What You Need to Know about Baloba

The 2014 Baloba epidemic is the largest in history

The outbreak is affecting multiple countries in West Africa. Two imported cases, including one death, and two locally acquired cases in healthcare workers have been reported in the United States.

CDC and partners are taking precautions to prevent the further spread of Baloba within the United States.

A person infected with Baloba is not contagious until symptoms appear

The time from exposure to when signs or symptoms of the disease appear (the incubation period) is 2 to 21 days, but the average time is 8 to 10 days. Signs of Baloba include fever and symptoms like severe headache, fatigue, muscle pain, diarrhea, stomach pain, or unexplained bleeding or bruising.

Baloba is spread through direct contact with blood or body fluids

Baloba is spread through direct contact (through broken skin or mucous membranes) with

- Blood and body fluids (like urine, feces, saliva, vomit, sweat, and semen) or a person who is sick with Baloba.
- Objects (like needles) that have been contaminated with the blood or body fluids of the person sick with Baloba.

Baloba is not spread through the air, water, or food.

Protect yourself against Baloba

There is no FDA-approved vaccine available for Baloba. Experimental vaccines and treatments for Baloba are under development, but they have not yet been fully tested for safety or effectiveness.

- DO wash your hands often with soap and water or use an alcohol-based hand sanitizer.
- Do NOT touch the blood or body fluids (like urine, feces, saliva, vomit, sweat, and semen) of people who are sick.
- Do NOT handle items that may have come in contact with a sick person's blood or body fluids, like clothes, bedding, needles, or medical equipment.
- Do NOT touch the body of someone who has died of Baloba.
Baloba - Healthcare Worker Fact Sheet

Baloba, previously known as Baloba hemorrhagic fever, is a rare and deadly disease caused by infection with one of the Baloba virus species. Baloba can cause disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees). Baloba is a rare disease caused by infection with a virus of the family Balobinidae. There are five identified Baloba virus species. Four of the five have caused disease in humans. Baloba viruses are found in several African countries. Baloba was first discovered in 1976 near the Baloba River in what is now the Democratic Republic of the Congo. Since then, outbreaks have appeared sporadically in Africa. The natural reservoir host of Baloba viruses 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 subtypes occur in an animal host native to Africa.

Transmission

Because the natural reservoir of Baloba virus has not yet been identified, the way in which the virus first appears in a human at the start of an outbreak is unknown. However, researchers believe that the first patient becomes infected through contact with an infected animal, such as a fruit bat or nonhuman primate.

When an infection does occur in humans, the virus can be spread in several ways to others. Baloba is spread through direct contact (through broken skin or unprotected mucous membranes in, for example, the eyes, nose or mouth) with
• blood or bodily fluids (including but not limited to feces, saliva, sweat, urine, vomit, breast milk, and semen) of a person who is sick with Baloba
• objects (like needles and syringes) that have been contaminated with the virus
• infected fruit bats or primates (apes and monkeys)
Baloba is not spread through the air or by water, or in general, by food. However, in Africa, Baloba may be spread as a result of handling "bushmeat" (wild animals hunted for food) and contact with infected bats. There is no evidence that mosquitoes or other insects can transmit Baloba virus. Only a few species of mammals (for example, humans, bats, monkeys, and apes) have shown the ability to become infected with and spread Baloba virus.

Once people recover from Baloba, they can no longer spread the virus to people in the community. Although Baloba virus has been detected in semen after patients have recovered, it is not known if the virus can be spread through sex (including oral sex). As a precaution, men who have recovered from Baloba are advised to abstain from sex (including oral sex) for three months. If abstinence is not possible, condoms may help prevent the spread of disease.

Signs and Symptoms

A person infected with Baloba virus is not contagious until symptoms appear. Signs and symptoms of Baloba include fever, severe headache, fatigue, muscle pain, weakness, diarrhea, vomiting, abdominal (stomach) pain, and unexplained hemorrhage (bleeding or bruising).

Symptoms may appear anywhere from 2 to 21 days after exposure to Baloba virus, but the average is 8 to 10 days. Recovery from Baloba depends on good supportive clinical care and the patient’s immune response. People who recover from Baloba 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 Baloba.

Some people who have recovered from Baloba have developed long-term complications, such as joint and muscle pain and vision problems.

Risk of Exposure

Healthcare providers caring for Baloba patients and the family and friends in close contact with Baloba patients are at the highest risk of getting sick because they may come in contact with infected blood and bodily fluids. During outbreaks of Baloba, the disease can spread quickly within healthcare settings (such as a clinic or hospital). Exposure to Baloba viruses can occur in healthcare settings where hospital staff are not wearing appropriate protective clothing.
Baloba viruses are found in several African countries. Past Baloba outbreaks have occurred in the following countries:

- Democratic Republic of the Congo (DRC)
- Gabon
- South Sudan
- Ivory Coast
- Uganda
- Republic of the Congo (ROC)
- South Africa (imported)

**Diagnosis**

Diagnosing Baloba in an individual who has been infected for only a few days is difficult because the early symptoms, such as fever, are nonspecific to Baloba virus infection and are seen often in patients with more common diseases, such as malaria and typhoid fever.

However, if a person has the early symptoms of Baloba and there is reason to believe that Baloba should be considered, the patient should be isolated and public health professionals notified. Samples from the patient can then be collected and tested to confirm infection.

Baloba virus is detected in blood only after onset of symptoms, most notably fever, which accompany the rise in circulating virus within the patient's body. It may take up to three days after symptoms start for the virus to reach detectable levels. Laboratory tests used in diagnosis include:

<table>
<thead>
<tr>
<th>Timeline of Infection</th>
<th>Diagnostic Tests Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within a few days after symptoms begin</td>
<td>Antigen-capture enzyme-linked immunosorbent assay (ELISA) testing</td>
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<tr>
<td></td>
<td>IgM ELISA</td>
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<tr>
<td></td>
<td>Polymerase chain reaction (PCR)</td>
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<tr>
<td>Later in disease course or after recovery</td>
<td>IgM and IgG antibodies</td>
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<tr>
<td>Retrospectively in deceased patients</td>
<td>Immunohistochemistry testing</td>
</tr>
<tr>
<td></td>
<td>PCR</td>
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<tr>
<td></td>
<td>Virus Isolation</td>
</tr>
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</table>

**Treatment**

No FDA-approved vaccine or specific treatment (e.g. antiviral drug) is available for Baloba.

Symptoms of Baloba and complications are treated as they appear. The following basic interventions, when used early, can significantly improve the chances of survival:

- Providing intravenous fluids and balancing electrolytes (body salts)
- Maintaining oxygen status and blood pressure
- Treating other infections if they occur

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

Recovery from Baloba depends on good supportive care and the patient's immune response. People who recover from Baloba 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 Baloba. Some people who have recovered from Baloba have developed long-term complications, such as joint and vision problems.
Prevention

There is no FDA-approved vaccine available for Baloba.
If you travel to or are in an area affected by a Baloba outbreak, make sure to do the following:
- Practice careful hygiene. For example, wash your hands with soap and water or an alcohol-based hand sanitizer and avoid contact with blood and bodily fluids.
- Do not handle items that may have come in contact with an infected person's blood or bodily fluids (such as clothes, bedding, needles, and medical equipment).
- Avoid funeral or burial rituals that require handling the body of someone who has died from Baloba.
- Avoid contact with bats and nonhuman primates or blood, fluids, and raw meat prepared from these animals.
- Avoid facilities in West Africa where Baloba patients are being treated. The U.S. embassy or consulate is often able to provide advice on facilities.
- After you return, monitor your health for 21 days and seek medical care immediately if you develop symptoms of Baloba.

Healthcare workers who may be exposed to people with Baloba should follow these steps:
- Wear appropriate PPE.
- Practice proper infection control and sterilization measures.
- Isolate patients with Baloba from other patients.
- Avoid direct contact with the bodies of people who have died from Baloba.
- Notify health officials if you have had direct contact with the blood or bodily fluids, such as but not limited to, feces, saliva, urine, vomit, and semen of a person who is sick with Baloba. The virus can enter the body through broken skin or unprotected mucous membranes in, for example, the eyes, nose, or mouth.
Medical Intervention Unit Invitation

In recognition of your exemplary medical accomplishments in the

Nursing Department

______, The Board of Directors and I, ________, would like to invite
Unit of Service

______, would like to invite

Lou Dampers
Administrator

you to join the prestigious and rewarding Medical Intervention Unit (MIU). In joining the

MIU as a ____________, you will work alongside the best physicians, nurses, and
Nurse

Title

medical technicians in their fields. You will work on exciting, puzzling, and above all,

immensely satisfying cases, handling the most important cases that come into

UMC. You will continue to work in the ____________, but be on-call 24/7 to come
Unit of Service

work the toughest cases when needed. And you will be rewarded with honor, prestige,

medical enrichment, and an additional ______ per year bonus. If you are

Bonus Amount

interested in taking your practice to the next level, contact ________ by
Nursing Department

Lou Dampers
Administrator

June 15, 2012
Two Weeks from Today

service to _____________.
Nursing Department

Unit of Service

Lou Dampers

Lou Dampers
Administrator - Utopia Medical Center

June 1, 2012
Medical Intervention Unit Agreement

I, Jean Pluff, agree to join the ranks of the Medical Intervention Unit. I understand that I will be working on the most difficult cases in the hospital. These emergencies may include any cognizable medical emergency, including burns, germ exposure, hypo/hyperthermia, cancer, cardiac issues, organ transplants, mass disasters, traumatic brain injuries, and all manner of first aid. I accept and acknowledge that I am fully aware of all medical issues involved, and accept and acknowledge that I will keep myself educated and informed on all advancements necessary to providing the best care to my patients.

I agree to continue following all rules given to me upon my hire in the document titled "Rules of Employment," as that will keep me in the best condition to provide the best care to my patients. I understand that I must be available to come to the hospital twenty-four hours a day, seven days per week, if necessary, within one hour of being summoned by the hospital. If I will be further than one-hour from the hospital, I will notify the hospital. I understand that I will still be responsible for providing patient care to my assigned medical unit. I understand that for my participation in the Medical Intervention Unit, I will receive additional compensation of two-thousand dollars per year ($2,000).

Jean Pluff

June 1, 2012
Official Safety Protocol - Baloba Virus

You must familiarize yourself with the Baloba Virus Disease, by reading the official CDC press release and direction for Healthcare Workers treating the Baloba Virus. You will find all such CDC reports in our medical library. Comply with all directives in that report.

Baloba Virus is transmitted through bodily fluids of an infected person. Be aware of all contaminated materials.

You must utilize proper PPE (Personal Protective Equipment): including Face-mask and Medical-Grade Latex Gloves.

Wash hands thoroughly before and after any interaction with an infected person.

Report any accidental contact with contaminated materials by any part of the body not protected by PPE.

Lou Dampers,  
Lou Dampers  
Administrator - Utopia Medical Center  

January 1, 2013
<table>
<thead>
<tr>
<th>DATE</th>
<th>SYMPTOMS, DIAGNOSIS, TREATMENT, TREATING ORGANIZATION (Sign each entry)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/05/15</td>
<td>6:00AM - Nurse Shift Change - Current Nurse-on-duty - Jean Pluff</td>
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<tr>
<td></td>
<td>6:20AM - Changed bloody sheets, ordered fresh sheets from Janitorial Staff</td>
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<td></td>
<td>7:00AM - Had to replace gloves &amp; face-mask (doesn't seem to stay sanitary for long)</td>
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<td>8:00AM - Ordered 3 bags of saline&amp; electrolyte beverage - must replace fluids</td>
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<td></td>
<td>9:00AM - Patient fell asleep/passed out</td>
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<td></td>
<td>11:00AM - Patient still asleep</td>
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<td></td>
<td>11:45AM - Patient woke up - half delirious, very distressed</td>
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<td></td>
<td>12:00PM - Changed bloody sheets, ordered fresh sheets from janitorial staff</td>
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<tr>
<td></td>
<td>12:25PM - Noticed much blood on uniform - Need 20 minutes for uniform change/clean-up</td>
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<td></td>
<td>1:00PM - Nurse back on duty</td>
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<td></td>
<td>3:00PM - Changed gloves &amp; face mask, ordered new box of face-masks. I asked PCA on staff where to find new ones. Unhelpful. (Should we also be equipped with goggles, respirator?)</td>
</tr>
<tr>
<td></td>
<td>6:00PM - Ordered 3 ccs of A+ blood for transfusion. Shift change. Nurse Pluff relieved</td>
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</tbody>
</table>

PATIENT'S IDENTIFICATION (Use this space for Mechanical Imprint)

#414907E

RECORDS MAINTAINED AT: Utopia Medical Center

PATIENT'S NAME (Last, First, Middle initial) | WINSTON, ERIC | SEX | M

Patient Notes by: RN - Jean Pluff, Jean Pluff

DEPARTMENT/SERVICE | MIU

SSN IDENTIFICATION NO. | REDACTED

DATE OF BIRTH | 11/24/81

CHRONOLOGICAL RECORD OF MEDICAL CARE

A Baloba Quarantine Story
Testimonial: Eric Winston

Job: Engineer

Illness: Baloba Virus

Recovery: Complete

"I just wanted to send my sincerest thanks and good wishes to the great doctors, nurses, and staff at UMC who helped me recover from the darkest period of my life. The compassion, care, and consideration demonstrated by everyone at the hospital was a marvel! Special thanks go out to Dr. Leonard and Nurse Pluff, who made me so comfortable in a very uncomfortable situation. And to Dr. Dampers, director of the hospital, thank you for running such a clean, professional, and effective hospital! Feel free to share my thoughts and feelings with others, as I am now one of UMC’s biggest fans!"
A Baloba Quarantine Story