



MOUNT SINAI
SCHOOL OF
MEDICINE

Mount Sinai School Of Medicine

BloodBorne Pathogens Exposure Control Plan

First Edition: 2002

MOUNT SINAI SCHOOL OF MEDICINE

BLOODBORNE PATHOGENS-EXPOSURE CONTROL PLAN

INTRODUCTION

These regulations apply to all MSSM employees whose work may present possible exposure to human blood or other human body fluids as well as tissues, organs or unfixed tissue from human origin. In addition, the regulations cover very specifically research using Human Immunodeficiency Virus (HIV), the Hepatitis B Virus (HBV), the Hepatitis C Virus (HCV), and *any* other bloodborne pathogens. This Exposure control Plan specifically addresses the research activities of all MSSM employees including Faculty, all students and Post-Doctoral Fellows.

Activities conducted by MSSM employees which involve patient contact through clinical research, teaching and patient care, are covered by the policies of the Mount Sinai Hospital's Infection Control Department, which deals specifically with bloodborne pathogen exposure issues associated with patient care and the clinical laboratory setting.

EXPOSURE DETERMINATION

OSHA is concerned with identifying which employees have actual exposure to bloodborne pathogens, and those who may have occasional exposure to bloodborne pathogens. In order to simplify the determination process, the following categories have been identified:

1. "Job classifications in which ALL employees in those job classifications have occupational exposure":
 - a. Pathologists
 - b. Pathology Assistants
 - c. Phlebotomists
 - d. Mortuary Assitants (Dieners)

2. "Job classifications in which SOME employees in those job classifications have occupational exposure":
 - a. Faculty
 - b. Physicians
 - c. Nurses
 - d. Research Fellows (Post-Doctoral)
 - e. Students (Medical, Graduate, Visiting)
 - f. Research Associates
 - g. Research Specialists
 - h. Research Technicians
 - i. Laboratory aids
 - j. Maintenance workers (Facilities)
 - k. Building Services workers

Material in quotes is taken from OSHA's 29 CFR 1910. 1030 "The Bloodborne Pathogens Standard", available at:

http://www.osha-slc.gov/OshStd_data/1910_1030.html

- I. Tasks and procedures in which occupational exposure occurs and that are performed by employees in the job classifications listed above include but are not limited to:
 - a. Laboratory bench work with human source materials such as:
 - i. Centrifugation of specimens
 - ii. Vortex mixing
 - iii. Dispensing / Pipetting specimens
 - iv. Separatory procedures
 - v. Isolation procedures
 - vi. Concentration procedures
 - vii. Various assay procedures using streams or material under pressure
 - b. Tissue culture procedures
 - c. Histological/cytological procedures using unfixed Human tissues
 - d. Collection of Human blood, body fluids and tissues
 - e. Transportation of Human blood, body fluids and tissues between laboratory rooms
 - f. Preparation of Human blood, body fluids and tissues for assay or storage
 - g. Phlebotomy

METHODS OF COMPLIANCE

1. Universal or Standard Precautions: "Universal Precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid type is difficult or impossible, all body fluids shall be considered potentially infectious materials." To summarize this statement, "all human blood, or other potentially infectious materials is treated as if known to be infectious". Whether you know the source to be free of pathogens or not, OSHA's concern is to practice Universal or Standard Precautions for all specimens, including your own, at all times.
2. Work Practices: (the following procedures are applicable to all research laboratories using human blood, or other potentially infectious materials) in clinical applications:
 - a. Handwashing facilities must be available in every laboratory in which activities covered by this regulation are performed. Employees are required to "wash their hands immediately or as soon as feasible following removal of gloves or other personal protective equipment".

- b. Employees must “wash hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact” with human blood, or other potentially infectious materials.
- c. Needles and other sharps must be disposed of without recapping, bending or shearing, in a rigid, puncture-proof container which is provided to each laboratory for that use.
- d. Reusable sharps must be stored in puncture-resistant leak-proof, labeled containers (word “Biohazard”, or Universal Biohazard Symbol). NEVER reach by hand or fingers into the container-use forceps, tongs or other gripping device to insert sharps. Reusable sharps must be sterilized by autoclaving before reuse.
- e. “Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses are prohibited” in the laboratory.
- f. “Food or drink shall not be kept in refrigerators, freezers, shelves, cabinets” or other places in the laboratory.
- g. Human blood and other potentially infectious materials must always be handled so as to minimize splashing or the formation of aerosols.
- h. Mouth pipetting or suctioning is prohibited.
- i. Human blood, or other potentially infectious materials must be stored in a container “which prevents leakage during collection, handling, processing, storage, transportation, or shipping”. The container should be labeled with the appropriate biohazard insignia. If outside contamination of the container is possible through handling, that (primary) container must be placed into a secondary puncture-resistant container.
- j. Equipment requiring servicing or shipping to an off-site facility, must be decontaminated prior to such servicing or shipping. If decontamination is not feasible, the MSSM Biosafety Officer must be contacted in order to determine the appropriate procedures and labeling, including transmission of information to persons having contact with this equipment.
- k. Gloves and laboratory coats must be worn whenever working with human blood, or other potentially infectious materials. Gloves must be worn for those procedures which might result in direct contact with potentially infectious specimens. Gloves must be autoclaved with other laboratory waste before disposal. Gloves must be removed immediately before leaving the work area.
- l. Masks, eye protection and face shields must be used whenever splash, spray or aerosol-generating conditions can be reasonably expected. The MSSM Biosafety Officer can assist in the proper selection, perform fit-

- m. testing of respirators, and provide training in wearing and proper use of personal protective equipment.
 - n. Specifically dedicated coats, gowns, or uniforms must be worn while working with any human blood, or other potentially infectious materials. These garments must not be worn outside of the laboratory work areas, and must be changed at a minimum of once per week, or promptly when overtly contaminated. Garments that are overtly contaminated must be decontaminated by autoclaving prior to disposal or laundering.
 - o. Laboratory work surfaces must be decontaminated with an appropriate germicidal solution (i.e. Modified Dakin Solution (Bleach,10%dilution), or other proven germicide following any spill of human blood, or other potentially infectious materials, as well as at the completion of daily work activities. All spills and exposures must be reported immediately to the MSSM Biosafety officer, at 241 1451.
 - p. All protective coverings and equipment that have had contact with human blood, or other potentially infectious materials must be decontaminated before they are reused, or discarded as waste. Waste generated in the laboratory must be disposed of as described in section 3.b. (9) below.
3. HIV, HBV, HCV Research Laboratories: Section (e) of 29 CFR 1910.1030 The BloodBorne Pathogen Standard (quoted in its entirety) outlines the specific requirements which must be met by the Medical School and all employees while conducting research with HIV, HBV, HCV, and other bloodborne pathogens at laboratory quantities. The practices described below are consistent with Biosafety Level 2, (except for the production lab requirements, which are BSL3) and are a minimum acceptable standard for working with these pathogens in the laboratory. Additional precautions and practices over these described below can be adopted by the Principal Investigator if (s)he feels such protection is warranted.
- a. "HIV and HBV Research Laboratories and Production Facilities: This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

Research laboratories and production facilities shall meet the following criteria:

i. *Standard Microbiological Practices:*

1. All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively.

ii. *Special Practices:*

1. Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.
2. Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.
3. Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.
4. When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with paragraph (g)(1)(ii) of this standard.
5. All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.
6. Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.
7. Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.

8. Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.
9. Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.
10. Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (i.e., the needle is integral to the syringe) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.
11. All spills shall be immediately contained and cleaned up by appropriate professional staff [laboratory personnel] or others properly trained and equipped to work with potentially concentrated infectious materials.
12. A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person [MSSM Biosafety Officer, 241-1451].
13. A biosafety manual shall be prepared or adopted [by the laboratory] and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

iii. *Containment Equipment:*

1. Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with other potentially infectious materials that pose a threat of exposure to droplets, splashes, spills, or aerosols.
2. Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

- b. HIV and HBV research laboratories shall meet the following criteria:
 - 1. Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.
 - 2. An autoclave for decontamination of regulated waste shall be available.

- c. HIV and HBV production facilities shall meet the following criteria:
 - 1. The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.
 - 2. The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination.
 - 3. Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.
 - 4. Access doors to the work area or containment module shall be self-closing.
 - 5. An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.
 - 6. A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (i.e., into the work area).

- d. Training Requirements. Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(ix)."

- e. The MSSM Biosafety Officer will inspect all HIV/HBV/HCV Research and Production facilities to verify compliance with these sections. The inspections will be performed at random, with any / all deficiencies recorded, and the recommended correction and subsequent corrective actions noted.
 - f. Annual training is required for all employees and students, and is provided by the MSSM Biosafety Officer. All employees and students are required to attend one training session within one year of the preceding training session. Dates, times, locations of training, and the names of attendees will be recorded and maintained for a minimum of three years, as required by OSHA.
 - g. The MSSM Biosafety officer will determine the sufficiency of training and experience for all technical personnel working in HIV, HBV, HCV laboratories in accordance with Section (g)(2)(ix) of 29 CFR 1910.1030. No employee including Faculty members may work with HIV, HBV, HCV materials prior to demonstrating proficiency to the satisfaction of the BSO with respect to standard microbiological techniques and in the specific operations to be performed involving these specific agents. Employees lacking adequate prior training will receive appropriate instruction and training under the guidance of a Faculty member or a designee with the level of experience required by the provisions of this Exposure Control Plan. Initial work activities and training for inexperienced workers or students *"shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed"*. Prior to working with these infectious agents, the adequacy of this training must be demonstrated to the satisfaction of the BSO.
4. Other Bloodborne Pathogens in Research Laboratories: Refer to the CDC-NIH publication *"Biosafety in Microbiological and Biomedical Laboratories"*, for the specific pathogen and its risk group. For Risk Group 3 or higher agents, a specific, **written** Standard Operating Procedure must be developed for all activities encompassing research with that agent for use in that laboratory. This SOP must be approved by the BSO before initiating any work and must be available to all employees at all times.

HEPATITIS B VACCINATION AND POST- EXPOSURE EVALUATION AND FOLLOW-UP PROCEDURES

1. General: "The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident."

Medical services provided under the requirements of 29 CFR 1910.1030 will be provided through the Mount Sinai Hospital Employee Health Service at no cost to the employee.

MSSM shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are made available at no cost to an employee; made available to an employee at a reasonable time and place; and performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by (f) of the BloodBorne pathogen Standard.

2. Hepatitis B Vaccination: Hepatitis B vaccination shall be made available to all employees who have reasonably anticipated exposure to blood and other potentially infectious materials, after the employee has received the training detailed below and within 10 working days of initial assignment to all employees who have occupational exposure unless the employee has previously received the complete hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons. MSSM employees will not be made to participate in a prescreening program as a prerequisite for receiving hepatitis B vaccination.

If an MSSM employee initially declines hepatitis B vaccination but at a later date while still covered under the standard decides to accept the vaccination, the MSSM will make available hepatitis B vaccination at that time.

MSSM will assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the Declination Statement (see Appendix A, 29 CFR 1910.1030 "BloodBorne Pathogen Standard").

Routine booster dose(s) of hepatitis B vaccine as recommended by the U.S. Public Health Service, are available in accordance with section (f)(1)(ii) BloodBorne Pathogen Standard.

3. Post-Exposure Evaluation And Follow-Up: Following a report of an exposure incident, MSSM will make immediately available to the exposed employee a confidential medical evaluation and follow-up, including at least the following elements:
 - a. Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;
 - b. Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;

The source individual's blood shall be tested after consent is obtained and as soon as feasible in order to determine HBV and HIV infectivity. If consent is not obtained, MSSM will establish that legally required consent cannot be obtained. When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status will not be repeated.

Results of the source individual's testing will be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.

The exposed MSSM employee's blood shall be collected as soon as feasible and tested after consent is obtained. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible. Counseling and post-exposure prophylaxis will be provided as currently recommended by the U.S. Public Health Service;

4. Information Provided To The Healthcare Professional: MSSM will ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation. MSSM will ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:
 - a. A copy of this regulation;
 - b. A description of the exposed employee's duties as they relate to the exposure incident;
 - c. Documentation of the route(s) of exposure and circumstances under which exposure occurred;
 - d. Results of the source individual's blood testing, if available; and
 - e. All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.
5. Healthcare Professional's Written Opinion: MSSM will obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation. The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

- a. That the employee has been informed of the results of the evaluation; and
- b. That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.
- c. All other findings or diagnoses shall remain confidential and shall not be included in the written report.

MEDICAL RECORDKEEPING

Medical records required by this standard shall be maintained by MSSM in accordance with paragraph (h)(1) The BloodBorne Pathogen Standard (see below).

SHARPS INJURY LOG

MSSM will establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:

- a. The type and brand of device involved in the incident,
- b. The department or work area where the exposure incident occurred, and
- c. An explanation of how the incident occurred.
- d. The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR 1904.
- e. The sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

COMMUNICATION OF HAZARDS TO EMPLOYEES

1. Labels and Signs: Warning labels shall be affixed to containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials.



These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color. Labels shall be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal. Red bags or red containers may be substituted for labels.

Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use are exempted from the labeling requirements. Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement, but must be labeled at the time of removal from the storage container.

Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated. Regulated waste that has been decontaminated need not be labeled or color-coded.

Principal Investigators shall post signs at the entrances to HIV and HBV Research Laboratory and Production Facilities, with the following content:



Name of the Infectious Agent
Special requirements for entering the area
Name, telephone number of the laboratory director or other responsible person

These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color. The MSSM Biosafety Officer can create a specific Biohazard Sign for your laboratory.

BLOODBORNE PATHOGENS TRAINING COURSE

1. Training Program: MSSM will ensure that all employees with occupational exposure participate in a training program which must be provided at no cost to the employee and during working hours. Training shall be provided as follows:
 - a. At the time of initial assignment to tasks where occupational exposure may take place;
 - b. At least annually thereafter.
 - c. Annual training for all employees shall be provided within one year of their previous training.
2. Additional Training: MSSM will provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created. Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

The training program contains the following elements:

- a. An accessible copy of the regulatory text of this standard and an explanation of its contents;
- b. A general explanation of the epidemiology and symptoms of bloodborne diseases;
- c. An explanation of the modes of transmission of bloodborne pathogens;
- d. An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;
- e. An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
- f. An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
- g. Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;

- h. An explanation of the basis for selection of personal protective equipment;
- i. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
- j. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
- k. An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
- l. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;
- m. An explanation of the signs and labels and/or color coding required by the regulation; and
- n. An opportunity for interactive questions and answers with the person conducting the training session.

ADDITIONAL INITIAL TRAINING FOR EMPLOYEES IN HIV AND HBV LABORATORIES AND PRODUCTION FACILITIES.

Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements:

- a. MSSM will assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV.
- b. MSSM will assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
- c. MSSM will provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

RECORDKEEPING

1. Medical Records: MSSM will establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020. This record shall include:
 - a. The name and social security number of the employee;
 - b. A copy of the employee's hepatitis B vaccination status including the dates of all the hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination;
 - c. A copy of all results of examinations, medical testing, and follow-up procedures;
 - d. The employer's copy of the healthcare professional's written opinion; and
 - e. A copy of the information provided to the healthcare professional as required by paragraphs (f)(4)(ii)(B)(C) and (D).
2. Confidentiality: MSSM will ensure that employee medical records required by paragraph (h)(1) are:
 - a. Kept confidential; and
 - b. Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.
 - c. The employer shall maintain the records required by paragraph (h) for at ***least the duration of employment plus 30 years*** in accordance with 29 CFR 1910.1020.
3. Training Records: Training records shall include the following information:
 - a. The dates of the training sessions;
 - b. The contents or a summary of the training sessions;
 - c. The names and qualifications of persons conducting the training; and
 - d. The names and job titles of all persons attending the training sessions.
 - e. Training records ***shall be maintained for 3 years*** from the date on which the training occurred.

4. Availability: MSSM will ensure that all records required to be maintained by the Standard shall be made available upon request to the Assistant Secretary of Labor and the Director, Occupational Safety and Health Administration, for examination and copying.

Employee training records required by the Standard shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.

Employee medical records required by the Standard will be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

EFFECTIVE DATE

The standard shall become effective on March 6, 1992.

The Exposure Control Plan required by paragraph (c) of this section shall be completed on or before May 5, 1992.

Paragraph (g)(2) Information and Training and (h) Recordkeeping shall take effect on or before June 4, 1992.

Paragraphs (d)(2) Engineering and Work Practice Controls, (d)(3) Personal Protective Equipment, (d)(4) Housekeeping, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, and (g)(1) Labels and Signs, shall take effect July 6, 1992.

Pgh:02/02