



# **Sierra Leone Emergency Management Program Standard Operating Procedure for Home Decontamination after Collection of Corpses or Transfer of Suspect/Probable Ebola Cases**

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**Standard Operating Procedure for  
Home Decontamination after Collection of Corpses or Transfer of Suspect/Probable Ebola Cases**

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# **Standard Operating Procedure for Home Decontamination after Collection of Corpses or Transfer of Suspect/Probable Ebola Cases**

## **1. Background**

Ebola virus is spread mainly through contact with the body fluids of infected persons who are symptomatic. Transmission can be stopped by a combination of early diagnosis, contact tracing, patient isolation and care, infection control, and performing safe medical burials. In order to prevent transmission after a suspected or probable case has been transferred to health care facility or after a person has died at home of Ebola virus infection, it is necessary to safely disinfect the home.

## **2. Objective**

To provide guidance for the proper procedures for decontamination of a home after suspect or probable cases are transferred to health care facilities or after removal of a corpse.

## **3. Strategy for Home Decontamination after Collection of Corpses or Transfer of a Suspect/Probable Ebola Cases**

1. If the death was a suspected, probable, or confirmed Ebola death, or if the death was an unexplained death, a decontamination team will be deployed to disinfect the home and safely remove potentially contaminated items from the house.
2. If the patient was a suspected, probable, or confirmed Ebola case a decontamination team will be deployed to disinfect the home and safely remove potentially contaminated items from the house after the patient has been transported.
3. After the decontamination process, the family will be issued a voucher for a replacement bedding kit, or the equivalent, to be delivered to the home.
4. The soiled items from the home will be appropriately burned or buried on site or safely transported to a centralized disposal site for burning or burying.
5. When spraying is used, it should be preceded by cleaning with water and detergent to mechanically remove the contaminants and organic matter. The presence of organic material or contaminants is known to inactivate chlorine solution. After spraying disinfectant, ensure that it is properly distributed on the surfaces. Furthermore, excessive use of spraying creates a wet environment, which is not only inconvenient but may be dangerous as it is slippery and takes longer to dry, especially in a humid environment.

## **4. Procedures for Home Decontamination**

### **4.1 Equipment**

- 1 “clean” vehicle (labelled) – workers with any potential contamination are not allowed in the clean vehicle until they have removed and decontaminated their PPE. Likewise, potentially contaminated items should not be placed into the clean vehicle.
- 1 “dirty” vehicle (labelled) – contaminated items will be placed in back of the dirty vehicle. The driver’s compartment of this vehicle should be kept clean. Potentially contaminated items are not allowed in the driver’s compartment.

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- Adequate PPE, including: latex or nitrile gloves, thick rubber gloves, goggles, rubber boots, coveralls, and hoods with extended PPE such as aprons and facemasks, when available.
- Adequate cleaning and disinfection materials, including: strong chlorine solution (0.5%, labelled), weak chlorine solution (0.05%, labelled), sprayer machines (clean and dirty, labelled), disposable towels/rags, soap and water, cups, stir stick (to mix the chlorine solutions), plastic wash bins, buckets, jerry cans, and red medical waste and garbage bags.
- Other equipment: hand sanitizer, markers for labeling, tarp/plastic sheeting, rope, twine/string, plenty of drinking water, tools (e.g., shovels and hatchets), matches and accelerant for burning items on site.

### **4.2 Decontamination Team Composition**

The structure of the home decontamination team could vary from the following list given resource availability; however, this list is the recommended team composition.

- 1 supervisor or health promoter – who will communicate with the family, chiefs or relevant community members and coordinate replacement of removed items.
- 1 team leader – who will supervise, assure team safety and provide assistance where needed including ensuring crowd control.
- 2 drivers – 1 for the “clean” vehicle and 1 for the “dirty” vehicle.
- 2 hygienists – who will go inside the home, remove items from the home, and decontaminate the home.
- At least 1 sprayer – who will spray or disinfect items brought outside the home and assist with decontaminating PPE worn by hygienists.

### **4.3 Decontamination Team Responsibilities**

- Decontaminate the home and any facilities (e.g., latrine or shower).
- Remove all soiled (with bodily fluids) items, including but not limited to the mattress, blankets, sheets, pillow, clothing, and mosquito net.
- Ensure safe disposal of all the soiled items and any contaminated materials in an incinerator, burn pit, or designated waste disposal site.
- Report the completion of decontamination to the district command center.
- Document destroyed items and issue a voucher to the family to enable a replacement bedding kit and other supplies to be delivered to the home or if possible, deliver the replacement directly.
- Coordinate with the organization responsible for replenishing the home to make sure replacement items are delivered.
- Ensure safety of other team members.
  - No one should be inside the home by themselves.
  - No one should wear extended PPE for more than 1 hour.
- Monitor each other for any initial signs of heat illness, such as heavy perspiration, increased breathing, increased heart rate, headache, nausea, faintness, and excessive thirst.
  - Anyone experiencing these symptoms should safely remove PPE following WHO procedures and then rest in shade and be given plenty of water to drink.
  - The team leader should then notify the district command center.

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### **4.4 Procedures**

Home decontamination must be carried out in a sensitive manner. When possible, engage the community leader to increase community acceptance of the decontamination process. By necessity, the home decontamination process results in the removal of some of the family's belongings, and damage to other items may also occur. Clearly explain the procedure to the family, and obtain their agreement especially regarding any valuables in the home or pockets of clothing (e.g., money, identification) they would like removed and sprayed rather than burned.

1. The decontamination team will explain the procedure to the family, and obtain their agreement. Explain that a replacement bedding kit will be provided to replace the removed bedding.
2. The decontamination team supervisor or team leader will request the assistance of the owner or head of household to determine areas where or items used by the patient or deceased person in the home or items used and sketch the home layout including the rooms, windows (for additional light and ventilation), bedrooms, where the mattresses are located within the room, etc. to develop the decontamination tactics/plan. Once a plan is devised, this information is shared with the decontamination team and assignments made.
3. At the site, the decontamination team will spread out and organize all their equipment on a tarp or plastic sheeting outside the home.
4. Before entering the home, the decontamination team will put on personal protective equipment as recommended by WHO (gloves, goggles or face shield, face mask, coverall, rubber boots, and potential extended PPE). Thick rubber gloves should be used for the second pair (or outer layer) of gloves.
5. After the corpse, patient, and/or family have been evacuated, the decontamination team will enter and disinfect the home using the following procedures:
  - a. Upon entering the home open the windows for ventilation.
  - b. For dry food items (bags of rice, beans, and seeds):
    - i. Make sure path to the kitchen is free of contamination or has been decontaminated.
    - ii. Remove the packages of food from the home, well away from any contaminated items. This should be one of the first tasks done to make sure the hygienist doing the task is not contaminated.
  - c. Wash the general area where the patient was accommodated during his/her illness with soap and water and then disinfect with strong (0.5%) chlorine solution.
    - If chlorine solution is sprayed, staff should maintain maximum attention while manipulating organic material, touching contaminated surfaces, removing PPE because these may still be contaminated by the Ebola virus even after being sprayed.
  - d. For surfaces with body fluids (feces, urine, vomit, or blood):
    - i. In order to avoid formation of droplets, do not spray these areas.
    - ii. Cover the soiled area with a rag or paper towel to avoid splashes or dispersion of fluids.
    - iii. Use a cup to carefully pour strong (0.5%) chlorine solution on the rag or paper towel, covering the area completely.
    - iv. Remove the dirty rag/towel and dispose in a plastic bag for infected waste.

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- v. Clean and remove remaining chlorine solution with disposable rag/towel soaked in strong (0.5%) chlorine solution and discard these in a red medical waste bag.
  - vi. Disinfect the surface with strong (0.5%) chlorine solution, allow surface to dry.
  - vii. See subsequent section for disposal of contaminated waste.
- e. For containers with body fluids (feces, urine, vomit, or blood) (e.g., waste bucket or latrine pot):
- i. Keep the container covered if possible.
  - ii. Empty the contents of the container into the latrine.
  - iii. Rinse container with soap and water followed by strong (0.5%) chlorine solution, let sit for 15 minutes then discard the contents of the container into the latrine.
  - iv. Rinse with clean water and let air-dry, preferably in the sun, or place the container in a plastic bag or wrap in plastic sheeting for disposal.
- f. For plates, cups and utensils used by the sick person
- i. Discard away any leftover food or liquids into the latrine.
  - ii. Wash with soap and water.
  - iii. Soak the plates, cups, and utensils with weak (0.05%) chlorine solution for 10 minutes.
  - iv. Rinse with clean water and let air-dry.
- g. For the latrine, toilet, sink, and shower:
- i. If surfaces contain visible body fluids, use the procedure described above *for surfaces with body fluids*.
  - ii. After cleaning any body fluids disinfect the area around the edges of the toilet or latrine with strong (0.5%) chlorine solution.
- h. For visibly soiled bedding, towels, and clothing
- i. Place in plastic bag or wrap in plastic sheeting for disposal.
  - ii. Linens used by the sick person that are not visibly soiled may be washed with detergent and water, rinse and then soak in weak (0.05%) chlorine solution for approximately 15 minutes then allow to air-dry.
  - iii. Linens and clothing that are not visibly soiled with body fluids or used by the sick person are placed in a basin outside, then washed with soap and water and allowed to sun dry and returned to the family.
  - iv. See subsequent section for disposal of contaminated items.
- i. For mattresses used by the sick or deceased person:
- i. Follow the procedure described above *for surfaces with body fluids*.
  - ii. Remove mattress from the home and wrap in plastic sheeting and tie up mattress to facilitate transport.
  - iii. If possible, especially when mattress is loose materials such as straw, incinerate on site or if not possible safely transport to a designated waste disposal facility for incinerating or landfilling.
6. Disposal of contaminated items

Once the home has been disinfected and all potentially infectious items have been removed, the following actions should be taken:

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1. Tie up the plastic bags containing dirty rags/towels (used for cleaning) and/or other items removed from the home.
2. Disinfect outside of bags with strong (0.5%) chlorine solution.
3. Incinerate/burn bags on site if it can be done safely as the preferable method. Otherwise the bags will need to be transported to a designated waste disposal site in the back of the “dirty” vehicle.
4. Load items intended for transport to the waste disposal site into the back of the “dirty” vehicle.
5. Remove and decontaminate PPE following the WHO procedures. Sprayers who have not entered the home should help the hygienists with this process.
6. Reusable PPE such as goggles, face shields and rubber gloves should be washed with water ( $\pm$  detergent) to remove any organic matter and then immersed fully in a strong (0.5%) chlorine solution for a minimum of 10 minutes for full decontamination. After decontamination, they should be thoroughly rinsed with water and allowed to air-dry.
7. Wash hands thoroughly with soap and water or weak (0.05%) chlorine solution.
8. Repack the “clean” vehicle with any unused equipment and decontaminated reusable PPE.
9. Issue a voucher for a replacement bedding kit (or the monetary equivalent) or coordinate the delivery of a replacement bedding kit and supplies. The kit should include a mattress, 2 sheets, blanket, and mosquito net.
10. If the team has been notified of additional homes to be decontaminated, proceed to the next home.

### **Disposal and Vehicle Decontamination**

Items in the “dirty” vehicle intended for disposal should be taken to the designated waste disposal site at the end of the day or once the “dirty” vehicle is full.

- At the designated waste disposal site, the waste disposal team will put on extended PPE as recommended by WHO (gloves, goggles or face shield, masks, coverall, rubber boots, with potential extended PPE) before removing items from the vehicle for disposal.
- After the items have been removed, a decontamination team member will disinfect the vehicle as follows:
  1. Wear extended PPE as recommended by WHO (gloves, goggles, masks, coverall, and rubber boots).
  2. Rinse the back of the “dirty” vehicle with strong (0.5%) chlorine solution, including the inside and outside of the back doors.
  3. Let the solution sit for 10 minutes.
  4. Rinse well with clean water and let vehicle air dry. Be sure to rinse well because the chlorine solution is corrosive to metal parts of the vehicle.
  5. Remove PPE using the WHO procedure.
  6. Reusable PPE should be soaked in weak (0.05% chlorine solution for 30 minutes at the end of each shift.
- Report the completion of disinfection to the district command center.