MEDICAL UNIVERSITY OF SOUTH CAROLINA (MUSC)

OCCUPATIONAL SAFETY AND HEALTH PROGRAM

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MEDICAL UNIVERSITY OCCUPATIONAL SAFETY AND HEALTH PROGRAM

The Medical University of South Carolina's Occupational Safety and Health Program is designed to provide a continuing and comprehensive accident prevention plan compatible with our institution's mission and functions. It assures a safe and healthful environment for each patient, student, employee or visitor. The Program's objective is to prevent injury, loss of life, and loss of property by identifying and eliminating hazards, establishing safe practices, and promoting safe performance of all Medical University of South Carolina activities. The Medical University of South Carolina includes the Medical University Authority, University Medical Associates, Carolina Family Care and Veterans Administration activities housed in the Strom Thurmond Building.

Safety is not the exclusive responsibility of the Occupational Safety and Health Division. This division exists to assist the various safety committees, faculty, staff and students in their efforts to fulfill their safety responsibilities. Everyone who works or studies, at the Medical University is responsible for his or her own safety and the safety of those with whom he or she comes in contact, or for whom he or she has operational responsibility. The safety responsibility of members of the faculty and staff is in direct relationship to their operational responsibility.

The safety program seeks compliance with basic safety concepts embodied in the National Fire Codes, the Southern Standard Building Code, JCAHO EC.10.1 – EC.1.30, the South Carolina Occupational Safety and Health Standards for General Industry, and other recognized codes and standards. The program applies to all persons who occupy space within the Medical University. Reports of hazards, potential hazards, or complaints may be made to the Occupational Safety and Health Division. No one will be censured or reprimanded because of having reported a hazard or potential hazard related to safety, and anonymity is guaranteed.

Each individual employee of the Medical University must know and understand that safety policies, directives and regulations are for his or her personal benefit. They are not promulgated to harass or restrict anyone in the performance of his or her job assignments.

Personnel should not hesitate to ask questions about machinery, equipment or any aspect of assigned tasks if they are in doubt or unfamiliar with methods and procedures.

MEDICAL UNIVERSITY SAFETY COMMITTEE

The Medical University Safety Committee members are appointed to represent the areas of influence and responsibility of their unit and serve at the convenience of the President of the Medical University. The membership is comprised of the following:

1. Director of Occupational Safety and Health Programs (Chairperson)
2. Medical University Radiation Safety Officer
3. Chairman, Institutional Biosafety Committee
4. Director of Public Safety
5. Employee Health Services Contract Administrator
6. College of Health Professions
7. College of Dentistry
8. College of Medicine
9. College of Nursing
10. College of Pharmacy
11. Medical University Hospital CEO
12. Faculty Senate Representative
13. Director of Engineering
14. At-Large Employee Representative
15. Director of University Risk Management

The Medical University Safety Committee is charged with the responsibility of recommended changes in existing policies or structural alterations required to eliminate or control hazards, and for preventive efforts designed to create and maintain interest in safety. The committee will review reports of serious accidents or fires and submit suggestions to correct

hazardous conditions and increase efficiency. The committee shall meet quarterly to consider pertinent matters which are brought before it, agenda items and matters introduced by members. Additionally, the Chairman, at his discretion, can call a special meeting to act on matters of urgency.

OCCUPATIONAL SAFETY AND HEALTH DIVISION

The Occupational Safety and Health Programs (OSHP) Division was established for the purpose of control, reduction, and ultimately elimination of campus occupational and environmental hazards. Its functions are divided into the areas of safety education, safety engineering, environmental engineering, fire safety and safety policy and procedures. The Occupational Safety and Health Program Director or his representative is available to attend departmental safety meetings and provide advice and recommendations for changes in policy, procedural matters and determining the need for, and sources of, specialized personal protective equipment or processes.

The Occupational Safety and Health Program Division, in coordination with the University Safety Committee and Environment of Care Committee, conducts university-wide safety promotion and publicity programs making use of the Medical University newspaper (The Catalyst), bulletin boards, electronic and other news media. Training assistance in safety matters is available in the area of fire safety, emergency removal of patients, accident prevention, laboratory safety, shop safety, hazard communication, infectious waste, biological waste, hazardous waste, tuberculosis, workers' compensation, personal protective equipment and environmental health. Qualified instructors will be provided on request by calling 2-3604. Environmental tours are performed annually in all non-patient care areas and semi-annually in patient care areas.

The Director of Occupational Safety and Health Program is responsible for coordinating all accident and injury reporting procedures and works in close coordination with the Medical University Employee Health Services Department and the Department of Human Resources to achieve that end.

Occupational Safety and Health's varied responsibilities are fulfilled in the following ways:

1. Fire Safety - A monthly inspection of all Medical University buildings is conducted, at which time fire extinguishers are checked and safety hazards noted. These hazards are referred to appropriate area managers by the means of Hazard Inspection Reports. Extinguishers are replaced on an as-required basis, and required testing is conducted. All installed fire suppression systems are tested semiannually. Fire evacuation plans are prepared as needed for all Medical University buildings.

2. Monitoring - Air monitoring of anesthetic gases, ethylene oxide, chemicals listed on OSHA's Z table, known carcinogens, nuisance dust**,** asbestos and other contaminants are conducted, as well as bulk asbestos sampling, and noise monitoring. Air sampling for hazardous materials are performed in compliance with OSHA Standard 29CFR1910.1000. Patient rooms designated as TB rooms are sampled daily for negative pressure.

3. Asbestos Management - Consultation services and job management are provided for all asbestos projects including coordination of the operations and management program for all buildings on campus which contain asbestos. This involves monitoring asbestos fibers released in the buildings and training the maintenance staff which must work in the building.

4. Laboratory Inspection - All laboratories are inspected annually to ensure that they comply with OSHA's Chemical Hygiene standard. This inspection includes an inventory of chemicals, the storage of flammables, the use of carcinogens, testing of fume hood velocity, identification of general safety hazards and verification of PPE hazard determination.

5. Hazard Communication - Provides management of the Medical University Hazard Communication Program which includes a computerized 80,000 chemical material safety data sheet program, hard copy files of material safety data sheets for all chemicals used on campus, the training of departmental users to access the computer program and the conducting of OSHA required Hazard Communications orientation training for all employees.

6. Infectious/Biological Waste - Manages and implements the Infectious/Biological waste program and insures compliance with all local, state and federal regulations. Autoclave all infectious/biological waste with the exception of pathological and chemotherapy waste. Packages, manifests, labels and arranges transport/disposal and billing for pathologic and chemotherapy waste.

7. Hazardous Waste - Manages and operates a DHEC and EPA permitted hazardous waste generation, storage, transportation and disposal site ensuring compliance with the applicable DHEC, EPA, DOT and OSHA regulations. This operation includes the pickup of waste chemicals (OSHP website (www.musc.edu/fanda/risk/osha) or call 2-3604) from all areas of the Medical University, manifesting the waste, packaging the waste and arranging for transportation and the ultimate disposal of the waste. Conduct semi-annual training for all satellite generation sites.

8. Construction Safety – Occupational Safety and Health Programs Inspector III position reviews specifications for new construction and renovations to ensure compliance with standard building and fire prevention codes. Engineering & Facilities Engineering monitors new construction and renovation contracts to ensure that specifications are met and codes are not violated. A Pre-Construction training is performed prior to project starting date.

9. Spill Cleanup - The Occupational Safety and Health Program's emergency response team is responsible for responding to, neutralizing, and cleanup of all hazardous chemical releases on campus. Call 2-3604 to report chemical spills.

10. Employee Protection - Occupational Safety and Health Programs personnel respond to reports of gas leaks and burning smells to determine their source (call 2-3604 for assistance). Additionally, they respond to fires and fire alarms.

11. Reports - Provides for the collection and analysis of all accident reports, and reviews data to determine cause/effect relationships, develop corrective action and make subsequent reports to supervisory authorities as requested.

12. Publications - Prepares and publishes manuals, policies, and procedures pertaining to safety.

13. On-Call - Occupational Safety and Health Division has a trained employee available for emergency response 24 hours a day, 365 days a year. Call 2-3604 after hours and listen to paging instructions.

Safety is everyone's responsibility. Management provides the impetus, direction, means and supervision to provide a safe environment for personnel, hence the Deans of the Colleges and Department and Division Heads have the primary responsibility to develop and maintain effective safety programs within the organizations.

Supervisors occupy key positions in the chain of responsibility for safety. They are required to ensure that policies, directives, and regulations formulated by executive levels of management are properly carried out by their personnel. Not only must supervisory personnel know and understand these policies, directives and regulations, they are charged with convincing the personnel whom they supervise that it is to the employees' own interest to actively participate in the Safety Program. Supervisors must also realize that training in safe procedures is an integral part of job training. They must involve themselves constantly in motivating personnel to attain a high degree of excellence in the practice of safety. Some general rules for supervisors to follow are:

1. Ensure that all working tools and equipment are of the proper type for the job and are in good condition.

2. Strive for good housekeeping practices.

3. Ensure that sufficient space is available in which to work safely.

4. Ensure that a hazard assessment has been performed which identifies the duties that require PPE, what PPE should be used for each duty and that all appropriate protective equipment and clothing are available and used.

5. Assume that personnel are inexperienced in safety matters until demonstrated performance proves otherwise. Know your personnel.

6. Ensure that sufficient numbers of persons are assigned for safe accomplishment of the task and that time available is adequate to permit safe accomplishment.

7. Never underestimate the risk involved in any project, however routine. The routine may have become different during the passage of time.

8. Do not work on any machine or piece of equipment, or energize any electrical circuit until lock-out/tag-out procedures have been observed.

9. Repair or dispose of all broken or faulty tools or equipment.

10. Be demanding of yourself and others to observe safe work habits and practices.

SAFETY POLICIES

I. Electrical Safety

A. No unauthorized person shall tamper with electrical circuit breakers or fuse boxes, alter existing wiring, or install electrical wiring. When electrical trouble develops, notify Engineering & Facilities trouble call desk at 2-4119 and request that the trouble be corrected. Taping circuit breakers open is very dangerous and is not permitted.

B. Extension cords shall not be used as permanent wiring. When temporary wiring must be used only industrial grade surge protectors should be used. Electrical appliance wiring should be maintained in good repair and must bear the Underwriters' Laboratory label (UL) or meet standards of the National Fire Protection Association Electrical Code. Surge protectors will not be used outside the

room in which the fixture outlet is located. Under no circumstances shall any surge protector or electrical cord be spliced. No more than one appliance should be used for each surge protector. All electric cords shall be properly grounded when in use. Use of temporary multiple outlets are prohibited.

C. Hot plates, coffee pots, electric irons and other special heating equipment shall be placed on non-combustible surfaces. They will not be closer than 18 inches to any combustible wall unless the surface of the wall is shielded by a metal or fire retardant covering extending no less than 12 inches above the appliance. Such appliances shall not be operated in hospital patient rooms.

II. Lifting

A. Use the legs when lifting objects, NOT the back muscles. Keep back straight. Never try to lift more than you can handle safely. Consider size, shape and weight. Consult your supervisor.

B. Six steps for safe lifting:

1. Keep feet parted one along side, one behind the object.
2. Keep back straight, nearly vertical.
3. Tuck your chin in.
4. Grip the object with the whole hand.
5. Tuck elbows and arms in.
6. Keep body weight directly over feet.

C. Ergonomic assessments are provided by OSHP by calling 2-3604.

III. Smoking

A. Smoking is permitted in designated areas only.

IV. Machine Guarding

A. One or more types of machine guarding shall be provided to protect the operators and other employees in the machine area from hazards of the operation. Guards shall be affixed to the machine, where possible or secured elsewhere, if for any reason attachment to the machine is not possible. The point of operation of machines, whose operations exposes an employee to injury, shall be guarded.

V. Fume Hood Maintenance and Repair

A. Before any work is attempted on any fume hood by an employee, a written statement will be obtained from the department having possession of the hood to the effect that no perchlorates or radioactive materials have been used in the hood. If the department cannot issue such a certificate or if it is known that these materials have been used in the hood, this documentation must be reported to the Director of Occupational Safety and Health Programs. Where work must be done in a hood in which perchlorates or radioactive materials have been used, the Director of Occupational Safety and Health writes procedures to ensure the maximum safety of the workers. Reference to fume hoods above is also meant to include exhaust ducts, fan blowers, and all parts of the fume hood system. Failure to follow these instructions may result in a fire or explosion.

VI. Perchloric Acid Fume Hoods

A. Work that involves the use of perchloric acids should be carried out in specially designed hoods reserved solely for that purpose.

B. The hoods that are used for perchloric acids should be vented directly to the outside with no horizontal runs. They should also be equipped with a complete wash-down system for both the ductwork and the hood itself. This wash-down system should be used after each use of the acid. Assistance in selection and design of such a hood can be obtained from the Engineering & Facilities Department.

VII. Flame-Retardant Rating of Interior Finish

(Carpeting, drapes, floor and ceiling tiles, wall covering, etc.)

A. General

1. It is the intent of the Medical University to provide buildings designed to avoid danger to human lives during fire or other emergencies.

2. One of the essential provisions necessary to inhibit the spread of fire and the accumulation of dangerous smoke is the requirement that interior finish materials meet life and fire safety standards.

B. Required Certificate of Flame-Spread and Smoke Test

1. Any department wishing to purchase carpet, drapes, floor covering, etc. should ask the Medical University Purchasing office for a list and/or samples of approved interior finish. If a department purchases carpet, drapes, floor coverings, etc. on Their own that department must produce a flame-spread and smoke test certificate from an independent testing laboratory for that interior finish.

2. Any interior finishing purchased for Medical University buildings must be of at least Class B Interior Finish Rating and have a flame rating of 26 to 75 and smoke-developed rating of 0 to 450. This includes any material classified at more than 25 but not more than 75 of flame-spread test scale and 450 or less on the smoke test scale described in the National Fire Protection Association (NFPA) Codes. The test must be conducted by an independent research-testing laboratory. A copy of the test results must accompany the materials that are to be purchased.

VIII. Holiday Decorations

A. Decorations

1. Live Christmas trees must be treated with flame retardant chemicals by the MUSC Paint Shop which is located behind the parking garage on Jonathan Lucas Street (2-2145). Trees must be delivered to the Paint Shop for treatment and will be ready for pickup the following day. The Paint Shop will install a tag, which must remain on the treated tree.
2. No candles or other open flame decorations are allowed.
3. Christmas tree lights may be used on real and non-metallic trees but must be Underwriters Laboratory (UL) approved and must be unplugged at the end of the work period and when no one is present to monitor them.
4. If temporary wiring is necessary, use only UL rated surge protectors.
5. All electrical components must be approved by the Underwriters Laboratory (UL) and be in good condition with unbroken insulation.
6. Decorations shall not be placed in any area that will obscure an exit or interfere with egress from the area.
7. Decorations should be flame-resistant. Combustible decorations are prohibited in health care areas. Combustible decorations of such limited quantity or size that a hazard of fire development or spread is not present, such as photographs or paintings, are permitted. (Consult Occupational Safety and Health at 2-3604 for a determination). Decorations of an explosive or highly flammable character are prohibited from all buildings.

B. Inspection

Decorations will be inspected for compliance with the foregoing rules. Decorations not in compliance will be removed. Please avoid unnecessary expense, embarrassment, and hazard by using only approved decorations.

IX. Explosion-Proof Refrigerators

A. All storage of flammable liquids, gases or solids having a flash point of less than 100 degrees F, which must be refrigerated, shall be stored in approved explosion proof refrigerators.

B. Where refrigerated rooms or walk-in boxes are used, they shall be cooled by indirect refrigeration and have electrical equipment which is explosive-proof.

X. Storage of Flammables

A. Quantities of one gallon or over should be stored in a safety can. If a reagent must be stored in glass for purity, the glass container must be placed in a bottle carrier to lessen the danger of breakage.

B. Small quantities (working amounts) may be stored in safety cans on lower open shelves, providing that no more than 20 gallons are stored in the open in one area. Larger quantities (more than 20 gallons) must be placed in a safety storage room or in a flammable safety cabinet. 60 gallons of class I and II flammables may be stored in flammables storage cabinets.

C. No flammable liquids should be stored in a refrigerator unless the refrigerator is explosion-proof.

D. Do not store flammables in areas exposed to direct sunlight.

E. Distillation of any flammable solvent must be carried out under an explosion-proof fume hood.

XI. Compressed Gases

A. Cylinders (empty or full) must be secured at all times so they cannot fall.

B. Valve safety covers should be left on until pressure regulators are attached.

C. Containers must be marked clearly with the name of the contents. Tanks with wire-on tags or color code only should not be accepted.

D. Hand trucks or dollies must be used to move cylinders.

E. The use of oil, grease or lubricants on valves, regulators, or fittings is prohibited.

F. Do not attempt to repair damaged cylinders or to force frozen cylinder valves.

G. Do not store flammable gas cylinders with oxidizing gases.

EMERGENCY MEDICAL CARE

Employee Health Service provides medical care for MUSC employees who experience on-the-job occupational injuries or illnesses. Emergency care for SEVERE job-related injuries (lacerations, broken bones, etc.) is provided by the Emergency Services Department. Preventive health measures are provided as required by the Medical University and other regulatory agencies. The Department of Health and Environmental Control requires a tuberculin skin test, and required immunizations for all new employees. It is also mandatory for all MUSC employees to have minimally an annual TB skin test for those employees who are skin test "negative" and annual TB status check for those who are skin test "positive". Under the Occupational Health and Safety Act, all employees exposed to toxic substances or other harmful physical agents above action levels in the work place must report to Employee Health Services for an annual physical examination. Your supervisor will notify you if you must participate in this program. It is not the purpose of the contract employee health service to serve as your family physician or clinic.

ACCIDENT INVESTIGATION AND REPORTING

The success of any safety program depends on the immediate reporting, investigation and analysis of accidents resulting in injury to persons or damage to equipment or property. Prompt,

precise reporting provides the necessary data to identify unsafe conditions and acts that must be corrected. For the purpose of this program, an accident may be defined as any act, to include occupational disease, which causes an interruption to an intended course of action. A reportable injury is one, which requires the injured to desist from the activity or absent himself for a period of time and requires either first aid or medical attention. Any accident, to include traffic accidents involving Medical University-owned vehicles, which comes within the purview of this definition must be investigated and reported. The magnitude of the accident will determine the depth of the investigation.

The primary consideration in accident investigation must be to determine the cause of the accident, not who is to be held responsible. The investigator must look not only at the individual's performance but also at any possible underlying causes or conditions that may have contributed to the mishap.

The supervisor is the key person in investigating accidents within his/her operational area. If underlying causes are outside the supervisor's responsibility, they must be brought to the attention of his/her supervisor.

An investigation should not be looked upon as a necessary evil or extra paperwork but rather as an opportunity to bring about more effective control of hazardous conditions, whether they be in the process itself, the equipment used in the process, or in the individual involved. Investigations should not be considered complete until all actions, which will prevent recurrences, have been taken. The following steps should be completed in the conduct of an investigation:

1. Interview the injured person as soon as possible after the accident.
2. Get the complete story of the accident. Ask the injured person (or witnesses) to demonstrate within the limits of safety how it happened. (Never permit demonstrations with power on in cases involving machinery.)
3. Review the physical causes that may have been involved such as:

a. Improper apparel

b. Poor housekeeping

c. Defective equipment

d. Lack of proper safeguards

e. Poor working conditions

4. Review the personal causes such as:

a. Hazardous practices

b. Inability to perform the job properly (lack of training, inexperience, physical disability, poor judgment).

c. Failure to use PPE

5. Attempt to identify all contributory causes that are present. Report defective equipment to the proper authority.

6. Recommend a suitable preventive solution

7. Inform others about the accident and indicate how it could have been avoided.

It should be stressed that the reason for investigating an accident is to prevent a recurrence, not to burden the supervisor with unnecessary paperwork. Supervisors will be expected to determine from the magnitude of the accident what the depth of the investigation will be. After the cause of the accident has been determined, the following corrective actions should be taken immediately by the supervisor:

1. Correct unsafe conditions or take steps to have corrections made.

2. Improve housekeeping.

3. Provide proper tools, equipment, etc.

4. Restudy equipment, tools, processes, etc.

5. Restudy arrangement of workspace or department.

6. Request sufficient equipment to do work safely.

7. Inspect tools, equipment, and work area more frequently.

8. Supply proper protective equipment.

9. Give more adequate and/or complete instructions to the injured or other individuals.

10. Instruct individuals properly - make certain they understand.

11. Be particularly observant of individuals for evidence of inexperience.

12. Observe work practices more closely and stop those found to be unsafe.

13. Assign or secure sufficient help to do work safely.

14. Enforce regulations regarding protective equipment.

In order to meet Federal and State laws and to ensure that the Medical University is cognizant of all accidents, employees who have an accident resulting in injury or illness to themselves shall report to Employee Health Services during their normal work shift on the day of injury. The injured employee must report their injury to their supervisor. The supervisor must fill out a first report of injury/ACORD form that the employee must carry to Employee Health Services to be seen. If the injuries are of such a severe nature to preclude the completion of the first report of injury/ACORD form before they receive medical attention, the supervisor must fill out this form as soon as possible on the day of the accident.

The first report of injury/ACORD form is intended to be used to report the facts of all accidental injuries and contracted occupational diseases of employees. A copy of this report should be forwarded directly to Occupational Safety and Health and a copy submitted to the appropriate academic or administrative department.

Occupational Safety and Health will prepare summaries and analyses of the accident exposure experiences of the Medical University. Data from analysis of these reports is used to meet the Occupational Safety and Health Standards for adequate records for submitting of the required annual report. The annual report (on OSHA Form 300) shall be posted prominently throughout the campus for the entire year commencing of the first of February.

RISK ASSESSMENTS

Preventing accidental injuries and losses of property is the basic objective of the safety program. Risk assessments have proven to be more effective than after-accident correction, both in reduction of property loss and enhancing life safety. Risk assessments are not the exclusive responsibility of certain agencies or departments. Instead, each member of the Medical University family pursuing normal daily routines should form the habit of observing and correcting or reporting safety hazards.

Several agencies conduct formal inspections of the Medical University property. Some agency inspections are required for licensing; others are conducted to determine hazards and potential losses, which have a direct bearing on insurance rates. Occupational Safety and Health inspections are conducted in an attempt to prevent loss of life or property and to eliminate unsafe conditions.

Major Inspection Agencies are:

1. State of South Carolina, Division of General Services, State Reinsures (Improved Risk Mutual) conducts an annual inspection of each building and its contents owned by the State for the purpose of determining the unnecessary causes of fire. The company will provide written recommendations to the Medical University relative to the removal or correction of hazards that they find.
2. State and Local Fire Marshals conduct annual inspections of all buildings and give recommendations.
3. Department of Health and Environmental Control conducts annual inspections of the hospital, hospital laboratories, Hazardous Waste Facility, and underground storage tanks and emission sources.
4. Joint Commission on Hospital Accreditation conducts surveys for accreditation of the hospital and its facilities.

5. College of American Pathologists conducts surveys for accreditation of pathology laboratories.

6. Commission of Accreditation of Rehabilitation Facilities conducts surveys for accreditation of physical and occupational rehabilitation facilities.

7. Environmental Protection Agency conducts annual inspections of the Hazardous Waste Facility**,** stormwater discharge sites and emission sources.

8. South Carolina Occupational Safety and Health (OSHA) conducts inspections arising from complaints of employees, general inspections, and courtesy inspections to determine standards compliance in matters regarding occupational safety and health

9. Self-inspection: individual colleges, departments or their appointed safety committees should conduct at least quarterly safety inspections of their areas.

10. Occupational Safety and Health Division inspections encompass all facets of safety and are conducted on a continuing basis throughout the Medical University. Safety representatives also accompany the above organizations when they conduct surveys or inspections of MUSC facilities. Upon request, special inspections and reports will be made for departments in specific problem areas.