

1. **IN CASE OF A SERIOUS INJURY:** THE EMPLOYEE, STUDENT OR VOLUNTEER SHOULD GO DIRECTLY TO THE EMERGENCY DEPARTMENT OR SHOULD CALL 911 FOR EMERGENCY, MEDICAL CARE ON SITE.

2. **Incident involving infectious or rDNA contamination of broken skin, mucous membranes, or injection with an infectious agent:**

- o **IMMEDIATELY** clean the site thoroughly with water prior to reporting:
  - o Cleanse broken skin or injection site immediately with water, do not scrub.
  - o Water should be used to flush contaminated mucous membrane, such as eyes, nose, mouth.
- o Injuries are then reported to the Lab Director or supervisor or, in supervisor's absence, go to the next step.
- o The injured employee is, within the first hour, to go to the Emergency Department (John Dempsey Hospital, new University Tower, basement floor, x2588) and later, for follow-up, to the Employee Health Service (EHS, x2893, Building C Ground Floor Room CG-228 near 6 bank elevators).
- o As soon as possible after treatment,
  - o the supervisor must report the incident by calling Human Resources x4589. Supervisors of students or volunteers must report the incident to Public Safety, filing an Incident Report x2121.
  - o If the contamination involves recombinant DNA, the PI must report the incident to the IBC so that a report can be made to NIH OSP.

3. **Incident involving infectious or rDNA contamination of unbroken skin and/or clothing contamination:** Remove clothing and shower and/or wash thoroughly with soap and water. Bundle contaminated clothing toward the inside of the bundle. Place clothing in an autoclavable plastic bag and autoclave or soak in an appropriate disinfectant. Note reporting requirements in the PI's assurances.

4. **Incident involving no personal contamination, only a minor (< 20 ml) spill inside the BSC:** Raise arms behind the BSC sash for two minutes to inspect gloves and sleeves for spillage and to separate arms from aerosols while the BSC airflow clears the BSC of aerosols from the spill. Touch no surfaces. Inside the BSC, remove outer layer of gloves, or decontaminate gloves when only one layer is worn. Withdraw from the BSC and remove lab coat so that it turns inside out, bundling the coat so that the sleeves are in the middle of the bundle. Bag the coat and remove and dispose of the gloves in RMW without touching outer surfaces. Wash hands and arms. Replace PPE and clean spill on the work surface by flooding it with an equal volume of 100% bleach. (If volume is larger, lay a paper towel on top of the spill and flood the towel from the outside to the inside. Allow this to sit several minutes. Clean up the spill normally into a plastic bag and wipe down the work surface and grills of the BSC and change gloves before resuming work.

5. **Incident involving no personal contamination and a larger volume spill outside the BSC:** See "Biohazard Spill Outside the Biological Safety Cabinet" below. Briefly, i) Hold your breath and move away toward the exit, ii) Notify / keep others from walking through the area / spill, iii) evacuate room and allow impact aerosols to settle 30 minutes, iv) Get help if you need it – wash first, then report potential exposures (PI then EHS or ED). v) Re-enter and gently place paper towel(s) on spill. vi) If radioactive iodine, don't use bleach. vii) Without creating aerosol or splashes, gently flood spill and towels with 50% bleach working inward from perimeter. viii) Wait 30 minutes. ix) Clean up normally.

*The NIH Guidelines For Research Involving Recombinant or Synthetic Nucleic Acid Molecules requires that all exposures to materials containing recombinant and/or synthetic nucleic acids be reported to the IBC so that a report can be made to the NIH as required. Please contact [ibc@uchc.edu](mailto:ibc@uchc.edu) with information that there was an exposure as soon as possible after medical concerns have been addressed. Exposed Staff members must report exposures to their PI and PIs must report exposures to the IBC and Human Resources. Exposed individuals should be checked by the Emergency Department (x2588). Follow up appointments should be with Employee Health Services (EHS, x2893) during normal hours.*

## **Biohazard Spill Outside the Biological Safety Cabinet (Biological Hood)**

The following guidance is general in nature and the exact clean-up procedures will depend on the biological organisms of concern, the size of the spill, the concentration of the organisms, the spill location, etc. Advance preparation by the principal investigator and/or laboratory manager is essential. A spill kit should be available if a serious spill is possible. If you need assistance with assessment and advance preparation or with a spill and do not need to call 911, consult with the Biological Safety Officer at x2723.

If a spill can not be properly and expeditiously handled by lab staff available at the time, call Environmental Health & Safety (EH&S) at x2723 or after-hours call the Police Dispatcher at x2121 who will contact EH&S personnel and ask for help/advice. (If a person is injured, impaired or there is an emergency such as a fire or explosion, call 911) The 30 minute aerosol wait time may be extended until personal contamination, or medical considerations are dealt with (such as starting prophylaxis for an exposure within 1 hour of the exposure) or Environmental Health & Safety people give advice or arrive to assist. Taking care of medical problems including personal contamination and keeping others from being exposed are the highest priorities. Be aware of where you go and what you may be contaminating.

1. Energetic spills, (e.g. dropping a culture flask with 100 ml of liquid that breaks, or dropping liquid alone) will create airborne droplets of culture. Avoid breathing any airborne materials (aerosols). Holding your breath, leave the room immediately and close the door.
2. Warn others not to enter the contaminated area and request assistance. The area or the door to the area should remain supervised by someone who is uncontaminated and understands the situation. If this is not possible for medical or contamination reasons someone with the authority to take responsibility for the clean-up should be notified. Notification and placing signs that indicate a spill and not to enter the area are critical if the area is left without supervision.
3. If clothing is known or suspected to be contaminated, remove lab coat and any other garments with care (gently and folding the contaminated area inward) and bag it for autoclaving. Thoroughly wash hands and face and then shower, if possible. Re-clothe in a clean lab coat or scrubs from the spill kit. Personnel (students also) potentially exposed to a biohazardous agent (i.e., you might be infected) should call and/or report to the Emergency Department, x2588, in the John Dempsey Hospital. Follow-up should be with the Employee Health Service (EHS, x2893, C Building Ground Floor - Room CG228, near 6 bank elevators).
4. Wait 30 minutes or more for dissipation of aerosols from the spill and don protective equipment before re-entering the room.
5. The following general procedures should be considered and followed when applicable:
6. Spill kit (for culture volumes >50ml) with protective equipment: Items such as leak-proof (and autoclavable) containers with lids, autoclavable bags, scrubs, rubber gloves, long forceps, paper towels, sponges, disinfectant, protective outer garments (nothing that would trail on the ground when bending down to clean a spill on the floor), eye protection, liquid impervious footwear, and respirators should be considered. For higher risk agents, consider a jumpsuit with tight fitting wrists and items above.
7. Pour suitable germicidal solution around the spill and allow it to flow into the spill (e.g., 50 to 100% bleach - the disinfectant concentration should be stronger to account for dilution by the spill). Plenty of paper towels may be used to cover the wet area and then be soaked in the disinfectant. To minimize generating aerosols, avoid pouring the disinfectant solution directly onto the spill.
8. Let stand 20 to 30 minutes to allow adequate disinfectant contact time.
9. Place large fragments and materials into a container and cover with the lid. Use a dustpan and brush or forceps to avoid getting cut. Then wipe up, working toward the center of the spill.
10. Transfer all contaminated materials (paper towels, glass, liquid, gloves, etc.) into an autoclavable container if bleach is not being used as a disinfectant. Wipe the bottom, sides and top of the container with disinfectant.
11. Place gloves and footwear into the container. Put on new protection and replace the cover.
12. Have the materials from the spill that are bagged or in a container autoclaved if bleach was not used. Keep in mind, i) Bleach doesn't autoclave well. Things that are well soaked in concentrated bleach won't need autoclaving. It may be best to segregate those things you are confident won't need autoclaving from those things that will; ii) For autoclaving, contact of reusable items with non-autoclavable plastic bags should be avoided – removing the melted plastic after autoclaving can be difficult. iii) Bleach soaked paper towels may be put in red bag waste that is incinerated.
13. Re-disinfect the spill area and disinfect other surfaces and/or equipment as needed, allowing adequate contact time for fresh disinfectant. Remove, then autoclave all protective clothing.
14. Wash hands, arms and face, and then shower.
15. File an accident report with Human Resources, x4589.