SJCEMSC EBOLA VIRUS DISEASE RESPONSE GUIDELINE

KEY POINTS

Ebola Facts:

Ebola hemorrhagic fever is a disease caused by one of five different Ebola viruses. Four of the strains can cause severe illness in humans and animals. The fifth, Reston virus, has caused illness in some animals, but not in humans.

The first human outbreaks occurred in 1976, one in northern Zaire (now Democratic Republic of the Congo) in Central Africa: and the other, in southern Sudan (now South Sudan). The virus is named after the Ebola River, where the virus was first recognized in 1976, according to the Centers for Disease Control and Prevention.

Ebola is extremely infectious but not extremely contagious. It is infectious, because an infinitesimally small amount can cause illness. Laboratory experiments on nonhuman primates suggest that even a single virus may be enough to trigger a fatal infection.

Instead, Ebola could be considered moderately contagious, because the virus is not transmitted through the air. The most contagious diseases, such as measles or influenza, virus particles are airborne.

Humans can be infected by other humans if they come in contact with body fluids from an infected person or contaminated objects from infected persons. Humans can also be exposed to the virus, for example, by butchering and/or ingesting infected animals.

While the exact reservoir of Ebola viruses is still unknown, researchers believe the most likely natural hosts are fruit bats.

Symptoms of Ebola typically include: weakness, fever, aches, diarrhea, vomiting and stomach pain. Additional experiences include rash, red eyes, chest pain, throat soreness, difficulty breathing or swallowing and bleeding (including internal).

Typically, symptoms appear 8-10 days after exposure to the virus, but the incubation period can span two to 21 days.

Unprotected health care workers are susceptible to infection because of their close contact with patients during treatment.

Ebola is not transmissible if someone is asymptomatic or once someone has recovered from it. However, the virus has been found in semen and breast milk for up to three months.

Deadly human Ebola outbreaks have been confirmed in the following countries: Democratic Republic of the Congo (DRC), Gabon, South Sudan, Ivory Coast, Uganda, Republic of the Congo (ROC), Guinea and Liberia.

According to the World Health Organization, "there is no specific treatment or vaccine," and the fatality rate can be up to 90%. Patients are given supportive care, which includes providing fluids and electrolytes and food.

There are five subspecies of the Ebola virus: Zaire ebolavirus (EBOV), Bundibugyo ebolavirus (BDBV), Sudan ebolavirus (SUDV), Taï Forest ebolavirus (TAFV) and Reston ebolavirus (RESTV)

The likelihood of contracting Ebola is extremely low unless a person has direct, unprotected contact with the blood or bodily fluids (urine, saliva, feces, vomit, sweat, and semen) of a person who is sick with Ebola; or if they have direct handling of bats or nonhuman primates from areas with Ebola outbreaks.

EMS staff should check for symptoms and risk factors for Ebola. Patients suspected of having an active case of Ebola, shall be transported to the closest hospital. Staff should notify the receiving healthcare facility in advance when they are bringing a patient with suspected Ebola, so that proper infection control precautions can be taken.

RECOMMENDATIONS FOR EMS AND MEDICAL FIRST RESPONDERS, INCLUDING FIREFIGHTERS AND LAW ENFORCEMENT PERSONNEL

For the purposes of this section, "EMS personnel" means pre-hospital EMS, law enforcement and fire service first responders**.**

When state and local authorities consider the threat to be elevated (based on information provided by local, state, and federal public health authorities, including the county health department, state health department, and the CDC), practices described below may be modified. The following containment principles shall be followed: Identify, isolate, and notify.

DISPATCH

1. As a precaution, the receiving PSAP will screen all callers with the following chief complaints for consideration as patients with possible EVD:
    a. Abdominal Pain (Protocol 1)
    b. Headache (Protocol 18)
    c. Hemorrhage, Medical, Non-Traumatic (Protocol 21)
    d. Sick Person (Protocol 26)
2. Additionally, the receiving PSAP will screen select callers with the following chief complaints for consideration as patients with possible EVD, at the

discretion of the call taker, if the caller reports symptoms that accompany the chief complaint WITH fever, vomiting, and/or chills:

a. Breathing Problems (Protocol 6)

b. Chest Pain (Protocol 10)

3. Upon determining that the chief complaint meets one of the above criteria, the call taker will post the call for dispatch (as normal); however, case entry will be suspended momentarily following question #3 to ask the following questions from the EIDS Tool:

   a. Has the patient traveled internationally to an area known to have Ebola within the past month?

   b. Has the patient had direct contact with someone who was suspected to have been, or confirmed to have been, infected with Ebola?

   c. Does the patient have a fever?

   d. Does the patient have chills?

   e. Has the patient been vomiting?

   f. Does the patient have diarrhea?

4. If any of the above questions are answered in the affirmative, the call taker will IMMEDIATELY direct the patient and all occupants at the calling address to shelter in place and await further instruction from the dispatch center.

5. Once the patient status is suspected to be positive for possible EVD, the call taker will notify the dispatcher or TRO, and they will make notifications to the responders and the destination hospital.

6. The dispatch center will notify the St. Joseph Regional Medical Center (SJRMC) as the destination facility.

7. In order to notify the responders, the dispatcher will request that a responding officer contact the dispatch center via cell phone for further response information. To notify the SJRMC as the receiving hospital, the

dispatcher will call the SJRMC ER directly (574-335-1110) and speak with the charge nurse to advise the hospital staff that there is a patient with possible Ebola symptoms that is expected to be transported to their facility.

8. The dispatch center will IMMEDIATELY notify law enforcement for response support; as well as the St. Joseph County Health Department and the St. Joseph County Emergency Management Agency.

RESPONSE

1. Upon dispatch notification of suspected EVD response, the responding incident commander will:
    a. Ensure that the following agencies are notified for incident support:
        i. South Bend Fire Department HAZMAT Team (SBFD Unit 140)
        ii. Police agency in the jurisdiction having authority (JHA)
        iii. Destination hospital
        iv. Both SJCEMSC Medical Directors
        v. St. Joseph County Health Department (574-283-4925)
        vi. St. Joseph County Emergency Management Agency
        vii. CV-1 for incident command post (ICP) support
2. The responding units within the JHA will down-grade their response to a “cold” response. The responding agency will establish an incident command post (ICP) that is located a safe distance away from the scene. It is recommended that the ICP be located in an area that is not visible to the patient or occupants of the response address.
3. Once units are on scene at the staging location and the ICP has been established, the Incident Commander (IC) in conjunction with law enforcement personnel will

ensure that NO unauthorized responders or members of the public will make contact with the patient and/or the response address.

   a. **THE ONLY RESPONSE UNIT AND/OR PERSONNEL THAT SHALL MAKE CONTACT WITH THE PATIENT AND/OR THE RESPONSE ADDRESS IS THE SOUTH BEND FIRE DEPARTMENT EBOLA TRANSPORT UNIT (ETU) STAFFED WITH THREE (3) HAZMAT TECHNICIANS.**

4. Upon notification of a possible EVD patient to South Bend Fire Department Unit 140, the HAZMAT Team Leader will ensure that the entire SBFD Command Staff is notified of the event.
5. SBFD Unit 140 will staff a six (6) person Ebola Response Team consisting of six (6) HAZMAT Technicians from the SBFD HAZMAT Team.
   a. The Ebola Response Team will be subdivided into two (2) groups:
      i. Three (3) members of the team will respond to the scene in the Ebola Transport Unit.
      ii. Three (3) members of the team will respond to a pre-determined decontamination area.
   b. All members of the Ebola Response Team will don appropriate PPE, in accordance with the latest CDC guidelines.
6. SBFD Unit 140 will respond to the ICP to serve as the HAZMAT Division Supervisor.
   a. All communications with the HAZMAT group will be coordinated through SBFD Unit 140.

PATIENT ASSESSMENT

1. Address scene safety:
   a. Keep the patient separated from other persons as much as possible.

b. Use caution when approaching a patient with Ebola. Illness can cause delirium, with erratic behavior that can place EMS personnel at risk of infection, e.g., flailing or staggering.

2. Only two (2) members of the three (3) people Ebola Response Team making the scene shall establish contact with the patient. The driver of the ETU shall remain in the driver's seat wearing proper PPE throughout patient care and transport.
3. During patient assessment and management, EMS personnel should consider the symptoms and risk factors of Ebola:
   a. All patients should be assessed for symptoms of Ebola (fever of greater than 100.4 degrees Fahrenheit, and additional symptoms such as severe headache, muscle pain, vomiting, diarrhea, abdominal pain, or unexplained hemorrhage). If the patient has symptoms of Ebola, then ask the patient about risk factors within the past 3 weeks before the onset of symptoms, including:
      i. Contact with blood or body fluids of a patient known to have or suspected to have Ebola;
      ii. Residence in—or travel to— a country where an Ebola outbreak is occurring; or
      iii. Direct handling of bats or nonhuman primates from disease-endemic areas.
   b. Based on the presence of symptoms and risk factors, put on or continue to wear appropriate PPE and follow the scene safety guidelines for suspected case of Ebola.
   c. If there are no risk factors present, proceed with normal EMS care.
4. The standard patient care protocols will be in effect with the following caveats:
   a. If the patient was exposed to an infectious agent, the transport crew will ensure that the patient was decontaminated at the site, and may request that the patient wear a biohazard coverall. If the patient cannot tolerate the biohazard coverall, or if the coverall is likely to interfere with patient care activities, or if the patient cannot assist in putting it on, the patient will be wrapped in an impervious sheet or similar barrier to prevent environmental contamination.
   b. A temperature is to be recorded on all patients.

c. A detailed History of Present Illness (HPI) to include history of fever, cough, vomiting, diarrhea, hemorrhage, rash, malaise and duration of symptoms is to be obtained.
d. No IV or IO is to be started on patients unless the patient is in emergent need of volume replacement or reasonably expected to require IV medication.
e. No sharps are to be utilized in a moving vehicle, **NO EXCEPTIONS!**
f. Large volumes of bodily effluent are to be collected in leak proof containers that are either color coded as a biohazard or labeled with a biohazard sticker.
g. Any breach of infection control measures is to be reported immediately to SBFD Unit 140 and the Medical Directors.
h. All medical control questions will be directly communicated with the Medical Director(s), NOT the usual decentralized medical control system.

PATIENT TRANSPORT

1. The patient will be transported to the nearest hospital.
    a. There will be two (2) members of the Ebola Response Team in the patient compartment of the ETU/ambulance throughout patient care and transport.
2. Once transport has been initiated, the driver of the ETU shall provide all radio communications between the crew and the hospital using the radio located in the front cab of the apparatus.
3. Normal patient transport procedures shall be followed.
4. No sharps are to be utilized in a moving vehicle, NO EXCEPTIONS!
5. Patient care by EMS shall be transferred to the receiving hospital in one of the pre-determined EVD transfer areas.

USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

Use of standard, contact, and droplet precautions is sufficient for most situations when treating a patient with a suspected case of Ebola as defined above. EMS personnel should wear:

1. Standard precautions apply
2. Double gloving is required
3. Biohazard coverall is required
4. Fitted N-95 respirator with face shield or butyl rubber hood assembly with Powered Air Purifying Respirator (PAPR) is required
5. Specialized footwear capable of being disinfected or disposed of is required. Footwear that is permeable, such as footwear made from canvas, will not be worn.
6. The patient will wear a surgical mask, if tolerated.
7. Cover the patient with an impervious sheet to avoid unnecessary physical contact.
8. The patient will wear a biohazard coverall if tolerated and the patient is capable of assisting in putting the biohazard coverall on. If the biohazard coverall is not tolerated, or is likely to interfere with patient care activities, or if the patient cannot assist putting it on, the patient will be wrapped in an impervious sheet or similar barrier to prevent environmental contamination.
9. Patient care equipment will be disinfected or properly disposed of after use as specified below.

If blood, body fluids, secretions, or excretions from a patient with suspected Ebola come into direct contact with the EMS provider's skin or mucous membranes, the EMS provider should immediately stop working. They should wash the affected skin surfaces with soap and water and report exposure to the Incident Commander and the Medical Directors for follow-up.

Recommended PPE should be used as follows:

- PPE should be worn upon entry into the scene and continued to be worn until personnel are no longer in contact with the patient.
- PPE should be carefully removed without contaminating one's eyes, mucous membranes, or clothing with potentially infectious materials.

- PPE should be placed into a medical waste container at the hospital or double bagged and held in a secure location.
- If there is a potential exposure, or if the crew thinks they have been affected, DO NOT return to the firehouse. After transport, remove the unit from service while at the hospital. Exposure reporting should be activated from the hospital.
- Hand hygiene should be performed immediately after removal of PPE.
- The latest CDC guidelines for proper PPE have been published at the following link (10/24/2014):
    - https://iab.gov/Uploads/IAB%20Ebola%20PPE%20Recommendations_10%2024%2014.pdf
- **WHEN IN DOUBT, THE HIGHEST LEVEL OF PRECAUTIONS SHOULD BE USED!**

ENVIRONMENTAL INFECTION CONTROL

Environmental cleaning and disinfection, and safe handling of potentially contaminated materials is essential to reduce the risk of contact with blood, saliva, feces, and other body fluids that can soil the patient care environment. EMS personnel should always practice standard environmental infection control procedures, including vehicle/equipment decontamination, hand hygiene, cough and respiratory hygiene, and proper use of CDC authorized medical PPE.

EMS personnel performing environmental cleaning and disinfection should:

- Wear recommended PPE (described above) and consider use of additional barriers, if needed.
- Wear face protection (facemask with goggles or face shield) when performing tasks such as liquid waste disposal that can generate splashes.
- Use an EPA-registered hospital disinfectant or a freshly prepared 10% dilution of household bleach to disinfect environmental surfaces.
- Spray and wipe clean any surface that becomes potentially contaminated during transport. These surfaces should be immediately sprayed and wiped clean and the process repeated to limit environmental contamination.

Cleaning Ambulance after Transporting a Patient with Suspected or Confirmed Ebola

The following are general guidelines for cleaning or maintaining ambulances and equipment after transporting a patient with suspected or confirmed Ebola:

- EMS personnel performing cleaning and disinfection should wear recommended PPE (described above) and consider use of additional barriers, if needed. Face protection (facemask with goggles or face shield) should be worn since tasks such as liquid waste disposal can generate splashes.
- Patient-care surfaces (including stretchers, railings, medical equipment control panels, and adjacent flooring, walls and work surfaces) are likely to become contaminated and should be cleaned and disinfected after transport.
- A blood spill or spill of other body fluid or substance (e.g., feces or vomit) should be managed through removal of bulk spill matter, cleaning the site, and then disinfecting the site. For large spills, a chemical disinfectant with sufficient potency is needed to overcome the tendency of proteins in blood and other body substances to neutralize the disinfectant's active ingredient.
- An EPA-registered hospital disinfectant or a freshly prepared 10% dilution of household bleach for cleaning and decontaminating surfaces or objects soiled with blood or body fluids should be used according to those instructions. After the bulk waste is wiped up, the surface should be disinfected as described in the bullet above.
- Contaminated reusable patient care equipment should be placed in biohazard bags and labeled for cleaning and disinfection. Reusable equipment such as the cardiac monitor should be cleaned and disinfected according to manufacturer's instructions by personnel wearing correct PPE. Avoid contamination of reusable porous surfaces that cannot be made single use.
- Use only a mattress and pillow with plastic or other covering that fluids cannot get through. To reduce exposure among staff to potentially contaminated textiles (cloth products) while laundering, discard all linens, non-fluid-impermeable pillows or mattresses as appropriate.

FOLLOW-UP AND/OR REPORTING MEASURES AFTER CARING FOR A SUSPECTED OR CONFIRMED EBOLA PATIENT

- Following contact with a patient either suspected or confirmed to have Ebola, all personnel shall complete a first report of injury report to document the case.
- Personnel with exposure to blood, bodily fluids, secretions, or excretions from a patient with suspected or confirmed Ebola should immediately:
  - Stop working and wash the affected skin surfaces with soap and water. Mucous membranes (e.g., conjunctiva) should be irrigated with a large amount of water or eyewash solution;
  - Contact occupational health for assessment and access to post-exposure management services; and
  - Receive medical evaluation and follow-up care, including fever monitoring twice daily for **21 days**, after the last known exposure. Personnel may continue to work while receiving twice daily fever checks.
- EMS personnel who develop sudden onset of fever, intense weakness or muscle pains, vomiting, diarrhea, or any signs of hemorrhage after an unprotected exposure (i.e., not wearing recommended PPE at the time of patient contact or through direct contact to blood or body fluids) to a patient with suspected or confirmed Ebola should:
  - Not report to work or immediately stop working and isolate themselves;
  - Notify their agency administrative personnel and medical directors;
  - Contact occupational health for assessment and access to post-exposure management services;
  - Comply with work exclusions until they are deemed no longer infectious to others.

APPENDICIES

OCCUPATIONAL INJURY MANAGEMENT EVD PROTOCOL

Protocol for employees providing direct patient care

- All health care providers are required to measure their temperature and complete the symptom questionnaire twice daily.

- If you have a fever of ≥ 37.8 degrees C, or 100 degrees F;

OR

- If you have any of the following symptoms; chills, malaise, headache, joint/muscle aches, weakness, diarrhea, nausea/vomiting, stomach pain, or lack of appetite.

- Contact your immediate supervisor. The SJCEMSC Medical Directors must also be notified.

- Complete an employee incident report.

- If you are symptomatic, do not leave your current location until consult with your immediate supervisor and the SJCEMSC Medical Directors.

- You are required to report any fever of ≥37.8 degrees C, 100 degrees F, for any of the following symptoms: headache, joint/muscle aches, weakness, diarrhea, vomiting, stomach pain or lack of appetite, for 21-days from the last shift worked.

- Any health care provider is required to monitor their temperature twice daily and monitor for any symptoms (listed above) on days not worked. Report the symptoms immediately to your immediate supervisor and the SJCEMSC Medical Directors.

DIRECT HEALTH CARE PROVIDER SYMPTOM QUESTIONNAIRE

Employee Name: _____

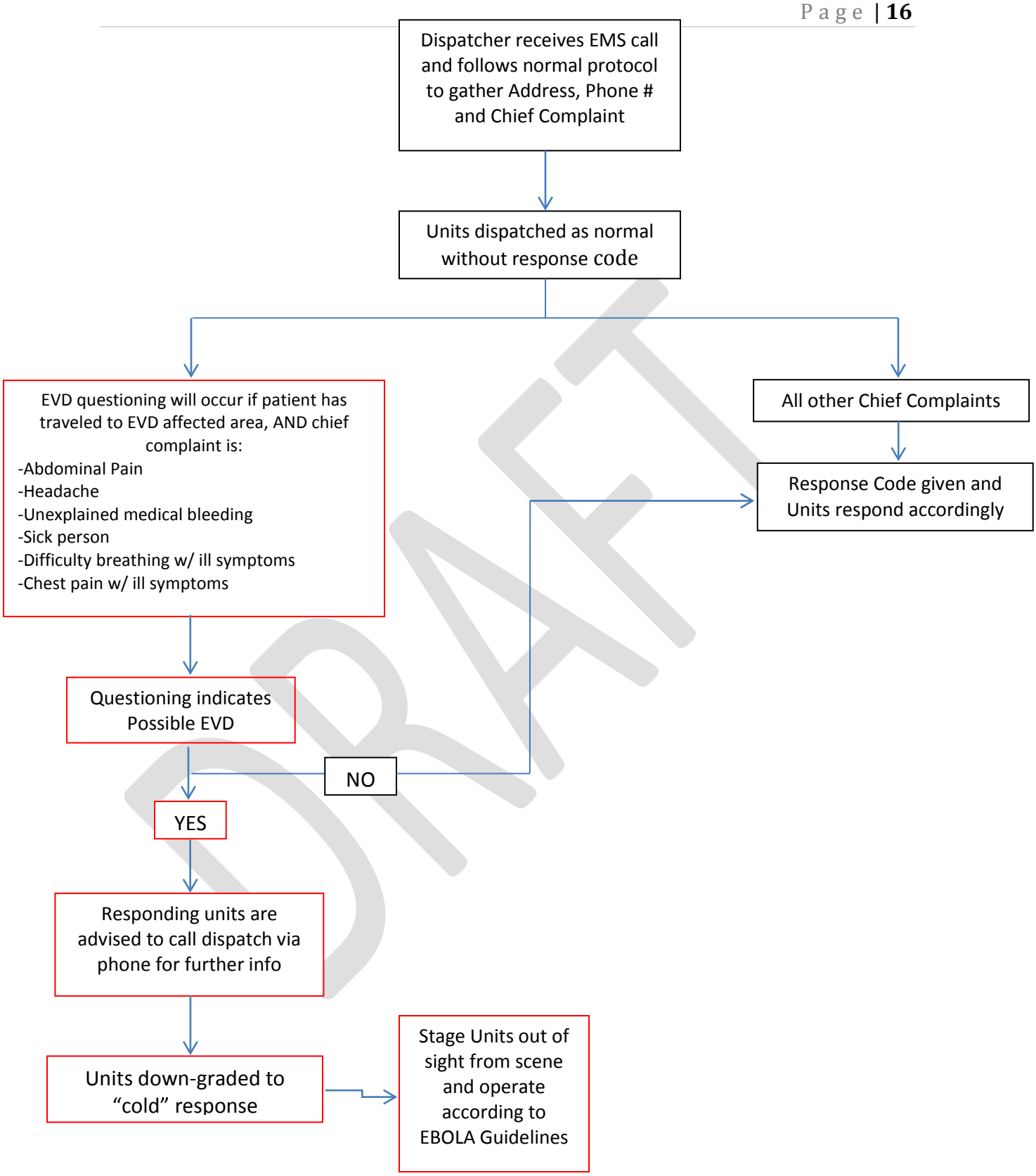
Date of Exam: _____ Time of Exam: _____

Best Contact Phone #: _____

1. Temperature: _____ degrees C / F If yes, onset and duration
2. Nausea / Vomiting: N_____ Y_____ _____
3. Diarrhea: N_____ Y_____ _____
4. Headache: N_____ Y_____ _____
5. Joint/Muscle Aches: N_____ Y_____ _____
6. Stomach Pain: N_____ Y_____ _____
7. Lack of Appetite: N_____ Y_____ _____
8. Weakness: N_____ Y_____ _____

- All health care providers are required to measure their temperature and complete the symptom questionnaire twice daily.
- If you have a fever of ≥ 37.8 degrees C, or 100 degrees –OR –
- If you have any of the following symptoms; chills, malaise, headache, joint/muscle aches, weakness, diarrhea, nausea/vomiting, stomach pain, or lack of appetite.
- Contact your immediate supervisor. The SJCEMSC Medical Directors must also be notified.
- Complete an employee incident report.
- If you are symptomatic, do not leave your current location until consult with your immediate supervisor and the SJCEMSC Medical Directors.
- You are required to report any fever of ≥37.8 degrees C, 100 degrees F, for any of the following symptoms: headache, joint/muscle aches, weakness, diarrhea, vomiting, stomach pain or lack of appetite, for 21-days from the last shift worked.

EMPLOYEE SIGNATURE: _____


Dispatcher receives EMS call and follows normal protocol to gather Address, Phone # and Chief Complaint
Units dispatched as normal without response code
EVD questioning will occur if patient has traveled to EVD affected area, AND chief complaint is:
-Abdominal Pain
-Headache
-Unexplained medical bleeding
-Sick person
-Difficulty breathing w/ ill symptoms
-Chest pain w/ ill symptoms
All other Chief Complaints
Response Code given and Units respond accordingly
Questioning indicates Possible EVD
NO
YES
Responding units are advised to call dispatch via phone for further info
Units down-graded to "cold" response
Stage Units out of sight from scene and operate according to EBOLA Guidelines