CHAPTER 11. SAFETY IN A RESEARCH SETTING

I1.01 SAFETY IN RESEARCH LABORATORIES

Safety in research laboratories must be a prime concern of everyone involved in the administration or conduct of research. Failure to implement safe operating procedures can cause injury to personnel and damage to laboratory facilities. Most laboratory accidents are preventable but require meticulous attention to practices that will insure safe handling of hazardous materials, reactions, and procedures. VA safety policy and operating procedures are contained in MP-3, part III. Excellent reference sources for laboratory safety may be found in VA libraries.

11.02 ACCIDENT REPORTTNG

All employees are responsible for reporting all accidents. Supervisors are responsible for investigating the incident and initiating corrective actions. The facility's Safety and Fire Protection Officer shall be contacted any time there is an accident. A VA Form 2162, Report of Accident, must be filled out for specific incidents. See chapter 3 of MP-3, part III for requirements.

11.03 EMERGENCY PROCEDURES

Emergency procedures should be formulated and presented to all employees. Prompt action is necessary to minimize damage and exposure. Other personnel in the area should be alerted along with professional help such as firefighters. An emergency team should be established with specific responsibilities.

11.04 SUBCOMMITTEE ON RESEARCH SAFETY

Safety in research laboratories is a responsibility of the medical center and specifically, of the R&D (Research and Development) Committee. The latter responsibility is carried out by appointment of a Research Safety Subcommittee which functions as part of the facility Occupational Safety and Health Committee. Each facility is required by MP-3, part III to have a Safety and Fire Protection Officer and an Occupational Safety and Health Committee. The Research Safety Subcommittee shall be responsible for coordinating all safety activities in the research laboratories. The Subcommittee shall ensure that periodic safety inspections are conducted, that safety training is provided as required, that an Occupational Health/Industrial Hygiene program is established, that accidents are reported and investigated and that meetings are held periodically to discuss safety issues and are appropriately documented. It, is recommended that a checklist be developed which should be used to conduct self-inspections. A safety manual should be developed to be used by all employees.

11.05 OCCUPATIONAL SAFETY

Serious attention must be given to personal safety. Personal protective equipment shall be utilized whenever reactions and procedures are known to be potentially hazardous. An eye wash station shall be available if required. Special precautions must be followed when spills occur. Pipettes shall only be used with bulbs or other mechanical equipment and never with the mouth. Syringes and needles are potential hazards. Employees shall follow VA criteria which have been published on the proper use and disposal of syringes and needles.

11.06 OCCUPATIONAL HEALTH/INDUSTRIAL HYGIENE

A written Occupational Health/Industrial Hygiene program should be established. The program should be developed with the assistance from the facility's Safety and Fire Protection Officer in conjunction with the facility's Occupational Health/Industrial Hygine program. The program should be reviewed and certified annually as being adequate by the facility Director's representative. The program should include the following elements: training of employees, personal protective equipment, control technique monitoring (starting with a baseline survey), medical surveillance, recordkeeping and reporting. All applicable Federal, VA, EPA, State and local requirements must be followed. To assist in the development of the program, MSDS (Material Safety Data Sheets) must be obtained for all hazardous materials (see Federal Standard No. 313) and kept available for all employees to review. Disposal of any hazardous materials shall be concurred with by the facflity's Safety and Fire Protection Officer. Specific attention should be given to the use of respirators and adequate ventilation.

11.07 FIRE SAFETY

Each employee is responsible for preventing fires in the laboratory. Flammable liquids are the main hazard most commonly found in the laboratory. The requirements of the National Fire Protection Association Standard No. 30 shall be followed with regard to the amount of liquid allowed, proper storage of containers, the use of flammable liquid storage cabinets, etc. Only the minimum amount necessary shall be used in the laboratory. In the event of a fire, employees are responsible for sounding the building fire alarm system, alerting and rescuing other employees, closing the doors to the space and promptly evacuating the building. Firefighting should be left to the professionals. However, employees should be trained in the use of portable fire extinguishers and know where they are located. Fire drills shall be conducted periodically.

11.08 SPECIAL HAZARDS

Hazards such as exposure to ionizing radiation or carcinogens require special protection. VA requirements have been published for these hazards. Each facility's Safety and Fire Protection Officer should be contacted for information.

11.09 TRAINING

Training is an important factor of safety. All new employees in the laboratory should receive safety orientation instructions. Refresher instructions should be given to all employees on a periodic basis.