Introduction

Welcome to the Bloodborne Pathogens Annual Update (OHS_BIO316). This course is designed as an update/reminder of the standards, policies, and procedures for safe handling of pathogens or potentially infectious material.

This year’s update course covers:

- The Bloodborne Pathogen Standard
- Key Elements of the Standard
- Other Potentially Infectious Material (OPIM)
- Exposure Determination
- Knowledge and implementation of the proper Ebola policies and procedures

The assessment will include general knowledge from the initial training course (content you should know and use every day when dealing with bloodborne pathogens) and the 2016 course update material.

A Basic Review

The Bloodborne Pathogen Standard was designed to minimize the potential for occupational exposure to…

- Human Immunodeficiency Virus (HIV)
- Hepatitis B Virus (HBV)
- Other human bloodborne pathogens

A copy of the UAB Biosafety Manual is available [here](#).

Each year before we go into our chosen topic we review the basics. By now you *should* know the four key elements of The Standard.
The Standard

Key Elements

Key elements of the bloodborne pathogens include:

- Written Exposure Control Plan – reviewed annually or when new tasks are added.
- Determine if employees are at risk
- Offer HBV vaccinations to those employees at risk for HBV exposure and post exposure follow up procedures
- Offer Bloodborne Pathogen Training within 10 days of job assignment and annually thereafter

Other Potentially Infectious Materials (OPIM)

Other Potentially Infectious Materials (OPIM) include human body fluids such as…

- Semen
- Vaginal Secretions
- Cerebrospinal Fluid
- Synovial Fluid
- Pleural Fluid
- Pericardial Fluid
- Peritoneal Fluid
- Amniotic Fluid
- All body fluids that are of undetermined nature or where blood is present

Other OPIM

The following may also be considered OPIM…

- Unfixed tissue or organs
- Cells, tissues, or organ cultures containing HIV, HBV, or HCV
- Culture medium containing HIV, HBV, or HCV
- Blood, organs, and other items from animals with HIV, HBV, HCV, or other Bloodborne Pathogens

Training Requirement

Who is required?

If YOU are required to take Bloodborne Pathogens Initial Training course and the annual updates, you are likely to be considered at risk for exposure. **Anyone that comes in contact with human blood or OPIM is at risk!**

Consult your specific Exposure Control Plan for the exposure determination in your lab. A link to the template can be found on the [OH&S website](#).

2016 Featured Topic – Ebola

Each year Occupational Health and Safety’s Biosafety Program chooses a topic for the annual update. The topic for 2016 is **Ebola – UAB Protocols and Procedures**.

Objectives

At the end of this course, participants will be able to:

1. Recognize the parts of the Bloodborne Pathogens Standard
2. Know when to enact the proper Ebola Protocols and Procedures when needed
3. Determine the risk involved when working around potential Ebola exposure/patients
4. Utilize the proper work practice controls and PPE to ensure safety at the highest level when working around potential Ebola exposure/patients
According to World Health Organization (WHO) and the Centers for Disease Control (CDC) any workers in the healthcare profession that has recently travelled to any country in West Africa could have been exposed to the Ebola Virus Disease (EVD). The UAB Employee Health Department (EHD) has the task of observing any employee that has travelled to where EVD has been found present (Guinea, Liberia, Sierra Leone, or Mali). These employees do have to physically go the EHD office, but they will be observed and watched every day until the EVD incubation period is over.

- **Internal Travel Guidelines for UAB, UABHS, HSF, CEFH, and OSF Employees**
- **UAB-Related International Travel Policy**
- **Travel to Area Affected by Ebola**

**Definitions**

- **Self-Monitoring**: relying solely on the individual to monitor and report symptoms if they develop
- **Active Monitoring**: daily reporting of measured temperatures and symptoms consistent with Ebola
- **Isolation**: the separation of an individual or group who is reasonably believed to be infected with a quarantinable communicable disease from those who are not infected to prevent spread of disease
- **Quarantine**: separation of an individual or group who have been in close contacts of patients with a communicable disease, but do not have, or do not show signs/symptoms of said disease. The main objective is to prevent the spread of disease.

**UAB Ebola Virus Disease Management Plan (EVD)**

**Prevention**

The following are important steps to follow to prevent the spread of EVD if such a case were to present to the UAB HealthCare System:

1. Healthcare providers should be alert for and evaluate suspected patients for EVD using the following criteria:
   a. Epidemiologic risk factors within the past 3 weeks before the onset of symptoms
i. Travel to or residence in an area where EVD transmission is active (Guinea, Liberia, Sierra Leone, Mali) OR
ii. Contact with blood or other body fluids of a patient known to have or suspected to have EVD AND
   b. Clinical criteria (any one of the following symptoms):
      i. Fever (>38.0°C or >100.4°F) or
      ii. Headache
      iii. Weakness
      iv. Muscle Pain
      v. Vomiting
      vi. Diarrhea
      vii. Abdominal Pain
      viii. Unexplained Hemorrhage

2. Contact Infection Prevention immediately – Bernard C. Camins, MD, Healthcare Epidemiologists (UAB pager #7428)

3. Infection Prevention will notify the relevant health departments IMMEDIATELY based on CDC guidelines and ADPH requirements. State regulation require notification of the Alabama Department of Public Health (ADPH) within 4 hours of presentation. Call the ADPH at 1-800-338-8374 or the Jefferson County Health Department at (205) 933-9110.

4. All suspected cases will be housed in the UAB Hospital Main ER (resuscitation Bay) until diagnostic testing can be obtained. We have developed a screening tool for Hospital use and for TKC and Clinic use. If a patient presents at TKC or an outlying clinic and the screening tool identifies the patient as at risk for EVD, coordination with the main hospital (Infection Prevention) will be required prior to transferring the patient to the main ER.
   a. CDC recommended personal protective equipment (PPE) will be available at UAB Hospital to care for a suspected or confirmed EVD patients. We recommend that in order to evaluate these patients, STANDARD + CONTACT + RESPIRATORY precautions.
Work Practice Controls

**Personal Protective Equipment (PPE)**

When working in an area where EVD is present, Personal Protective Equipment (PPE) must be worn. There are certain steps to donning and doffing the correct PPE when around a suspected Ebola patient/area. The following links show what steps that should be followed:

- [PPE Donning Checklist for a Low Output Ebola Patient](#)
- [Checklist for Doffing PPE for Low-Output Ebola Patient Care](#)
- [PPE Donning Checklist for a High Output Ebola Patient](#)
- [Checklist for Doffing PPE for High-Output Ebola Patient Care](#)

**Environmental Disinfection and Cleaning**

While the diagnosis of EVD is being confirmed, there is no need for environmental care services to perform routine cleaning and disinfection. The Ebola care team will perform routine cleaning and disinfection until the patient is moved from the room.
Conclusion

This concludes the Bloodborne Pathogens Annual Update (BIO 316) Training course.

If you have not taken the assessment, please do so now. You must score at least 90% or higher to pass. Retain the certificate in your lab file. You may be asked to present proof of your training.

If you have any questions about Bloodborne Pathogens, UAB Policies and Procedures pertaining to Biological Safety, or other topics related to BBP, please feel free to contact UAB’s Occupational Health and Safety at 205-934-2487.

Want to Learn More?

OH&S has many training courses available to all UAB active employees and students. This includes topics such as in depth radiation training, biosafety, bloodborne pathogens, chemical safety, controlled substances, building life safety, hazardous and medical waste, universal waste, PPE, hazard communication, etc.

We have a decision tree to assist you in choosing the right course to match the knowledge/skills you may need at work every day as well.

If you have any questions or comments, please feel free to contact OH&S.
Appendix A: Patient Assessment Criteria

Patient Assessment

Epidemiologic Risk Factors

Ebola should be considered in any patient that presents with:

1. Individuals who have travelled to an area affected by Ebola (including Guinea, Liberia, Sierra Leone)
2. Individuals who have been exposed to a patient or animal infected with Ebola
3. Individuals who have worked in a laboratory with Ebola

Fever

Greater than 100.4°F or 38.0°C or history of fever in the past 24 hours or other symptoms of Ebola such as headache, weakness, muscle pain, vomiting, diarrhea, abdominal pain, or hemorrhage AND exposure history in the past 21 days.

Assessing Risk Level

High Risk

- Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids of a person with Ebola while the person was symptomatic
- Exposure to the blood or body fluids (including, but not limited to, feces, saliva, sweat, urine, vomit, and semen) of a person with Ebola while the person was symptomatic without appropriate personal protective equipment (PPE)
- Processing blood or body fluids of a person with Ebola while the person was symptomatic without appropriate PPE or standard biosafety precautions
- Direct contact with a dead body without appropriate PPE in a country with widespread Ebola virus transmission
- Having lived in the immediate household and provided care to a person with Ebola while the person was symptomatic
Some Risk

- In countries with widespread Ebola Virus transmission: direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
- Close contact in households, healthcare facilities, or community settings with a person with Ebola while the person was symptomatic (close contact is defined for a prolonged period of time while not wearing appropriate PPE within approximately 3 feet or 1 meter of a person with Ebola while the person was symptomatic)

Low (not zero) Risk

- Having been in a country with widespread Ebola Virus transmission within the past 21 days and having had no known exposures
- Having brief direct contact (e.g., shaking hands) while not wearing appropriate PPE, with a person with Ebola while the person was in the early stage of disease
- Brief proximity, such as being in the same room for a brief period of time, with a person with Ebola while the person was symptomatic
- In countries without widespread Ebola Virus transmission, direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
- Traveled on an aircraft with a person with Ebola while the person was symptomatic

No Identifiable Risk

- Contact with an asymptomatic person who had contact with a person with Ebola
- Contact with a person with Ebola before the person developed symptoms
- Having been more than 21 days previously in a country with widespread Ebola virus transmission
- Having been in a country without widespread Ebola virus transmission and not having any other exposures as defined above

Any patient found to be at High, Low, or Some risk of Ebola Virus Disease should be reported to Infection Prevention IMMEDIATELY. Infection Prevention will notify the Alabama Department of Public Health within 4 hours of arrival. **1-800-338-8374.**
Appendix B: Diagnostic Testing

Please notify the laboratory immediately if you suspect a patient to have Ebola. Full PPE is required for specimen collection. Laboratory technicians should wear full face shield, mask, gloves, fluid resistant gowns AND class II biosafety cabinet or Plexiglas splash guard. All specimens should be labeled as “SUSPECTED HFV.” Testing that requires specimen removal from patient’s room and transport to the laboratory should be kept to a minimum and the pneumatic tube system should not be used.

At UAB, diagnostic testing will be limited only to those available by point of care testing:

- Chemistry panel include Na, K, Glucose, Creatinine, Calcium, Lactate
- Blood gas parameters like pH, pO2, pCO2
- Malaria antigen testing
- Rapid influenza antigen
- Hemoglobin
- urine pregnancy test
- urinalysis
- rapid strep

Blood cultures and a thin smear to rule out Malaria may be available as well.

Ebola virus is detected in blood only after onset of symptoms and it may take up to 3 days post onset for the virus to reach detectable levels. A minimum volume of 4mL whole blood preserved with EDTA, clot activator, sodium polyanethol sulfonate, or citrate in PLASTIC collection tubes can be submitted. Call the Alabama Department of Public Health for laboratory processing at 1-800-338-8374.

Samples should be refrigerated or frozen on ice pack or dry ice (no glass tubes), in accordance with

- IATA guidelines as a Category B diagnostic specimen.
- If you would like CDC to test for EVD, please follow the instructions below.
  - Follow [CDC’s instructions](#) for collecting diagnostic specimens,
Complete CDC’s Specimen Submission Form: Specimens of Human Origin. Ship specimens directly to the Bureau of Clinical Laboratories (BCL), see address below or drop off specimens at your local county health department to be couriered to the BCL overnight. EVD specimens will be forwarded to CDC.

- BCL
- 8140 AUM Drive
- Montgomery AL 36117

In addition to testing for Ebola, malaria testing should be included as part of the initial screening process.