

Laboratory Biosafety Self-Audit Checklist

Building _____ Room _____ Principal Investigator _____ Date _____

Audit Performed by _____

	Y	N	NA	COMMENTS
A. Contamination Control				
1. Proper decontamination and spill procedures followed				
B. Exposure Control				
1. Sharps handled with caution; used only as necessary				
2. Sharps disposed of properly				
3. Procedures done with minimal aerosol production/ biosafety cabinet used as appropriate				
4. Personal protective clothing, equipment provided/used				
5. Hepatitis B vaccination offered, as applicable				
6. Live Virus Worker medical surveillance, as appropriate				
7. Eating, drinking, applying cosmetics, handling contact lenses, mouth pipetting prohibited; no storage of food, cosmetics, medications in lab				
C. Inventory Control				
1. Work with approved agents and protocols; CDC/USDA Select Agents/Toxins registered, handled according to regulations				
2. Waste is disposed of, packaged, and labeled correctly				
D. Use Area Identification				
1. Lab posted with required biohazard signage				

A Contamination Control

1. Contaminated work surfaces and equipment are disinfected with the appropriate disinfectant after daily work and spills. 1 to 10 dilution of chlorine bleach or its equivalent is effective for most purposes. Ensure fresh solutions are maintained.

Spills or accidents involving exposure to infectious or rDNA materials are reported immediately to the Office of Research & Project Admin. (ORPA).

Spills should be covered with paper toweling and bleach solution applied from the outer edge of the spill to the center. Allow 20 minute disinfection time before placing toweling in medical waste and final disinfection wipe of spill area.

B. Exposure Control

1. Be particularly cautious when handling any sharps, i.e., needles, syringes, glass implements. Substitute plastic for glass where possible. **For BSL2 work, use only needle locking or disposable syringes for injection/aspiration of infectious materials and, where possible, safety needles.** Handle broken glassware with tongs, broom & dustpan or forceps, not directly with hands.
2. Contaminated sharps like needles, syringes, and blades are discarded in puncture-proof plastic sharps containers. Needles are not bent, sheared, broken, recapped, or removed from disposable syringes before disposed. **Before disposal in med waste box, label sharps container with same label used on outside of filled med waste box to identify lab and generator of waste.**
3. All procedures are conducted in a way to minimize creation of splashes or aerosols. For laboratories designated Biosafety Level 2, procedures that may produce infectious agent/rDNA aerosols or work with large volumes or large concentration of infectious agents or rDNA material are performed in an approved, certified, and operating biosafety cabinet.
4. When there is exposure to infectious or rDNA materials, the lab worker wears appropriate personal protective equipment (PPE) such as, but not limited to gloves, gowns, laboratory coats, face shields or masks and eye protection. Eye and/ or face protection is worn when there is an anticipation of splashes or sprays to the face

At BSL1: Lab coats are recommended.

At BSL2: Lab coats or equivalent are required while in the lab and removed before leaving the lab. Gloves are worn when handling infectious or rDNA materials, contaminated surfaces, or research animals.

Gloves are changed when torn, not worn outside the lab, washed, or reused.

PPE is considered appropriate only if it does not permit blood and other potentially infectious materials to pass through to reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use and for the duration of time which the PPE will be used.

5. For those exposed to bloodborne pathogens, hepatitis B vaccination is made available after the employee has received the training required and within 10 days of initial assignment. For those declining the HBV vaccination, a declination form is completed by the worker.
6. Those working with live viruses may require serum draw and titrating as a part of medical review. Appropriate measures are discussed in the Live Virus Worker Web Training which must be completed by those doing live virus work.
7. Self explanatory

C. Inventory Control

1. All work with infectious agents/recombinant DNA has been submitted, reviewed, and approved by the IBC.

Any CDC/USDA Select Agents being used have been properly registered and appropriate procedures in place for restricted access, user screening, security, and notice of disposal or destruction.

2. Biologically contaminated waste is placed in the provided red biohazard bags.

At BSL2: red bags are autoclaved, placed in medical waste boxes, sealed, and labeled by staff from the generating lab.

At BSL1: autoclaving of waste before boxing and labeling for disposal is not generally required.

Non-recyclable, uncontaminated waste glass is placed in tall, plastic-lined glass waste boxes. Empty chemical containers are placed in green Rubbermaid containers with half lid as labeled for this purpose. Animal bedding waste is bagged and placed in carts for pick-up. Animal carcasses are bagged and freezer-stored until removed for transport to contractor's incineration facility.

D. Use Area Identification

1. For BSL2 labs, a biohazard warning sign with the universal biohazard symbol is posted at the laboratory entrance when infectious agents are in use. The hazard sign identifies the infectious agent, the biosafety level, the Principal Investigator's name and telephone number or other contact person, and indicates any PPE or immunizations required for those in the lab.

	Y	N	NA	COMMENTS
E. Training				
1. Information and instruction provided for work with agents used, associated hazards, exposure precautions as part of biohazard orientation in lab; orientation records on file				
2. Initial and annual training provided for bloodborne pathogens (BBP) exposure				
3. Training provided for live virus/animal workers				
F. Engineering Controls				
1. Handwashing facilities provided and used				
2. Eye wash station available				
3. Autoclave available, used and checked for effectiveness				
4. Biosafety cabinet certification current				
5. Floor, ceiling, furnishings ,work surfaces durable, cleanable and in good repair				
6. Illumination adequate for all activities				
G. Administrative Controls and Documentation				
1. Laboratory facility meets criteria for biosafety level				
2. Records				
3. Access to the on-line Biosafety Manual provided and encouraged				
4. Access to the laboratory is limited or restricted as appropriate				
5. Aware of requirement for reporting of rDNA research-related accidents/injuries				
6. Insect and rodent control program; screened windows; no animals in lab other than those involved in research.				

E. Training

1. Principal Investigator ensures all lab staff have standard orientation regarding biosafety issues in the lab and receive information and instruction on hazards associated with those agents used and the necessary precautions to minimize exposure. Orientation records for kept on file as documentation of information provided.
2. As defined in the OSHA Bloodborne Pathogen Standard, those working with human blood, tissues, body fluids or other defined potentially infectious materials receive initial training on bloodborne pathogens and comply with all other aspects of the Standard.
3. Those working with live viruses or research animals complete the web-based Live Virus Worker/Animal Worker training and complete entry into the Program with medical review.

F. Engineering Controls

1. Handwashing facilities are available in the laboratory and used particularly after handling infectious material or animals, after removing gloves, before leaving the lab.
2. Ensure that everyone in the lab knows the location of a readily accessible eyewash station.
3. In laboratories generating infectious waste, the waste is treated by appropriate chemical disinfection (i.e., 1 to 10 bleach solution or equivalent) or steam sterilization (proper sterilization is achieved when the load is autoclaved at 250°F or 121°C for a minimum of 30 minutes). Heat sensitive test strips or other indicator of proper heat treatment is used with each autoclaved container. A biological indicator (i.e., *Bacillus sterothermophilus* spores) is used periodically to ensure proper functioning of the steam autoclave.
4. Biosafety cabinets are certified after being newly installed and with relocation of any existing cabinets. Annual recertification is completed when user protection is necessary.
5. Laboratory is designed to be easily cleaned, including between fixtures. Floors, ceiling, and furnishings are in good repair. Furnishings are durable and benchtops impervious to water and resistant to lab chemicals and moderate heat.
6. Illumination sufficient in all work areas to support working safely.

G. Administrative Controls and Documentation

1. Verify the laboratory facilities meet the criteria for the Biosafety level required. See "Guidelines for Good Laboratory Practices at BSL1 and BSL2" in the Biosafety Manual.
2. Records current and accurate.
Documentation of medical surveillance, records of training and acknowledgement of risk provided for those exposed to pathogens (BBP) and work with live viruses. Exposure Control Plan provided and accessible for those working with human blood and tissue.
3. The Biosafety Manual is located at the EHS website at <http://www.princeton.edu/sites/ehs/biosafety/biosafetypage/toc.htm>. New lab personnel are advised of its location and encouraged to use it.
4. Access to the laboratory is limited or restricted at the discretion of the Laboratory Manager or Principal Investigator. For BSL2 work, lab access is provided only to those who are advised of any special hazards or have appropriate immunizations, serum sampling, etc.
5. The [NIH Guidelines for Research Involving Recombinant DNA Molecules](#) require submission of a report to the NIH of "any significant problems, violations of the Guidelines, or significant research-related accidents or injuries". Reporting to State and local authorities any research-related accident or injury that may be hazardous to public health is also required.

The PI is responsible for immediately notifying ORPA of any event that might require such notification. The IBC will conduct a review, determine the applicability of the requirements, and file a report with the regulatory agencies as appropriate. Notification to ORPA should be made in writing to Andrew Sylvester (asylvest@princeton.edu).
6. Any insect and rodent problems are appropriately addressed. Building Services can be called for response to any pest management problem. Only animals involved in the conducted research are present in the lab.

