

**National Institute of Environmental Health Sciences (NIEHS)
Worker Training Program (WTP)
Updated: 9/15/2015**

Ebola Biosafety and Infectious Disease Operations Level Knowledge Topics

- **Site specific operational training**
- **Potentially Infectious Material**
- **Chemical Material**
- **Physical Environment (Safety Risk Management)**
- **Exposure Risk Assessment**
- **Means of Transmission**
- **Engineering Controls**
- **Administrative and Work Practice Controls**
- **Personal Protective Equipment**
- **Respiratory Protection**
- **Decontamination and Waste Management**
- **Hazard Communication**
- **Compliance with Guidelines, Standards, and Regulations**
- **Occupational Health- Post Exposure Protocols, Medical Surveillance, Vaccination, Respirator Clearance**
- **Emergency and Incident Response (Emergency Response and Exercise Drills)**

Ebola Biosafety and Infectious Disease Response Training

Operations Level Performance Objectives

Site Specific Operational Training

- Explain the importance of site specific operational level training
- Describe goals and objectives of training
- List key training elements relevant to the worksite
- For operations, describe the importance of hands on drills with PPE, respirators, and decontamination

Infectious Material

- Describe the association of infectious agents to disease
- Describe the infectiousness of Ebola (or primary pathogen of concern)
- Describe means of transmission for Ebola virus disease (or primary pathogen of concern)
- Describe other common bloodborne, emerging, and/or seasonal infectious agents

Chemical Material

- Provide an example of engineering controls (e.g., chemical fume hood) needed when working with specific chemicals
- Explain correct storage location for each chemical
- Provide examples of administrative controls and work practices when working with specific chemicals
- Provide examples of personal protective equipment (PPE) needed when working with specific chemicals

Physical Environment (Safety Risk Management)

- Perform a physical safety hazards site assessment
- Explain how environmental conditions may be hazardous to performing tasks

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Exposure Risk Assessment

- Conduct a risk assessment of a worksite/work task to identify potentially infectious material, chemical, and safety hazards
- Identify several methods that may be used to for hazard identification
- Describe how to mitigate hazards using the hierarchy of controls

Means of Transmission

- Describe the three routes of exposure
- Describe what is meant by contact, droplet, and airborne transmissions in infection control
- Describe the concept of risk categorization

Engineering Controls

- Describe how isolation could be used to reduce exposure
- Describe how ventilation could be used to reduce exposure
- Describe some site specific engineering controls to reduce exposure to specific infectious and chemical agents present at the workplace

Administrative and Work Practice Controls

- Describe the contents of an infectious disease exposure control plan
- Describe site specific examples of policy and procedures that your organization may have to prevent exposure to hazards
- Describe signage and communication systems in place to prevent exposure

Work Practice Controls

- Describe how the following reduce risk of exposure:
 - Housekeeping
 - Personal Hygiene Practices
 - Change areas
 - Showers
 - Washing facilities
 - Eating facilities

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Personal Protective Equipment

- Describe appropriate selection of personal protective equipment (PPE) for use with potentially infectious materials.
- Describe limitations of PPE
- Give specific examples of PPE for protection against specific infectious and chemical agents
- Describe key elements of a written PPE program including:
 - Hazard assessment
 - Location of all required PPE
 - Identification of compromised PPE, pre- and post-use inspection protocol for PPE
 - Demonstrate cleaning, disinfection, and disposal procedures for PPE Training
- Perform appropriate donning and doffing of PPE for a specific job task

Respiratory Protection

- Describe selection of respiratory protection
- Explain the limitations of respiratory protection
- Review key elements of a respiratory protection program:
 - Written plan
 - Medical screening
 - Hazard assessment
 - Selection of respirators
 - Maintenance, cleaning, replacement, storage
 - Fit testing, seal checking, and training
- Describe an example of respirator use for a site specific infectious agent
- Perform the appropriate donning and doffing of a respirator

Decontamination and Waste Management

- Describe the proper disposal of different types of potentially infectious waste
- Demonstrate appropriate method for disposing/decontaminating PPE

Hazard Communications

- Demonstrate ability to use SDS and other sources to determine physical hazards, health hazards, and routes of exposures for chemicals and infectious agents
- State the hazard represented by the information on a chemical container's label
- Demonstrate the use of references to look up properties of an infectious agent

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Guidelines, Standards and Regulation Compliance, Safety Program Management

- Describe safety information resources such as OSHA, NIOSH, NIEHS, EPA, DOT, CDC, COSH groups, universities, etc.
- Explain application of OSHA standards for PPE, Respiratory Protection, Bloodborne Pathogens, and Hazard Communication
- Describe the use of OSHA's general duty clause
- Identify location of required workplace manuals, plans, and procedures
- Assess employer's preparedness plan based on potential hazards, protective measures, safety plan, existing workplace safety regulations, and exposure reporting mechanism

Occupational Health and Medical Surveillance

- Describe response procedure after suspected exposure.
- Demonstrate understanding of response protocols if exposure is suspected.
- Describe occupational health plan including:
 - Post exposure procedures, medical surveillance, vaccinations, and respiratory medical clearance

Emergencies and Incident Response

- Recognize significance of alarms
- Recall emergency response plan
- Describe emergency disinfection and exposure prevention procedures
- Describe procedures for responding to spills or potential exposures
- Describe emergency evacuation routes and assembly areas