



# Guidance for Inpatient Care Management of Patients with Suspected or Confirmed Ebola Virus

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The intent of this document is to provide general recommendations for the management of patients with suspected or confirmed Ebola virus infection in the inpatient setting and managing potentially exposed health care staff. The recommendations are provided as an enhancement to a facility's existing patient care and infection control policies and procedures. Additionally, these recommendations can be used to guide planning and training actions to ensure facility readiness for receiving these patients. Guidance from the CDC's [Information for Healthcare Workers and Settings](#) website has been adapted for this document. Additionally, the Florida Department of Health's [Ebola Virus Disease](#) website also contains specific guidance for reporting and managing suspect and/or actual Ebola cases in Florida.

## Patient Placement

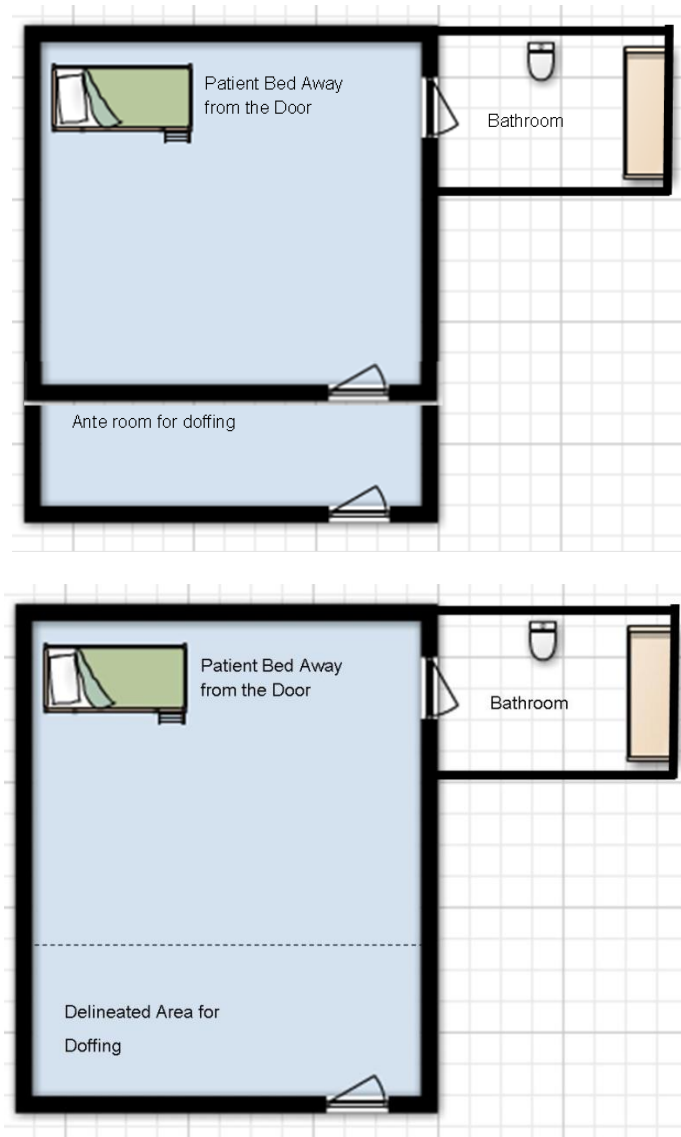
### Evaluation

At all points of entry where patient triage occurs, appropriate screening with travel history and contact to known cases should be conducted as part of the initial questioning prior to any physical contact. For a patient who has a positive screen and is symptomatic, a nurse in appropriate personal protective equipment (PPE) should mask and gown the patient and immediately isolate the patient in a private room with a door and bathroom. Any family or friends with the patient should be isolated in a separate room while the patient is being further assessed. Staff contact with the patient should be limited with one primary nurse, in appropriate PPE, providing total patient care and any patient care equipment should be dedicated to use with the isolated patient only. All laboratory specimens should be managed in accordance with CDC's [Interim Guidance for Specimen Collection, Transport, Testing, and Submission for Persons Under Investigation for Ebola Virus Disease in the United States](#). Initiate appropriate facility preparedness plans, notify senior management, infection control and appropriate local health department contacts. Refer to the CDC's [When Caring for Suspect or Confirmed Patients with Ebola](#) guidance for more detailed information. Additionally, the [CDC Fact Sheet: Health Care Workers: Could it be Ebola](#) is useful visual aid for staff. For patients presenting and/or being managed in emergency departments the CDC's [Identify, Isolate, Inform: Emergency Department Evaluation and Management for Patients Who Present with Possible Ebola Virus Disease](#) and [Interim Guidance for Emergency Medical Services \(EMS\) Systems and 9-1-1 Public Safety Answering Points \(PSAPs\) for Management of Patients with Known or Suspected Ebola Virus Disease in the United States](#) are useful resources.

## Patient Care

The ideal room setting would be a private room with a private bathroom and an anteroom. However, the minimum requirement is a private room with a private bathroom. The following diagrams depict these models. The bed should be located as far away from the door as possible. An area near the door should be delineated by partitions, screens, or marking by tape on the floor for doffing PPE prior to leaving the room. If an anteroom is available, this activity should be performed there. (See diagrams below)

Rooms should be stocked with an appropriate level of medications and supplies to reduce the need for medication room and stock room access.



## Staff Protection

It is imperative that all health care personnel, who may potentially be designated to provide care to Ebola patients, must have received appropriate training and demonstrated competency in utilization of Personal Protective Equipment (PPE) as well as guidance for exposure risk reduction prior to providing care. The entire risk continuum, from initial presentation of a person with suspect symptoms to ongoing care of a seriously ill person should be considered when selecting appropriate PPE.

### Patient Encounter Risk:

Lower Risk – no direct or potential direct contact with patient’s blood or bodily fluids (e.g., sweat, vomit, feces, urine) and/or contact with linens, objects and environmental surfaces contaminated with the patient’s blood or bodily fluids. No participation in aerosol generating medical procedures (e.g., endotracheal intubation, airway suctioning, bronchoscopy, aerosolized or nebulized medication administration, etc.). Patient is in early, mildly symptomatic stage of illness, when virus levels are low.

Higher Risk – direct or potential direct contact with the patient’s blood or bodily fluids (e.g., sweat, vomit, feces, urine), processing of laboratory specimens, and/or contact with linens, objects and environmental surfaces contaminated with the patient’s blood or bodily fluids. Also includes participation in aerosol generating medical procedures (e.g., endotracheal intubation, airway suctioning, bronchoscopy, aerosolized or nebulized medication administration, etc.). Patient is in a later stage of illness, significantly symptomatic when virus levels are high.

For patients receiving ongoing care, all personnel entering the room should use PPE appropriate for risk. A trained observer, also in PPE as defined in the guidance, is to be assigned to monitor the donning and doffing process for adherence to established protocols as a protective measure to the health care professional entering the patient’s room. Refer to the CDC’s [Guidance on Personal Protective Equipment To Be Used by Healthcare Workers During Management of Patients with Ebola Virus Disease in U.S. Hospitals, Including Procedures for Putting On \(Donning\) and Removing \(Doffing\)](#) for detailed PPE recommendations.

The buddy system should be utilized for doffing PPE in order to reduce the risk of accidental exposure. At shift change the oncoming nurse who has donned PPE would assist the off going nurse with doffing her/his PPE. During the shift, the nurse in the room would assist any other health care provider needed in the room with doffing his/her PPE.

Remove and dispose of all protective gear in the delineated doffing area. Perform hand hygiene with hand sanitizer or soap and water as defined by the doffing procedure. Soap and water should be utilized if hands are visibly soiled. Showering may be appropriate following doffing depending on length of time in patient care, type of procedure and exposure to bodily fluids. Any real or perceived exposures or breaks in technique should be reported to the supervisor immediately; exposed individuals are removed from exposure area and isolated, and appropriate post-exposure actions taken, including reporting to the County Health Department.

## Infection Control Management

At all points of entry where patient triage occurs, ensure there are adequate supplies of masks, hand sanitizer, and gloves.

Only essential supplies should be taken into the room. Equipment such as stethoscopes, sphygmomanometers, and point-of-care (POC) laboratory devices (where available) should be dedicated to the patient and not leave the room. If available, the use of telemetry and/or internal telemedicine system should be considered in order to reduce the amount of equipment required in the room. If there is not an in-room computer, accommodations should be made to have a dedicated computer in the room to facilitate electronic medical record documentation. If non-dedicated, non-disposable equipment (e.g. portable x-ray) should be needed, it will need to be cleaned and disinfected according to manufacturer's guidelines and appropriate environmental infection control procedures.

When providing patient care, staff should take care to minimize contact with surfaces in the room and wipe down all surfaces with disinfecting wipes at regular intervals during each shift. Additionally, gloved hands should be wiped with disinfecting wipes if they become soiled and periodically during the shift.

Limit the use of needles and sharps as well as conduct only essential phlebotomy, procedures and laboratory testing for diagnostic evaluation and medical care. If the patient is receiving oral nutrition and hydration, ensure appropriate containers/utensils (i.e. disposable) are provided.

Avoid aerosol generating procedures. If such procedures are necessary, ensure the CDC's guidance for [Infection Prevention and Control Recommendations for Hospitalized Patients with Known or Suspected Ebola Virus Disease in U.S. Hospitals](#) section on aerosol generating procedures is followed. The CDC [Medical Waste Management](#) procedures should be utilized to ensure medical waste is appropriately disposed of and appropriate biomedical waste containers are used. The CDC [Interim Guidance for Environmental Infection Control in Hospitals for Ebola Virus](#) should be utilized for environmental service procedures.

A log should be placed outside of the patient's room. This log should document:

- all personnel entering and exiting the room
- the time of entry and exit
- any invasive procedure
- the monitor present for donning and doffing
- any deviation from established protocols

This information must be returned to your hospital's infection control office following the patient's release and kept on file. Any person entering the room will need to enter information on the personnel log.

Visitor access to the patient should be restricted. Alternative methods of communication should be utilized for friend/family support to the patient.

In accordance with the CDC [Interim Guidance for Monitoring and Movement of Persons with Ebola Virus Disease Exposure](#), appropriate procedures for monitoring staff with exposure need to be implemented immediately upon receiving the patient.

### Patient Movement

Transport of patients suspected of Ebola exposure within a facility should only be done if absolutely necessary (e.g. move from emergency department to private room). If the patient must be transported, a monitor will accompany the patient, providing information and direction as needed. During transport, the patient should wear a face mask to minimize exposure to body fluids during transport and be wrapped in one to two layers of impervious material during the move. The transporting personnel and the monitor and receiving personnel should wear PPE as described above.

### **Patient Care**

Access into the patient's room is to be restricted to a limited number of healthcare personnel determined by the needs of the patient.

**Nursing:** A Primary Nursing patient care model with a Registered Nurse (RN) providing all activities of care should be utilized. Four (4) hours nursing shifts are recommended to minimize fatigue. The same group of nurses should provide ongoing care for a given patient if possible. The RN providing care would be responsible for blood draws and intravenous access. Based on experiences to date, several facilities have suggested a ratio of 3 RNs to 1 patient per 12 hour shift when highest levels of PPE and patient care are required. The RNs would rotate in 4 hour blocks of patient care, observer and facilitator (requesting supplies, retrieving medications, coordinating patient care orders, etc.).

**Trained Observer:** As noted above, the observer could be an infection control practitioner or a Registered Nurse. The observer is responsible for ensuring PPE is appropriately donned/doffed, limit room access and record all persons who enter the room.

**Physicians:** When multiple physicians are necessary for care provision, it is recommended that a team approach be utilized in order to limit the number of persons entering the room. For example, one physician would conduct the daily physical assessment and utilized by all with updates provided by the nurse and other appropriate diagnostics.

**Ancillary Staff:** Use should be extremely limited or not used.

The [Emory Healthcare Ebola Preparedness Protocols](#) provides detailed information and tools for successfully managing these patients.

## Conducting Exposure Risk Assessments and Monitoring of Staff

Health care facilities, in collaboration with the County Health Department (CHD), must have appropriate procedures for monitoring health care workers and ancillary staff that may have been exposed to a patient under investigation or a patient confirmed with Ebola. It is recommended that health care facilities implement their plan for monitoring staff immediately upon receiving a patient under investigation for Ebola. Health care facility administration should prepare for this task by identifying staff members that will be in charge of conducting initial and daily risk assessments of staff during a response.

1. A log is maintained of all staff who enter any potentially contaminated space, the patient under investigation private room, or handle potentially infectious materials, from the patient's entry into the facility until discharge.
  - a. Includes sufficient information (e.g. contact with a person under investigation, exposure to their blood or body fluids) to assign exposure categories (e.g., high-risk, low-risk as defined below) in order to apply movement and monitoring guidance.
2. A risk assessment is performed for all staff at the end of their shift who were in the patient under investigations private room, any potentially contaminated space, or handle potentially infectious materials to determine:
  - a. The type of exposure
  - b. The frequency of exposure
  - c. Duration of contact with the patient
  - d. Their use of personal protective equipment<sup>1</sup> during each encounter
  - e. And to determine if their exposure classification has changed
  - f. All information is recorded in the log.
3. Staff will be monitored for 21 days from their last exposure to patient under investigation or until Ebola is ruled out through testing conducted at DOH and CDC.
  - a. If Ebola is ruled out, staff will not continue to be monitored for 21 days following their last exposure to the patient under investigation. Monitoring will stop the same day Ebola infection is ruled out.
  - b. If the patient under investigation is confirmed to have Ebola by DOH and CDC, all staff who had high or low risk exposures to the patient with Ebola will continue to be monitored for a total of 21 days from their last exposure to the patient with Ebola.
4. Classify staff according to high risk exposure, low risk exposure, or no known exposure categories. Contact the CHD immediately to report high risk exposures and to discuss situations not described below.

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<sup>1</sup> Florida Department of Health. (2014) "Personal Protective Equipment Guidance for Health Care Workers: Ebola Virus." Retrieved from [http://www.floridahealth.gov/diseases-and-conditions/ebola/\\_documents/ebola-personal-protective-equipment-guidance.pdf](http://www.floridahealth.gov/diseases-and-conditions/ebola/_documents/ebola-personal-protective-equipment-guidance.pdf)

- a. High risk exposure:
    - i. Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen<sup>1</sup>) from a patient with Ebola.
    - ii. Direct contact with an Ebola patient, or the person's body fluids, while not wearing appropriate personal protective equipment (PPE). This includes any breaches in PPE or infection control precautions.
    - iii. Laboratory processing of blood or body fluids from a patient with Ebola while not wearing appropriate PPE or without using standard biosafety precautions
    - iv. Being in close contact with an Ebola patient while not wearing appropriate PPE.
      - 1. Close contact is defined as being within approximately 3 feet (1 meter) of a person with Ebola while the person was symptomatic for a prolonged period of time while not using appropriate PPE.
  - b. Low risk exposure:
    - i. Direct contact with an Ebola patient, or the person's body fluids, while wearing appropriate PPE.
    - ii. Brief proximity with an Ebola patient (such as being in the same room, but not in close contact) while wearing appropriate PPE or not.
    - iii. Being in the patient-care area of an Ebola patient, without direct contact.
    - iv. Laboratory processing of blood or body fluids from an Ebola patient while wearing appropriate PPE and using standard biosafety precautions.
  - c. No known exposure, includes:
    - i. Laboratory processing of Ebola-containing specimens in a Biosafety Level 4 facility.
    - ii. Any contact with a person who isn't showing symptoms of Ebola, even if the person had potential exposure to Ebola virus.
    - iii. Contact with a patient with Ebola before the person developed symptoms.
    - iv. Any potential exposure to Ebola virus that occurred more than 21 days previously.
5. Control measures and monitoring for 21 days following last potential Ebola exposure.
- a. High risk exposure:
    - i. Exclusion from work.
    - ii. Home quarantine as determined by the CHD.
    - iii. No travel on any public conveyance (i.e. bus, taxi, airplane).
      - 1. Any travel must be prearranged and approved by the CHD.
    - iv. Twice daily in-persons temperature checks, separated by 10-14 hours, at home by CHD staff.
      - 1. If health care is needed, coordinate with CHD staff prior to seeking care.
  - b. Low risk exposure:
    - i. Exclusion from work is not recommended.

- ii. CHD must be notified in advance of all travel outside of the county.
- iii. Twice daily in-persons temperature checks, separated by 10-14 hours, by designated staff at the health care facility or by CHD staff. The first daily temperature check must be prior to beginning activities in the health care setting.
  - 1. If the health care facility is monitoring staff, documentation of the monitoring must be sent to the CHD daily.
  - 2. If health care is needed, coordinate with CHD staff prior to seeking care.
- c. No known exposure:
  - i. No restrictions.
  - ii. Self-monitor health status and contact designated health care facility staff or CHD if illness develops.
- d. Additional restrictions, such as use of public health orders, may be warranted if an individual in the high or low risk exposure categories fails to adhere to the terms of monitoring.



## **Summary of Draft Plan to Transport Patients with Ebola Virus Disease to Regional Treatment Centers**

As a result of the 2014/2015 Ebola virus disease (EVD) outbreak, the federal government established Regional Treatment Centers in each of the FEMA regions to provide a specialized level of care for treatment of infectious diseases. The designated regional treatment center for Florida is at Emory University Hospital in Atlanta, GA.

Each state is required to have a plan for transporting a patient to the Regional Treatment Center. The DOH Bureau of Preparedness and Response has been working closely with counterparts in all of the Region IV states to develop an interstate transportation plan.

The primary means of transport for any patient in Florida will be by air, using aircraft from Phoenix Air stationed outside of Atlanta, which are under contract with the federal government. Phoenix Air maintain 3 Gulfstream G-III jets capable of this mission. They can be in Florida within 2 hours of notification. The federal government has accepted responsibility for payment for air transport of a confirmed Ebola patient. Local jurisdictions are responsible for identifying an airfield suitable for receiving the air assets and transporting the patient to the air field. The Bureau of Preparedness and response is also developing a regional ground transport back-up plan if air transport is unavailable.

In accordance with existing procedures, patients under investigation for EVD must be reported to the county health department immediately, county staff will then notify the Bureau of Epidemiology (850-245-4401) or regional epidemiologist to arrange for consultation. At this time, the state epidemiologist and the Centers for Disease Control and Prevention will be notified. If EVD is confirmed or highly suspected, and transport to the regional treatment center is required, the state epidemiologist will contact the Bureau of Preparedness and Response to initiate the transport plan.