Medical or Biological Waste:
Storage, Treatment, Disposal and Transportation Plan

1. Scope

This program covers all departments at Wellesley College who "generate" medical or biological waste to include Health Services, Laboratories and the Animal Facility in the Science Center, Campus Police, Custodial Services and the Athletics Department.

Procedures outlined are in accordance with Massachusetts Department of Public Health Regulations http://www.mass.gov/Eeohhs2/docs/dph/regs/105cmr480.pdf and the Occupational Safety & Health Administration's (OSHA) Bloodborne Pathogen regulations at http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051.

This management program is intended to prevent the transmission of disease or the occurrence of injury associated with this material.

2. Responsibilities

Departments who generate the waste are responsible for proper storage, labeling, transport, disinfection and disposal. They will maintain all required records noted in this plan.

Environmental Health and Safety will serve as a resource and provide training and or information to applicable departments. They will serve as a liaison with the Department of Public Health and other regulatory bodies. EHS can also assist in coordinating with the disposal(s) contractor.

3. What is medical or biological waste (MorBW) in the State of MA?

(1) Blood and blood products - in a free draining, liquid state.
(2) Pathological Waste – human tissues, parts, and body fluids.
(3) Cultures and Stocks of Infectious Agents and their Associated Biologicals. This includes culture dishes and devices used to transfer, inoculate and mix cultures as well as discarded live and attenuated vaccines intended for human use.
(4) Contaminated Animal Waste
(5) Sharps – can cause punctures or cuts and includes needles, syringes, lancets, pasteur pipettes, and disposable razors associated with medical or biological material procedures.
(6) Biotechnology By-Product Effluents – discarded liquids, cultures, and solutions made from microorganisms and their products to include genetically altered living microorganisms and their products.

Definitions of each of these items are located in Department of Public Health regulations at 105 CMR 480.010.

OSHA considers ***Regulated Waste*** to mean a liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

4. How is MorBW to be Stored?

For All Medical or Biological Waste (*except for sharps)*

a. Containers/Bags:

- Waste shall be stored in containers or bags (red or orange) that are closeable, impervious to moisture and resistant to ripping or bursting.
- Marked with the universal biohazard warning symbol and the word 'Biohazard'.
- Indicates date, department and room number.
- Secured to prevent leakage when handled, stored and or transported.
- Blood and biotechnology by-product effluents must be stored in leak-proof containers securely sealed.

b. Sharps:

- Segregated from other wastes.
- Stored in red or orange closeable, leak-proof, rigid, puncture-resistant and shatterproof containers.
- Marked with the universal biohazard warning symbol and the word 'Biohazard'.
- Do not fill more than ¾ of the capacity of the container.
- Do NOT clip, bend, shear, or separate needles from syringes and do NOT recap needles.

c. Containers can be obtained from:

- The Stockroom in the Science Center
- Health Services
- Trainers Office in Athletics
- Managers in Custodial Services

d. Storage Areas shall:

- Place signage indicating space is used for storage of regulated MorBW. Wording for signage should be as follows: "Caution – Biohazardous Waste Storage Area – Unauthorized Persons Keep Out". An example sign is provided in the appendices.
- Prevent unauthorized access.
- Clearly separated from any other waste.
- Maintained to prevent odors.

e. Storage areas are located in the:
- Science Center
- Health Service

f. All MorBW must be treated/disposed of within one year of generation.

5. Disinfection

a. Approved methods as listed by the MA Department of Public Health:
   i. Steam disinfection/autoclaving
      - Each load or cycle must be evaluated by recording thermometer, thermocouple, parametric monitoring device or thermal indicator strip
      - Autoclaves must be calibrated annually
      - Quarterly qualitative biological challenge testing [Science Center conducts monthly testing during the school year].
   ii. Chemical disinfection
      - Chemical used must demonstrate efficacy against target and registered with EPA and the Mass Dept of Agricultural Resources Pesticide Bureau
   iii. Incineration at an approved facility

b. Exceptions:
   i. Pathological waste, *and*
   ii. Contaminated animal waste must be disposed of at an approved incineration facility

c. See Appendix A for autoclave procedures and the use of bleach as a chemical disinfectant. Any department who would like to use other chemical products should contact EHS for approval. Inclusion of new approved procedures will be placed in Appendix A.

6. Disposal

a. Blood and Blood Products:
   Material can be rendered non-infectious by using approved methods (see Section 5). Material can then be disposed of down the drain.

b. Pathological Waste:

- Solids to be disposed of at approved incineration facility.
- Liquid pathological waste can be rendered non-infectious by using approved methods. Material can then be disposed of down the drain.

c. Blood Saturated Materials, Cultures & Stocks of Infectious Agents & their Associated Biologicals
- Render non-infectious using approved methods. Collect for off-site disposal.

OR
- Place in secondary containment and ship to approved off-site facility to be rendered non-infectious.

d. Contaminated Animal Waste
- Disposed of at approved incinerator.
- Unprocessed liquid pathological waste may follow (a) from above.

e. Sharps
- Once containers are ¾ full, contact your department representative to transfer container to collection area.
- Collected for disposal off-site for incineration.

f. Biotechnology By-Product Effluents:
Render material non-infectious by using approved methods. Liquid material can then be disposed of down the drain.

7. Packaging, Labeling, and Shipping

a. Containers or bags of waste that have not been rendered non-infectious shall be colored and labeled in accordance with (Section 4.)

b. Containers or bags of waste that have not been rendered non-infectious and will be shipped off-site will, in addition to (a) above, be placed in secondary containers which will be rigid, leak resistant, impervious to moisture, of sufficient strength and sealed.

c. Shipping papers will be maintained by each generating department and kept with the Log Book.

8. Tracking Waste

Within 30 days of shipment, each responsible department will confirm receipt of waste to the off-site treatment facility on the waste medical tracking form. This form will be kept on file with the shipping papers and Log Book.

If receipt of the waste to the final destination site cannot be confirmed, the responsible department will contact EHS and provide a copy of shipping papers in question. EHS will contact the Department of Public Health.

9. Procedures

a. Procedures to render waste non-infectious.

b. How to identify

c. Safe handling and transport within facility

d. Include employees in OSHA Bloodborne Pathogen Standard as applicable. See http://www.wellesley.edu/Safety/policy.html

e. Contact name for program and emergency contact
BioSafety Officer for Wellesley College is Suzanne Howard, x 3882

Emergency Contact:
Campus Police at x 5555

f. Description of on-site regulated waste storage areas. Will detail ventilation, capacity and how long waste will be stored in each area.

g. Solid waste collection and handling for off-site disposal:

Collect waste in a red bag-lined Stericycle biowaste box or reusable bin for pick-up and off-site treatment. The inner red bag must be tied closed. If using cardboard boxes, close the box with tape and write your building and room number on the side of the box. If liquid is placed in the Stericycle boxes or reusable bins, then place enough absorbent material in the box to absorb the liquid to prevent leaking.

h. Biological & Chemical Waste Disposal Procedures:
Mixed waste often requires special procedures. Please contact the EHS Office for proper disposal procedures.

Mixed biological/chemical waste can be disinfected by using carefully selected chemical treatments only if compatible with the other chemicals in the experiment. Handle resulting waste as hazardous chemical liquid waste. Contact the EHS office for advice on avoiding adverse chemical reactions.

Manage animal or human tissue contained in 10% formalin waste as liquid chemical waste and label the hazardous waste tag "10% formalin + non-infectious animal tissue" or "10% formalin + non-infectious human tissues.

10. Records

Records must be kept for waste treated on-site and for waste shipped off-site. This excludes blood and blood products going down the drain.

a. Log Book

Cover states "Medical/Biological Waste Record-Keeping Log". Log book shall specify:

i. On-Site Treatment – See Appendix for example log.
   - Date of treatment
   - Quantity of waste treated
   - Type of waste
   - Treatment method
   - Printed name and signature of person responsible for treatment
   - Quality Control Results, and
   - If waste is received from another area:
     - Date waste received
     - Name and department delivering the waste

ii. Shipped off-site for treatment
   - Date of shipment
   - Total number of containers
   - Type of waste
   - Weight or volume
   - Name of transporter with identification number
   - Verification of shipping papers generated with receipt of corresponding tracking form
   - Printed name and signature of person responsible

iii. Written contingency plan for spills and accidents. This includes ensuring tools and materials are available to address emergencies.

iv. Results of annual calibration procedures.

v. Analytical Q.C. tests

vi. EPA and State Registration Numbers and MSDSs for chemicals used in approved disinfection methods

vii. IBC members, past and present, with credentials, minutes of meetings and IBC recommendations.

A copy of this Plan will be kept with the Log Book.