

UCSF MEDICAL WASTE MANAGEMENT PLAN

**OFFICE OF
ENVIRONMENTAL HEALTH & SAFETY**

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UCSF MEDICAL WASTE MANAGEMENT PLAN

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UCSF MEDICAL WASTE MANAGEMENT PLAN

I. PURPOSE FOR THE PLAN

The State of California passed legislation entitled "The California Medical Waste Management Act". This law requires that **generators** of biohazardous waste develop a Medical Waste Management Plan which describes in detail how a generator will store, collect, package, treat, and dispose of medical waste. All UCSF Departments that generate medical waste must meet the requirements of this plan.

UCSF has two medical waste streams, one from research and one from patient care in the medical center.

The purpose of this plan is to ensure that all UCSF locations are compliant with these regulations.

II. STANDARDS AND GUIDELINES

Medical waste regulations are enforced by the City and County of San Francisco Department of Public Health.

A. Legal Medical Waste Standards

1. The California Medical Waste Management Act

Standard: The California Medical Waste Management Act, Health and Safety Code, Sections 117600 - 118360.
Enforced by: The San Francisco Department of Public Health (SFDPH), Bureau of Environmental Health Management

This law requires UCSF to develop a Medical Waste Management Plan and to track the generation, collection and disposal of medical waste. UCSF must submit this plan annually to the SFDPH for approval and issuance of permits. The SFDPH inspects UCSF locations to ensure compliance.

The following is a summary of the California Medical Waste Management Act:

- a. Defines medical, biohazardous, sharps, and trauma scene waste.
- b. Authorizes law enforcement for violations of the Act.
- c. Requires all small quantity generators of medical waste to register with the enforcement agency.
- d. Requires all large quantity generators of medical waste to register and file a medical waste management plan with the enforcement agency.
- e. Allows a medical waste generator that employs health care professionals to apply for a limited-quantity hauling exemption if the health care professionals generate less than 20 pounds of medical waste per week and transport less than 20 pounds of medical waste at any one time.
- f. Allows for home generated sharps waste to be consolidated with a registered medical waste generator's waste stream.
- g. Requires hauling permit for the transportation of medical and trauma scene waste.
- h. Requires tracking documents from the generator to final disposal site.
- i. Requires generators to segregate medical waste at the site of generation.

- j. Requires generators to containerize, package and store medical waste in a specific manner.
- k. Requires medical waste to be treated by an approved method in order to render it non-hazardous prior to final disposal.
- l. Requires a permit to treat medical waste on-site.
- m. Requires record keeping for those who treat medical waste on-site.
- n. Requires generators to pay annual permit fees to enforcement agencies.
- o. Requires generators to separately label chemotherapy and pathological waste.
- p. Provides a generator the option of using a centralized sharps collection point.
- q. Regulates pharmaceutical waste that are not considered hazardous waste under Federal law, as medical waste.
- r. Regulates trauma scene waste management activities.
- s. Requires trauma scene waste management practitioner to register.

2. San Francisco Medical Waste Management Program

Standard: San Francisco Medical Waste Ordinance
 Enforced by: The San Francisco Department of Public Health (SFDPH)

The San Francisco Medical Waste Ordinance requires medical waste generators to have a medical waste management plan and on-file with the Department of Public Health. The following actions are needed to obtain a certificate of registration, a permit, or an exemption.

- * Submit a medical waste application form to SFDPH (SFDPH provides the form) along with applicable certificate and permit fees.
- * Submit a written medical waste management plan (completed application can serve as the written medical waste plan).
- * Obtain a medical waste certificate or permit from SFDPH.
- * Maintain tracking documents and other required records for those who treat medical waste on-site.
- * Participate in annual inspections conducted by SFDPH.

3. Bloodborne Pathogens are managed under the Exposure Control Plan (located in Biosafety Manual)

Standard: California Occupational Exposure to Bloodborne Pathogens Standard, Title 8, Section 5193
 Enforced by: CAL/OSHA

The plan requires that all medical waste be placed in containers or bags that are closable, labeled, color-coded with the universal biohazard symbol and constructed to prevent leakage during handling, storage, and transport. Sharps must be disposed after use in closable, puncture-resistant containers, which are leak proof and labeled with universal biohazard symbol. Sharps containers must be easily accessible to personnel and routinely replaced when 2/3 filled in order to prevent needle sticks.

4. Transportation of Biohazardous Materials and Waste

Standard: Hazardous Materials Transportation Act (49 CFR Parts 106-107, 171-179, 190-192, 397)
 California Hazardous Waste Control Law (H&SC Section 25100 et. seq., California Code of Regulations, Title 22, Section 66428 et. seq.)
 California Medical Waste Management Act (H&SC Section 117600 et.

seq.)

- Enforced by:
- * Department of Toxic Substances Program, Control Surveillance and Enforcement Branch, CAL/EPA
 - * California Highway Patrol (CHP)
 - * Department of Transportation (DOT)

Federal and state agencies regulate hazardous materials transportation, including medical waste. Medical waste haulers are required to be registered with Cal/EPA as Hazardous Waste Transporters. Medical waste transportation requirements are found in the California Health & Safety Code Chapter 6, commencing with Section 118000 summarized below:

- a. All medical waste shall be hauled either by a registered hazardous waste hauler or by a person with an approved limited quantity hauling exemption.
- b. A hazardous waste hauler shall maintain a completed tracking document of all medical waste removed for treatment or disposal.
- c. A hazardous waste hauler shall not transport medical waste in the same vehicle with other waste unless the medical waste is separately contained in rigid containers or kept separate by barriers from other non-medical waste or unless all of the waste is handled as medical waste.
- d. Medical waste generators may apply for a limited quantity hauling exemption.

B. Guidelines for Infectious Waste

1. Guidelines: Comprehensive Accreditation Manual for Hospitals, 2008 Edition, Section EC 1.2.3

Enforced By: Joint Commission on the Accreditation of Healthcare Organizations (JCAHO)

Medical waste containers are to be disposed of in a timely manner in accordance with the hospital's hazardous materials and waste program.

2. CDC/NIH Guidelines for Biosafety

Guidelines: CDC/NIH Biosafety in Microbiological and Biomedical Laboratories, 5th Edition, Section III, Laboratory Biosafety Criteria, pages 16-32

Enforced by: UCSF Biosafety Committee

All medical and infectious liquid wastes are to be segregated prior to disposal. All medical waste, decontaminated outside of the immediate laboratory, is to be placed in a durable leak-proof container and closed for transport from the laboratory. Needles and syringes must be placed promptly in a puncture-resistant sharps container. Under certain conditions an autoclave for decontaminating biohazardous laboratory waste may be required.

III. DEFINITIONS

A. *Medical waste* includes biohazardous waste, sharps waste and waste generated or produced as a result of diagnosis, treatment, or immunization of human beings or animals or in research pertaining to the activities specified above. This includes the production or testing of biologicals, and the accumulation of properly contained home-generated sharps waste brought by a patient, a member of the patient's family, or by a person authorized by the enforcement agency, to a point of consolidation approved by the enforcement agency, It also includes removal of a regulated waste, as defined in Section 5193, 8CCR, from a trauma scene by a trauma scene waste management practitioner.

1. *Biohazardous waste* means any of the following:

- a. *Laboratory waste*, including, but not limited to, all of the following:
 - (1). Human or animal specimen cultures from medical and pathology laboratories.
 - (2). Cultures and stocks of infectious agents from research and industrial laboratories.
 - (3). Wastes from the production of bacteria, viruses, spores, discarded live and attenuated vaccines used in human health care or research, discarded animal vaccines, including Brucellosis and Contagious Ecthyma and culture dishes and devices used to transfer, inoculate, and mix cultures.
- b. Human surgery specimens or tissues removed at surgery or autopsy, which are suspected by the attending physician and surgeon or dentist of being contaminated with infectious agent known to be contagious to humans.
- c. Animal parts, tissues, fluids, or carcasses suspected by the attending veterinarian of being contaminated with infectious agents known to be contagious to humans.
- d. Waste, which at the point of transport from the generator's site, at the point of disposal, or thereafter, contains recognizable fluid blood, fluid blood products, containers or equipment containing blood that is fluid, or blood from animals known to be infected with diseases which are highly communicable to humans.
- e. Waste containing discarded materials contaminated with excretion, exudates, or secretions from humans or animals that are required to be isolated by the infection control staff, the attending physician and surgeon, the attending veterinarian, or the local health officer, to protect others from highly communicable diseases or diseases of animals that are highly communicable to humans.
- f.
 - (1) Waste, which is hazardous only because it is comprised of human surgery specimens or tissues which have been fixed in formaldehyde or other fixatives, or only because the waste is contaminated through contact with, or having previously contained, chemotherapeutic agents, including, but not limited to, gloves, disposable gowns, towels, and intravenous solution bags and attached tubing which are empty.
 - (2) A "chemotherapeutic agent" means an agent that kills or prevents the reproduction of malignant cells.
 - (3) A container, or inner liner removed from a container, which previously contained

a chemotherapeutic agent, is empty if the container or inner liner removed from the container has been emptied by the generator as much as possible, using methods commonly employed to remove waste or material from containers or liners, so that the following conditions are met:

- A. If the material which the container or inner liner held is pourable, no material can be poured or drained from the container or inner liner when held in any orientation, including, but not limited to, when tilted or inverted.
 - B. If the material, which the container or inner liner held is not pourable, no material or waste remains in the container or inner liner that can feasibly be removed by scraping.
- g. Waste that is hazardous only because it is comprised of pharmaceuticals.
2. *Sharps waste* means any device having rigid corners, edges or protuberances capable of cutting or piercing, including, but not limited to, all of the following:
- a. Hypodermic needles, alone or with anything attached (syringes, tubing, etc.), blades, disposable syringes, syringe barrels and plungers, syringes contaminated with biohazardous waste, acupuncture needles, root canal files, unbroken Pasteur and capillary pipettes, and small (sharp) micropipette tips.
 - b. Broken glass items, such as broken Pasteur pipettes and blood vials contaminated with biohazardous waste.
 - c. Any item capable of cutting or piercing that is contaminated with trauma scene waste.
3. Medical waste includes trauma scene waste.
4. *Medical waste* **does not** include any of the following:
- a. Waste generated in food processing or biotechnology that does not contain an infectious agent.
 - b. Waste generated in biotechnology that does not contain human blood or blood products or animal blood or blood products suspected of being contaminated with infectious agent known to be communicable to humans.
 - c. **Urine, feces, saliva, sputum, nasal secretions, sweat, tears or vomitus, unless it contains fluid blood.**
 - d. Waste which is not biohazardous, such as paper towels, paper products, articles containing non-fluid blood, and other medical solid waste products commonly found in the facilities of medical waste generators.
 - e. Hazardous waste, radioactive waste, or household waste.
 - f. Waste generated from normal and legal veterinarian, agricultural, and animal livestock management practices on a farm or ranch.

B. *Autoclaved medical waste* is medical waste that has been treated by steam sterilization. The

equipment used is an autoclave. An *autoclave* is designed to sterilize specimens by the use of steam, heat and pressure. The California Medical Waste Management Act requires that any autoclave must attain a temperature of 121°C (250°F) for at least 30 minutes (depending on the quantity and density of the load) to achieve sterilization of the entire load.

- C. *Mixed waste* means a mixture of medical waste and non-medical waste. Mixed waste is medical waste **EXCEPT** for the following:
1. Medical waste and hazardous chemical waste is ***hazardous chemical waste*** and is subject to the statutes and regulations applicable to hazardous chemical waste.
 2. Medical waste and radioactive waste is ***radioactive waste*** and is subject to the statutes and regulations applicable to radioactive waste.
 3. Medical waste, hazardous chemical waste, and radioactive waste is ***radioactive waste*** and is subject to the statutes and regulations applicable to radioactive waste.
- D. *Pharmaceutical waste* means a prescription or over-the-counter human or veterinary drug, including but not limited to, a drug as defined in Section 109925 of the Federal Food Drug, and Cosmetic Act, as amended (21U.S.C.A. Section 321(g)(1)). *Pharmaceutical* does not include any pharmaceutical that is regulated by the Federal Resource Conservation and Recovery Act of 1976 as amended (42 U.S.C.A. Section 6901 et seq.) and the Radiation Control Law (Chapter 8 of Part 9, commencing with Section 114960).
- E. *Medical waste container* means a hamper or a wastebasket, bucket, garbage can or other similar rigid, leak-resistant container, which is clean and in good repair and which may be disposable, reusable or recyclable. This container shall be labeled with the words "Biohazardous Waste" or with the international biohazard symbol and the word "BIOHAZARD" on the sides so as to be visible from any lateral direction, and on the lid, if used. For point-of-collection use, the medical waste container shall be lined with an appropriate single or double red bag and should be covered when not in use. For storage (which begins immediately upon closure) and transportation of filled red bags, the medical waste container must be covered with a tight-fitting lid, labeled as described above.
- F. *Pathological waste* is defined but is not limited to:
1. Any lab material or item being discarded that is contaminated with any infectious agent that causes disease in humans
 2. All waste materials from Biosafety Level 3 labs or from Animal Biosafety Level 3 facilities.
 3. All waste materials that are known or reasonable suspected of being infected with prions of any species.
 4. Any human tissue or body part that is larger than a thumbnail or recognizable as being of human origin by looking at it.
 5. Isolation wastes from clinical areas.
 6. All fixed or unfixed recognizable animal carcasses regardless of size and any animal tissue or body part that is larger than a thumbnail, or easily recognized as of animal origin by looking at it.

7. Animal bedding and other husbandry materials known to be or suspected of being contaminated with any infectious agent that causes disease in humans.
 8. Any disposable PPE and laboratory materials used in conjunction with the items and materials mentioned above
- G. *Anatomical Remains* is a sub-group of pathological waste and consists of recognizable human body parts, whether infected or not. At UCSF, anatomical remains are disposed by cremation.

IV. RESPONSIBILITY FOR INTERNAL STANDARD REVIEW

Standards and guidelines affecting the disposal of medical waste are reviewed by UCSF safety committees and departments listed in Table I below. Also listed are UCSF reference documents for each waste category.

TABLE I

WASTE CATEGORY	STANDARDS REVIEW UNIT	DOCUMENT
RADIOACTIVE WASTE	Campus Radiation Safety Committee	UCSF Radiation Safety Manual, Appendix J
HAZARDOUS CHEMICAL WASTE	EH&S Campus Chemical Safety Committee	Chemical Safety Manual, UCSF Guide for Disposal of Hazardous Chemical Waste, Part VIII
MEDICAL WASTE (PATIENT CARE)	Medical Center Infection Control	Infection Control Manual, Section 4.10
BIOHAZARDOUS/ SHARPS WASTE (RESEARCH AREA)	Biosafety Committee	Biosafety Manual, Appendix J
CHEMOTHERAPEUTIC WASTE	Department of Nursing EH&S	Nursing Policy and Procedures on Chemotherapy Handling and Administration
SHARPS WASTE RADIOACTIVE WASTE	Campus Radiation Safety Committee	UCSF Radiation Safety Manual, Appendix J
SHARPS WASTE HAZARDOUS CHEMICAL WASTE	EH&S Campus Chemical Safety Committee	Chemical Safety Manual, UCSF Guide for Disposal of Hazardous Chemical Waste, Part VIII

V. PACKAGING AND REMOVAL GUIDELINES

A. Biohazardous Waste

For research areas refer to Appendix B & E and for medical center refer to Appendix A & C.

B. Mixed Biohazardous/Sharps and Hazardous Chemical Waste

1. Screw cap bottles for liquid mixed waste will be accepted for pick-up by EH&S. Leaking containers and/or stoppered or corked flasks and bottles will not be picked up.
2. Chemically-contaminated laboratory debris such as used gloves, absorbent liners, paper towels, used filter paper, etc., must be placed in a clear plastic bag, sealed and labeled with a Hazardous Waste Tag (HWT). HWTs are available from EH&S by calling 6-0544.
3. Chemically-contaminated sharps such as hypodermic needles, syringes with and without needles, glass slides, razors, scalpels, plastic/glass pasteur pipettes, etc., must be placed inside a sharps container and must be properly identified and labeled with a HWT, and disposed as hazardous chemical waste. The color of the container need not be red. Other colored puncture resistant containers may be used.
4. Chemically-contaminated **broken** glasses or **broken** test tubes must be placed in a hard sided container, labeled with a HWT and disposed as hazardous chemical waste.
5. Chemically-contaminated semi-solid materials such as Ethidium Bromide and Acrylamide gels must be contained inside a screw cap wide mouth plastic jar or bottle, sealed, labeled with HWT and disposed as hazardous chemical waste.
6. Complete the Hazardous Chemical Waste Removal Form and send to EH&S, Box 0942. THERE IS NO WASTE PICK-UP IF THE HAZARDOUS CHEMICAL WASTE PICK-UP FORM IS NOT COMPLETED.

C. Mixed Biohazardous/Sharps and Radioactive Waste

1. Mixed radioactive and biohazardous non-sharps waste will be packed in a yellow bag labeled with the universal radiation symbol. Mixed radioactive and sharps waste will be placed in a sharps container labeled with the universal radiation symbol.
2. Mixed radioactive waste is picked up by Radiation Safety technicians and brought to the EH&S radioactive waste accumulation area for packaging and disposal. Contact EH&S at 6-1771 (Parnassus), 4-4107 (Mission Bay) and 2-1129 (Mt. Zion) for radioactive waste collection.

D. Other Requirements

1. All red bags for autoclaving must have the words "autoclave" and the open ends of the bag tied with heat sensitive tape so that there are two independent and clearly visible indicators of successful autoclaving.
2. Red bags and sharps containers must **NEVER** be left in corridors, hallways, or other public access spaces.

E. Packaging Materials for Biohazardous/Sharps Waste

Packaging materials for biohazardous/sharps waste must meet the requirements described in

Tables II through VII.

Table II
Research Packaging and Disposal Information for
Parnassus Campus

Waste Category	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal. ; 2 gal. ; 3 gal.	EH&S, 476-0546
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 476-1771
SHARPS, Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 476-0544
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		FM Building Manager
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	FM Building Manager
RED BAG, Pathological Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 gauge STERICYCLE: 20-gallon red Medical waste barrel labeled "pathology waste".	EH&S, 476-0546
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 gauge STERICYCLE: 44-gallon gray Medical waste barrel	EH&S, 476-0546
RED BAG, Animal Carcasses	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open end of bag together 2. Place in medical waste barrels in Animal Care tower cold storage room	STERICYCLE: 44-gallon red Medical waste barrel labeled "pathology waste".	1. Lab staff brings waste to 2nd floor MS cold storage room (animal tower) 2. Medical waste vendor collects the waste
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	FM Building Manager
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	EH&S, 476-0546 FM Building Manager
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: ½ gal. ; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	EH&S, 476-0546 FM Building Manager

Table III
Patient Care Packaging and Disposal Information
Parnassus and Mt. Zion Medical Centers

	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal.; 2 gal.; 3 gal.	Env. Services 353-1283
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S 476-1771
SHARPS, Hazardous Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S 476-0544
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		Env. Services 353-1283
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	Env. Services 353-1283
RED BAG, Mixed Medical and Short Lived Radioactive Waste	Red bag, Polyethylene, Barrel with Universal Biohazard Symbol 1. Check barrel for radioactivity at the storage bin 2. Place radioactive waste label 3. Store waste at designated area 4. Recheck for radioactivity	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 44-gallon gray Medical waste barrel	Env. Services 353-1283 or EH&S 476-1771; 502-1129
RED BAG, Pathological Tissues	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrels	STERICYCLE: 20-gallon red Medical waste barrel labeled "pathology waste".	Env. Services 353-1283
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrels	STERICYCLE: 44-gallon gray Medical waste barrel	Env. Services 353-1283
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	Env. Services 353-1283
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	Env. Services 353-1283
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: Kendall: ½ gal; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	Env. Services 353-1283

Table IV
Research Packaging and Disposal Information for
Mt. Zion Cancer Research Center

Waste Category	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal. ; 2 gal. ; 3 gal.	Lab staff brings waste to N103
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 502-1129
SHARPS, Hazardous Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 502-1129
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		Lab staff brings waste to N103
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	Laboratory staff brings waste to N103
RED BAG, Pathology Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon red Medical waste barrel labeled "pathological waste".	1. Lab staff brings waste to N103 2. Medical waste vendor collects the pathological waste
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon red and 44-gallon gray Medical waste barrels	Lab staff brings waste to N103
RED BAG, Animal Carcasses	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together Place in freezer in LARC necropsy room (S071)	STERICYCLE: 20-gallon red Medical waste barrel labeled "pathological waste".	1. Lab staff brings animal carcasses to S071 freezer 2. Medical waste vendor collects the carcasses
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	FM Building Manager
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	Bio-contaminated: 1. Lab staff brings waste to N103 Un-contaminated: FM Building Manager
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: Kendall: ½ gal. ; 2 gal.; 3 gal. Un-contaminated: Any rigid cardboard box	Bio-contaminated: 1. Lab staff brings waste to N103 Un-contaminated: FM Building Manager

Table V
Research Packaging and Disposal Information for
UCSF/Laurel Heights Campus

	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal.; 2 gal.; 3 gal.	Lab brings waste to biowaste storage area located at DPS loading dock
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 476-1771
SHARPS, Hazardous Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 476-0544
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		Lab brings waste to biowaste storage area located at DPS loading dock
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
RED BAG, Pathological Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrel	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon red Medical waste barrels labeled "pathological waste".	Lab brings waste to biowaste storage area located at DPS loading dock
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrel	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon and 40 gallon Medical waste barrels	Lab brings waste to biowaste storage area located at DPS loading dock
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	Custodian brings waste to regular trash dumpster
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-Contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	1. Lab brings waste to biowaste storage area located at DPS loading dock 2. Custodian brings waste to regular trash dumpster
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: Kendall: ½ gal.; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	1. Lab brings waste to biowaste storage area located at DPS 2. Custodian brings waste to regular trash dumpster

Table VI
Research Packaging and Disposal Information for
Mission Center Building Campus

Waste Category	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal. ; 2 gal. ; 3 gal.	EH&S, 476-0546
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 514-4107
SHARPS, Hazardous Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 514-4108
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		Building Management 476-0390
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	Building Management 476-0390
RED Bag, Pathological Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrel	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon red Medical waste barrel labeled "pathological waste".	EH&S, 476-0546
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrel	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 44-gallon gray Medical waste barrels	EH&S, 476-0546
RED BAG, Animal Carcasses	Red Bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in LARC freezer in LARC room 210	STERICYCLE: 20-gallon red Medical waste barrel labeled "pathology waste".	Medical waste vendor collects waste directly from the LARC freezer in room 210
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	Building Management 476-0390
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-Contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	EH&S, 476-0546 Building Management 476-0390
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: Kendall: ½ gal. ; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	EH&S, 476-0546 Building Management 476-0390

Table VII
Research Packaging and Disposal Information
UCSF/San Francisco General Hospital Campus

Waste Category	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal. ; 2 gal. ; 3 gal.	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 476-9550
SHARPS, Hazardous Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 476-0544
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		Housekeeping, 206-8009/206-5238
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238
RED BAG, Pathological Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 20-gallon red Medical waste barrel labeled "pathological waste".	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 3. Tie or tape open ends of bag together 4. Place in Medical Waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 ga. STERICYCLE: 44-gallon gray Medical waste barrels	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238
RED BAG, Animal Carcasses	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in Medical Waste barrels in Bldg 3, Rm 208 (walk-in refrigerator)	STERICYCLE: 20-gallon red Medical waste barrel labeled "pathology waste".	Medical waste vendor collects waste directly from the LARC freezer in Bldg 3, Rm 208
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	Housekeeping, 206-8009/206-5238
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-Contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: Kendall: ½ gal. ; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	Clinical: LMDS, 206-8434 Research: Housekeeping, 206-8009/206-5238

Table VIII
Research Packaging and Disposal Information for
Mission Bay Campus

Waste Category	Packaging Standard	Brand/Materiel Mgmt.	Removal Unit
SHARPS, Biohazardous	Sharps Container, Red, Hard Plastic, Universal Biohazard Symbol	Kendall: ½ gal. ; 2 gal. ; 3 gal.	EH&S, 514-4107
SHARPS, Radioactive and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Radioactive		EH&S, 514-4107
SHARPS, Chemical and Biohazardous	Sharps Container, Red, Hard Plastic; Label - Hazardous Waste Tag		EH&S, 514-4107
SHARPS, Un-contaminated	Sharps Container, Hard Plastic		FM Building Manager
LIQUID BLOOD	1. Pour Down Sanitary Sewer; OR 2. Disinfect (autoclave/bleach) then pour down the sewer	N/A	N/A
AUTOCLAVED WASTE for Regular Trash	Autoclave Bag, Red with Universal Biohazard Symbol, 1. Seal with Autoclave Tape	Steris Red: 25" x 36"	FM Building Manager
RED BAG, Pathological Waste	Red bag, Polyethylene, Universal Biohazard Symbol 1. Tie or tape open ends of bag together 2. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 gauge STERICYCLE: 20-gallon red Medical waste barrel labeled "pathology waste".	EH&S, 514-4107
RED BAG, Biohazardous Waste	Red bag, Polyethylene, Universal Biohazard Symbol 3. Tie or tape open ends of bag together 4. Place in medical waste barrels	Winfield Red: 25" x 34" x 1.2 ml, 1.4 ml 34" x 45" x 0.0075 gauge STERICYCLE: 44-gallon gray Medical waste barrel	EH&S, 514-4107
RED BAG, Animal Carcasses	Red bag, Polyethylene, Universal Biohazard Symbol 3. Tie or tape open end of bag together 4. Place in medical waste barrels in Animal Care tower cold storage room	STERICYCLE: 44-gallon red Medical waste barrel labeled "pathology waste".	1. Lab staff brings waste to 1 st floor N131 storage room 2. Medical waste vendor collects the waste
BROKEN GLASS, Un-contaminated	Rigid Cardboard Box Label - "CAUTION-BROKEN GLASS"	Any rigid cardboard box	FM Building Manager
PLASTIC SEROLOGIC PIPETTES	Bio-Contaminated: 1. Autoclave in approved bag or 2. Place in sharps container Un-contaminated: 1. Place in strong double or approved plastic bag 2. Place in rigid cardboard box	Bio-contaminated: Steris Red: 25" x 36" Un-contaminated: Any rigid cardboard box	EH&S, 514-4107 FM Building Manager
GLASS PIPETTES	Bio-Contaminated: 1. Place in sharps container Un-contaminated: 1. Place in rigid cardboard box	Bio-contaminated: ½ gal. ; 2 gal. ; 3 gal. Un-contaminated: Any rigid cardboard box	EH&S, 514-4107 FM Building Manager

VI. MEDICAL WASTE DISPOSAL FACILITY
(See next page for building abbreviations.)

MAIN CAMPUS and MISSION BAY		
GENERATOR	TREATMENT	DISPOSAL FACILITY
L/M Hospital	off-site steam sterilization	STERICYCLE, San Leandro
L/Clinical Lab	autoclaved, off-site incineration	STERICYCLE, San Leandro; STERICYCLE, Utah
ACC	off-site steam sterilization	STERICYCLE, San Leandro
HSE, HSW, S, U, C, K, LPPI, LR, D, SU, PF, PSB, MRIV	autoclaved, solid waste, off site incineration, off-site steam sterilization	STERICYCLE, Utah STERICYCLE, San Leandro
Anatomical Pathology (Medical Center, Necropsy Lab)	off-site incineration	STERICYCLE, Utah
Anatomy (School of Medicine)	cremation	Alameda Cremations, Inc.
LARC	autoclaved, solid waste, off-site incineration	STERICYCLE, San Leandro; STERICYCLE, Utah
Genentech Hall	autoclaved, solid waste, off site incineration, off-site steam sterilization	STERICYCLE, Utah STERICYCLE, San Leandro
Rock Hall (Genetics Development and Behavioral Sciences)	off site incineration, off-site steam sterilization	STERICYCLE, Utah; STERICYCLE, San Leandro
QB3	off site incineration, off-site steam sterilization	STERICYCLE, Utah; STERICYCLE, San Leandro
OTHER LOCATIONS		
GENERATOR	TREATMENT	DISPOSAL FACILITY
Clinical Lab/Radiology Clinic and Research @ China Basin Landing	autoclaved, off-site steam sterilization, off-site incineration	STERICYCLE, San Leandro; STERICYCLE, Utah
Buchanan Dental Clinic	off-site steam sterilization	STERICYCLE, San Leandro
MTZ Research/Cancer Center	off-site steam sterilization	STERICYCLE, San Leandro
MTZ Medical Center	off-site steam sterilization	STERICYCLE, San Leandro
MCB	Off-site steam sterilization, off-site incineration	STERICYCLE, San Leandro, STERICYCLE, Utah
LHts/Research	off-site steam sterilization	STERICYCLE, San Leandro
LHts/Drug Product Services	off-site steam sterilization	STERICYCLE, San Leandro
296 Lawrence, SSF	off-site steam sterilization	STERICYCLE, San Leandro
Hunters Point/Primate	off-site incineration	STERICYCLE, Utah
Home Health Care, Geary	off-site steam sterilization	STERICYCLE, San Leandro
Psoriasis & Skin Treatment	off-site steam sterilization	STERICYCLE, San Leandro
SFGH/LARC	off-site incineration	STERICYCLE, Utah
SFGH/Research	autoclaved, off-site steam sterilization	Altamont Landfill,
SFGH/Clinical Lab	autoclaved, solid waste	Altamont Landfill
Environmental Health & Safety	off-site steam sterilization	STERICYCLE, Utah

VII. ABBREVIATIONS

ACC - Ambulatory Care Center
LARC - Animal Care Facility
C - Clinical Sciences Building
STERICYCLE - University Medical Waste Vendor
CBL - China Basin Landing
CH - Clean Harbors, University Chemical Waste Vendor
D - Dentistry Building
DPS - Drug Product Services
EH&S - Environmental Health and Safety
FM - Facilities Management
H - Hunters Point
HSE - Health Sciences Instruction and Research East Tower
HSW - Health Sciences Instruction and Research West Tower
K - Koret Vision Research Laboratory
L - Joseph M. Long Hospital
LHts - Laurel Heights
LPPI - Langley Porter Psychiatric Institute
LR - Lab of Radiobiology and Environmental Health
M - Herbert C. Moffitt Hospital
MB - Mission Bay
MCB - Mission Center Building
MRI - Medical Research Building #1
MRII - Medical Research Building #2
MRIV - Medical Research Building Annex #4
MTZ - Mount Zion Medical Center of UCSF
PF - Francis I. Proctor Foundation
PSB – Parnassus Services Building
S - Medical Sciences Building
SFGH - San Francisco General Hospital
SSF - South San Francisco
SU - Surge Research Building
U - University of California Hospital

VIII. INSPECTION PROCEDURES

The Quick Guide: Biohazardous Waste Audit has been designed to monitor all scientific research waste streams generated at UCSF locations. Labs are encouraged to use this quick guide for compliance purposes. EH&S personnel are trained to conduct spot inspections of red bag, sharps and autoclaved waste, including autoclave equipment and other contaminated material use areas.

Biological use areas will be closely monitored and all records will be maintained by the EH&S Biosafety Program. Call 476-1300 for more information.

Environmental Services with EH&S assistance will monitor Medical Center waste streams.

Quick Guide: BIOHAZARDOUS WASTE AUDIT

CATEGORIES	Mark (X)			COMMENT
	Y	N	N/A	
1. Red Bag Usage				
a. Biohazard label present				
b. Not stored on lab floor				
c. Not leaking or punctured				
d. Not overfilled				
e. No chemical or radioactive waste inside bag				
f. No sharps waste inside bag				
g. No ordinary trash inside bag				
h. Red in color				
i. Not used for non-bio waste				
2. Sharps Container Usage				
a. Biohazard label present				
b. Rigid/hard-sided				
c. Lid installed				
d. Not overfilled				
e. Puncture/Leak resistant				
f. No broken thermometer inside				
3. Biohazardous Waste Tub/Container Usage				
a. Biohazard label present on all visible sides				
b. Rigid/hard-sided				
c. Lid in place (tightly fitted) when not in use				
d. In good condition				
e. Leak resistant				
4. Autoclave (used for bio waste treatment)				
a. SOP posted near autoclave				
b. Thermometer calibrated annually				
c. Temperature checked/run				
d. 120 ⁰ C/250 ⁰ F attained for 30 minutes				
e. Maintenance records readily available				
f. Spores test results readily available				
5. Biohazardous waste storage time				
a. Not stored above 0 ⁰ C (32 ⁰ F) more than 7 days				
b. Not stored below 0 ⁰ C (32 ⁰ F) more than 90 days				

NOTE: any items marked "N" must be corrected immediately

IX. TRAINING

Training is required for anyone who generates biohazardous/sharps waste as well as any custodial worker who handles and disposes of it.

At a minimum, the following subjects are covered in the training:

- The OSHA Bloodborne Pathogens Standard/UCSF Exposure Control Plan
The OSHA Bloodborne Pathogens Regulations or the Exposure Control Plan has been written to minimize potential exposure to pathogenic organisms found in blood and body fluids. Therefore, any hospital worker or researcher who is "at risk" for exposure, as defined in the Campus/Medical Center Bloodborne Pathogens Exposure Control Plan, must participate in the required training program. As a condition of Biosafety Committee approval of any request to use human source materials, the P.I. and staff must attend the Bloodborne Pathogens training. Bloodborne Pathogens Training is available through <https://www.researchonline.ucsf.edu/>
- Use of Blood and Body Substance Exposure hotline (Needle stick Hotline)
- HBV vaccination availability
- California Medical Waste Management Act
- Campus Medical Waste Disposal Policy or Medical Center Waste Management Policy as appropriate
 - approved packaging materials
 - approved disposal procedures
 - responsibilities of the generator
 - emergency procedures
- Exposure Management Procedures

APPENDIX A

MEDICAL CENTER WASTE ENVIRONMENTAL SERVICES (EVS) COLLECTION GUIDELINES

MEDICAL CENTER WASTE ENVIRONMENTAL SERVICES (EVS) COLLECTION GUIDELINES

I. PURPOSE

The purpose of these guidelines is to minimize the risk of injury or occupational exposure for Medical Center EVS employees. These guidelines are also designed to ensure that personnel from EVS collect transport and remove medical waste in a manner consistent with the Campus, City, and State requirements.

II. TYPES OF WASTE

- A. *AUTOCLAVED WASTE*: A medical waste which is treated in an EH&S approved and certified autoclave for at least 30 minutes at 121°C. Clinical Lab at China Basin Landing will contain medical waste in red autoclave bag prior to autoclaving. The autoclaved waste will then be disposed as solid waste.
- B. *RED BAG*: A disposable **red** bag which has the Universal Biohazard Symbol and the word "BIOHAZARD" on the bag. The red bag is placed in a biohazard waste barrel prior to transporting and storage.
- C. *SHARPS WASTE CONTAINER*: A rigid puncture-resistant container with a biohazard warning labels on it which, when sealed, is leak resistant and cannot be opened without great difficulty. Sharps containers are placed in a biohazard barrel which is lined with a red bag for transporting and storage.
- D. *MIXED WASTE*: Waste consisting of a mixture of at least two types of waste:
 - 1. MEDICAL WASTE and HAZARDOUS CHEMICAL, which will be treated as HAZARDOUS CHEMICAL WASTE;
 - 2. MEDICAL WASTE and RADIOACTIVE WASTE, which will be treated as RADIOACTIVE WASTE;
 - 3. MEDICAL WASTE, HAZARDOUS CHEMICAL WASTE, and RADIOACTIVE WASTE, which will be treated as RADIOACTIVE WASTE.

III. ADMINISTRATIVE REQUIREMENTS

Prior to transporting or removing any medical waste, the Medical Center Environmental Services staff will meet the following administrative requirements:

- A. *TRAINING* which will address the following:
 - 1. The California Medical Waste Management Act, UCSF Medical Waste Management Plan, and Infection Control Policies that apply
 - 2. Bloodborne Pathogen Standard including HBV Vaccine policy
 - 3. Hazard communication
 - 4. Packaging procedures
 - 5. Transport procedures
 - 6. Disposal procedures
 - 7. Emergency procedures/spill management
- B. *PROTECTIVE CLOTHING*

In accordance with the OSHA Bloodborne Pathogens Standard, Environmental Services must provide each staff member dedicated to medical waste recovery and transport, adequate personal protective equipment to reduce potential occupational exposure to bloodborne pathogens. When appropriate, the protective clothing must fit each individual employee and at a minimum the following should be available:

1. Gloves
2. Eye/face protection
3. Aprons or other resistant fluid coverings

C. *MEDICAL SURVEILLANCE*

It is recommended that Environmental Services staff members assigned to pick up medical waste and those that are considered "at risk" under the Blood borne Pathogen Standards and obtain Hepatitis B vaccination. Call 885-7580 (Occupational Health Services) for more information.

IV. PACKAGING REQUIREMENTS:

All medical waste will be properly packaged by the generating unit or department prior to pick-up by Environmental Services. Employees are encouraged to notify their supervisors in writing whenever medical waste is not properly packaged. The supervisor for the shift will then notify EH&S at 476-1300 and inform EH&S of the location by the next working day. EH&S staff or Infection Control will then meet with the unit/department to discuss proper packaging procedures.

A. *RED BAG/BIOHAZARD WASTE BARREL:*

Each biohazard waste barrel will be lined with a red bag. The barrel shall not be over filled. Open end of the bag should be tied together to prevent leakage. Sharps (**not contained in a sharps container**) must **not** be disposed of in a red bag. **Never place red bag in a clear garbage plastic bag!**

B. *AUTOCLAVE BAG:*

Clinical Lab at China Basin Landing facility is the only medical center facility that treats medical waste. The lab sterilizes medical waste and then transfers the sterilized waste into a leak-proof medical waste barrel for disposal by the medical waste vendor for incineration.

C. *SHARPS CONTAINER:*

A sharps container must be filled no more than 2/3 full. The lid should be closed as far as possible and the top and bottom pieces held together with two vertical loops of tape. Place sharps containers in a biohazard waste barrel lined with a red bag.

D. *MIXED WASTE:*

EH&S collects all mixed waste. Environmental Services will notify EH&S if such mixed waste is found in regular refuse and/or in medical waste bags/biohazard waste barrels.

V. TRANSPORT PROCEDURES

A. *RED BAGS/BIOHAZARD WASTE BARRELS:*

Biohazard waste barrels will be checked for proper packaging. The barrel will be placed on a flat cart. Do not stack barrels when transporting. The freight elevators shall be used instead of passenger elevators whenever possible. In the event of leakage, the load should be repackaged and the contents re-bagged to avoid spilling infectious substances through the building. A bottle of disinfectant should be available on the flat carts for emergency decontamination. The biohazard waste barrels will be placed within the medical waste storage bin. **Be sure to re-lock the storage bin after use!** At the end of the shift, the carts used will be rinsed with disinfectant prior to reuse. **Garbage chutes and compactors shall not be used for transporting and handling of medical waste.** Biohazard waste barrels are disinfected at the vendor's treatment facility for reuse.

B. SHARPS CONTAINERS:

Sharps containers shall be placed in a biohazard waste barrel, which is lined with a red bag and placed on top of a flat cart. Transport and off-loading procedures are described in the preceding paragraph.

Red bags, biohazard waste barrels and sharps containers must never be left in corridors, hallways or in other public access areas.

VI. EMERGENCY PROCEDURES

In the event of a spill of medical waste during pick up, Environmental Services must do the following procedures.

Note: It is the responsibility of all Environmental Services personnel to report any incident to his/her supervisor that occurred during the shift. The supervisor must ensure that these incidents are recorded, discussed and resolved.

A. Medical waste spill:

1. Wear gloves. Use vinyl or latex gloves as barriers. If necessary, use puncture resistant gloves.
2. Re-bag any spilled medical waste into a red bag.
3. Use tongs or a shovel or other mechanical means to pick up waste and to prevent auto-inoculation from any sharps which may have been improperly disposed of. The recovered sharps waste must be placed in a sharps container.
4. Tie or tape the open end of the bag together to prevent leakage.
5. Place red bag into a biohazard waste barrel.
6. Clean/disinfect affected area.
7. Notify supervisor.

B. Sharps container spill:

1. Wear gloves. Use vinyl or latex gloves as barriers. If necessary, use puncture resistant gloves.
2. Recover the sharps using tongs, forceps, pliers or other mechanical means. **Do not use hands** to pick up sharps, even with gloves on.
3. Place the sharps into a new sharps container. If a sharps container is overfilled, place the sharps into another container. Do not fill the container more than 2/3 full.
4. Close the lid as far as possible.
5. Tape the top and bottom pieces together with two vertical loops of tape.
6. Clean/disinfect affected area.

7. Notify Supervisor.
- C. Blood/body substance spill:
1. Notify Supervisor.
 2. Place cones or other warning devices around the area to prevent people from walking through the blood/body substance spill and tracking blood/body substance throughout the building.
 3. Wear vinyl or latex gloves and face protection.
 4. Apply biological spill encapsulator to solidify the liquid.
 5. Scoop the solidified material using cardboard sheets supplied.
 6. Place the solidified material in a red bag.
 7. Place the red bag inside a biohazard waste barrel and transport the barrel into the medical waste bin.
 8. Mop the area with clean water. Repeat, if necessary.
- D. Supervisor Responsibility
1. Record all incidents reported by staff members. Ensure that all incidents reported by staff members are addressed. Call EH&S at 476-1300 if necessary.
 2. Ensure that staff members attend appropriate training.
 3. Ensure personal protective equipment and spill materials are readily available and accounted for.
 4. Respond to emergency calls at Transfer Station, write report on the incident, and notify EH&S of the incident.

In the event that red bag is accidentally thrown into the Moffitt/Long Hospital compactor C- 8 located at 505 Parnassus Avenue, the following procedures will be employed.

1. Upon notification, EVS Supervisor/or Lead Custodian to get details of the incident. EVS Supervisor and/or Lead Custodian will get the following information:
 - a) Date and time of call
 - b) Name of caller and from what department or unit
 - c) Name of the caller's supervisor
 - d) Description of incident
2. Notify Sunset Scavenger Company (see attached SUNSET SCAVENGER COMPANY contact phone numbers) that a red bag has been accidentally thrown into the compactor via the trash chute. Notification should also be done to the EVS. manager, Medical Center Safety Officer, Building Management Director, Chief Engineer, and campus Environmental Health and Safety ERT (Emergency Response Team).The ERT can be reached by calling UCPD at 9-911 or 476-1414 and requesting that you be connected to the EH&S, ERT.
3. Garbage compactor should be utilized until Sunset Scavenger has brought in a debris box for the trash. Shut down trash chute once the debris box is in place. Bring all trash to the debris box. The EVS manager should monitor the debris box and notify Sunset Scavenger when the box needs to be replaced with an empty one.
5. Upon compactor's arrival at Sunset Scavenger, Sunset will spread out load at a designated area and check contents for the red bags.
6. If found and the red bag can be pulled from the compactor garbage load, Sunset Scavenger will contact EH&S at 476-1300 for pick up.
7. If Sunset Scavenger finds other waste other than a red bag, Sunset may request UCSF staff to look

into the waste stream. Sunset will contact EH&S at 476-1300.

8. Once the compactor has returned the garbage chute will be reopened.

APPENDIX B

OFFICE OF ENVIRONMENTAL HEALTH & SAFETY MEDICAL WASTE COLLECTION GUIDELINES PARNASSUS & MISSION BAY CAMPUS

**OFFICE OF ENVIRONMENTAL HEALTH & SAFETY
MEDICAL WASTE COLLECTION GUIDELINES
PARNASSUS & MISSION BAY CAMPUS**

I. PURPOSE

The purpose of these guidelines is to minimize the risk of injury or occupational exposure for research, custodial and EH&S personnel. These guidelines are also designed to ensure that personnel from the EH&S/HMM program collect, transport and remove medical waste in a manner consistent with the Campus, City, and State requirements.

II. TYPES OF WASTE

- A. *AUTOCLAVED WASTE*: A medical waste which is treated in an EH&S approved and certified autoclave for at least 30 minutes at 121°C. The autoclaved waste will then be disposed as solid waste.
- B. *RED BAG*: A disposable **red** bag which has the Universal Biohazard Symbol and the word "BIOHAZARD" on the bag. The red bag is placed in a biohazard barrel prior to transporting and storage.
- C. *SHARPS WASTE CONTAINER*: A rigid puncture-resistant container with a biohazard warning labels on it which, when sealed, is leak resistant and cannot be opened without great difficulty. Sharps containers are placed in a biohazard waste barrel which is lined with a red bag for transporting and storage.
- D. *MIXED WASTE*: Waste consisting of a mixture of at least two types of waste:
 - 1. MEDICAL WASTE and HAZARDOUS CHEMICAL, which will be treated as HAZARDOUS CHEMICAL WASTE;
 - 2. MEDICAL WASTE and RADIOACTIVE WASTE, which will be treated as RADIOACTIVE WASTE;
 - 3. MEDICAL WASTE, HAZARDOUS CHEMICAL WASTE, and RADIOACTIVE WASTE, which will be treated as RADIOACTIVE WASTE.

III. ADMINISTRATIVE REQUIREMENTS

Prior to transporting or removing any biohazardous waste, the HMM staff will meet the following administrative requirements:

- A. *TRAINING*, this will address the following:
 - 1. The California Medical Waste Management Act and the UCSF Medical Waste Management Plan
 - 2. Bloodborne Pathogens Standard including HBV Vaccine policy
 - 3. Hazard communication
 - 4. Packaging procedures
 - 5. Transport procedures
 - 6. Disposal procedures
 - 7. Emergency procedures/spill management

B. *PROTECTIVE CLOTHING*

In accordance with the OSHA Bloodborne Pathogens Standard, FM Building Services must provide each staff member dedicated to medical waste recovery and transport, adequate personal protective equipment to reduce potential occupational exposure to bloodborne pathogens. When appropriate, the protective clothing must fit each individual employee and at a minimum the following should be available:

1. Gloves
2. Eye/face protection
3. Aprons or other resistant fluid coverings

C. *MEDICAL SURVEILLANCE*

It is recommended that HMM staff members designated to pick up medical waste be considered "at risk" under the Bloodborne Pathogens Standard and obtain Hepatitis B vaccination. Call 885-7580 (Occupational Health Services) for more information.

IV. PACKAGING REQUIREMENTS:

The unit and/or department shall properly package all biohazardous waste prior to pick up by HMM. HMM will not pick-up the biohazardous waste unless the following are done:

A. *RED BAG:*

Red bag waste, which is left in the room, must be stored in a labeled biohazardous waste barrel with a lid. The opened end of the bag must be tied together or taped to prevent leakage. The bag must not be leaking prior to pick up. Leaking bags will not be picked. **Sharps (not contained in a sharps container) must not be disposed of in a red bag.**

B. *AUTOCLAVE BAG:*

An autoclave bag, when autoclaved can be disposed of as solid waste under the following conditions: The word **AUTOCLAVE** has changed color from white to dark and the autoclave tape around the top shows brown/black stripes. **Red autoclave bag is the only approved bag.**

The department and/or unit package the biohazardous waste using autoclave red bag. The top of the bag must be sealed with autoclave tape and the autoclave bag must be checked for leaks. If the bag leaks, the department and/or unit must re-pack the waste. FM custodial staff will not collect bags that leak. If all conditions described in this paragraph are met, then the autoclaved bag can be disposed of in the regular trash.

C. *SHARPS CONTAINER:*

The sharps container must be filled no more than $\frac{3}{4}$ full. They must be closed and taped prior to collection by HMM staff. The lid should be closed as far as possible and the top and bottom pieces held together with two vertical loops of tape.

D. *MIXED WASTE:*

All mixed waste will be picked up by EH&S.

V. TRANSPORT PROCEDURES

A. AUTOCLAVED BAGS:

All autoclaved bags can be disposed of as regular trash if the indicator word “**autoclave**” has turned black, autoclave’s tape stripes changed color and if the autoclave QC program is in place.

B. RED BAGS:

Check all red bags for leaks. The bags should then be hand carried in a lidded biohazard waste barrel, which is lined with a red bag. The barrel is placed on a flat cart. Any irregularities as observed in Table A shall be recorded for referral to the department’s Department Safety Advisor.

The biohazardous waste will be picked up and transported down the hall only from 8:30AM – 4:30PM. The freight elevators will be used whenever possible. Avoid transporting flat carts of biohazardous waste in passenger elevators. **Red bags and sharps containers must never be left in corridors or other public access areas.**

In the event of leakage, the load should be repackaged and the contents re-bagged to avoid tracking droplets through the building. A spray bottle of disinfectant should be available on the flat carts for emergency decontamination. The barrel(s) of biohazardous waste will be placed within the medical waste storage bin. **BE SURE TO RELOCK THE BIN!**

At the end of the shift, the carts used will be inspected and rinsed with bleach and water if necessary.

GARBAGE CHUTES AND COMPACTORS SHALL NOT BE USED FOR TRANSPORTING AND HANDLING OF BIOHAZARDOUS WASTE.

C. SHARPS CONTAINERS:

The sharps containers will be placed in a biohazard waste barrel, which is lined with a red bag. The barrel is placed on top of a flat cart. Red bags may also be placed in the barrel to consolidate pick up. Transport and off loading procedures are described in the previous paragraph.

VI. EMERGENCY PROCEDURES

In the event of a spill of biohazardous waste during pick up, the following procedures will be employed.

A. Biohazard:

1. Wear gloves. Use vinyl or latex gloves as barriers. If necessary, use puncture resistant gloves.
2. Re-bag any spilled medical waste into a red bag.
3. Tie or tape the open end of the bag together to prevent leakage.
4. Place red bag into a biohazard waste barrel.
5. Clean/disinfect affected area using a disinfectant such as 1:10 bleach or cavicide.
6. Notify supervisor

7.

B. Sharps container spill:

1. Wear gloves. Use vinyl or latex gloves as barriers. If necessary, use puncture resistant gloves.
2. Recover the sharps using tongs, forceps, pliers or other mechanical means. ***Do not use hands*** to pick up sharps, even with gloves on.
3. Place the sharps into a new sharps container. If a sharps container is overfilled, place the sharps into another container. Do not overfill the container.
4. Close the lid as far as possible.
5. Tape the top and bottom pieces together with vertical loops of tape.
6. Clean/disinfect affected area.
7. Notify Supervisor.

C. Blood or bloody fluid is leaking:

1. Notify supervisor
2. Wear vinyl or latex gloves and face protection.
3. Place cones or other warning devices around the area to prevent people from walking through the blood spill and tracking blood throughout the building.
4. Apply absorbent towels or biohazard spill.
5. If using towels, slowly pour 1:10 bleach onto towels until soaked.
6. Allow 10-20 minutes for the blood to be disinfected.
7. Place the blood soaked absorbent materials in a red bag. Mop the area with 1:10 bleach. The mop should be disinfected with bleach for 10-20 minutes after use; then, rinse with clean water before re-use.
8. Place the red bag inside a biohazard waste barrel and transport the barrel into the medical waste bin.

TABLE A
EH&S/HMM Waste Disposal Response Procedures

<u>OBSERVATION</u>	<u>PROBLEM</u>	<u>ACTION</u>
Red bag is not properly packaged	Opened end of the red bag are not tied together.	Do not touch bag. Leave bag in room. Notify lab supervisor.
Red bag is not labeled with Biohazard Symbol	The only approved red bag is labeled with Biohazard symbol.	Do not touch bag. Leave bag in room. Notify lab supervisor.
Sharps in red bag	Sharps must be placed in hard plastic container.	Do not touch bag. Leave bag in room. Notify lab supervisor.
Sharps in autoclave bag	Sharps must be placed in hard plastic container.	Do not touch bag. Leave bag in room. Notify lab supervisor.
Broken Hg thermometer inside sharps container	Broken Hg thermometer must be disposed as chemical waste	Do not pick up container. Leave in room. Notify lab supervisor.
Red bag has a "Radioactive" symbol or label on the bag	This bag has radioactive material and must be disposed of as radioactive waste.	Do not touch bag. Leave bag in room. Notify supervisor who will call EH&S.
Red bag has a "Hazardous Chemical Waste Tag " attached to the bag	This bag has mixed biohazardous and chemical waste and must be disposed of as hazardous (chemical) waste.	Do not touch bag. Leave bag in room. Notify supervisor who will call EH&S.
Sharps container in regular trash	Sharps containers are medical waste.	Do not touch bag. Leave trash in room. Notify supervisor who will call EH&S.
Body parts, blood in regular trash	The waste are disposed illegally	Do not touch trash. Leave trash in room. Notify lab supervisor.
Red bag is leaking	Biohazardous substance is leaking from the bag.	Do not touch bag. Leave bag in room. Notify lab supervisor.

APPENDIX C

REQUIRED LABORATORY POSTING for BIOHAZARDOUS WASTE AUTOCLAVED WASTE SHARPS WASTE

BIOHAZARDOUS WASTE (RED BAG WASTE)

The State of California passed legislation that regulated the disposal of medical waste. To comply with this standard, all UCSF and UCSF Medical Center generators of medical waste must segregate medical waste from other waste in the laboratory. Improper disposal of medical waste may result in significant penalties to the campus. The purpose of this section is to explain what must go into a red bag and how this red bag will be handled after its filled.

For more information, review the document, [UCSF Medical Waste Management Plan](#) or contact EH&S 476-1300.

WHAT MUST GO INTO A RED BAG?

- Waste containing **recognizable blood**, fluid blood products, containers or equipment containing blood that is fluid. (Human or Animal blood)
- Contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid if compressed.
- Items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling.
- Microbiological specimens contaminated with culture organisms
- Human surgery specimens, tissues or other **human pathological waste**
- Carcasses and **animal parts**, tissues or fluids.
- **Non-autoclaved laboratory waste** including, but not limited to the following:
 1. Human or animal specimen cultures from medical and pathological laboratories.
 2. Cultures and stocks of infectious agents from research laboratories
 3. Wastes from the production of bacteria, viruses, spores, discarded live and attenuated vaccines, animal vaccines, and culture dishes and devices used to transfer, inoculate, and/or mix cultures.
 4. Waste containing any microbiological specimens.
- **If the microbiological laboratory waste described in this paragraph is autoclaved, it may be disposed of as solid waste.**

WHAT MUST NOT GO INTO A RED BAG?

- Sharps such as needles, syringes with needles, scalpels or razors.
- Hazardous chemical or radioactive waste.
- Mixed hazardous waste: biological-hazardous chemical waste (treated as hazardous chemical waste) and biological-radioactive waste (treated as radioactive waste).

Never put a red bag in the regular trash unless it is an autoclave red bag that has been successfully autoclaved! Regular trash such as uncontaminated paper should not be placed into a red bag. Do not overfill the red bag. For research labs, call 476-0546 (Parnassus Campus); 514-4107 (Mission Bay); and 476-8774 (SFGH research labs) for removal once red bags are ready for pick up. For all other research areas, please call EH&S at 476-1300.

AUTOCLAVED WASTE (RED AUTOCLAVE BAG WASTE)

The purpose of this section is to explain what may be autoclaved and how the autoclaved bag will be handled after its filled. For more information, review the document, UCSF Medical Waste Management Plan or contact EH&S 476-1300.

WHAT LABORATORY WASTE MAY BE AUTOCLAVED?

- **Microbiological waste** including, but not limited to the following:
 1. Cultures of human or animal specimens from medical and pathological laboratories.
 2. Cultures and stocks of infectious agents from research laboratories
 3. Wastes from the production of bacteria, viruses, use of spores, live and attenuated vaccines used in research, animal vaccines, and culture dishes and devices used to transfer, inoculate, and mix cultures.
 4. Waste containing any microbiological specimens.
- Plastic serologic pipettes, large (blunt) pipettor tips.

Note: If the microbiological laboratory waste described in this paragraph is not autoclaved, then it must be disposed of by incineration.

WHAT LABORATORY WASTE MUST NOT BE AUTOCLAVED?

- Waste containing **recognizable blood**, fluid blood products, containers or equipment containing blood that is fluid.(Human or Animal blood).
- Human surgery specimens, tissues or other **human pathological waste**
- Carcasses and **animal parts**, tissues or fluids. These biohazardous waste items must be disposed by incineration)
- BSL1 and BSL2 sharps waste containers.
- Hazardous chemical or radioactive waste.
- Mixed waste, which includes biological-hazardous chemical waste (treated as hazardous chemical waste) and biological-radioactive waste (treated as radioactive waste). (Hazardous materials may volatilize in an autoclave. Call EH&S at 476-1300 for information and pick-up.)

DISPOSAL OF AUTOCLAVED WASTE

An autoclaved bag may be disposed of in the regular trash **only under the following conditions:**

- The bag is red autoclave bag and has heat sensitive indicator tape or other suitable indicator which changes color after sterilization has been attained (Steris red autoclave bag). **The bag indicator and/or autoclave heat sensitive tape color change must be clearly visible before the bag may be disposed of in the regular trash.** Plastic pipettes must be melted and rendered unrecognizable after the autoclave cycle.
- The autoclaved bag does not contain recognizable fluid blood, metal sharps, mixed waste or other regulated waste.

Call OEHS at 476-1300 for more information or to report sightings of improperly disposed of microbiological specimen waste.

SHARPS WASTE

The State of California passed legislation that regulated the disposal of medical waste. To comply with this standard, all UCSF generators of medical waste must segregate medical waste from other waste in the laboratory. Improper disposal of medical waste may result in significant penalties to both the campus and individual. The purpose of this flyer is to explain what sharps waste is and how a sharps container must be disposed of after it is filled.

For more information, review the document, [UCSF Medical Waste Management Plan](#) or contact EH&S 476-1300.

WHAT ARE SHARPS?

- Sharps waste means any device having acute rigid corners, edges, or protuberances capable of cutting or piercing, including but not limited to all of the following:
 - a. Hypodermic needles, **syringes with or without needles**, blades, needles with attached tubing, syringes contaminated with biohazardous waste, acupuncture needles, root canal files, unbroken Pasteur Pipettes.
 - b. Broken glass items such as broken Pasteur pipettes, blood vials contaminated with biohazardous waste.

HOW SHOULD SHARPS BE DISPOSED?

- Sharps waste must be placed into an approved rigid, puncture-resistant container which when sealed is leak-resistant and cannot be reopened without great difficulty. The Kendall brand sharps container is available at the UCSF Materiel Services Storehouse.
- Plastic sharps, such as plastic pipettes and syringes **WITHOUT NEEDLES** may be autoclaved until unrecognizable in an approved autoclave bag secured with autoclave tape and disposed of as solid waste.
- Sharps containers must be disposed of when $\frac{3}{4}$ full. Close the lid as far as possible. Tape the top and bottom pieces together with two vertical loops of tape.
- Full sharps containers must be disposed within 7 days.

SHARPS MUST NOT BE HANDLED IN THE FOLLOWING MANNER:

- Needles **must not** be sheared clipped or bent. Needle and syringe units must be placed in the sharps container.
- Needle and syringe units must not be recapped. If a special procedure requires recapping, then you must describe your procedure in writing and send it to the Biosafety Safety Officer, Box 0942, where it will be reviewed and approved on a case by case basis.
- **Sharps which are contained in an approved sharps container MUST NOT be disposed of in the regular trash. Sharps containers must be handled as medical waste.**
- Loose sharp objects must never be placed in the regular trash. Place them in a sharps container!
- Contaminated sharps must never be mixed with other sharps waste. Radioactive or hazardous chemical contaminated sharps must be segregated at the point of generation and placed into an appropriately labeled container and handled as either radioactive or hazardous chemical waste.

Do not overfill sharps container. Once sharps containers are ready for pick up, call OEHS at 476-0546 (Parnassus), 514-4107 (Mission Bay), 476-8774 (SFGH) for collection.

**REMEMBER. SHARPS CONTAINERS MUST NOT GO INTO THE REGULAR TRASH!
CALL OEHS AT 476-1300 IF YOU SEE A SHARPS CONTAINER IN THE REGULAR TRASH.**

UCSF AUTOCLAVE QUALITY CONTROL PROGRAM

APPENDIX D

UCSF AUTOCLAVE QUALITY CONTROL PROGRAM

UCSF AUTOCLAVE QUALITY CONTROL PROGRAM

Policy

To comply with the California Medical Waste Management Act (California Health and Safety Code Division 20, Chapter 6, Article 9), medical waste generators must either

- * Treat the waste to sterilize all biohazardous materials prior to disposal as regular waste; or
- * Dispose of the waste as medical/infectious waste by incineration through a commercial vendor.

Steam sterilization, commonly used by UCSF researchers, is an acceptable method of medical waste treatment. The Act specifies that proper sterilization conditions are achieved when the autoclave environment maintains 121-123°C (250-254°F) for at least 30 minutes. Autoclave records indicating date, time, and temperature shall be in use during the autoclaving and shall be maintained on file for a period of not less than three years.

Note: *Sterilization time may exceed 30 minutes, depending on the quantity and density of items, in the autoclave chamber.*

Quality Control (QC)

To confirm adequate sterilization conditions, an ampule containing the the biological indicator ***Bacillus stearothermophilus*** spores must be placed at the center of a normal waste load and processed under standard operating conditions at least **monthly**. A quality control program shall be in place that meet the following objectives:

- * Monthly testing by the laboratory using *Bacillus stearothermophilus* spores and documentation of results.
- * Documentation of **date, operator, and cycle information (time and temperature attained)** for each red autoclave bag must be maintained on file for a period not less than three years.
- * Records shall be available for inspection by EH&S and/or SF Department of Public Health
- * EH&S performs confirmatory tests annually.

Autoclave QC Log Instructions

- 1) Place glass ampule of *Bacillus Stearothermophilus* spores in the center of a normal waste load.
- 2) Process the load under normal operating procedures
- 3) Incubate the ampule according to manufacturer's instructions
- 4) If any change in color and appearance are observed, the sterilization process has failed. Retest. If second test fails, discontinue use of autoclave until it is repaired and passes re-testing
- 5) If no color change has occurred in the spore vial, the sterilization process is adequate
- 6) Retain test records for a period not less than three years.

UCSF Autoclave QC Log

P.I.: _____

Manufactured by: _____

Model Number: _____

Serial Number: _____

Location: _____

Instructions:

- 1) Perform Autoclave QC test every month.
- 2) Place *Bacillus stearothermophilus* in the center of a normal waste load.
- 3) Process the load under normal operating procedures.
- 4) Incubate the ampule according to the manufacturer's instructions.
- 5) If any change in color/appearance is observed, the sterilization process has failed.
 Discontinue use of autoclave until it is repaired and passes re-testing.
 If no color change has occurred, sterilization process is adequate.
- 6) Indicate test results on Autoclave QC Log and retain in Biological Safety Logbook.

Year: _____

Date	Operator	Cycle Time	Cycle Temp	Results	Comments
Jan _____					
Feb _____					
Mar _____					
Apr. _____					
May _____					
June _____					
July _____					
Aug _____					
Sept _____					
Oct _____					
Nov _____					
Dec _____					

Write "Pass" or "Fail" under Result. Explain the results under Comments.

Note: File this form in your Biosafety logbook.

july/1998