

A Biosecurity Checklist: Developing A Culture of Biosafety* and Biosecurity

Background

There is an inherent risk in a laboratory handling any infectious agents. Biosafety and biosecurity practices should be adhered to in all laboratories that receive potentially infectious material in order to ensure laboratory personnel, public and environmental safety. Recent incidents involving biosafety and biosecurity lapses highlight the need to enhance the culture of biosafety and biosecurity across the laboratory community in the United States. This checklist in conjunction with the *Clinical Laboratory Biosafety Risk Management Program Assessment Checklist were developed by the MA State Public Health Laboratory and the Association of Public Health Laboratories to serve as a starting point for clinical laboratories to assess the biosafety and biosecurity measures that they have in place.

Intended Use

This checklist is intended for any laboratory performing testing on infectious agents or clinical specimens that could contain infectious agents in Massachusetts. It is designed to provide laboratories with the broad recommendations for components that should be considered for inclusion in any laboratory's biosecurity policy.

The checklist consists of six sections:

1. Risk Assessment
2. Selection of Safety Practices
 - Biosafety Level
 - Engineering Controls
 - Personal Protective Equipment (PPE)
 - Laboratory Practices
3. Biosafety Competencies
4. Safety Orientation and Training
5. Audits, Monitoring and Safety Committee
6. Administrative Controls

Facility: _____

Address: _____

City: _____

State/Zip: _____

Lab Director: _____

Contact Info: _____

Safety Officer: _____

Contact Info: _____

Microbiology: _____

Contact Info: _____

Hem/Chem: _____

Contact Info: _____

Other: _____

Contact Info: _____

RISK ASSESSMENT

Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a written policy and/or a standard operating procedure (SOP) for performing biosecurity risk assessments?	MA SPHL Biosecurity Risk Assessment Tool/Template	Sandia National Laboratories has a lot of good information about biosecurity http://www.sandia.gov/about/index.html
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do biosecurity risk assessments consider all assets (e.g., agents, personnel, data, sensitive information, equipment, and patients), potential threats (internal and external) and vulnerabilities?	MA SPHL Risk Assessment Tool/Template	It is recommended that biosecurity risk assessments follow these 5 steps: <ul style="list-style-type: none"> Identify & Inventory Assets Assess Potential Threats and Vulnerabilities Prioritize the Threats/Risks of Specific Scenarios Develop Overall Risk Management Program Re-evaluate and Revise Biosecurity Plan
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has the person performing the biosecurity risk assessment received training and are they experienced in risk assessments?	MA SPHL Biosafety Manager will assist with training if needed MA SPHL Risk Assessment Tool/Template	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is a biosecurity risk assessment conducted: <ul style="list-style-type: none"> At least annually After any biosecurity-related incident Changes to the facility After drills/exercises After plan audits 		

SELECTION OF SAFETY AND SECURITY PRACTICES

BIOSAFETY LEVEL					
Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are biosafety levels selected based on the BMBL recommendations?	More information on the selection of biosafety level is available on pages 22- 59 of CDC's BMBL 5th Edition	
ENGINEERING/IT CONTROLS					
Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there controlled access to biosafety level 2 and 3 laboratories?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there controlled access to high consequence agents (e.g., locked cabinet, refrigerator)?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there controlled access to sensitive data/information?		
LABORATORY PRACTICES/POLICIES					
Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a policy in place for controlled access to sensitive data/information?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a policy in place for how to handle unauthorized personnel in a restricted area?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a policy in place for how to handle unauthorized access to materials and information?		

BIOSECURITY LABORATORY COMPETENCIES

Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are the Security Competencies found in the Competency Guidelines for Public Health Laboratory Professionals used for annual staff reviews?	CDC's MMWR, Competency Guidelines for Public Health Laboratory Professionals can be found here	

SECURITY ORIENTATION AND TRAINING

Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do all new personnel receive security training before they begin working in their assigned laboratory?	MA SPHL Biosafety Manager will assist with training if needed	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do laboratory personnel receive training in the Security Competencies as outlined in the CDC's MMWR, Competency Guidelines for Public Health Laboratory Professionals?	CDC's MMWR, Competency Guidelines for Public Health Laboratory Professionals can be found here	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there an annual biosecurity training program for all personnel?	Annual biosecurity training programs can include: <ul style="list-style-type: none"> • Risk Assessments • Biosecurity Laboratory Competencies • How to handle unauthorized personnel in a restricted area • How to handle unauthorized access to materials and information 	

AUDITS, MONITORING AND SAFETY COMMITTEE

Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there an institutional security plan?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there an institutional biosafety committee or similar group? Does it include security?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does the institutional biosafety committee or similar group meet at established time intervals?	Discussion items include, but are not limited to breaches in biosafety, security, corrective actions, maintenance issues related to biosecurity equipment.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are internal security audits performed at least annually and after significant security breaches?		

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are biosafety/security drills and exercises performed at predetermined intervals?	Examples of drills and exercises can be found in the BMBL 5th Edition on page 112.	Drills and exercises can include: <ul style="list-style-type: none"> • loss or theft of materials • emergency response to accidents and injuries • incident reporting and identification of and response to security breaches
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are there procedures in place to detect safety/security breaches when they occur?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a system to report safety/security breaches or near hits to laboratory leadership?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a procedure specifying how biosafety/security breaches and near hits will be addressed and which staff is responsible for addressing them?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Is there a system in place for performing root cause analysis of safety/security breaches?		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are corrective actions implemented when breaches or near hits in biosafety/security are identified?		

ADMINISTRATIVE CONTROLS

Yes	No	Not Applicable		RESOURCES	COMMENTS
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Are biohazard signs posted by the entrance of laboratories where infectious agents are processed and tested and in other areas where indicated? Are they reviewed to make sure they don't give out too much information about the agents and where they can be found?		Biohazardous materials should be labeled as such. Note: signage must not give away too much information.

Association of Public Health Laboratories

The Association of Public Health Laboratories (APHL) is a national nonprofit dedicated to working with members to strengthen laboratories with a public health mandate. By promoting effective programs and public policy, APHL strives to provide public health laboratories with the resources and infrastructure needed to protect the health of US residents and to prevent and control disease globally.

This project was 100% funded with federal funds from a federal program of \$215,972. This report was supported by Cooperative Agreement # U60HM000803 funded by the Centers for Disease Control and Prevention. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC or the Department of Health and Human Services.

National Center for Immunization and Respiratory Diseases (IP)

Office of Surveillance, Epidemiology and Laboratory Services (OSELS)

National Center for HIV, Viral Hepatitis, STDs and TB Prevention (PS)

National Center for Zoonotic, Vector-borne, and Enteric Diseases (CK)

National Center for Environmental Health (NCEH)

Coordinating Office for Terrorism Preparedness and Emergency Response (CTPER)

© Copyright 2015, Association of Public Health Laboratories. All Rights Reserved.



8515 Georgia Avenue, Suite 700

Silver Spring, MD 20910

Phone: 240.485.2745

Fax: 240.485.2700

Web: www.aphl.org