

### **3. STANDARD PRECAUTIONS**

#### **3.1 Universal Precautions**

##### **Rules of universal precautions**

- 3.1.1 Consider ALL patients potentially infectious.
- 3.1.2 Assume ALL blood and body fluids and tissue to be potentially infectious.
- 3.1.3 Assume ALL unsterile needles and other sharps to be similarly contaminated.

#### **3.2 Standard Precautions**

These precautions should be followed in all patient care situations. All staff should be informed of the need to report exposure to blood or potentially infectious body fluids to the duty doctor without any delay. Certain standard precautions should be taken in all healthcare settings as given below:

- 3.2.1 Wash hands before and after all patient or specimen contact.
- 3.2.2 Handle the blood of all patients as potentially infectious.
- 3.2.3 Wear gloves for potential contact with blood and body fluids.
- 3.2.4 Prevent needle stick/sharp injuries.
- 3.2.5 Wear personal protective equipment (PPE) while handling blood or body fluids.
- 3.2.6 Handle all linen soiled with blood and/or body secretion as potentially infectious.
  - 3.6.1 3.2.7 Process all laboratory specimens as potentially infectious.
- 3.2.8 Wear a mask for TB and other contagious respiratory infections (HIV is not air-borne).
- 3.2.9 Correctly process instruments and patient care equipment.
- 3.2.10 Maintain environmental cleanliness.
- 3.2.11 Follow proper waste disposal practices.

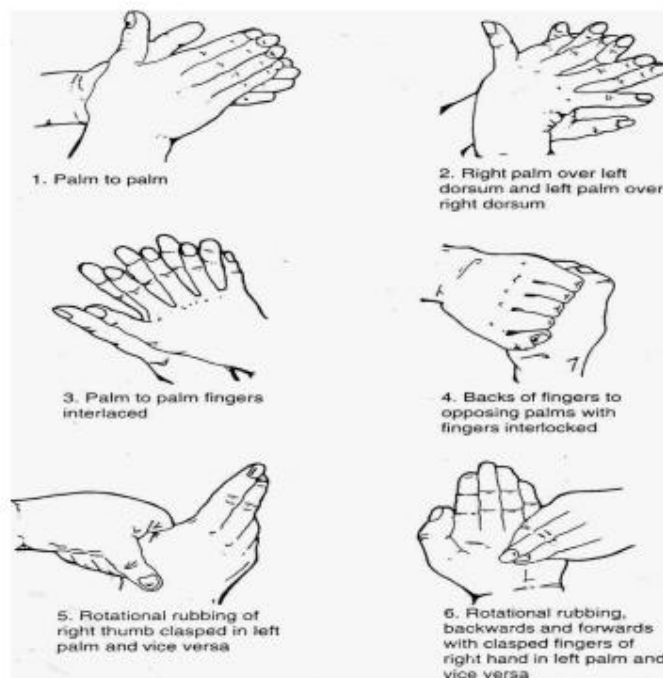
#### **3.3 Reducing Person-To-Person Transmission**

##### **3.3.1 Hand Washing and Antisepsis (hand hygiene)**

Appropriate hand hygiene can minimize microorganisms acquired on the hands during daily duties and when there is contact with blood, body fluids, secretions, excretions, and known and unknown contaminated equipment or surfaces (Figure 1).

##### **Wash or decontaminate hands:**

- a. After handling any blood, body fluids, secretions, excretions, and contaminated items,
- b. Between contact with different patients,
- c. Between tasks and procedures on the same patient to prevent cross contamination between different body sites,
- d. Immediately after removing gloves,
- e. Using a plain soap, antimicrobial agent, such as an alcoholic hand rub or waterless antiseptic agent.



**Figure 1: Hand Washing and Antisepsis**

Source: [http://www.emed.ic/Infections/Hand\\_Washing.php](http://www.emed.ic/Infections/Hand_Washing.php)

### 3.3.2 “My Five Moments for Hand Hygiene” Approach

The newly developed “Five Moments for Hand Hygiene” approach has emerged from the *WHO Guidelines on Hand Hygiene in Health Care* to add value to any hand hygiene improvement strategy. This includes:

#### a. **Before touching a patient**

WHEN? Clean your hands before touching a patient.

WHY? To protect the patient against harmful germs carried on your hands.

**b. Before clean or aseptic procedure**

WHEN? Clean your hands immediately before performing a clean or aseptic procedure.

WHY? To protect the patient against harmful germs, including the patient's own.

**c. 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 healthcare environment from harmful germs of the patient.

**d. After touching a patient**

WHEN? Clean your hands after touching a patient and patient's immediate surroundings.

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

**e. After touching patient surroundings**

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

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

f. **System change:** Ensuring that the necessary infrastructure is in place to allow healthcare workers to practice hand hygiene. This includes two essential elements:

- Access to safe, continuous water supply as well as to soap and towels.
- Readily accessible alcohol-based hand rubs at the point of care.

g. **Training / Education:** Providing regular training on the importance of hand hygiene, based on the “My Five Moments for Hand Hygiene” approach, and the correct procedures for hand rubbing and hand washing, to all healthcare workers.

**h. Evaluation and feedback:** Monitoring hand hygiene practices and infrastructure.

**i. Reminders in the workplace:**

- Posters prompting and reminding healthcare workers about the importance of hand hygiene and about the appropriate indications and procedures for performing it.
- Creating an environment and a perception for awareness-raising about patient safety issues while guaranteeing consideration of hand hygiene improvement as a high priority at all levels.

3.3.3 Steps on how to use alcohol-based hand rub (duration of the entire procedure is 20-30 seconds) (Figure 2).

Step 1 - Apply a palm full of the product in a cupped hand, covering all surfaces.

Step 2 - Rub hands palm against palm.

Step 3 - Right palm over left dorsum with interlaced fingers and vice versa.

Step 4 - Palm against palm with fingers interlaced.

Step 5 - Backs of fingers to opposing palms with fingers interlocked.

Step 6 - Rotational rubbing of left thumb clasped in right palm and vice versa.

Step 7 - Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa.

Once dry, your hands are safe.



**Figure 2: Method of Performing Hand Hygiene with Alcohol-based Hand Rub**

Source: [http://e-safe-anaesthesia.org/sessions/13\\_02/d/ELFH\\_Session/370/tab\\_536.html](http://e-safe-anaesthesia.org/sessions/13_02/d/ELFH_Session/370/tab_536.html)

3.3.4 Steps on how to wash hands when visibly soiled (otherwise, use hand rub. Duration of the entire procedure is 40-60 seconds):

Step 0 - Wet hands with water.

Step 1- Apply enough soap to cover all hand surfaces.

Step 2 - Rub hands palm against palm.

Step 3 - Right palm over left dorsum with interlaced fingers and vice versa.

Step 4 - Palm against palm with fingers interlaced.

Step 5 - Backs of fingers to opposing palms with fingers interlocked.

Step 6 - Rotational rubbing of left thumb clasped in right palm and vice versa.

Step 7 - Rotational rubbing, backwards and forwards, with clasped fingers of right hand in left palm and vice versa.

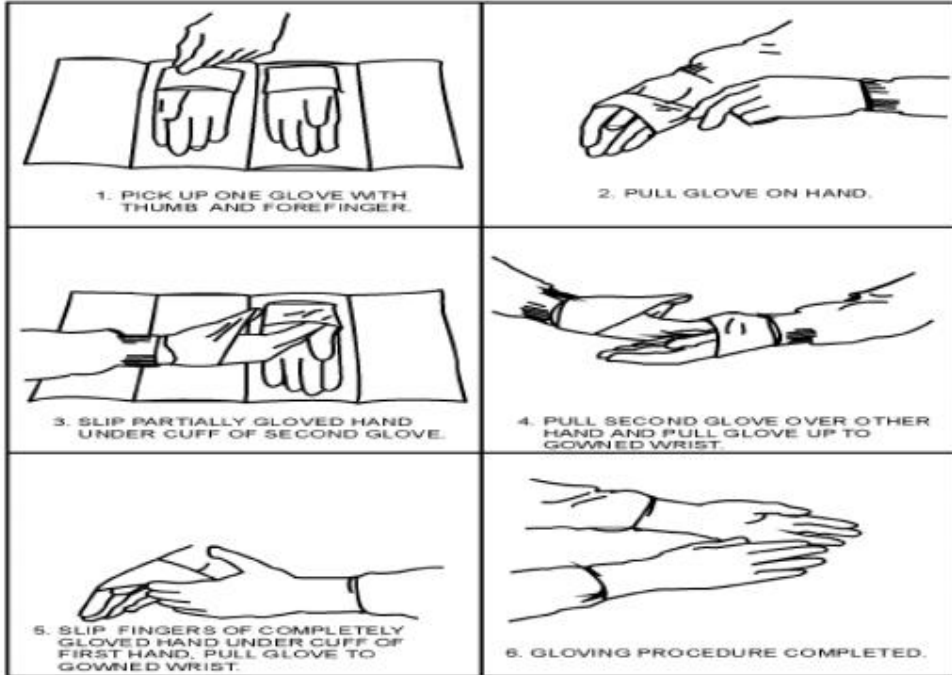
Step 8 - Rinse hands with water.

Step 9 - Dry hands thoroughly with a single use towel.

Step 10 - Use towel to turn off faucet; your hands are now safe.

### 3.3.5 Gloves (Figures 3 and 4)

- a. Wear gloves when it can be reasonably anticipated that contact with blood or other potentially infectious materials, mucous membranes, nonintact skin, or potentially contaminated intact skin (for example, with stool or urine in an incontinent patient) could occur.
- b. Wear gloves with fit and durability appropriate to the task.
- c. Wear disposable medical examination gloves for providing direct patient care.
- d. Wear disposable medical examination gloves or reusable utility gloves for cleaning the environment or medical equipment.
- e. Remove gloves after contact with a patient and /or the surrounding environment (including medical equipment) using proper technique to prevent hand contamination.
- f. Do not wear the same pair of gloves for the care of more than one patient.
- g. Do not wash gloves for the purpose of reuse since this practice is associated with transmission of pathogens.
- h. Change gloves during patient care if the hands are moved from a contaminated body site (for example, perineal area) to a clean body site (for example, face).



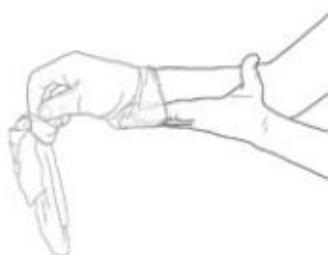
**Figure 3: Steps to Wearing Gloves**

Source: [http://medical.tpub.com/14295/img/14295\\_110\\_1.jpg](http://medical.tpub.com/14295/img/14295_110_1.jpg)

## 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

**Figure 4. How to Remove Gloves**

Source: [http://bmc1.utm.utoronto.ca/~amanda/images/portfolio-biomedical/glove\\_removal.jpg](http://bmc1.utm.utoronto.ca/~amanda/images/portfolio-biomedical/glove_removal.jpg)

### 3.3.6 REMEMBER

- Remove all jewellery from the hands when working in the hospital.
- Do not wear artificial fingernails or extenders when in direct contact with patients.
- Keep natural nails short.

### 3.3.7 Hand washing could be of two types:

- Hand washing before general procedures called Routine Hand Washing.
- Hand scrubbing before a surgical procedure.

### 3.3.8 Surgical hand scrubbing: The aim of surgical hand scrubbing with an antiseptic agent is to minimize the number of microorganisms on hands under the gloves. This reduces the risk of infection to a client if gloves develop a small hole, tears or nicks during the procedure.

- Remove all jewelry on hands and wrists.
- Hold the hands above waist level and wet hands in water.
- Apply sufficient antiseptic solution; use firm, circular motions to wash hands and arms up to the wrists, covering all areas including palms, back of the hands, fingers, between



fingers, and lateral side of thumb, knuckles, and wrists for at least three to five minutes by watch.

- d. Repeat the procedure twice.
- e. Rinse both hands one-by-one and keeps the hands above waist level at all times.
- f. Dry the hands with a sterile towel keeping them above waist level.
- g. Do not touch anything except the gloves after washing hands for a surgical procedure.

### **3.4 Personal Protective Equipment(PPE)**

Personal protective equipment should be used by:

- Healthcare workers who provide direct care to patients and who work in situations where they may have contact with blood, body fluids, excretions, and secretions.
- Support staff including medical aides, cleaners, and laundry staff in situations where they may have contact with blood, body fluids, secretions, and excretions.
- Laboratory staff, who handle patient specimens.
- Family members who provide care to patients and are in a situation where they may have contact with blood, body fluids, secretions, and excretions.

Personal protective equipment includes:

- Gloves
- Protective eye wear (goggles)
- Mask
- Apron
- Gown
- Boots or shoe covers
- Cap or hair cover

#### **3.4.1 Gown (Figure 5)**

- a. Wear a gown that is appropriate to the task, to protect skin and prevent soiling or contamination of clothing during procedures and patient care activities when contact with blood, body fluids, secretions, or excretions is anticipated.
- b. Wear a gown for direct patient contact if the patient has uncontained secretions or excretions.

- c. Remove the gown and perform hand hygiene before leaving the patient's environment.
- d. Do not reuse gowns, even for repeated contacts with the same patient.
- e. Routine donning of a gown when entering a high-risk unit (for example, ICU, NICU, HSCT unit) is not indicated.



**Figure 5. Steps to Wearing a Gown**

Source: [http://medical.tpub.com/14295/css/14295\\_109.htm](http://medical.tpub.com/14295/css/14295_109.htm)

### 3.4.2 Mouth, Nose, Eye Protection

- a. Use PPE to protect the mucous membranes of the eyes, nose, and mouth during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions and excretions. Select masks, goggles, face shields, and combinations of each according to the need anticipated by the task performed.

- b. During aerosol-generating procedures (for example, bronchoscopy, suctioning of the respiratory tract [if not using in-line suction catheters], endotracheal intubation) in patients who are not suspected of being infected with an agent for which respiratory protection is otherwise recommended (for example, M. tuberculosis, SARS or haemorrhagic fever viruses), wear one of the following: a face shield that fully covers the front and sides of the face, a mask with attached shield, or a mask and goggles (in addition to gloves and gown).

The use of double gloves is not recommended. Heavy duty rubber gloves should be worn for cleanings instruments, handling soiled linen, or when dealing with spills.

### **3.5 Guidelines for Collection of Blood Samples**

Use gloves and take special care if there are cuts or scratches on the hands.

Take care to avoid contamination of hands and surrounding area with the blood.

- 3.5.1 Use disposable or autoclaved syringes and needles.
- 3.5.2 Use 70 percent ethanol or isopropyl alcohol swabs or sponges for cleaning the site of needle puncture.
- 3.5.3 Use thick dressing pads or adsorbent cotton below the forearm when drawing blood and tourniquet above.
- 3.5.4 Tourniquet must be removed before the needle is withdrawn.
- 3.5.5 Place dry cotton swab and flex the elbow to keep the swab in place till bleeding stops.
- 3.5.6 Place used needles and syringes in a puncture-resistant container containing disinfectant.
- 3.5.7 Do not recap used needles.

### **3.6 Proper Disposal of Needles and Sharps**

- 3.6.1 Needles and sharps are the commonest mode of transmission of blood-borne pathogens to the healthcare worker.
- 3.6.2 Precautions should be taken to prevent injuries by sharp instruments, especially hollow bore needles that have been used for venipuncture or other vascular access procedures.
- 3.6.3 Needles should not be recapped, bent or broken by hand. Disposable needles and other sharps should be disposed immediately after use into puncture-resistant containers which should be located at the site of the procedure.

- 3.6.4 When a needle has to be removed from a syringe, do it with utmost care.
- 3.6.5 Do not overfill a sharps container.

### **3.7 Good Practice for Safe Handling and Disposal of Sharps**

- 3.7.1 ALWAYS dispose of your own sharps.
- 3.7.2 NEVER pass used sharps directly from one person to another.
- 3.7.3 During exposure-prone procedures, the risk of injury should be minimized by ensuring that the operator has the best possible visibility; for example, by positioning the patient, adjusting the light source, and controlling bleeding.
- 3.7.4 Protect fingers from injury by using forceps instead of fingers for guiding suturing.
- 3.7.5 NEVER recap, bend or break disposable needles.
- 3.7.6 Directly after use, place needles and syringes in a rigid container until ready for disposal.
- 3.7.7 Locate sharps disposal containers close to the point of use, for example, in patient's room, on the medicine trolley, and in the treatment room.