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**FUNDAMENTAL PRINCIPLES OF** **OCCUPATIONAL HEALTH AND**
**SAFETY**

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**Introduction:**

Occupational safety and health (OSH) is generally defined as the science of

the anticipation, recognition, evaluation and control of hazards arising in or

from the workplace that could impair the health and well-being of workers,

taking into account the possible impact on the surrounding communities and

the general environment. This domain is necessarily vast, encompassing a large

number of disciplines and numerous workplace and environmental hazards. A

wide range of structures, skills, knowledge and analytical capacities are needed

to coordinate and implement all of the “building blocks” that make up national

OSH systems so that protection is extended to both workers and the

environment

**Risk Assessment:**

A risk assessment shouldn’t require you to produce large quantities of paperwork. A rigorous risk assessment will help you to spot the possible health and safety hazards.  These assessments should be carried out regularly in order to keep abreast of any changes. There are five stages to any risk assessment:
Stage one: identify the hazards;
Stage two: decide who might be harmed and how;
Stage three: evaluate the risks and decide on precautions;
Stage four: record your findings and implement them
Stage five: review your assessment and update if necessary.

**MANAGING YOUR HEALTH & SAFETY PROGRAM**

Your health and safety plan (your accident prevention “program” in writing) is a valuable tool for organizing and managing the various aspects of an effective health and safety program in your unit.

* It provides for a safe and healthful work environment by identifying and controlling hazards.
* It provides a mechanism for organizing thoughts and approaches and documenting activities. The process of “working it through” is as important as the Plan, itself.
* It provides a structure for action, especially in an emergency.
* It facilitates coordination with other University groups: Facilities Services maintenance and delivery staff; emergency personnel; construction or

remodeling workers; Health and Safety Committees, and Environmental Health and Safety.

**New Employee Health and Safety Orientation:**

All our new employees, including those that are permanent, temporary, or part-time, must receive instruction for the following:

a. Reporting procedures for fire, police, or medical emergencies;

b. Evacuation procedures during an emergency;

c. Location of fire alarm pull-stations and fire extinguishers; Employees using fire extinguishers must have previously received training;

d. Procedures for reporting all accidents and incidents to their supervisors and completing a written online report to university.

e. Procedures for reporting unsafe conditions or acts to their supervisors, and, when possible, taking action to correct unsafe conditions;

f. Exact location of first-aid and identification of first-aid certified employees;

g. Description of HMU and departmental Hazard Communication Program for chemical hazards to which they may be exposed;

h. Identification and explanation of all warning signs and labels used in their work area;

i. Use and care of any personal protective equipment they are required to use;

j. Description of safety training they will be required to attend for their job. This includes General Asbestos Awareness Training which is mandatory for all employees.

The following procedures describe how we provide the above instruction, how and where records are kept, and what person is responsible for providing training.

**Scope:**

The policies and procedures described here apply to all operating units and address site-specific safety issues, if applicable.

**Health and Safety Policy:**

This Accident Prevention Program, or Health and Safety Plan, shares the commitment of Hawler Medical University to provide a “safe and healthful environment for all individuals associated with the institution, including colleges, staff employees, and students.

**Responsibility**

Hawler Medical University is committed to strong programs of accident and injury prevention and to complying with all environmental. Good health and safety practices are a responsibility of each faculty member, staff member, and student.

Line responsibility for good health and safety practice begins with the supervisor in the workplace, laboratory or classroom and proceeds upward through the levels of management. In academic areas, supervisors include the lab directors, class instructors or others having direct supervisory authority. Academic levels of management are the department chairperson or Independent Lab director, dean. Administrative levels of management include mid-management, directors, and vice presidents. Final responsibility for health and safety policy and programs rests with the President of the University.

The Director of Environmental Health and Safety (EH&S) is responsible for recommending University-wide health and safety policies; ensuring overall institutional compliance with policies, statutes, and regulations; monitoring the effectiveness of the safety programs; and providing central health and safety services to all areas of the University.

**Responsibilities of Individuals**

All Students, Faculty, Staff, Visitors and Guests .Every employee, student, or other person authorized to conduct activities at the Hawler Medical University is responsible to:

* Comply with applicable environmental, health and safety laws and regulations, University policy and accepted safe work practices.
* Observe environmental, health and safety related signs, posters, warning signals and written directions.
* Be familiar with the emergency plan, the emergency assembly area and emergency coordinators for their building, and participate in emergency drills.
* Learn about potential hazards associated with their work and work area; know where information on these hazards is kept for their review; and use this information when needed.
* Follow procedures and observe precautions for the use of special materials (such as carcinogens or biohazards), as detailed in the use authorization or other operating procedures.
* Report all unsafe conditions to their supervisor or safety committee as soon as is reasonably possible.
* Warn co-workers about defective equipment and other hazards.
* Participate in health and safety training applicable to their work situation.
* Participate in required inspection and monitoring programs.

**Responsibilities of academic staff**

a) To exercise effective supervision of the students and to know the emergency procedures in respect of fire, bomb scare and first aid and to carry them out. At the beginning of each academic year they should go through these rules with their classes.

b) To know the special safety measures to be adopted in their own teaching areas and to ensure that they are applied.

c) To give clear instructions and warning as often as necessary.

d) To follow safe working procedures personally.

e) To require protective clothing, guards, special safe working procedures, etc. where necessary.

f) To make recommendations to their Head of Department e.g. on safety equipment, additions or improvements to tools, equipment or machinery, which are dangerous or potentially dangerous?

g) To be aware of any students’ health problems this may affect their health and safety in the classroom.

**Responsibilities of Management**

**THE CHANCELLOR is responsible to:**

* Ensure the implementation and overall effectiveness of the University's environmental, health and safety programs.
* Determine, with the advice of the Environmental, Health and Safety Policy Committee or faculty committees related to particular environmental, health and safety matters, appropriate levels of responsibility on the campus for fulfilling the University's commitment to provide a safe environment and to conduct its operations in compliance with applicable laws and regulations and accepted practices for health, safety and environmental protection.

**VICE CHANCELLORS are responsible to:**

* Communicate with their Deans and Directors about environmental, health and safety programs that need to be implemented through them.
* Ensure that their Deans and Directors take appropriate steps to implement the programs.
* Implement the University's environmental, health and safety programs in all departments/units within their respective jurisdictions.
* Report to the Chancellor on the effectiveness of, and the budget and resources needs for, these programs.

**Departmental Administrators and Managers**

Deans and Directors (defined as academic and non-academic Deans, Directors, Assistant Vice Chancellors, Associate Vice Chancellors, and Associate Deans) are responsible to:

* Ensure that environmental, health and safety obligations are carried out in the academic departments/administrative units under their control.
* Communicate to employees, students, visitors and guests that health and safety , and that everyone shares in the obligation to perform work in a safe, healthful, environmentally protective manner.
* Ensure that their academic departments/administrative units are implementing required programs in all subject areas including:

**Safety and Rules of the Lab**

**How to do a Risk Assessment?**

* Determine hazards and evaluate risks
* Use all relevant available data
* Determine controls needed to minimise those risks
* Document the assessment
* Agree it with your supervisor
* Use those control measures

You will receive specific training on how to do this in your department

**Control Measures (in order of preference)**

1. Use a less risky substance
2. Use a safer form of that substance (eg solution instead of powder)
3. Totally enclose the process (eg a glove-box)
4. Partially enclose the process (eg with a fume cupboard)
5. Ensure good general ventilation
6. Safe systems of work
7. Reduce exposure times, increase distance, reduce volumes
8. Personal protective equipment (as a last resort for primary protection)

**Protecting yourself**

* Wear the clothing and protective wear identified in your risk assessment
* Laboratory coats must be kept fastened
* Don’t wear sandals or open shoes
* Long hair must be tied back

**Protecting yourself - gloves**

* + There are many different types of protective glove
	+ Use the correct ones for the job you will be doing
	+ Remember that you need to select chemical protection gloves according to the materials and/or substances with which you will be working
	+ Remove your gloves before using instruments, telephone, and leaving the laboratory

**Laboratory hygiene**

* + Never eat, drink or smoke in a laboratory
	+ Never apply cosmetics
	+ Never touch your face, mouth or eyes
	+ Never suck pens or chew pencils
	+ Always wash your hands before you leave and especially before eating

**What are the general hazards in a laboratory?**

* + Fire
	+ Breakage of glassware
	+ Sharps
	+ Spillages
	+ Pressure equipment & gas cylinders
	+ Extremes of heat & cold
	+ Chemical hazards
	+ Biological hazards
	+ Radiation

**A fire extinguisher, or extinguisher**.

It is an [active fire protection](https://en.wikipedia.org/wiki/Active_fire_protection) device used to extinguish or control small fires, often in emergency situations. It is not intended for use on an out-of-control fire, such as one which has reached the [ceiling](https://en.wikipedia.org/wiki/Ceiling), endangers the user (i.e., no escape route, smoke, explosion hazard, etc.), or otherwise requires the expertise of a [fire department](https://en.wikipedia.org/wiki/Fire_department). Typically, a fire extinguisher consists of a hand-held cylindrical[pressure vessel](https://en.wikipedia.org/wiki/Pressure_vessel) containing an [agent](https://en.wikipedia.org/wiki/Fire_extinguisher#Types_of_extinguishing_agents) which can be discharged to extinguish a [fire](https://en.wikipedia.org/wiki/Fire). Fire extinguishers manufactured with non-cylindrical pressure vessels also exist, but are less common.



**PASS!**



To employ the extinguisher with proper technique, just remember the acronym “PASS.”

* **Pull the pin.**
* **Aim the nozzle at the base of the fire.**Hitting the tops of the flame with the extinguisher won’t be effective. You got to smother the sucker at its support
* **Squeeze the trigger.**In a controlled manner, squeeze the trigger to release the agent.
* **Sweep from side to side.**Sweep the nozzle from side to side until the fire is put out. Keep aiming at the base while you do so. Most extinguishers will give you about 10-20 seconds of discharge time.

**Slowly back away.**Even if the fire appears to be extinguished, don’t turn your back on it. There might be unseen hot spots or hidden fires that can ignite into a large flame at any moment. You want to be on guard for that.

**Wheeled Fire Extinguishers**

Wheeled portable fire extinguishers can be easily operated by one person and are differentiated from "hand portable" types often simply on the basis of their capacity or total weight. Wheeled units are available in a variety of sizes and extinguishing agents with capacities that range from 30 to 350 pounds. Wheeled fire extinguishers are chosen for the higher capacity (volume), higher flow rates, extended fire fighting range and extended discharge time.



**Fire Alarm**

When the Fire Alarm sounds, act immediately to ensure your safety. The Fire Alarm System is designed and engineered to provide you with an early warning to allow you to safely exit the building during an emergency situation

**What should you do if you hear a fire alarm?**

Evacuate your building immediately and go to the area your supervisor has designated as a meeting point. For safety reasons, you should evacuate if you hear any alarm, even if it is not in your zone. Stetson’s alarm system is a zone system and will alarm only in the zone where a device is activated. A general alarm can be sounded from the main panel that would alarm the entire core campus.

**What should you not do if you hear a fire alarm?**

* During alarms, Public Safety is extremely busy confirming the source and cause of the alarm.Incoming calls from the alarm monitoring company, emergency, and the responding fire departments must take precedence on the phone lines.
* Do not stay in an office, classroom, library, dorm, or other place where you may be in the building just because you don’t smell smoke, see fire, or decide these “things” always go off. All alarms are to be taken seriously! Not all alarms are because of fire!

**Directorate of Health and Safety- Hawler Medical University**

Directorate of Health and Safety at Hawler Medical University works with all its colleges, research center, and dormitory as well as in cooperation with Ministry of Higher education and scientific research to ensure that all environmental health and safety hazards are appropriately addressed. Through training and consultation with campus personnel and local officials, the department commits itself to the safety of the university campus and the surrounding community.

The director is responsible for the leadership and development of Environmental Health and Safety, Emergency Management, and Risk Management; for developing, implementing, managing, and continuously improving practices, policies, and programs that enhance the environmental health and safety of our faculty, staff, students, and public; mitigate risks, and meet changing regulatory demands; for the coordination of all risk management activities and supervision of the various campus insurance programs, including worker's compensation, to assure proper and adequate protection for the Regents, a reduction of losses, and adherence to established standards, policies, and legal requirements.

Reporting to the Associate Vice Chancellor for colleges and center research, the director serves as a member of the Administrative Services management team, responsibilities will be carried out in collaboration with, vice chancellors, University Office of the President, associate vice chancellors, and deans, as appropriate.

Directorate of Health and Safety- Hawler Medical University promotes a safe and healthy environment for all members of our university

We will accomplish our mission by:

* Supporting involvement of all colleges, research center, and dormitory, staff and students in the success of our health and safety program
* Promoting health and safety as a part of every classroom, laboratory and work site in order to enhance knowledge of safe and healthy practices.
* Providing the means by which each University community member can take charge of his/her own personal health.
* Providing accessibility and advice on health and safety regulations, procedures and standards and helping ensure continued compliance.
* Setting a good example by practicing and promoting safe behaviors

**Instructions about lab.**

1. Conduct yourself in a responsible manner at all times in the laboratory.

2. Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ASK YOUR TEACHER BEFORE PROCEEDING WITH THE ACTIVITY.
3. Never work alone in the laboratory. No student may work in the science classroom without the presence of the teacher.

4. When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.

5. Perform only those experiments authorized by your teacher. Carefully follow all instructions, both written and oral. Unauthorized experiments are not allowed.
6. Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
7. Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory. Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
8. Always work in a well-ventilated area.
9. Observe good housekeeping practices. Work areas should be kept clean and tidy at all times.

10. Be alert and proceed with caution at all times in the laboratory. Notify the teacher immediately of any unsafe conditions you observe.

11. Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water. Check with your teacher for disposal of chemicals and solutions.

12. Labels and equipment instructions must be read carefully before use. Set up and use the equipment as directed by your teacher.

13. Keep hands away from face, eyes, mouth, and body while using chemicals or lab equipment. Wash your hands with soap and water after performing all experiments.

14. Experiments must be personally monitored at all times. Do not wander around the room, distract other students, startle other students or interfere with the laboratory experiments of others.
15. Know the locations and operating procedures of all safety equipment including: first aid kit(s), and fire extinguisher. Know where the fire alarm and the exits are located.
16. Know what to do if there is a fire drill during a laboratory period; containers must be closed, and any electrical equipment turned off.

17. Any time chemicals, heat, or glassware are used, students will wear safety goggles. NO EXCEPTIONS TO THIS RULE!

18. Contact lenses may be not be worn in the laboratory.

19. Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back, and dangling jewelry and baggy clothing must be secured. Shoes must completely cover the foot. No sandals allowed on lab days.

20. A lab coat or smock should be worn during laboratory experiments.

21. Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the teacher immediately, no matter how trivial it seems. Do not panic.

22. If you or your lab partner is hurt, immediately (and loudly) yell out the teacher's name to get the teacher's attention. Do not panic.

23. If a chemical should splash in your eye(s) or on your skin, immediately flush with running water for at least 20 minutes. Immediately (and loudly) yell out the teacher's name to get the teacher's attention.

24. All chemicals in the laboratory are to be considered dangerous. Avoid handling chemicals with fingers. Always use a tweezer. When making an observation, keep at least 1 foot away from the specimen. Do not taste, or smell any chemicals.

25. Check the label on all chemical bottles twice before removing any of the contents. Take only as much chemical as you need.

26. Never return unused chemicals to their original container.

27. Never remove chemicals or other materials from the laboratory area.

28. Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken glass in the designated glass disposal container.

29. Examine glassware before each use. Never use chipped, cracked, or dirty glassware.

30. If you do not understand how to use a piece of equipment, ASK THE TEACHER FOR HELP!
31. Do not immerse hot glassware in cold water. The glassware may shatter.
32. Do not operate a hot plate by yourself. Take care that hair, clothing, and hands are a safe distance from the hot plate at all times. Use of hot plate is only allowed in the presence of the teacher.

33. Heated glassware remain very hot for a long time. They should be set aside in a designated place to cool, and picked up with caution. Use tongs or heat protective gloves if necessary.

34. Never look into a container that is being heated.

35. Do not place hot apparatus directly on the laboratory desk. Always use an insulated pad. Allow plenty of time for hot apparatus

**References**

1-Benjamin O. Alli; *Fundamental principles of occupational health and safety /* International Labour Office – Geneva: ILO, 2008

 2-Environmental Health and Safety Florida Atlantic University/ Revised: May, 2013

3- Health and Safety-Rating System/Guidance for Landlords and

Property Related Professionals.

Department for Communities and Local Government: London- May 2006