrobial activity that prevents the growth or survival of microorganisms after application of a given antiseptic; also called “residual”, “sustained” or “remnant” activity. Both substantive and non-substantive active ingredients can show a persistent effect significantly inhibiting the growth of microorganisms after application.

RECOMMENDATIONS

1. Indications for hand hygiene

A. Wash hands with soap and water when visibly dirty or visibly soiled with blood or other body fluids or after using the toilet

B. If exposure to potential spore-forming pathogens is strongly suspected or proven, including outbreaks of *Clostridium difficile*, hand washing with soap and water is the preferred means

C. Use an alcohol-based handrub as the preferred means for routine hand antisepsis in all other clinical situations described in items D(a) to D(f) listed below, if hands are not visibly soiled if alcohol-based handrub is not obtainable, wash hands with soap and water

D. Perform hand hygiene:

- a. before and after touching the patient
- b. before handling an invasive device for patient care, regardless of whether or not gloves are used
- c. after contact with body fluids or excretions, mucous membranes, non-intact skin, or wound dressings

- d. if moving from a contaminated body site to another body site during care of the same patient
- e. after contact with inanimate surfaces and objects (including medical equipment) in the immediate vicinity of the patient
- f. after removing sterile or non-sterile gloves
- E. Before handling medication or preparing food perform hand hygiene using an alcohol-based handrub or wash hands with either plain or antimicrobial soap and water
- F. Soap and alcohol-based handrub should not be used concomitantly

2. Hand hygiene technique

A. Apply a palmful of alcohol-based handrub and cover all surfaces of the hands. Rub hands until dry

B. When washing hands with soap and water, wet hands with water and apply the amount of product necessary to cover all surfaces. Rinse hands with water and dry thoroughly with a single-use towel. Use clean, running water whenever possible. Avoid using hot water, as repeated exposure to hot water may increase the risk of dermatitis . Use towel to turn off tap/faucet Dry hands thoroughly using a method that does not recontaminate hands. Make sure towels are not used multiple times or by multiple people.

3.Surgical Hand Preparation

- **Surgical hand antisepsis using medicated soap**

The most commonly used products for hand antisepsis are chlorhexidine or povidone-iodine-containing soap. Application of chlorhexidine or povidone-iodine-containing result in similar initial reduction of bacterial counts (70-80%), reductions that achieves 99% after repeated application. Rapid regrowth occurs after application of povidone-iodine, but not after use of chlorhexidine.

Washing with hot water should be avoided, using warm water makes antiseptics work more effectively.

- a. . Required time for the procedure

3 -5minutes

- b. Use of brushes

Brushes are not recommended for surgical hand preparation. Brushes or sponges may be beneficial on visibly dirty hands before entering the operation room (OT).

- c. Drying of hands

By using sterile cloth towels

Table 1

Steps before starting surgical hand preparation

Key steps

- Keep nails short and pay attention to them when washing your hands – most microbes on hands come from beneath the fingernails.
- Do not wear artificial nails or nail polish.
- Remove all jewellery (rings, watches, bracelets) before entering the operating theatre.
- Wash hands and arms with a non-medicated soap before entering the operating theatre area or if hands are visibly soiled.
- Clean subungual areas with a nail file. Nailbrushes should not be used as they may damage the skin and encourage shedding of cells. If used, nailbrushes must be sterile, once only (single use). Reusable autoclavable nail brushes are on the market.

Table 2

Protocol for surgical scrub with a medicated soap

Procedural steps

- Start timing. Scrub each side of each finger, between the fingers, and the back and front of the hand for 2 minutes.
- Proceed to scrub the arms, keeping the hand higher than the arm at all times. This helps to avoid recontamination of the hands by water from the elbows and prevents bacteria-laden soap and water from contaminating the hands.
- Wash each side of the arm from wrist to the elbow for 1 minute.
- Repeat the process on the other hand and arm, keeping hands above elbows at all times. If the hand touches anything at any time, the scrub must be lengthened by 1 minute for the area that has been contaminated.
- Rinse hands and arms by passing them through the water in one direction only, from fingertips to elbow. Do not move the arm back and forth through the water.
- Proceed to the operating theatre holding hands above elbows.
- At all times during the scrub procedure, care should be taken not to splash water onto surgical attire.
- Once in the operating theatre, hands and arms should be dried using a sterile towel and aseptic technique before donning gown and gloves.

4-Selection and handling of hand hygiene agents

A. Provide HCWs with efficacious hand hygiene products that have low irritancy potential.

B. To maximize acceptance of hand hygiene products by HCWs, solicit their input regarding the skin tolerance, feel, and fragrance of any products under consideration.

C. When selecting hand hygiene products:

a. determine any known interaction between products used to clean hands, skin care products and the types of glove used in the institution.

b. solicit information from manufacturers about the risk of product contamination.

c. ensure that dispensers are accessible at the point of care.

d. ensure that dispensers function adequately and reliably and deliver an appropriate volume of the product.

e. ensure that the dispenser system for alcohol-based handrubs is approved for flammable materials.

f. solicit and evaluate information from manufacturers regarding any effect that hand lotions, creams or alcohol-based handrubs may have on the effects of antimicrobial soaps being used in the institution.

g. cost comparisons should only be made for products that meet requirements for efficacy, skin tolerance, and acceptability.

D. Do not add soap or alcohol-based formulations to a partially empty soap dispenser. If soap dispensers are reused, follow recommended procedures for cleansing.

Hygienic Handwash and handrub agents

CEN standards: EN 1499 and EN 1500

ASTM standards:

ASTM E-1174

ASTM E-1838 (fingerpad method for viruses)

ASTM E-2276 (fingerpad method for bacteria)

ASTM E-2613 (fingerpad method for fungi)

ASTM E-2011 (whole hand method for viruses)

Surgical hand preparation

CEN standard: EN 12791 (surgical hand preparation)

ASTM standard: ASTM E-1115 (surgical hand scrub)

preparations used for hand hygiene

Alcohols

Most alcohol-based hand antiseptics contain either ethanol, isopropanol or n-propanol, or a combination of two of these products. Concentrations are given as either percentage of volume (= ml/100 ml, abbreviated % v/v), percentage of weight (= g/100 g, abbreviated % m/m), or percentage of weight/volume (= g/100 ml, abbreviated % m/v). The antimicrobial activity of alcohols results from their ability to denature proteins.

Alcohol solutions containing 60–80% alcohol are most effective, with higher concentrations being less potent.

Alcohols have excellent in vitro germicidal activity against Gram-positive and Gram-negative vegetative bacteria (including multidrug-resistant pathogens such as MRSA and VRE), *M. tuberculosis*, and a variety of fungi. However, they have virtually no activity against bacterial spores or protozoan oocysts, and very poor activity against some non-enveloped (non-lipophilic) viruses

Following the widespread use of alcohol-based handrubs as the gold standard for hand hygiene in health care, concern has been raised about their lack of efficacy against spore forming pathogens, in particular *C. difficile*. The widespread use of alcohol-based handrubs in healthcare settings has been blamed by some.

Although alcohol-based handrubs may not be effective against *C. difficile*, it has not been shown that they trigger a rise in *C. difficile*-associated disease. In addition, several studies recently demonstrated a lack of association between the consumption of alcohol-based handrubs and the incidence of clinical isolates of *C. difficile*

Contact precautions are highly recommended during *C. difficile* associated outbreaks, in particular glove use (as part of contact precautions) and handwashing with a plain or antimicrobial soap and water following glove removal after caring for patients with diarrhoea.

Alcohol-based handrubs can then be used exceptionally after handwashing in these instances, after making sure that hands are perfectly dry. Moreover, alcoholbased handrubs, now considered the gold standard to protect patients from the multitude of harmful resistant and non-resistant organisms transmitted by HCWs' hands, should be continued to be used in all other instances at the same facility

Chlorhexidine

Chlorhexidine's immediate antimicrobial activity is slower than that of alcohols.

It has good activity against Gram-positive bacteria, somewhat less activity against Gram-negative bacteria and fungi, and minimal activity against mycobacteria. Chlorhexidine is not sporicidal, It has in vitro activity against enveloped viruses such as herpes simplex virus, HIV, cytomegalovirus, influenza, and RSV, but significantly less activity against non-enveloped viruses such as rotavirus, adenovirus, and enteroviruses.

Chloroxylenol

Chloroxylenol, also known as para-chloro-meta-xyleneol (PCMX). The antimicrobial activity of chloroxylenol is apparently attributable to the inactivation of bacterial enzymes and alteration of cell walls. It has good in vitro activity against Gram-positive organisms and fair activity against Gram-negative bacteria, mycobacteria and some viruses. Chloroxylenol is less active against *P. aeruginosa*, but the addition of ethylenediaminetetraacetic acid (EDTA) increases its activity against *Pseudomonas* spp. and other pathogens.

Hexachlorophene

Hexachlorophene is a bisphenol composed of two phenolic groups and three chlorine moieties. The antimicrobial activity of hexachlorophene is related to its ability to inactivate essential enzyme systems in microorganisms.

Hexachlorophene is bacteriostatic, with good activity against *S. aureus* and relatively weak activity against Gram-negative bacteria, fungi, and mycobacteria.

Iodine and iodophors

Iodine has been recognized as an effective antiseptic since the 1800s, though iodophors have largely replaced iodine as the active ingredient in antiseptics because iodine often causes irritation and discolouring of skin.

Iodine and iodophors have bactericidal activity against Gram-positive, Gram-negative and some spore-forming bacteria (clostridia, *Bacillus* spp.) and are active against mycobacteria, viruses, and fungi. However, in concentrations used in antiseptics, iodophors are not usually sporicidal.

Quaternary ammonium compounds

Quaternary ammonium compounds (QACs) are primarily bacteriostatic and fungistatic, although they are microbicidal against some organisms at high concentrations. They are more active against Gram-positive bacteria than against Gram-negative bacilli. QACs have relatively weak activity against mycobacteria and fungi and have greater activity against lipophilic viruses.

Their antimicrobial activity is adversely affected by the presence of organic material, and they are not compatible with anionic detergents.

Triclosan

Triclosan (chemical name 2,4,4'-trichloro-2'-hydroxydiphenyl ether. Triclosan has a fairly broad range of antimicrobial activity, but tends to be bacteriostatic.

Triclosan's activity against Gram-positive organisms (including MRSA) is greater than against Gram-negative bacilli, particularly *P. aeruginosa*. The agent possesses reasonable activity against mycobacteria and *Candida* spp., but has little activity against filamentous fungi and most viruses of nosocomial significance.

Triclosan's lack of potent activity against Gram-negative bacilli has resulted in occasional reports of contaminated triclosan.

5-Skin care

A. Include information regarding hand-care practices designed to reduce the risk of irritant contact dermatitis and other skin damage in education programmes for HCWs.

B. Provide alternative hand hygiene products for HCWs with confirmed allergies or adverse reactions to standard products used in the health-care setting.

C. Provide HCWs with hand lotions or creams to minimize the occurrence of irritant contact dermatitis associated with hand antisepsis or handwashing.

D. When alcohol-based handrub is available in the health-care facility for hygienic hand antisepsis, the use of antimicrobial soap is not recommended.

E. Soap and alcohol-based handrub should not be used Concomitantly.

Methods to reduce adverse effects of hand hygiene agents

- **Selecting less irritating products**

Because HCWs must clean hands frequently, it is important for health-care facilities to provide products that are both efficacious and as safe as possible for the skin.

- **Use of moisturizing skin care products**

For HCWs at risk of irritant contact dermatitis or other adverse reactions to hand hygiene products, additional skin moisturizing may be needed.

6. Use of gloves

- The use of gloves does not replace the need for hand hygiene by either hand rubbing or hand washing
- 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
- Remove gloves after caring for a patient. Do not wear the same pair of gloves for the care of more than one patient
- When wearing gloves, 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 medical device) within the same patient or the environment.

Table 3**Indications for gloving and for glove removal**

	Indication
Glove use	1) before a sterile condition 2) anticipation of a contact with blood or another body fluid, regardless of the existence of sterile conditions and including contact with non-intact skin and mucous membrane 3) contact with a patient (and his/her immediate surroundings) during contact precautions
Glove removal	1) as soon as gloves are damaged (or non-integrity suspected) 2) when contact with blood, another body fluid, non-intact skin and mucous membrane has occurred and has ended 3) when contact with a single patient and his/her surroundings, or a contaminated body site on a patient has ended 4) when there is an indication for hand hygiene

7. Other aspects of hand hygiene**7.1 Jewellery**

-Remove rings, wrist-watch, and bracelets before beginning surgical hand preparation. It is strongly discouraged wearing rings or other jewellery during health care.

7.2 Fingernails and artificial nails

- Do not wear artificial fingernails or extenders when having direct contact with patients
- Keep natural nails short (tips less than 0.5 cm long or approximately ¼ inch)

8. Educational and motivational programmes for health-care workers

A. Hand hygiene promotion programmes for HCWs focus specifically on factors currently found to have a significant influence on behaviour, and not solely on the type of hand hygiene products. The strategy should be multifaceted and multimodal and include education and senior executive support for implementation.

B. Educate HCWs about the type of patient-care activities that can result in hand contamination and about the advantages and disadvantages of various methods used to clean their hands.

C. Monitor HCWs' adherence to recommended hand hygiene practices and provide them with performance feedback.

D. Encourage partnerships between patients, their families, and HCWs to promote hand hygiene in health care settings

9. Governmental and institutional responsibilities

9.1 For health-care administrators

It is essential that administrators ensure conditions are conducive to the promotion of a multifaceted, multimodal hand hygiene strategy and an approach that promotes a patient safety culture.

9.2 For national governments

Improved hand hygiene adherence should be made a national priority and consider provision of a funded, coordinated implementation programme, while ensuring monitoring and long-term sustainability. It should promote hand hygiene at the community level to strengthen both self-protection and the protection of others.

References

World Health Organization (WHO) (2009) WHO Guidelines on Hand Hygiene in Health Care, WHO, Geneva.

Miller MA, Rosin A, Crystal CS. Alcohol-based hand sanitizer: can frequent use cause an elevated blood alcohol level? American Journal of Infection Control, 2006, 34:150–151.

Appendix-1

Safety issues related to alcohol-based preparations

1- Fire hazard issues

Alcohols are flammable. Flashpoints of alcohol-based handrubs range from 17.5°C to 24.5°C, depending on the type and concentration of alcohol present. Therefore, risk assessment and minimization is crucial and alcohol-based handrubs should be stored away from high temperatures or flames in accordance with national regulations .

Indeed, most reported incidents were associated with deliberate exposure to a naked flame, e.g. lighting a cigarette. The International Fire Code recently agreed to accept alcohol-based handrubs in corridors.

The application of alcohol-based handrubs, hands should be rubbed together until all the alcohol has evaporated.

2- Other safety-related issues

Accidental and intentional ingestion and dermal absorption of alcohol-based preparations used for hand hygiene have been reported. Acute, severe alcohol intoxication resulting from accidental ingestion of an unknown quantity of alcoholbased handrub was recently reported in the United Kingdom, resulting in the unconsciousness of an adult male patient (Glasgow Coma Scale 3). This unusual complication of hand hygiene may become more common in the future, and security measures are needed.

These may involve: placing the preparation in secure wall dispensers; labelling dispensers to make the alcohol content less clear at a casual glance and adding a warning against consumption; and the inclusion of an additive in the product formula to reduce its palatability. In the meantime, medical and nursing staff should be aware of this potential risk.

Alcohol toxicity usually occurs after ingestion. It is primarily metabolized by an alcohol dehydrogenase in the liver to acetone. Symptoms and signs of alcohol intoxication include headache, dizziness, lack of coordination, hypoglycaemia, abdominal pain, nausea, vomiting, and haematemesis. Signs of severe toxicity include respiratory depression, hypotension, and coma. Among alcohols, isopropyl alcohol appears to be more toxic than ethanol, but less so than methanol.

Blood isopropyl alcohol levels of 50 mg/dl are associated with mild intoxication and 150 mg/dl with deep coma. Apparently, isopropyl alcohol has no adverse effects on reproduction and is not genotoxic, teratogenic, or carcinogenic.

In addition to accidental ingestion, alcohols can be absorbed by inhalation and through intact skin, although the latter route (dermal uptake) is very low.

More recently, Miller and colleagues conducted two studies in which large amounts of an ethanol-based handrub were used very frequently over periods of several hours; they found that blood alcohol levels at the end of the trial periods were below the level of detection.

Appendix-2

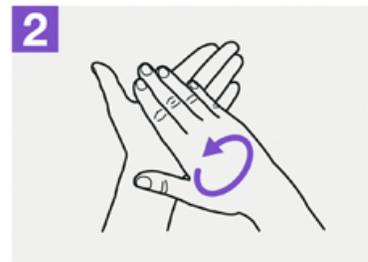
How to Handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

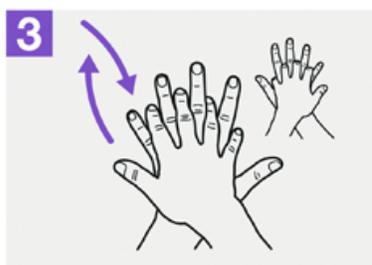
🕒 Duration of the entire procedure: 20-30 seconds



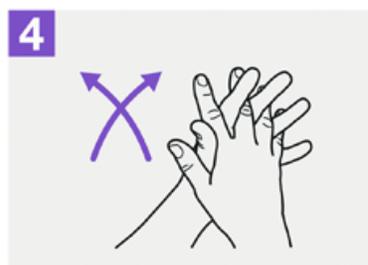
Apply a palmful of the product in a cupped hand, covering all surfaces;



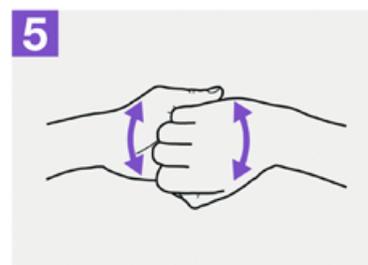
Rub hands palm to palm;



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



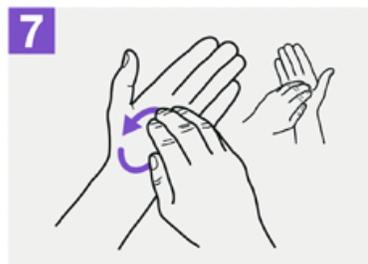
Palm to palm with fingers interlaced;



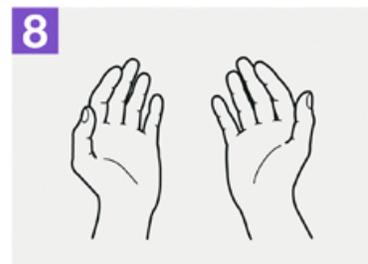
Backs of fingers to opposing palms with fingers interlocked;



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;



Once dry, your hands are safe.



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SAVE LIVES
Clean Your Hands



Appendix-3

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.



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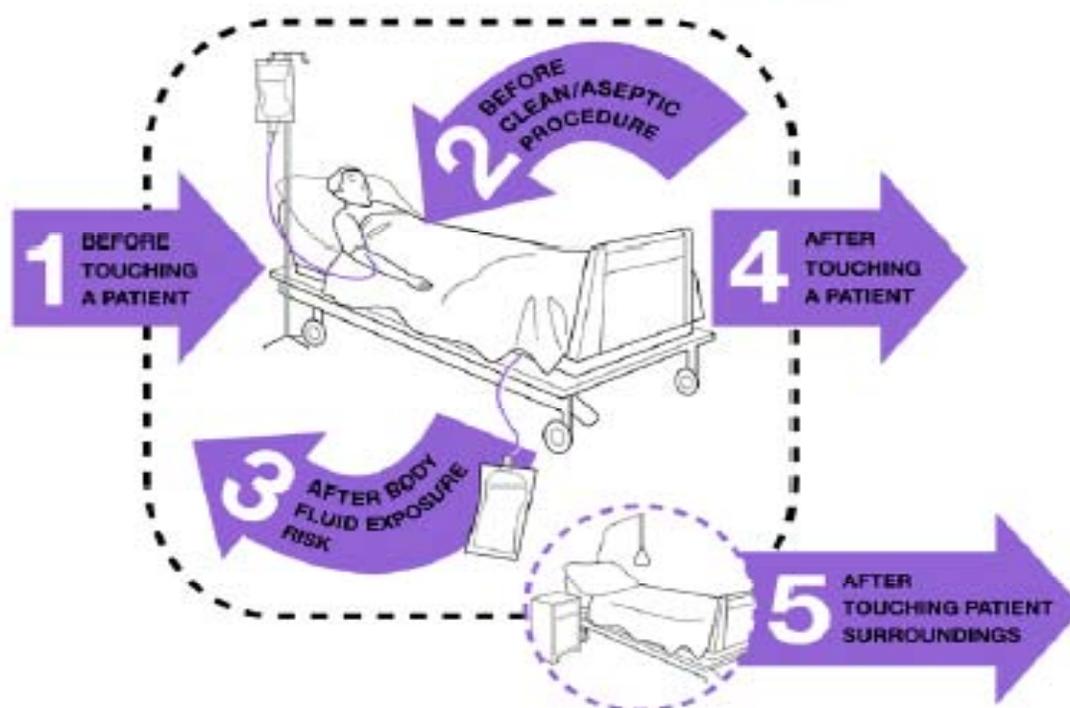
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Appendix-4

Your 5 Moments for Hand Hygiene



1	BEFORE TOUCHING A PATIENT	WHEN?	Clean your hands before touching a patient when approaching him/her.
		WHY?	To protect the patient against harmful germs carried on your hands.
2	BEFORE CLEAN/ASEPTIC PROCEDURE	WHEN?	Clean your hands immediately before performing a clean/aseptic procedure.
		WHY?	To protect the patient against harmful germs, including the patient's own, from entering his/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.
4	AFTER TOUCHING A PATIENT	WHEN?	Clean your hands after touching a patient and his/her immediate surroundings, when leaving the patient's side.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.
5	AFTER TOUCHING PATIENT SURROUNDINGS	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.
		WHY?	To protect yourself and the health-care environment from harmful patient germs.



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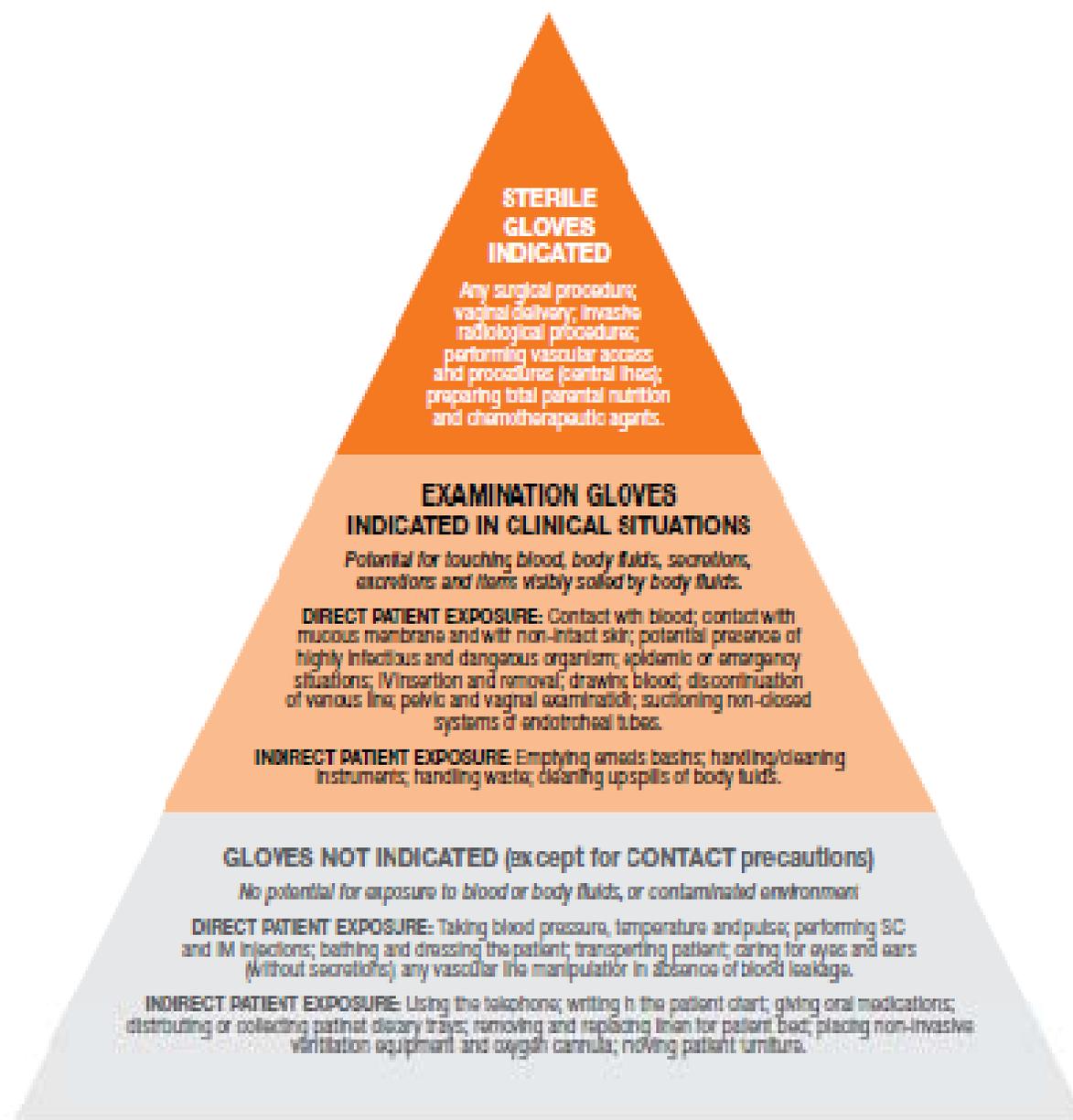
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Appendix-5

The Glove Pyramid

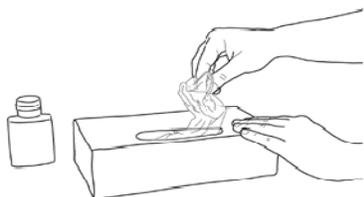


Appendix-6

Technique for donning and removing non-sterile examination gloves

When the hand hygiene indication occurs before a contact requiring glove use, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water.

I. HOW TO DON GLOVES:



1. Take out a glove from its original box



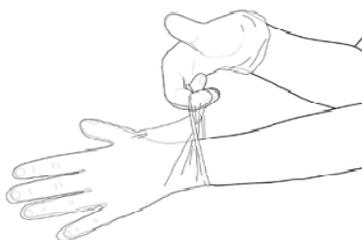
2. Touch only a restricted surface of the glove corresponding to the wrist (at the top edge of the cuff)



3. Don the first glove



4. Take the second glove with the bare hand and touch only a restricted surface of glove corresponding to the wrist

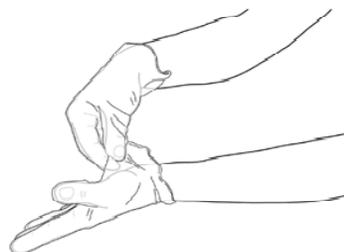


5. To avoid touching the skin of the forearm with the gloved hand, turn the external surface of the glove to be donned on the folded fingers of the gloved hand, thus permitting to glove the second hand

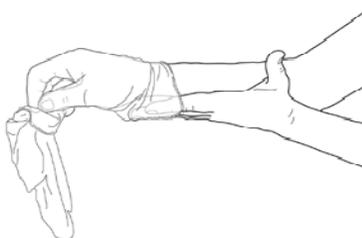


6. Once gloved, hands should not touch anything else that is not defined by indications and conditions for glove use

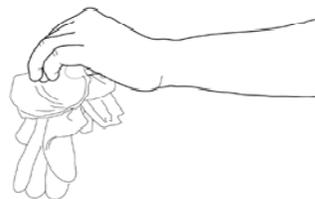
II. HOW TO REMOVE GLOVES:



1. Pinch one glove at the wrist level to remove it, without touching the skin of the forearm, and peel away from the hand, thus allowing the glove to turn inside out



2. Hold the removed glove in the gloved hand and slide the fingers of the ungloved hand inside between the glove and the wrist. Remove the second glove by rolling it down the hand and fold into the first glove



3. Discard the removed gloves

4. Then, perform hand hygiene by rubbing with an alcohol-based handrub or by washing with soap and water