Table of Content

Chapter One: Occupational Safety

It is essential to to be familiarized with the following key aspects:

- Recognize the significance of segregation in maintaining workplace safety.
- Each individual holds responsibility for ensuring their own health and safety within the work environment.

1.1. What is the significance of maintaining job safety?

1.2. Who holds responsibility for health and safety within the workplace?

1.3. What specific duties does each worker have in ensuring workplace safety?

Why Is Work Safety Important?

It is evident that the majority of individuals wish to avoid accidents. For instance, if a carpenter were instructed to harm someone or if a person were asked to endanger themselves, such actions would be immediately rejected.

However, in reality, failing to use appropriate protective equipment in the workplace exposes individuals to the same risks described above. Neglecting safety guidelines can lead to preventable accidents and serious harm.

- **What Is an Accident?**

An accident may happen to you or someone else unexpectedly. For example, slipping and breaking an arm, or stepping in front of a moving vehicle and getting injured, are both considered accidents. These incidents illustrate how unforeseen events can lead to harm.

- **What Are the Risks:**

Accidents can happen if hazards are not recognized. Some risks are obvious, like using a sling without gloves, while others require expert assessment, such as reading radiographs.

- **What Are the Hazards:**

Physical injuries, such as joint dislocations, are immediately noticeable. However, some health issues develop gradually, with symptoms worsening over time—examples include work-related conditions like rheumatism, which may not appear initially but progress depending on the type of work. In such cases, the affected employee should consider changing their workplace promptly.

Workplace Impact in the UK (Annual):

- Over 144 workers die due to workplace incidents.
- More than 72,702 workers experience at least 7 days of pain each year related to their work.
- Over 30.4 million workdays are lost annually:
    1. 25.9 million days due to poor health.
    2. 4.5 million days due to inadequate workplace conditions.

When a workplace accident occurs, it can lead to a range of consequences, including:

- Pain or injury
- Reduced work capacity
- Increased time spent at home
- Need for physiotherapy or medical treatment
- Decreased workforce availability
- Stress and anxiety
- Temporary replacement by other employees

Some individuals may revert to previous unhealthy habits, such as smoking or alcohol consumption.

If you have expertise in workplace safety, promptly alert colleagues and friends in the event of an accident.

Who Is Responsible for Health and Safety in the Workplace?

Organizations hold primary responsibility for ensuring the health and safety of their workers. In Kurdistan, the Ministry of Labor and Social Affairs oversees workplace safety, with the employer being directly accountable for any accidents that occur. Employers should employ personnel with expertise in occupational health and safety and actively manage workplace safety measures.

What Safety Responsibilities Do Employees Have in the Workplace?

As an employee, you have a responsibility to perform your work safely and effectively:

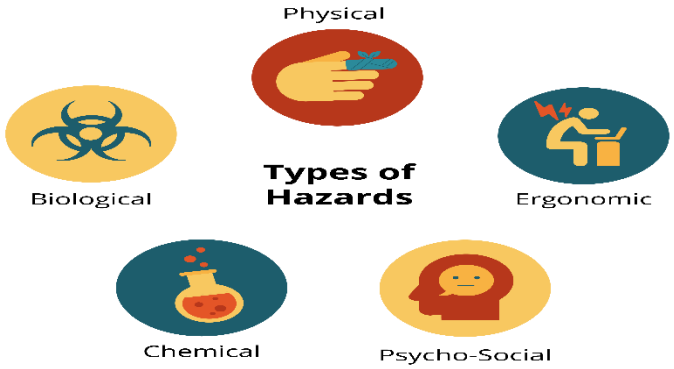
- Always prioritize health and safety.
- Recognize that your safety and that of others depends on teamwork, and maintain a strong relationship with your employer to address any issues.
- Follow all workplace instructions and safety procedures.

Chapter Two: Risk and Hazard

Key Points to Understand in This Chapter:

- Understand and define essential health and safety terms.

- Differentiate between a hazard and a risk, as this distinction is crucial for effective risk management.



Risk and Hazard

- Risks are categorized into six main groups.
- Identifying risks is not always straightforward.
- What is a risk?
- What is a hazard?
- What is meant by regulatory risk?

There are **six main types of risks**: mechanical, physical, chemical, environmental, biological, and regulatory.

- A **hazard** is anything that can cause harm to people.

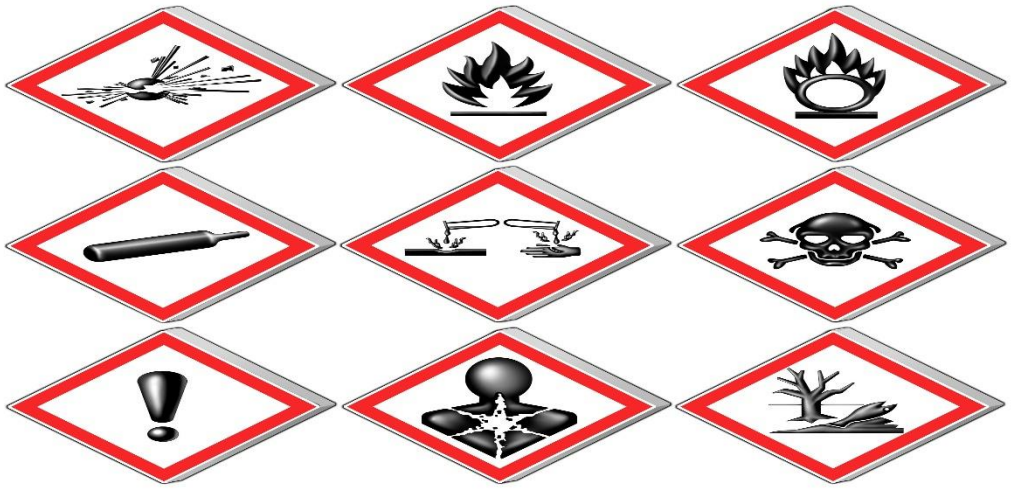
- A **risk** is the chance that a hazard will cause harm.

- Hazard can be minimized by understanding the different types of risks in both high-risk and low-risk situations.

- Risks can also be controlled by identifying and properly using appropriate workplace protective equipment

The Six Types of Risk:

1. **Mechanical:** e.g., lifting heavy objects.
2. **Physical:** e.g., touch the door handle or exposure to electrical energy
3. **Chemical:** e.g., hazardous substances.
4. **Environmental:** e.g., weather conditions.
5. **Biological:** e.g., medical waste
6. **Organizational:** e.g., workplace stress and anxiety.



Risk is not always easily identifiable.

In certain situations, identifying risks can be very challenging, for instance:

Carbon monoxide, often referred to as the “silent killer,” is colorless, odorless, and tasteless at low concentrations, making it difficult to detect. However, exposure may sometimes be indicated by symptoms such as headache, vomiting, or drowsiness.

There are several methods to identify risks in the workplace:

- Utilize gas detectors and protective goggles.
- Consult with more experienced personnel in the field.
- Adhere to the established risk monitoring and adjustment schedule.

What Is Risk?
Examples of daily risks are:

- Driving on sidewalks.
- Exposure to electrical hazards or moving through areas with complex cabling
- Wet floors in rest-rooms and corridors.
- Potential animal bites.
- Contaminated food.
- Chemical spills in the laboratory.
- Not to secure hair during laboratory procedures.
- Wearing high-heeled shoes in the workplace.
- Exposure to loud noise.

What is Hazard?

A hazard may result in harmful consequences.

For example, when handling very hot water, a glass can cause burns if not handled properly. It is safer to use a cup with a handle rather than a paper or metal cup.

If risks are not properly identified, they may result in harmful consequences, including burns, fractures, blindness, or drowning.

What Does a Hazard Adjustment Schedule Refer to?

Hazard management is a straightforward process in which we take initial action without consulting others about potential threats to workplace safety or the appropriate response to such threats.

In the workplace, the most effective approach is to assess risks, as this helps in preventing and controlling potential hazards.

Basic Steps in Hazard Management:

1. **Identify the risks** – Determine what may cause harm.
2. **Assess the hazard** – Evaluate the potential severity and likelihood of harm.
3. **Determine control measures** – Decide on the appropriate actions or solutions if the level of harm is high.

Chemicals and Harmful Substances

This Chapter will cover the following points:

- Chemicals can affect human health through inhalation, ingestion, skin absorption, or injection.

- Safety precautions for storing chemicals include ensuring proper ventilation, using personal protective equipment (PPE), and maintaining good personal hygiene.

Overview of Hazardous Chemicals

Chemical hazards may cause immediate health effects, such as skin burns resulting from exposure to sulfuric acid, or long-term effects that develop gradually, such as lung cancer.

Chemicals are regulated under the Control of Substances Hazardous to Health (COSHH) Regulations 2002.

These regulations determine whether a substance poses a risk to human health or not. Materials exist in various forms, such as:

- Chemicals
- Products containing chemicals
- Foam
- Dust
- Steam
- Vapour or haze
- Nanomaterials
- Gases
- Biological microscopic agents

Bottled chemicals must be labeled based on the level of hazard they pose. The label on the material should contain the following information:

- Name of the substance and its method of preparation
- Composition of the material
- Hazard indication if the substance is harmful
- Basic safety measures, including required protective equipment (e.g., goggles, gloves)

Some Tools That Have Hazard Indicators:

Respiratory hazard: May cause allergic reactions.

Corrosive: Can cause skin burns and eye damage.

- These are very useful for identifying harmful chemicals in the laboratory.

- The Safety Data Sheet (SDS) serves as an essential source of information on the effects of harmful chemicals and must be properly filed and securely maintained by the preparer. Additionally, Staff should be aware that certain hazardous substances can be generated during work processes—for instance, mixing metals may lead to the formation of metal fumes.

How Can the Hazards Be Managed?

- Store hazardous materials in a designated storage area.
- Only remove materials from storage when necessary and with proper authorization.
- Operate a fume hood during laboratory procedures.
- Always wear appropriate personal protective equipment (PPE) such as gloves, goggles, lab coats, and masks.
- Eating, drinking, or smoking is strictly prohibited in areas where hazardous materials are present.
- Never store any material without anaccurate label.
- Know what to do if a hazardous substance contacts your skin or is ingested.

Chapter Three: Being Seated at Workstation

This Chapter will address the following points:

- Prolonged use of modern technology, such as computers and screens, can affect the lower spine, leading to severe pain or, in some cases, hip ulcers and inflammation of the lower spinal area, which may occasionally require surgical intervention.
- Safety measures for conducting screenings include organizing the sitting place properly and preparing necessary materials for screens, such as holders.

Risks Identification:

- Lower back or wrist pain – caused by prolonged use of keyboards and computers.
- Eye strain—temporary discomfort associated with prolonged screen exposure.
- Back pain – sitting incorrectly for a long time.

Hazards Control:

- Structure your workday plan to include regular breaks and periods away from screens.
- Rest your eyes periodically, by focusing on distant greenery for a limit time.
- Position your screen aligns with your eye level to maintain proper posture.
- Use a chair that is supportive and comfortable.
- Report any health concerns promptly to the Health and Safety Directorate.

These images illustrate the proper way to use screens.

CORRECT SITTING POSITION

CORRECT STANDING POSITION

Electrical Hazard:

This section covers the following:

- Electrical hazards include: electric shock, burns, fire explosions.
- Preventive safety measures include: Never modify electrical appliances, perform preliminary inspection of equipment before use.

Risks Identification:

- **Electric shock:** Can cause skin burns and, in severe cases, may lead to cardiac arrest.
- **Burns:** Result from direct contact with electrical current.
- **Fire Explosions:** May occur due to electrical malfunctions or excessive electric current.

Hazards Control:

- Use the appropriate equipment for each task, ensuring correct voltage levels (e.g., low-voltage vs. high-voltage cables).
- Never replace a low-rated fuse with a higher-rated one.
- Always turn off appliances at the switch when not in use.
- Clearly label devices to indicate their usage, so operators are aware of any potential issues.
- Do not use any equipment that you know is unsafe.

Fire Hazard

This partr covers the following aspects:

- A fire requires three elements to ignite: heat, oxygen, and fuel.
- Fire prevention is possible by controlling above elements.
- Safety measures include closing doors to contain the fire, identifying escape routes, and activating fire alarms when necessary.

Risks Identification

The three essential components for a fire, often referred to as the fire triangle, are:

- **Fuel:** Combustible materials such as paper, wood, or petroleum-based products.
- **Oxygen:** Available in the surrounding air.
- **Heat:** The energy source that initiates combustion.

Common Causes of Workplace Fires

- Continuous use of electrical equipment, such as generators.
- Deliberate actions, including smoking in the workplace.
- High-heat tasks, such as welding, that may ignite nearby materials.
- Improper disposal of cigarette butts.
- Unsafe storage of flammable substances in inappropriate conditions.

Hazards Control

The employer holds primary responsibility for assessing fire risks in the workplace. Fire precautious points including:

- Ensure qualified personnel handle flammable materials safely and follow scientific containment procedures.
- Keep flammable materials away from sources of heat or ignition.
- Never leave heating appliances, such as heaters or stoves, unattended.

Fire Fighting

A rapid alarm system can be activated in the event of a fire to alert everyone nearby. This is typically done by breaking the glass on the alarm switch, which is designed to prevent injury to the user's hands.

Fire Fighting Equipment

Various types of fire extinguishers exist, while the dry chemical powder is the most effective.

In Case of Fire:

- Keep doors and windows closed to help contain the fire.
- Leave the area immediately to activate the nearest fire alarm.
- Proceed to the designated assembly point.
- Do not return to the area until authorized by the responsible personnel.

Working at Heights

This part addresses the following:

- Working at high altitudes is more dangerous than working at low altitudes
- Workers must have permission to work at high altitudes and use stationary ladders.
- Use hanging ropes even if the work is temporary.

Risks Identifications

- Falls from high altitudes pose greater dangers than falls from lower levels.
- Such falls can result in severe injuries, including broken bones, or may be fatal.

Hazards Control

- Permit only personnel who follow established safety guidelines to work at heights.
- Ensure workers are properly secured with full-body harnesses, wearing a four-sided sling, stable, and avoid using mobile phones.
- Secure all equipment firmly before use.
- Stairs are not applied for veryh eigh places and designed for temporary use.

Environmentalists

This portion will cover:

- Effective environmental management is essential for fire safety, to prevent falls and slips.
- Environmentalists focus on maintaining clean work areas and preventing the accumulation of waste that causes fire.

Risks Identification:

- Contamination of sites increases damage.
- Falls and slips are the most common accidents.
- Excessive waste accumulation increases the risk of damage.
- Take the nearest exit.

Hazards Control

- Prevent any accumulation of waste.
- The wiping material used is suitable for use.
- Promptly clean up greasy areas, especially in places like restaurants.
- Keep all exit routes clear and accessible at all times.

Lighting

This part addresses:

- Natural daylight is beneficial, and adequate, lighting should be provided where needed.
- Illumination is especially critical in hazardous areas, as insufficient light can increase the risk of accidents.

Risk Identification

Insufficient lighting can lead to multiple hazards:

- Workers may experience eye strain or make errors due to poor visibility.
- Risks can be mitigated by improving lighting levels or adjusting visual conditions.

Hazards Control:

- Employers must ensure that workers are protected by maintaining adequate lighting and promptly replacing any lights that are dim or not functioning.
- While natural daylight is beneficial, it is insufficient, so additional lighting should be provided.
- Lighting should be arranged to eliminate shadows; any existing shadows should be balanced to ensure uniform illumination.
- Bright light sources should be diffused to prevent direct glare and avoid eye strain.

Manual Lifting

This section addresses:

- Manual lifting is a leading cause of back, muscle, and joint injuries.
- Safety measures include using lifting aids, planning and organizing tasks, and applying proper lifting techniques.

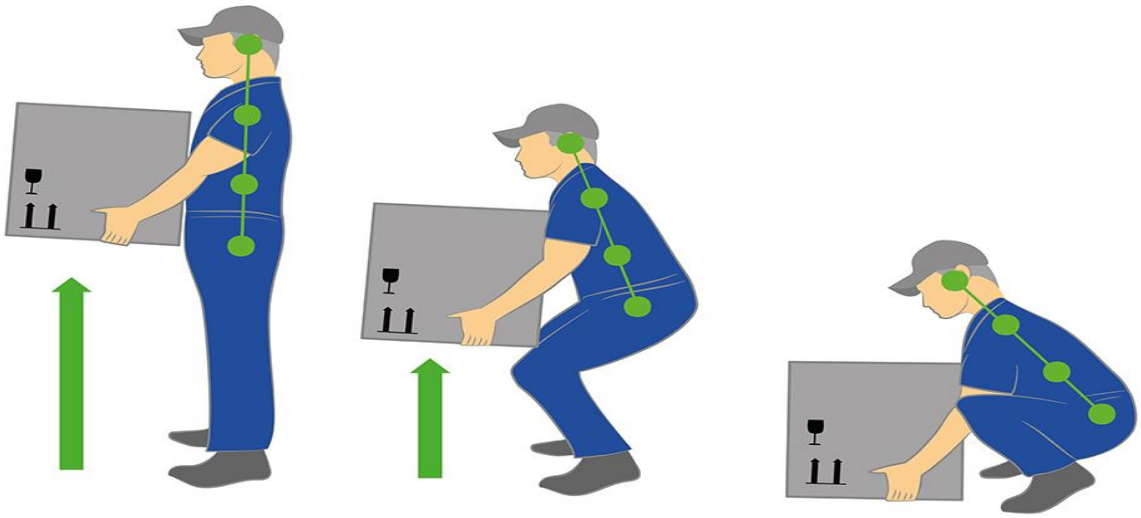
Risks Identification:

The most common injuries associated with manual lifting include:

- **Vertebral injuries –** such as spinal disc herniation
- **Joint dislocations**
- **Muscle injuries –** such as strains or hernias
- **Bone fractures and dislocations**

Hazards Control:

- Employers must evaluate lifting tasks to ensure they are suitable for each worker's capability.
- Avoid lifting heavy loads; when necessary, use mechanical aids or apply proper lifting techniques to prevent injury.



Falling and Slipping

This portion highlights:

- Falls and slips are major causes of incidents.
- Falls and slips result from incomplete cleaning of work areas.

Risks Identification:

Falls and slips frequently occur in the workplace due to factors such as:

- Changes in flooring surfaces from carpet to vinyl.
- Loose or exposed cables running along the floor.
- Failure to properly display warning signs in areas prone to slipping.

Hazards Control:

- Complete cleaning and keep floors clear of obstructions such as electrical cords and cables.
- Install visible warning signs of falls or slips.
- Display “cleaning in progress” signs during cleaning activities.

Stress and Anxiety

This section explores:

- Anxiety arises when employees experience prolonged mental pressure, which can lead to various mental and physical health problems.
- Such pressure may stem from both workplace demands and home-related challenges.
- Employers should maintain transparency when assigning responsibilities to their employees.

Impacts of Anxiety

• Workplace anxiety is not a disease on its own, but persistent anxiety can contribute to various health problems, such as:

1. **Physical effects:** heart disease, back pain, headaches, and digestive issues.
2. **Psychological effects:** depression, sleep disorder, and difficulty making decisions.
3. **Environmental effects:** higher unemployment rates and weak job confidence.

Hazards Control:

- Communicate with your employer about any issues so that solutions can be found and mental impact reduced.
- Seek support from colleagues and foster teamwork.
- Consult a workplace conselor, if available, to discuss your concerns effectively.

Temperature

- Exposure to extreme heat or cold can impact health.
- Work environments should maintain a balanced temperature to support employee wellbeing.

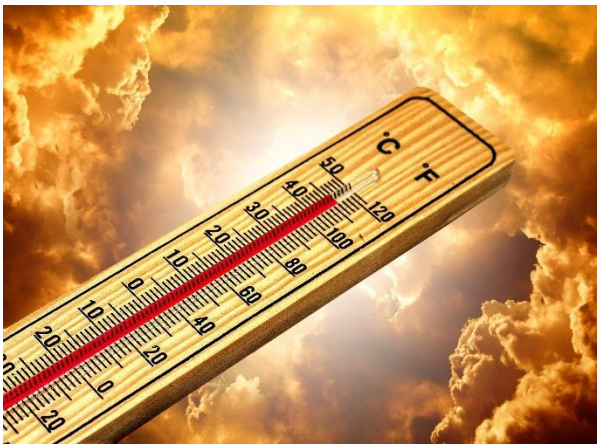
Risks Identification:

- **High Temperature Exposure:** working in metal smelting plants factories.

- **Low Temperature Exposure:** Working in refrigerated warehouses.

Effects of High Temperatures Exposure:

- Fatigue



- Dehydration due to excessive sweating
- Burns
- Dryness
- Loss of consciousness

Effects of Low Temperature Exposure

- Fatigue
- Slowdown of operation
- Redness and swelling of the fingers.
- Low body temperature
- Decreased ability to grasp objects.

Hazards Control:

- Install proper ventilation for all work areas.
- Zone separating with extreme heat or cold.
- Modify work environments to reduce risks.
- Encourage the use of personal protective measures**,** such as wearing appropriate clothing
- for cold or hot conditions.

Personal Precautions

Personal precautions are essential for preventing illnesses.

Risks Identification:

Hands can carry harmful microorganisms, including bacteria, viruses, or chemical residues, which may lead to contamination. Any contacts of hands with noise and mouth can leave negative affect on health.

Hazards Control:

- Wash hands thoroughly when leaving work areas or after using the restroom.
- Remove protective clothing or lab coats used during tasks involving exposure to microscorganisms.
- Avoid consuming foods in work areas.

Chapter Four: Personal Protective Equipment (PPE)

PPE serves as the final line of defense to safeguard employees and students in Institute and the workplace.

General Guidelines for the Use of Personal Protective Equipment (PPE)

- PPE must be worn during all practical tasks in laboratories.
- Employees and students should not share PPE with others.
- PPE should be selected based on the specific workplace environment and type of laboratory, and all necessary equipment must be provided by the institution.
- PPE must fit properly and be suitable for the individual's size and role.

- Laboratory staff and assistants with known chemical allergies should undergo annual health assessments**.**
- Newly admitted students must inform the Health and Safety Directorate of any chronic illnesses and provide medical documentation confirming their condition.
- All personnel using PPE must receive training on proper use of the equipment.

Types of Personal Protective Equipment (PPE)

PPE is used to protect employees and students from various workplace hazards. The main types of protective clothing include:

- **Fire-Resistant Suits:** Designed to protect individuals involved in firefighting activities.
- **Leather Clothing:** Provides protection against extreme heat or during welding operations.
- **Plastic Clothing:** Shields the wearer from exposure to chemicals substances.
- **Cloth Clothing:** Prevents contamination.

Helmets

Helmets are designed to protect the head from injuries caused by falling objects. They should be resistant to heavy impacts, chemicals, and electrical risks and properly fit to the wearer.

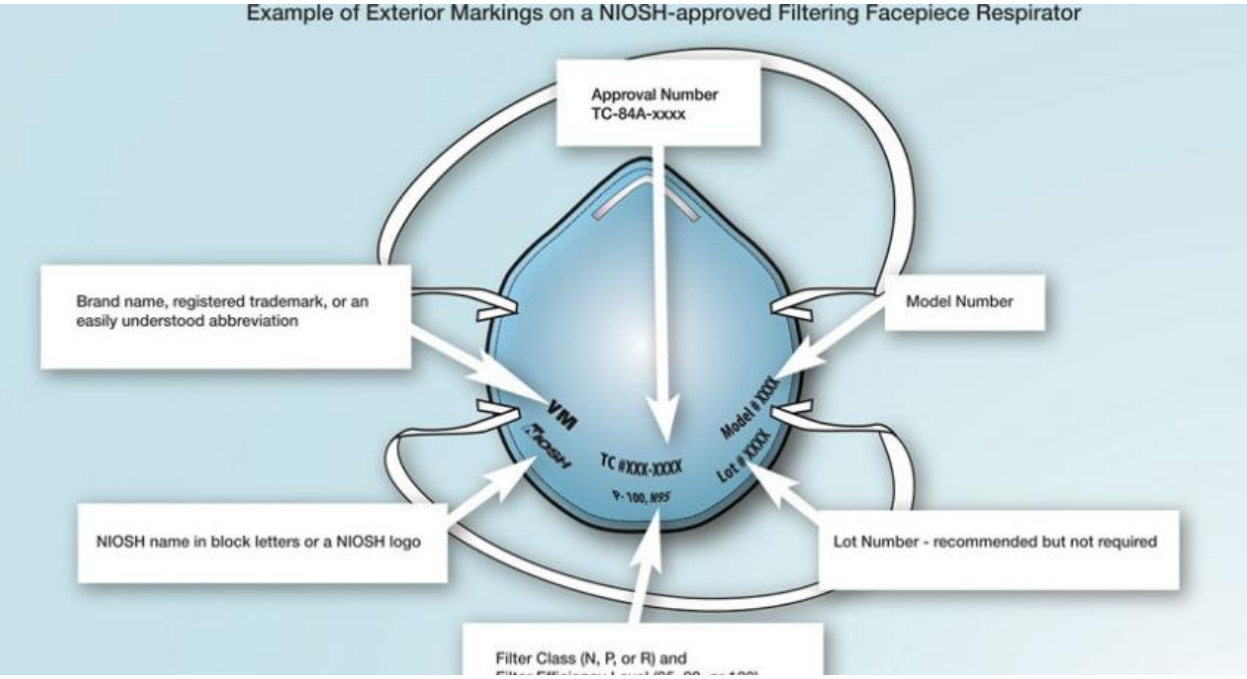
Hearing protection devices are used to safeguard ears from exposure to loud noises in the workplace. They generally fall into two types:

- **Ear Coverings:** Devices that cover the ears to limit the entry of airborne particles.
- **Ear Plugs:** Devices that fit inside the ear canal to block loud sounds.

Respiratory Protection Devices (Masks)

Respiratory protection devices are used to safeguard the respiratory system from dust, chemicals, and microorganisms such as bacteria and viruses. Types of masks include:

- **Standard Masks:** Protect the wearer from dust.
- **Chemical Masks:** Shield the respiratory tract from harmful chemicals and gases.
- **Oxygen Masks:** Used in laboratories or environments with high concentrations of hazardous chemicals.
- **Medical Masks:** Primarily used to prevent exposure to infectious microorganisms, including bacteria and viruses.



Respiratory Filter Types by Color

Filter Color	Application
Blue	Ammonia
Red	Hydrogen sulfide gas, smoke, sulfur dioxide (SO_2) and sulfur trioxide (SO_3)
Black	Chlorine, alcohol, gasoline, foam, smoke, carbon quaternary chloride
Green	Provides protection against all of the above substances

Hand Protective Equipment (Gloves)

Gloves are essential for protecting hands, one of the most important organs in workplace activities. Different types of gloves are used depending on the task:

Type	Usage
Cloth Gloves	For warehousing, and lifting loads
Heat-Resistant (Asbestos/Azbez) Gloves	For high-temperature or hot work
Chemical-Resistant Gloves	For handling chemicals and during substance preparation
Electrical Gloves	For electrical work

Safety Shoes

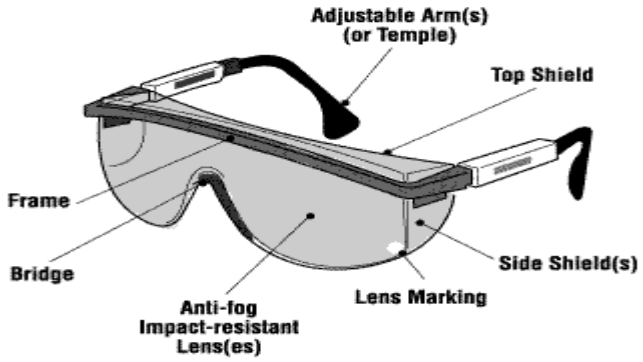
Safety shoes are designed to protect feet from traumatic exposures, slips. Shoes type and size should be appropriate for the specific work environment.

Type	Usage
Leather (natural or synthetic) Shoes	Equipped with a reinforced toe to protect feet from sharp or falling objects
Anti-Slip Shoes	Prevent slipping on greasy or slippery surfaces
Plastic Shoes	Protect feet from chemical corrosion
Non- Conductive Shoes	Withstand up to 1,000 volts and contain no iron, providing protection in electrical work environments

Eye Protection (Safety Glasses)

Safety glasses, made of plastic or glass, protect the eyes from exposure to radiation. They aregenerally categorized into two types:

Type	Usage
Transparent Plastic	Protects eyes from dust, and flying debris
Heat-Resistant Plastic	Shields eyes from harmful heat, harmful radiation



Seat Belts

Seat belts are used to protect workers from injuries in the event of a fall from heights. Proper use and maintenance are essential for safety:

- Inspect the seat belt material before each use.
- Use certified seat belts; substandard products should be avoided.
- Do not substitute seat belts with ropes, straps, or other improvised equipment.

Chapter Five: Parking Instructions:

- Verify that vehicle brakes are functioning properly before driving.
- Do not exceed a speed of 20 km/h within the parking lot.
- Park vehicles at least 5 meters away from checkpoints; violations will be recorded.
- Avoid storing chemicals, flammable sprays, or pressurized containers in vehicles.
- Drivers must hold a valid driver's license.
- Keep a fire extinguisher in each vehicle.
- Student transport buses must not exceed their passenger capacity.
- Smoking is strictly prohibited inside vehicles.
- Ensure all windows are closed when vehicles are parked.
- Vehicle repairs are not allowed within the parking area.
- If a vehicle is leaking fluids, the owner must move it immediately out of the parking lot.
- In case of fire, use a fire extinguisher from a safe distance of at least 3 meters.
- Never leave flammable substances such as gasoline or gas inside vehicles.

Chapter six: Inspection Form for cleaner

Form (1): Inspection Checklist

Date: _____	Form No.: (__)	Section: ☐ Men's ☐ Women's

Inspection Items	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
1. Are the toilets clean?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
2. Are the windows and doors clean?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
3. Is the sink clean?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
4. Are the door handles clean?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
5. Are brushes available in the toilets?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
6. Are the drains complete and functional?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
7. Are all fixtures and equipment in working order?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
8. Do electricity, lights, and switches work properly?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
9. Is soap available for handwashing?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
10. Are the toilet floors dry?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No
11. Are the waste bins lined with bags?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Form (2): Health and Safety Committee Inspection Information Form for Laboratories

Name of Institute: _____ Date: _____

Department: _____ Supervisor Name: _____

Laboratory Name: _____ Inspector Name: _____

Form (2)

#	Building Requirements	Yes	No	Notes
1	Are the laboratory doors and windows closed as required?			
2	Is the laboratory lighting suitable?			
3	Are the laboratory sinks functioning properly?			
4	Does the laboratory have a fire extinguisher and a first aid box?			
5	Are all heating and cooling systems working properly in the laboratory?			
6	Are the laboratory air-conditioners actively working?			
7	Are the water pipes in the laboratory functioning well?			
8	Is liquid soap available at the laboratory handwashing station?			
9	Are all necessary laboratory materials (glassware, chemicals, instruments) available?			
10	Is all required glassware present in the laboratory?			
11	Are broken glass items properly collected and disposed of?			
12	Are glassware be cleaning properly?			
13	**Chemicals**			
14	Are chemicals used in the laboratory?			
15	Are chemicals stored in designated areas (e.g., cabinets)?			
16	Are all chemical containers properly labeled?			
17	Are gloves, masks, and lab coats available when handling chemicals?			
18	Are chemical wastes disposed of safely?			
19	**Equipment**			
20	Are all laboratory instruments have electrical switch plate?			

21	Are operating instructions for instruments clearly written?			
22	Is there a functioning fume hood in the laboratory?			
23	Waste Disposal			
24	Is there a waste bin available in the laboratory?			
25	Are chemical wastes disposed of scientifically?			
26	Are biological wastes disposed of scientifically?			

Inspector's closing Note:

Chapter 7: Work Permit Commitment Form

Form (3)

Work Permit Commitment Form (Form 3)

Full Name: _____
Position / Duty: _____
Workplace / Location: _____
Contract No.: _____
Supervisor: _____
Permit No.: _____
Working Days: From _____ To _____
Working Hours: From ____ Hrs To ____ Hrs

Guideline

	Yes ☐	No ☐	None ☐
Electrical equipment must only be used during authorized work periods.	☐	☐	☐
Smoking near heat sources is prohibited.	☐	☐	☐
An appropriate fire extinguisher must always be available nearby.	☐	☐	☐
The work area must be kept clear to ensure easy operation of equipment.	☐	☐	☐
Workers must remain in the area for 15 minutes after finishing work to ensure no residual heat remains.	☐	☐	☐

Hot Work Awareness

Workers must be aware of the following:

	Yes ☐	No ☐	None ☐
Understand the conditions of the permit and the fire safety guidelines.	☐	☐	☐
Maintain valid authorization at all times.	☐	☐	☐
Stop work immediately if instructed by an authorized person.	☐	☐	☐
Immediately report any risk or unsafe condition related to fire or safety preparation.	☐	☐	☐

I understand the preparations and take responsibility for the hotwork.

Name		Work place		Signature		Date	

Chapter 8: Commitments

Responsibility _____ Name _____

Location _____

Work Time **From** _____**To** _____

I commit to following all these instructions and accept full responsibility for any failure to comply or any resulting incidents.

1. I will use this only during work and with my full knowledge.
2. I will notify the Health and Safety Directorate immediately if any issues arise.
3. It must be stored safely at the end of working hours and must not be used by anyone else.
4. I will not place it near any other materials.
5. I will ensure it has an appropriate location while in use.
6. I will check that it functions correctly and safely before each use.
7. This device is assigned to me personally and must not be exchanged with the department or anyone else.
8. The switch plate for the heater must not have any other device or plate attached.

I have read, understood, and agree to all of the above.
Signature: _____

Chapter 9: Work Permit

- Always use appropriate protective equipment, including helmets, gloves, specialized goggles, and work-specific clothing.

1. A warning sign must be placed at workplace to alert others and prevent harm.
2. Mark the work area with red tape to define boundaries.
3. Ensure maintaining peace in the workplace.
4. For cold work, use the basic protective equipment outlined above.
5. For hot work, such as working at heights or performing heavy tasks, use specialized protective equipment (e.g., protective masks, fire-resistant clothing, insulated gloves).
6. Maintain the confidentiality and security of your workplace.
7. Obtain permission from the Health and Safety Directorate when lifting heavy objects or working at elevated heights.
8. You are responsible for any failure to comply with these safety requirements.

Chapter 10: Health and Safety Standards for Restaurant and Cafeteria

- Always wear gloves and change them as needed.
- Use shoe covers when entering employees other than restaurant.
- Wear work-appropriate shoes of the designated color, restricted to kitchen areas.
- Ensure all employees consistently wear and use aprons or protective clothing.
- All employees must wear head coverings while on duty.
- Adhere to all health and safety protocols.
- Cashiers are not permitted to handle or serve food.
- Use appropriate detergents to clean all used or contaminated utensils.
- Maintain separate cutting boards for different food types (red for meat, white for onions, green for vegetables).
- Keep knives organized by color and designated use, hanging them in their proper locations.
- Clean the meal ticket twice daily with disinfectant.
- Use a sponge (moop) to wipe.
- Keep nails clean and shortened.
- Foods should not be heated above their standard temperature.
- Clean all door handles, tables, floors, etc. daily.
- Do not reuse cooking oil more than once.
- Use cleanser for drying purposes.
- Ensure coolers operate continuously without interruption.

Foam Hood (Chemical Preparation Equipment)

An enclosed area where chemicals are prepared to prevent toxicity of the laboratory environment and the air in the room through several filters or air exchangers.

Operating Instructions:

1. Turn on the main switch plate.
2. Start the appliance and ensure the ventilation system is functioning properly.
3. Raise the sliding sash to the designated level.
4. Begin work once the hood is ready.
5. After completing the work, turn off the appliance.
6. Finally, switch off the main switch plate.

Centrifuge (component separator)

Operating Instructions:

1. Turn on the main switch plate.
2. Start the centrifuge and ensure it is functioning properly.
3. Load blood or urine samples evenly to maintain balance.
4. Close the lid securely.
5. Wait until the cycles are complete before opening the lid.
6. Turn off the centrifuge after finishing work.

Media Preparation Cabinet

This device is designed for preparing media or performing other tasks while protecting the user from infection. It achieves this by filtering the air inside the cabinet to prevent exposure to harmful microorganisms.

Microtome (Tissue Preparation Device)

Microtome (Tissue Preparation Device):
A microtome is a device used to slice tissue samples for analysis. It can be operated manually or automatically and is also known by names such as histome or cryostat. Improper handling, such as not securing the blade correctly, can lead to serious injuries, including cuts to the fingers.

Operating Instructions:

1. Ensure the blade is installed correctly before use.
2. Only trained personnel should operate this equipment.
3. Verify that the tissue sample is positioned correctly.
4. Confirm that the device is free from mechanical or electrical faults.
5. Always wear personal protective equipment while operating the microtome.

Oven (High-Temperature Sterilizer)

Hot air ovens operate using dry heat sterilization. In this process, samples are placed in closed containers, which are then gradually heated. The heat is transferred from the container to the sample, eventually reaching the core. Once the entire sample achieves the required temperature, sterilization is effectively completed.

Using a Hot Air Oven – Step-by-Step Instruction:

1. Plug in the oven's power cable.
2. Turn on the oven. For digital models, set the required temperature and time according to your needs.
3. Allow the oven to reach the specified temperature.
4. Once the desired temperature is reached, place the sample inside the oven.

Water bath

A laboratory water bath consists of a container of varying sizes in which water temperature can be adjusted as needed. It is used to maintain samples at a specific temperature for extended periods.

Water Bath – Safety Instruction:

1. Always wear gloves when operating the device.
2. Never touch the switch plate with wet hands.
3. Turn off the device at the switch plate after use.
4. Do not use the device if there are any electrical malfunctions.

Pipette (Dispenser):

A pipette is a common laboratory tool used in chemistry, biology, and medicine to transfer precise volumes of liquid, often serving as a media dispenser. Pipettes are available in various designs tailored for different purposes and levels of accuracy. Most pipettes operate by creating a partial vacuum above the liquid chamber, which allows liquid to be drawn in and dispensed selectively. The accuracy of measurements depends on the type and quality of the pipette used.

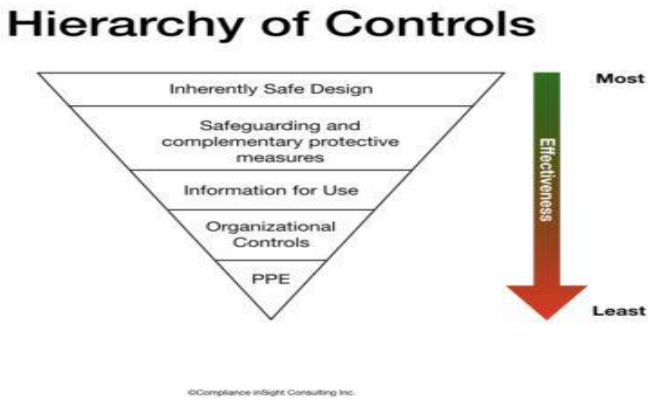
Correct Cleaning Methods for Pipettes and Micropipettes:

- Clean the exterior of pipettes using mild household shampoos or similar cleaners.
- Use a long rod to clean the interior and remove any blockages.
- Micropipettes require more thorough cleaning procedures.
- For micropipettes, clean the exterior with a suitable detergent or cleaning agent.
- For accurate cleaning, disassemble the micropipette properly and clean each part individually, lightly lubricating the pistons as needed.
- If contaminated with aqueous solutions, rinse the micropipette with 70% ethanol.
- For contamination by organic solvents, wash with detergent and allow to air dry.
- For protein contamination, use detergent and air dry.
- Do not use alcohol, as it does not effectively remove proteins.
- In cases of radioactive contamination, rinse the micropipette with a decontamination solution such as Decon and air dry.

Chapter 12: Hierarchy of Controls

In Occupational Safety and Health, a framework called the **hierarchy of controls** is used to determine the effective methods for managing workplace hazards. The most effective approach is to eliminate hazards from the workplace entirely, rather than relying solely on workers to minimize exposure through safe practices or procedural controls.

Engineering Controls	**Administrative Controls**	**Practical Controls**
Controls that modify the workplace to reduce hazards. This type of control is considered the most effective because permanent changes are made, which reduce exposure without relying on worker behavior.	Controls that organize work tasks and employee responsibilities in a way that minimizes risk in their work areas.	Controls that use safe practices and procedures to reduce the duration or frequency of exposure to hazards.
Example: Biological Safety Cabinet	**Example:** Establishing standard operating procedures for handling chemicals	**Example:** Substituting one chemical substance for another



Chapter 13: Health Directorate

Emergency care refers to the immediate treatment provided to a person who is sick or injured. Its purpose is to protect the patient and preserve life until they can be transported to the nearest hospital for further medical attention.

If a person is unconscious or unresponsive, first aid should be administered following the **ABC protocol**: **Airway**, **Breathing**, and **Circulation**.

Airway: If a person is not breathing, the first step is to clean the airway.

Breathing: If the airway is clear but the person is still not breathing, provide rescue breaths to support breathing.

Circulation: After ensuring breathing, perform cardiac resuscitation to restore blood circulation. If the patient is breathing but unresponsive, check their heart rate and take appropriate action.

Emergency Response for Cardiac Arrest (Stopped Heart)

Cardiac resuscitation represents one of the most vital and immediate actions to be taken when an individual experiences cardiac arrest.
If a person shows no signs of a heartbeat,start cardiac arrest to save the person's life, and pacemakers are available in some places to help someone who is not trained.

What to do?
If someone appears to be experiencing cardiac arrest, follow these three steps:

1. Ask someone to call the emergency number **122** immediately.
2. Begin chest compressions by placing both hands together on the center of the patient's chest, just above the sternum, pressing firmly and allowing the chest to return to its normal position between compressions.
3. Continue until another person provides assistance with breathing or professional help arrives.

Emergency Response for Bleeding

If an someone is injured and bleeding, there are several essential steps to manage the situation effectively, and recognizing the types of bleeding including:

- **Capillary Bleeding:** This occurs when blood flows from the smallest blood vessels (capillaries). It usually appears as slow, oozing bleeding and stops easily with minimal pressure.
- **Venous Bleeding:** This type involves blood flowing from the veins. The blood is dark red and tends to flow steadily and continuously.
- **Arterial Bleeding:** This occurs when an artery, one of the body's largest blood vessels carrying oxygen-rich blood, is damaged. The bleeding is bright red and may spurt with each heartbeat.

All types of bleeding must be controlled immediately through proper first aid measures; otherwise, the patient may go into shock, which can lead to death if not treated promptly.

What to do?

When responding to bleeding, follow the **ABC** steps to manage the emergency effectively:

1. **Wash your hands** thoroughly and wear clean gloves to prevent the spread of microorganisms and infection.
2. **Clean the wound** gently with clean water.
3. **Cover the wound** with a sterile cloth or gauze pad.
4. **Apply direct pressure** to the wound using the cloth or gauze to help stop the bleeding.
5. **Raise the injured area** to the level of the head, if possible, to reduce blood flow to the wound.
6. **Do not remove** the initial cloth or gauze once it is applied, as this may restart the bleeding. If blood seeps through, place additional layers on top
7. Once the **bleeding has stopped**, carefully **bandage the wound** to protect it from further

Emergency Response for Drowning

Drowning occurs when the airway is blocked by food or objects, and is dangerous and may lead to unconsciousness or death.

Common signs

Shortness of breath**,** gasping**,** difficulty speaking or coughing**,** a bluish skin color**,** and flaring nostrils**.**

Before taking any action, **ask the person if something is stuck in their throat** and if they can speak or cough. If the person cannot breathe, speak, or cough, perform the **Heimlich maneuver** by applying quick, upward abdominal thrusts to help expel the object blocking the airway.

What to do?

If someone shows signs of a blocked airway, follow these steps to perform the (Heimlich maneuver)**:**

1. Stand behind the person.
2. Wrap your arms around their waist.
3. Make a fist and place it just below the sternum**.**
4. Grasp your fist with the other hand and perform quick, upward abdominal thrusts repeatedly until the object is expelled from the airway.

Emergency Response for Burns

The first step in burn treatment is to stop the source of the burn. This may involve; removing chemicals from the skin, turning off electrical sources, cooling the burn with water, and protecting the burn from sunlight or further injury.

The severity of a burn depends on its depth and type:

- **Grade 1:** Affects only the surface of the skin, causing redness, swelling, or mild pain.
- **Grade 2:** Extends through both layers of the skin, leading to blisters, redness, and swelling**.**
- **Grade 3:** Penetrates the deepest skin layers, resulting in whitening or darkening of the skin**,** and may cause loss of consciousness**.**

What to do?

For severe burns, seek immediate medical attention and stop the source of the burn. Then call 122.

For burns that do not require emergency treatment, follow these steps:

- **Cool the burn** with water. Avoid applying ice directly to the wound.
- **Cover the wound** with a sterile bandage; do not use cloth or silk.
- **Use pain relief** if needed to manage discomfort.
- **Do not use adhesive plasters** on the burn under any circumstances.

Emergency Response for Blisters

Blisters occur due to damage to the skin cells. Treatment may be necessary depending on the severity and location of the affected area, as some blisters require special care to promote proper healing and prevent infection.

What to Do

If the blister is small, it should be left intact to allow natural healing. Do not burst it, as this can introduce bacteria and other microorganisms, increasing the risk of infection.

If a blister becomes enlarged or painful, follow these steps carefully:

1. Wash your hands thoroughly to prevent infection.
2. Sterilize a syringe with alcohol.
3. Make a small hole in the blister.
4. Gently press the blister to drain its fluid.
5. Do not apply anti-inflammatory ointments to the blister.
6. Cover the area with a clean bandage to protect it.

Emergency Response for Fractures

All fractures, including those of the hands, arms, feet, and legs, should be immobilized and assessed with an X-ray as soon as possible. Some fractures require immediate first aid before hospital transport, such as stabilizing the injured area with a splint, board, or other support to prevent movement and reduce further injury.

What to Do?

- In some situations, emergency medical teams should transport the patient to prevent further injury.
- If the patient is bleeding, has multiple fractures, is unresponsive, or not breathing**,** assume a spinal injury**.** Do not move patients with fractures of the head, neck, back, or pelvis.
- For open fractures where the bone protrudes and the area below feels cold or discolored**,** do not allow the patient to walk or attempt to reposition the bone.
- Stabilize the fracture with a splint or support, keeping the injured limb elevated toward the heart if possible.
- Apply **ice** to reduce swelling, preferably wrapped to avoid direct contact with the skin.
- Administer pain relief and anti-inflammatory medication as appropriate.

Emergency Response for Joint Dislocation

Displacement is an injury to the ligaments that connect bones such as knees, shoulders, etc., due to severe contact or excessive rotation of the joints, and the symptoms are close to fracture, so an x-ray should be taken.

What to Do?

- Do not allow the patient to move the injured joint.
- Although dislocation may not always require urgent surgery, immediate first aid should be provided to prevent further damage.
- Do not apply heavy objects or pressure to the injured area, as this cause tissue damage.
- Apply an ice pack to reduce pain and swelling.
- Administer painkillers as needed to help relieve discomfort.

Emergency Response for Nosebleeds

Nosebleeds can occur for various reasons and are most common in children**.** Common causes include dryness, heat exposure, allergies, colds, chemical irritation, or frequent nose picking**.** Other possible causes include nasal injuries, high blood pressure, nasal growths or ulcers, and excessive use of painkillers or narcotics**.**

What to Do

1. Tilt the head forward.
2. Hold the nose between the bones and the nasal cartilage with two fingers.
3. Maintain pressure for 10 minutes**,** then check if the bleeding has stopped. Allow the area to dry naturally before gently rinsing the nose with cold water.
4. If the bleeding continues**,** apply pressure again using a clean pad or cloth for another 5 minutes.

Chapter 14: List of Emergency Supplies

Certain emergency supplies should be stored safely and maintained until needed. These items include:

- Bandages of various types and sizes
- Gauze pads and dressings in different forms
- Adhesive wound stickers
- Protective gloves
- Cleansing agents or antiseptics
- Anti-inflammatory ointments
- Anti-allergic ointments
- Ambu bag (manual resuscitator)
- Thermal foot warmers
- Blood pressure monitor
- Blood glucose meter
- Oxygen and heart rate monitor (pulse oximeter)
- Sterile envelopes or pouches for medical use
- Emergency or travel blankets
- Additional supplies may be stored as needed, depending on the specific type of emergency **or** workplace requirements**.**

Chapter 15: Division of Medical Wastes

Waste should be classified into three main categories:

1. Ordinary Waste: Includes non-hazardous materials such as paper, packaging, and general office waste**.**
2. Medical Waste: Includes items contaminated with biological materials, such as urinary catheters, bandages, and gloves.
3. Sharp Waste: Includes syringe needles, scalpels, and other sharp instruments that require special disposal containers to prevent injury or infection.

Waste must be properly separated to protect health and safety**.** Mixing different types of waste can lead to serious risks — for example, disposing of a syringe contaminated with bacteria or germs in regular waste can cause the spread of infectious diseases**.**Similarly, discarding needles or sharp instruments in ordinary or medical waste is unsafe and incorrect. These items should always be placed in a safety box**,** which must be filled appropriately, securely closed, and clearly labeled **for** safe destruction**.**

Chapter 16: How to Dispose of Medical Waste

- Medical waste generated in laboratories, health centers, and hospitals must be disposed of using scientific and regulated methods to ensure safety and prevent contamination.
- Some medical waste, particularly items contaminated with blood and bodily fluids, is disposed of directly as hazardous waste.
- Other types of medical waste, such as laboratory materials (e.g., specimens or worms), should be sterilized using autoclaves before being sent for final disposal.

Autoclave (Sterilization Machine)

An autoclave is a device used for sterilizing medical equipment and medical waste. It operates by using heat, steam, or gas to eliminate microorganisms and ensure safe reuse or disposal of materials.

There are two main types of autoclaves:

- Steam / High-Temperature Type: Used for metal instruments and other medical devices that can withstand high temperatures.
- Gas / Low-Temperature Type: Used for sensitive materials that may be damaged by heat or moisture.

Autoclaves operate at two standard temperatures:

- **134°C** — used for items that require **sterilization for more than 24 hours**.
- **121°C** — used for **short-term sterilization**, typically for items used **within 24 hours**.

Chapter 17: Circulation of Policy on Radicalization and Extremism

1. Introduction

1.1 🎯 Purpose

This guideline ensures the effective communication, understanding, and implementation of the Policy on Radicalization and Extremism across the institute.

The aim of Prevent is to stop people becoming terrorists or supporting terrorism.

The objectives are to:

- tackle the ideological cause of terrorism
- intervene early to support people susceptible to radicalisation
- enable people who have already engaged in terrorism to disengage and rehabilitate
- Promote awareness and education.
- Prevent risks associated with radicalization and extremism.
- Safeguard all staff, students, and visitors.
- Reinforce our commitment to a safe, inclusive, and respectful learning environment.

1.2 📍 Scope

This guideline applies to:

- All employees, faculty members, and administrative staff.
- Students, interns, contractors, and volunteers.
- Visitors and external partners engaged with the institute.

2. Risk Assessment and Action Plan

As required by the Prevent Duty, we carry out assessments of the risk of our students being drawn into terrorism. This risk assessment is reviewed at least annually by the University Executive Board. Where any significant risk is identified we will consider what action might mitigate the impact/likelihood of that risk crystallising, and if necessary include it in the University's Prevent Action Plan.

3. 📣 Policy Communication and Circulation

3.1 Distribution

- The full policy will be circulated through:
- Official email to all staff and students.
- Posting on the institute's website and internal portals.
- Printed copies displayed on staff notice boards and student common areas.

3.2 Awareness Sessions

Orientation programs for new staff and students will include a policy briefing.
Annual workshops will be held to refresh understanding and reinforce responsibilities.

3.3 Training

We will carry out training on a regular basis for all relevant staff so that they can recognise those who are vulnerable of being drawn into terrorism and potential signs of radicalisation. It will include an explanation of how to handle appropriately and sensitively any concern that may emerge. For those with whom any specific concerns will be raised (primarily staff in Student Support and Safeguarding), differentiating the risk of radicalisation from other issues will be covered in more detail, together with the opportunities and requirement to share information confidentially where needed. Our approach will be to support vulnerable students in whatever circumstance they find themselves, recognising that radicalisation could occasionally be occurring when certain behaviour is manifest but that other explanations will usually apply.

4. 🧭 Responsibilities

Role Responsibility

The institute Executive Board is responsible for providing Council with assurance of the institute's compliance with the Prevent Duty. Council is responsible for approving the Prevent Policy and for approving the institute's annual accountability and monitoring return to the Office for Students in compliance with the ongoing conditions of the institute's registration.

3.2 All members of staff should be aware of the institute's responsibilities under the Prevent Duty and of the measures set out above to comply with it. Members of the institute community who are concerned about a student who might be at risk of being drawn into terrorism should report this to their line manager or the Director of Student Support and Safeguarding. Concerns about members of staff who might be at risk of being drawn into terrorism should be reported to the Director of Human Resources.

5. 📞 Reporting Mechanism

Concerns regarding radicalization, extremist behavior, or suspicious activity must be reported immediately via:

- The designated Safeguarding Officer.
- A confidential reporting channel (email or hotline).
- All reports will be handled with discretion, respecting individual rights and legal frameworks.

6. 🔍 Monitoring and Review

The policy and its circulation process will be reviewed annually by the Safeguarding Committee. Any updates will be communicated promptly through the same official channels.

7. 🤝 Commitment Statement

Kurdistan Technical Institute maintains a zero-tolerance stance toward radicalization, extremism, hate speech, and violence. By actively circulating and reinforcing this policy, we commit to:

- Protecting the well-being of our community.
- Fostering an environment of mutual respect, diversity, and peace.
- Upholding the values of inclusion, safety, and aca

Dler Jabar Ahmed

Director of Health and Safety, Kurdistan Technical Institute Coordinator, Maya Company

Dler Jabar Ahmed is a distinguished professional in the field of health and safety, currently serving as the Director of Health and Safety at Kurdistan Technical Institute. In this capacity, he has played a pivotal role in establishing and maintaining rigorous safety standards across academic and technical environments, ensuring the well-being of students, staff, and visitors alike.

In addition to his leadership at the institute, Mr. Ahmed also serves as a Coordinator for Maya Company, where he contributes his expertise to broader organizational safety initiatives and operational planning. His dual roles reflect a deep commitment to advancing health and safety practices across both educational and corporate sectors.

Mr. Ahmed brings a wealth of experience to his profession, with a specialized background in operating room procedures—particularly in orthopedic surgery. His technical proficiency as an orthopedic surgery technician has equipped him with a nuanced understanding of clinical safety protocols, sterile environments, and surgical support systems. This hands-on experience enhances his ability to design and implement effective safety frameworks in high-risk medical settings.

Throughout his career, Dler Jabar Ahmed has demonstrated exceptional dedication to professional excellence, interdisciplinary collaboration, and the continuous improvement of health and safety standards. His contributions have earned him recognition as a leading figure in his field within the Kurdistan region.

References:

- Occupational Safety and Health Administration
- Guidance on health and safety for all workplaces - HSE
- Health and safety keywords | IOSH
- First Aid Courses, Advice & Volunteering | St John Ambulance (sja.org.uk)
- World Health Organization (WHO)
- Centers for Disease Control and Prevention (cdc.gov)