

## Section 3

### Isolate the Patient



This section describes how to:

- Gather supplies to set up an isolation area.
- Make a substitute item from available materials whenever a recommended item is not available.
- Select a site for the VHF isolation area and set up:
  - The patient's room
  - A changing room for health care workers to use when changing clothes
  - A changing room for other health facility staff to use near their work area
  - A family entrance, if necessary
  - A security barrier around the entire isolation area.
- Counsel family members about patient care.



Section 3

---

## **Section 3      Isolate The Patient**

Isolating the VHF patient will:

- Restrict patient access to health facility staff trained to use VHF Isolation Precautions.
- Establish a barrier between the VHF patient and uninfected patients, other health facility staff, and visitors.

### **3.1 Select Site for the Isolation Area**

Ideally, an isolation area should already be available to admit patients requiring isolation.

If an isolation area is not available or if advance preparations have not been done, and VHF is suspected, immediately identify and set aside:

- A single room with an adjoining toilet or latrine.

If a single room is not available, select one of the following in order of preference:

- A separate building or ward that can be used with VHF patients only (especially if Ebola haemorrhagic fever is suspected, or if there is a large number of patients)
- An area in a larger ward that is separate and far away from other patients in the ward
- An uncrowded corner of a large room or hall
- Any area that can be separated from the rest of the health facility (TB rooms, isolation ward for infectious diseases, private or semiprivate rooms).



## Section 3

---

Make sure the selected site has:

1. **An isolated toilet:** If a toilet is not next to the patient's room, select and isolate a toilet near the isolation area. Use it to receive the patient's disinfected waste and other liquid waste.

If a toilet is not available, prepare a latrine for disposal of the patient's and other liquid waste.

2. **Adequate ventilation:** The isolation room should have adequate ventilation because chlorine disinfectants will be used. To prevent airborne or droplet transmission of infectious agents, avoid rooms with air conditioning.
3. **Screened windows:** If windows are left open for cooling, screen them to prevent transmission of mosquito- and other insect-borne diseases.

Restrict access. Tie a rope or line around the area outside the window to restrict the area and prevent entry through the window.

### 3.2 Plan How to Arrange the Isolation Area

Make use of the available space and design of the health facility to arrange the isolation area. The diagram below shows an ideal arrangement for an isolation area. The next page shows examples for a single patient's room and for a ward with several patients.

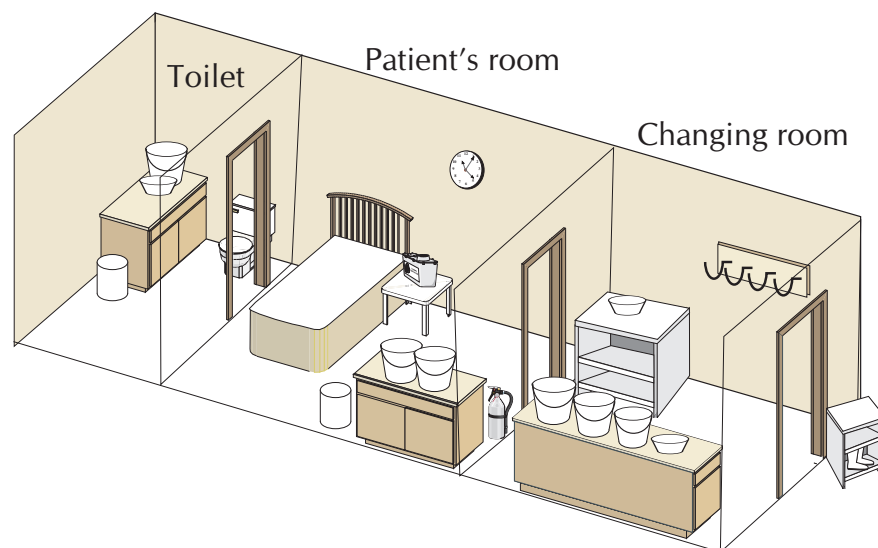


Fig. 8. A sample layout of an isolation area

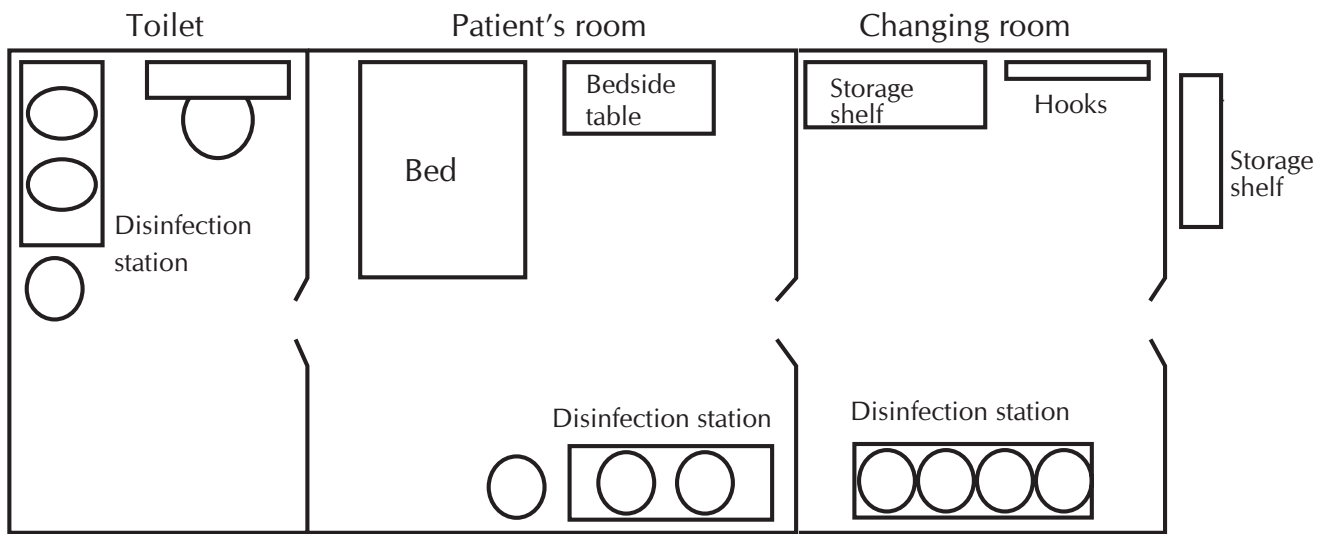


Fig. 9. A sample layout for a single patient

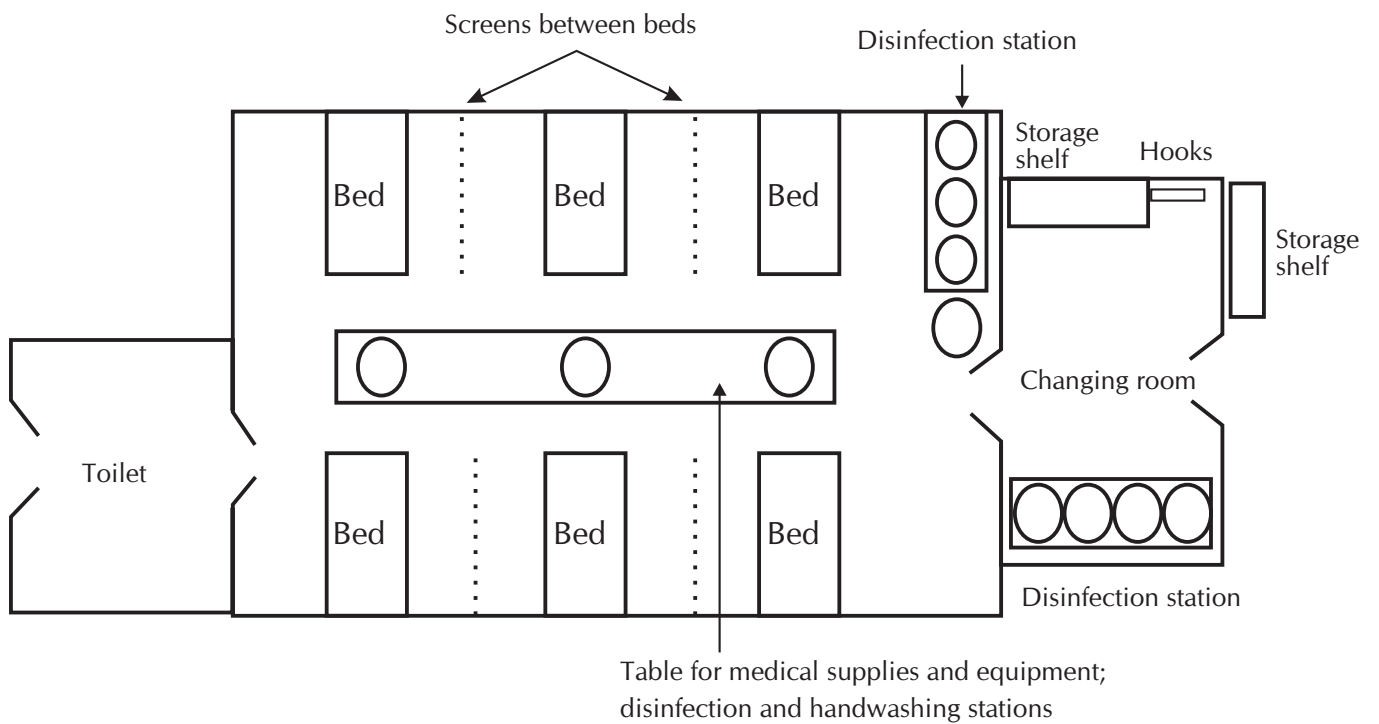


Fig. 10. A sample layout for several patients



### 3.3 Gather Recommended Supplies

Ideally, supplies should be available to begin VHF Isolation Precautions. If a separate emergency supply is **not** available when a VHF case is suspected, use supplies from other services in the health facility.

*If a recommended item is not available, or if the quantity is limited, make a substitute item from available materials.* For example, the manual recommends using plastic sheeting to cover mattresses. If plastic sheeting is not available, use plastic cloth normally used to cover kitchen tables. This is usually available in the local market.

#### 3.3.1 Plan Disinfection for VHF-Contaminated Items

Ordinary household bleach, soap and water are useful disinfectants against viruses causing VHF.<sup>6</sup> They are low in cost and commonly available.

**Ordinary Household Bleach:** The viruses causing VHF are very sensitive to bleach solution. This manual describes a low-cost disinfection system using two bleach solutions: a solution of 1:10 and a solution of 1:100. Detailed instructions for preparing the solutions are in Section 5.1.

**Soap and Clean Water:** Scrubbing with soap and water before disinfection removes infectious body fluids and other foreign matter from contaminated items. This makes bleach solutions more effective. Detailed instructions for preparing solutions of soapy water are in Section 5.2.

**Sterilization:** Heat sterilization requires special equipment, such as an autoclave or steam sterilizer. When this equipment is not working or is not available, boiling heat-resilient items in water for 20 minutes will kill VHF viruses.

6 VHF viruses are lipid enveloped, and this feature makes them sensitive to destruction by detergent solutions.

### 3.3.2 Gather Supplies for the Patient Area

Obtain the following items for use in the patient's room:

**Bed and mattress** or sleeping mat for each patient.

**Plastic sheeting** to cover the mattress or sleeping mat. This is strongly recommended. Plastic sheeting will protect the mattress from contamination. It can be easily cleaned and disinfected if it becomes contaminated with infectious body fluids.

**Bedding** for each bed – at least 1 blanket and a bottom sheet. If necessary, the patient or the patient's family can bring the bedding from home.

**One thermometer, one stethoscope, and one blood-pressure cuff** per patient. Keep them in the isolation area for reuse with the same patient.

If there is not enough equipment to supply one each of these items per patient, assign one piece of equipment for use only with the patients in the isolation area.

**Covered container** for alcohol or bleach solution used to disinfect thermometer and stethoscope after use with each patient.

**Puncture-resistant container** for collecting used disposable needles, syringes and other sharp instruments.

**Puncture-resistant tray with soapy water** for collecting reusable needles, syringes and instruments.

**Bedside table or shelf** on which to place medical instruments, puncture-resistant container, and so on.

**Large wall clock** with a second hand for measuring respiration rates and pulse.

**Bedpan** for each patient.

**Screens or other barriers** to place around the VHF patients' beds. This will prevent patient-to-patient transmission through spills or splashes of infectious body fluids or from aerosol routes.

If screens are not available, stretch ropes or lines from one end of the patient area to the other. Hang sheets from the ropes.

**Disinfection station** with buckets, sprayer, bleach solutions, soap and water, mop, and a supply of one-use towels. It is preferable to dispose of gloves after each use. However, the reuse of gloves in many health facilities is a common practice. Disinfect gloved hands between patients if there are not enough gloves for health care workers to dispose of after each patient.

**Container with soapy water** for collecting discarded outer gloves.

**Boot sprayer** for disinfecting the boots before leaving the patient's room.

**Extra supply of gowns and gloves.**

### 3.3.3 Gather Supplies for the Changing Room

**Hooks, nails, or hangers** for hanging reusable protective clothing.

**Roll of plastic tape** for taping cuffs and trousers of protective clothing.

**Disinfection station** with bleach solution for disinfecting gloved hands.

**Handwashing station** with bucket, soap, soap dish, clean water, and supply of one-use towels.

**Containers** with soapy water for collecting:

- Discarded gloves
- Used instruments to be sterilized.

**Containers** for collecting:

- Reusable protective clothing to be laundered
- Infectious waste to be burned.

### 3.3.4 Arrange for Storing of Supplies Outside the Changing Room

**Shelf or box** with a lock for storing clean protective clothing.

**Supply of clean protective clothing.**

**Container** for collecting non-infectious waste.

**Covered shelf** (or plastic bags which can be closed) to store disinfected boots and keep them dry.

The checklists at the end of this section can be used to gather supplies for the isolation area.



### 3.4 Set Up Changing Rooms

#### ***For patient-care staff:***

One changing room is needed outside the patient isolation area. This area is where health care workers will put on protective clothing to protect them from spills or splashes of infectious body fluids while they are in the patient's room. After leaving the patient's room, they will reenter the changing room and remove the protective clothing. They will hang it for reuse or dispose of it appropriately.

Contaminated clothing and supplies remain in the changing room until cleaning staff trained to use VHF Isolation Precautions take the VHF-contaminated items to the laundry or disposal site.

#### ***For laboratory, cleaning, laundry, and waste disposal staff:***

Set up changing rooms near the work areas for other health facility staff who will handle laboratory specimens and who will clean laundry, or dispose of contaminated items. They will also need to wear protective clothing during any contact they have with body fluids or VHF-contaminated items.

The stations in the changing room should be set up so that traffic flow is from the *least to most contaminated* area.

### 3.5 Place Security Barrier Around Isolation Area

***Restrict access to the isolation area:*** Place signs around the isolation area clearly stating that access is restricted. Or tie lines or ropes around the isolation area and hang plastic sheets from them.



Fig. 11. A security barrier and sign



Section 3

**Prepare a list of health facility staff and family members authorized to enter the isolation area:** List the medical, nursing, laboratory, cleaning staff, and, if appropriate, those family members who are trained in the use of VHF Isolation Precautions. If an accidental exposure or incident occurs, the list can help in the prompt identification of possible contacts.

**When there is a large number of patients, station a guard at the entry to the isolation area:** In a large scale outbreak, station a security guard at the door of the patient isolation area outside the changing room. The guard will limit access to authorized health facility staff and family members only. This is critical for maintaining strict isolation and protecting the community.

Provide the guard with the list of authorized persons and a sign-in sheet. The guard can record who comes into the isolation area and note the time of entry and departure.

Date	Name	Service	Time In	Time Out
13.6.98	Dr. Nsango	Infectious Diseases	10:15	11:30
13.6.98	Nurse Bandari	Intensive Care	10:00	11:30
13.6.98	Nurse Ninakazi	Intensive Care	11:00	13:30
13.6.98	Masika	Cleaning	11:10	11:45
13.6.98	Madunda	Family member	11:15	

Fig. 12. An example of a sign-in sheet

### 3.6 Consult Family Members about Patient Care

Talk with family members and explain why the patient is being isolated. Tell them about the risk of transmission for VHF and why protective clothing is needed. Answer any questions they have.

When there is a large outbreak (more than one or two cases), identify a person to serve as a liaison between health facility staff and the patients' families. Select a health staff member, an experienced community member, or a convalescent patient.

If it is the custom for family members to provide cleaning and washing of the patient while the patient is in the health facility, help the family to select a caregiver. Select as caregiver the family member who has already had the most contact with the patient. Also select a second person who can do the patient care activities when the other caregiver is resting.

In areas where family members participate in patient care, they are likely to help the patient with:

- Feeding and giving water
- Washing the hospital gown or pyjama with soap and water
- Getting up or moving around.

When a VHF is suspected, it is likely that health care workers trained in VHF Isolation Precautions will do most of the direct patient care tasks. However, if there are family members who will assist with direct patient care, give them information and training about:

- The risk of VHF transmission and the reason for protective clothing
- How to wear gloves, gowns, and a mask
- How to take off gloves, gowns, and mask and store or dispose of them safely.

Make sure there is a changing room for family members to use that is separate from the changing room for health care workers. Provide a set of protective clothing for the family members to wear in the isolation room. At a minimum, make sure that the family members wear at least a pair of gloves.



### Section 3

---

Provide in the family members' changing room:

- A shelf or table to store a supply of clean gloves to be worn by the family member
- Hooks to hang a set of protective clothing
- A bucket with soapy water for collecting discarded gloves after leaving the isolation area
- A handwashing station.

Arrange to monitor family members for signs of illness.

Assist family members with:

- Coordination of other family members who bring food for the patient and for the family member providing care
- Location of an area for family members to stay in while providing care that includes cooking, washing and sleeping facilities.

**Note:** When a breast-feeding mother has a suspected case of VHF, the child's breast-feeding should not be interrupted. Help the family to decide how to continue the child's breast-feeding when the mother is too ill to do so.

## Checklist: Supplies for a Changing Room

### Storage Outside the Changing Room:

1. Shelf or cabinet with lock \_\_\_\_\_
2. Supply of clean scrub suits, gowns, aprons, gloves, masks, headcovering, and eyewear \_\_\_\_\_
3. Covered shelf for storing disinfected boots \_\_\_\_\_
4. Bucket for collecting non-infectious waste \_\_\_\_\_

### Inside the Changing Room:

1. Hooks, nails, or hangers for hanging reusable gowns, scrub suits \_\_\_\_\_
2. Roll of plastic tape \_\_\_\_\_
3. Handwashing supplies: bucket or pan, clean water, soap, one-use towels \_\_\_\_\_
4. Bucket or pan, 1:100 bleach solution for disinfecting gloved hands \_\_\_\_\_
5. Container with soapy water for collecting discarded gloves \_\_\_\_\_
6. Container with soapy water for collecting used instruments to be sterilized\* \_\_\_\_\_
7. Container with soapy water for collecting reusable gowns, masks, sheets to launder\* \_\_\_\_\_

\*Place outside the changing room if the changing room is too small

### If large amounts of waste on floor:

Sprayer, bucket or shallow pan with 1:100 bleach solution for disinfecting boots \_\_\_\_\_



Section 3

---

### Checklist: Supplies for Patient Area

1. 1 bed with clean mattress or sleeping mat and at least a bottom sheet and blanket for each bed \_\_\_\_\_
2. Plastic sheeting to cover mattress or sleeping mat \_\_\_\_\_
3. 1 thermometer, 1 stethoscope, and 1 blood pressure cuff for each patient or for each patient area \_\_\_\_\_
4. 1 puncture-resistant container for collecting non-reusable needles, syringes, and discarded sharp instruments \_\_\_\_\_
5. 1 bedside table or shelf \_\_\_\_\_
6. 1 large wall clock with a second hand \_\_\_\_\_
7. Pan with 1:100 bleach solution or alcohol and one-use towels for disinfecting the thermometer and stethoscope between use with each patient \_\_\_\_\_
8. Bucket or pan, 1:100 bleach solution, one-use towels for disinfecting gloved hands between patients \_\_\_\_\_
9. Supplies for disinfecting patient excreta (bedpan, urinal, 1:10 bleach solution) \_\_\_\_\_
10. Sprayer, 1:100 bleach solution, clear water, and mop for disinfecting spills on floor and walls \_\_\_\_\_
11. Container with soapy water for collecting discarded gloves \_\_\_\_\_
12. Screens (or sheets hung from ropes or lines) placed between VHF patients' beds \_\_\_\_\_
13. Extra supply of gowns and gloves \_\_\_\_\_
14. Container for collecting infectious waste to be burned \_\_\_\_\_