

Appendix G: HIV and HBV Research Laboratories

HIV and HBV research laboratories present increased risk for occupational exposure to bloodborne pathogens.

A research laboratory produces or uses research laboratory-scale amounts of HIV or HBV. A research laboratory may produce high concentrations of HIV or HBV, but not in the volume found in a production facility.

These laboratories engaged in the culture, production, concentration, experimentation, and manipulation of HIV or HBV will reduce employee risk by providing additional administrative controls, protective equipment, information and training beyond that required for research laboratories not involved in such work. These requirements are in addition to the other requirements as outline in this Exposure Control Plan.

Security:

1. Keep laboratory doors closed when work involving HIV or HBV is in progress.
2. A hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors when potentially infectious material or infected animals are present in the work area or containment module.
3. Access to work area shall be limited to authorized persons only.
4. Establish written procedures whereby only persons who have been advised of the biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work area and animal rooms.

Sharps:

1. Hypodermic needles, syringes, and other sharp instruments shall be used only when a safer alternate technique is not feasible.
2. Safety needles/syringes shall be used for the injection or aspiration of other potentially infectious material. (See section on Sharps Injury Protection Program)
3. Use extreme caution when handling needles and syringes to avoid autoinoculation and the generation of aerosols during use and disposal.
4. Do not bend, shear, or replace needles in the sheath or guard, or remove from the syringe after being used.
5. Promptly place the needle and syringe in a puncture-resistant container, and decontaminate, preferably by autoclaving, before being discarded or reused.

Work Practice Controls:

1. Certified biological safety cabinets or other appropriate combinations of personal protective equipment or physical containment devices, such as any of the following, shall be used for all activities with other potentially infectious material that poses a threat of exposure to droplets, splashes, spills, or aerosols:
 - a. Special protective clothing
 - b. Respirators
 - c. Centrifuge safety cups
 - d. Sealed centrifuge rotors
 - e. Containment caging for animals

- 2 Report all spills or accidents resulting in an exposure incident immediately to the principle investigator or other responsible person and to the ORCBS at 355-0153.
- 3 Spills must be contained and cleaned up immediately by employees that are trained and equipped to work with potentially concentrated infectious material.

Engineering controls:

1. Use biosafety cabinets or other physical containment devices within the containment module to conduct all activities that involve other potentially infectious material. Do not conduct this work on the open bench.
Note: Biological safety cabinets shall be certified when installed, at least annually, and when they are relocated.
2. Each laboratory shall contain a sink for washing hands and an eye wash station that are readily available in the work area. The eyewash must supply a sufficient quantity of water to completely flush the eyes. A 15-minute supply of continuous free-flowing water is acceptable. The hands must be free to hold the eyelids open to aid in the complete flushing of the eyes.
3. HEPA (high-efficiency particulate air) filters, or equivalent filters, and disinfectant traps must be used to protect vacuum lines. Check filters and traps routinely, and maintain or replace as necessary.
4. When transporting contaminated material, use containers that are durable, leakproof, labeled or color-coded, and closed before leaving the work area.
5. An autoclave for the decontamination of regulated wastes shall be available. All infectious liquid, solid waste, and all waste from work areas including animal rooms, shall be decontaminated before disposal by autoclaving or incineration.

Personal Protective Equipment:

1. Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms.
2. Do not wear protective clothing outside of work area.
3. Protective clothing must be decontaminated before laundering.
4. Gloves shall be worn when handling infected animals and when making contact with other potentially infectious materials is unavoidable.

Administrative:

1. Personnel must be advised of potential hazards and are required to read and follow instructions on practices and procedures. This will be documented with a bloodborne pathogens site-specific checklist.
2. Personnel must read the MSU Biosafety Manual. This will be documented on the bloodborne pathogens site-specific checklist.