Biohazardous Material Incident Management

Last Reviewed Date: 05/08/2015
Effective Date: 05/04/2015
Applies To: Faculty, Staff, Students, and Other
For More Information contact: IBC at 860-468-1838 or EHS-Biosafety at 860-486-3613

I. Purpose

The NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, and the Centers for Disease Control and Prevention’s Biosafety in Microbiological and Biomedical Laboratories (BMBL), requires a Laboratory-Specific Biosafety Manual (LSBM).

II. Scope

All University of Connecticut PIs at the Storrs campus, five regional campuses (Avery Point, Hartford, Torrington, Stamford, Waterbury), and non-University entities utilizing the University’s laboratory space under the Technology Incubation Program (TIP) with a BSL-2 laboratory must have a LSBM. This policy does not cover human or non-human primate exposures. See Bloodborne Pathogen Exposure Control Plan and Use of Human, Non-Human Primate Cell Lines and Tissues.

III. Policy Statement

The University of Connecticut Storrs, five regional campuses, and non-University entities will comply with the requirements of the NIH Guidelines, the CDC’s BMBL, and the Institutional Biosafety Committee’s (IBC) policies and procedures.

IV. Enforcement

Violations of this policy resulting from failure to adhere to a LSBM or an approved IBC registration, may result in the IBC taking actions deemed appropriate to the level of the deviation (i.e. to limit, suspend, or revoke project approvals.)

V. Definitions

Biohazardous Materials- include any of the following requiring IBC oversight: recombinant or synthetic nucleic acid materials, biological agents and toxins, bacteria and their phages and plasmids, viruses, fungi, mycoplasmas, prions, and parasites; human and non-human primate tissues, body fluids, blood, blood byproducts, and cell lines, animal remains and insects that may harbor zoonotic pathogens.
Documented Exposure- exposures including, but not limited to skin punctures with contaminated needles, inhalation, or a splash that resulted in contact with mucous membranes (e.g. eyes). Additionally any symptoms related to the disease caused by an infectious agent being studied must be considered a documented exposure.

Laboratory personnel- anyone, including students of any kind, conducting research on or otherwise handling biohazardous materials under the supervision of a PI.

VI. Responsibilities

1. UConn Biosafety shall:
   • Promptly respond to and investigate accidents and injuries reported
   • Provide consultation or assistance as needed to personnel to safely clean up spills in their work areas
   • Contact the appropriate authorities as needed in response to the incident

2. Principal Investigators shall:
   • Develop and maintain laboratory spill and exposure response procedures based on the biosafety level of the biohazardous materials being used or stored. These procedures will be made available to all laboratory personnel under the PI’s direction and incorporated into their LSBM
   • Ensure all laboratory personnel are properly trained to respond safely to biohazardous material accidents and spills
   • Ensure that a biological spill response kit and PPE are available and accessible
   • Follow incident reporting procedures outlined
   • Implement necessary corrective actions to mitigate reoccurrence

3. Laboratory personnel shall:
   • Be trained on the proper use, handling, and response procedures (i.e. spills and exposures) related to biohazardous materials
   • Thoroughly review the PI’s LSBM and understand the contents within
   • Wear personal protective equipment and use engineering control equipment in the proper manner reducing the risk of accidents and spills
   • Promptly report all biohazardous spills and exposures to the PI/supervisor

VII. Procedures

A. Immediate Response to Accidents and Spills of Biohazardous Materials: Standard Operating Procedures (SOP)
Each BSL-2 laboratory must maintain a LSBM for risk group (RG) 2 or 3 agents. The objective of the LSBM is to protect the health of the laboratory personnel directly involved and to minimize the risk of exposure for other personnel or the possibility of release of the biohazard out of the laboratory. Laboratory personnel shall respond to incidents following the established SOPs detailed in each laboratories LSBM assembled by the PI for which personnel have received thorough training.

A spill SOP will be written by each PI and incorporated into the LSBM. Examples may be found within the LSBM on the IBC webpage. Each PI may write and/or revise the SOPs to meet the constraints of parameters that are unique to the research environment; however the IBC reserves the right to require modifications of the SOPs to ensure the safety of personnel. PIs who have previously developed SOPs may simply add them to the LSBM.

1. The immediate response to a biohazardous spill or exposure depends upon several factors, including the location of the incident, involvement of injuries and/or exposure, size of the spill, and biosafety risk group. The SOPs in the LSBM must include guidance relevant to the particular risk group and organism involved. It is the responsibility of the PI to complete the template in its entirety and add any additional information or appendices, which will minimize any potential risk.

2. SOPs must address, at minimum the following scenarios:
   - Spills fully contained within a biosafety cabinet (BSC)
   - Spills outside the BSC
   - Potential exposures (e.g. a hole in a glove)
   - Injuries and documented exposures
   - Combined chemical and biohazard spills, if applicable
   - Combined radioactive and biohazard spills, if applicable
   - Spills outside the lab, in transit (e.g. in hallway)
   - Emergency evacuation routes for each BSL-2 lab

3. The LSBM must provide direction on responsibilities of laboratory personnel to seek medical attention, notify the PI, Biosafety Officer, and/or Public Safety as conditions warrant.

B. Reporting of Accidents and Spills
It is the responsibility of the PI, to complete an IBC Incident Reporting Form in consultation with the person involved in the incident and submit the completed form to the IBC at ibc@uconn.edu within the time frames indicated below. If assistance is needed with completing the form contact the Biosafety Officer at 6-3180 or the IBC Specialist at 6-1838. The IBC will review the form, suggest the appropriate corrective actions, write a final report, and/or submit the report to the appropriate federal agency as warranted. These incidents must be reported as follows:

<table>
<thead>
<tr>
<th>Type of spill¹ or exposure²</th>
<th>Reporting time frame</th>
</tr>
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<tbody>
<tr>
<td>Exposure to a Risk Group 2 or 3 agent</td>
<td>Report immediately to the Biosafety Officer. Submit Incident Reporting Form to the IBC within 5 days of exposure.</td>
</tr>
<tr>
<td>Exposure to r/sNA molecules</td>
<td></td>
</tr>
<tr>
<td>Spill outside the BSC with a Risk Group 2 or 3 agents</td>
<td>Incident Reporting Form must be submitted to the IBC within 7 days of incident. If an exposure has occurred, see above.</td>
</tr>
<tr>
<td>Spill outside the BSC with r/sNA molecules</td>
<td></td>
</tr>
</tbody>
</table>

¹Human and non-human primate (NHP) cell lines and tissues are considered BSL-2 but are not RG2 agents. Spills of human and NHP cell cultures outside of the BSC do not normally require reporting to the IBC, but must be reported to the BSO.

²Exposures to r/sNA materials will be considered to be a biohazardous exposure regardless of the length, base sequence, or exact chemical composition of the nucleic acid(s) involved. Further information on biohazard spills and exposures can be found in the Biological Safety Manual.

C. Follow-up
When there is a documented exposure to a biohazard each laboratory must develop a suggested follow-up plan to be shared with the medical treatment provider. This should include health monitoring that will commensurate with the estimated pathological features of the agent in question.