



**Ministry Of Health**

**Infection Control Directorate**

**Hotel Service Directorate**



**Manual Guide  
for  
Environmental Cleaning and Disinfection**

2016

## Contents

1. General Principles of Cleaning and Disinfecting Strategies for Environmental Surfaces in Patient-Care Areas.
2. Classification of health care facility areas
3. Cleaning and disinfecting agents
4. Cleaning methods
5. Cleaning Supplies /Equipment
6. Environmental cleaning in different areas
7. Cleaning Spills of Blood and Body fluids
8. Cleaning and Disinfection of Environment Contaminated with Specific Pathogens
9. Waste management
10. Management of sharps injuries and exposure to blood and body fluids
11. In-Service Education
12. References
13. Appendices
  - Appendix 1: Classification of functional areas according to the risk associated with inadequate cleaning
  - Appendix 2: List of all Cleaning Supplies /Equipment
  - Appendix 3: Technical procedures for environmental cleaning in different locations
  - Appendix 4: Incident report forms of sharps injuries and exposure to blood and body fluids

# 1. General Principles of Cleaning and Disinfecting Strategies for Environmental Surfaces in Patient-Care Areas

- Divide the environmental surfaces into:
  - 1- Items need to be cleaned frequently because of the high degree of handling and the risk of cross-transmission of infection , need to be cleaned after each patient use. These are referred to as “**high touch surfaces or items.**”

**High touch items** include bedrails, doorknobs, light switches, telephones, nurse call buttons, television remote controls, and bedside tables.
  - 2- Items that need less frequent cleaning, are those that are handled less often and are not frequent sources of infection. They usually require less frequent cleaning according to a specified schedule. But if visibly soiled, it should be cleaned immediately. **Low touch surfaces** include floors, walls, curtains, lights, and ventilation grilles.
- Cleaning schedules and procedures should progress **from the least soiled areas ( low-touch) to the most soiled ( high-touch) areas.**
- For accuracy, and to avoid missing any area, cleaning should start from high surfaces to low ones and from inside to outside.
- Minimize air and dust turbulence when cleaning.
- Follow proper cleaning procedure by applying the following tips:
  - Follow the manufacturer’s instructions for proper dilution and contact time of cleaning and disinfecting solutions.
  - Gather materials required for cleaning before entering the area.
  - Clean hands and don required attire on entering the area.
  - Clean the environmental surfaces using friction to physically remove visible dirt, organic material, and debris, thereby removing micro-organisms.
  - Use mops, towels, and solutions effectively.
  - Prepare cleaning solutions at the beginning of each shift, replace with fresh solution as needed. Discard the remaining at the end of each shift.
  - Change the mop heads at the beginning of each shift, or after cleaning up spills of blood or other body substances.
  - Wash mops after use and allow to dry before reuse (e.g., launder and dry at least daily) or use single-use, disposable mop heads.
  - The practice of ‘topping up’ the cleaning solution container is not acceptable, since it can result in contamination of the container and solution.
  - Vacuum carpets using vacuums fitted with a HEPA filter.
  - Be alert for needles and other sharp objects. Pick up sharps using a mechanical device and place into sharps container. Report incident to supervisor.
  - Collect waste, handling plastic bags from the top (do not compress bags with hands).
  - Assign transporting personnel for collection of waste from different areas.

- Clean hands and remove protective attire on leaving the area.
- Use appropriate dusting methods for patient-care areas designated for immunocompromised patients (e.g. hematopoietic stem cell transplant (HSCT) patients) as follows:
  - Wet-dust horizontal surfaces daily by cleaning followed by disinfection
  - Avoid dusting methods that disperse dust (e.g., feather-dusting)
- When performing low- or intermediate-level disinfection of environmental surfaces in nurseries and neonatal units:
  - Avoid unnecessary exposure of neonates to disinfectant residues by using manufacturers’ instructions and safety advisories.
  - Change disinfectant solutions as per manufacturer’s instructions. Change more frequently in heavily contaminated areas, when visibly soiled and immediately after cleaning blood and body fluid spills. remove
  - After each shift the remaining of used disinfectants should be discarded

## 2. Classification of health care facility areas

- Cleaning schedule should be based on the following:
  - The location within the facility.
  - Type of surface to be cleaned.
  - Type of soil present.
  - Tasks or procedures being performed.
- This may be achieved by classifying areas into one of four functional areas. **(Appendix 1)**

### 1. Very high risk area

In very high risk functional areas cleaning standards require the highest level of intensity and frequency of cleaning.

### 2. High risk area

Cleaning standards in high risk areas are maintained by frequent scheduled cleaning and a capacity to “spot” clean.

### 3. Moderate risk area:

Cleaning standards in moderate risk areas are important for both hygiene and aesthetic reasons and are maintained by routine scheduled cleaning with some capacity to spot clean in between.

### 4. Low/minimal risk area:

Cleaning standards in low risk areas are important for aesthetics and, to a lesser extent, hygiene and are maintained by cleaning on a routine basis with capacity to spot clean in between scheduled cleaning.

**In the event of an outbreak of a transmissible disease or infection, eg gastroenteritis or a multi-resistant organism, the affected ward/location should be re-categorized from moderate risk to very high risk for the period of the outbreak. (Appendix 1)**

### **3. Approved Cleaning and disinfecting agents**

#### **Cleaning agents**

1. Multipurpose neutral detergent
2. Alkaline detergent
3. Acidic detergent.
4. Carpet shampoo.
5. Glass cleaner.
6. Floor polish.
7. Aluminum and stainless steel cleaner.
8. Stain remover.
9. Polish remover.
10. Powder for marble polish.
11. Detergent for mop washing in a liquid or powder form.
12. Liquid soap for floor cleaning.
13. Hand washing liquid soap for use in public areas and toilets.
14. Antiseptic hand washing solution for the cleaners with chlorohexidine in 2-4%.
15. Special cleaning agent for decontamination of surfaces contaminated with radioactive materials (if required) according to radiation protection authorities.

#### **Disinfecting agents:**

1. Chlorine and chlorine compounds:
  - It shall contain sodium hypochlorite in concentration not less than 2.5% provided in a tablet or powder form (not in liquid)
  - It should be freshly prepared and diluted according to manufacturer's instructions
  - It is fast acting and has a broad spectrum of antimicrobial activity.
  - It is active against viruses.
  - It is incompatible with cationic detergents.
2. Phenolic compounds (if available):
  - Use as per manufacturer's instructions.
3. Alternative disinfectant ( if Phenolic compounds are not available)
  - It shall have certification of European Norms ( EN 13727 , EN 13624 , EN 14476 and EN 14348 ) or American certification e.g. ASTM E2614 - 8 or EPA or FDA certification as hospital disinfectant .

## Guides for use of disinfectant

1. Agents that contain detergent/disinfectant in one step is not accepted for use.
2. Preparation and dilution of disinfectants should be done on daily basis and when needed under the supervision of concerned pharmacist.
3. Disinfectants should not be mixed with detergents
4. Disinfectants should not be used routinely during cleaning of floors and environmental surfaces, but only for high risk areas and whenever there infection or contamination
5. Chlorine compounds shall be used for disinfection of blood and body fluid spillage and surfaces possibly contaminated with TB.
6. Chlorine compounds are not recommended for use in presence of urine or fecal spillage
7. Phenolic compounds should not be used in neonatal, pediatric or obstetric wards also in kitchens.
8. Phenolic compounds can be used for disinfection of urine and fecal spillage but not for disinfection of blood and body fluid spillage.
9. Disinfectants not containing Chlorine compounds or Phenolic compounds should not be used for disinfection of surfaces possibly contaminated with TB.

## 4. Cleaning methods

- Wet cleaning is recommended and drying is essential.
- **High dusting:-** All surfaces above shoulder height should be dusted with a damp mop to prevent dust from being dispersed.
  - Mops must never be shaken.
  - To prevent missing spots, work should proceed either clockwise or anti clockwise from the starting point.
  - While high dusting, observe for possible leaks in pipes; since it may provide a reservoir for fungal growths. If found, report for immediate repair.
- **Walls, windows and doors** including door handles should be spot cleaned when needed and cleaned completely on regular schedule daily.
- **Horizontal surfaces** in all health care areas, including tables, beds, chairs, ledges, lights, and wall fixtures, should be cleaned by wiping at least daily with a clean disposable towel dampened with detergent and water .When these surfaces are visibly soiled or contaminated it should be cleaned first with detergent and water then with a registered disinfectant and promptly discard the disposable towel
- **High touch surfaces** : ( such as bedrails, doorknobs, bedside tables, telephones, call lights, handheld television monitors, and light switches), **it should be cleaned then disinfected.**
- **Bathrooms:**
  - Bathrooms must be cleaned with a detergent **followed by disinfectant** at the beginning of each shift and when visibly soiled.

- The toilet, faucet handles, and other fixtures require special attention.
  - At the beginning of each shift, the sink is cleaned using neutral detergent. The sink should be cleaned once daily with diluted alkaline detergent followed by clear water and then neutral detergent followed by proper flushing.
  - The ceramic tile grout around the commode and tub or shower should be checked for mold. If present, the mold must be removed.
  - Countertops that are cracked or moldy should be replaced. Mold requires forced scrubbing followed chlorine releasing agent to eliminate.
  - If a patient is using a bedside commode, clean it with a detergent followed by disinfectant at least daily and when visibly soiled.
  - When no longer needed, the commode should be decontaminated before it is moved to the soiled utility room. This step is particularly important if the patient has *C. difficile* infection to prevent the spread of spores.
- **Hand hygiene (HH ) agents**
    - Antiseptics for hand hygiene should be supplied for the working personnel in all patient care areas and areas with routine exposure to blood and body fluids.
    - Do the required HH disinfection after finishing the cleaning procedure.
- **Waste**
    - Waste is collected from all areas three times daily and when needed.
    - In areas with large volume of waste, collect the waste at the beginning of each shift and when needed.
    - Empty the containers by replacing the waste bags before they overflow (whenever it is 2/3 full).
    - Clean and disinfect the inside and outside of the receptacles and their covers routinely. In patient care areas and departments handling blood and body fluids, do this daily.
    - Provide separate containers for biohazardous and non-biohazardous waste.
    - Distribute the waste bags according to the color coding policy ( blue for non-biohazardous waste, yellow for hazardous waste and red in the bathrooms)
- **Floors**
    - Do not use disinfectant for floor cleaning except in isolation rooms, critical areas (very high risk – high risk ) and operation rooms.
    - Clean the floor starting from inside areas to outside considering moving from the least soiled to the more soiled areas.
    - Begin with spill and stain cleaning if found.
    - By using the mop and bucket technique, replace floor mopping solution every three patient rooms.
    - Change the mops with the same frequency as the detergent solution, and launder.
    - In critical areas, disinfect using tasky mops after cleaning.

- Store the bucket dry and clean.
- Scrubbing machines are also effective and essential for floor cleaning.
- **Carpets and cloth furnishings**
  - Carpets and cloth furnishing are not allowed in hallways and patients care areas.
  - Vacuum carpeting in public areas of health-care facilities regularly with well-maintained equipment designed to minimize dust dispersion.
  - Use of vacuums with HEPA filters.
  - Use carpet washing machine with shampoo for deep cleaning when needed.
  - Thoroughly dry wet carpeting to prevent the growth of fungi; replace carpeting that remains wet after 72 hours.
  - Avoid the use of upholstered furniture and furnishings in patient-care areas.
- **Flowers and Plants in Patient-Care Areas**
  - Flowers and potted plants need not be restricted from areas for immunocompetent patients.
  - Do not allow fresh or dried flowers, or potted plants in patient-care areas for immunosuppressed patients.
  - Designate care and maintenance of flowers and potted plants to staff not directly involved with patient care.
  - If plant or flower care by patient-care staff is unavoidable, instruct the staff to wear gloves when handling the plants and flowers and perform hand hygiene after glove removal.

## 5. Cleaning Supplies /Equipment

### **Buckets:**

- Trolley with double separate buckets should be provided. Blue bucket for cleaning solution mixed with water and other red bucket for rinsing water.
- Water, cleaning solution and mop heads should be changed in between cleaning of :
  - General rooms every three rooms.
  - Corridors.
  - Private room.
  - Treatment room, dressing room, store and linen room.
- Separate buckets should be provided for the cleaning of bathrooms and each isolation rooms.
- Prepare disinfecting (or detergent) solutions as needed and replace these with fresh solution frequently (e.g., replace floor mopping solution and mop heads every three patient rooms, not to be used more than 60-minute intervals)



- After cleaning, buckets should be emptied, cleaned and kept dry.

**Mops:**

- Enough mops with long handles should be provided for each location within the healthcare facility.
- Dedicate separate mops for
  - general rooms,
  - corridors,
  - private rooms,
  - Examination, Treatment and dressing rooms,
  - store and linen room,
  - bathrooms
  - isolation rooms
  - and an extra mop in case of spillage of blood and body fluids.
- **In operation theatre,**
  - Tasky mop for floor disinfection should be available one mop for disinfecting every 4m X 4m of operation room.
  - Other ordinary mops should be provided for other areas inside the theatre;
    - one for store.
    - one for recovery room.
    - one for changing room.
    - one for bathrooms.
- Reusable mops should be sent to be laundered at the end of each shift .
- Recommended methods of cleaning these items include washing at 95°C s with a detergent followed by 100% drying.
- Tasky mops should be washed after every single use and dried.

**Disposable towels:**

- Used to clean the surfaces.
- Color coding should be followed :
  - Yellow for infectious materials and infected surfaces.
  - Red for bathrooms
  - Blue for general areas.

**Personal protective equipment:**

- Gloves should be worn when performing any cleaning activity.
- In most situations, disposable gloves are recommended and must be provided.
- Heavy duty gloves are recommended if the task has a high risk for percutaneous injury.

- When there is a potential risk for splashing or splattering, a fluid-resistant gown or apron, protective eyewear, and mask should be worn.
- For blood or body fluids spills, wear disposable cleaning gloves, mask, a fluid-resistant gown or plastic apron, and protective eyewear if needed.

Refer to **Appendix 2** for the complete list of all Cleaning Supplies /Equipment.

## **6. Environmental cleaning in different areas (Appendix 3)**

### **In patient rooms**

- High dusting; spot cleaning of walls, windows, and doors, light fixtures, openings of air conditioning, chairs, beds and floors should be performed daily and after the patient is discharged.
- In isolation rooms cleaning should be followed by disinfection
- High touch surfaces should be cleaned and disinfected on a more frequent schedule at the beginning of each shift and when needed and after the patient is discharged.
- Floor cleaning should be done at the beginning of each shift, and when needed and terminal cleaning after the patient is discharged. Biweekly floor cleaning is done using the cleaning machines..
- For rooms of patients on isolation precautions, perform the same daily cleaning in addition to disinfection.
- When the infected patient is taken off isolation precaution or discharged, new full cleaning equipment should be used for thorough terminal cleaning.

### **Special care areas e.g operating rooms and intensive care units:**

- Assign special staff, cleaning equipment and materials for each of the special care areas.
- Consider wearing the required attire for each of these areas.
- Begin the cleaning procedure with proper waste collection followed by spillage removal if any.
- Cleaning of horizontal surfaces, and furniture used for the procedure is necessary after each patient except the operation table and equipment which should be done by the nurse..
- Procedure rooms in which invasive procedures are performed (e.g., cardiac catheterization laboratory, GI endoscopy, interventional radiology) should be cleaned in a similar manner to operating rooms with a detergent solution followed by the recommended disinfectant as needed after each patient and as needed.

- In operating theatres (OT), end-of-case cleaning followed by disinfection is only necessary to clean 1.5 meter perimeter around the operative site; the cleaning area should be extended if greater contamination has occurred.
- After the last surgical procedure of the day, clean and disinfect operating room floors with a registered hospital disinfectant
- For terminal daily cleaning, all the equipment on the floor should be removed to allow cleaning of the entire floor area.
- Do not use mats with tacky surfaces at the entrance to operating rooms (for decontamination of shoes).
- A clean mop head should be used for each case.
- Tasky mop are used for floor disinfection in these areas with registered disinfectant
- Walls in the critical areas should be cleaned once a day with water and neutral detergent using a single use disposable towel then disinfected with registered disinfectant

### **Examination Rooms**

- After each patient, clean horizontal surfaces (examination tables and lights) with water and a neutral detergent using a single use disposable towel .
- Biohazardous waste bags are replaced.
- At the end of the shift, all horizontal surfaces and the entire floor should be thoroughly cleaned with a neutral detergent.
- Used suction containers, if present, should be changed and sent for reprocessing.
- Walls should be cleaned weekly and when needed.

### **Dialysis Unit**

- Environmental surfaces (e.g., dialysis chair or bed, countertops, external surfaces of dialysis machines, scissors, hemostats, clamps, blood pressure cuffs, stethoscopes) should be routinely cleaned followed by disinfection with an MOH-registered disinfectant after each patient by the staff nurse ( not to be done by the cleaner).
- If visibly soiled with blood, use 1:100 dilution of sodium hypochlorite immediately to manage the blood spill (according to spill management procedures)
- The dialysis machines are cleaned and disinfected according to the manufacturer's specification by the staff nurse ( not to be done by the cleaner)..
- Waste containers should be emptied by removing and replacing waste bags after each patient and when needed
- Floors are cleaned followed by disinfection at each shift and when visibly soiled.

### **Dental Examination Areas**

- Uncovered surfaces (e.g., countertops, sink handles, switches) in dental examination areas are cleaned followed by disinfection with an MOH-registered disinfectant after each patient.
- Coverings on high touch surfaces should be removed, replaced and discarded after each patient. These surfaces should be disinfected when the coverings are torn, damaged, or visibly soiled, and at the end of each shift by the nurse.

### **Clinical Laboratories**

- Laboratories require daily cleaning followed by disinfection
- Countertops should be decontaminated after each shift and whenever spills occur by laboratory personnel.
- Housekeeping personnel should not clean laboratory instruments or equipment.
- Waste should be collected at the end of each shift and when needed. Waste containers should be emptied by replacing waste bags

### **Administrative Offices and Conference Rooms**

- In offices and conference rooms, daily dusting, cleaning or vacuuming of floors and furniture is adequate, unless visibly soiled.
- Clean using neutral detergent and water .
- Waste should be collected daily.

## **7. Cleaning Spills of Blood and Body Fluids**

### **1. Procedures for dealing with small spillages eg, splashes and droplets (<10 ml)**

- Gloves and a plastic apron must be worn.
- When sharps are involved use forceps to pick up sharps, and discard these items in a puncture-resistant container
- The area should be wiped thoroughly using disposable paper roll / towels.
- The areas should be cleaned using a neutral detergent and warm water.
- Use a 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides which provides 525-615 ppm available chlorine (practically expressed as 1 tablet of 2.5gm over 2.5 liters of water ) to decontaminate nonporous surfaces after a small spill .
- The gloves, apron and paper roll / towels should be put into a clinical waste bag.
- Wash hands after removing gloves.

## **2. Procedure for dealing with large spills (>10 ml ):**

### **A. Large blood spills in a 'wet' area e.g. a bathroom or toilet area:**

- Where large spills have occurred in a 'wet' area, such as a bathroom or toilet area, the spill should be carefully washed off into the sewerage system using copious amounts of water and the area flushed with warm water and detergent.
- The area must then be disinfected using a chlorine releasing agent. Use a 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides which provides 525-615 ppm available chlorine (practically expressed as 1 tablet of 2.5gm over 2.5 liters of water )

### **B. Large blood spills in 'dry' areas (such as clinical areas)**

- Where possible, isolate spill area
- Where a spillage of potentially infectious material has occurred the area must be vacated for at least 30 minutes for dispersed aerosol particles to be settled.
- Wear disposable cleaning gloves, eyewear, mask and plastic apron
- When sharps are involved use forceps to pick up sharps, and discard these items in a puncture-resistant container
- Cover the spill with paper towels, depending on the size of the spill, to absorb the bulk of the blood or body fluid/substance. Use disposable (for example, cardboard) scraper and pan to scoop up the paper towel and any unabsorbed blood or body substances.
- Place all contaminated items into yellow plastic bag for disposal.
- Pour 5,000 ppm chlorine solution 1:10 dilution (practically expressed as 10 tablets of 2.5gm over 2.5 liters of water ) and allow 10 minutes to react then wipe with tissue papers making sure that you don't allow it to come into contact with your skin or disposable toweling and discard in biohazard waste.
- Decontaminated areas should then be cleaned thoroughly with warm water and neutral detergent.
- Follow this decontamination process with a terminal disinfection. Use a 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides which provides 525-615 ppm available chlorine (practically expressed as 1 tablet of 2.5gm over 2.5 liters of water) .
- Discard contaminated materials (absorbent toweling, cleaning disposable towels, disposable gloves and plastic apron) into biohazard waste bag.
- Wash hands after removing gloves
- Clean and disinfect bucket and mop. Dry and store appropriately.

### 3. Procedure for dealing with spilled Urine, feces, sputum and vomit:

- Single use gloves and a plastic apron must be worn.
- The spillage should be covered with disposable paper towel to absorb the spilled material. These should then be gathered up and placed in a yellow waste bag. The area must then be cleaned thoroughly using detergent and hot water and dried.
- The area must then be disinfected using a chlorine releasing agent. Use a 1:100 dilution of a 5.25-6.15% sodium hypochlorite provides 525-615 ppm available chlorine (practically expressed as 1 tablet of 2.5gm over 2.5 liters of water )
- Protective disposable toweling and paper must be discarded into the yellow waste sack.
- Wash hands after removing gloves.

#### N.B.

- **Urine and vomit spillages:** Chlorine releasing agents must never be poured directly onto urine or vomit as this causes chlorine gas to be released.
- **Dilution of the chlorine releasing agent** should be according to the manufacturer instruction to get the recommended concentrations.

## 8. Cleaning and Disinfection of Environment Contaminated with Specific Pathogens

### 1. Antibiotic-resistant gram-positive cocci

- Use appropriate hand hygiene, personal protective equipment (PPE ) (e.g., gloves), and isolation precautions during cleaning and disinfecting procedures.
- Use standard cleaning and disinfection protocols to control environmental contamination with antibiotic-resistant gram-positive cocci (e.g., methicillin-resistant *Staphylococcus aureus*, vancomycin intermediate-resistant *Staphylococcus aureus*, or vancomycin-resistant *Enterococcus* [VRE] ).
  - Pay close attention to cleaning and disinfection of high-touch surfaces in patient-care areas (e.g., bed rails, carts, bedside commodes, doorknobs, or faucet handles).
  - Ensure compliance by housekeeping staff with cleaning and disinfection procedures.
  - Use a registered hospital disinfectants appropriate for the surface to be disinfected as specified by the manufacturers' instructions.
  - Follow these same surface cleaning and disinfecting measures for managing the environment of VRSA patients.
- Environmental-surface culturing or bacterial count (ATP) can be used to verify the efficacy of hospital policies and procedures before and after cleaning and disinfecting rooms that house patients with VRE.

- Thoroughly clean and disinfect environmental and medical equipment surfaces on a regular basis using a registered disinfectants in accordance with manufacturers' instructions.
- Advise families, visitors, and patients about the importance of hand hygiene to minimize the spread of body substance contamination (e.g., respiratory secretions or fecal matter) to surfaces.
- Do not use high-level disinfectants (i.e., liquid chemical sterilants) on environmental Surfaces ; such use is inconsistent with label instructions and because of the toxicity of the chemicals.

## 2. *Clostridium difficile*

- In units with high rates of *C. difficile* infection or an outbreak setting, use dilute solutions of sodium hypochlorite 1:10 dilution (5000 ppm (practically expressed as 10 tablets of 2.5gm over 2.5 liters of water ) for routine environmental disinfection.
- Currently, no products are registered specifically for inactivating *C. difficile* spores.

## 3. Creutzfeldt-Jakob disease (CJD)

- Develop and maintain cleaning and disinfection procedures to control environmental contamination with agents of Creutzfeldt-Jakob disease (CJD), for which no –registered product exists.
- In the absence of contamination with central nervous system tissue, extraordinary measures (e.g., use of 2N sodium hydroxide [NaOH] or applying full-strength sodium hypochlorite) are not needed for routine cleaning or terminal disinfection of a room housing a confirmed or suspected CJD patient
- After removing gross tissue from the surface, use either 1N NaOH or a sodium hypochlorite solution containing approximately 10,000–20,000 ppm available chlorine (dilutions of 1:5 to 1:3 v/v, respectively, of chlorine) to decontaminate operating room or autopsy surfaces with central nervous system or cerebral spinal fluid contamination from a diagnosed or suspected CJD patient.
  - a. The contact time for the chemical used during this process should be 30 min–1hour. Blot up the chemical with absorbent material and rinse the treated surface thoroughly with water.
  - b. Discard the used, absorbent material ( tissue paper or disposable towel) into appropriate waste biohazard bag .
- Use disposable, impervious covers to minimize body substance contamination to autopsy tables and surfaces.

#### 4. Ebola virus disease (EVD)

- Regular cleaning and disinfection of patient care area surfaces shall be performed, even in absence of visible contamination.
- This should be performed only by nurses as part of patient care activities in order to limit the number of additional healthcare workers who enter the room.

##### **For hard non-porous surfaces :**

- (e.g., high-touch surfaces such as bed rails and over bed tables, housekeeping surfaces such as floors and counters), meticulous daily cleaning and disinfection by solution containing 5000 ppm available free chlorine shall be carried out (practically expressed as 10 tablets of 2.5gm over 2.5 liters of water ).
- Use disposable cleaning disposable towels, mop disposable towels, and wipes and dispose of these in leak-proof waste bags.
- Use a rigid waste receptacle designed to support the bag to help minimize contamination of the bag's exterior

##### **For reusable porous surfaces :** that cannot be made single use avoid contamination .

- Use only a mattress and pillow with plastic or other covering that fluids cannot get through .
- Do not place patients with suspected or confirmed Ebola virus infection in carpeted rooms and remove all upholstered furniture and decorative curtains from patient rooms before use.
- Routine cleaning of the PPE doffing area should be performed at least once per shift and after the doffing of grossly contaminated PPE. Cleaning should be performed by a HCW wearing clean full PPE. Chlorine solution (solution containing 5000 ppm available free chlorine) should be used for disinfection. (practically expressed as 10 tablets of 2.5gm over 2.5 liters of water )
- When cleaning and disinfection are complete, the HCW should carefully doff PPE and perform hand hygiene.
- Be sure staff is instructed in the proper use of PPE including safe removal to prevent contaminating themselves or others in the process, and that contaminated equipment is disposed of appropriately .
- Dedicated or disposable equipment must be used for cleaning.

#### 9. Waste management

- Biohazardous waste include the followings:
  1. Any liquid or semiliquid blood or other potentially infectious materials.
  2. Contaminated items that would release blood or other potentially infectious materials in a liquid or semi liquid state if compressed.
  3. Items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.
  4. Sharps (including needles, scalpel blades, glass, and pipettes) contaminated with blood and body fluids.



5. Pathological and microbiological wastes containing blood or other potentially infectious materials.

- Consider waste from isolation areas as biohazardous particularly if it is visibly contaminated with blood and other potentially infectious materials.
- Laboratory waste containing live cultures of microorganisms must be destroyed (by autoclaving) before transporting out of the laboratory area.
- Biohazardous and non-biohazardous waste should be separated.
- Place biohazardous waste in a single leak-resistant yellow plastic bag. If punctured or contaminated, the bag is placed into a second bag.
- Bags must be securely closed when  $\frac{3}{4}$  filled.
- Biohazardous waste containers not in continuous use, such as those in the soiled utility room, procedure room, or nursing station, must be kept covered.
- Biohazardous waste must be placed in appropriate puncture-resistant, leak proof container labeled with a biohazard symbol at the point-of-care/use and stored in a designated enclosed room with access limited to authorized staff.
- The storage area should be well ventilated and inaccessible to vertebrate pests.
- Non-biohazardous waste is disposed in blue bags and stored in labeled containers other than those of the hazardous waste.
- Personnel assigned for transport of waste must never use hands to compress waste in containers to prevent percutaneous injuries from contaminated sharp objects.
- Plastic bags should be carried or handled from the top and not come into contact with the body.
- Sharps disposal containers should be puncture resistant, leak proof and closable. They should be closed before they are overfilled. Care should be taken not to leave sharps protruding from the opening.
- Sharps disposal containers must be securely closed and disposed when  $\frac{3}{4}$  filled.
- Consider glass as a sharp and discard it in a puncture-resistant container. Glass containing blood or other potentially infectious materials should be treated as biohazardous sharp waste.
- Never handle broken glass with gloved or ungloved hands. Broken pieces should be picked up and discarded by mechanical devices, such as forceps or a brush and dustpan or two pieces of cardboard and then discarded.
- Waste containers are cleaned daily basis with detergent and water and when spills occur it should be disinfected with registered disinfectant
- Large waste transportation containers should be cleaned with water , detergent and disinfected with water vapor at the site of collection and storing prior to sending for final disposal.

## **10. Management of sharps injuries and exposure to blood and body fluids**

### **Treat Exposure Site**

- a. Wash with soap and water.
- b. Flush splashes to the nose, mouth, or skin with running water.
- c. Irrigate eyes with clean water, saline, or appropriate sterile irrigant.

### **Report and Document. Appendix ( 4)**

- a) Report either to the Charge Nurses/ Chief Technologists of (laboratories, Nuclear medicine, Pharmacy and Radiology Department)/ Senior Staff of non-clinical areas (e.g. CSSD, hotel services, laundry, catering services departments) according to department where incident occurred to fill out with counter sign the Needle-stick injuries form / Blood and Body Fluid exposure form.
- b) Refer to the preventive medicine or casualty department according to the directions given by the person in charge to take the post exposure prophylaxis if needed.
- c) The in charge person who filled the incident form will forward copies to:
  - Head of Hotel Service department of the exposed worker.
  - Preventive Medicine unit in the hospital
  - Hospital Infection Control Department
  - Nursing director that in turn will forward this copy to the file section through the hospital director .
- d) Keep file in the Hotel Service Department to collect all the incident forms

## **11. In-Service Education**

- All new employees must have a documented orientation session before beginning their duties.
- Annual in service education program in infection control , are recommended and must be documented.
- Gear the education to the education level of the workers and their proficiency with English.
- Document the education in the following manner :
  - a. Name of the employee and his or her identification number.
  - b. Name of the presenter
  - c. Brief outline of the presentation
  - d. Date and location of the program
- Documentation is required for the competency of the worker.

## 12. References

1. Environmental cleaning and disinfection policy, South Tyneside Primary Care Trust Control of Infection Committee, NHS, 2006.
2. Guidelines for Environmental Infection Control in Health-Care Facilities, Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC), 3003.
3. The Healthcare Infection Control Practices Advisory Committee (HICPAC) Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008.
4. Environmental cleaning , In :Infection Control Policy, NSW Department of Health 2007.
5. Best Practices for Environmental Cleaning for Prevention and Control of Infections In All Health Care Settings - 2nd edition. Provincial Infectious Diseases Advisory Committee (PIDAC)

## 13. Appendices

### Appendix (1)

#### Classification of functional areas according to the risk associated with inadequate cleaning

Very high risk	High risk	Moderate risk	Low/minimal risk
<ul style="list-style-type: none"> <li>• Operating Theatres</li> <li>• Intensive Care Unit</li> <li>• Level 2 and 3 nurseries</li> <li>• Special needs areas, e.g. patients who are immunosuppressed, Heamodialysis units and areas used for insertion of central venous catheters</li> <li>• Ward involved in an outbreak of a transmissible disease or infection</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency Department</li> <li>• Central Sterilizing Service Department (CSSD) and sterile supply areas</li> <li>• Microbiology laboratories</li> </ul>	<ul style="list-style-type: none"> <li>• General ward</li> <li>• Level 1 nursery</li> <li>• Kitchens</li> <li>• Cafeteria</li> <li>• Laboratories</li> <li>• Medical imaging (unless performing invasive procedure)</li> <li>• Public thoroughfares</li> <li>• Outpatient clinics</li> <li>• Pathology</li> <li>• Pharmacy</li> <li>• Procedure rooms</li> <li>• Treatment rooms</li> <li>• Waiting rooms</li> <li>• Mortuary area</li> <li>• Ambulance</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative areas</li> <li>• Non-sterile supply</li> <li>• Record storage and archives</li> <li>• Engineering workshop</li> <li>• Plant rooms</li> <li>• External surrounds</li> </ul>

## Appendix (2)

### List of all Cleaning Supplies /Equipment

1.	وحدة جردل مزدوج مع معصرة
2.	عربة مواد تنظيف بغطاء
3.	رؤوس ومقابض لماسح 12 بوصة
4.	مماسح للمسح الرطب 12 بوصة
5.	مماسح للمسح الرطب مايكرو فايبر
6.	رؤوس ومقابض لمماسح المايكرو فايبر
7.	رؤوس ومقابض لمماسح إزالة الغبار
8.	مماسح صوف جاذب للغبار
9.	مماسح إزالة الغبار ذات الإستخدام الواحد
10.	فرش مراحيض
11.	عربة نفايات 240 لتر
12.	عربة نفايات 600 لتر او 1100
13.	حاوية 6م مكعب
14.	وحدة التطهير البيئي
15.	مماسح وحدة التطهير البيئي
16.	أكياس النفايات البلاستيكية الحمراء والصفراء
17.	اكياس النفايات البلاستيكية الزرقاء
18.	القفازات الواقية
19.	جردل بلاستيك
20.	مماسح مياه مطاط للنوافذ
21.	سلم 6 درجات وسلم يمكن تمديده
22.	أدوات تنظيف النوافذ والجدران العالية
23.	وحدة كنس جافة
24.	وصلة كهربائية
25.	قفازات ذات الإستخدام الواحد
26.	قناني رش فارغة
27.	ورق تجفيف أيدي العمال
28.	لباد خشن ومتوسط وناعم بأحجام مختلفة ولباد مايكرو فايبر لدك ارضيات السيراميك
29.	محارم ورق لرفع المواد الملوثة
30.	ميزان لوزن النفايات الملوثة
31.	مجارف
32.	مماسح إسفنجية مطاطية
33.	قناني فارغة بأحجام مختلفة
34.	فوط بألوان مختلفة
35.	عربة لنقل الإثاث
36.	جهاز صابون سائل لغسيل الايدي
37.	سلة نفايات حجم 30 جالون
38.	سلة مهملات
39.	عربة لنقل الامتعه
40.	عربة تنظيف المساحات الخارجيه
41.	جهاز تخفيف المنظفات و المطهرات
42.	سلة مهملات للمساحات الخارجية
43.	سلة مهملات معدنية للممرات
44.	جهاز ورق تجفيف ايدي لدورات المياه
45.	جهاز ورق تجفيف للمرحاض
46.	مجارف
47.	مكاس ذات أطراف خشنة
48.	جردل بلاستيك
49.	مماسح مياه مطاط للنوافذ
50.	قناني رش فارغه
51.	محارم ورقية لرفع المواد الملوثة

52.	قناني فارغة حجم لتر
53.	فوط بألوانها واحجامها
54.	خرطوم مياه
55.	لباد خشن وناعم ومتوسط ولباد مايكروفايبر للسيراميك
56.	مماسح أسفنج
57.	فرش مراحيض
58.	ماكينة دك ( حجم صغير ) 13
59.	ماكينة دك ( حجم كبير ) 17
60.	ماكينة الشفط الجاف والمبلل ( حجم كبير )
61.	ماكينة الشفط الجاف والمبلل ( حجم صغير )
62.	ماكينة التنظيف متعددة الاغراض
63.	ماكينة التنظيف متعددة الاغراض مع سائق
64.	ماكينة تلميع ذات سرعة عالية
65.	ماكينة الشفط الجاف
66.	ماكينة غسيل السجاد (ضخ وشفط spray-extraction )
67.	ماكينة تجفيف السجاد
68.	الغسالة الكهربائية 5 كجم
69.	المجففة الكهربائية 5 كجم
70.	سيارة نقل النفايات العادية
71.	سيارة نقل النفايات الملوثة والخطرة
72.	سيارة داخلية لنقل النفايات لمنطقة التجميع
73.	سيارة كنس الساحات الخارجية ( حجم كبير )
74.	سيارة كنس الساحات الخارجية ( حجم صغير )
75.	سياره كنس لمواقف السيارات المتعد الادوار
76.	ماكينة التنظيف والتطهير البخار
77.	السلم الهيدروليكي
78.	عربة مواد تنظيف بغطاء
79.	وحدة جردل مزدوج مع معصرة
80.	أدوات تنظيف الجدران و النوافذ العالية
81.	سلم 6 درجات
82.	سلم يمكن تمديده
83.	عربة نفايات 240 لتر عادية
84.	عربة نفايات 240 لتر ملوثة
85.	عربة نفايات 600 لتر عادية
86.	عربة نفايات 600 لتر ملوثة
87.	حاوية نفايات 6م مكعب
88.	وحدة التطهير البيئي
89.	سلة مهملات معدنية للممرات
90.	سلة مهملات للساحات الخارجية
91.	سلة مهملات بلاستيك
92.	سلة نفايات حجم 30 جالون
93.	عربة لنقل الاثاث
94.	عربة لنقل الامتعه
95.	عربة تنظيف الساحات الخارجيه
96.	ميزان لوزن النفايات الملوثة
97.	حامل ورق تنشيف ايدي
98.	حامل ورق تنشيف مراحيض
99.	أجهزة صابون غسيل الايدي

### Appendix (3)

#### Technical procedures for environmental cleaning in different locations

##### I- Patient care area

Area	Procedure	Frequency of cleaning
Floor cleaning	<ol style="list-style-type: none"> <li>1. Remove dirt and stains from floors.</li> <li>2. Use single use dust mop to remove the dust</li> <li>3. Use wet mop with double bucket using hot water with neutral detergent with a microfiber mop. Use one mop /each room</li> <li>4. Scrub the floors with machines using hot water with neutral detergent and then drying the water by dry and wet suction machine then mop the floor with microfiber mop.</li> </ol>	<ul style="list-style-type: none"> <li>- When needed</li> <li>- On each shift</li> <li>- On each shift</li> </ul> <ul style="list-style-type: none"> <li>-Twice/week</li> </ul>
Floor lamination	<ol style="list-style-type: none"> <li>1. Dry mop to remove dust using single-use mop.</li> <li>2. Remove floors wax using scrubs machine followed by polish.</li> <li>3. Use wet mop with double bucket using hot water with neutral detergent with a microfiber mop .</li> <li>4. Develop a layer of wax floors using a special bucket special and Mops ( material for polish ) with a note to avoid slipping.</li> <li>5. Maintenance of the floor polishing using high-speed polishing machine and polishing material</li> </ol>	Once/ month in coordination with hotel service department
Floor disinfection	<ol style="list-style-type: none"> <li>1. Dry mop to remove dust using single-use mop.</li> <li>2. Use wet mop with double bucket using hot water and Dry properly</li> <li>3. wipe with disinfectant using tasky mop ( only in isolation rooms, OT, high risk areas)</li> </ol>	Three times a day and when needed
Walls	<ol style="list-style-type: none"> <li>1. Remove the stains from all wall surfaces.</li> <li>2. Clean and dry painted walls.</li> <li>3. Clean the walls up to two meters</li> </ol>	Once per week
Ventilation grills	<ol style="list-style-type: none"> <li>1. Wipe with neutral detergent to remove dirt and dust.</li> <li>2. Wipe with disinfectant and single use towel.</li> </ol>	Once per week
Patients' cupboard	- Clean inside and outside the cupboard for patients with long hospital stay under the patient supervision.	Once per week and after patient discharge

Carpeted floor	<ol style="list-style-type: none"> <li>1. Clean by a vacuum cleaner</li> <li>2. Clean and remove stains</li> <li>3. Use carpet washing machine with shampoo</li> </ol>	<p>-Once/day -When needed -Twice/year and when needed</p>
Furniture and window frames cleaning	<ol style="list-style-type: none"> <li>1. Done using neutral detergent with hot water to be sprayed on the surface then wiped with a single use towel then use another towel to dry properly.</li> <li>2. Routine cleaning is taking place as scheduled</li> </ol>	<p>-Once/ day and when needed.  -Weekly and when needed</p>
Machines and furniture disinfection	<ol style="list-style-type: none"> <li>1. Same way using the disinfectant solution and hot water in spray bottles and single-use towels</li> </ol>	According to manufacturer instructions and when needed
Windows	<ol style="list-style-type: none"> <li>1. Remove the tags.</li> <li>2. Clean the glass using special rubber equipment .</li> <li>3. Clean the upper glass windows using special rubber equipment</li> </ol>	<p>- Once per day and when needed - 3 times\ week - Once weekly</p>
Water coolers	<ol style="list-style-type: none"> <li>1. Wipe and dry surfaces</li> <li>2. Wash the filter and install again.</li> </ol>	<p>-Twice/week Three times/week in bad weather -3 times\ week</p>
Air vacuums	<ol style="list-style-type: none"> <li>1. Raise the filter and wash with cleaning solution fat remover</li> <li>2. Clean interior and exterior surfaces using a cleaning solution or fat remover</li> </ol>	<p>-Twice/week  -Twice/week</p>
Sinks	<ol style="list-style-type: none"> <li>1. Clean sinks for hand washing using neutral detergent starting by the mirror, dry then the faucets from exterior in a circular fashion till reaching the drain then clean the drain and dry.</li> <li>2. Wash the sink with diluted alkaline detergent and dry properly after flushing with clear water.</li> <li>3. Wash basins in presence of heavy dirt using strong alkaline substance , rinse with neutral detergent and flush with water and dry properly</li> </ol>	<p>-At each shift  -Once per day and when needed  -When needed</p>
Waste	<ol style="list-style-type: none"> <li>1. Wash the baskets from the outside and then inside then clean the base of the basket and dry</li> <li>2. Wash and dry the bag holders</li> </ol>	<p>-Daily  -Daily</p>

	<p>3. Change bags as per colour code</p> <p>4. Collect and remove all waste properly</p>	<p>-Three times /day and when needed</p> <p>-Three times /day and when needed</p>
Toilets	1. Wet mop using the red coded microfiber mop with double bucket, using hot water to neutral cleaning detergent and then dry thoroughly.	3 times at each shift and when needed
Toilets floors	<p>1. Scrubs floors using a small-sized machine using hot water with neutral detergent solution . Manual scrubbing is used for narrow areas.</p> <p>2. In the case of contamination of floors with organic matter it should be raised using paper towel followed by cleaning the area with water and neutral detergent and thorough drying.</p> <p>3. Disinfect floors with registered disinfectant solution.</p>	<p>-Twice/week</p> <p>-When needed</p>
Sinks in toilets	Wash the sink , according to the details previously discussed	When needed
Shower tubes, curtain holders Ceiling lights- ventilation openings Doors	<p>Thorough wash with a neutral detergent followed by proper drying</p> <p>Clean using a grease removing material with hot water.</p> <p>Clean using a neutral detergent followed by proper drying</p> <p>Clean using a neutral detergent followed by proper drying</p> <p>Clean using a neutral detergent followed by proper drying</p>	<p>- Once /day and when needed</p> <p>- Once /week</p> <p>- Once /week</p> <p>- Once /week</p> <p>- Daily</p>
Bath tub	<p>1. Clean bath tubs using neutral detergent and hot water starting with the faucets, then clean from exterior in a circular fashion till reaching the drain then clean the drain and dry. Thorough dry the faucets after cleaning.</p> <p>2. Wash the bathtub with diluted alkaline detergent , flush with clear water and dry properly</p>	<p>-Once/day and when needed</p> <p>-Once/day</p>
Toilets	<p>1. cleaning toilets' seats from the outside and the sides from bottom to top.</p> <p>2. Clean the toilet from inside to the top using a special brush and neutral detergent solution , then rinse with water from inside and outside . This is not contradictory with further cleaning as follows:</p> <p>3. Cleaning the toilet on the inside with diluted acid detergent and then rinse with water and then neutral detergent and rinse with water following the same cleaning steps discussed previously.</p>	<p>-3 times at each shift and when needed</p> <p>-3 times at at each shift and when needed</p> <p>-Twice/week</p>



Utility room	<ul style="list-style-type: none"> <li>- Mop the floor using hot water and neutral detergent in double bucket</li> <li>- Scrub the floor with the machine using hot water with cleaning solution</li> <li>- Clean hands washing basins and other taps and roofs with proper drying</li> <li>- Wipe and dry shelves for bedpans</li> <li>- Mop using double bucket the previously mentioned.</li> <li>- Wipe the walls and dry</li> </ul>	<ul style="list-style-type: none"> <li>-3 times and when needed</li> <li>-Twice\week</li> <li>-Once/day</li> <li>-Once/day and after use</li> <li>-Once/day</li> <li>-Once/week</li> </ul>
Doors	<ul style="list-style-type: none"> <li>- Wipe wooden doors</li> <li>- Polish wooden doors</li> <li>- Wipe aluminum doors</li> <li>- Polish aluminum doors according to the material.</li> <li>- Clean glass doors</li> </ul>	<ul style="list-style-type: none"> <li>-Once/day when needed</li> <li>-Once/week and when needed</li> <li>-Once/day and when needed</li> <li>-Once/week and when needed</li> <li>-Once/day</li> </ul>
Other duties for the cleaner	<ul style="list-style-type: none"> <li>- Remove the dirty curtains and replace with clean ones as per nurse directions.</li> <li>- Ensure placement of trolley for dirty linen in the proper place in the utility room .</li> <li>- Proper collection of the dirty linen under the nurse direction and supervision in the special bags with all the required personal protective equipment on.</li> <li>- Bringing the bedpan to the patient and taking it under supervision by the nurse.</li> <li>- Putting the linen on the trolley under nurse supervision.</li> </ul>	
Other duties after patient discharge	<ul style="list-style-type: none"> <li>- Washing and cleaning the patient's bed from all sides under nurse supervision and direction</li> <li>- Cleaning drawers from all sides</li> <li>- Cleaning patient closet well.</li> <li>- Mattresses should be covered with plastic bags and clean using hot water and non foam neutral detergent followed by thorough drying.</li> <li>- Throw all remaining patient's personal belongings.</li> <li>- Proper wall cleaning and drying.</li> <li>- Clean the bathroom as follows : - <ul style="list-style-type: none"> <li>o Scrub the floor by a machine.</li> <li>o Wash the hand washing sink with diluted alkaline detergent followed by clear water flushing then neutral detergent and proper rinsing with water.</li> <li>o Clean the toilet in the same way previously discussed.</li> </ul> </li> </ul>	

## II Operation rooms and intensive care units

- Operation room is divided into two zones : Non clean zone where changing disposable towels and antiseptics is taking place and the clean zone , that contains operation rooms . Same cleaning methods are used for both zones taking into consideration not to transfer tools and equipment between the zones .
- Separate cleaning equipment and labor should be assigned for each zone.

### Cleaning Guidelines for operating rooms and intensive care:

- Special cleaning machines and equipment should be supplied.
- Provide cleaning service for a period of seven days a week.
- Hotel Service Department may consult Infection control Department regarding use of disinfectants.

Area	Procedure	Frequency
Floor of the clean zone	<ul style="list-style-type: none"> <li>- Dry mop to remove dust using single use mop.</li> <li>- Two stages of wet mopping :               <ol style="list-style-type: none"> <li>a) Removal of organic material by tissue paper.</li> <li>b) Wipe the floor with water and neutral detergent using the double bucket and microfiber disposable towel.</li> <li>c) Use tasky mop with registered disinfectant.</li> <li>d) Scrub the floor with washing machine using hot water and neutral detergent.</li> </ol> </li> </ul>	<p>Three times/ day and when needed.</p> <p>Daily and between operations.</p> <p>Three times/day and between operations</p> <p>Daily and between operations</p> <p>Twice/week</p>
Walls of the clean zone	<ul style="list-style-type: none"> <li>- Remove the dust from the wall using single use towel.</li> <li>- Wet wipe with neutral detergent solution to remove the stains and dirt residues using a single use disposable towel and dry using another new single use disposable towel.</li> <li>- Wipe after washing the walls from all secretions and stain using the registered disinfectant</li> <li>- Wash the walls with neutral detergent solution, rinse with water and dry.</li> </ul>	<p>Daily</p> <p>Daily</p> <p>On spot</p> <p>weekly</p>
Windows of the clean zone	<ul style="list-style-type: none"> <li>- Washing windows and then dry</li> <li>- Clear glass from stains and finger prints.</li> <li>- Wash sliding doors and dry.</li> </ul>	<p>Twice/week</p> <p>Once/day and when needed.</p> <p>Once/day</p>

	<ul style="list-style-type: none"> <li>- Use neutral detergent solution to wipe lighting fixtures in operations room, door handles, solutions holder and light switches and then dry.</li> </ul>	Before each operation
Ceiling in the clean zone	<ul style="list-style-type: none"> <li>- Wet wipe with neutral detergent without foam and hot water</li> <li>- Clean all the ventilation grills using single use towel with neutral detergent then dry</li> </ul>	Twice/week  Once/day
Surfaces	<ul style="list-style-type: none"> <li>- Wet wipe all surfaces with neutral detergent without foam and hot water followed by disinfectant. Throw the towel after use</li> <li>- Disinfect all surfaces and machines with disinfectant using single use towel.</li> </ul>	Daily and between operations, Weekly and when soiling with blood or other body fluids
Hand washing sinks	<ul style="list-style-type: none"> <li>- Clean sinks for hand washing using neutral detergent without foam starting from exterior ending by the drain and from the sides of the sink to the bottom then thorough dry using single use towel including faucets and drains.</li> </ul>	Daily and between operations
Waste	<ul style="list-style-type: none"> <li>- Collect and remove all waste and trash in garbage bags as per colour codes</li> <li>- Cleaning waste bag holder using hot water and neutral detergent without foam using single use towel then dry followed by placing the new bag.</li> </ul> <p><i>Note: Waste containers are taken by the cleaner to the clean side entrance to change the bags then returned back to the non clean zone</i></p>	At each shift and between operations.  Daily and between operations  Daily and between operations
Changing rooms	<ul style="list-style-type: none"> <li>- Dry mop to remove the dust using single use mops.</li> <li>- Wipe the floor using a double bucket with hot water using a neutral detergent without foam.</li> <li>- Use cleaning machine with hot water with neutral detergent solution. .</li> <li>- Wipe all furniture with single-use towels by hot water with neutral detergent followed by proper drying.</li> </ul>	Daily and between operations. Daily and between operations Weekly and when needed.  Daily

Rest rooms and offices	<ul style="list-style-type: none"> <li>– Wipe with single use cleaning towel with neutral detergent and hot water followed by proper rinsing with water</li> <li>– Wipe all pieces of furniture and chairs with single-use towels and neutral material and water.</li> <li>– Discard all waste bags.</li> </ul>	<p>Daily</p> <p>Daily and when needed</p>
Walls in the non restricted zone	<ul style="list-style-type: none"> <li>– Remove finger marks and stains then wipe with neutral detergent solution and hot water then dry thoroughly.</li> <li>– Wash the walls with hot water with neutral detergent without foam and then wipe with a single-use towel.</li> <li>– Wipe after washing the walls from all secretions and stain using the proper disinfectant.</li> </ul>	<p>Daily and when needed</p> <p>Weekly and when needed</p> <p>On spot</p>
Floor in the non restricted zone	<ul style="list-style-type: none"> <li>– Dry mop to remove the dust using single use mops.</li> <li>– Wipe the floor using a double bucket with hot water using a neutral detergent without foam.</li> <li>– Use cleaning machine with hot water with neutral detergent solution. .</li> </ul>	<p>At each shift</p> <p>At each shift</p> <p>Weekly and when needed</p>
Sanitary areas	<ul style="list-style-type: none"> <li>– Clean all pipes using single-use towels followed by proper drying</li> <li>– Wet mop the floors using double Bucket with hot water with neutral material without foam.</li> <li>– Manual rubbing of the floor using special brush with neutral detergent or using small machine</li> <li>– Wipe the doors using single-use towels to remove all fingerprint marks</li> <li>– Wash basins from inside and outside surfaces including the faucets and drains with neutral detergent followed by proper rinsing</li> <li>– Clean all bath tub from all sides and then wipe and dry properly.</li> <li>– Clean toilets and seats by brushing with neutral detergent solution and then rinse well .Wipe the seats and pipes of the toilet with single use towels. Clean the mirrors</li> </ul>	<p>Daily</p> <p>At each shift</p> <p>Weekly</p> <p>Daily and when needed.</p> <p>At each shift</p> <p>At each shift</p> <p>Three times daily and when needed</p>

Different cleaning tasks	<ul style="list-style-type: none"> <li>– Clean shoes used in the operating room with neutral detergent</li> <li>– All patient lockers, stretchers, transport vehicles and waste containers must be properly cleaned under nurses supervision</li> <li>– Lifting and cleaning of the drain covers from inside and outside surfaces then recover properly</li> </ul>	<p>Daily</p> <p>Daily and between operations</p> <p>Weekly</p>
Water coolers	<ul style="list-style-type: none"> <li>– Wipe the surfaces and dry thoroughly</li> </ul>	Twice per day

- **Neonatal units, Labor rooms, cardiac catheterization units, areas for risky invasive techniques, dialysis units, and wards in case of outbreaks :**

The same above mentioned cleaning and disinfection procedures for OT and ICU must be applied

- **In Neonatal units:**
  - Cleaning personnel are not allowed to clean the incubators.
  - Phenolic products are not allowed.

### **III Cleaning service in bone marrow transplant and organ transplant units.**

#### **Cleaning personnel should:**

- Speak English and Arabic languages.
- Be of proper personal hygiene.
- Be subjected to medical checkup twice a year with all the vaccinations taken as scheduled by Preventive medicine Department.

#### **Cleaning procedures:**

##### **A – Before entering the unit**

1. Personal hygiene and temperature check should be carried out by the nurse before the cleaner is allowed to enter the patient room.
2. Freshly prepared cleaning solutions should be provided at the beginning of each shift.
3. Put on single use personal protective equipment before entering the ward.
4. Keep quiet while doing the job.
5. In the patient anteroom. Do hand hygiene and put on single use gloves before entering the patient room.

6. Finish the whole cleaning task quickly to minimize your stay time near the patient.
7. It is not allowed to touch any patient equipment or machine except under nurse supervision.
8. Dry cleaning is completely prohibited.
9. Machines for cleaning are not allowed except when patient is outside the room.
10. It is not allowed to leave the unit except when necessary.

**B - Before starting the cleaning process**

- The cleaning cart should be properly equipped with all cleaning equipment and the required diluted cleaning solutions.
- New cleaning equipment should be prepared including the cleaning towels, microfiber mops and waste bags.
- Personal protective equipment should be put on.
- Hand hygiene should be done before entering the patient room.
- Place warning sign before starting the cleaning to avoid accidental slippage.

**C- Cleaning procedures in patient presence**

- Full cleaning of the ward daily on the first shift with discarding all waste bags.
- Simple cleaning is done every three hours

Area	Procedure	Frequency
Waste removal	<ul style="list-style-type: none"> <li>– The waste bags are removed followed by proper cleaning of the container from exterior and interior surfaces using neutral detergent solution followed by disinfectant before placing the new bag. Cleaning is done using disposable cleaning towels.</li> </ul>	Waste bags containers cleaned and disinfected once per day. Waste bags are discarded at beginning of each shift and when needed
Cleaning of furniture	<ul style="list-style-type: none"> <li>– Patient eating table is cleaned with single use towel using neutral detergent and water followed by disinfection</li> <li>– Patient bed is cleaned under nurse supervision using neutral detergent and hot water by a disposable towel followed by disinfection starting from one bed side with special attention to each part and then</li> </ul>	Once per day and when needed  Once per day

	<p>the middle followed the other bed side repeating same steps.</p> <ul style="list-style-type: none"> <li>– Chairs and remaining furniture are cleaned using single use cleaning towels with neutral detergent and hot water followed by disinfection using single use cleaning towel</li> </ul>	Once per day
Wall cleaning	<ul style="list-style-type: none"> <li>– Spot clean of the walls with neutral detergent and water using disposable single use cleaning towels starting from the top to the bottom with special attention to the wall frames.</li> </ul>	Once per day and when needed
Floor cleaning	<ul style="list-style-type: none"> <li>– Remove patient’s discharges with disposable paper towel followed by thorough cleaning with neutral detergent followed by disinfection.</li> <li>– Floor cleaning should be done using a microfiber cleaning mop for each room using the double bucket. Start cleaning by using neutral detergent solution and hot water followed by disinfection.</li> <li>– At the end of the cleaning process, send all the mops for proper cleaning and disinfection.</li> </ul>	Once per day and when needed
Bathroom cleaning	<ul style="list-style-type: none"> <li>– Clean the bathroom after room cleaning in the following way:</li> <li>– Before entering the bathroom, follow the same preparatory steps by cleansing hands and wearing single-use gloves and gown . <ol style="list-style-type: none"> <li>1. Waste is discarded followed by cleaning and disinfection of waste baskets.</li> <li>2. Single use cleaning bands are used to manually clean the sink with special attention to the faucets and starting from the exterior surface and moving inward in one direction.</li> <li>3. Use single use scrubbing brush to clean the toilet manually . Consider using diluted acid detergent to remove any visible yellow stains followed by diluted neutral detergent then disinfectant.</li> <li>4. Clean all the remaining sanitary ware like bathtub from all sides and then dry properly.</li> <li>5. Bathroom walls and floors are cleaned following the same method for patient room</li> </ol> </li> </ul>	Once per day and when needed
	<ul style="list-style-type: none"> <li>– Cleaning personnel must dispose of all personal protective equipment with proper hand washing after finishing the cleaning process.</li> </ul>	

## Appendix (4)

### Incident report forms of sharps injuries and exposure to blood and body fluids

# Needlestick and Sharp Object Injury Report



Ministry of Health

This form is adopted from  
Exposure Prevention  
Information Network (EPINet)

Injury ID: (for office use only) **S** \_\_\_\_\_ Completed by: \_\_\_\_\_

Name: \_\_\_\_\_

Gender:  M  F

Civil ID: \_\_\_\_\_

Nationality:  K  NK

Facility name: \_\_\_\_\_

Telephone: \_\_\_\_\_

Health region: \_\_\_\_\_

1) Date of injury:       2) Time of injury:

3) Department where incident occurred: \_\_\_\_\_

4) Home/Employing department: \_\_\_\_\_

5) What is the job category of the injured worker? (check one box only)

- |  |  |
|--|--|
| <input type="checkbox"/> 1 Doctor (attending/staff); specify specialty _____       | <input type="checkbox"/> 10 Clinical laboratory worker |
| <input type="checkbox"/> 2 Doctor (intern/resident/fellow) specify specialty _____ | <input type="checkbox"/> 11 Technologist (non-lab)     |
| <input type="checkbox"/> 3 Medical student   | <input type="checkbox"/> 12 Dentist                    |
| <input type="checkbox"/> 4 Nurse: specify <input type="checkbox"/> 1 RN            | <input type="checkbox"/> 13 Dental hygienist           |
| <input type="checkbox"/> 5 Nursing student <input type="checkbox"/> 2 LPN          | <input type="checkbox"/> 14 Housekeeper                |
| <input type="checkbox"/> 18 CNA/HHA <input type="checkbox"/> 3 NP                  | <input type="checkbox"/> 19 Laundry worker             |
| <input type="checkbox"/> 6 Respiratory therapist <input type="checkbox"/> 4 CRNA   | <input type="checkbox"/> 20 Security                   |
| <input type="checkbox"/> 7 Surgery attendant <input type="checkbox"/> 5 Midwife    | <input type="checkbox"/> 16 Paramedic                  |
| <input type="checkbox"/> 8 Other attendant   | <input type="checkbox"/> 17 Other student              |
| <input type="checkbox"/> 9 Phlebotomist/Venipuncture/IV team                       | <input type="checkbox"/> 15 Other, describe: _____     |

6) Where did the injury occur? (check one box only)

- |   |   |
|---|---|
| <input type="checkbox"/> 1 Patient room   | <input type="checkbox"/> 9 Dialysis facility (hemodialysis and peritoneal dialysis) |
| <input type="checkbox"/> 2 Outside patient room (hallway, nurses station, etc.) | <input type="checkbox"/> 10 Procedure room (x-ray, EKG, etc)                        |
| <input type="checkbox"/> 3 Emergency department                                 | <input type="checkbox"/> 11 Clinical laboratories                                   |
| <input type="checkbox"/> 4 Intensive/Critical care unit: specify type: _____    | <input type="checkbox"/> 12 Autopsy/Pathology                                       |
| <input type="checkbox"/> 5 Operating room/Recovery                              | <input type="checkbox"/> 13 Service/Utility (laundry, central supply, etc)          |
| <input type="checkbox"/> 6 Outpatient clinic/Office                             | <input type="checkbox"/> 16 Labor and delivery room                                 |
| <input type="checkbox"/> 7 Blood bank   | <input type="checkbox"/> 17 Home-care   |
| <input type="checkbox"/> 8 Venipuncture room                                    | <input type="checkbox"/> 14 Other, describe: _____                                  |

7) Was the source patient identifiable? (check one box only)

- 1 Yes  2 No  3 Unknown  4 Not applicable

8) Was the injured worker the original user of the sharp item? (check one box only)

- 1 Yes  2 No  3 Unknown  4 Not applicable

9) The sharp item was: (check one box only)

- |   |                                |
|---|--------------------------------|
| <input type="checkbox"/> 1 Contaminated (known exposure to patient or contaminated equipment) <input type="checkbox"/> was there blood on the device? | <input type="checkbox"/> 1 Yes |
| <input type="checkbox"/> 2 Uncontaminated (no known exposure to patient or contaminated equipment)  | <input type="checkbox"/> 2 No  |
| <input type="checkbox"/> 3 Unknown  |                                |

10) For what purpose was the sharp item originally used? (check one box only)

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Unknown/Not applicable  | <input type="checkbox"/> 16 To place an arterial /central line  |
| <input type="checkbox"/> 2 Injection, intra-muscular/subcutaneous, or other injection through the skin (syringe)                               | <input type="checkbox"/> 9 To obtain a body fluid or tissue sample (urine/CSF/amniotic fluid/other fluid, biopsy) |
| <input type="checkbox"/> 3 Heparin or saline flush (syringe)   | <input type="checkbox"/> 10 Finger stick/Heel stick   |
| <input type="checkbox"/> 4 Other injection into (or aspiration from) IV injection site or IV port (syringe)                                    | <input type="checkbox"/> 11 Suturing  |
| <input type="checkbox"/> 5 To connect IV line (intermittent IV/piggyback/IV infusion/other IV line connection)                                 | <input type="checkbox"/> 12 Cutting   |
| <input type="checkbox"/> 6 To start IV or set up heparin lock (IV catheter or winged set-type needle)  | <input type="checkbox"/> 17 Drilling  |
| <input type="checkbox"/> 7 To draw venous blood sample <input type="checkbox"/> if used to draw blood was it?                                  | <input type="checkbox"/> 13 Electrocautery  |
| <input type="checkbox"/> 8 To draw arterial blood sample <input type="checkbox"/> 1 Direct stick? <input type="checkbox"/> 2 Draw from a line? | <input type="checkbox"/> 14 To contain a specimen or pharmaceutical (glass item)                                  |
|  | <input type="checkbox"/> 15 Other, describe   |

11) Did the injury occur? (check one box only)

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Before use of item (item broke/slipped, assembling device, etc.)                                    | <input type="checkbox"/> 16 Device left on floor, table, bed or other inappropriate place                 |
| <input type="checkbox"/> 2 During use of item (item slipped, patient jarred item, etc)   | <input type="checkbox"/> 8 Other after use-before disposal (in transit to trash, cleaning, sorting, etc.) |
| <input type="checkbox"/> 15 Restraining patient  | <input type="checkbox"/> 9 From item left on or near disposal container                                   |
| <input type="checkbox"/> 3 Between steps of a multi-step procedure (between incremental injections, passing instruments, etc.) | <input type="checkbox"/> 10 While putting item into disposal container                                    |



- 4 Disassembling device or equipment
- 5 In preparation for reuse of reusable instrument (*sorting, disinfecting, sterilizing, etc.*)
- 6 While recapping used needle
- 7 Withdrawing a needle from rubber or other resistant material (*rubber stopper, IV port, etc.*)
- 11 After disposal, stuck by item protruding from opening of disposal container
- 12 Item pierced side of disposal container
- 13 After disposal, item protruded from trash bag or inappropriate waste container
- 14 Other: describe: \_\_\_\_\_

12) What type of device caused the injury? (check one box only)

- Needle-hollow-bore
- Surgical
- Glass

Which device caused the injury? (check one box from one of the three sections only)

**Needles** (for suture needles see "surgical instruments")

- 1 Disposable syringe
  - a Insulin
  - b Tuberculin
  - c 24/25-gauge needle
  - d 23-gauge needle
  - e 22-gauge needle
  - f 21-gauge needle
  - g 20-gauge needle
  - h "Other"
- 2 Pre-filled cartridge syringe (includes Tubex™, Carpuject™ - type syringes)
- 3 Blood gas syringe (ABG)
- 4 Syringe, other type
- 5 Needle on IV line (includes piggybacks & IV line connectors)
- 6 Winged steel needle (includes winged-set type devices)
- 7 IV catheter stylet
- 8 Vacuum tube blood collection holder/needle (includes Vacutainer™-type device)
- 9 Spinal or epidural Needle
- 10 Unattached hypodermic needle
- 11 Arterial catheter introducer needle
- 12 Central line catheter needle (cardiac, etc.)
- 13 Drum catheter needle
- 14 Other vascular catheter needle (cardiac, etc.)
- 15 Other non-vascular catheter needle (ophthalmology, etc.)
- 28 Needle, not sure what kind
- 29 Other needle, please describe: \_\_\_\_\_

**Surgical instrument or other sharp items** (for glass items see "glass")

- 30 Lancet (finger or heel sticks)
- 31 Suture needle
- 32 Scalpel, reusable (scalpel, disposable code is 45)
- 33 Razor
- 34 Pipette (plastic)
- 35 Scissors
- 36 Electro-cautery device
- 37 Bone cutter
- 38 Bone chip
- 39 Towel clip
- 40 Microtome blade
- 41 Trocar
- 42 Vacuum tube (plastic)
- 43 Specimen/Test tube (plastic)
- 44 Fingernails/Teeth
- 45 Scalpel, disposable
- 46 Retractors, skin/bone hooks
- 47 Staples/Steel sutures
- 48 Wire (suture/fixation/guide wire)
- 49 Pin (fixation, guide pin)
- 50 Drill bit/bur
- 51 Pickups/Forceps/Hemostats/Clamps
- 58 Sharp item, not sure what kind
- 59 Other sharp item: Describe: \_\_\_\_\_

**Glass**

- 60 Medication ampule
- 61 Medication vial (small volume with rubber stopper)
- 62 Medication/IV bottle (large volume)
- 63 Pipette (glass)
- 64 Vacuum tube (glass)
- 65 Specimen/Test tube (glass)
- 66 Capillary tube
- 67 Glass slide
- 78 Glass item, not sure what kind
- 79 Other glass item: Describe: \_\_\_\_\_

12a) Brand/Manufacturer of product: (e.g. ABC Medical Company) \_\_\_\_\_

12b) Model: \_\_\_\_\_

- 98 Please specify: \_\_\_\_\_
- 99 Unknown

13) If the item causing the injury was a needle or sharp medical device, was it a "safety design" with a shielded, recessed, retractable, or blunted needle or blade?

- 1 Yes
- 2 No
- 3 Unknown

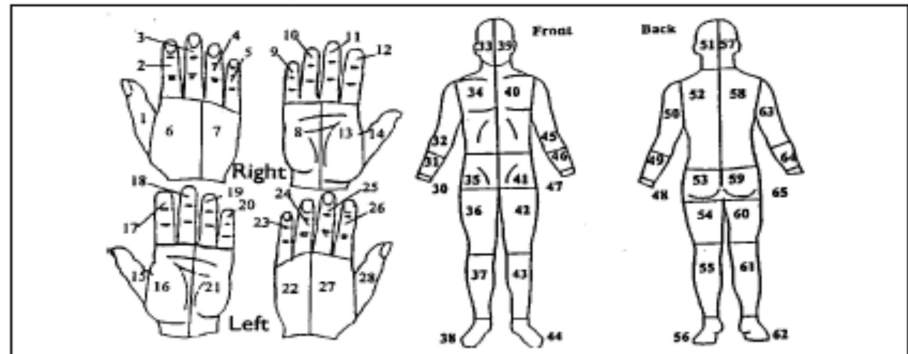
13a) Was the protective mechanism activated?

- 1 Yes, fully
- 2 Yes, partially
- 3 No
- 4 Unknown

13b) Did injury incident happen?

- 1 Before activation
- 2 During activation
- 3 After activation
- 4 Unknown

14) Mark the location of the injury:



15) Was the injury?

- 1 Superficial (little or no bleeding)
- 2 Moderate (skin punctured, some bleeding)
- 3 Severe (deep stick/cut, or profuse bleeding)

16) If injury was to the hand, did the sharp item penetrate?

- 1 Single pair of gloves
- 2 Double pair of gloves
- 3 No gloves

17) Dominant hand of the injured worker:

- 1 Right-handed
- 2 Left-handed

18) Describe the circumstances leading to this injury (please note if a device malfunction was involved):

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

19) For injured healthcare worker: If the sharp had no integral safety feature, do you have an opinion that such a feature could have prevented the injury?  1 Yes  2 No  3 Unknown

Describe: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

20) For injured healthcare worker: Do you have an opinion that any other engineering control, administrative or work practice could have prevented the injury?  1 Yes  2 No  3 Unknown

Describe: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Cost:

_____	Lab charges (Hb, HCV, HIV, other)
_____	Healthcare worker
_____	Source
_____	Treatment prophylaxis (HBIG, Hb vaccine, tetanus, other)
_____	Healthcare worker
_____	Source
_____	Service charges (Emergency Dept, Employee Health, other)
_____	Other costs (Worker's Comp, surgery, other)
_____	TOTAL (round to nearest KD)

# Blood and Body Fluid Exposure Report



Ministry of Health

This form is adopted from  
Exposure Prevention  
Information Network (EPINet)

Exposure ID: (for office use only) B \_\_\_\_\_ Completed by: \_\_\_\_\_

Name: \_\_\_\_\_

Gender:  M  F

Civil ID: \_\_\_\_\_

Nationality:  K  NK

Facility name: \_\_\_\_\_

Telephone : \_\_\_\_\_

Health region: \_\_\_\_\_

1) Date of exposure:  2) Time of exposure:

3) Department where incident occurred: \_\_\_\_\_

4) Home/Employing department: \_\_\_\_\_

5) What is the job category of the exposed worker? (check one box only)

- |  |  |
|--|--|
| <input type="checkbox"/> 1 Doctor (attending/staff); specify specialty _____       | <input type="checkbox"/> 10 Clinical laboratory worker |
| <input type="checkbox"/> 2 Doctor (intern/resident/fellow) specify specialty _____ | <input type="checkbox"/> 11 Technologist (non-lab)     |
| <input type="checkbox"/> 3 Medical student   | <input type="checkbox"/> 12 Dentist                    |
| <input type="checkbox"/> 4 Nurse: specify _____ <input type="checkbox"/> 1 RN      | <input type="checkbox"/> 13 Dental hygienist           |
| <input type="checkbox"/> 5 Nursing student <input type="checkbox"/> 2 LPN          | <input type="checkbox"/> 14 Housekeeper                |
| <input type="checkbox"/> 18 CNA/HHA <input type="checkbox"/> 3 NP                  | <input type="checkbox"/> 19 Laundry worker             |
| <input type="checkbox"/> 6 Respiratory therapist <input type="checkbox"/> 4 CRNA   | <input type="checkbox"/> 20 Security                   |
| <input type="checkbox"/> 7 Surgery attendant <input type="checkbox"/> 5 Midwife    | <input type="checkbox"/> 16 Paramedic                  |
| <input type="checkbox"/> 8 Other attendant   | <input type="checkbox"/> 17 Other student              |
| <input type="checkbox"/> 9 Phlebotomist/Venipuncture/IV team                       | <input type="checkbox"/> 15 Other, describe: _____     |

6) Where did the exposure occur? (check one box only)

- |   |   |
|---|---|
| <input type="checkbox"/> 1 Patient room   | <input type="checkbox"/> 9 Dialysis facility (hemodialysis and peritoneal dialysis) |
| <input type="checkbox"/> 2 Outside patient room (hallway, nurses station, etc.) | <input type="checkbox"/> 10 Procedure room (x-ray, EKG, etc)                        |
| <input type="checkbox"/> 3 Emergency department                                 | <input type="checkbox"/> 11 Clinical laboratories                                   |
| <input type="checkbox"/> 4 Intensive/Critical care unit: specify type: _____    | <input type="checkbox"/> 12 Autopsy/Pathology                                       |
| <input type="checkbox"/> 5 Operating room/Recovery                              | <input type="checkbox"/> 13 Service/Utility (laundry, central supply, etc)          |
| <input type="checkbox"/> 6 Outpatient clinic/Office                             | <input type="checkbox"/> 16 Labor and delivery room                                 |
| <input type="checkbox"/> 7 Blood bank   | <input type="checkbox"/> 17 Home-care   |
| <input type="checkbox"/> 8 Venipuncture room                                    | <input type="checkbox"/> 14 Other, describe: _____                                  |

7) Was the source patient identifiable? (check one box only)

- 1 Yes  2 No  3 Unknown  4 Not applicable

8) Which body fluids were involved in the exposure? (check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Blood or blood products | <input type="checkbox"/> Peritoneal fluid       |
| <input type="checkbox"/> Vomit                   | <input type="checkbox"/> Pleural fluid          |
| <input type="checkbox"/> Sputum                  | <input type="checkbox"/> Amniotic fluid         |
| <input type="checkbox"/> Saliva                  | <input type="checkbox"/> Urine                  |
| <input type="checkbox"/> CSF                     | <input type="checkbox"/> Other, describe: _____ |

8a) Was the body fluid visibly contaminated with blood?  Yes  No  Unknown

9) Was the exposed part? (check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Intact skin        | <input type="checkbox"/> Nose (mucosa)          |
| <input type="checkbox"/> Non-intact skin    | <input type="checkbox"/> Mouth (mucosa)         |
| <input type="checkbox"/> Eyes (conjunctiva) | <input type="checkbox"/> Other, describe: _____ |

10) Did the blood or body fluid? (check all that apply)

- |  |   |
|--|---|
| <input type="checkbox"/> Touch unprotected skin                        | <input type="checkbox"/> Soak through barrier garment or protective garment |
| <input type="checkbox"/> Touch skin between gap in protective garments | <input type="checkbox"/> Soak through clothing                              |

11) Which barrier garments were worn at the time of exposure? (check all that apply)

- |   |   |
|---|---|
| <input type="checkbox"/> Single pair latex/vinyl gloves     | <input type="checkbox"/> Surgical mask                              |
| <input type="checkbox"/> Double pair latex/vinyl gloves     | <input type="checkbox"/> Surgical gown                              |
| <input type="checkbox"/> Goggles                            | <input type="checkbox"/> Plastic apron                              |
| <input type="checkbox"/> Eyeglasses (not a protective item) | <input type="checkbox"/> Lab coat, cloth (not a protective garment) |
| <input type="checkbox"/> Eyeglasses with side shields       | <input type="checkbox"/> Lab coat, other, describe: _____           |
| <input type="checkbox"/> Face shield                        | <input type="checkbox"/> Other, describe: _____                     |

12) Was the exposure the result of? (check one box only)

- |  |   |
|--|---|
| <input type="checkbox"/> 1 Direct patient contact                                    | <input type="checkbox"/> 5 Other body fluid container spilled/leaked      |
| <input type="checkbox"/> 2 Specimen container leaked/spilled                         | <input type="checkbox"/> 6 Touched contaminated equipment/surface         |
| <input type="checkbox"/> 3 Specimen container broke                                  | <input type="checkbox"/> 7 Touched contaminated drapes/sheets/gowns, etc. |
| <input type="checkbox"/> 4 IV Tubing/Bag/Pump leaked/broke                           | <input type="checkbox"/> 8 Unknown  |
| <input type="checkbox"/> 10 Feeding/Ventilator/Other tube separated/leaked/splashed. | <input type="checkbox"/> 9 Other, describe: _____                         |
- Specify tubing: \_\_\_\_\_

If equipment failure, please specify: Equipment type: \_\_\_\_\_  
 Manufacturer: \_\_\_\_\_

13) For how long was the blood or body fluid in contact with your skin or mucous membranes? (check one)

- 1 Less than 5 minutes  
 2 5-14 minutes  
 3 15 minutes to 1 hour  
 4 More than 1 hour

14) How much blood/body fluid came in contact with your skin or mucous membranes? (check one)

- 1 Small amount (up to 5 cc, or up to 1 teaspoon)  
 2 Moderate amount (up to 50 cc, or up to quarter cup)  
 3 Large amount (more than 50 cc)

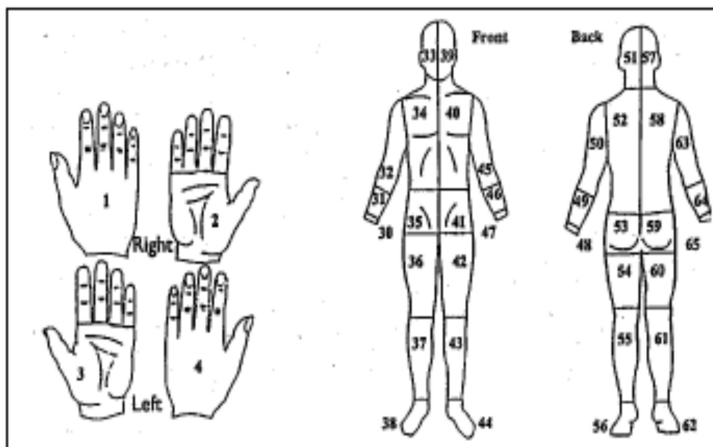
15) Location of the exposure:

Write the number of the location of up to three exposed body parts in the blanks below.

Largest area of exposure: \_\_\_\_\_

Middle area of exposure: \_\_\_\_\_

Smallest area of exposure: \_\_\_\_\_



16) Describe the circumstances leading to this exposure: (please note if a device malfunction was involved):

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

17) For exposed worker: Do you have an opinion that any other engineering control, administrative or work practice could have prevented the exposure?  1 Yes  2 No  3 Unknown

Describe: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Cost:

\_\_\_\_\_ Lab charges (Hb, HCV, HIV, other tests)  
 \_\_\_\_\_ Healthcare worker  
 \_\_\_\_\_ Source  
 \_\_\_\_\_ Treatment Prophylaxis (HBIG, Hb vaccine, tetanus, other)  
 \_\_\_\_\_ Healthcare worker  
 \_\_\_\_\_ Source  
 \_\_\_\_\_ Service charges (Emergency dept, Employee health, other)  
 \_\_\_\_\_ Other costs (Worker's comp, surgery, other)  
 \_\_\_\_\_ TOTAL (round to nearest KD)