

Kitsap County EMS and Trauma Care Guidelines for responding to Ebola Virus Disease (EVD)

The current Ebola outbreak in West Africa has increased the possibility of patients with Ebola Virus Disease (EVD) traveling from the affected countries to the United States. The likelihood of contracting EVD is extremely low unless a person has direct unprotected contact with the body fluids (*like blood, urine, saliva, feces, vomit, sweat and semen*) of another person infected with EVD.

Initial signs and symptoms of EVD include fever, chills, sore throat, and muscle aches. Diarrhea, nausea, vomiting, and abdominal pain occur after a few days. Patients are considered most infectious during this later stage of the illness. Other symptoms such as chest pain, shortness of breath, headache, or confusion may also develop. Symptoms often become increasingly severe as the disease progresses, and include confusion, bleeding, shock, and multi-organ failure.

Impacts of the EVD epidemics in West Africa are projected to grow for many more months. This guidance is appropriate for other infectious diseases acquired outside of North America including Middle Eastern respiratory syndrome (MERS), severe acute respiratory syndrome (SARS), other hemorrhagic fevers (i.e. Lassa fever) and measles; but the focus of this document is on EVD.

Whenever patients present with signs and symptoms of an infectious disease, CENCOM and EMS Personnel should ask about travel history outside of the United States within the previous 30 days. Extra caution, as outlined in the plan that follows, shall be exercised when patient symptoms and a travel history suggest EVD.

Patient Assessment

CENCOM

CENCOM call receivers and EMS personnel should be alert for patients with any of the following symptoms during the interview:

- Fever > 100.4 F
- Headache
- Sore throat
- Muscle aches
- Vomiting
- Diarrhea
- Abdominal pain
- Unexplained (non-traumatic) bleeding

To determine the risk of EVD, CENCOM call receivers shall question callers complaining of **ANY** of the above symptoms about their travel history by asking “Have you traveled outside the United States in the past 30 days?” If the caller answers “yes” to this question, they then shall be asked “Have you traveled to West Africa (high risk countries at this time include Liberia, Guinea, Sierra Leone, and Mali), or had any other known exposure to a patient with Ebola virus?”

If the patient has **ANY** of the above symptoms **and** a travel history to West Africa, CENCOM dispatchers shall notify the responding crew of a potential EVD case by sending a message of “**Infectious Disease-Travel History.**” The responding EMS personnel shall then don the “**Routine ID**” personal protective equipment (**PPE**) before assessing the patient.

Responders

The appropriate level of PPE depends on the risk of exposure:

Degree of Risk	Recommended PPE
No infectious symptoms	Routine PPE: Gloves, eyewear
Infectious Symptoms AND either no travel history OR travel to West Africa (Liberia, Guinea, Sierra Leone, Mali) but NO high risk of blood/body fluid exposure (e.g. vomiting, diarrhea, bleeding, trauma).	Routine ID PPE: Gown, gloves, eyewear, N95 mask
Infectious symptoms AND travel to West Africa (Liberia, Guinea, Sierra Leone, Mali) AND high risk of blood/body fluid exposure (e.g. vomiting, diarrhea, bleeding, trauma)	High Risk PPE: Impermeable (TyChem™) Gown, double gloves, eyewear/faceshield, N 95 mask, surgical hood covering head/neck

HIGH-RISK - EVD Exposure/Symptoms:

Patient assessment and transport should be provided by those crews who have completed training in the **High Risk** PPE EVD infection control procedures whenever possible.

When notified by Kitsap County Public Health of a known patient with exposure to EVD and infectious symptoms that include vomiting, diarrhea, and/or bleeding, the EVD transport vehicle shall be summoned and responding EMS personnel shall don **High Risk** PPE:

- Gloves
- Impermeable boot covers
- Impermeable suit/gown (i.e. TyChem™)

- N95 or N100 mask
- Eye protection/shield
- Second pair of gloves
- Surgical hood/head covering

Prior to donning **High Risk** PPE the provider(s) shall remove any jewelry, their uniforms, and don coveralls. Clothing/jewelry, outside of glasses and contact lenses, that are worn while providing patient care in **High Risk** PPE shall be discarded and destroyed during the doffing/decontamination process.

Once the **High Risk** PPE has been donned, the PPE shall be checked prior to patient contact to ensure no skin is exposed.

Responding crew will then follow standard infection control procedures. The number of personnel that enter the “Hot Zone” shall be limited to those necessary to provide appropriate patient care (1-2 providers). In general, one member in Routine ID PPE should remain outside the “Hot Zone” to be able to monitor for any on scene contamination. If all members of a crew are necessary for patient care, an additional crew should be requested to provide safe decontamination.

REQUEST FOR EMS TRANSPORT FROM A HEALTH CARE FACILITY:

When notified by CENCOM dispatchers of a patient who has presented to a clinic or urgent care center who has exposure to EVD and infectious symptoms and who then requires EMS transport, a graded approach may be taken:

- If the patient is at a Harrison Hospital affiliated clinic or Urgent Care Center, or at the Harrison Silverdale ED, the EVD transport vehicle shall be summoned for transport of said patient. Responding EMS providers shall don **Routine ID PPE** and perform a brief initial assessment from a distance of 6 feet from the patient.
 - Urgent Care or Silverdale ED staff already in **High Risk** PPE shall transport the patient to the Harrison Bremerton ED in the EVD transport vehicle. Kitsap EMS personnel will only become involved in patient care at the request of the Harrison staff.
- If the patient is at a non-Harrison affiliated clinic, one crew member in **Routine ID** PPE shall perform an initial assessment from a distance of 6 feet from the patient to acquire travel, exposure history and degree of infectious symptoms.
 - If the patient reports infectious symptoms **and** a travel history to West Africa **or** known exposure to EVD, **and** vomiting, diarrhea, and/or bleeding, the responding crew member shall back out, summon the EVD transport vehicle and don **High Risk** PPE.

- If the patient does not have travel or exposure history, EMS may transport the patient according to routine infection control procedures.

LOW TO MODERATE RISK: Infectious Symptoms- Travel History

When notified by CENCOM dispatchers of a patient with “**Infectious symptoms- Travel History**” or when responding to a patient dispatched as “unknown medical” or a patient with infectious symptoms but an unknown travel history, responders should adopt a cautious assessment approach. ⁱⁱ

- One crew member in **Routine ID** PPE shall perform an initial assessment from a distance of 6 feet from the patient to acquire travel history and conduct known exposure questioning.
- If the patient reports any of the above symptoms **and** a travel history to West Africa **or** known exposure to EVD **and** vomiting, diarrhea, and/or bleeding, to responding EMS personnel, the responding EMS personnel are to back out, summon the EVD transport vehicle and don **High Risk** PPE prior to further patient assessment and care
- If the patient does not have a travel or exposure history, EMS may transport the patient according to routine infection control procedures.

Transport/Reporting

Two vehicles shall be prepared and maintained for the transport of a known/suspected EVD patient. Each vehicle will have a cache of High Risk PPE, and will have their cabins and patient care areas prepared for the care of an EVD patient as well as for decontamination after care. ⁱⁱⁱ

After on scene assessment is complete, the Duty Chief shall summon the vehicle designated by their agency for transport of a known/suspected EVD patient. This will be done via a phone call to CENCOM. CENCOM will then call for the vehicle, also via phone, by calling Duty Chief 81 at North Kitsap Fire and Rescue. All communications at this point between the on scene personnel, CENCOM, the EVD transport vehicle, and the receiving hospital, will be conducted by phone to minimize radio traffic. Once the EVD transport vehicle is on scene, responding EMS providers shall don the High Risk PPE.

The on-duty Battalion Chief is to contact Kitsap County Public Health at (360) 337-5235 and convey any special handling or transfer of care instructions to the EMS crew.

EMS providers shall notify Base Station medical control at Harrison Medical Center as early as possible, prior to transport, to provide the maximum time to prepare for the arrival of the patient.

Treatment

For a patient with high risk of EVD, pre-hospital care should be limited to assessment and transport whenever possible.

- ALS indicators include: altered mental status; RR>30/min; signs and symptoms of shock (e.g. HR>120, SBP<90). ALS interventions are to be limited to administration of oral/sublingual medications (e.g. anti-emetics). IVs are only to be placed in the patient with signs of shock **AND** transport time over 20 minutes.
- Patients with severe symptoms are to be considered DNR/DNI

Routine ID – Infectious symptoms but either **NO** travel or known exposure **OR** travel history but **NO** vomiting, diarrhea, and/or bleeding:

If the patient has infectious symptoms but does **NOT** have a history of travel to West Africa within the last 30 days, or any other known EVD exposure, **OR** has a travel history but **NO** vomiting, diarrhea and/or bleeding, responding EMS personnel are to follow routing infectious control procedures and don routine ID PPE:

- 2 pairs of gloves
- N95 or N100 mask
- Gown
- Eye protection/face mask

Decontamination

The risk of contracting EVD for EMS providers appears to be the highest when removing (doffing) PPE. Special decontamination procedures shall be initiated when EMS responders have had contact with a high risk EVD patient. Decontamination of EMS personnel should be completed at the receiving hospital following their specific decontamination procedures. All PPE and medical waste from the incident shall be disposed of at the receiving hospital according to their specific protocol.

Decontamination procedures are similar to procedures used when removing Hazmat suits. Additional personnel may be needed to perform appropriate decontamination. Decontamination procedures shall be completed prior to returning to service.

The vehicle used in the transport of suspected EVD patients shall be decontaminated using a viricidal agent according to CDC guidelines.^{iv}

Contact/Exposure^v

All involved EMS crew members shall document “contact” with a suspected EVD patient. It is recommended that crew members involved in the care of a suspected EVD patient wait in a designated area at the receiving hospital until test results return. If the suspected patient is confirmed positive for EVD, the MSO/infection control officer shall create a roster of all members with contact and share this with Kitsap County Public Health. All members of this roster shall be monitored for fever for 21 days post patient contact.

High risk exposure is defined as direct contact with blood, body fluids, secretions or excretions of a person with EVD to mucous membranes, non-intact skin or through needle stick.

- If an exposure occurs, stop working immediately and wash the affected skin surface with soap and water or any available disinfectant
- Irrigate any exposed mucous membranes copiously
- Immediately notify supervisor
- Complete the full decontamination procedure

EMS Personnel who are exposed to EVD shall be transported to the designated receiving hospital for evaluation and follow up care. Follow up care usually includes monitoring for 21 days by twice daily checks for fever and infectious symptoms.. They are not considered contagious unless fever develops during the monitoring period. Guidelines for monitoring will be followed as directed by each agency’s MSO/infection control officer who shall follow the advisement of the Department of Health and the CDC.

Providers who have been involved in the transport of a confirmed EVD patient, but who have not suffered any exposure to that patient’s blood or bodily fluids, may be considered low risk and may return to normal duty

Providers who have been involved in the transport of a confirmed EVD patient AND who have suffered a potential/actual exposure should be restricted from patient care activities until they have completed the required 21 day monitoring period.

ⁱ This assumes that Public Health has done its best to get the patient to go POV and was unable to do so. It may be worth considering giving public health a specific number to call for transport of an EVD patient, rather than having them use CENCOM for dispatch

ⁱⁱ I decided to put the CENCOM travel history alert in this area, since this is more likely to be a false alarm based on the experiences of other agencies/regions throughout the US. I’m confident at this time that the overwhelming majority of true

EVD patients will be known to Public Health. If Public Health calls for transport, we should take it very seriously.

iii Per our discussion at the Board meeting, I plan for one public (NKFR) and one private (Olympic) vehicle. I recommend simply cordoning off the driver's cabin from the patient care area with impermeable plastic, and encasing the patient care area in the same material. Kim had an example provided from AMR. I don't believe we need to "rhino-ize" a vehicle's interior at this time.

iv This process is TBD, depending on how the vehicle is prepared, the specifics of who decons the vehicle, and where the decon takes place

v This may fit better as a policy, separate from this specific procedure. Controversial aspects include waiting at Harrison for up to 24 hours for the test to return, and allowing those involved in transport with very low risk of actual exposure (e.g. a patient with fever/chills only transported in full PPE with no breeches in decon protocol) to return to full duty. In addition, if a provider has some risk for actual EVD exposure, should they be offered "shelter" for 21 days rather than letting them go home to their families for monitoring. I feel confident that asymptomatic people can be safely monitored at home without significant risk to others, however if I am one of those people I will think long and hard before I go home to my wife and son.