



# PRINCE GEORGE FIRE AND EMS

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**Date:** November 1, 2014

**Title:** Ebola Virus Disease (EVD)

**Authorized By:** 

## I. Overview:

Ebola Virus Disease (EVD), previously known as Ebola hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Ebola virus strains. Ebola can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees).

Ebola is caused by infection with a virus of the family Filoviridae, genus Ebolavirus. There are five identified Ebola virus species, four of which are known to cause disease in humans: Ebola virus (Zaire ebolavirus); Sudan virus (Sudan ebolavirus); Tai Forest virus (Tai Forest ebolavirus, formerly Côte d'Ivoire ebolavirus); and Bundibugyo virus (Bundibugyo ebolavirus). The fifth, Reston virus (Reston ebolavirus), has caused disease in nonhuman primates, but not in humans.

Ebola viruses are found in several African countries. Ebola was first discovered in 1976 near the Ebola River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa.

The natural reservoir host of Ebola virus remains unknown. However, on the basis of evidence and the nature of similar viruses, researchers believe that the virus is animal-borne and that bats are the most likely reservoir. Four of the five virus strains occur in an animal host native to Africa.

## II. Transmission:

When an infection does occur in humans, the virus can be spread in several ways to others. Ebola is spread through direct contact (through broken skin or mucous membranes in, for example, the eyes, nose, or mouth) with blood or body fluids (including but not limited to urine, saliva, sweat, feces, vomit, breast milk, and semen) of a person who is sick with Ebola objects (like needles and syringes) that have been contaminated with the virus infected animals. Ebola is not spread through the air or by water, or in general, by food.

- Signs and Symptoms
- Fever (greater than 38.6°C or 101.5°F)
- Severe headache
- Muscle pain
- Weakness

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- Diarrhea
- Vomiting
- Abdominal (stomach) pain
- Unexplained hemorrhage (bleeding or bruising)

Symptoms may appear anywhere from 2 to 21 days after exposure to Ebola, but the average is 8 to 10 days.

### III. Prevention:

Healthcare workers who may be exposed to people with Ebola should follow these steps:

- Wear protective clothing, including masks, gloves, gowns, and eye protection.
- Practice proper infection control and sterilization measures.
- Isolate patients with Ebola from other patients.
- Avoid direct contact with the bodies of people who have died from Ebola.
- Notify health officials if you have had direct contact with the blood or body fluids, such as but not limited to, feces, saliva, urine, vomit, and semen of a person who is sick with Ebola. The virus can enter the body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.

### IV. Treatment:

- No approved vaccine or medicine (e.g., antiviral drug) is available for Ebola.
- Symptoms of Ebola are treated as they appear. The following basic interventions, when used early, can significantly improve the chances of survival:
  - Providing intravenous fluids (IV) and balancing electrolytes (body salts)
  - Maintaining oxygen status and blood pressure
  - Treating other infections if they occur

Experimental vaccines and treatments for Ebola are under development, but they have not yet been fully tested for safety or effectiveness.

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Recovery from Ebola depends on good supportive care and the patient's immune response. People who recover from Ebola infection develop antibodies that last for at least 10 years, possibly longer. It isn't known if people who recover are immune for life or if they can become infected with a different species of Ebola. Some people who have recovered from Ebola have developed long-term complications, such as joint and vision problems.

**V. Emergency Medical Dispatch Protocol Modification:**

Effective November 1, 2014, the Emergency Communications Center (ECC) will begin screening 911 calls (medical emergency types) utilizing the CDC guidelines as outlined below:

Is the patient experiencing fever, headache, joint and muscle aches, weakness, fatigue, diarrhea, vomiting, stomach pain and lack of appetite and in some cases bleeding?

AND

1. Has the patient traveled to, or had contact with individuals who live or have traveled to, West Africa or other countries where EVD transmission has been reported by World Health Organization (WHO) within 21 days (3 weeks) of symptom onset.
2. If both criteria are met, the ECC staff will notify responders of an individual with a travel history and symptoms consistent with Ebola. The message "BSI PROTOCOL" will be transmitted to the responding unit's. This message is intended to instruct providers to take STANDARD, CONTACT, and DROPLET precautions prior to physical patient contact.

If the patient's condition fails to meet both criteria, the message "EVD NEGATIVE" will be transmitted to the responding unit's.

If the patient's screening proves EVD Negative, standard departmental personal protective equipment (PPE) guidelines will be utilized.

If the patient's screening indicates BSI Protocol, responding units will immediately notify the Director of Fire & EMS. Appropriate PPE will include:

- Fluid resistant or impermeable gown / coverall
- Gloves (Double gloving is recommended)

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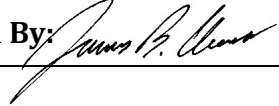
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- Place a surgical mask on the patient
- Appropriate combination of the following:
- Eye protection
- N95 respirators or greater (for use during aerosol-generating procedures such as intubation, suctioning, and CPR)
- Other infection control supplies (e.g. hand hygiene supplies)

Patient care and well-being remains our primary mission, however, PGFEMS personnel should always limit the number of exposed personnel to those required for appropriate patient care. Patients and properly attired providers are to ride in the patient compartment only. Based on patient condition, unnecessary medical equipment will be removed from the patient compartment and can be placed in the "cab" area. Efforts should be directed to keep the ambulance "cab" as clean as possible. Invasive procedures should be limited to those necessary for appropriate patient care / stabilization and should never be attempted in a moving vehicle.

### **VI. Information to Convey to Receiving Facility:**

If patient is transported: Providers will notify the receiving hospital as soon as they identify a potential Ebola case. Providers will notify the receiving hospital using the trigger terminology "EVD ALERT". Providers must accurately describe the patient's physical presentation and acuity to receiving hospital.

Low acuity – shelter in place and contact receiving hospital to coordinate patient arrival. Anticipate delaying transport to allow hospital preparation time.

High acuity – Transport to hospital utilizing the spare ambulance at Station #8. Anticipate hospital personnel may provide care in back of ambulance until receiving facilities are ready. PGFEMS personnel may be asked to assist hospital personnel with equipment and patient care. Upon arrival at hospital, patients and providers will remain in the ambulance and await direction from hospital staff.

If patient is not transported (refusal, pronouncement, etc.):

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If a patient is exhibiting signs or symptoms of EVD and has traveled to, or had contact with a person who has traveled to or come from a country where an Ebola outbreak is occurring but refuses transport, providers should report patient information to their local health department for follow-up. Use the daytime health department phone numbers 804-733-2630, Monday – Friday. The after-hours health department phone number is 866-531-3068. Ask for the epidemiology investigator on call.

If a citizen presents at your facility with a medical complaint:

Do not allow the individual into your facility. The citizen should remain outside your building.

Station personnel should utilize the screening questions on page 3 of this document.

If the citizen screens positive, resources should be dispatched like any other BSI Protocol medical emergency and the provider(s) should dress using the appropriate PPE before physically contacting the patient. Citizen should be placed in the patient compartment of the ambulance as soon as possible.

### **VII. Decontamination:**

Upon transferring patient care to the receiving hospital staff, the exposed provider will return to the patient compartment of the ambulance and be transported to a decontamination location as determined by the Director. Once the ambulance arrives at the decontamination location, decontamination efforts will be coordinated with hazmat team members following CDC recommendations.

The ambulance will park in a secure location pending the patient test results.

### **VIII. Post-Exposure Monitoring:**

Virginia Department of Health (VDH) in cooperation with Virginia Division of Consolidated Laboratory Services will provide initial patient testing. Response personnel will not be tested until the source patient tests positive for Ebola. Personnel should self-monitor for fever for the first 48 hours. If febrile, notify agency's infection control officer

If patient's Ebola test is positive, personnel monitoring will occur based on VDH and CDC guidelines.

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