

University of Pittsburgh Safety Manual	EH&S Guideline Number: 05-027	
Subject: PREVENTING LAB-ASSOCIATED INFECTIONS IN MICROBIOLOGY LABS	Effective Date 10/18/17	Page 1 of 3

MICROBIOLOGY LABORATORY GUIDELINES

Laboratory-associated infections can present public health risks. The CDC and public health officials continue to report multistate outbreaks of *Salmonella typhimurium* infections linked to clinical, commercial, research, and teaching laboratories. All bacteria used in microbiology labs can sicken individuals working in the labs. Others living in their households can also become infected if good technique is not followed. These guidelines establish safeguards to prevent lab-associated infections at the University of Pittsburgh.

1. Wash hands after entering and before exiting the laboratory. Hands should also be washed prior to and immediately after handling microorganisms and immediately after removal of gloves in the lab. Follow proper hand washing technique:
 - 1.1. Wet hands with clean, running water, turn off the tap, and apply soap.
 - 1.2. Lather hands by rubbing together with soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
 - 1.3. Scrub hands for at least 20 seconds.
 - 1.4. Rinse hands well under clean, running water.
 - 1.5. Dry hands using a clean towel.
2. Do not bring food, drinks, candy, or gum into the laboratory.
3. Do not touch the face, apply cosmetics, adjust contact lenses, or bite nails while in the lab.
4. Do not handle personal items (cell phones, tablets, cameras) while working in the laboratory.
 - 4.1. If use of personal items is required, place the item(s) in a sealed plastic bag. After use, dispose of the plastic bag in a designated waste container in the lab.
 - 4.2. If a personal laptop must be used, a keyboard protector that can be decontaminated is recommended. EH&S is available to assist in selecting an appropriate disinfectant.
5. Avoid removing writing utensils, paper, and other supplies from the lab.
6. Utilize appropriate personal protective equipment.
 - 6.1. Wear gloves and laboratory coats when handling microorganisms.
 - 6.2. Safety glasses / safety goggles should be worn when working with liquid cultures.
 - 6.3. Wear proper laboratory attire (closed-toed shoes, pants) at all times in the lab.
7. Do not remove lab materials, reagents, or cultures from the lab, unless approved by the lab manager and proper packaging procedures are used.
8. Decontaminate the laboratory bench with an appropriate disinfectant prior to and after working with microorganisms. Ethanol is not an appropriate disinfectant for BSL-2 microorganisms. EH&S is available to assist in selecting an appropriate disinfectant.

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9. Minimize the use of sharps. If sharps are required, utilize safety-engineered sharps devices.
10. Use appropriate leak-proof containers when moving cultures in the laboratory, between laboratory spaces, or storing infectious materials.
11. Never pipette by mouth.
12. Keep the laboratory door closed.

Guidance Specific to Laboratory Instructors/Principal Investigators

1. When possible, nonpathogenic or attenuated bacterial strains should be used, especially in teaching laboratories.
2. Use cultures from authorized, commercial, or reputable sources. Maintain documentation regarding stock organisms, sources, and handling of stock cultures.
3. Advise immunocompromised individuals (and individuals living with or caring for an immunocompromised individual) to consult a physician prior to working with microorganisms. Those that are pregnant or may become pregnant should also be advised prior to working with microorganisms.
4. A storage area for personal belongings should be separate from the work area.
5. Laboratory dedicated writing utensils, paper, and other supplies should be employed.
6. Use microincinerators or disposable loops instead of Bunsen burners.
7. Biohazard signage should be posted on the door to the lab, on areas where cultures are used and/or stored, and on any container used to transport cultures.
8. Post emergency procedures and updated contact information in the laboratory.

Additional Information

Used or contaminated laboratory supplies should be decontaminated then disposed of in appropriate biological waste containers. Additional information is available at <http://www.ehs.pitt.edu/assets/docs/infectious-waste.pdf>.

Information on spill clean-up is available at <http://www.ehs.pitt.edu/assets/docs/bio-spill.pdf>.

Additional guidance on specific biosafety procedures is available in the University Safety Manual (<http://www.ehs.pitt.edu/workplace/toc.html>)

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References

Guidelines for Biosafety in Teaching Laboratories; American Society for Microbiology

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CDC Laboratory Acquired Infection Prevention Poster, https://www.cdc.gov/salmonella/pdf/cdc_lai_prevention_poster_012313_508.pdf