

11. Management of Biohazardous Materials

11.1 Medical Waste Management

11.1.1 Medical waste is regulated in the State of Alabama by the Alabama Department of Environment Management (ADEM) through their Solid Waste Management Program and in accordance with Environment Protection Agency rules and regulations. UAB policies regarding medical waste management are designed to meet local, state, and federal regulations. At UAB medical waste is managed from the points of origin to its ultimate disposal. Therefore it is the responsibility of each individual whose work involves the generation, handling, or contact with medical waste to be familiar with these policies.

11.1.2 ADEM includes the following in its definition of medical waste: sharps, microbiological waste, pathological waste, renal dialysis waste, animal waste, human blood and body fluids and surgical waste. (See Appendix J of this manual for more detailed descriptions).

11.1.3 Medical waste is separated from non-medical waste or waste containing other potentially hazardous agents, such as radioactive waste or chemical waste, at the point of generation and placed into designated and approved medical waste containers.

11.1.4 The following table is designed as a guide for medical waste disposal in non-clinical laboratories using BSL1 and BSL2 biocontainment practices and procedures.

Waste	Preferred Method of On-site Decontamination	Primary Biohazard Waste Container	Transport Container
All culture plates and tubes	Autoclave	Autoclave bag	Red Barrel
Human/animal cell cultures	Autoclave/chemical disinfection	Autoclave bag/flask	Red Barrel
Vaccines-live and attenuated	Autoclave	Autoclave bag	Red Barrel
Animal carcasses, body parts	N/A	Double bag	Red Barrel
Vials or tubes of blood or bloody body fluids	N/A	Sharps container/red bag	Red Barrel
Contaminated* solid waste	Autoclave	Autoclave bag	Red Barrel
Contaminated* plasticware	Autoclave	Autoclave bag	Red Barrel
Contaminated* lab clothing	Autoclave	Autoclave bag	Red Barrel
Contaminated* disposable gloves	Autoclave	Autoclave bag	Red Barrel
Needles, syringes, scalpel blades	Autoclave	Sharps container	Red Barrel
Contaminated* reusable glassware	Autoclave/chemical disinfection	Bin with lid	N/A
Disposable lab clothing – no contamination	N/A	N/A	N/A
Disposable plasticware – no contamination	N/A	N/A	N/A
Disposable gloves – no contamination	N/A	N/A	N/A
Medical waste containing radioactive or chemical wastes	Consult with OH&S	Consult with OH&S	Consult with OH&S

*contaminated refers to waste containing bulk blood, microbes, infectious agents, or other biological agents

- 11.1.5** No microbial preparation of any kind, infectious material, or equipment contaminated with infectious material (e.g., disposable pipettes, mechanical pipette tips, and containers), shall be disposed of in any manner or placed in waste receptacles intended for collection by non-laboratory personnel without first being rendered non-viable preferably by steam sterilization. Chemical disinfectants may be used whenever steam sterilization is not available or is contraindicated (e.g., contaminated material having residual radioactivity). In such cases, it shall be the responsibility of the Principal Investigator or laboratory director to assure that the disinfecting method employed will provide the expected effective treatment.
- 11.1.6** Medical waste that also contains other potential hazardous agents, such as radioactive waste or chemical waste, may require different treatment and/or additional packaging and labeling (e.g., tissue containing formalin residue; blood labeled with H-3 or I-125). Please contact OH&S for instructions on packaging, labeling, and disposal of these types of waste.

11.2 Storage of Biohazardous Materials

- 11.2.1** Freezers, refrigerators, and liquid nitrogen storage containers where stocks of biological agents, tissues, or other perishable materials are stored should be routinely monitored for both inventory and appropriate temperature storage conditions. Record and post temperatures directly on or in close proximity to units and report any malfunctions to your supervisor immediately. Spoilage of contents due to equipment malfunctions not only present a problem with loss of valuable research contents, but also problems with clean up and disposal.
- 11.2.2** Units used for select agent storage must be locked in a secured area.
- 11.2.3** Treated medical waste placed in red barrels may be secured in designated central locations within research buildings for pickup by the UAB Hazardous Material Facility. **Prior arrangements must be made** with the HMF director **and barcodes issued** to the laboratory. Laboratory personnel must identify each barrel containing medical waste by the application of a barcode. Barrels lacking a barcode will not be picked up.

11.3 Recordkeeping

Principal investigators and/or laboratory directors are responsible for maintaining safety-related laboratory records. These records may include, but are not limited to, inventory of human pathogens used in the lab, centrifuge rotor history, autoclave performance testing, eyewash testing, equipment temperature checks, Hepatitis B vaccine declinations, biosafety cabinet certifications, participation in an Occupational Medicine program if applicable (medical records are kept by the physician providing the service), laboratory safety plan review and revision, laboratory site visit reports (both self audits and OH&S conducted audits), transfer records for select agents, non-OH&S provided safety training and other records as appropriate.

11.4 Laboratory Security

Controlling unauthorized entry to laboratory areas where biological agents capable of causing injury or illness to humans or animals are used is both wise and prudent. It is the responsibility of the laboratory director or Principal Investigator to limit or restrict access when work with certain agents is being conducted.

- 11.4.1** Recognize that laboratory security is related to but different from laboratory safety.

- 11.4.2** Control access to areas where select agents are used and stored.
- 11.4.3** Know who is in the laboratory area. All workers should wear visible identification badges. (See Section 8.6 of this manual Visitors/Minors in Labs).
- 11.4.4** Know what materials are being brought into and removed from the laboratory area.
- 11.4.5** Follow UAB Policy for [reporting](#) accidents and incidents.