

Introduction To Laboratory Safety

أ.م.د. عبير خالد
ياسين

COLLEGE OF DENTISTRY
UNIVERSITY OF BAGHDAD IN
SHANGHAI RANKING

SHANGHAI
RANKING

World
201-300

Global Ranking of Academic
Subjects 2023

At the beginning, it is important to define few terms such as safety, laboratory, hazards and its sources to be aware of them.

What is safety?

- The word safety is very often used in the everyday life and have different meaning, but in general, it means the quality or condition of being safe; freedom from danger, injury, or damage.

What is laboratory?

- A laboratory may be a place of specialized work, research, clinical or diagnostic evaluation, teaching and/or learning. Laboratories are commonly used in many scientific disciplines from chemistry, physics, botany and zoology to medicine, psychology, dentistry, chemical engineering, agriculture and veterinary science. The term laboratory may equate with workshop in engineering areas such as mechanical, electrical, aeronautical and civil engineering.

What is Hazard?

- A hazard is generally anything that can hurt you or make you ill, or cause damage.

Laboratory hazard:

- The hazards encountered in a laboratory are many and varied. These

hazards fall generally into one of five categories:

1. Chemical hazard, such as corrosives, flammables, toxics,

explosives,...etc

2. Biological hazard, such as pathogenic microorganisms, biological

tissues, animals

3. Physical hazard, such as noise, radiation.

4. Electrical/Mechanical hazard, such as high voltage apparatus,
machinery with moving parts.

5. Psychological hazard, such as emotional stress.

Therefore, it is very important before entering any lab to identify the

sources of hazard and follow the safety rules to protect yourself and to be sure about your safety.

Development of safety skills may be divided into four areas.

- Recognize Hazards
- Assess Risks
- Minimize Risks
- Prepare for Emergencies

- The creation of a culture of laboratory safety
- requires a broad commitment from all levels of the educational institution. At the department level, faculty need to
- assume responsibility for continuing review of safety issues with students in teaching and research laboratories,
- especially the persons responsible for undergraduate instruction, often graduate students or instructors.

Faculty must lead by example in a coordinated departmental safety effort. At the administrative level, this will involve implementation of a chemical hygiene plan that is in agreement with any campus chemical hygiene/safety efforts and must address the safe handling, storage, and disposal of chemicals. Eye wash and showers must be in operating condition, and fume hoods with proper sashes are essential.

- Anyone working or visiting in the lab must be wearing goggles, and consumption of food or drinks must not be permitted. A clean, uncluttered laboratory is more likely to encourage careful work.

Basic Rules of Lab Safety

- Lab safety is important because it ensures a productive work environment free from accidents, lab mishaps, and injury.
- To help promote lab safety, there are several common practices that you can follow to ensure a safe and productive lab experience. These practices include:
 - Proper Attire
 - Personal Protective Equipment (PPE)
 - Safe Environment
 - Safety Equipment
 - Following Directions

THANK YOU