



KENYATTA NATIONAL HOSPITAL

SOP/KNH/IPC-EBOLA/010

VERSION: 00

DEPARTMENT: INFECTION PREVENTION & CONTROL

# CLEANING AND DISINFECTING THE EBOLA ISOLATION UNIT



## 1. Scope

This procedure describes the process of cleaning and disinfecting the isolation ward. .

## 2. Purpose

To ensure the process of cleaning and disinfecting the isolation ward is appropriately performed thereby ensuring safety of the health care worker, patient, community and the environment by reducing the risk of infecting non-infected individuals.

## 3. Terms & Definitions

Personal protective equipment (PPE) – specialized clothing or equipment worn by an individual for protection against infectious material.

## 4. Responsibilities

- 4.1 The Deputy Director Clinical Services has the overall responsibility for ensuring that the requirements for cleaning and disinfecting the isolation ward are available to ensure appropriate execution of the process.
- 4.2 The Infection Prevention Co-ordinator has the responsibility of identification, development, supervision of implementation, review and maintenance of these standard operating procedures.
- 4.3 The Ebola isolation unit nurse has the responsibility of overseeing the cleaning and disinfection of the ward.
- 4.4 The Ebola isolation unit cleaner has the responsibility of implementation of the procedures for cleaning and disinfecting the isolation ward.

## 5. Method

Requirements:

- Full PPE
- Damp rag
- Bucket with 0.05% chlorine solution
- Bucket with 0.5% chlorine solution
- Bucket with detergent and water
- Clean water

### 5.1 Personal protective equipment

- 5.1.1 To clean a low risk area, wear scrubs, double gloves, water proof closed rubber shoes, N95 mask, goggles and a water proof apron. The second pair of outer gloves can be household or industrial gloves.
- 5.1.2 To clean a high risk area, wear full personal protective equipment (Refer to SOP on wearing and removing PPE SOP/KNH/IPC-EBOLA/001)



## 5.2 Disinfection method

- 5.2.1 Assemble all your cleaning items.
- 5.2.2 Clean surfaces with a damp cloth and floors with a wet mop using 0.5% chlorine solution moving from clean to dirty area.
- 5.2.3 Prepare a soapy solution (clean water and detergent). Clean surfaces with damp cloth and floors with a wet mop moving from clean to dirty areas.
- 5.2.4 Clean the same area again using 0.5% chlorine solution.
- 5.2.5 Allow surfaces to dry naturally before using them again.
- 5.2.6 After completion of cleaning, clean all cleaning supplies with 0.5% chlorine solution. Soak mop and rag in 0.05% chlorine solution for 30 minutes (preferably overnight). Remove and rinse well with clean water. Allow to dry.
- 5.2.7 Clean twice a day and whenever there is obvious spills or surface contamination.
- 5.2.8 When exiting the high risk area, remove the PPE as per the instructions in the SOP for removing PPE (SOP/KNH/IPC-EBOLA/001)  
Leave cleaning supplies for the high risk area within the cleaning room of the high risk area.  
Leave cleaning supplies for the low risk area within the cleaning room of the low risk area.
- 5.2.8 Replace the mop and rag every week.
- 5.2.9 To ensure the ward is adequately cleaned and prepared, the infection control checklist should be filled daily by the assigned nurse in the infection control ward. If an item is not conducted as per expectation, the reason should be noted and corrective action taken to ensure it is not rectified.

## 5.3 Additional cleaning

- 5.3.1 Collect waste from bins. All waste should be placed in double bags.  
If waste is leaking from the waste liner bags, secure with an outer leak-proof plastic bag before moving the waste. Waste should not be carried against the body.
- 5.3.2 Place waste in sluice room and disinfect the outer liner bag (refer to SOP for handling EVD contaminated waste SOP/KNH/IPC-EBOLA/011) by wiping the bag with a damp cloth soaked with 0.5% chlorine.
- 5.3.3 **Do not carry waste directly from the high risk area to the low risk area through the changing room.**
- 5.3.4 Waste should be carried from the external exit of the sluice room by another cleaner.
- 5.3.3 Clean and refresh foot baths twice a day.



#### **5.4 Cleaning the ward after a death**

- 5.4.1 The ward should be cleaned as per the procedure described above.
- 5.4.2 The mattress should be removed for incineration. It should be tied with rope and wrapped with plastic before moving.
- 5.4.3 Patient's belongings should be placed in a double plastic bag for biohazardous waste and the items moved as per the SOP for handling EVD contaminated waste SOP/KNH/IPC-EBOLA/011.

#### **5.5 Precautions**

- 5.5.1 Contaminated items e.g. linen should not be carried against the body but in buckets, bins or double plastic bags
- 5.5.2 Avoid splashing during washing/cleaning.
- 5.5.3 Prepare chlorine solutions daily.

#### **6. References**

- 6.1 Ebola & Marburg Outbreak Control Guidance Manual Version 2.0 Peter Thomson MSF 2007
- 6.2 Interim Infection Prevention and Control Guidance for Care of Patients with Suspected or Confirmed Filovirus Haemorrhagic Fever in Health-Care Settings, with Focus on Ebola August 2014 World Health Organisation
- 6.3 Infection control for viral haemorrhagic fevers in the African health care setting – World Health Organisation, US Department of Health and Human services

#### **7. APPENDICES**

- 7.1 Infection Control Checklist for Ebola Isolation Unit
- 7.2 How to make chlorine solutions



## INFECTION CONTROL CHECKLIST FOR EBOLA ISOLATION UNIT

**Date:** \_\_\_\_\_

**Time:** \_\_\_\_\_

**Checked by:** \_\_\_\_\_

Item to be checked	Yes	No	Comment
<b>Staff Entrance &amp; Changing Room 1</b>			
Entrance area clean & tidy			
Changing room(s) organised and clean			
Waste bins not overflowing			
All waste disposed correctly			
Adequate stock of protective clothing			
Containers for used scrub suits not overflowing			
All dirty scrub suits in containers			
Guard present			
Hand washing containers filled with correct chlorine solution			
<b>Changing room 2 (low-risk to high-risk)</b>			
Changing area organized and clean			
Waste bins not overflowing			
All waste disposed correctly			
Adequate stock of protective equipment			
Reusable equipment disinfected correctly			
Goggles, aprons, etc. stored correctly			
Used protective clothing in 'dirty' area only			
Guard present			
Hand washing containers filled with appropriate chlorine solutions			
Foot baths contain 0.5% chlorine solution			
Foot baths relatively clean			
Foot baths refreshed at 9am			
Foot baths refreshed at 4pm			
When leaving High-Risk zone the correct disinfection, and PPE removal procedures are followed.			
<b>Chlorine Preparation</b>			
Adequate quantities of solutions available at			

all times			
Chlorine making areas clean and organised			
Correct method of preparation & strength of 0.5% solutions			
Correct method of preparation & strength of 0.05% solutions			
Laundry			
Staff scrub suits soaked for minimum 1 hour in 0.05% solution			
Staff water proof rubber shoes soaked for minimum 1 hour in 0.05% solution			
Laundry lines cleared of dried laundry			
Laundered items returned to appropriate place.			
<b>Waste Management</b>			
No full waste bins present			
No accumulation of littered waste in any areas of unit			
Burnable waste is collected and transported in plastic bags.			
Liquid waste collected and transported in covered plastic buckets.			
Sharp waste collected and transported in sharps boxes.			
All waste is disposed correctly.			
Waste is burnt properly.			
<b>Protective Clothing</b>			
People in Low-Risk zone wear scrub suits, boots and gloves			
People in High-Risk zone wear full protection			
People leaving the treatment unit remove all protective clothing			
All protective clothing disinfected and removed according to protocols			

**NB:** The form should **NOT** be filled while in the high risk zone. The whole isolation unit is to be inspected but the form can only be filled when the nurse is in a low risk zone i.e. staff room. To prevent cross contamination items should not be moved from the the high risk zone to a low risk zone.

## 7.2 How to make chlorine solutions

### 7.1.1 Example I - Using Liquid Bleach

Chlorine in liquid bleach comes in different concentrations. Any concentration can be used to make a dilute chlorine solution by applying the following formula:

$$\left( \frac{\% \text{ chlorine in liquid bleach}}{\% \text{ chlorine desired}} \right) - 1 = \text{Total parts of water for each part bleach}$$

Example: To make a 0.5% chlorine solution from 3.5% bleach:

$$\left( \frac{3.5\%}{0.5\%} \right) - 1 = 7 - 1 = 6 \text{ parts water for each part bleach}$$

Therefore, you must add 1 part 3.5% bleach to 6 parts water to make a 0.5% chlorine solution. "Parts" can be used for any unit of measure (e.g. ounce, litre or gallon) or any container used for measuring, such as a pitcher.

### 7.1.2 Example II - Using Bleach Powder

If using bleach powder, calculate the amount of bleach to be mixed with each litre of water by using the following formula:

$$\left( \frac{\% \text{ chlorine desired}}{\% \text{ chlorine in bleach powder}} \right) \times 1\,000 = \text{Grams of bleach powder for each litre of water}$$

Example: To make a 0.5% chlorine solution from calcium hypochlorite (bleach) powder containing 35% active chlorine:

$$\left( \frac{0.5\%}{35\%} \right) \times 1\,000 = 0.0143 \times 1\,000 = 14.3$$

Therefore, you must dissolve 14.3 grams of calcium hypochlorite (bleach) powder in each litre of water used to make a 0.5% chlorine solution.

When bleach powder is used; the resulting chlorine solution is likely to be cloudy (milky).