1.0 Overview

Spills of biological materials are potentially hazardous not only to the individual but also to co-workers and people in surrounding areas if not responded to appropriately. The nature and risks of the biological material, the quantity, and location of the spill significantly affect the steps necessary to address it.

Environmental Health and Safety (EHS) at Weill Cornell Medicine (WCM) has developed this Biological Spill Planning and Response Program to assist personnel in preparing for, and in determining the necessary steps to respond to a biological spill appropriately.

2.0 Table of Contents

1.0 Overview.................................................................................................................................................................................. 1
2.0 Table of Contents........................................................................................................................................................................... 1
3.0 Objectives..................................................................................................................................................................................... 2
4.0 Responsibilities ............................................................................................................................................................................... 2
4.1 ENVIRONMENTAL HEALTH AND SAFETY (EHS).................................................................................................................. 2
4.2 PRINCIPAL INVESTIGATORS (PIS) AND SUPERVISORS........................................................................................................ 2
4.3 PERSONNEL USING BIOLOGICAL MATERIALS.................................................................................................................... 3
5.0 Risk Assessment Prior to Response.............................................................................................................................................. 3
5.1 SPILLS WITHIN PRIMARY CONTAINMENT VS. OUTSIDE PRIMARY CONTAINMENT......................................................... 3
5.2 SMALL-QUANTITY VS. LARGE-QUANTITY SPILLS.................................................................................................................. 3
5.3 SOLID VS. LIQUID, VS. POWDER SPILLS ........................................................................................................................... 3
5.4 PATHOGENICITY AND MODE OF TRANSMISSION.................................................................................................................. 4
6.0 Who Cleans Up the Spill? ......................................................................................................................................................... 4
6.1 STAFF Cleans Up THE SPILL..................................................................................................................................................... 4
6.2 EHS Cleans Up THE SPill.......................................................................................................................................................... 4
7.0 Reporting Biological Spills and Exposures................................................................................................................................. 4
7.1 SPILLS THAT REQUIRE ADDITIONAL REPORTING ............................................................................................................... 4
7.1.1 Spill of or Exposure to Recombinant or Synthetic Nucleic Acids......................................................................................... 4
7.1.2 BSL-2 Level Pathogens Outside of Containment ................................................................................................................. 5
7.1.3 Exposure to Any Biological Resulting in Seeking Medical Assistance................................................................................ 5
8.0 Preparing a Biological Spill Kit.................................................................................................................................................. 5
8.1 LABORATORY SPILL RESPONSE EQUIPMENT.................................................................................................................... 5
8.2 EHS SPILL RESPONSE EQUIPMENT.................................................................................................................................. 6
9.0 Biological Spill Response....................................................................................................................................................... 6
9.1 MINOR SPILL RESPONSE AND CLEAN UP........................................................................................................................... 6
9.1.1 Biohazard Spills within a Biological Safety Cabinet (BSC)..................................................................................................... 6
9.1.2 Biohazard Spills Large Enough to Result in Liquids flowing Through the Front or Rear Grills ............................................ 7
9.1.3 Biohazard Spills outside a Biological Safety Cabinet (BSC) or Other Primary Containment Device ......................... 7
9.1.4 Biohazard Spills in Incubators ........................................................................................................................................... 8
3.0 Objectives

This Biological Spill Response Plan outlines how to assess, respond to, and, if possible, clean up a biological spill. Use this document to prepare before a biological spill occurs.

This plan must be followed in the event of biological spills.

4.0 Responsibilities

4.1 ENVIRONMENTAL HEALTH AND SAFETY (EHS)

EHS duties include:

- Act as an informational resource to WCM personnel, providing technical assistance and guidance.
- Provide a Spill Response team to clean up spills in the following situations:
  - Situations that involve injury.
  - If laboratory personnel do not have proper training and/or protective equipment.
  - If based on a hazard evaluation performed using the criteria outlined in this manual, laboratory personnel determine they are unable to clean up the spill adequately.

4.2 PRINCIPAL INVESTIGATORS (PIS) AND SUPERVISORS

Principal Investigator and Supervisor responsibilities include:

- Ensure that they and their personnel are familiar with the procedures outlined in this manual, and are in compliance with regulations and institutional policies regarding biological spill management.
• Verify that they and their personnel are up to date with the required annual laboratory safety or clinical safety training, which incorporates aspects of the Bloodborne Pathogen Exposure Control Plan required for staff handling biological pathogens or cleaning up biological spills.

• Work with EHS to provide:
  — Biological spill response and cleanup training for themselves and laboratory personnel, as appropriate.
  — Coordination of appropriate spill response and incident reporting.

• Confirm that their lab space has a biological spill kit readily accessible and stocked to address their lab’s specific hazards.

4.3 PERSONNEL USING BIOLOGICAL MATERIALS

Personnel using biological materials must:

• Attend annual laboratory safety or clinical safety training, which incorporates aspects of the Bloodborne Pathogen Exposure Control Plan required for staff handling biological pathogens or cleaning up biological spills.

• Follow the directions provided by their principal investigators and supervisors, and the procedures outlined in this manual.

5.0 Risk Assessment Prior to Response

The quantity, form (i.e., solid, liquid, aerosol), and location of material released, along with the mode of transmission and pathogenicity of the agent, must be considered when determining who should respond to a spill.

5.1 SPILLS WITHIN PRIMARY CONTAINMENT VS. OUTSIDE PRIMARY CONTAINMENT

The most commonly used primary containment device is the Biological Safety Cabinet (BSC). Other primary containment devices are centrifuge safety cups and caging used in lab animal work.

Spills that occur within primary containment are significantly less hazardous and more manageable than uncontained ones since they are confined and away from personnel.

Spills that occur outside of primary containment pose a higher risk since there is no primary barrier between the biological spill and the personnel. Biological spills outside of primary containment raise additional concerns including pathogen aerosolization, the potential splash of mucous membranes during spill/spill cleanup, how far the contamination spread, etc.

5.2 SMALL-QUANTITY VS. LARGE-QUANTITY SPILLS

Laboratory personnel can clean up small quantities of known material if they are familiar with the associated hazards, have appropriate personal protective equipment, and are trained in spill-cleanup procedures.

Larger quantities (over 1 liter) are more challenging to manage and contain effectively and may require additional assistance.

5.3 SOLID VS. LIQUID, VS. POWDER SPILLS:

A spill may pose a more significant or reduced hazard depending on whether it occurs in a solid, liquid, or powder form.
Solidified material can be more easily contained. Releases of powder and liquefied material can quickly spread outside of primary containment (e.g., biological safety cabinet, centrifuge safety cup).

5.4 PATHOGENICITY AND MODE OF TRANSMISSION

Pathogenicity refers to the microbes’ ability to cause disease or damage in a host. A microbe is either pathogenic or not. The mode of transmission (e.g., aerosol, blood-borne, ingestion) of the material may exasperate or mitigate its level of hazard.

6.0 Who Cleans Up the Spill?

Multiple factors of the biological spill will determine whether laboratory personnel can perform the spill cleanup procedure, or if EH&S should be contacted for guidance or must perform the spill clean-up procedure.

Please refer to Section 8.0 for more information on how to assess risk and determine who should perform cleanup.

6.1 STAFF CLEANS UP THE SPILL

Staff can clean up biological spills that are contained, pose a low risk to personnel, and for which have the proper training and protective equipment to do the cleanup.

Please refer to the flowchart in Appendix A for guidance cleaning up these spills.

6.2 EH&S CLEANS UP THE SPILL

For all other biological spill situations, including those for which you have any questions or doubts about your ability to clean up the spill, contact Environmental Health and Safety (EH&S). A biological spill response team from EH&S will clean up or assist spill cleanup efforts. A flow chart is available in Appendix B to guide EH&S response to biological spills.

When requesting EH&S assistance, please provide the following information:

- Name
- Principal Investigator
- Laboratory Location
- Phone number
- Spill Location
- Biological Material Spilled
- Biosafety Level- BSL1 or BSL2
- Presence of recombinant or synthetic nucleic acids in substance spilled
- Volume Spilled

7.0 Reporting Biological Spills and Exposures

All biological spills must be reported to the PI and/or supervisor.

7.1 SPILLS THAT REQUIRE ADDITIONAL REPORTING

7.1.1 A Spill of or Exposure to Recombinant or Synthetic Nucleic Acids
Spills outside of primary containment and accidents that result in overt exposures to organisms containing recombinant or synthetic nucleic acid molecules must be immediately reported to the EHS and the Institutional Biosafety Committee. EHS Biosafety will inform the NIH as needed.

Please consult the IBC Incident Reporting Policy for more information.

7.1.2 BSL-2 Level Pathogens Outside of Containment

Spills that involve BSL-2 level pathogens outside of primary containment (e.g., outside of the biosafety cabinet) must be reported to EHS within 24 hours by emailing ehs@med.cornell.edu or calling 646-962-7233.

When reporting the spill, please provide:
- Location of the spill.
- Pathogen name.
- The quantity of spilled material.
- How the spill occurred.
- Actions that were taken to clean up the spill.

7.1.3 Exposure to Any Biological Resulting in Seeking Medical Assistance

If exposure to a biological agent results in personnel seeking medical treatment, follow the steps outlined on the EHS Laboratory Exposure and Spill Response Guide.

8.0 Preparing a Biological Spill Kit

8.1 LABORATORY SPILL RESPONSE EQUIPMENT

All laboratories that work with biological materials are required to keep a spill kit prepared and stocked.

At a minimum, the biohazard spill kit should contain the following:
- Mucous membrane protection for eyes, nose, and mouth:
  - Goggles with a surgical mask
  - Disposable full face shield
- Fluid resistant disposable lab coats or tie back gowns
- Nitrile gloves in various sizes
- Water resistant shoe covers
- Small dustpan, small broom, and forceps for cleaning up broken glass
- Large and small autoclavable red Regulated Medical Waste (RMW) bags
- Disinfectant appropriate for all pathogens in use in the lab (e.g., household bleach):
  - Disinfectant wipes such as Super Sani-Cloth are a user-friendly option to keep in spill kits, and effective on small spills or decontaminating surfaces that may have been splashed. Verify that the disinfectant’s active ingredient is effective against the biological agent used before stocking in spill kit.
  - Additional liquid disinfectant, such as household bleach diluted 1:10 should be available for large quantity spills as needed.
— Refer to the manufacturers label to identify the disinfectants contact time. The contact time is the time that the disinfectant needs to stay wet on a surface in order to ensure efficacy. Contact time will vary by disinfectant and against different pathogens.

- Absorbent material (e.g., paper towels)
- Copies of the following posters:
  - Lab Exposure and Spill Response Guide
  - Medical Assistance Map
  - Biological Spill Response

Additional safety or response equipment may be required depending on the project or location needs. PIs and lab supervisors should stock spill kits so that they work for the unique requirements of their laboratories.

8.2 EHS SPILL RESPONSE EQUIPMENT

EHS staff have access to biological spill buckets in Belfer Research Building, room BB-18. These kits contain:

- Kimberly Clark TecnoL Guardall Shield Full-Length Visors
- Kimberly Clark Procedure Masks
- Kimberly Clark Ultra Surgical Gowns
- Maximum Protection High Tack Shoe Covers
- Nitrile Disposable Gloves
- Purell Hand Sanitizer
- Sani-Cloth Bleach Germicidal Disposable Wipes PDI
- Clorox Germicidal Bleach (retrieved from chemical storage as needed)
- Red Autoclavable RMW bags
- Red WCM RMW Bags with printed address
- Sharpies

9.0 Biological Spill Response

9.1 MINOR SPILL RESPONSE AND CLEAN UP

Based on the hazard evaluation, laboratory personnel can effectively manage and clean minor spills.

9.1.1 Biohazard Spills within a Biological Safety Cabinet (BSC)

1. Leave Biological Safety Cabinet motor on and running.
2. Cover the spill with absorbent material.
3. Slowly and carefully, pour the appropriate decontaminating solution onto the covered spill.

**Note:** Ensure that the chemical used is effective against the pathogen. See information on disinfectants in Section 8.1.

4. If glass is present, use tongs or forceps and a dustpan to remove pieces and place into a sharps container.
5. Wet a paper towel with the decontaminating solution and wipe down any items that were splattered or may have been splattered during the spill.
6. Wipe down all interior surfaces of the BSC.
7. Let disinfectant sit for the correct contact time required. See information on disinfectants in Section 8.1.
8. Dispose of all paper towels and absorbent material in a biological/regulated medical waste bag inside the BSC.
9. Carefully remove gloves and dispose of in biological/regulated medical waste bag inside the BSC.
10. If wearing disposable sleeves or gown, remove and dispose of.
11. If wearing a lab coat, remove and place into laundry as sleeves are most likely contaminated.
12. Immediately wash hands with soap and water.
13. Run BSC for 10 minutes after cleanup before resuming activity in the cabinet.

9.1.2 Biohazard Spills Large Enough to Result in Liquids Flowing Through the Front or Rear Grills

For Biological Safety Cabinet that have a drain valve:

1. Ensure the drain valve on the BSC is closed so that no biohazard liquid escapes the BSC.
2. Clean up the spill as described above.
3. Remove and decontaminate all items within the cabinet.
4. Confirm that the drain valve is closed and put on new gloves.
5. Pour the appropriate decontaminating solution through the grills into the drain pan.
6. Absorb any residual disinfectant solution on the work surface with paper towels and discard into a red bag.
7. Attach a flexible tube to the drain valve. The tube must be long enough to allow the open end to be submerged in a collection vessel with disinfectant to avoid the generation of aerosols.
8. Open the drain valve and allow the liquid to drain down the tube.
9. Pour water into the grates to remove disinfectant residue.
10. Close drain valve and remove tubing. Treat waste in collection vessel as a biohazard.
11. Run BSC for 10 minutes after cleanup before resuming activity in the cabinet.

For Biological Safety Cabinets that do not have a drain valve:

1. Clean up the spill as described in Section 9.1.1 above.
2. Remove and decontaminate all items within the cabinet.
3. Put on new gloves.
4. Pour the appropriate decontaminating solution through the grills into the drain pan.
5. Wait the appropriate contact time for the decontaminating solution. See information on disinfectants in Section 8.1.
6. Absorb any residual disinfectant solution on the work surface with paper towels and discard into a red bag.
7. Wipe down work surface with water or alcohol to remove disinfectant residue.
8. Turn off the motor of the BSC.
9. Carefully lift work surface and prop up using built in supports.
10. Absorb residual disinfectant solution on the drain pan with paper towels and discard into a red bag.
11. Wipe drain pan with water or alcohol to remove disinfectant residue.
12. Carefully lower work surface and ensure any arm rests and supports are returned to their original position.
13. Turn on the motor and run BSC for 10 minutes after cleanup before resuming activity in the cabinet.

9.1.3 Biohazard Spills outside a Biological Safety Cabinet (BSC) or Other Primary Containment Device
When biohazardous material is spilled outside of primary containment, the immediate risk is exposure to airborne particles.

1. Immediately alert everyone in the area to evacuate.
2. Close all doors leading to the affected area and do not reenter.
3. Restrict access by posting signs such as “Biohazard Spill: Do Not Enter”.
4. Do not re-enter the lab for 30 minutes to allow the aerosols generated by the spill to settle or be removed by the facility’s HVAC.
5. Collect the biological spill kit, disinfectant, and personal protective equipment (PPE) needed to clean up the spill.
6. Inform your PI and/or supervisor of the spill.
7. At a minimum, put on the following PPE:
   - Double gloves (replace outer glove often such as when contaminated, after handling biohazard items, and before handling “clean” ones).
   - Fluid resistant disposable lab coat or tie back gown.
   - Mucous membrane protection (goggles with surgical mask OR disposable full face shield).
   - Water resistant shoe covers.
   - Additional PPE may be required based on hazard assessment.
8. Disinfectant wipes (e.g., Super Sani-Cloth) can be used for small spills.
9. For larger spills; or if disinfectant wipes are not available:
   - Place dry absorbent material such as paper towels on the spill to absorb liquids.
   - Carefully pour the disinfectant around and on the visible spill then place the second layer of paper towels soaked in an appropriate disinfectant over the spill.
   **Note:** Be careful to avoid splashing.
10. Wet paper towels with disinfectant and wipe down any other potentially contaminated material within the spill area (e.g., cupboards, baseboards, shelves, trashcans, etc.)
11. Dispose of any porous contaminated materials such as Styrofoam, cardboard, wood, cloth, or paper as biological/regulated Medical waste. Contact EHS for any items that must be salvaged.
12. If glass is present, use tongs or forceps and a dustpan to remove pieces and place into a sharps container.
13. Leave disinfectant on surfaces for the minimum contact time.
14. Use more absorbent material, such as paper towels, to wipe up the disinfectant and spill, working toward the center of the spill.
15. Discard spill material in biological/regulated medical waste receptacles.
16. Discard all PPE worn to clean up spill into biological/regulated medical waste receptacles.
17. Immediately wash hands with soap and water.
18. Inform the PI and/or supervisor that cleanup is complete.
19. Contact EHS with all details of the spill and clean up.

### 9.1.4 Biohazard Spills in Incubators

1. Shut incubator door and turn off unit to stop internal airflow.
2. Proceed to Section 9.1.3: Biohazard Spills Outside of BSC or Other Primary Containment Device and follow response and cleanup steps.
9.1.5 Biohazard Spills in Centrifuges

Spills or the breakage of containers inside an operating centrifuge poses a severe potential of exposure due to the creation of aerosols.

If unusual sounds from a centrifuge suggest that breakage and spill have occurred, or if a spill is discovered after the machine has stopped, wait at least 30 minutes after centrifuge has stopped before opening to allow hazardous aerosols to settle in the centrifuge.

1. Put on PPE (fluid resistant disposable lab coat or tie back gown, gloves, and mucous membrane protection such as goggles with surgical mask OR disposable full face shield).
2. Open lid carefully to assess the situation.
3. Attempt to determine if the spill is contained in a closed cup, bucket or tray carrier, or within a closed rotor.
4. If the spill is contained as described above, spray the exterior with disinfectant and allow adequate contact time. Take the carrier to the nearest BSC.
   **Note:** If a BSC or fume hood is not available or if the rotor cannot be removed, the centrifuge should remain closed. Post a sign indicating "CONTAMINATED-DO NOT USE". Notify PI and/or Supervisor, and contact EHS at 646-962-7233 for assistance.
5. Obtain and place into the BSC containers suitable for holding tubes, broken glass, or other containers while cleaning centrifuge components.
6. Carefully retrieve unbroken tubes, wipe outside with disinfectant, and place them into the other empty container in the BSC, out of the way. Broken glass/plastic tube(s) must be removed with a forceps or other instrument and immersed in a container of disinfectant solution for a time appropriate to achieve disinfection. The pieces can then be disposed of in a sharps container.
7. After proper decontamination, carriers, rotors, etc. can be washed with a mild detergent according to the manufacturer’s instructions.
8. Thoroughly wipe the inside of the centrifuge chamber with disinfectant saturated towels. Allow for adequate contact time before wiping up excess liquid.

9.2 MAJOR SPILLS

Major spills are those that, based on the hazard evaluation, cannot be effectively managed by laboratory staff and require a response by Environmental Health and Safety.

- **Spills Involving Radioactive Material:** Contact the Health Physics division of EHS at 646-962-7233 immediately for specific instructions. Consult the [Radiation Safety Manual](#) for reference.
- **Spills Involving Hazardous Chemicals:** Contact EHS at 646-962-7233 and inform them there is a mixed biological and chemical spill.

9.2.1 Biological Spill that Results in Exposure

If personnel is splashed with biohazardous materials, the biggest concern is exposure to mucous membranes such as eyes, nose, and mouth or exposure to broken skin (cut/abraded/wounds).

1. Flush the exposed area:
   - **Exposure to eyes:** proceed to the eyewash station and flush eyes with water for at least 15 minutes.
   - **Exposure to nose or mouth:** proceed to sink or eyewash and carefully flush area with water for 15 minutes.
   - **Exposure to broken skin:** proceed to sink and wash the area with soap and water for 15 minutes.
1. **Exposure to intact skin**: proceed to sink and wash the area with soap and water for 5 minutes.

2. Remove contaminated clothing carefully, folding the contaminated areas in on themselves and avoiding touching contaminated areas to uncontaminated areas. Collect the contaminated clothing into a red waste bag.

3. Seek medical attention as needed (Student Health Services or Workforce Health and Safety during work hours; NYP Emergency Room during off-hours and weekends).

For more information, please consult:

- **Bloodborne Pathogen Exposure Control Plan** for complete guidance regarding response to exposure.
- **Exposure and Spill Response Guide** for quick exposure response guidance ([Appendix B](#), poster available from EHS).
- **Medical Reference Map** for locations of medical assistance ([Appendix C](#), poster available from EHS).

### 10.0 Waste Disposal

Spill debris and waste is decontaminated via autoclave treatment or chemical disinfectant, then disposed of as outlined in the [Waste Disposal Procedures Program](#).

### 11.0 Record Retention, Availability, and Revisions

#### 11.1 AVAILABILITY

Copies of this Procedure must be available to all employees who handle biological materials and/or have responsibility for responding to biological spills.

#### 11.2 REVISIONS

This Procedure will be reviewed annually and updated as necessary to reflect changing regulations and circumstances.

### 12.0 References

- **Bloodborne Pathogen Exposure Control Plan**
- **Waste Disposal Procedures, Section 7: Biological/Regulated Medical Waste Management**
- **Exposure and Spill Response Guide**
- **Medical Reference Map**
APPENDIX A – Biological Spill Response Flowchart for Staff

Refer to this chart for a visual overview of cleanup procedures.

---

*For more information: Review the Biological Spill Planning and Response Manual at ehs.med.cornell.edu*
APPENDIX B – Exposure and Spill Response Guide

Refer to this poster for instructions on how to address exposures and spills. This poster is available upon request to EHS.

Exposure and Injury Responses

HELP
For emergencies, seek assistance from a nearby coworker!

First Aid and Decontamination
- Remove all contaminated clothing, jewelry, shoes.

- Chemical Exposure: Flush with eyewash or safety shower for 15 minutes.
- Inhalation or Ingestion: Seek medical assistance immediately.

- Biological or Radiological:
  - Skin Exposure: Wash with soap and water for 5 minutes.
  - Eye Exposure: Flush with eyewash for 15 minutes.

Seek Medical Assistance
- If you are seriously injured, incapacitated, or need onsite medical assistance, call NYP EMS (212-422-2222) and say:
  - Provide lab location, hazardous material involved, and extent of exposure/injury
- Or, go directly to the NYP Emergency Room at 525 East 68th Street.

For minor injury or exposures, go to one of the following as soon as possible:
- Workforce Health & Safety (212-746-4370), 135 York Ave, Payson House Basement Level
- Well Cornell Student Health Services (646-962-6942), 230 East 69th Street
- During off hours, go to the NYP Emergency Room, 525 East 68th Street.

Bring the material Safety Data Sheet for all contaminating agents when obtaining medical assistance for a chemical exposure.

Report
- Notify your supervisor and contact EHS (646-962-7233)

Spill Clean-up and Response

Alert/Evacuate
Immediately alert area occupants and evacuate the area. Close all doors leading to affected area and do not re-enter. Restrict access to area.

Report
- Notify supervisor and EHS of the spill and be prepared to provide information on any exposure or injury, spill location, name of the material, and amount spilled
- Small Quantity (gallon) spills can be cleaned up by lab staff if you understand the hazards, have appropriate personal protective equipment, and are trained in spill clean-up procedures.

Refer to this poster for instructions on how to address exposures and spills. This poster is available upon request to EHS.
APPENDIX C – Medical Assistance Map

Refer to this poster for information on WCM facilities that provide medical assistance to staff and students. This poster is available upon request to EHS.

Medical Assistance Map
For Weill Cornell Medicine Students, Faculty and Staff

1. **NYP Emergency Department (NYPD)**
   - Walk-in Entrance: 525 E 68th St.

2. **Workforce Health & Safety (WHS)**
   - Entrance: 1315 York Ave, Basement Level
   - Phone: 212-746-4370
   - Hours: Monday – Friday (8am – 4pm)

3. **Weill Cornell Medicine (WCM)**
   - Entrance: 1300 York Ave.

4. **NYP Well Cornell Medicine**
   - Entrance: 525 E 68th St.

5. **Student Health Services (SHS)**
   - Entrance: 230 E 69th St., Suite 2BB
   - Phone: 646-962-6942
   - Hours: Mon – Fri (8am – 4pm)

CALL AND REPORT:
*I work for Weill Cornell Medicine. I need onsite emergency medical assistance.*

Refer to this poster for information on WCM facilities that provide medical assistance to staff and students. This poster is available upon request to EHS.
Appendix D – EHS Biological Spill Response Procedures

EHS takes the steps described below when a spill that requires EHS response is reported.

EHS BASE PHONE ASSESSMENT

Verify caller is in a safe location and gather general spill information.

▪ Caller name
▪ Caller location
▪ Caller phone number
▪ Spill location

To best assess the response needed, EHS Base should ask the following Triage Questions:

1. **Any injuries to personnel that require immediate medical assistance (i.e., EMS)?**
   - If *yes*, instruct the caller to hang up and call NYP Emergency Medical Services (EMS) at *(x22222)* to request immediate medical attention and then call EHS back immediately.

2. **Any exposures or minor injuries to personnel?**
   - If *yes*, Instruct exposed/contaminated personnel to use eyewash station or area sinks before leaving the spill area (if able) and/or before EMS arrival. Instruct injured/exposed employees to report to, and escort if necessary, to Student Health Services (M-F 8AM-12PM, 1PM-4PM *x16942*), Workforce Health and Safety (M-F 8AM-4PM, *x64370*), NYP Emergency Room (off hours/weekends - *x65050*), or EMS *(212-472-2222)*.

3. **Does the spill contain any hazardous chemicals?**
   - If *yes*, activate the Chemical Spill Response Procedure. Inform Incident Commander of the presence of biologicals.

4. **Does the spill contain any radioactive material?**
   - If *yes*, Notify Health Physics to oversee the response and cleanup. See the [Radiation Safety Manual](#) for reference.

5. **Is the spill inside the BSL-3 Facility?**
   - If *yes*, activate the BSL-3 Emergency Response Procedure.

If the caller answers *yes* to questions 3-5, EHS Base must activate those corresponding spill response protocols. EHS Base must complete the bottom section of the Biological Spill Response Report and provide this to the EHS incident responders, so they are aware of the biological hazards present.

With the information above, the EHS base will complete the front page of the Biological Spill Response Report (BSRR) and create a Service Now ticket.

EHS SCENE RESPONSE

Initial Spill Scene Assessment and Response

- Determine if any personnel are still within the spill area and evacuate as necessary.
- Identify the location of the spill and secure area using EHS and/or laboratory staff.
CONTINUED: Biological Spill Planning and Response

- If needed, coordinate EMS response, including decontamination of the injured person(s).
- Provide any new information to the Remediation group(s) as necessary.
- Inform Department Administrator and, if applicable, notify WCM EOT.

**Spill Mobilization and Initial Set-Up**

- Gather and mobilize to spill area with SDS/reference materials (if available), biological spill kits, and additional PPE as required.
- Designate response roles and responsibilities.
- Guide order of operations for cleanup activities.

**Spill Clean-up and Area Clearance**

- Monitor progress of clean-up activities and determine if additional resources required.
- Determine if cleanup activities have been performed adequately.
- Maintain communication with Departmental Administrator and inform them of the expected timeline for re-occupancy.
- Authorize re-entry of spill area by occupants.

**Spill Closeout and Reporting**

- Assign incident-reporting duties to individual response groups as applicable.
- Schedule a spill response postmortem meeting to identify the root cause of spill and staff re-education and re-training requirements.
- Complete and submit the BSRR and any other reports needed (e.g., NIH, IBC, etc.).
Appendix E – EHS Biological Spill Response Flowchart

This flowchart is a visual breakdown of how EHS addresses exposures and spills.

---

**Biological Spill Call Received**

**EHS Base Phone Assessment**

*Triage Questions:*
- Injury or immediate threat to human health? Caller contacts NYP EMS X2222

- Does the spill contain any hazardous chemicals? **Yes** → Activate Chemical Spill Response Procedure
- Does the spill contain any radioactive materials? **Yes** → Notify Health Physics to oversee spill response
- Is this spill inside the BSL-3 facility? **Yes** → Activate BSL-3 Emergency Response Procedure

**Biological Spill Response Report**

The following additional information will be asked and documented on the BSRR and supplied to the response team:
- Caller and lab information and location
- Biological material spilled and approx. volume
- Is this a BSL-1 or BSL-2 biological?
- Is the spill outside of primary containment?
- Does the spill contain recombinant or synthetic nucleic acids?

---

**Scene Response**

1. **Initial Assessment**
   - Identify location and secure area; Assist EMS response if needed; Communicate new information to response group as necessary

2. **Spill Mobilization and Set Up**
   - Gather Biological Spill kit, PPE, and supplies; Designate responsibilities

3. **Spill Clean Up and Area Clearance**
   - Determine if cleanup has been performed adequately; Authorize re-entry of spill area by occupants

4. **Spill Closeout and Reporting**
   - Finalize incident reporting paperwork; Schedule spill response postmortem meeting/ retraining as needed

---

DATE REVIEWED: August 28, 2019  DATE UPDATED: September 30, 2019  CLASSIFICATION & LOCATION: Biological Safety, Laboratory Safety, Clinical Safety  T:\Documentation\EHS-Manual\3.4 Biological Spill Planning and Response.docx  PAGE: 16 of 18
Appendix F – EHS Biological Spill Response Form

EHS completes the form below to document exposure incidents.

Biological Spill Response Report

<table>
<thead>
<tr>
<th>EHS Base Phone Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caller Name:</td>
</tr>
<tr>
<td>Laboratory Location:</td>
</tr>
<tr>
<td>Caller Phone Number:</td>
</tr>
<tr>
<td>Principal Investigator:</td>
</tr>
<tr>
<td>Spill Location:</td>
</tr>
</tbody>
</table>

**Triage Questions:**

1. Any injuries to personnel that require immediate medical assistance (i.e., EMS)?
   - If yes, instruct caller to hang up and call NYP Emergency Medical Services (EMS) at (x22222) to request immediate medical attention and then call EHS back immediately.

2. Any exposures or minor injuries to personnel?
   - If yes, instruct exposed/contaminated personnel to use eyewash station or area sinks before leaving the spill area (if able) and/or prior to EMS arrival. Instruct injured/exposed employees to Workforce Health and Safety (M-F 8AM-4PM, x64379), NYP Emergency Room (off hours/weekends - x65050), or EMS (212-472-2222).

3. Does the spill contain any hazardous chemicals?*
   - If yes, activate Chemical Spill Response Procedure. Inform Incident Commander of the presence of biologicals.

4. Does the spill contain any radioactive material?*
   - If yes, Notify Health Physics to oversee the response and cleanup; see the Radiation Safety Manual for reference. Inform them of the presence of biologicals.

5. Is the spill inside the BSL-3 Facility?*
   - If yes, activate BSL-3 Emergency Response Procedure.

*If caller answers Yes to these questions, immediately activate the corresponding spill response protocols. They take precedence over this procedure and those corresponding staff must take charge of the spill response and cleanup. Complete the bottom section of this page and provide to EHS incident responders so they are aware of the biological hazards present.

<table>
<thead>
<tr>
<th>Biological Material Spilled:</th>
<th>Approx. Spill Volume:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is this a BSL-1 or BSL-2 Biological?</td>
<td>BSL-1</td>
</tr>
<tr>
<td>BSL-2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is the spill outside of primary containment (outside of the biosafety cabinet)?</th>
</tr>
</thead>
<tbody>
<tr>
<td>If yes, instruct caller to evacuate room spill occurred in and close doors while evacuating the spill area. Do not to open windows. Keep staff out until EHS is on site.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Does the spill contain recombinant or synthetic nucleic acids?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Now Ticket #</td>
</tr>
</tbody>
</table>

---

**DATE REVIEWED:** August 28, 2019  **DATE UPDATED:** September 30, 2019  **CLASSIFICATION & LOCATION:** Biological Safety, Laboratory Safety, Clinical Safety  **PAGE:** 17 of 18
CONTINUED: Biological Spill Planning and Response

Scene Response:

<table>
<thead>
<tr>
<th>EHS Responder:</th>
<th>EHS Responder:</th>
<th>EHS Responder:</th>
</tr>
</thead>
</table>

PPE Utilized:
- [ ] Techni Guardall Shield Full Length Visors Kimberly Clark
- [ ] Maximum Protection High Tack Shoe Covers
- [ ] Kimberly Clark Procedure Masks
- [ ] Nitrile Disposable Gloves
- [ ] Kimberly Clark Ultra Surgical Gowns

Incident Description:

Provide as much detail as possible and list any external events that may have contributed to this spill:


Actions Taken to Control and Resolve the Incident:

Describe the actions taken to control the incident and clean up the spill:


Form Completed By:  
Date/Time:  

EHS Biosafety to Complete:

<table>
<thead>
<tr>
<th>Reportable to NIH?</th>
<th>Reportable to NY DOH?</th>
<th>Reportable to IBC?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, report submitted date ________</td>
<td>No</td>
<td>Yes, report submitted date ________</td>
</tr>
</tbody>
</table>

Additional Notes:

EHS Biosafety Staff:  
Date/Time:  

Environmental Health and Safety | Well Cornell Medicine  
TEL 646-962-7233  
WEB well.cornell.edu/ehs  
EMAIL ehs@med.cornell.edu

DATE REVIEWED:  
August 28, 2019  

DATE UPDATED:  
September 30, 2019  

CLASSIFICATION & LOCATION:  
Biological Safety, Laboratory Safety, Clinical Safety  
T:\Documentation\EHS-Manual\3.4 Biological Spill Planning and Response.docx  

PAGE:  
18 of 18