Guidelines for the Disposal of Regulated Medical Waste and Pathological Waste

Waste generated in laboratories that handle infectious agents or other potentially biohazardous materials, such as mammalian cell lines or toxins, is considered regulated medical waste (RMW), all NAA States generally defines RMW as a waste that is capable of transmitting disease to humans (please refer to the categories below). This waste is further defined as that generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in production and testing of biologicals. Refer to your State regulations for more detail. Pathological Waste, defined as animal carcasses, body parts, body fluids, animal blood-soaked materials, bedding, and associated containers, can be infectious or non-infectious.

This document describes the different types of RMW and Pathological Waste, along with their proper segregation, packaging, and disposal. This document should always be used in conjunction with the location's local servicing Landlord, University or Area CEPS/ASHM assistance. These regulations and this document, in particular, are written to protect the environment and our research staff.

Categories of Regulated Medical Waste and Pathological Waste:

Cultures and Stocks:

- Agents infectious to humans (those that require biosafety level 2 and 3 containment); including cultures and stocks from medical, pathological, or research laboratories, and their associated biologicals (please refer to NIH/CDC guidelines for definitions of risk groups and classifications of infectious agents).
- Wastes from the production of biologicals (e.g., biologicals defined as serums, vaccines, antigens, antitoxins, cell lines, and cultures), as well as materials used for cleanup of spills.
- Discarded live or attenuated vaccines, biological toxins.
- Systems used to grow and maintain infectious agents in vitro, including, but not limited to nutrient agars, gels, and broths.
- Culture dishes and devices used to transfer, inoculate or mix cultures, including, but not limited to: plastic or glass plates, paper, gloves, growth media, gels, filters, stoppers, plugs, flasks, inoculation loops and wires, contaminated pipette tips, tubes, stirring devices, jars, etc.
- Cell lines-human, primate, and any other mammalian cell lines, even in the absence of overt contamination, may contain latent viruses and/or other opportunistive pathogens or zoonotic agents (capable of transmitting disease form animals to man). Therefore, these materials are disposed as RMW in all NAA territory.

Sharps:

Keep in mind that if the appearance of the trash is that of medical or infectious types, the governing State may still require it to be treated as RMW. Verify with your State.

- Discarded used or unused hypodermic syringes and needles (even if not exposed to any infectious agents).
- Pasteur pipettes, scalpel blades and razor blades in contact with infectious agents, or used in animal or human patient care, medical research, or clinical laboratories.
- Broken glass, broken plastic Petri dishes, rigid plastic culture tubes, flasks, beakers and other lab ware in contact with infectious agents.

- Blood vials used in animal or human patient care, medical research, and clinical laboratories. Broken or unbroken glass slides and their covers that have been in contact with infectious agents.
  When only the barrel of a syringe unit (without an attached needle) is used, and it did not come in contact with infectious agents, chemical, or radioactive materials, it can be disposed as solid waste, not RMW. However, syringe barrels must be collected in a sturdy fiberboard box that can be taped closed and will not break open during normal handling. Syringe barrels must not be discarded freely in a trash container.

Animal and Human Blood, Blood Products, and related Pathological Wastes:

- Discarded waste blood and/or blood components (e.g., serum, plasma)
- Containers and/or materials containing free-flowing blood or blood components, and materials saturated with blood or blood products
- Tissue, organs, body parts, body fluids removed during autopsy, or other medical procedures
- Specimens of body fluids and their containers and discarded material saturated with such body fluids (other than urine). Human or animal body fluids such as blood, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid, and any body fluid that is visibly contaminated with blood.

Bandages and feminine hygiene products that are designed to absorb blood are not considered RMW (Janitorial services-make note in training). Organs and tissues fixed for histological or cytological examinations must be processed as hazardous waste since the fixatives used are considered to be hazardous chemicals.

Animal Wastes:

- Carcasses, body parts, body fluids, blood, or bedding from animals known to be contaminated with infectious agents (e.g., zoonotic organisms) or from animals inoculated during research, production of biologicals, or pharmaceutical testing with infectious agents.

This category of RMW includes material that also meets the definition of Pathological RMW in all states. Known contamination with an infectious agent is necessary before Pathological Waste is considered RMW.

Segregation and Packaging

All RMW must be segregated into properly labeled receptacles, red biohazard bags or sharps containers bearing the universal biohazard symbol and/or the word "biohazard", at the point of generation. All potentially infectious and biohazardous waste must be packaged and contained in a way that prevents its accidental release to the environment at any time. Additionally, each bag or container must have a properly completed and attached medical waste tracking tag prior to transport (these tags are provided by the servicing Transporter/Safety/Veterinary Office on campus as applicable).

Cultures and other solid waste: Cultures and stocks of infectious agents as well as items such as cloth, gloves, plastic, and paper items that have come in contact with agents infectious or hazardous to humans or animals, are placed in red biohazard bags (double bag if small volumes of liquids are associated with the waste or if items may poke through the bag). These bags will be autoclaved to reduce the hazard for personnel handling the waste, but the bags must not enter the regular solid waste stream.

Sharps: Collect in rigid, leakproof, puncture-resistant containers that can be secured to prevent loss of contents. Each container must be prominently labeled with a universal biohazard sign or the word "biohazard". Other containers (e.g., empty coffee cans, milk cartons) are not permissible as sharps containers. Appropriate containers are available from various scientific supply companies. Hypodermic syringes and needles are discarded as a unit without clipping, bending, breaking, shearing, or recapping (sharps boxes that clip off the needle are prohibited). Sharps containers are discarded when they are ¾ full.

Animal Waste (Pathological RMW): Infectious small and medium-sized animal carcasses (e.g., mice, rabbits, guinea pigs, dogs, etc.) must be placed into red biohazard bags (double bag if necessary). For infectious large animals or large animal parts contact the responsible Veterinary/Biosafety Program. Any Infectious bedding must also be placed in red biohazard bags. Refrigerate or freeze animal carcasses and parts to delay putrefaction, if not disposed of immediately.

Noninfectious Pathological Waste: These wastes should be placed in sealed plastic bags (not red biohazard bags). If this is not practical (e.g., with large animal carcasses), contact the Veterinary Program on your campus for instructions.

Liquid Waste: Liquid wastes that contain infectious agents (e.g., culture media, blood, fluids); can be disposed in a sanitary sewer after chemical decontamination. Waste is treated with a 10-fold dilution of household bleach (i.e., 9 parts liquid waste plus 1 part household bleach) for at least 15 minutes before discharging down the drain, followed by copious amounts of water. This policy handling doesn't apply to all locations, check with your servicing CEPS/Tufts department of EHS.

Disposal

Regulations from State Environmental and/or Health Offices direct the treatment and disposal of RMW. Regulated medical waste disposal for campus locations is best addressed through the University Biosafety and/or Veterinary Program. The EHS program staff is typically well versed.

- Segregating biohazardous waste, as defined above, in red biohazard bags or appropriate sharps containers. Red biohazard bags and sharps containers must not enter the regular solid waste stream. Additionally, storage of RMW must be in an area separate from other wastes.
- In all cases, staff should transport RMW and pathological waste in a covered container or cart to the appropriate staging area. Approved containers are available from supply companies.

Waste must not transported over campus or public roads in personal or non-permitted vehicles. Contact your servicing CEPS and/or the Biological Safety Officer at your Campus about the RMW pickup program.