

# **Occupational Health and Safety**

## **Lesson II**

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- The definition of Occupational Safety and Health (OSH)
- Occupational Health and Safety Laws In Turkey
- 4857 Labor Law
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- General Responsibilities of Government, Employer and Worker regarding the OHS Culture
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# OCCUPATIONAL HEALTH AND SAFETY (OHS)



# THE DEFINITION OF OHS

- Occupational health and safety (OHS) or workplace health and safety (WHS) is the topic concerning the safety, health and welfare of people engaged in work or employment.
- The objectives of OHS programs mainly cover providing a safe and healthy work environment. The effective OHS strategies are also expected to protect co-workers, family members, employers, customers, and many others who might be affected by the workplace environment.

A safety culture can only be existed with an internalized information.

# The Mission of OHS

- The mission of OHS is to assure safe and healthy working conditions employees by setting and enforcing legislations as well as standards and by providing training, outreach, education and assistance as well as continuous monitoring.
- The core missions of OHS are two folded:
  - ✓ Developing job safety and health standards embodied with worksite inspections.
  - ✓ Providing training programs to increase knowledge and awareness regarding each pillar of occupational safety and health concept.

# PURPOSE OF OHS

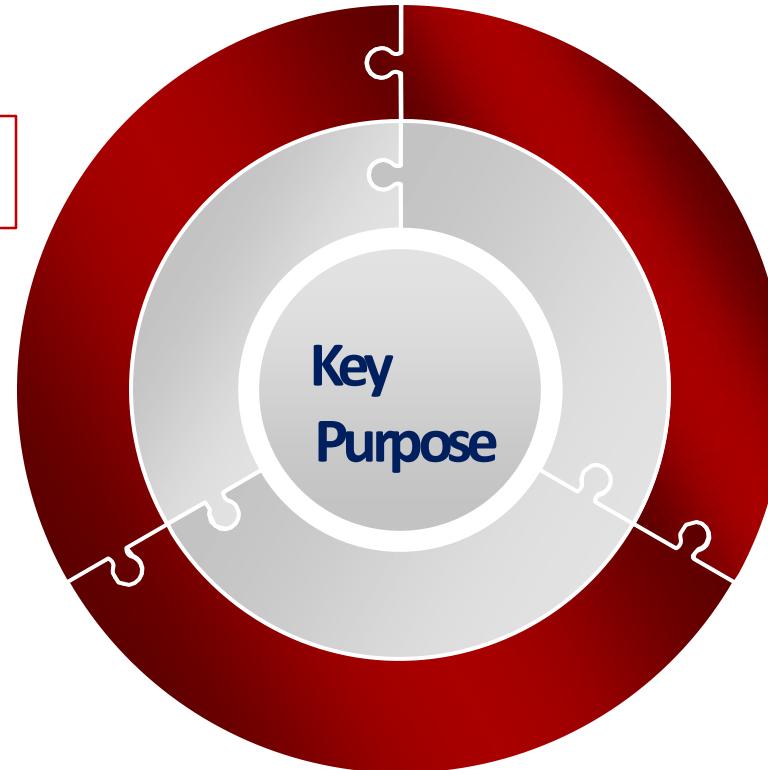
Employee Protection



Business Protection



Increase Service & Quality



# KEY ELEMENTS OF OHS



# Why is OSHA Important to You?

- 4,405 workers were killed on the job in 2023 (3.2 per 100,000 full-time equivalent workers)
- An average of nearly 12 workers die every day
- Nearly 3.0 million serious workplace injuries and illnesses were reported by private sector employers in 2022

## OSHA Makes a Difference

- Worker deaths in America are down—on average, from about 38 worker deaths a day in 1970 to 12 a day in 2023.
- Occupational injuries and illnesses are down—from 10.9 incidents per 100 workers in 1972 to 3.0 per 100 in 2022.

# OCCUPATIONAL HEALTH AND SAFETY LAW IN TURKEY



# OCCUPATIONAL HEALTH AND SAFETY LAWS IN TURKEY

Occupational Health and Safety Law (No. 6331),  
published in the Official Gazette dated 30 June 2012 and  
numbered 28339, entered into force as of 01 January  
2013.

# **APPLICATION-SCOPE-EXTENT AND EXCEPTIONS in LAW**

## **NO: 6331**

Law No. 6331 is applied to all works and workplaces in both public and private sector, employers of these workplaces and their representatives, all workers including apprentices as well as interns regardless of their field of activity.

# **Enforcement-Scope - Extent and Exceptions – Law No: 6331**

## **ENFORCEMENT:**

- All domestic and businesses to the public and private sectors,
- Employers' representatives,
- IR and interns, including all employees, regardless of whether the subject matter of their activities are applied to the INA.

# **Application-Scope - Extent and Exceptions – Law No: 6331**

## **THE PURPOSE OF THIS LAW:**

Workplace health and safety is governed by a system of laws, regulations and compliance codes which set out the responsibilities of employers and workers to ensure that safety is maintained at work.



# **Enforcement-scope-extent and exceptions – Law No: 6331**

## **EXCEPTIONS:**

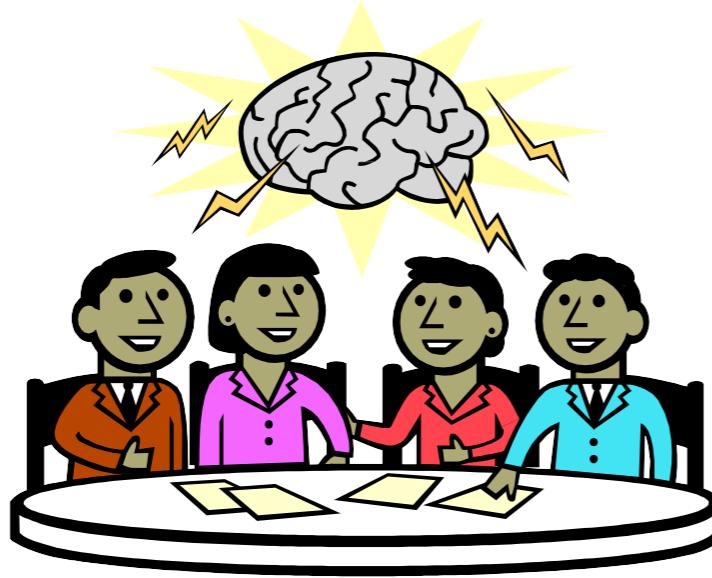
However, Law No. 6331 is not applicable to the following activities and persons:

- A. Activities of the Turkish armed forces, the police and the undersecretary of national intelligence organisation except for those employed in workplaces such as factories, maintenance centres, sewing workshops, etc.**
- B. Intervention activities of disaster and emergency units.**
- C. Domestic services.**

## **Scope and exceptions – LAW NO: 6331...**

- D. People producing services in their own name and on their own account without employing workers.**
- E. Prison workshop, training, security and vocational course activities within the framework of improvements carried out throughout the enforcement services for convicts and inmates.**

# THE LAW BROUGHT RESPONSIBILITIES TO EMPLOYERS AND EMPLOYEES



# BY ENFORCEMENT OF THE NEW LAW

## Employers in each workplace must

- Provide occupational health and safety training
- Conduct Risk analysis and emergency response plan
- Perform each kind of test and measurement
- Form H&S Committee
- Help workers to select H&S representative



HEALTH  
AND  
SAFETY  
TRAINING

# **The Employees' Right for Abstain from the Work within the scope of Occupational Health and Safety Law**

- (1) Workers exposed to serious and imminent danger can apply to the committee (or the employer when the absence of a committee) to request the identification of the hazard and potential measures for emergency intervention. The committee convenes without delay and the employer makes a decision immediately and write this decision down. The worker and workers' representative shall be notified in written.
- (2) The worker can abstain from work until necessary measures are put into practice once the committee or employer decides in the direction of the employee's request. The worker shall be entitled to payment during this period of abstaining from work and his/her rights arising under the employment contract and other laws shall be reserved.

# **The Employee's Right to Avoidance of the Work within the Occupational Health and Safety Law**

- (3) The workers that have experienced serious event and/or imminent danger shall leave their working area and moved to a safe place without any necessity to comply with the requirements. Workers may not be placed at any disadvantage because of their action.
- (4) Where the necessary measures are not taken despite the requests by workers, workers under labour contract might terminate their employment contract in accordance with the provisions of the law applicable to them. As for the workers under collective bargaining agreement, the abstention period as defined in this article shall be deemed as actual work time.

# **LABOR LAW No. 4857**



# **4857 LABOR LAW**

## **SCOPE:**

The purpose of this Law is to regulate the working conditions and work-related rights and obligations of employers and employees who work under an employment contract.

**4857 Labour Law: The employer may break the contract, whether for a definite or indefinite period, before its expiry or without having to comply with the prescribed notice periods, in the following cases:**

- **H-** If the employee insists in refusing to perform his/her duties even being warned,
- **I-** If either wilfully or through gross negligence the employee imperils safety or damages machinery, equipment or other articles or materials in his care, whether these are the employer's property or not, and the damage cannot be offset by his thirty days' pay.

**The employer may break the contract, whether for a definite or indefinite period, before its expiry or without having to comply with the prescribed notice periods.**

## 4857 Labour Law : Annual Leave with Pay and Leave Periods

The length of the employee's annual leave with pay shall not be less than;

- Fourteen days if his/her length of service is between one and five years, (five included),
- Twenty days if his/her length of service is more than five and less than fifteen years,
- Twenty-six days if his/her length of service is fifteen years and more (fifteen included)

For employees **below the age of eighteen** and **above the age of fifty**, the length of annual leave with pay must not be **less than twenty days**.

The length of annual leave with pay may be increased by employment contracts and collective agreements

# OHS BASIC PRINCIPLES AND HOLISTIC APPROACH



# OHS BASIC PRINCIPLES

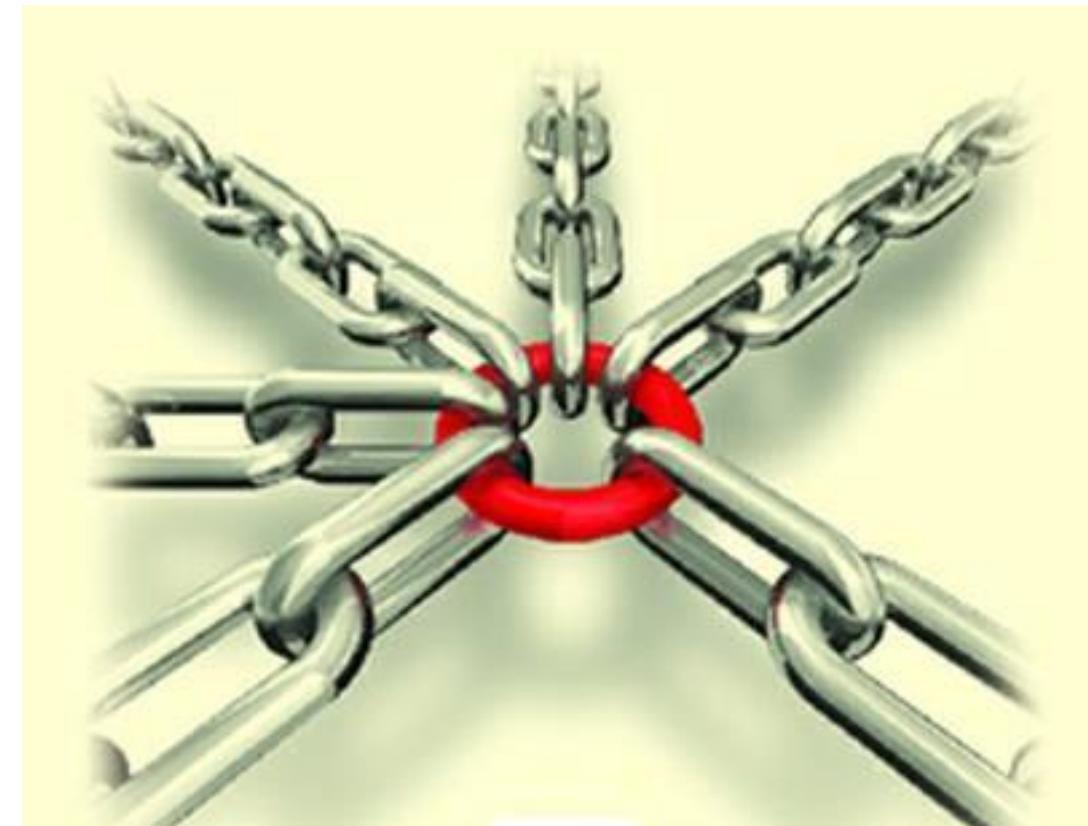
➤ OHS there are 3 basic principles;

- ✓ Planning
- ✓ Continuity
- ✓ Method

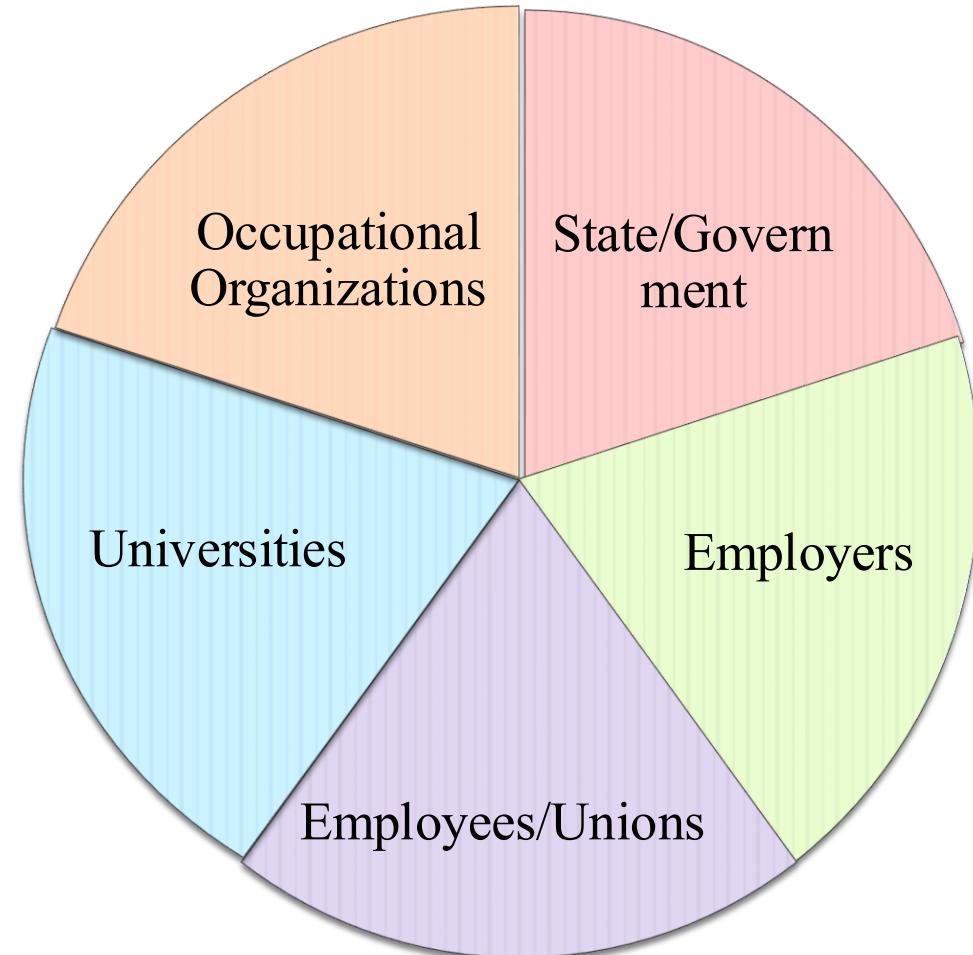
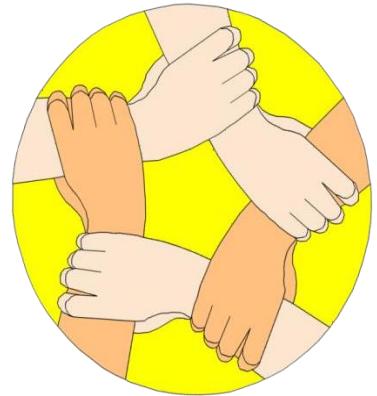


## OSH HOLISTIC APPROACH

- Occupational Health and Safety is a multi-disciplinary approach.
- OHS is embodied with a participation of diverse stakeholders.
- The solution of a problem becomes quite challenging once the identification of main stakeholders is not carried out.

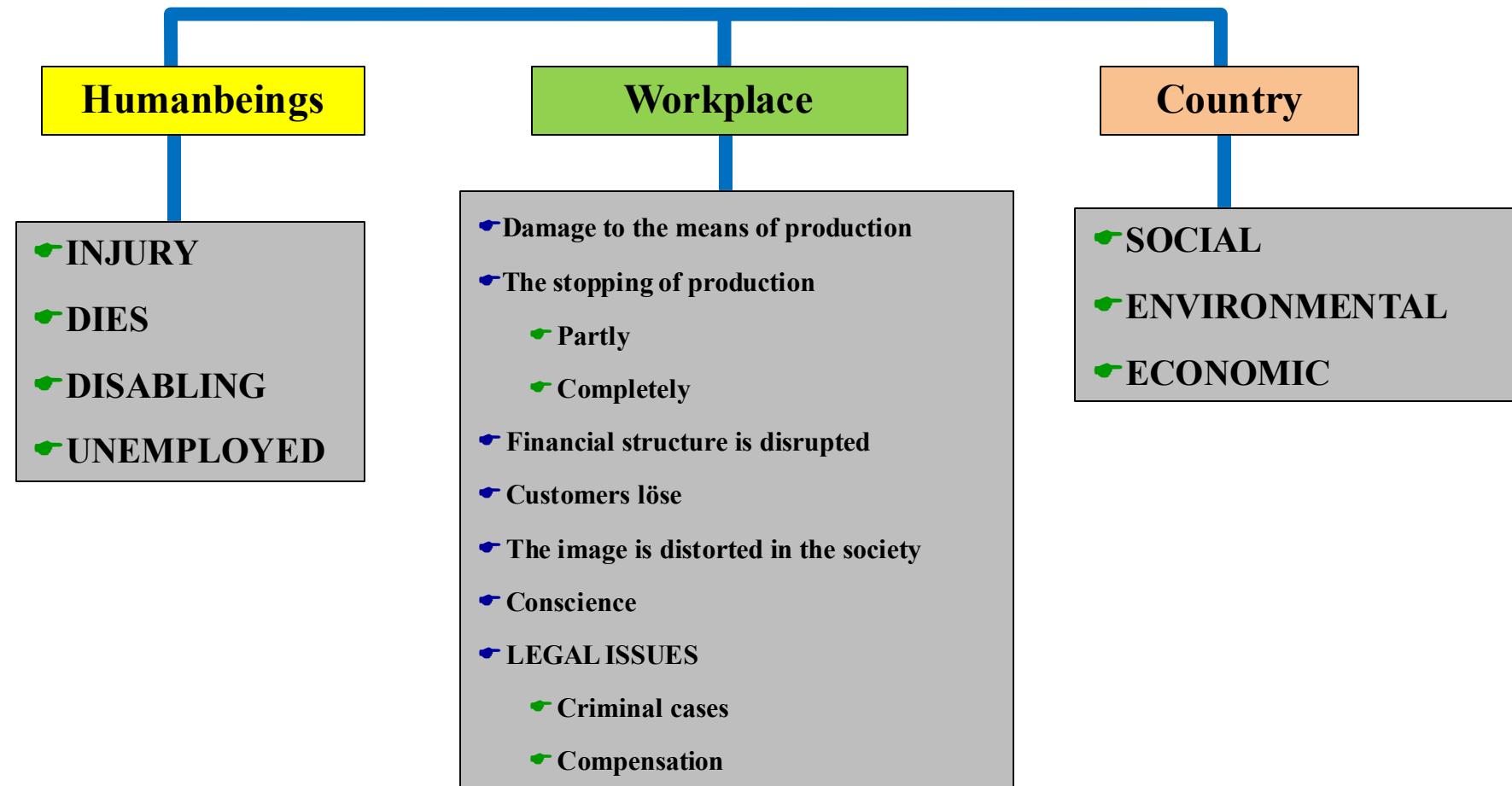


## OHS Holistic Approach...



# OSH Holistic Approach

How affected The parties?



# **GENERAL RESPONSIBILITIES OF GOVERNMENT, EMPLOYER AND WORKER ON OHS CULTURE**

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# THE OHS CULTURE

## Occupational safety culture:

- Occupational safety is of utmost importance being a lifestyle,
- Safety is mainly based on information,
- A safety culture can only be constituted by internalized knowledge.
- Occupational accidents and occupational diseases are likely to occur once occupational safety is ignored.
- Government, employer(s) and worker(s) have significant responsibilities on the OHS culture.

# **Occupational Health and Safety (OHS) Culture**

The safety culture of an organisation is the product of individual and group values, attitudes, perceptions, competencies and patterns of behavior that determine the commitment to, and the style and proficiency of, an organisation's health and safety management.



# Safety Investment

"Safety is, without doubt, the most crucial investment we can make and the question is not what it costs us, but what it saves."

Robert E McKee, Chairman and Managing Director,  
Conoco (UK) Ltd



# Safety Culture and Safety Performance

Important components of a positive health and safety culture:

- leadership and commitment to health and safety throughout the organisation,
- health and safety treated as seriously as other corporate aims and adequately resourced;
- health and safety must be a line-management responsibility,
- acceptance that high standards of health and safety are achievable as part of a long-term strategy formulated by the organisation requiring sustained effort and interest,
- a detailed assessment of health and safety risks in the organisation and the development of control and monitoring systems,
- realistic and achievable targets and performance,
- relevant employee training programmes, communication and consultation procedures to ensure ownership and participation throughout the organisations,
- systems for monitoring equipment, processes, behavior and procedures and rectification of any defects
- prompt investigation of all incidents and accidents and reports made detailing ant necessary remedial actions.



# Important Indicators of a Health and Safety Culture

The main indicators for the development of health and safety must:

- be objective and easy to measure and collect;
- be relevant to the organisation;
- provide immediate and reliable indication of the performance level;
- be cost-effective in terms of equipment, personnel and additional technology to gather the information;
- be understood and owned by the organisation.



# Indicators of a Poor Health and Safety Culture

Indications of a poor health and safety culture include:

- a high sickness, ill-health and absentee rate among the workforce;
- the perception of a blame culture;
- high staff turnover leading to a loss of momentum in making health and safety improvements;
- no resources (budget, people or facilities) made available for the effective management of health and safety;
- a lack of compliance with relevant health and safety law and safety rules and procedures;
- regular procedural violations;
- poor selection procedures and management;
- poor levels of communications, cooperation and control;
- a weak health and safety management structure;
- either a lack, or poor levels, of health and safety competence;
- high insurance premiums.



# **Governmental responsibilities in terms of Occupational Health And Safety are as follows:**

- Enforcement of occupational health and safety legislation,
- Workplace inspections,
- Dissemination of information,
- Promotion of training, education and research,
- Providing an incentive-based approaches,



## **The Role Of Government is;**

- To ensure that every employee benefits from OHS services, regardless of the number of employees in the workplace,
- To provide necessary condition and standards by the regulations
- To ensure government policies.



## The Role Of Government is;

- to prevent unrecorded employments,
- to inhibit child employmenst,
- to eliminate the gender apartheid,
- to provide a support for social security,
- to prevent the injustice of income distribution
- to determine a livable minimum wage

## The Role Of Government is;

- to organize public health services,
- to establish a reliable registration System,
- to analyze the occupational accidents in scientific manner,
- to create awareness of employees' health,
- to protect the workers by laws.

## **GENERAL RESPONSIBILITIES OF EMPLOYERS are to**

- Take the necessary measures for the safety and health protection of workers,
- Carry out a risk assessment,
- The workers' obligations in the field of safety and health at work shall not affect the principle of the responsibility of the employer,
- Take all the measures related to health and safety at work,

# **Responsibilities of Employers are to**

- Avoid risks,
- Evaluate the risks which can not be avoided,
- Combat the risks at source,
- Adapt the work to the individual, especially in terms of designing the work places,
- Provide adaptation to the technical progress,



## **Responsibilities of the Employers are to**

- Replace the dangerous material/case by the non-dangerous or those of less dangerous.
- Develop a coherent prevention policy which covers technology, organization of work, working conditions, social relationships and the influence of factors related to the working environment,
- Give priority to collective protective measures over individual protective measures,
- Giving appropriate instructions to the workers,

# **Responsibilities of the Employers are to**

- Ensure that each worker receives safety and health training,
- Provide emergency plans regarding the fire-fighting and first aid,
- Keep a list of all occupational accidents and diseases suffered by the workers,



## **Responsibilities of the Employers are to**

- Consult workers or representatives authorized by the unions in enterprises with more than two workers' representatives or workers' representatives themselves in the absence of trade union representative to ensure the consultation and participation of workers



# WORKERS' OBLIGATIONS

It shall be the responsibility of each worker to take care as far as possible of his/her own safety and health and that of other persons affected by his/her acts at work in accordance with the training and instructions related to occupational health and safety given by the employer.



## **Workers' Obligations are to**

- Make correct use of machinery, equipment, tools, dangerous substances, transport equipment and other means of production,
- Make correct use of the personal protective equipment supplied to them and protect themselves,
- Cooperate with the employer and/or workers' representative to enable any tasks or requirements imposed by the competent authority to protect the safety and health of workers at work to be carried out,
- Cooperate with the employer and/or workers' representative for occupational health and safety of workers within their field of activity,

# HAZARD CLASSIFICATION OF WORKPLACES



## **HAZARD CLASSES OF A WORKPLACE**

In accordance with Article 9 of the Occupational Health and Safety Law No. 6331, the Workplace Hazard Classes are listed in terms of occupational health and safety.



# Hazard Classification of a Workplace

Very Dangerous

- A class specialist

Dangerous

- B class specialist

Less Dangerous

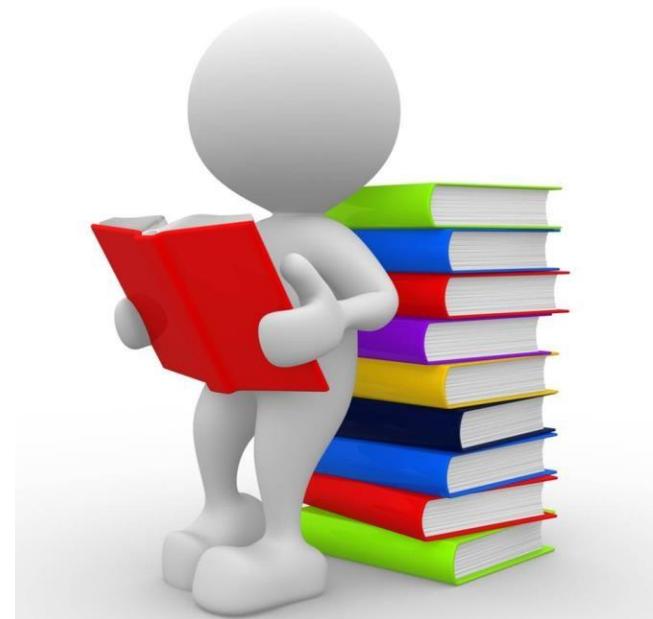
- C class specialist

# PROCEDURES AND PRINCIPLES OF OCCUPATIONAL HEALTH AND SAFETY TRAINING



## **EMPLOYER'S RESPONSIBILITIES WITH RESPECT TO OHS TRAINING**

- a)** Preparation and implementation of training programs,
- b)** Provide suitable location, tools and equipment for training,
- c)** To ensure the participation of employees in these programs,
- d)** Submission of Training Certificate to the employers at the end of the program.



# **COMPULSORY HEALTH AND SAFETY TRAINING SHALL BE GIVEN**

## **WHEN**

Getting started to work

The workplace is changed

The work equipments are changed

The new technologies are applied.

## **IN TERMS OF OHS;**

It is necessary to

- Believe and to be believed,
- Getting informed and get informed,
- Apply and to be applied

By all the involved stateholders.

# **TERMS, DEFINITIONS and FUNDAMENTAL INFORMATION**

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# **HEALTH - WORKPLACE HEALTH**

## **HEALTH**

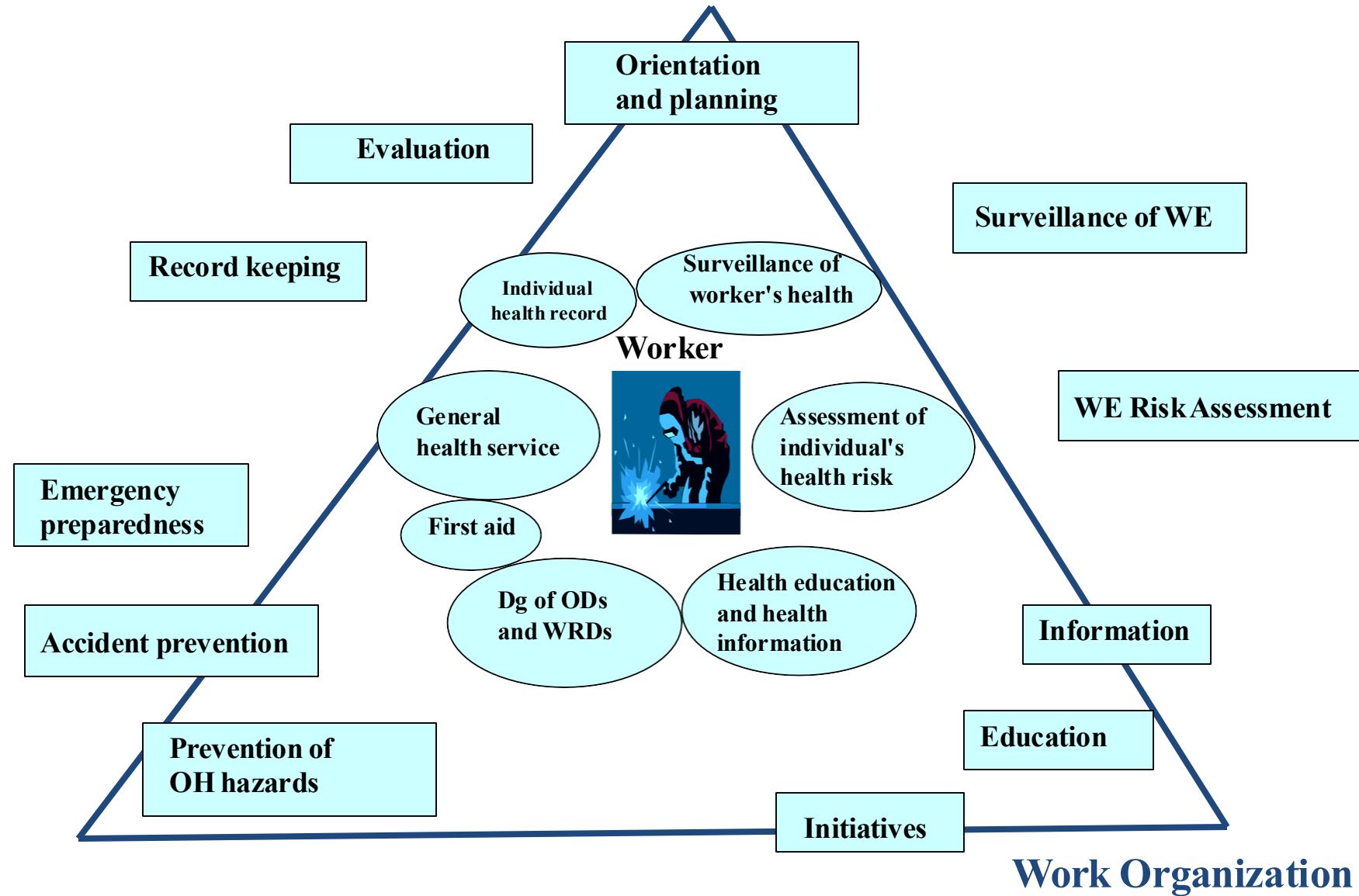
Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity



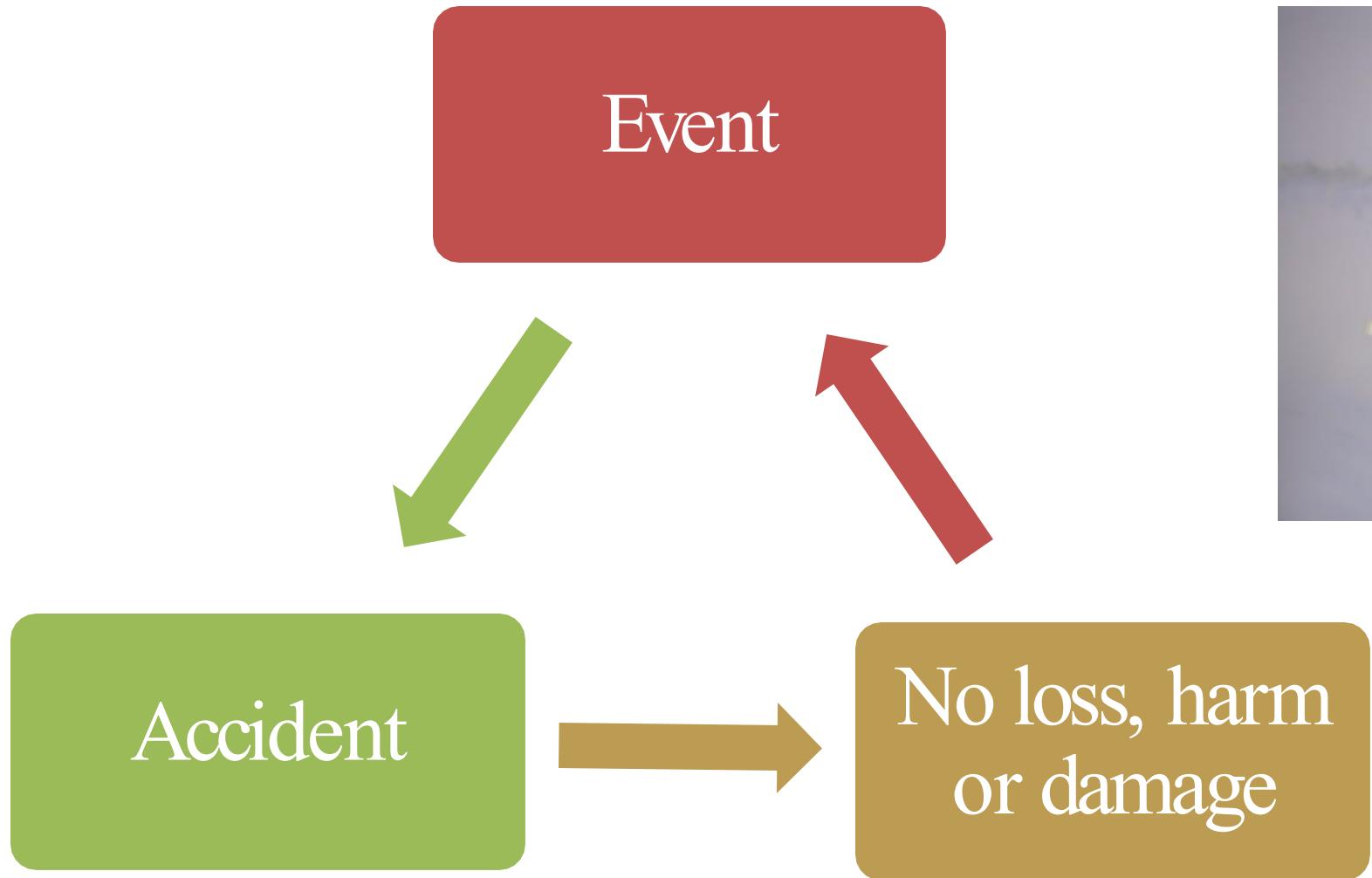
## **OCCUPATIONAL HEALTH**

Workplace health is a comprehensive and integrated approach to health which focuses on the general population at a workplace and the organization as a whole. It addresses a broad range of health issues including physical and psychosocial, environment, health practices, personal resources, etc. through programs, policies and practices.

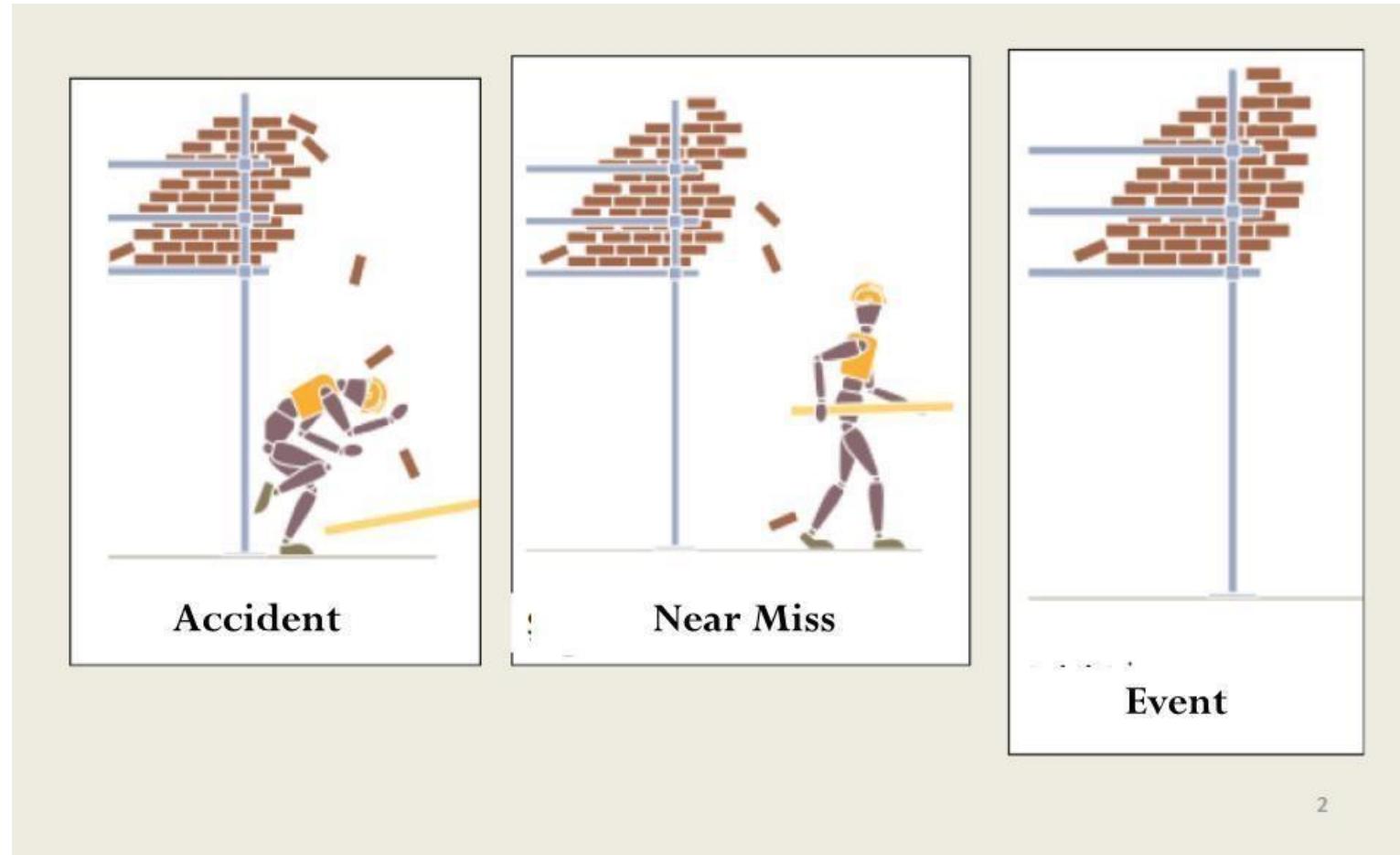
# Workers health



# EVENT



# What is Event?



# THE ACCIDENT- THE ACCIDENT STATISTICS – THE ACCIDENT PYRAMID



# ACCIDENT

- The term "accident" can be defined as an unplanned event that interrupts the completion of an activity, and that may (or may not) include injury or property damage.
- An incident usually refers to an unexpected event that did not cause injury or damage this time but had the potential. "**Near miss**" or "**dangerous occurrence**" are also terms for an event that could have caused harm but did not.

## An Accident is:

- A. An unexpected and undesirable event, especially one resulting in damage or harm: car accidents on icy roads.
- B. An unforeseen incident: A series of happy accidents led to his promotion
- C. An instance of involuntary urination or defecation in one's clothing.

Lack of intention; chance: ran into an old friend by accident.

*Logic* A circumstance or attribute that is not essential to the nature something.



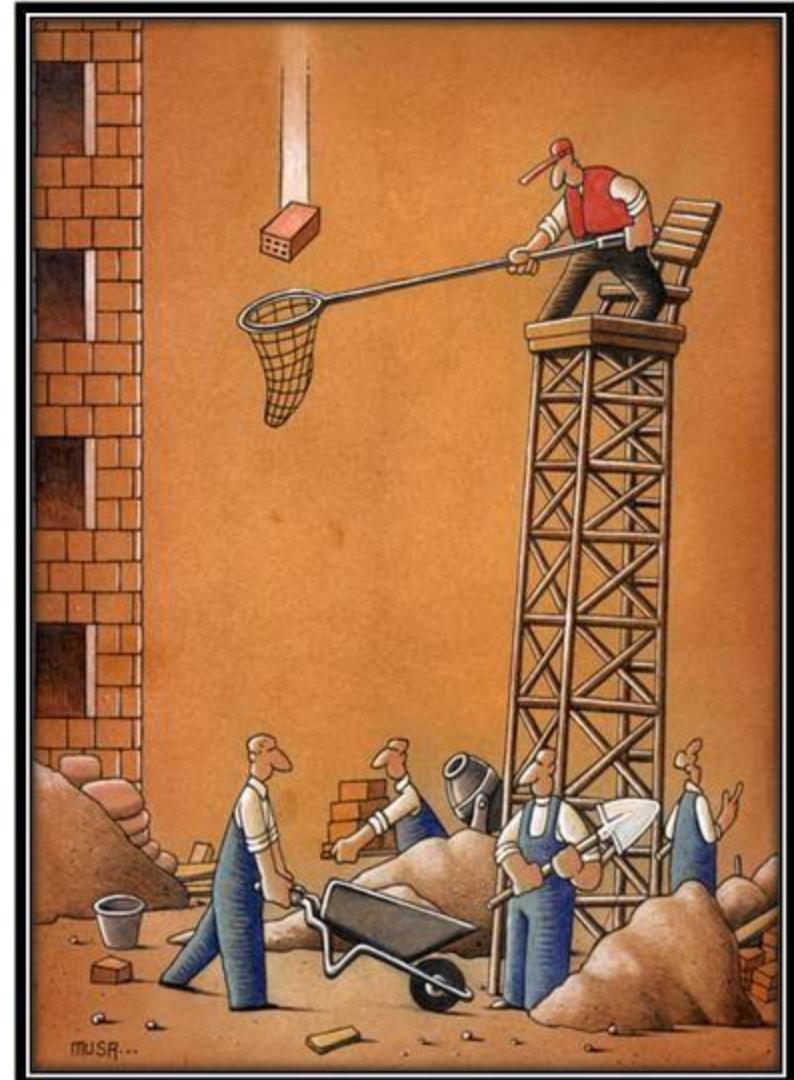
# Occupational Accident (Definitions by ILO and WHO)

## ➤ ILO (International Labour Organization)

- ✓ An unexpected or unforeseen event that leading to specific damage or injury.

## ✓ WHO (World Health Organization)

- It is an unplanned event that often lead to personal injury, damage to machinery, tools and equipment, and production stoppage for a while.



# Accident

**Near Miss (No Damage):** It is the situation where there is no loss as a result, but the risk/risks are realized.

**Minor Accidents:** Small damage and first aid accidents with fewer working days.

**More Serious Accidents:** The accidents with more than 3 working days lost, leading to significant damage and requiring external treatment.

# **Work accident (5510 Social Insurance and Universal Health Insurance Law)**

**Work accident is the incident which occurs:**

- A. When the insurance holder is at the workplace,
- B. (Amended: 17/4/2008 - 5754/8th Art.) due to the work carried out by the employer or by the insurance holder if he/she is working on behalf of own name and account,
- C. For an insurance holder working under an employer, at times when he/she is not carrying out his/her main work due to the reason that he/she is sent on duty to another place out of the workplace,

# **Work accident (5510 Social Insurance and Universal Health Insurance Law)**

**Work accident is the incident which occurs:**

- D.** (Amended: 17/4/2008 - 5754/8th Art.) for a nursing female insurance holder under item (a) of paragraph one of Article 4 of this Law, at times allocated for nursing her child as per labour legislation,
- E.** During insurance holder's going to or coming from the place, where the work is carried out, on a vehicle provided by the employer, and which causes, immediate or delayed, physical or mental handicap in the insurance holder.

# FACTORS CAUSE ACCIDENTS

Normally three cause levels:

Most accidents are preventable by eliminating one or more causes.

- At the lowest level, an accident results only when a person or object receives an amount of energy or hazardous material that cannot be absorbed safely. This **energy or hazardous material is the DIRECT CAUSE** of the accident. **The direct cause is usually the result of one or more unsafe acts or unsafe conditions, or both.**
- **Unsafe acts and conditions are the INDIRECT (OR CONTRIBUTING) CAUSES** or symptoms. In turn, **indirect causes are usually traceable to poor management policies and decisions, or to personal or environmental factors.**

# Accident Causing Factors

## ➤ Basic Causes

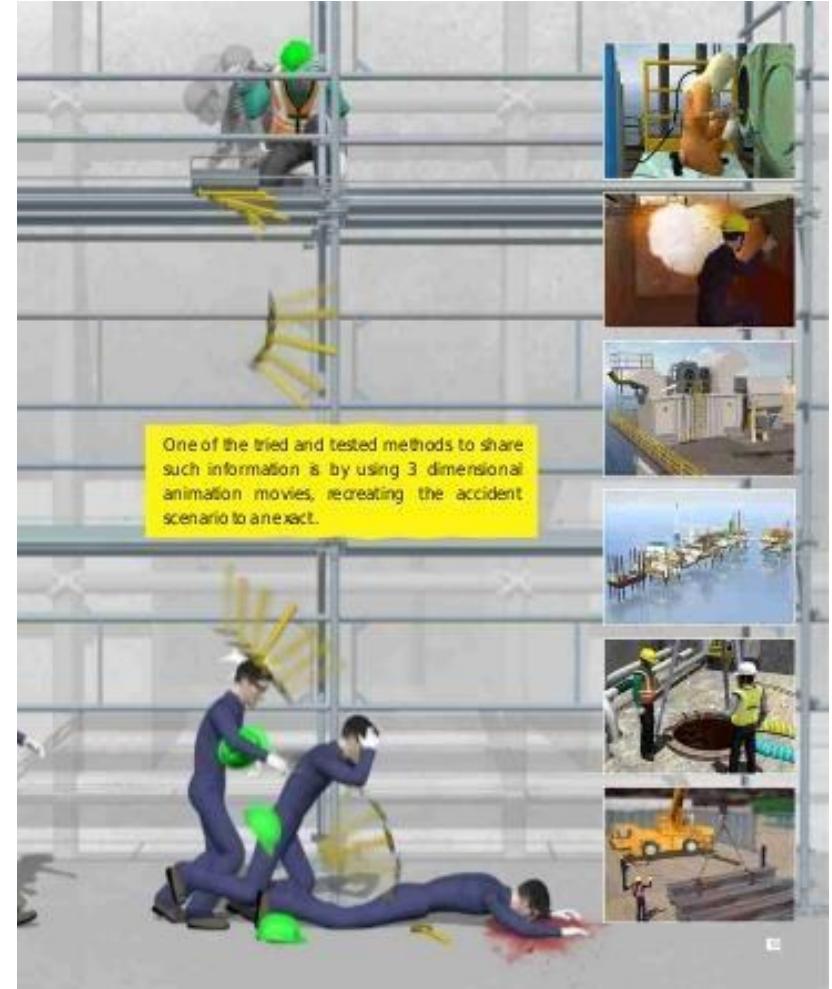
- ✓ Management
- ✓ Environmental
- ✓ Equipment
- ✓ Human Behavior

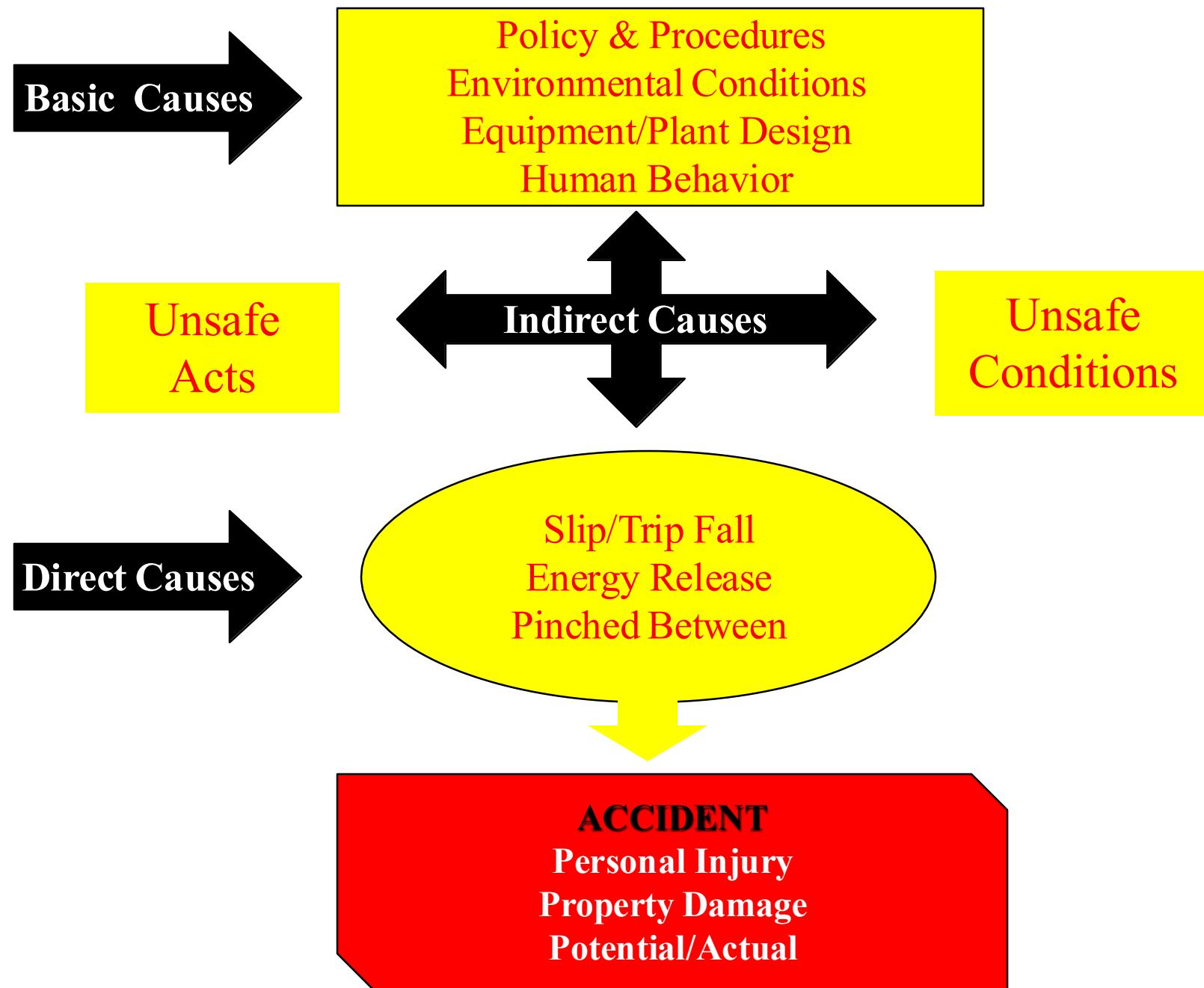
## ➤ Indirect Causes

- ✓ Unsafe Acts
- ✓ Unsafe Conditions

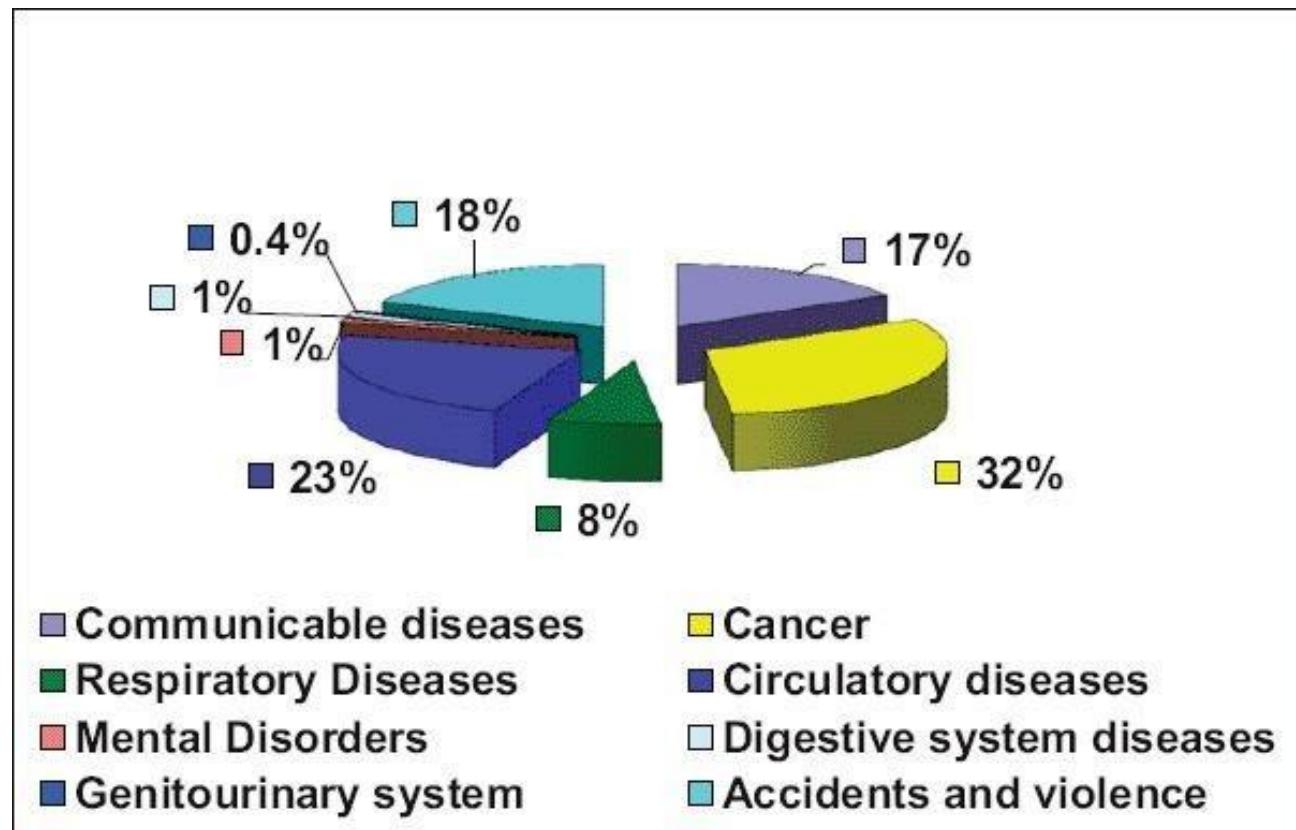
## ➤ Direct Causes

- ✓ Slips, Trips, Falls
- ✓ Caught In
- ✓ Run Over
- ✓ Chemical Exposure



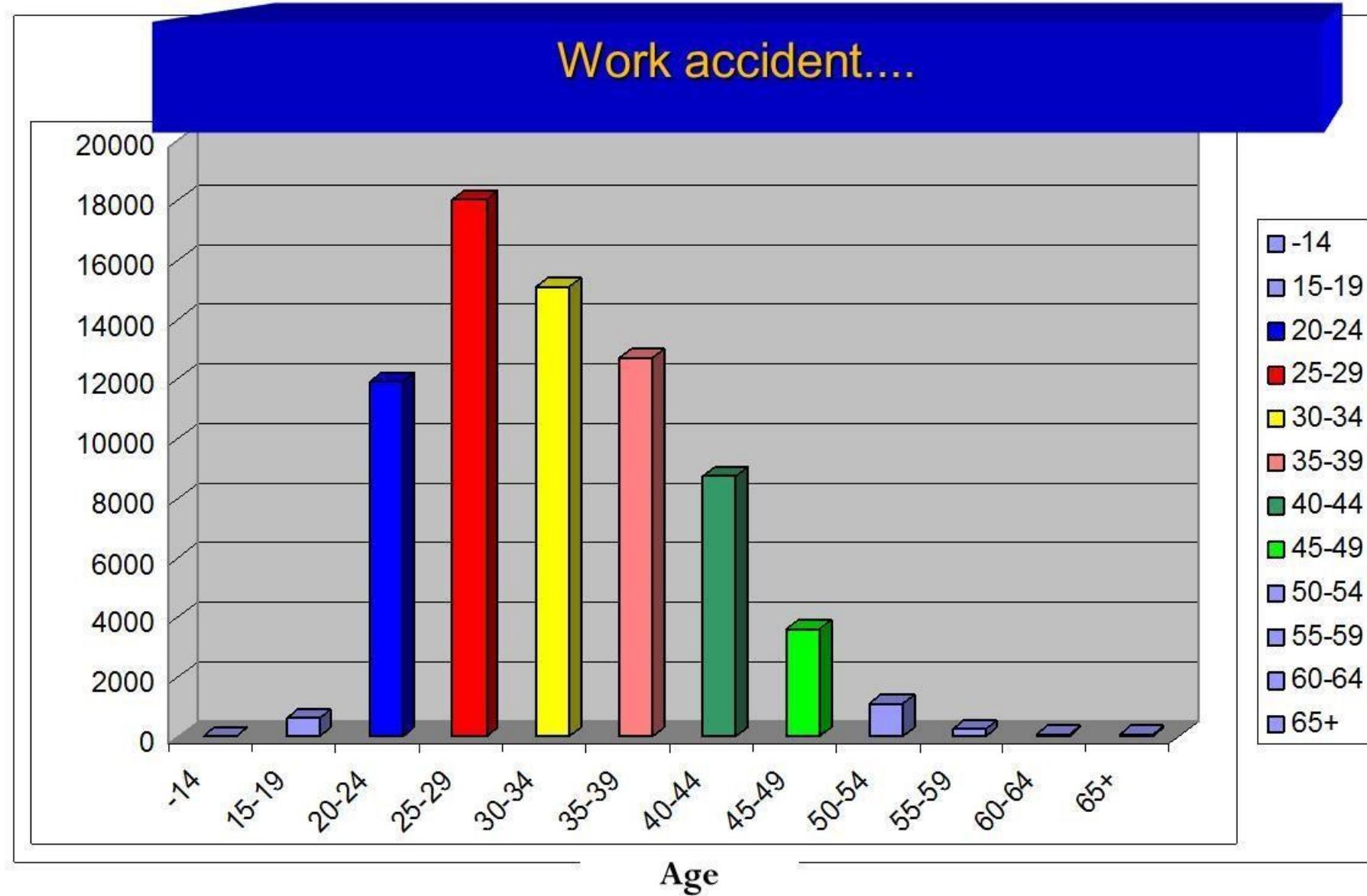


# STATISTICS OF OCCUPATIONAL ACCIDENTS AND DISEASES

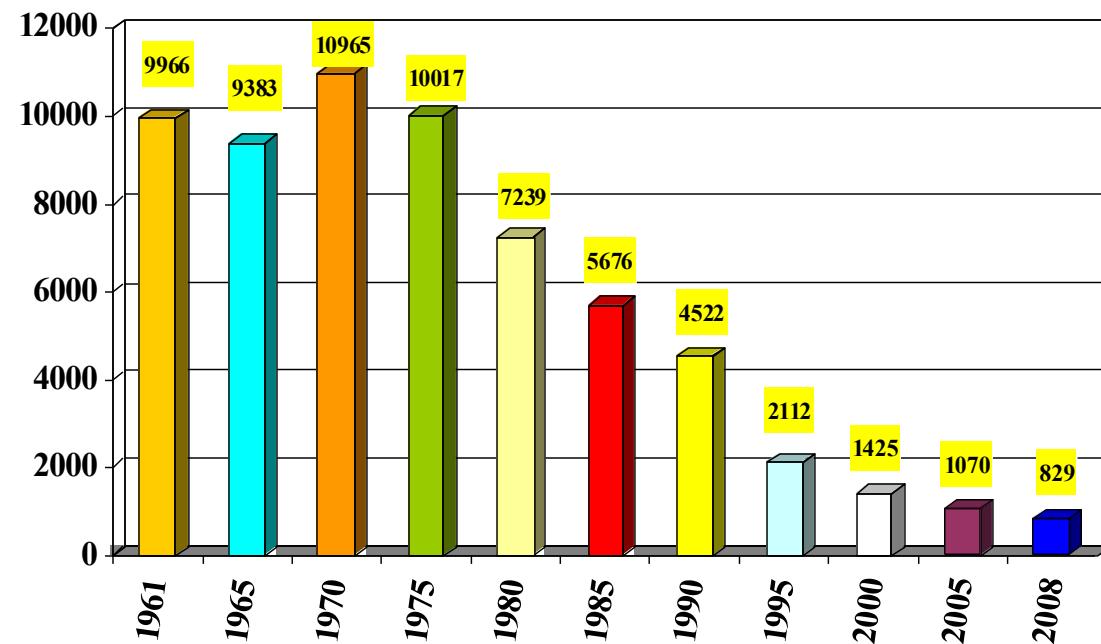


**Work-related annual deaths – World** (Sources: Hämäläinen P, Takala J, Saarela KL; TUT, ILO, EU-OSHA, 2008).

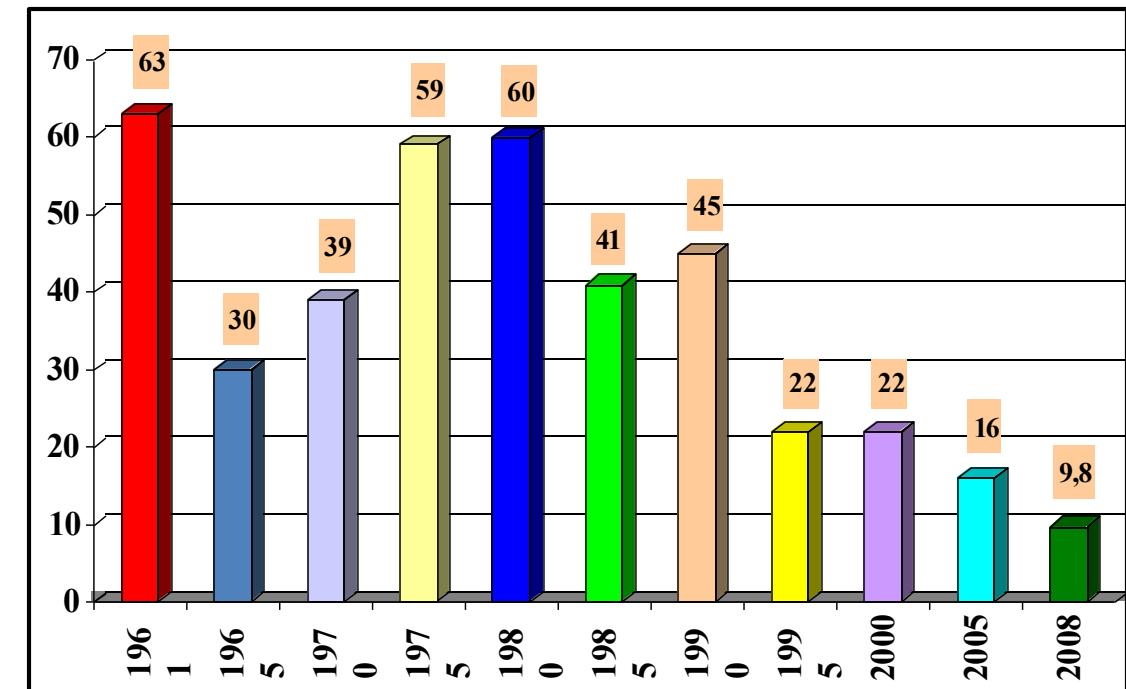
## Work accident....



# STATISTICS OF OCCUPATIONAL ACCIDENTS AND DISEASES



Source : Social Insurance Institution  
Number of occupational accidents / 100.000



Source : Social Insurance Institution  
Number of fatal occupational accidents and diseases / 100.000

# **WHO LOOSE DUE TO THE OCCUPATIONAL ACCIDENTS?**

## **1.Worker**

- Suffer
- Loss of income
- Losing your job
- Treatment costs
- Familial troubles

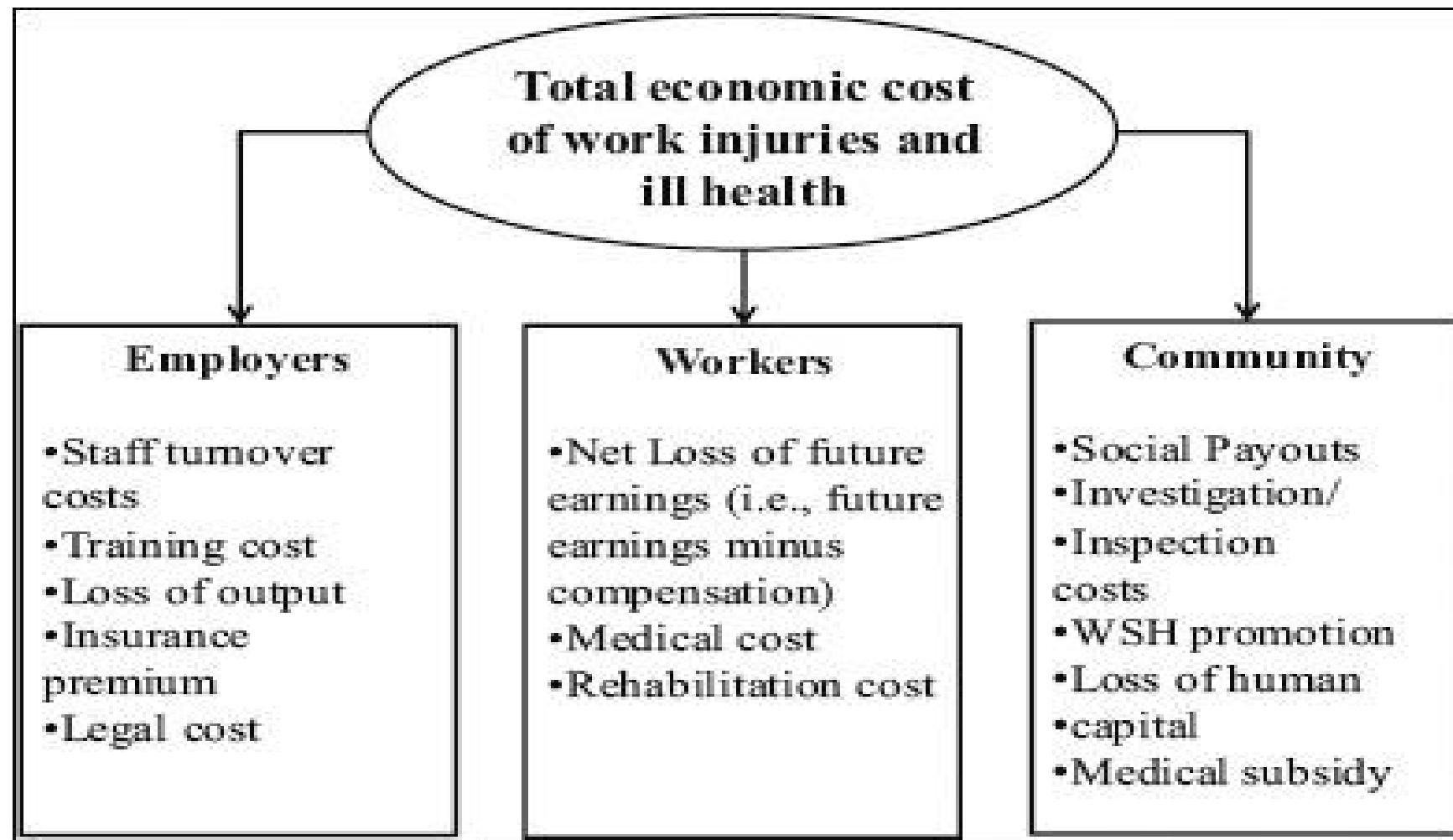
## **2.Employer**

- Financial costs
- Physical effects of the accidents on the employees
- Hasar gören ekipmanın tamiri / yenilenmesi
- Cost of accident investigation time
- Production stopping

## **3. Country Economy**

## **4. Society**

# Cost items borne by employers, workers, and the community



# WORKPLACE ACCIDENT ICEBERG EFFECT

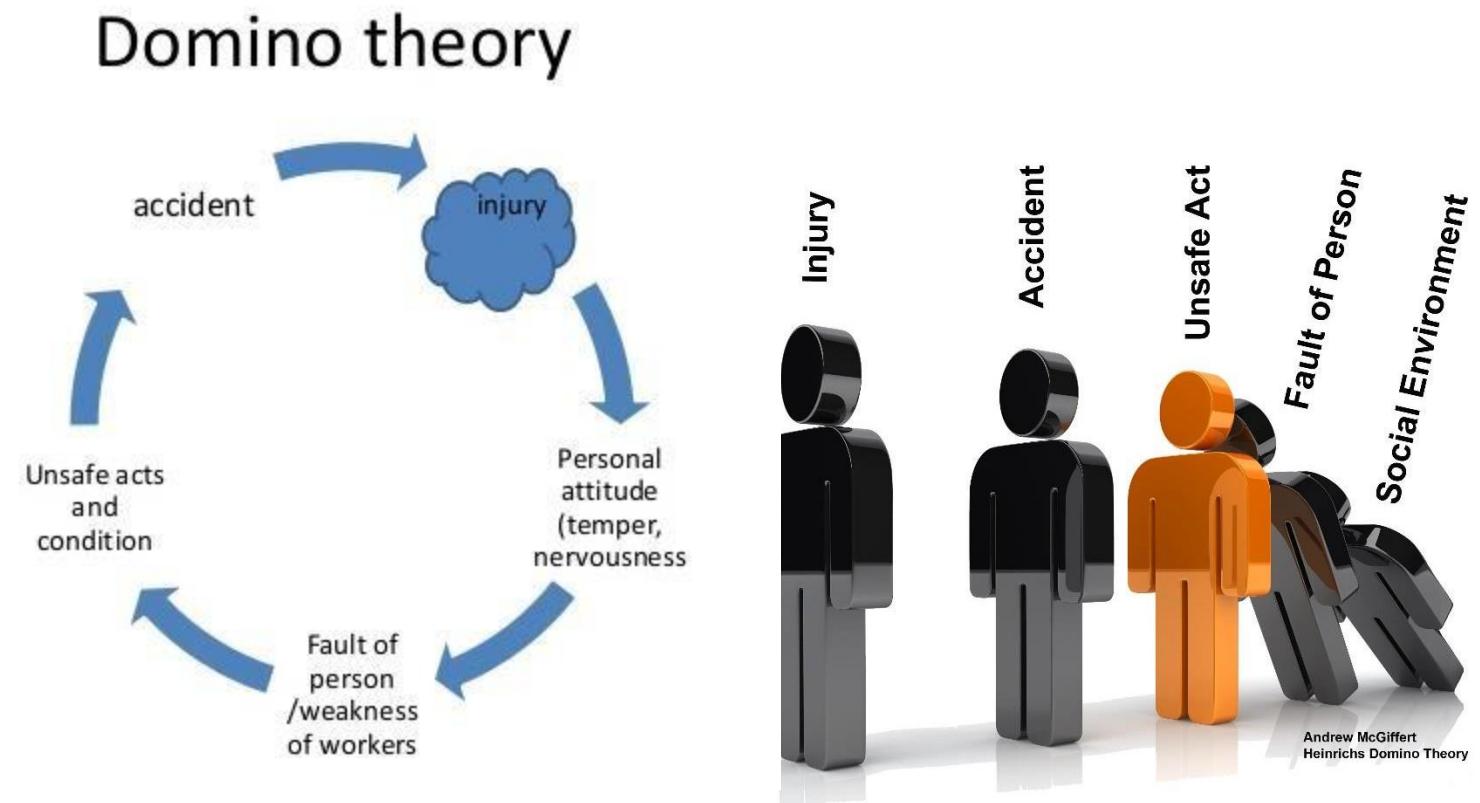
- Any accident at work results in both direct and indirect costs which are represented by the diagram.
- **Direct Costs** tend to be the ones that we think of first
- **Indirect Costs** may be those that are less obvious but, as you can see from the diagram, they account for more of the overall cost of an accident than the direct costs



# DOMINO APPROACH

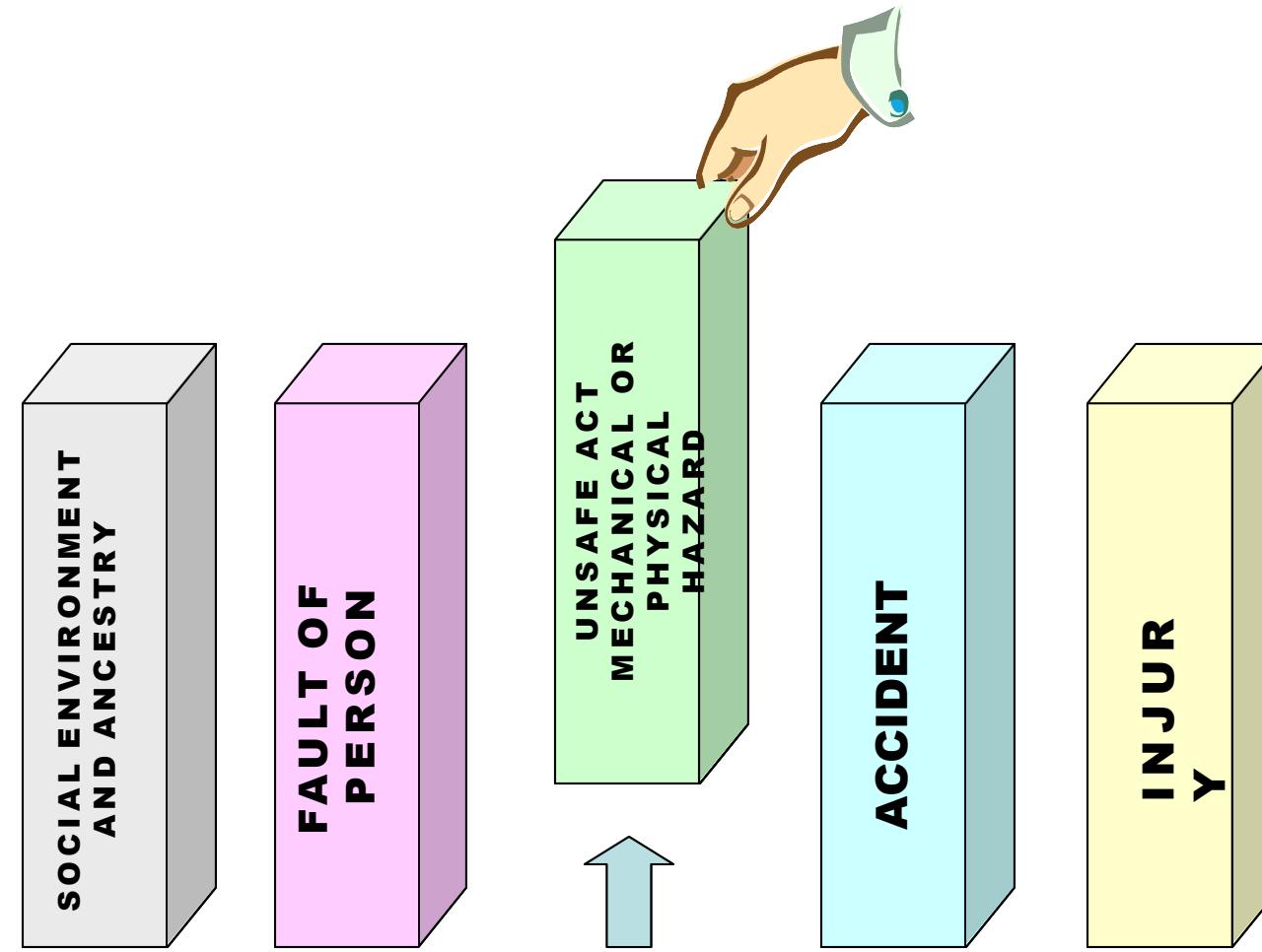
Heinrich's key factors in the domino sequence of events leading to an injury are shown below:

1. Social environment;
2. Fault of the person;
3. Unsafe acts or conditions;
4. Accident;
5. Injury.



# Domino Approach....

- Unsafe act and mechanical hazard constitute the central factor in the accident sequence



## **Domino Approach**

The main working area of Occupational Health and Safety should be aimed at eliminating dangerous situations and dangerous behavior.

Many accidents are caused by unsafe behavior.

The magnitude of the damage resulting from the accident cannot be predicted.

1- 29 – 300 Ratio: On the basis of every fatal accident, there are 29 minor injuries and 300 non-injury events.

Investigating the causes of dangerous behaviors can serve as helpful guides in choosing the right behavior.

## **Domino Approach**

In order to prevent accidents, starting with engineering measures, other measures should be taken in order.

The methods of preventing accidents and the methods used in the enterprises to increase the quality and efficiency show parallelism.

Top management should take responsibility for safety, managers should also participate in the work.

First-level managers are very important in OHS.

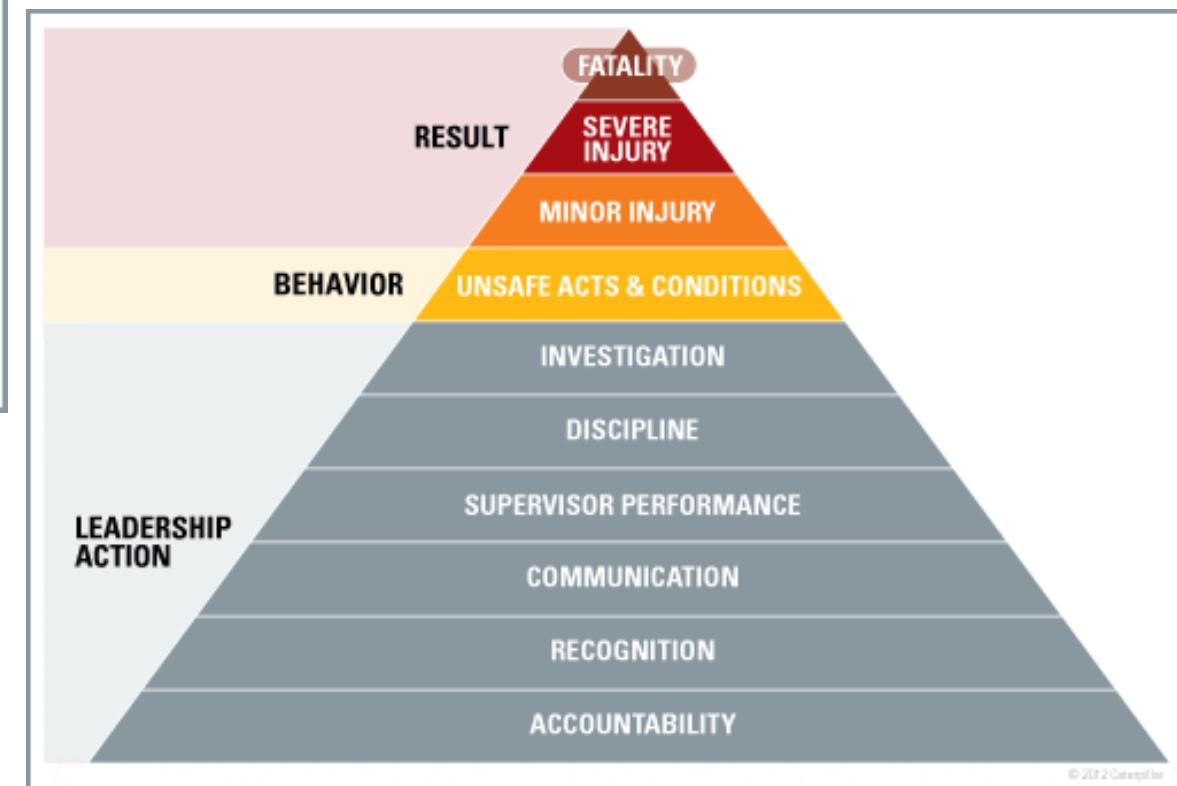
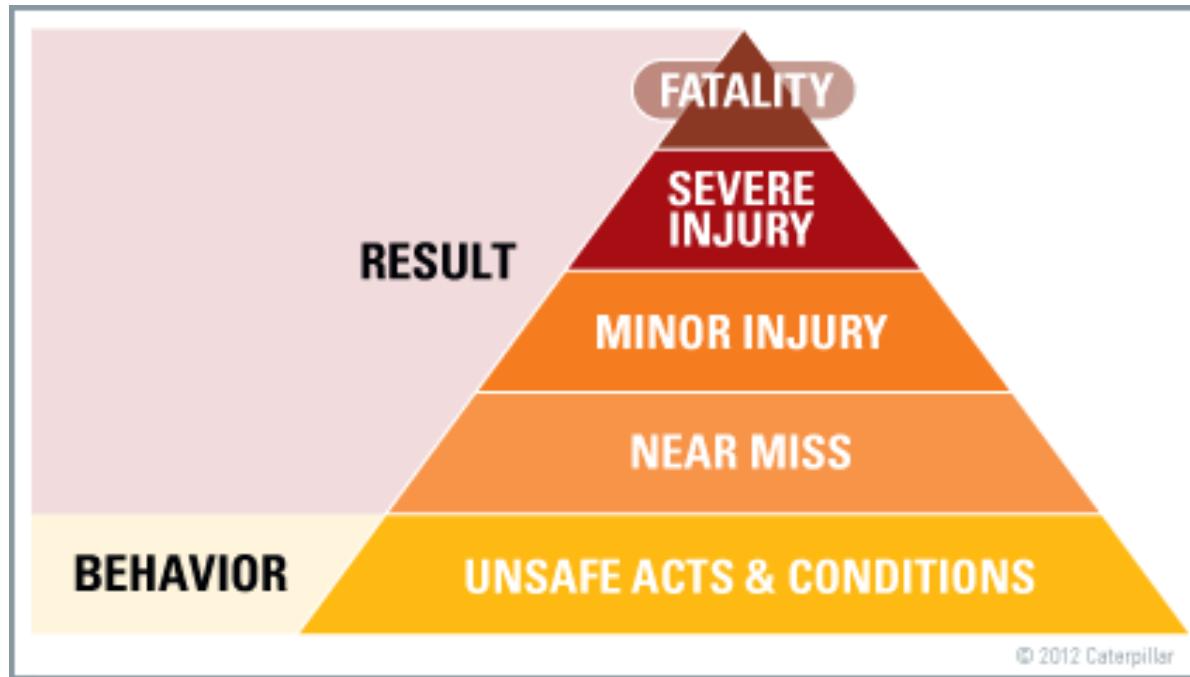
Human feelings should guide the work related to OHS. Thus, improvements made in the field of OHS will also affect quality and productivity.

# ACCIDENT PYRAMID

- H. W. Heinrich changed the world of safety fundamentals forever with his pioneering work in the 1930's. One of his concepts that continues to make me think is his accident triangle (pyramid), a concept that we all are familiar with.



# Accident Pyramid

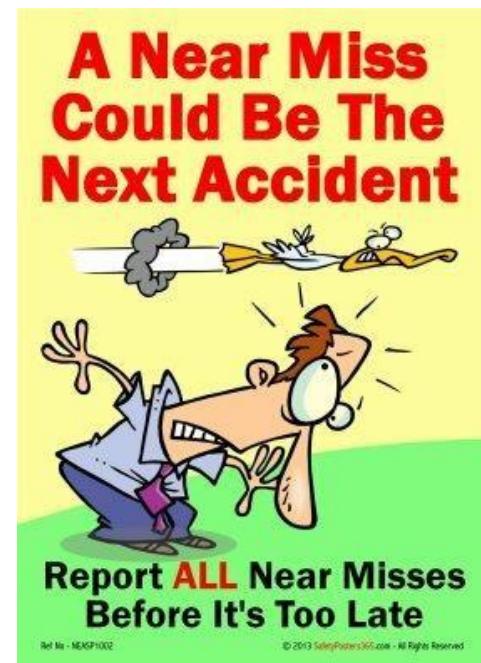


# Accident Pyramid



# THE ACCIDENT - NEAR-MISS

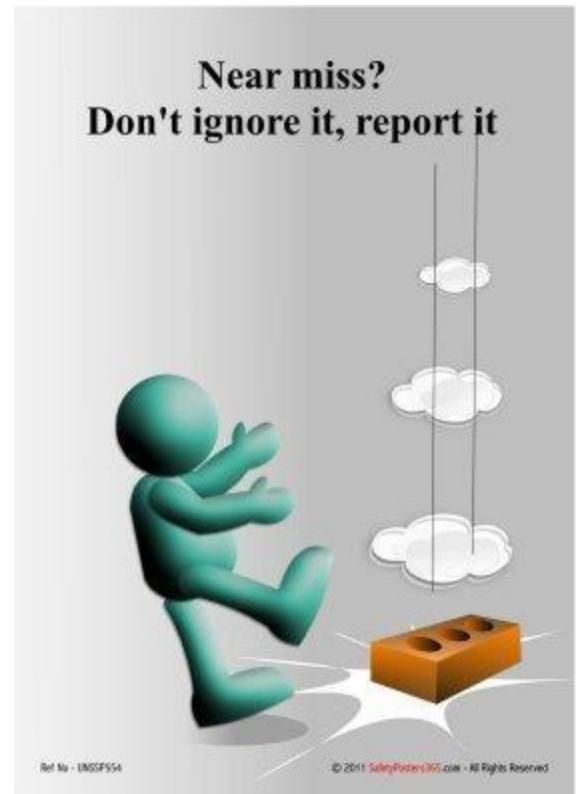
- Also known as a “Near Hit”
- An accident that does not quite result in injury or damage (but could have)
- Remember, a near-miss is just as serious as an accident!



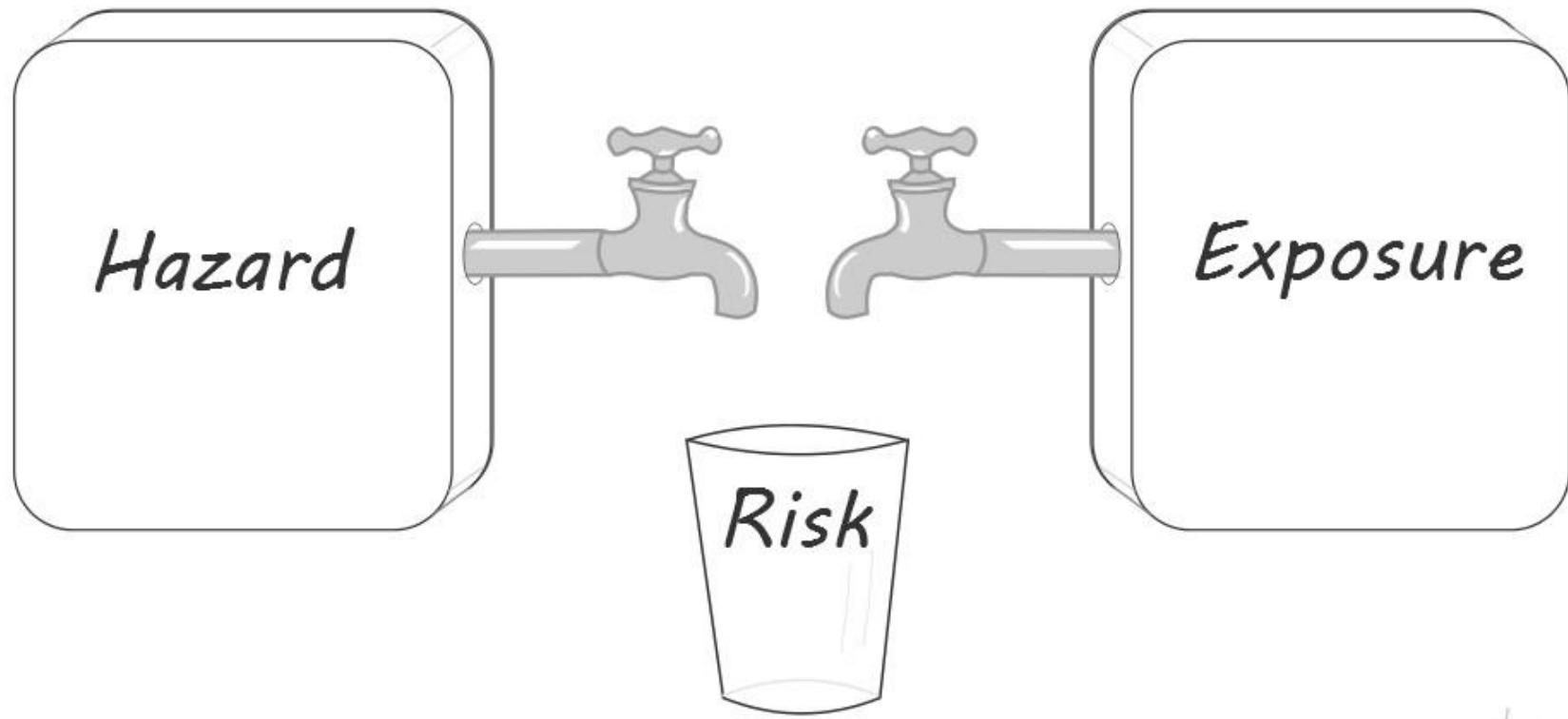
# Near-Miss

A **near miss:** is an unplanned event that did not result in injury, illness, or damage – but had the potential to do so. Only a fortunate break in the chain of events prevented an injury, fatality or damage; in other words, a miss that was nonetheless very near.

The phrase "**near miss**" should not to be confused with the phrases "**nearly a miss**" or "**they nearly missed**" which would imply a collision. Synonymous phrases to "**near miss**" are "**close call**", or "**nearly a collision**".



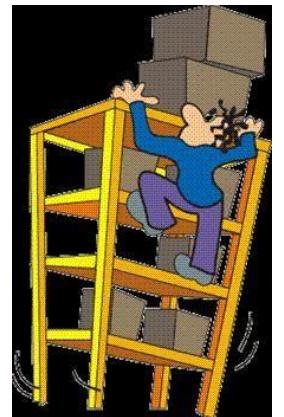
# HAZARD AND RISK



# HAZARD

**Hazard:** potential which exists at the workplace or may arise from outside the workplace to cause harm or damage which could affect the worker or the workplace;

*A hazard is any situation, substance, activity, event, or environment that could potentially cause injury or ill health (OHSAS 18001)*



# Hazard

Example situations that may be caused by a near-miss event or accident that may occur as a result of hazards in the workplace:

- A Spill on the Floor
- Broken Equipment



# WHY WORRY ABOUT HAZARDS?

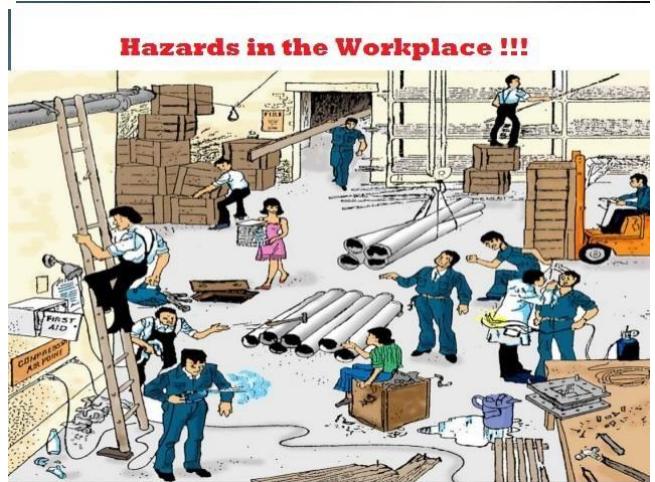
- ✓ It costs time and money to retrain a new worker
- ✓ New workers are not initially as productive as more experienced workers
- ✓ Goods or equipment can be lost in the accident, costing the enterprise \$ to replace it
- ✓ Other workers will feel afraid or unhappy to be working in a place which could injure or kill them
- ✓ It harms productivity.

# WORKPLACE HAZARDS



# Examples of unsafe work practices commonly found in the workplace include...

- Using machinery or tools without authority
- Operating at unsafe speeds or in violation of safe work practices
- Removing or disabling guards or other safety devices on machinery or equipment
- Using defective tools or equipment or using tools or equipment in unsafe ways
- Repairing or adjusting equipment that is in motion, under pressure, or electrically charged



## **REPORT HAZARDS IMMEDIATELY**

Every person in a workplace **shares responsibility** for ensuring that their work environment is safe and healthy.

Some hazards pose an immediate danger and others take a longer time to become apparent. But both types of hazards must be fixed.

If you are aware of a hazard in your workplace, you should report it promptly to your supervisor, employer or health and safety representative.

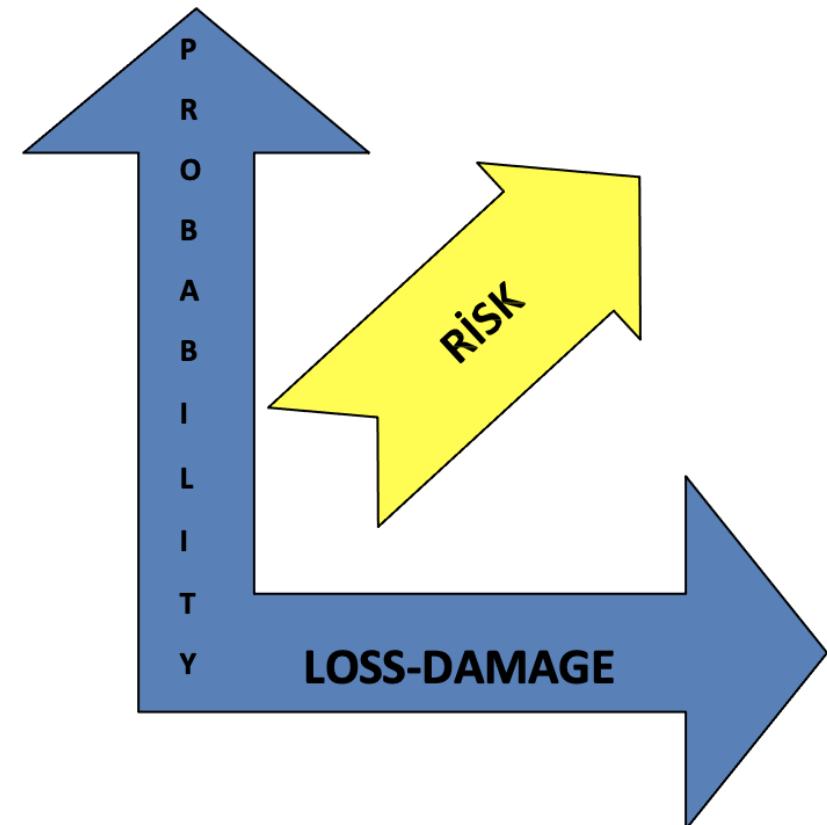
Once a hazard has been identified, your employer and/or supervisor has a duty to assess the problem and eliminate any hazard that could injure workers.

# Identifying and reporting hazards

- There are several ways to identify hazards in the workplace, including:
  - ✓ Inspections and audits,
  - ✓ Hazard reports,
  - ✓ Job analysis,
  - ✓ Health monitoring data,
  - ✓ Material safety data sheets,
  - ✓ Workplace environment monitoring data.

$$\text{RISK} = P \times D$$

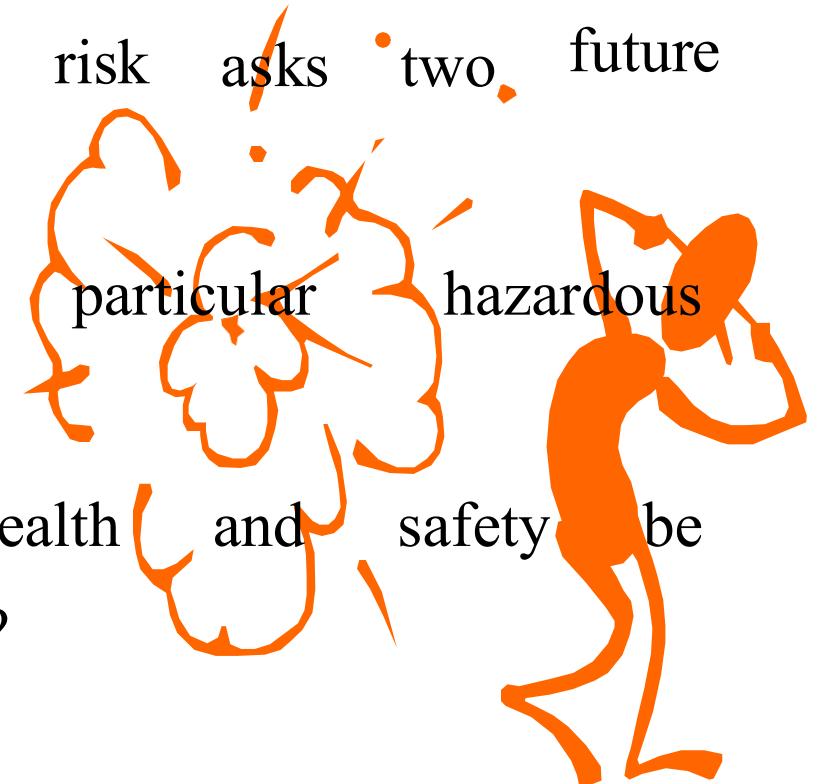
P : Probability  
D: Damage



# RISK

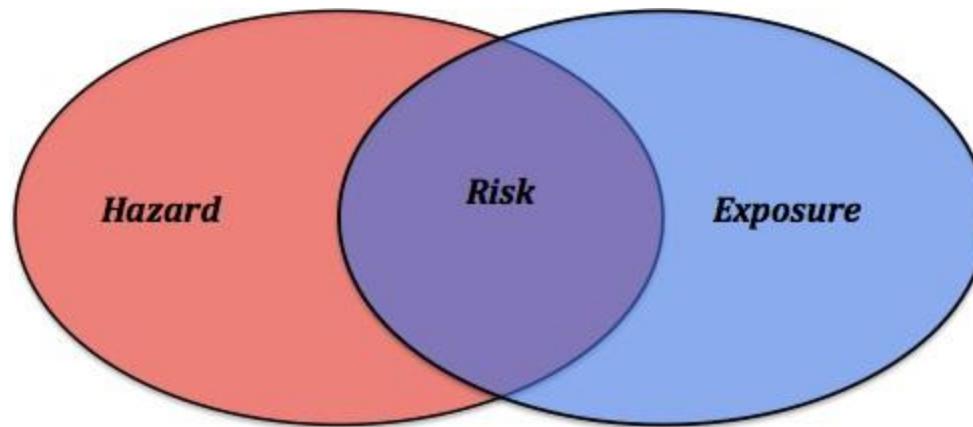
➤ **Risk** combines three elements: it starts with a *potential event*, and then combines its *probability* with its *potential severity*. In the context of OH&S, the concept of risk asks two future oriented questions:

- I. What is the *probability* that a event or exposure will actually occur in the future?
- II. How *severe* would the impact on health and safety be if the hazardous event or exposure actually occurred?



# Risk

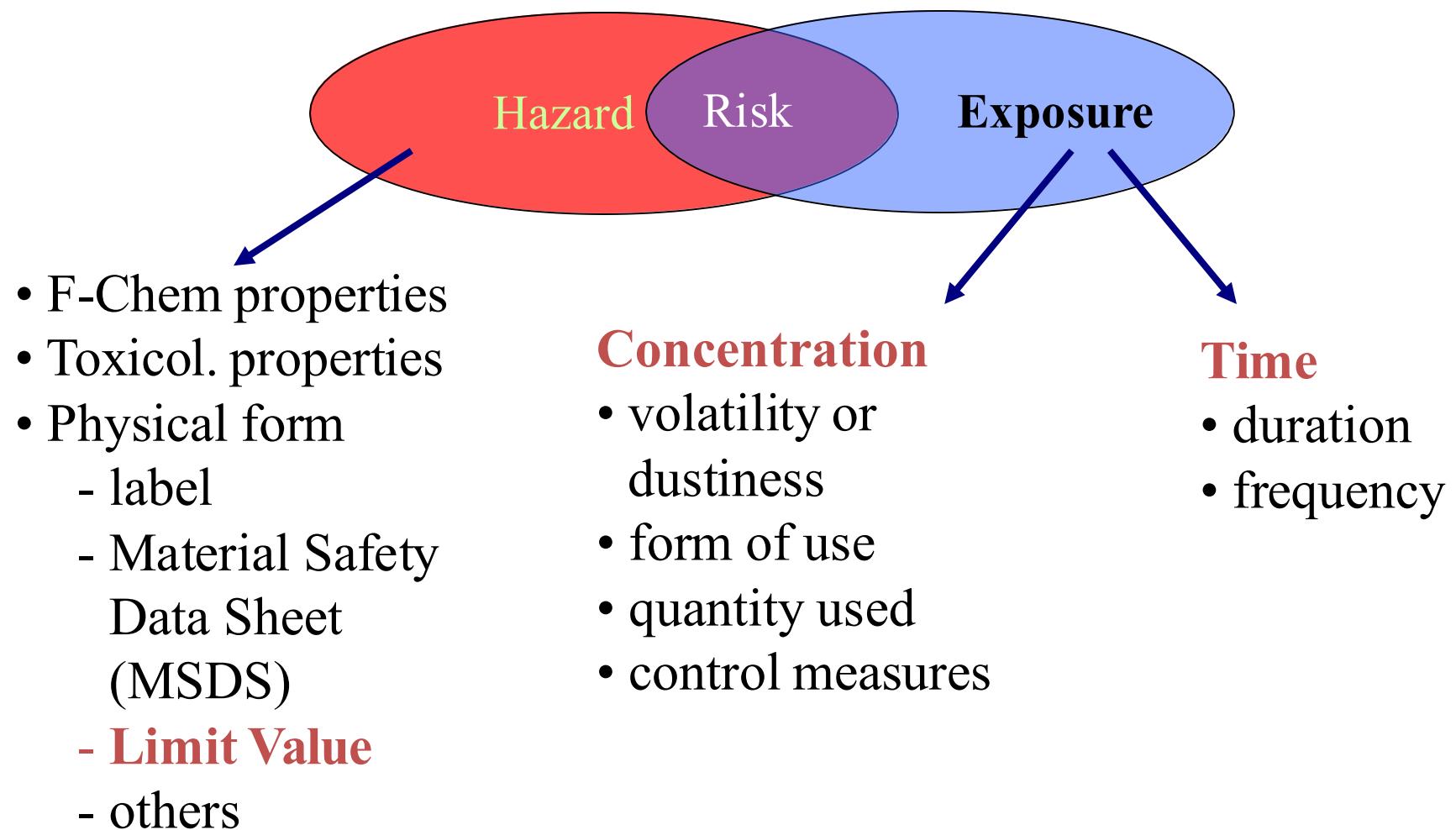
- A measure of the probability and severity of a hazard to harm human health, property, or the environment
- A measure of how likely harm is to occur and an indication of how serious the harm might be



**Risk ≠ 0**



# Assessment of the risk of exposure by inhalation



# Sources and Examples of Danger

Source	Examples of Danger
Workplace Buildings and Attachments	Stairs, slippery or uneven surfaces, electrical installations, gas installations, inadequate air volume, flammable building materials, etc.
Machinery and Equipment	Rotating parts, noise, vibration, pressurized containers, workpieces with the potential for ejection, electricity, radiation, hand tools, etc.
Raw Materials and Ingredients	Hot materials, burning and irritating substances, toxic materials, sharp and edged materials, acids, gases, solvents, etc.
Working Environment	Hot or cold environment, working under the sun, high humidity, dark environment, confined working space, gases, inadequate oxygen, dust, bacteria, etc.
Working Methods	Working at heights, manual lifting and carrying, inappropriate working postures (such as bending or reaching), etc.

# Risk

## ➤ RISK ASSESSMENT

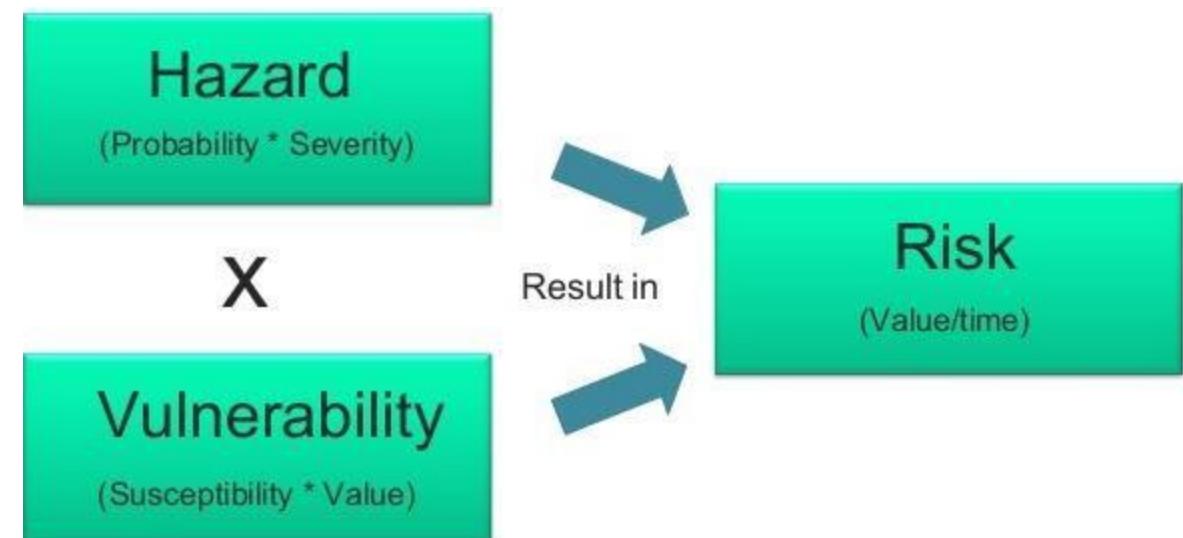
- ✓ Overall process of estimating the magnitude of risk and deciding whether or not the risk is tolerable

## ➤ SAFETY

- ✓ Freedom from unacceptable risk of harm

## ➤ TOLERABLE RISK

- ✓ Risk that has Commitmentd to a level that can be endured by the organization having regard to its legal obligations an its own OH&S policy

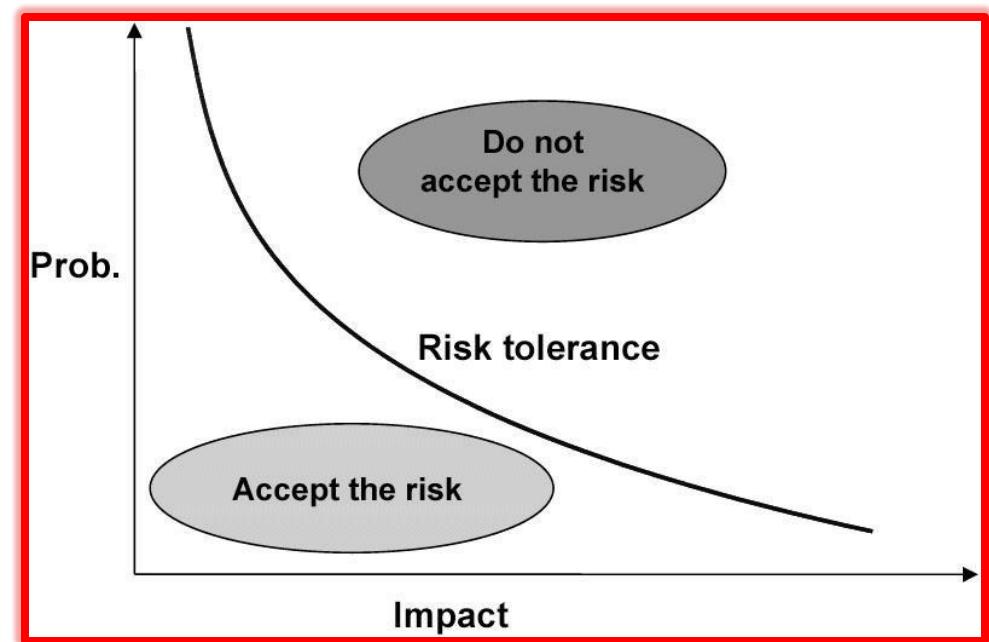


# ACCEPTABLE RISK

A **risk** is **acceptable** if it has been reduced to a level that your organization can tolerate given its occupational health and safety (OH&S) policy and its legal obligations.

## Risks:

- Noticeable
- Learnable
- Defensible
- Measurable
- Analysable



# BASIC STEPS IN A RISK ASSESSMENT

Step 1: Identify the hazards.



Step 2: Decide who might be harmed and how.



Step 3: Evaluate the risks and decide on precautions.



Step 4: Record your findings and implement them.

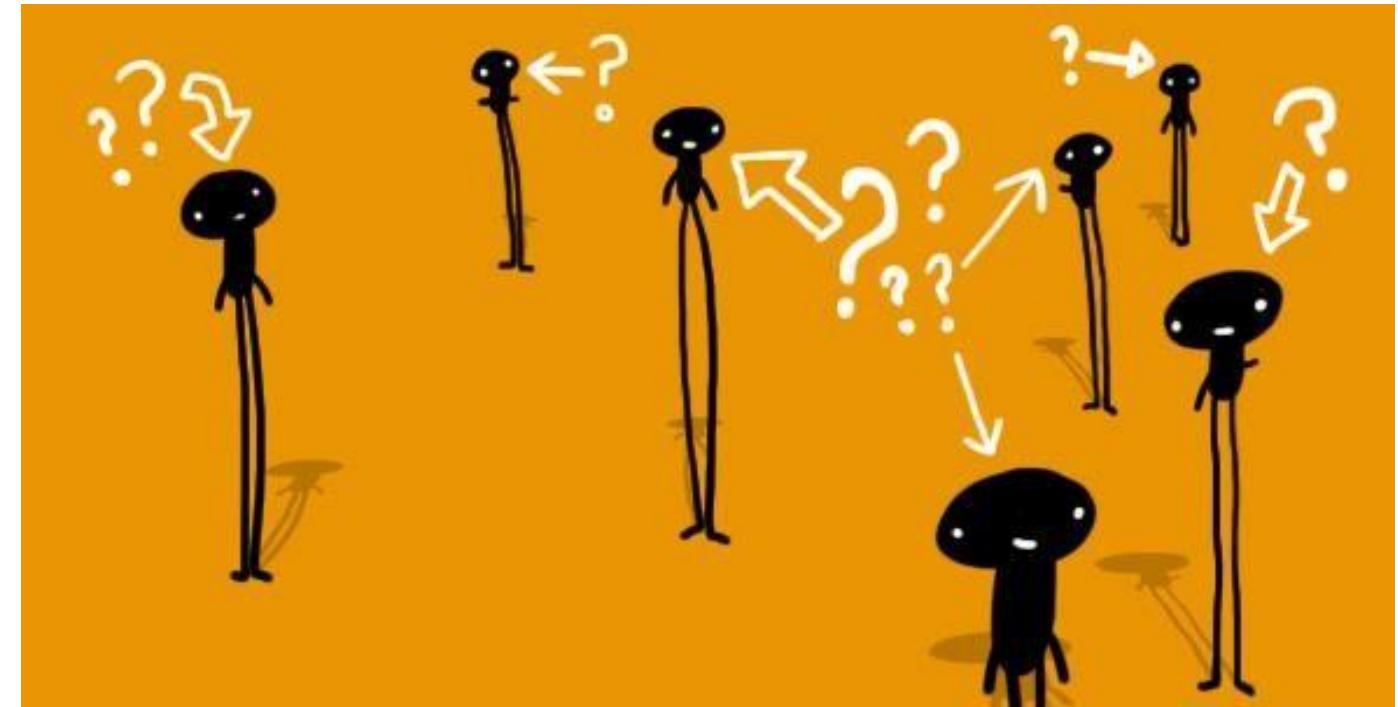


Step 5: Review your assessment and update if necessary.



# WHO IS AT RISK?

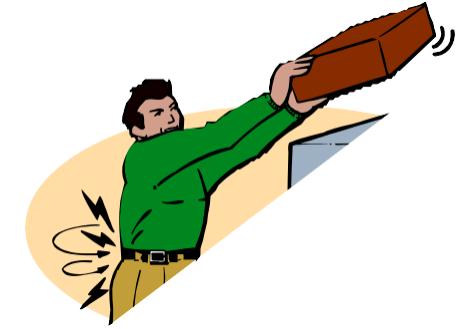
- Workers
- Visitors
- Contractors
- Others
- ✓ Members of Public
- ✓ Passers-by
- ✓ Neighbours



# Primary Risk Factors

## Repetitive Movements

- Leading cause of MSDs
- Same joints /muscle groups (keyboarding, mousing)



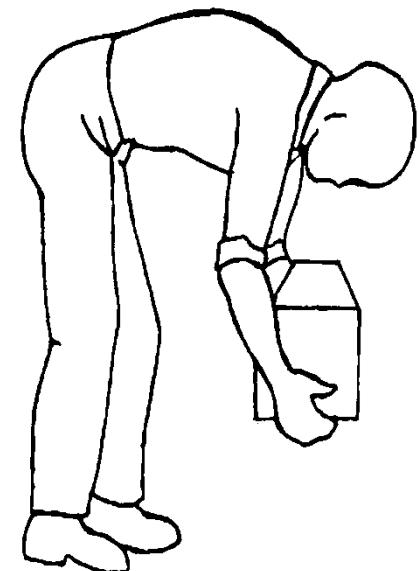
## Forceful Movements

- Excessive movements for long periods of time (e.g. extended reach)

## Fixed or Awkward Postures

- Cause fatigue (sitting rigidly for long periods; reaching above shoulder)

## Bending, Twisting and Heavy Lifting



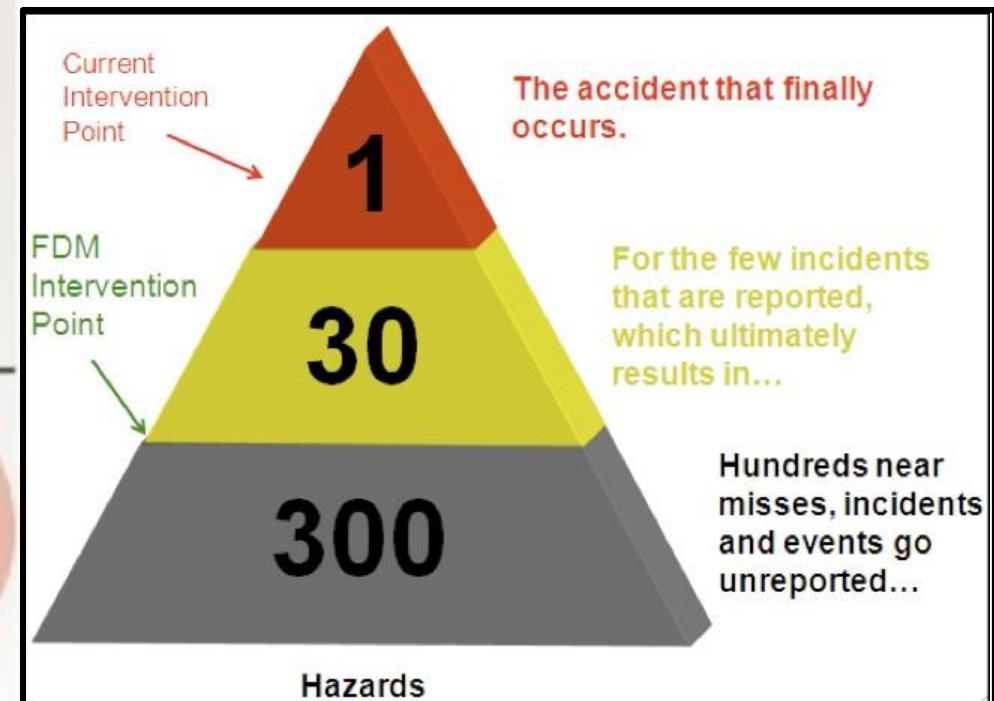
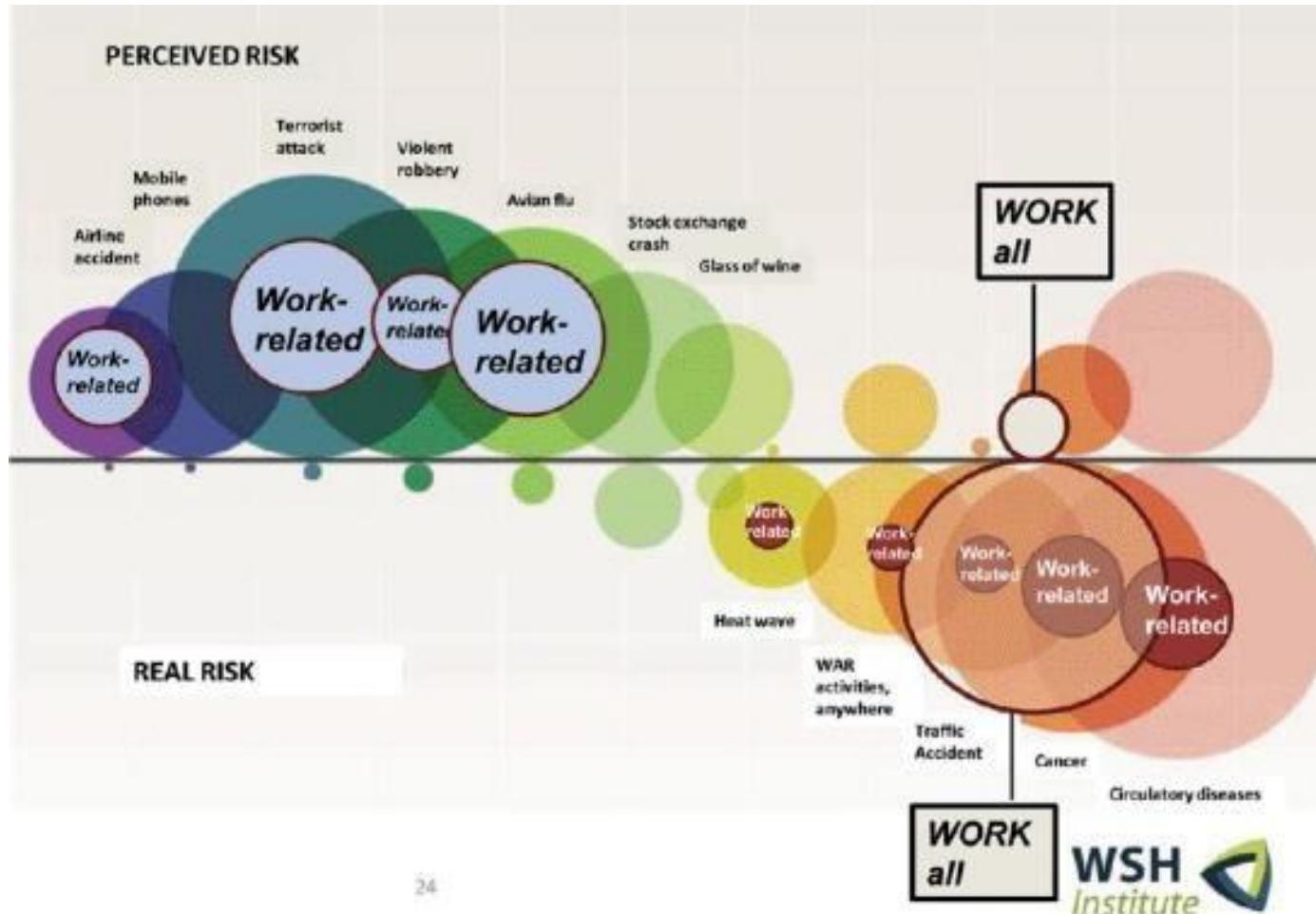
## Secondary Risk Factors

- Contact Pressure (holding tools, stapling, resting wrists while typing)
- Cold Exposure (working outside)
- Infrequent, heavy lifting (picking up a water jug; box of paper for photocopier)

*Frequency and Duration are key*



# PERCEIVED RISK - REAL RISK



Perceptions of people are different from reality (Sources: S. Hertlich, M. Hamilo, S. Kuvalahti [FI], WHO/ILO/J.Takala).

## Examples of very hazardous workplaces



Building sites



coal mining operation



Chemistry labs



LPG filling operations



Chimney cleaning

## Examples of hazardous workplaces



Wood manufacturing & repairing factories



Manuel mine extraction works



plastic raw material manufacturing



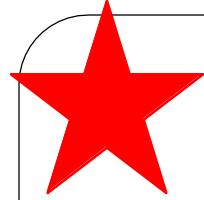
Porcelain manufacturing

## Examples of Less Hazardous Workplaces



Real estate agencies

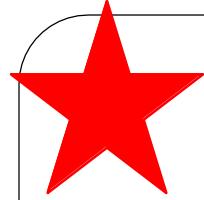




# Risk Assessment

It is the careful examination of what could cause harm to people, equipment, environment or property.

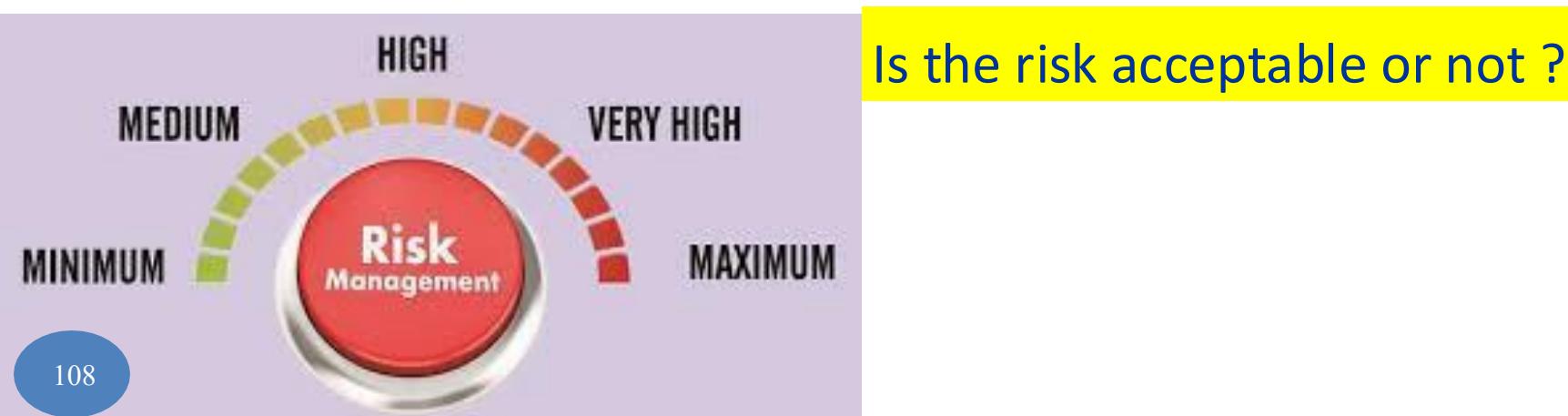
It is required to know **what the OHS hazards and risks are**,  
And to prevent «***Death***» and «***personal injury***» ,  
and also to prevent the **direct and indirect costs** that follow the accidents.



# Risk Assessment

Risk assessment is a term used to describe the overall process or method where you:

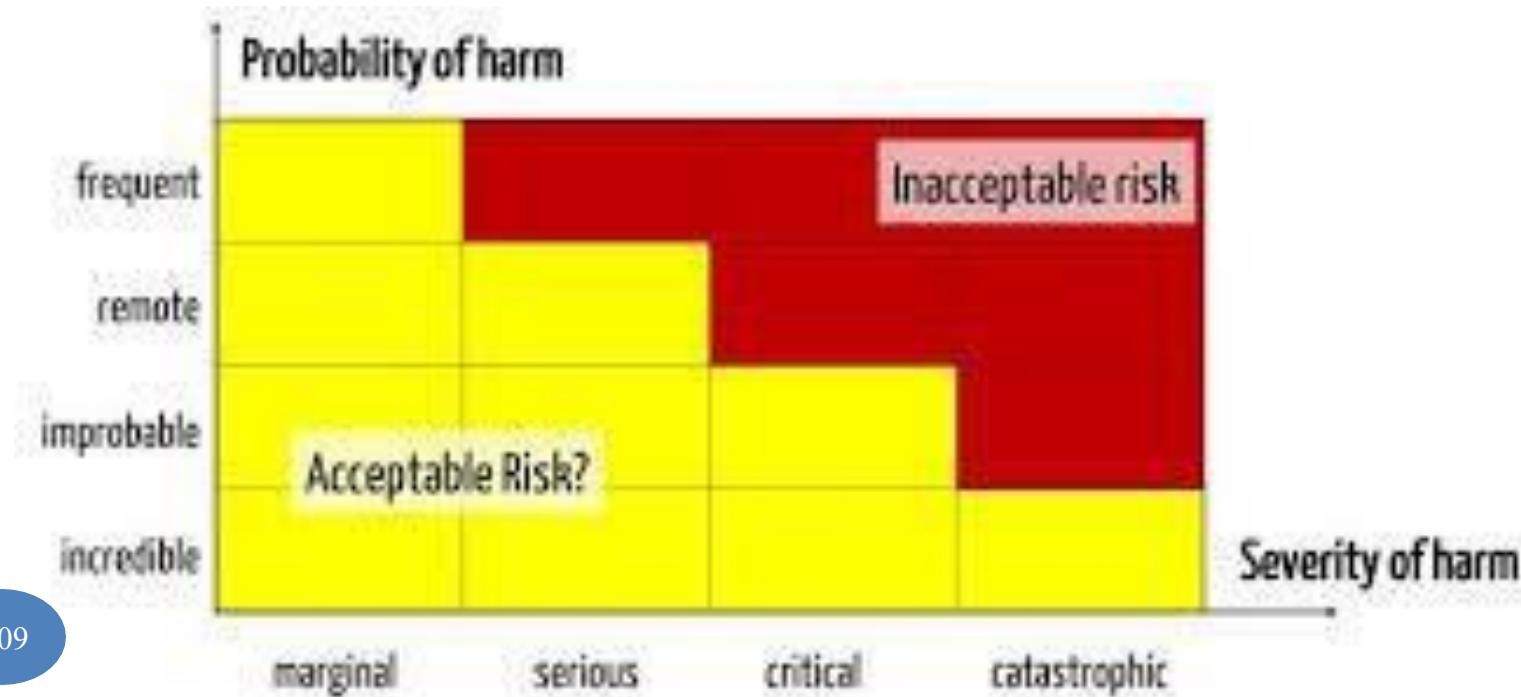
- Identify hazards and risk factors that have the potential to cause harm ([hazard identification](#)).
- Analyze and evaluate the risk associated with that hazard ([risk analysis, and risk evaluation](#)).
- Determine appropriate ways to eliminate the hazard, or control the risk when the hazard cannot be eliminated (risk control)



# Acceptable Risk:



**acceptable risk** is a **risk** that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own **OHS** policy

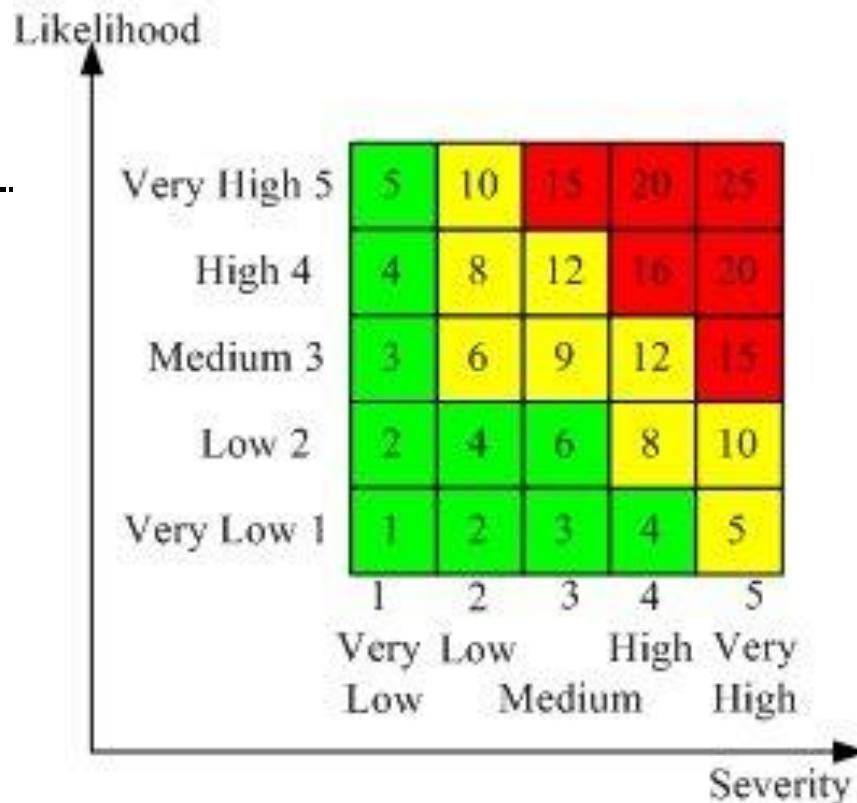


# Determination of Probability and Severity

To indicate the likelihood of an event occurring in the workplace, the following probability scale is used.

## PROBABILITY      OCCURENCE PERIOD

PROBABILITY	OCCURENCE PERIOD
Very low	Once a year
Low	Once every three months
Moderate	Once a month
High	Once a week
Very high	Every day



## **RESULT**

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## **CLASSIFICATION**

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VERY LIGHT

No loss of working hours, requires only first aid

LIGHT

No loss of workforce, requires only first aid

MODERATE

Minor injury, requires treatment

SEVERE

Death, serious injury, occupational health

VERY SEVERE

Multiple deaths, permanent disability

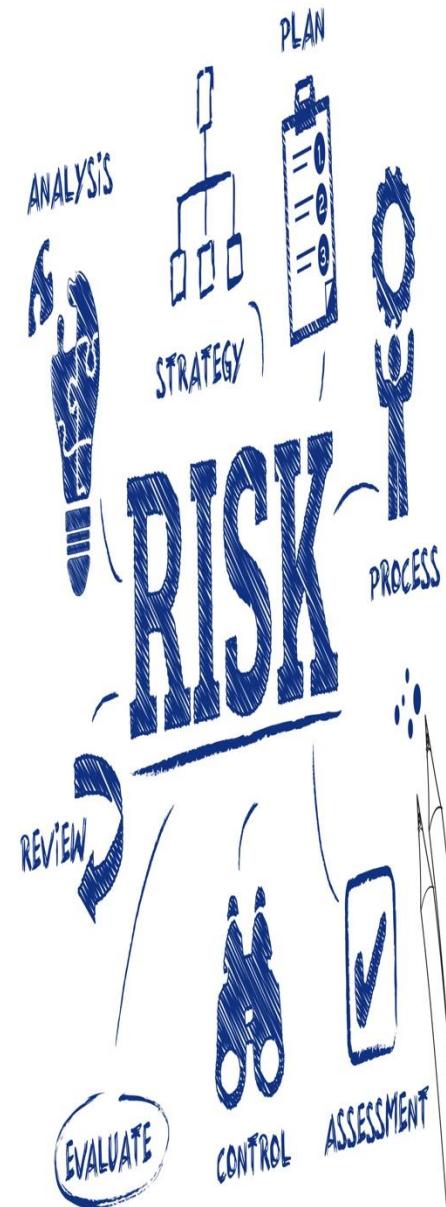


# RISK MATRIX

	RESULTS				
PROBABILITY	5 VERY SEVERE	4 SEVERE	3 MODERATE	2 LIGHT	1 VERY LIGHT
5 VERY HIGH	25	20	15	10	5
4 HIGH	20	16	12	8	4
3 MODERATE	15	12	9	6	3
2 LOW	10	8	6	4	2
1 VERY LOW	5	4	3	2	1

RESULT	ACTION
20,25	<b>UNACCEPTABLE RISK</b>
15,16	Immediate action should be taken regarding these risks
10,12	<b>SIGNIFICANT RISK</b>
8,9	Interventions should be made as quickly as possible for these risks
4,5,6	<b>ACCEPTABLE RISK</b>
1,2,3	May not require immediate measures



# RISK ASSESSMENT

HAZARD	RISK	Probability	Severity	Present Risk Assessment (probability x severity)	Present measure	Measures to be taken	New Probability	New Severity	New Risk Assessment (probability x severity)
Working with Asbestos	Serious lung diseases if fibres released into air and inhaled.	Very high (5)	Very high (5)	Very high (25)	No	1) Elimination 2) Substitution 3) Engineering methods 4) Administrative methods 5) PPE	Low (2)	Very high (5)	Low (10)
Flammable gases	Fire, Smoke inhalation, Burns	High (4)	Very high (5)	Very high (20)	No	Correct Storage, caution signs, trainings, PPE	Low (2)	Very high (5)	Low (10)
Manuel handling	Suffering from back pain	High (4)	High (4)	Very high (16)	No	Use lift truck, porters trolley etc., training	Very Low (1)	High (4)	Very Low (4)
Noise	Hearing damages	Very high (5)	Very high (5)	Very high (25)	No	Caution signs	High (4)	Very high (5)	Very high (20)
Noise	Hearing damages	Very high (5)	Very high (5)	Very high (25)	No	Using Ear plugs when it exceeds 85 dB	Low (2)	Moderate (3)	Very Low (6)

Table. An example for a risk assessment



# Plant Risk Assessment

Use this document to assess the risks of plant & put risk controls in place

Work Safety QLD  
[www.worksafetyqld.com](http://www.worksafetyqld.com)  
 Our Email:  
[info@worksafetyqld.com](mailto:info@worksafetyqld.com)  
 Our Phone:  
 0432 631 964  
 Work Health & Safety Advice QLD  
**\*ENTER FILE NAME\***

Date:

Asset:	Plant Type:	Make / Model:
<b>C = Consequences</b>	<b>L = Likelihood</b>	
<b>5 = Catastrophic</b> Death or Disablement Significant damage to plant and equipment Significant financial cost Significant long term environmental damage	<b>5 = Almost Certain</b> It is almost certain that this hazard will cause consequences. 70% - 100% chance of consequence occurring.	
<b>4 = Major</b> Extensive injuries leading to lost time Major damage to plant and equipment Major financial cost Long term environmental damage	<b>4 = Very Likely</b> It is very likely that this hazard will cause consequences. 50% - 70% chance of consequences occurring	
<b>3 = Moderate</b> Medical treatment Damage to plant and equipment Moderate financial cost Major short term environmental damage	<b>3 = Possible</b> It is possible that this hazard will cause consequences. 30% - 50% chance of consequences occurring	
<b>2 = Minor</b> First aid treatment Minor damage to plant and equipment Minor financial cost Minor short term environmental damage	<b>2 = Unlikely</b> It is not very likely that this hazard will cause consequences. 20% - 30% chance of consequences occurring	
<b>1 = Insignificant</b> No injuries Slight damage to plant and equipment Very minor or non-existent financial cost Very minor or non-existent environmental damage	<b>1 = Rare</b> The consequences of this hazard would only occur on very rare occasions. 0% - 10% chance of consequences occurring	
<b>Hierarchy of Controls:</b>		
<ol style="list-style-type: none"> <li><b>Elimination:</b> Modify the process method or material to eliminate the hazard completely</li> <li><b>Substitution:</b> Replace the material, substance or process with a less hazardous one</li> <li><b>Separate:</b> Isolate the hazard from the person by safeguarding or by space or time</li> <li><b>Redesign/Engineering Controls:</b> Redesign or modify the plant or process to reduce or eliminate the risk</li> <li><b>Administration:</b> Adjust the exposure time or conditions or process by training, procedure, signs, etc.</li> <li><b>Personal Protective Equipment:</b> Use appropriately designed and properly fitted equipment where other controls are not practicable or are accepted</li> </ol>		

The following qualitative risk analysis matrix is used to arrive at the "Level of Risk" score throughout the risk analysis process and is presented here for reference.

## Consequence X Likelihood - Risk Level

		Consequences				
		5 - Catastrophic	4 - Major	3 - Moderate	2 - Minor	1 - Insignificant
Likelihood		5 - Almost Certain	4 - Very Likely	3 - Possible	2 - Unlikely	1 - Rare
5 - Almost Certain		25	20	15	10	5
4 - Very Likely		20	16	12	8	4
3 - Possible		15	12	9	6	3
2 - Unlikely		10	8	6	4	2
1 - Rare		5	4	3	2	1

## Implement Safety Controls Based on the Table Below:

Risk Level	Action Required
16 - 25	High risk – Work must be stopped immediately. Control measures must be put in place immediately following the hierarchy of controls.
10 - 15	Substantial Risk – Control measures must be put in place immediately by a competent person, following the hierarchy of controls
5 - 9	Acceptable low risk – Work may commence, all current control measures must be maintained. Control measures must be reviewed and further controls implemented if possible.
1 - 4	Very Low Risk – Work may commence, all current control measures must be maintained.

## Hazard Report Process:

- Stop work and eliminate the hazard if possible
- Formally identify, report and analyse the hazard
- Investigate the hazard and implement controls
- Monitor the controls

For more information, please see "enter SOP form here"

**APPENDIX 4.2 Risk assessment example 1: Hairdressing salon**

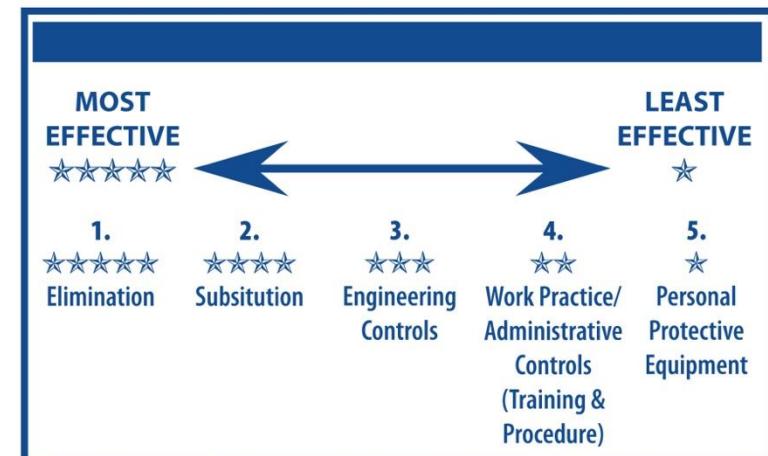
**APPENDIX 4.2 Risk assessment example 1: Hairdressing salon**

Name of Company:	His and Hers Hairdressers			Date of Assessment:	11 January 2020			
Name of Assessor:	A. R. Smith			Date of Review:	12 July 2020			
Hazards	Persons affected	Risks	Initial risk level	Existing controls	Additional controls	Action by whom?	Action by when?	Done
<b>Hairdressing products and chemicals</b> Various bleaching and cleansing products in particular Lightening (bleach) product Hydrogen peroxide Oxidative colourants	Staff and customers	Eye and/or skin irritation Possible allergic reaction	Medium	<ul style="list-style-type: none"> <li>COSHH assessment completed</li> <li>Non-latex gloves are provided for staff when using products</li> <li>Customers are protected with single use towels</li> <li>Only non-dusty bleaches used</li> <li>Staff report any allergies at induction</li> <li>Storeroom and salon well ventilated</li> <li>Products stored as per manufacturer's recommendations</li> <li>Staff are specifically trained in the correct use of products</li> <li>Staff check whether customers have allergies to any products</li> </ul>	<ul style="list-style-type: none"> <li>Needs to be reviewed</li> <li>Eye baths to be purchased for treatment of eye splashes</li> <li>Repeat allergy checks every 3 months and records kept</li> <li>Storage in salon kept to 1-day requirement</li> <li>Refresher training every 3 months and records kept</li> <li>Records kept of customer allergies and simple patch tests introduced</li> </ul>	Manager Owner	12/2/20 12/2/20	8/2/20 24/1/20
<b>Sharp instruments</b>	Staff and customers	Cuts, grazes and blood-borne infections	Medium	<ul style="list-style-type: none"> <li>All sharp instruments sterilized after use</li> <li>Sterilizing liquid changed daily</li> <li>Sharps box available for disposable blades</li> <li>First-aid box available</li> </ul>	<ul style="list-style-type: none"> <li>Regular recorded checks that sterilization procedures correctly followed</li> <li>Contents of first-aid box checked weekly</li> </ul>	Manager	18/1/20 then monthly	18/1/20
<b>Fire</b>	Staff and customers	Smoke inhalation and burns	Low	<ul style="list-style-type: none"> <li>Fire risk assessment completed</li> </ul>	<ul style="list-style-type: none"> <li>No flammable products will be displayed in the windows or near heater</li> </ul>	Manager	18/1/20	18/1/20

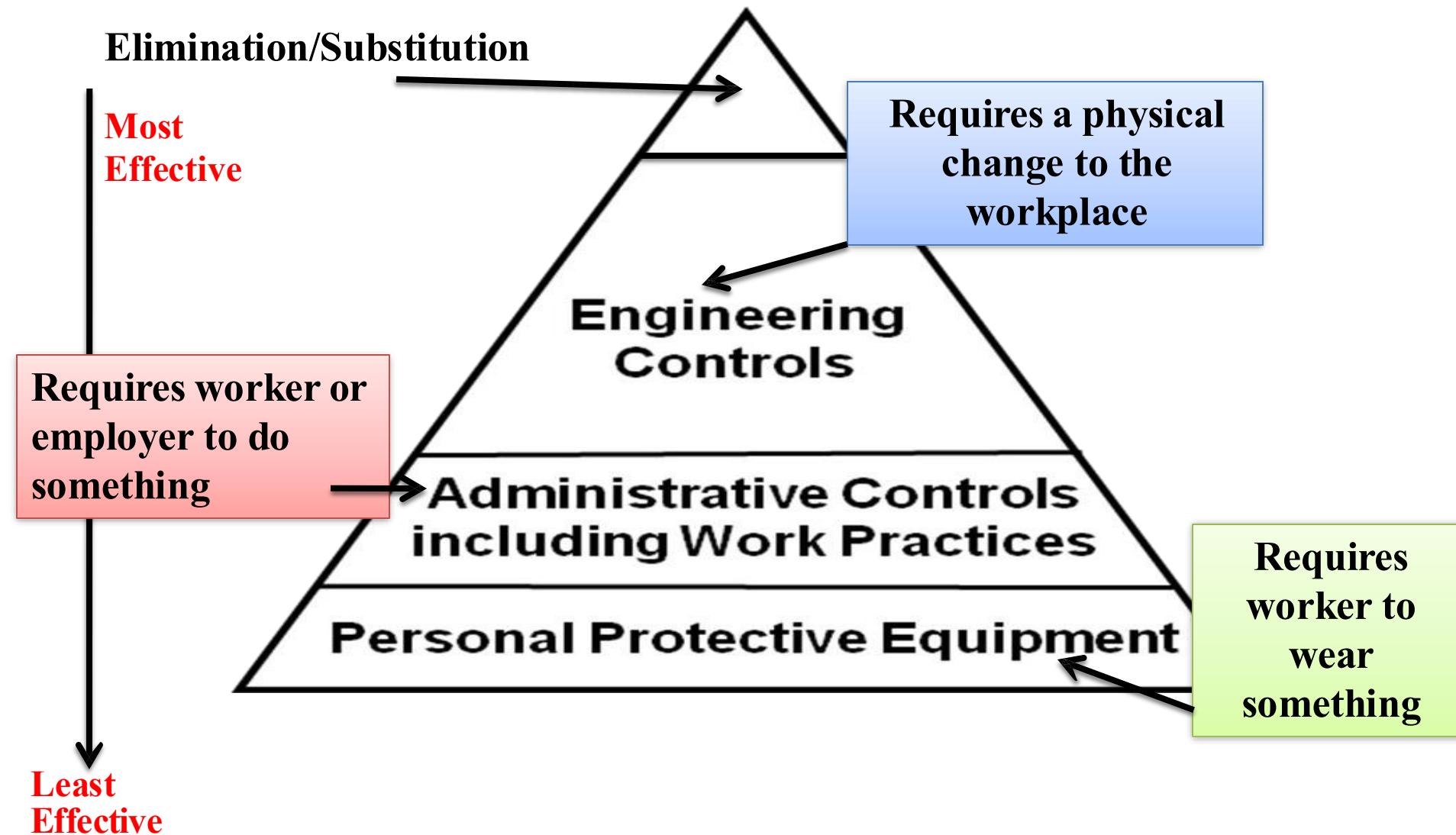
Hazards	Persons affected	Risks	Initial risk level	Existing controls	Additional controls	Action by whom?	Action by when?	Done
<b>Electricity</b>	Staff and customers	Electrical shocks and burns. Also a risk of fire	Low	<ul style="list-style-type: none"> <li>Any damaged cables, plugs or electrical equipment is reported to the manager</li> <li>All portable electrical equipment and thermostats checked every 6 months by a competent person</li> <li>All electrical equipment purchased from a reliable supplier</li> <li>Staff shown how to use and store hairdryers, etc. safely and isolate electrical supply</li> </ul>	<ul style="list-style-type: none"> <li>An appropriate fire extinguisher (carbon dioxide) should be available</li> <li>Make a visual check of electrical equipment, cables and sockets every month and record findings</li> <li>All internal wiring should be checked by a qualified electrician</li> </ul>	Owner Manager Owner	25/1/20 25/1/20 then every month 25/4/20	23/1/20 25/1/20 3/4/20
<b>Standing for long periods</b>	Staff	Back pain and pain in neck, shoulders, legs and feet – musculoskeletal injuries	Medium	<ul style="list-style-type: none"> <li>Staff given regular breaks</li> <li>Stools available for staff for use while trimming hair</li> <li>Customer chairs are adjustable in height</li> </ul>	<ul style="list-style-type: none"> <li>Develop a formal rota system for breaks</li> </ul>	Manager	25/1/20	21/1/20
<b>Wet hand work</b>	Staff	Skin sensitization, dry skin, dermatitis	Medium	<ul style="list-style-type: none"> <li>Staff are trained to wash and dry hands thoroughly between hair washes</li> <li>Non-latex gloves are provided for staff</li> <li>Moisturizing hand cream is provided for staff</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that a range of glove sizes are available for staff</li> <li>Staff will always wear gloves for all wet work</li> </ul>	Manager Manager	25/1/20 25/1/20	31/1/20 1/2/20
<b>Slips and trips</b>	Staff and customers	Bruising, lacerations and possible fractures	Low	<ul style="list-style-type: none"> <li>Cut hair is swept up regularly</li> <li>Staff must wear slip-resistant footwear</li> <li>No trailing leads on floor</li> <li>Any spills are cleaned immediately</li> <li>Door mat provided at shop entrance</li> </ul>	<ul style="list-style-type: none"> <li>Organize repair of worn floor covering</li> </ul>	Manager	8/2/20	5/2/20

# Hazard Control Methods

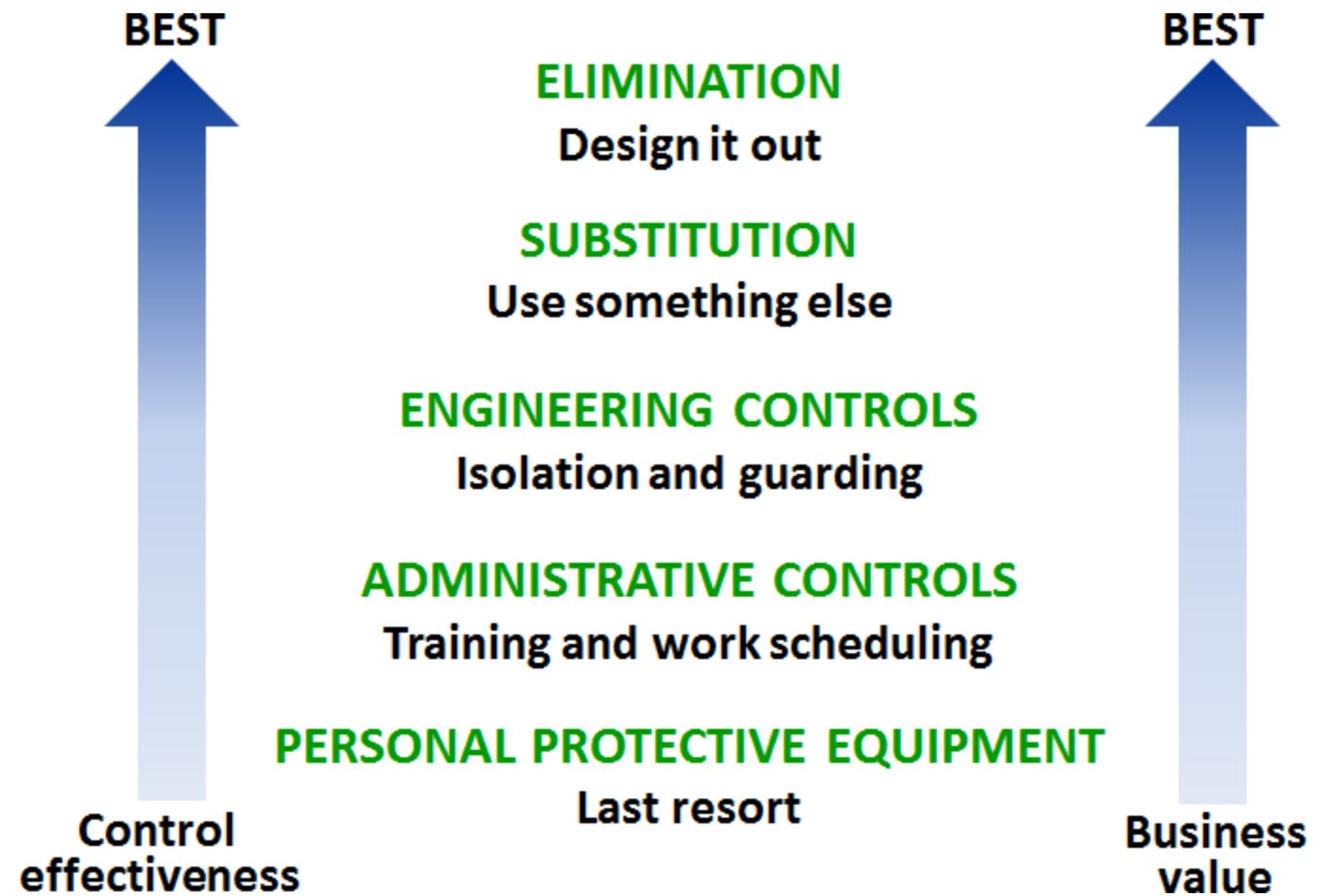
- Eliminate the sources of hazards
- Use appropriate personal protective equipment Provide training to workers, etc.
- The determined measures are designed, manufactured, and placed in their respective locations. Instructions on how to use them are provided and taught.
- The measures taken and the established rules are continuously monitored. Areas and topics that require monitoring for occupational safety are exemplified below:
  - Organization of the workplace
  - Lubrication of machines
  - Maintenance services
  - Condition of hand tools
  - Areas and aspects where accidents have occurred previously  
Lighting, etc.



# HIERARCHY OF CONTROLS



# Hierarchy of Controls



## **Relevant Regulation Articles**

### **Safety Measures to be Taken in Machines and Workstations in Workplaces**

**Article 144-**In cases where a malfunction or deficiency is observed in a workstation or machine or its protective equipment, the machine or workstation shall be immediately stopped, relevant parties shall be notified, precautions preventing anyone from working on the machine shall be taken, and the situation shall be indicated by affixing a sign.



## **CONVINCE AND INCENTIVIZE**

Convincing and motivating employees for occupational safety and health begins with the company having a clear and persuasive occupational safety policy. Another crucial point is the preparation of regulations related to occupational safety. This regulation should outline all accepted and unaccepted actions and behaviors concerning occupational safety.

This regulation should possess three essential characteristics:

1. The employer must ensure that this regulation establishes health and safety conditions in the workplace.
2. The employer should make sure that employees have read and thoroughly understood this regulation.
3. The employer must ensure that this regulation consists of objective, consistent, and steadfastly applied rules. Eye-catching applications such as signs and warning labels are highly beneficial in the implementation of these regulations.

## WARNING SIGNS

It is highly beneficial in visually appealing applications such as signs and warning labels. There are various signs and warning labels prepared for every subject. The use of signs should be made mandatory by regulations. Warning and sign labels should be written in readable and large letters and placed in visible locations.



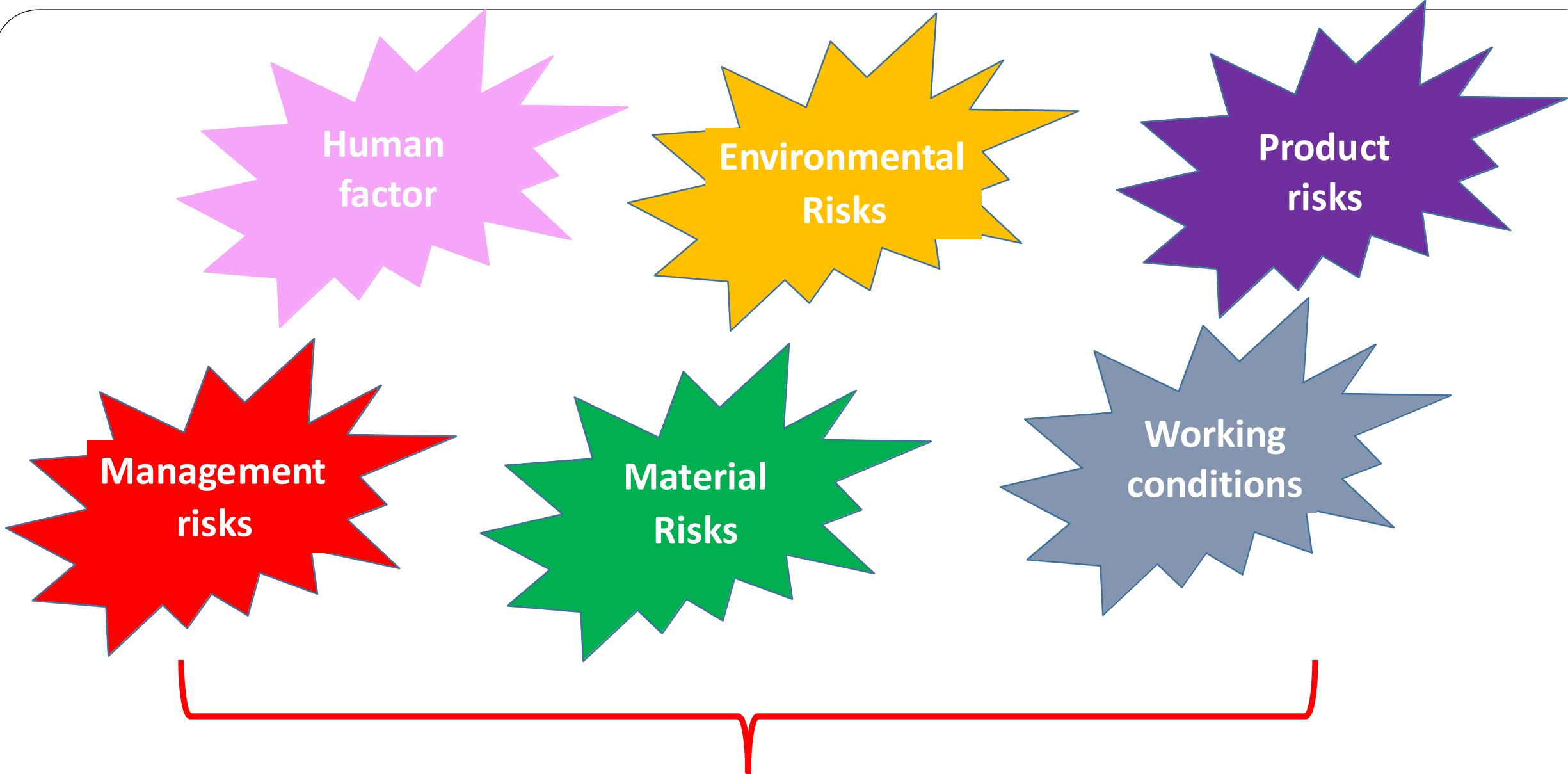
# Who must do the Risk Assessment?

- 1) Employer
- 2) OHS Expert
- 3) Workplace doctor
- 4) Working agent
- 5) Authorized staff

**They all must sign the Risk Assessment**



Paul B.T.  
S.V. Paul W. Paul  
Tom Tom



As a result of these risks, an occupational accident occurs.

## What Does An Occupational Health and Safety Specialist Do ?

Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals.



# What to do after an Occupational Accident?

- **Document & Report:**
- According to the Occupational Safety and Health Law (No 6331, 2012), the employer shall keep a list of occupational accidents and occupational diseases and shall notify the Social Security Institution of these **within 3 working days**.
- Near-miss accidents in the workplace should also be recorded by the employer.
- Occupational physicians shall notify the Social Security Institution **within 10 days** when diagnosis of occupational disease is confirmed.



- to work in better conditions and to raise living / working conditions we need STANDARTS

**O**ccupational **H**ealth and **S**afety **A**sessment **S**eries

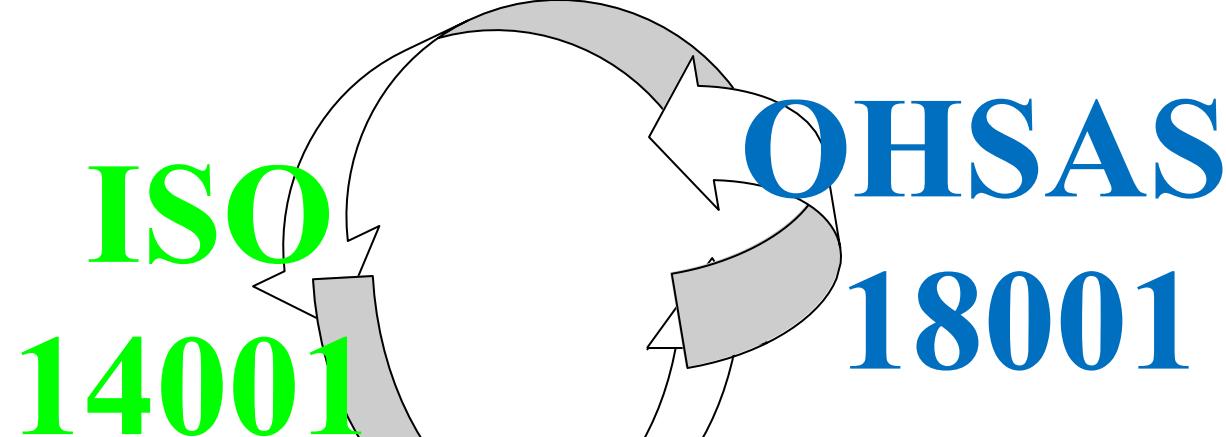
OHSAS 18001 is a management system. 



# Other management systems;



Environmental  
management



• Quality  
management



Health & Safety  
management



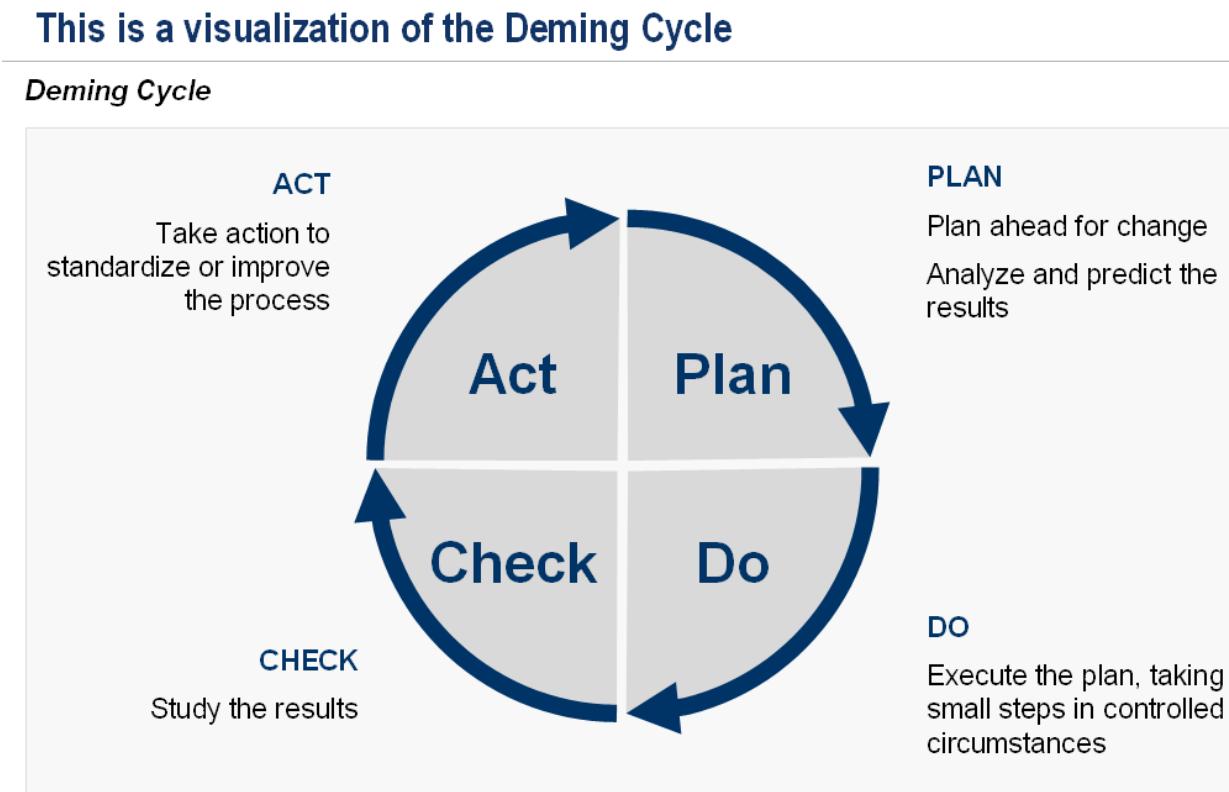


- It is a management system designed to increase productivity, which sets out the general principles of occupational health and safety management system applied in the workplaces.



# Deming CYCLE: continually improving cycle

- **PLAN, DO, CHECK, and ACT.**



# Plan

- identify and analyze the problem, develop hypotheses about what the issues may be, and decide which one to test.

## Do

test the potential solution, ideally on a small scale, and measure the results.



## Check

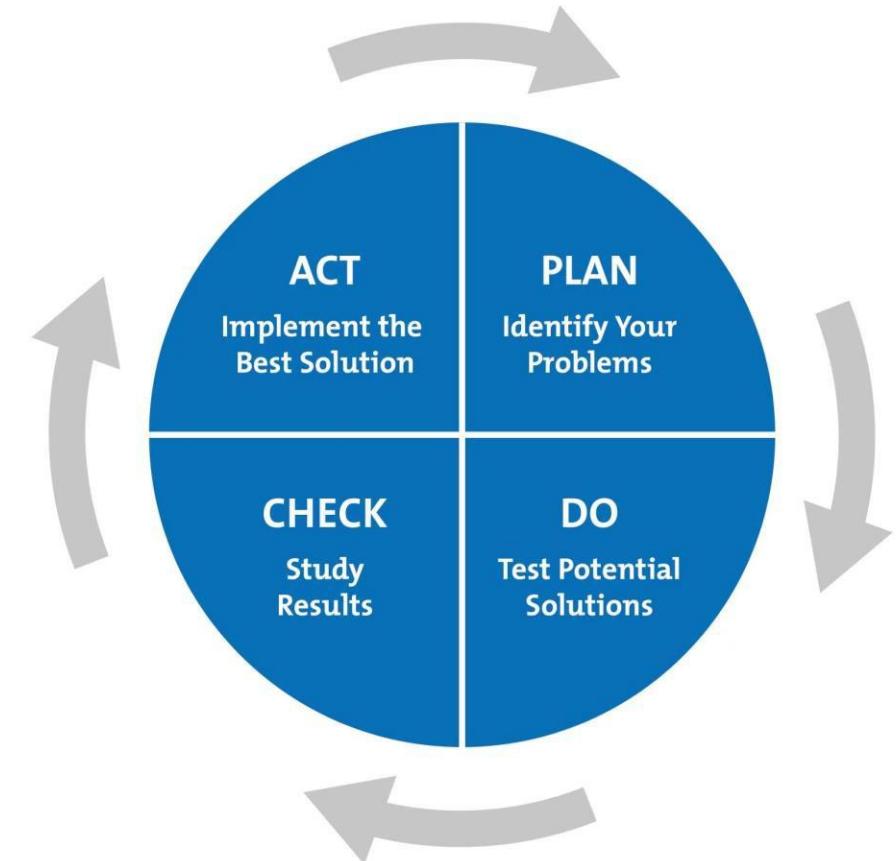
study the result, measure effectiveness, and decide whether the hypothesis is supported or not.



## Act

if the solution was successful, implement it.

Figure 1: The Plan-Do-Check-Act Cycle



**Law No.6331 says:**

**Risk assessments have to be renewed;**

- **EVERY 2 in very Hazardous Workplaces**
- **EVERY 4 years in Hazardous workplaces**
- **EVERY 6 years in less hazardous workplaces**



# **SAFETY AND CONTROL IN THE WORKPLACE**



# SAFETY

FREEDOM FROM DANGER OR HARM

Nothing is Free of



*BUT - We can almost always make something SAFER*

# **CONTROLS : Engineering**

## **CONTROL AT THE SOURCE!**

Limits the hazard but doesn't entirely remove it.



**Proper equipment**

### **Other Examples:**

Mechanical Guards  
Wet Methods for Dust  
Enclosures/Isolation  
Dilution Ventilation



**Re-designed Tools**

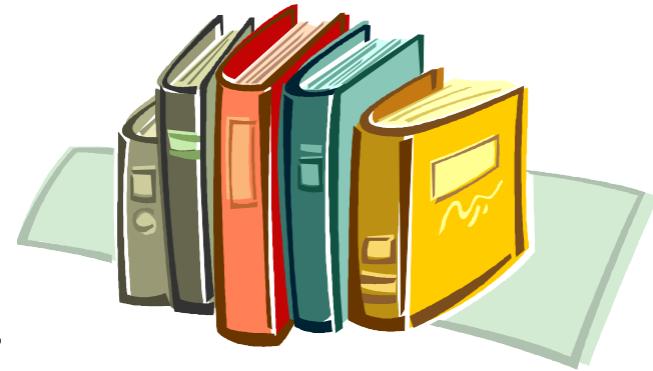


**Local Exhaust**

# **CONTROLS: Administrative**

**Aimed at Reducing Employee Exposure to Hazards !!!**

- Changes in work procedures such as:
  - Written safety policies/rules
- Schedule changes, such as:
  - Lengthened or Additional Rest Breaks
  - Job Rotation
  - Adjusting the Work Pace
- Training with the goal of reducing the duration, frequency and severity of exposure to hazards



# **CONTROLS: Personal Protective Equipment - PPE**

## **Control of LAST RESORT!**

- Special Clothing
- Eye Protection
- Hearing Protection
- Respiratory Protection...



**CONTROL IS AT THE  
WORKER!**

# **CONTROLS: Personal Protective Equipment - PPE**

Controlling hazards such as dust, noise and fumes



# Basic Concepts & Definitions

## **Occupational Disease:**

Any illness associated with a particular occupation or industry. Such diseases result from a variety of biological, chemical, physical, and psychological factors (hazards) that are present in the work environment.

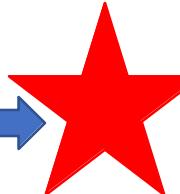


# Basic Concepts & Definitions

## Occupational Disease Examples:

Contact Dermatitis → Sourced from working with chemicals (Chemical Hazard)

Occupational Cancer → Sourced from working with chemicals (Chemical Hazard)

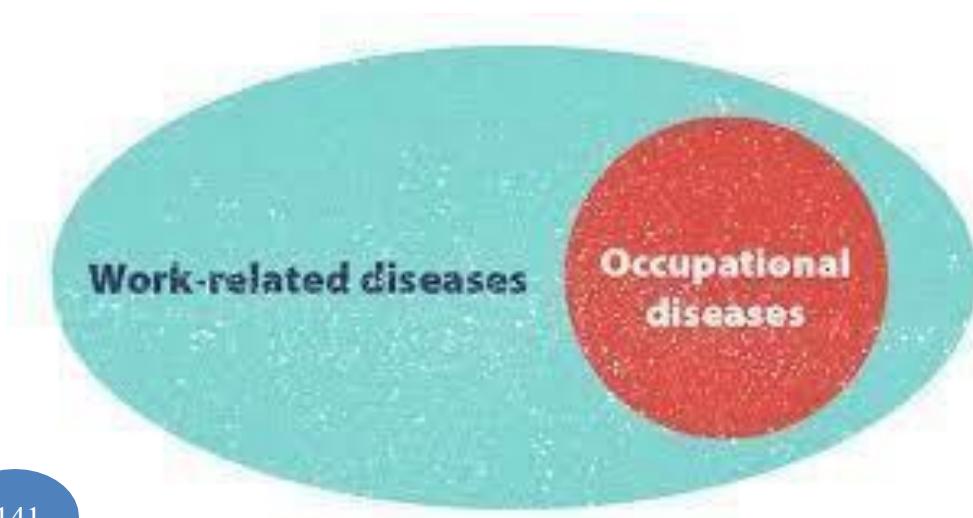
Musculoskeletal Diseases →  Sourced from working position(s) (Ergonomical Hazard)

Silicosis → Sourced from fine particles/dust (Physical Hazard)

# Basic Concepts & Definitions

## **Work-Related Disease:**

“**Work-related diseases**” have multiple causes, where factors in the **work** environment may play a role, together with other risk factors, in the development of such **diseases**.



*In daily life*

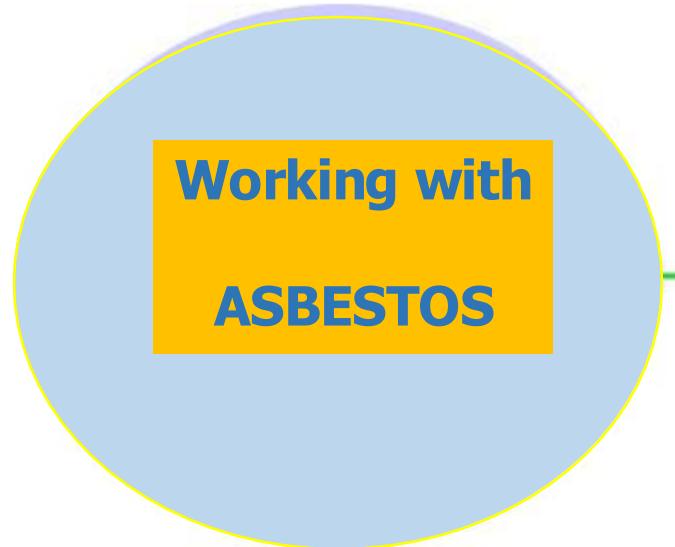


*accelerating  
the development  
of the disease*

Formaldehyde  
Carbon disulphide  
Arsenic

**Coronary heart disease  
Asthma**

*Work – Related  
Diseases*



**DIRECT EFFECT**

**ASBESTOSIS**

**Occupational Disease !**

# Basic Concepts & Definitions

## **Occupational Medicine:**

This is concerned with the effect of all kinds of work on health and the effect of health on a worker's ability and efficiency.



***According to World Health Organization (WHO);***

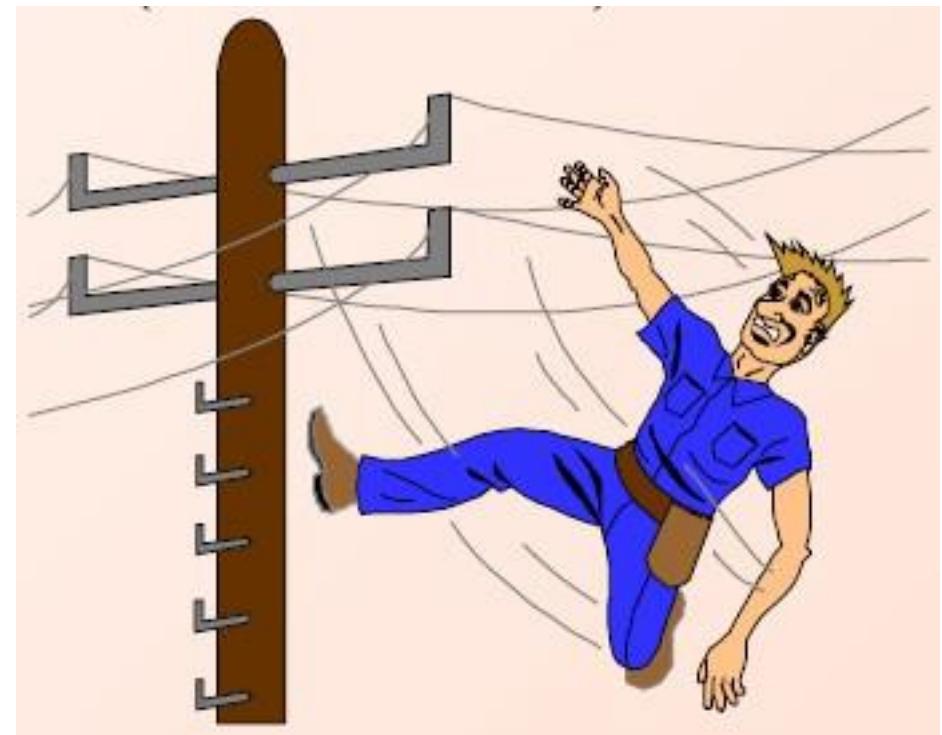
Occupational accident is an unplanned event that often leads to personal injuries, damage to machines, tools and equipments, and causes production to stop .



***According to Labor Law no. 6331;***

Occupational accident refers to the event that takes place in the workplace, causes death or makes body integrity mentally or physically disabled.

An occupational accident is an unexpected and unplanned occurrence.



# Occupational Accident



Explosion



Fall



Animal Attack



Poisoning



Falling Object



Human

Attack

An accident that is work-related

# Common workplace accidents:

## 1) Slip, trip and fall



If we obey the law 6331, accidents are completely avoidable where the correct safety measures are in place

**Because of** inadequate lighting, obstructions, uneven flooring, broken handrails on stairwells, loose/exposed wiring and other materials

## Avoiding Slips, Trips and Falls at Work

Good housekeeping, quality surfaces and footwear are key factors that prevent accidents in the workplace from occurring.

Employees should be reminded to engage in safe practice and procedure in the workplace by employers. Hazardous variables such as clutter or spillage must be reported to prevent a slip, trip and fall accidents \* in the workplace.



- **2) Manual Handling – Moving Heavy Objects/Materials:**



[Manual handling](#) is another common workplace accident claim. It comes as no surprise that back, neck and shoulder injuries are common for those who must lift objects as part of their daily tasks at work.

## • Avoiding Manual Handling Injuries at Work



CHECK YOUR BALANCE  
AND POSITION

WHEN LIFTING ITEMS  
USE YOUR LEGS.  
DO NOT JERK  
WHEN YOU LIFTING

Provide personal protective equipment such as gloves



HOW TO AVOID  
A MANUAL HANDLING  
INJURY WHEN  
LIFTING



WHEN MOVING YOUR  
LOAD, MOVE FROM  
YOUR FEET  
DO NOT KEEP  
HEAVIEST LOAD

ENSURE THAT OTHERS  
CAN SEE YOU

Firstly, Take appropriate organisational measures or use appropriate means, mechanical equipment, to avoid the need for manual handling of heavy loads by employees.

The distance at which an employee must move a heavy object must also be analysed and reduced where possible.

Physical capabilities of the employees should be considered

Provide manual handling training to all employees

uygun araçları, mekanik ekipmanı kullanın.

- **3) Being hit by falling Objects:**

In all environments, injury from falling objects can happen. Falling objects can cause injuries such as cuts and head and brain injuries in severe cases.



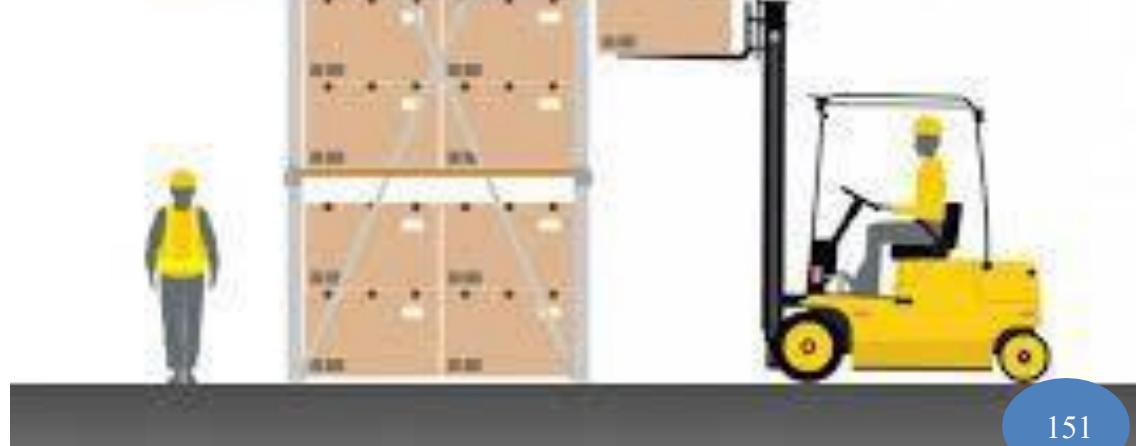
Common causes of falling object injuries are:

\*Files, books, and other office tools and equipment falling from a shelf



\*Wall and ceiling fixtures become detached and falling

\*Tools and other construction materials falling from a height on a building site



\*Unsecured loads lifted to a height and falling

## Avoiding Falling Object Injuries at Work

- Equipment should be stored at appropriate heights
- so that if it moves it won't fall on an employee



- In construction zones, using closed boarded platforms or kick boards to prevent objects from falling off the edge of scaffolding,



- Make employees aware of danger zones and how to store items properly to prevent future injuries



## 4) Injuries Caused By Inadequate Personal Protective Equipment (PPE)

- Accidents in the workplace tend to happen when employers fail to provide appropriate protective equipment (PPE) for workers.

Some of them;

Gloves

Steel toe capped boots

Protective overalls

High-vis jackets

Hard Hats

Safety Harness

Protective masks

Eye protection goggles



Helmets protect head against that bumps, falling objects and immediate contact electric shock

## 5) Falling from height

Falling from scaffolding on a building site



Using a step ladder when it is not appropriate to do so

Overreaching and losing balance when on a ladder



## **6) Burn Injuries**

- Common causes of burn injuries in the workplace \* are:
- -Electrical burns from faulty electrical equipment
- -Contact with overheated machinery or tools
- -Chemical burns from contact with corrosive materials, acids or oils
- -Contact with direct heat sources such as welding.
- -Faulty wiring.



## **7) Vehicle Crashes**



- These type of workplace accidents may involve cars, lorries or even other vehicles such as forklift trucks.

**There are two different kinds of vehicle-related accidents:**

- **On the Road** – Workers can be injured due to a vehicle-related accident while working on the roads or in traffic zones.
- **In the Workplace** – Operators of vehicles and equipment can injury to fellow employees.



- According to statistical data,
- Every 3 minutes, occupational accidents are happening in the world.
- Every 4 hours, a person dies
- Every year, 260 million occupational accidents are taking place in the world.
- Every year, 160 million people are caught occupational disease.
- Every year, 2 million 200 thousand people are dying due to accidents at work and occupational diseases.
- Turkey in fatal occupational accident is FIRST in Europe & THIRD in world.

- Unfortunately,
  - Fatal occupational accidents are more common in Turkey, compared to European countries.
  - In 2014, 1626 workers died (1589 males and 37 females) due to accidents, with an accident mortality rate of 11.6 per 100,000.
  - Accident mortality rate is in the range of 1 to 6 per 100,000 in most European countries.
- whereas

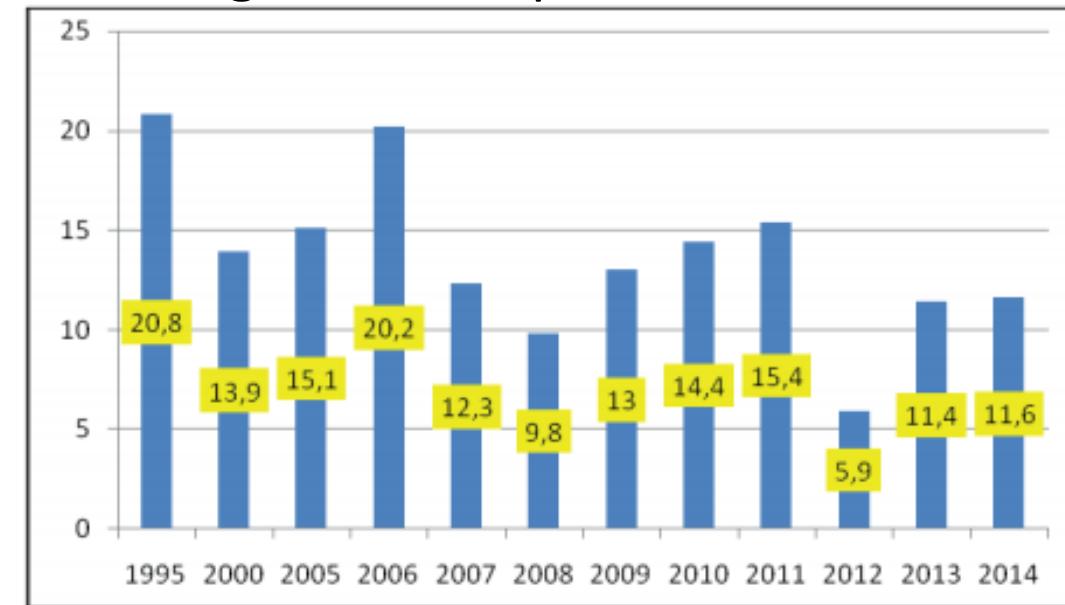


Figure 1 Occupational accident mortality rates, Turkey 1995-2013 (per 100 000) (Mortality rate is number of deaths divided by number of employees)



- More than half (56,2%) of occupational accident deaths occurred in the 25-44 years age groups.

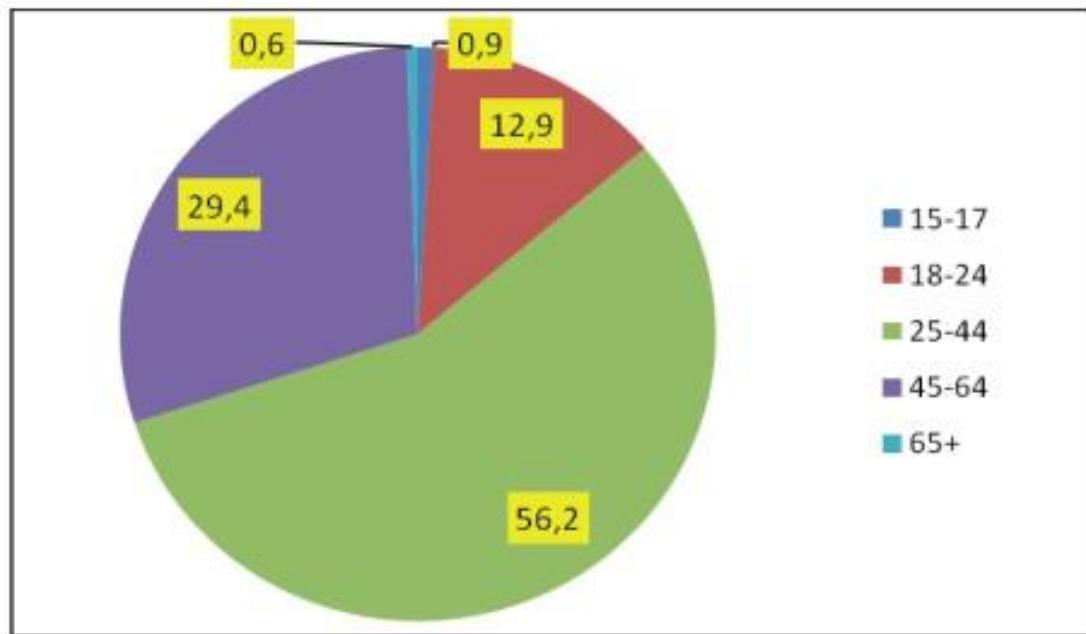


Figure Accident deaths by age groups, Turkey, 2014

Table 13.5. Occupational accident deaths by age groups, Turkey, 2014

Age groups	Number of deaths	Percent
15-17	15	0.9%
18-24	210	12.9%
25-34	443	27.3%
35-44	470	28.9%
45-54	347	21.3%
55-64	132	8.1%
65+	9	0.6%
<b>Total</b>	<b>1626</b>	<b>100.0%</b>

Social Security Institution, Statistics Yearbook, 2014

- In terms of occupational groups, more than half (60.7%) of accident deaths occurred among unskilled workers.



- Almost one fifth (18.9 %) of accident deaths occurred in three big cities:
- İstanbul: 243,
- Ankara: 107 and
- İzmir: 64 deaths

# PERSONAL PROTECTIVE EQUIPMENT - PPE

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# **PERSONAL PROTECTIVE EQUIPMENT - PPE**

It refers to any device, tool or material designed to be worn, worn or carried by persons to protect against one or more health and safety hazards.



# THE REQUIREMENT FOR PPE

To ensure the greatest possible protection for employees in the workplace, the cooperative efforts of both employers and employees will help in establishing and maintaining a safe and healthful work environment.

## In general, employers are responsible for:

- Performing a "hazard assessment" of the workplace to identify and control physical and health hazards.
- Identifying and providing appropriate PPE for employees.
- Training employees in the use and care of the PPE.
- Maintaining PPE, including replacing worn or damaged PPE.
- Periodically reviewing, updating and evaluating the effectiveness of the PPE program.

# The Requirement For PPE

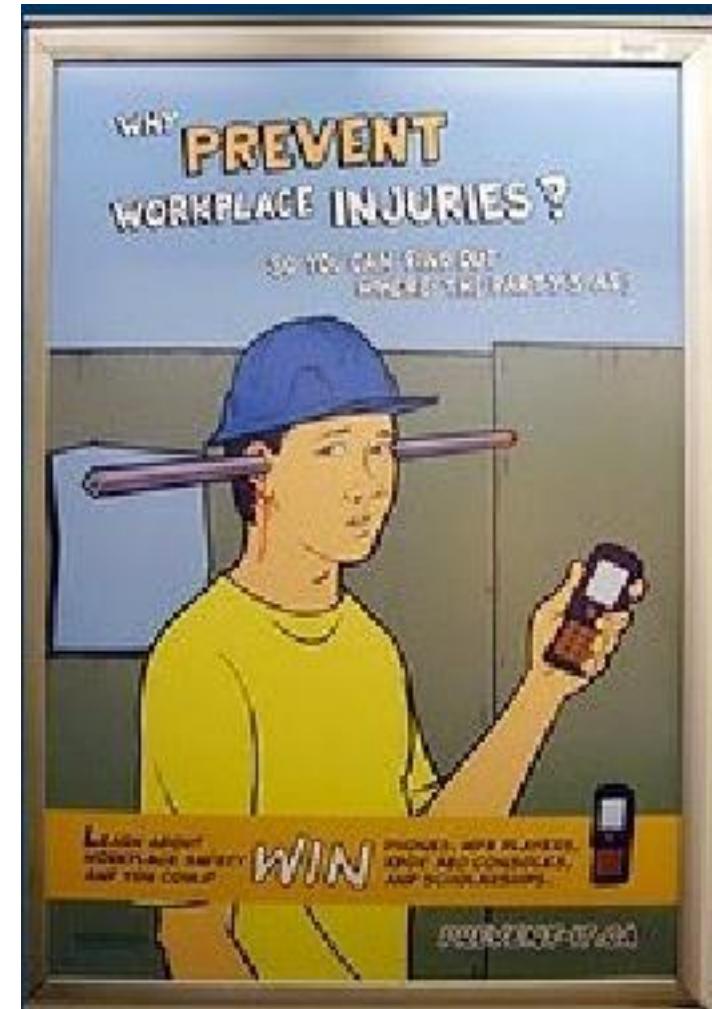
In general, employees should:

- Properly wear PPE,
- Attend training sessions on PPE,
- Care for, clean and maintain PPE, and
- Inform a supervisor of the need to repair or replace PPE.



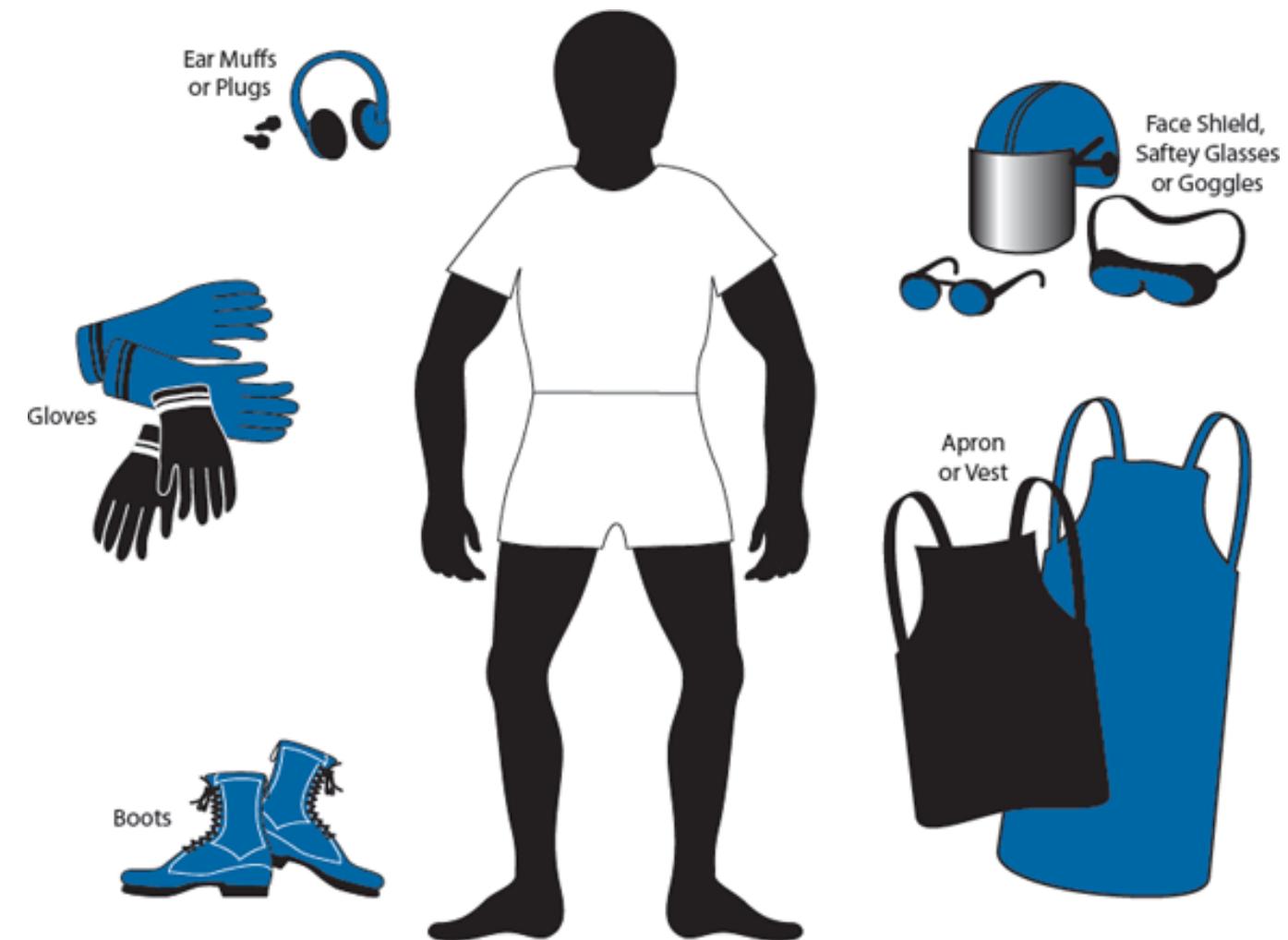
# WHY IS PPE IMPORTANT?

PPE is designed to protect the worker's body from hazards and injuries such as blunt impacts, electrical hazards , heat, chemicals, and infection etc.



# TYPES OF PPE

- Hearing Protection
- Eye & Face Protection
- Head Protection
- Hand Protection
- Foot Protection
- Body Protection



# TYPES OF PPE

Use gloves



Use face visor



Wash hands



Use apron



Use boots



Use dust mask



Use respirator



Use coverall



Note: Gloves and boots are tucked into coveralls

# **TYPES OF HEARING PROTECTORS**

Types of ear protectors:

**Ear plugs:** are inserted to block the ear canal. They may be premolded (preformed) or moldable (foam ear plugs). Ear plugs are sold as disposable products or reusable plugs. Custom molded ear plugs are also available.

**Semi-insert ear plugs:** which consist of two ear plugs held over the ends of the ear canal by a rigid headband.

**Ear muffs:** consist of sound-attenuating material and soft ear cushions that fit around the ear and hard outer cups. They are held together by a head band.

# Types of Hearing Protectors



Earmuffs

Earplugs



## When should be used ear protection

Habitual exposure to noise above 85 dB will cause a gradual hearing loss in a significant number of individuals, and louder noises will accelerate this damage.

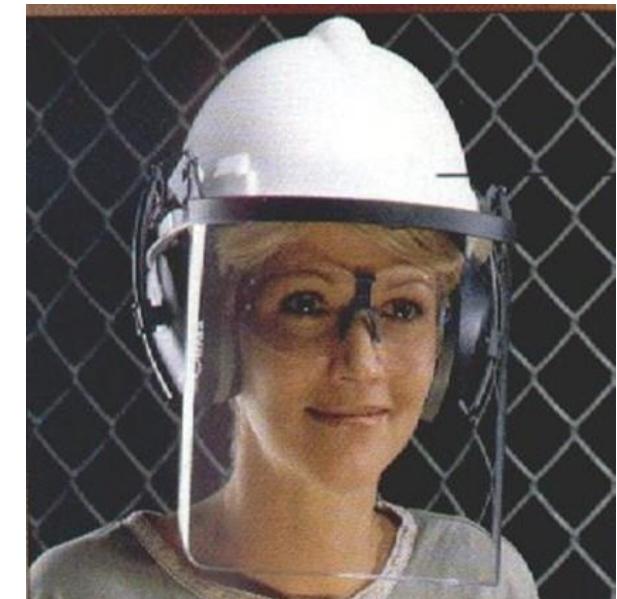


## EYE AND FACE PROTECTION

OSHA requires employers to ensure the safety of all employees in the work environment. Eye and face protection must be provided whenever necessary to protect against chemical, environmental, radiological or mechanical irritants and hazards.

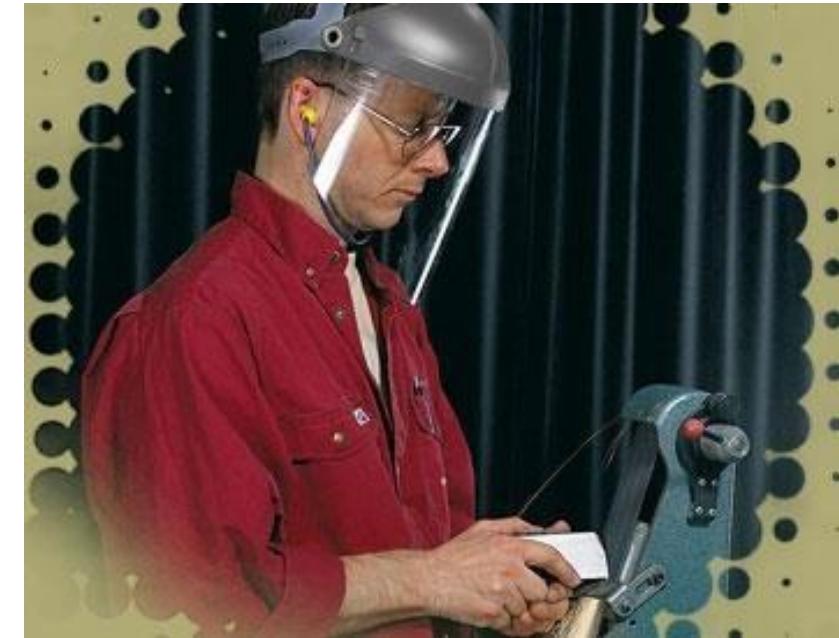
Eye and face protection is addressed in specific standards for the general industry, shipyard employment, long shoring, and the construction industry.

*Ordinary glasses do not  
protect us from work  
accidents*



# Eye and Face Protectors

- Glasses,
- Closed goggles (diving goggles),
- X-ray glasses, laser beam glasses, ultra-violet, infrared, visible radiation glasses,

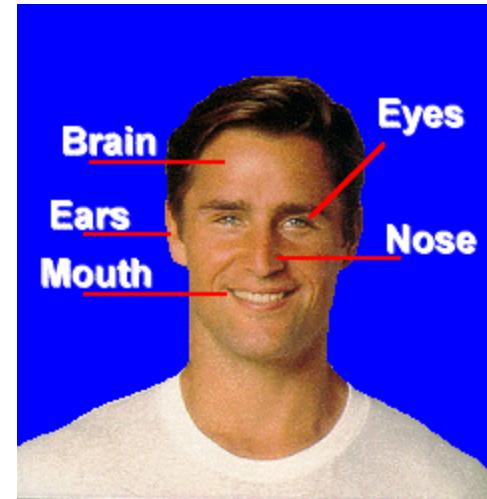


# HEAD PROTECTION

## Why is Head Protection Important?

In and around your head are:

- ✓ Your eyes, with which you see
- ✓ Your ears, with which you hear
- ✓ Your nose, with which you smell
- ✓ Your mouth, with which you eat and speak
- ✓ Your brain, with which you think



**Injuries to the head are very serious. For this reason, head protection and safety are very important .**

# Head Protection

## Types of Head PPE

### ➤ Class A Hard Hats

- ✓ Protect you from falling objects
- ✓ Protect you from electrical shocks up to 2,200 volts

### ➤ Class B Hard Hats

- ✓ Protect you from falling objects
- ✓ Protect you from electrical shocks up to 20,000 volts



# Head Protection

## ➤ Class C Hard Hats

- ✓ Protect you from falling objects

## ➤ Bump Caps

- ✓ Bump caps are made from lightweight plastic and are designed to protect you from bumping your head on protruding objects



# Head Protection



Hard hat test performed by the Airforce



# Helmets Colors

- **White:** For engineering, managers, supervisors
- **Red:** Fire fighter
- **Yellow:** Worker
- **Blue:** Technical operators
- **Green:** Medical personnel
- **Orange:** Foreman



# HAND PROTECTION

## Potential Incidences of Hand Hazards

### ➤ Traumatic Injuries

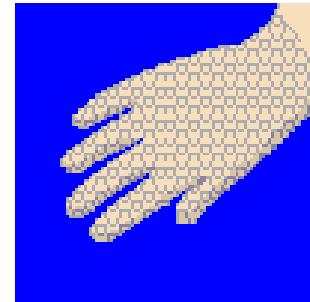
- ✓ Tools and machines with a sharp edges can cut your hands.
- Staples, screwdrivers, nails, chisels, and stiff wire can puncture your hands.
- Getting your hands caught in machinery can sprain, crush, or remove your hands and fingers



# Type of hand protection

## ➤ Metal mesh gloves

resist sharp edges and prevent cuts



## ➤ Leather gloves

shield your hands from rough surfaces



## ➤ Vinyl and neoprene gloves

protect your hands against toxic chemicals



# Type of hand protection

- **Rubber gloves**

Protect you when working around electricity



- **Padded cloth gloves**

Protect your hands from sharp edges, slivers, dirt, and vibration



- **Heat resistant gloves**

Protect your hands from heat and flames



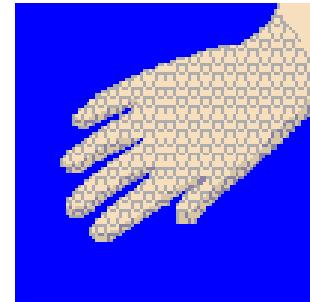
- **Latex disposable gloves**

Used to protect your hands from germs and bacteria

# Type of hand protection

## ➤ Lead-lined gloves

Used to protect your hands from radiation sources



## ➤ Forearm Cuffs

Used to protect your forearm



## ➤ Thumb Guards and Finger Cots

Protect only your thumb or fingers



# Type of hand protection

## ➤ Mittens

Protect your hands while working around very cold or hot materials

## ➤ Hand Pads

Hand pads protect your hands while working around very hot materials



# Type of foot protection

## ➤ PVC footwear

Protects your feet against moisture and improves traction



## ➤ Butyl footwear

Protects against most ketones, aldehydes, alcohols, acids, salts, and alkalies



## ➤ Vinyl footwear

Resists solvents, acids, alkalies, salts, water, grease, and blood



# Type of foot protection



## ➤ Nitrile footwear

Resists animal fats, oils, and chemicals



## ➤ Electrostatic dissipating footwear

Conducts static electricity to floors that are grounded



## ➤ Electrical hazard footwear

Insulated with tough rubber to prevent shocks and burns from electricity

## ➤ Disposable footwear

Includes shower slippers, clear polyethylene and non-woven booties used in dust free work areas

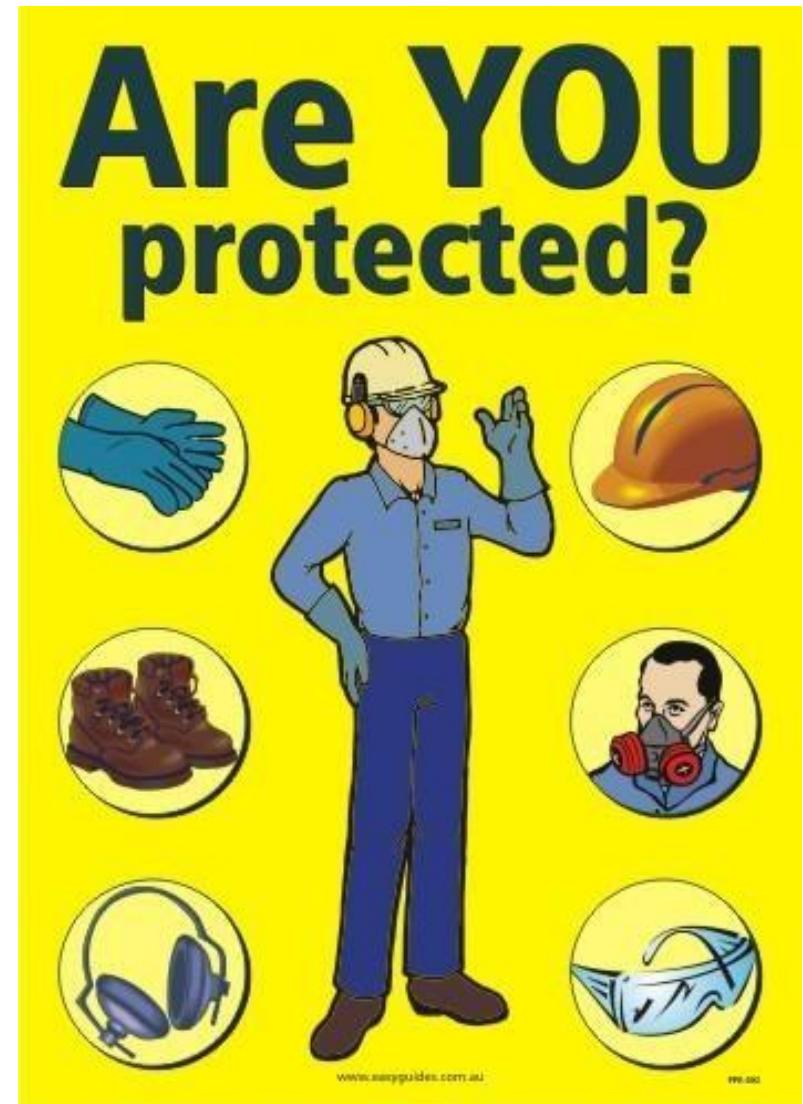
# BODY PROTECTION

- The skin acts as a natural barrier to the elements
- Chemicals can break down the skin barrier and allow secondary infections to manifest



## Types of Body Hazards

- Temperature stress
- Chemical Contact
- Radiation...



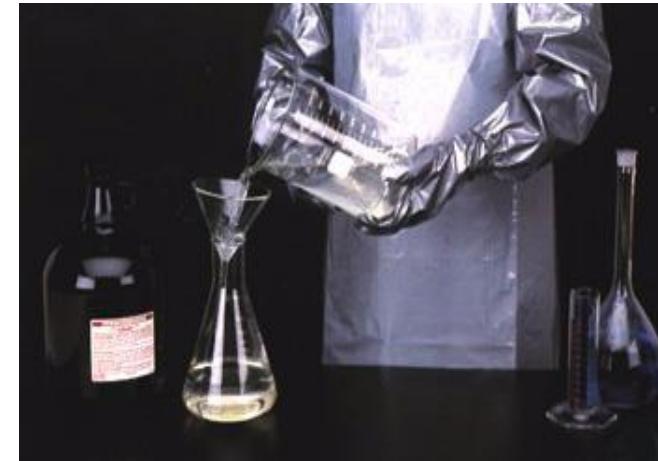
# Types of Body PPE

## ➤ Insulated Coats and Pants

- ✓ Fire resistant
- ✓ Heat resistant
- ✓ Cold resistant

## ➤ Sleeves and Aprons

- ✓ Work well when pouring or manipulating chemical to reduce splash
- ✓ Make sure the sleeves and aprons are appropriate for the chemical



# Types of Body Protection

## ➤ Coveralls

- ✓ Tyvek use for particulate filtering such as asbestos
- ✓ Chemical rated



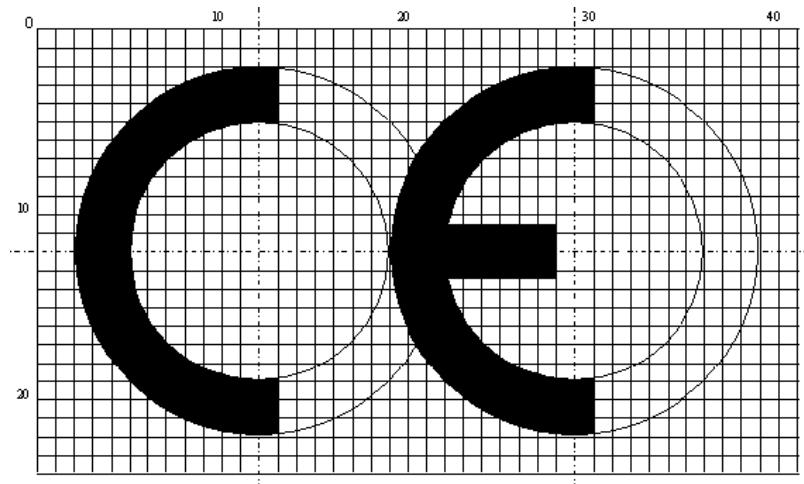
## ➤ Full body suit

- ✓ Hazardous materials handling
- ✓ Carbon filtering for emergency response



## TO SELECTING APPROPRIATE PPE

Choose good quality products which are **CE** marked in accordance with the Personal Protective Equipment suppliers can advise a safety professional.



# Body Protection





Is This An Appropriate Hard Hat?



Is This an Appropriate Scaffolding?

# SAFETY SIGNS AND EMERGENCY PLAN



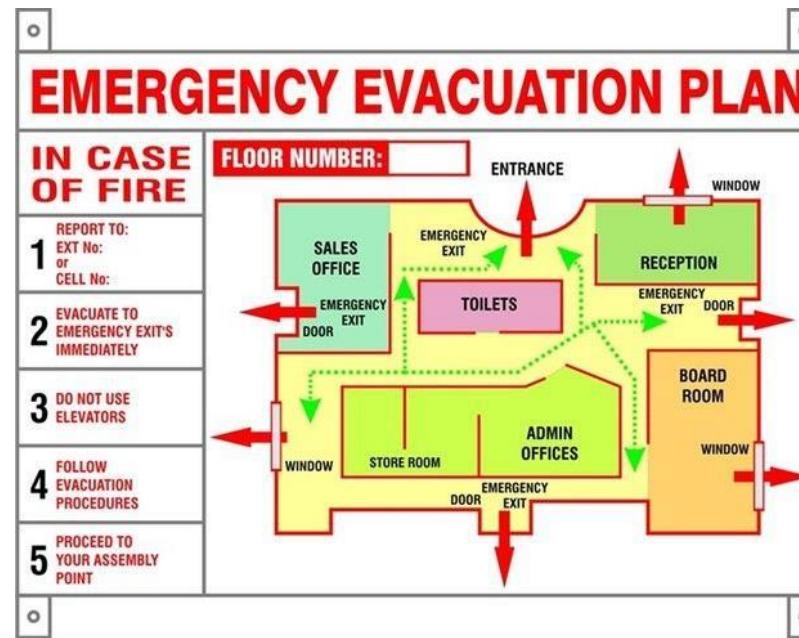
# SAFETY SIGNS – COLOUR AND SYMBOL CODE

SIGN	COLOURS	MEANING
	Red Circle and Bar Black Symbol	DO NOT
	Blue Background White Symbol	MUST DO
	Red Circle Black Symbol	RESTRICTION
	Yellow Triangle Black Symbol	WARNING (hazard)
	Red Oval on Black Rectangle Black Text	DANGER (life threatening hazard)
	Green Background White Symbol	EMERGENCY INFORMATION
	Red Background White Symbol	FIRE



# EMERGENCIES

In the case of an accident or emergency, it is important to know where the emergency equipment is and what to do.



# **WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS**

WHMIS stands for the **Workplace Hazardous Materials Information System**. It is a comprehensive system for providing health and safety information on the safe use of hazardous products used in Canadian workplaces.

The main components of WHMIS are hazard identification and product classification, labelling, safety data sheets, and worker education and training.

# **WHMIS**



W → **Workplace**

H → **Hazardous**

M → **Materials**

I → **Information**

S → **System**

# WHMIS

WHMIS has three components:

Labels

Material Safety Data  
Sheets (MSDS)

Worker  
Training

# **WORKPLACE EMERGENCIES**

An emergency is an actual or imminent occurrence such as an accident, earthquake, explosion, fire, flood or storm which:

- Endangers or threatens to endanger the health and safety of persons  
or
- Destroys or damages, or threatens to destroy or damage property

## **CHEMICAL / BIOLOGICAL - WHMIS**

- WHMIS is a system designed to give employers and workers information about hazardous materials in the workplace.
- It is done by identifying and classifying the hazards in the workplace and ensuring consistency of information about hazardous materials.
- This information is given through the use of labels, Material Safety Data Sheets (MSDS) and worker training.



# SUPPLIER LABEL

slash-marked borders

product name

main hazards

precautions that should be taken

first-aid measures

reference to the MSDS for more information

supplier

symbols for each class the product belongs to

English and French

**METHANOL**

**DANGER**  
**POISONOUS / FLAMMABLE**

- Keep away from heat, sparks and flame.
- Avoid contact with eyes and skin.
- Do not inhale vapors or mist.
- Do not swallow.
- Harmful if absorbed through the skin.

**PRECAUTIONS**

- Wear chemical goggles and resistant gloves.
- Wash thoroughly after handling.
- Keep container tightly closed.

**FIRST AID**

- In case of contact, flush eyes and skin with water for 15 minutes.
- If swallowed, induce vomiting.
- Get medical attention immediately.

**SEE MATERIAL SAFETY DATA SHEET  
VOIR FICHE SIGNALÉTIQUE**

WXYZ CHEMICAL COMPANY  
TESTVILLE, NEW BRUNSWICK 506 123-4567

**MÉTHANOL**

**DANGER**  
**POISON / INFLAMMABLE**

- Garder loin de la chaleur, des étincelles et de la flamme.
- Éviter tout contact avec les yeux et la peau.
- Ne pas respirer les vapeurs.
- Ne pas absorber.
- Nocif, si absorbé par la peau.

**PRÉ CAUTIONS**

- Porter des lunettes protectrices et des gants résistants.
- Se laver minutieusement les mains après usage.
- Garder le contenu bien fermé.

**PREMIERS SOINS**

- En cas de contact avec les yeux ou la peau, laver à grande eau pendant 15 minutes.
- Si avalé, provoquer le vomissement.
- Obtenir des soins médicaux immédiats.

Additional Resource Material  
For more information about WHMIS,  
visit the following websites:  
[www.hc-sc.gc.ca/hecs-sesc/whmis/reference\\_manual.htm](http://www.hc-sc.gc.ca/hecs-sesc/whmis/reference_manual.htm)  
[www.ccohs.ca/headlines/text51.html](http://www.ccohs.ca/headlines/text51.html)

**SUPPLIER LABEL**

# SUPPLIER LABEL



# WHMIS Hazard Classes

Category/ Category						
Flammable		✗	✗	✗	✗	✗
Oxidizing		✗	✗	✗	✗	✗
Toxic		✗	✗	✗	✗	✗
Corrosive		✗	✗	✗	✗	✗
Dangerous for the environment		✗	✗	✗	✗	✗

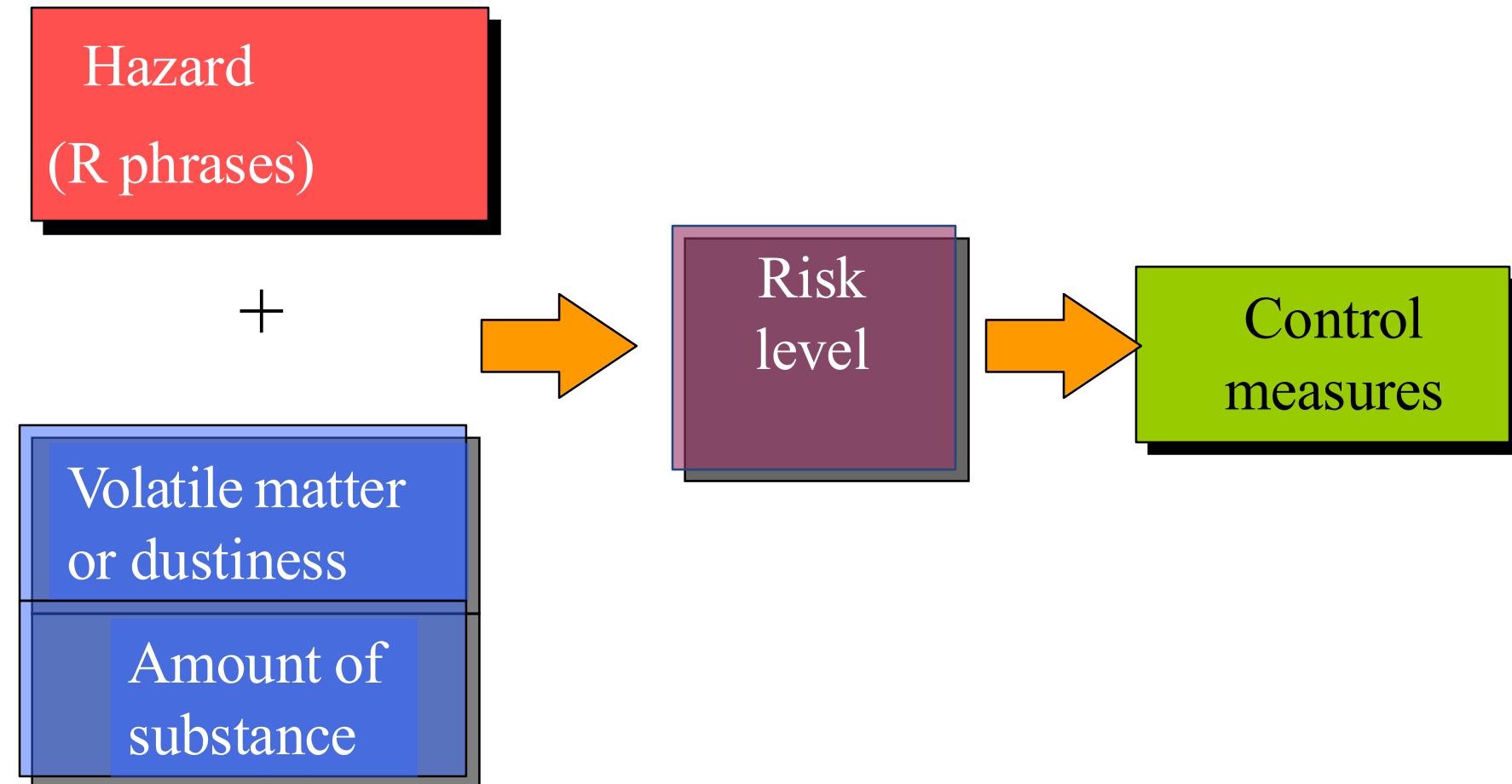
✗ Very dangerous combination, never store together

✗ Dangerous combination, avoid storing together

✗ Only store together if compounds do not react with each other

GHS - Hazard Pictograms and Related Hazard Classes		
<b>Exploding Bomb</b> <ul style="list-style-type: none"><li>• Explosives</li><li>• Self-reactives</li><li>• Organic Peroxides</li></ul>	<b>Corrosion</b> <ul style="list-style-type: none"><li>• Skin corrosion/burns</li><li>• Eye damage</li><li>• Corrosive to metals</li></ul>	<b>Flame Over Circle</b> <ul style="list-style-type: none"><li>• Oxidizing gases</li><li>• Oxidizing liquids</li><li>• Oxidizing solids</li></ul>
<b>Gas Cylinder</b> <ul style="list-style-type: none"><li>• Gases under pressure</li></ul>	<b>Environment</b> <ul style="list-style-type: none"><li>• Aquatic toxicity</li></ul>	<b>Skull &amp; Crossbones</b> <ul style="list-style-type: none"><li>• Acute toxicity (fatal or toxic)</li></ul>
<b>Exclamation Mark</b> <ul style="list-style-type: none"><li>• Irritant (eye &amp; skin)</li><li>• Skin sensitizer</li><li>• Acute toxicity</li><li>• Narcotic effects</li><li>• Respiratory tract irritant</li><li>• Hazardous to ozone layer (non-mandatory)</li></ul>	<b>Health Hazard</b> <ul style="list-style-type: none"><li>• Carcinogen</li><li>• Mutagenicity</li><li>• Reproductive toxicity</li><li>• Respiratory sensitizer</li><li>• Target organ toxicity</li><li>• Aspiration toxicity</li></ul>	<b>Flame</b> <ul style="list-style-type: none"><li>• Flammables</li><li>• Pyrophorics</li><li>• Self-heating</li><li>• Emits flammable gas</li><li>• Self-reactives</li><li>• Organic peroxides</li></ul>

# Control of Substances Hazardous to Health Essentials



# **EMERGENCY PLAN**

A definite plan to deal with major emergencies is an important element of OH&S programs.

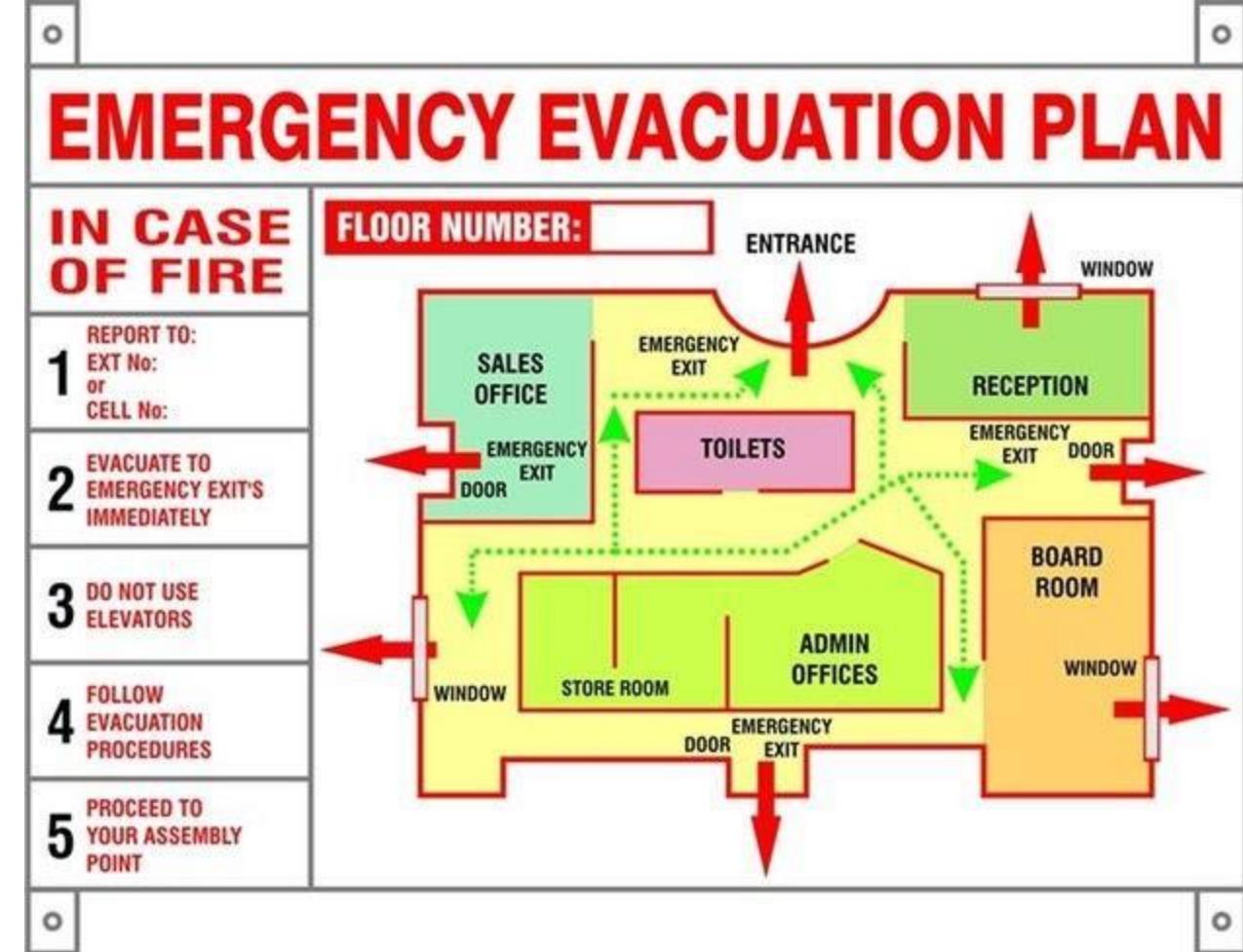
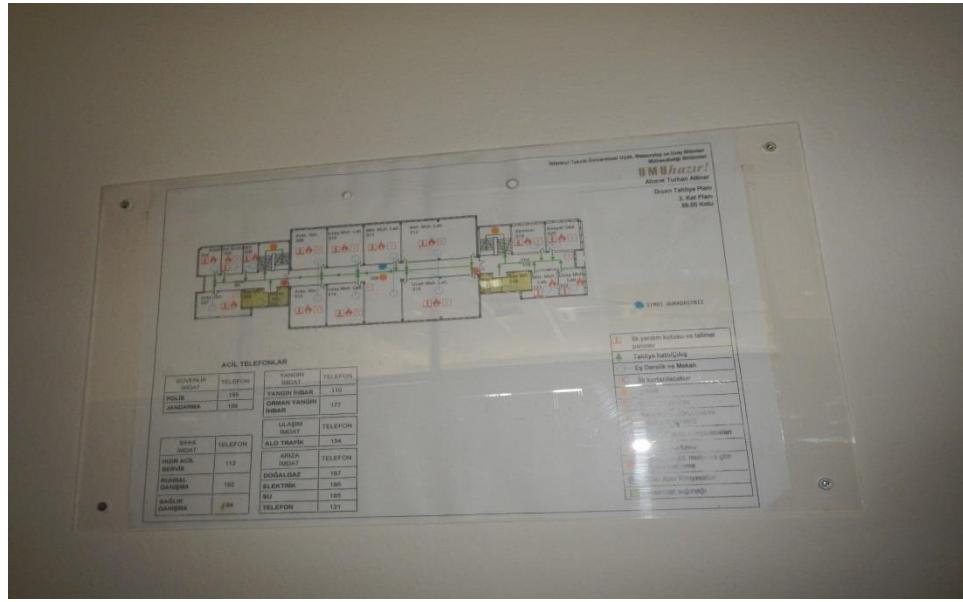
The emergency plan includes:

- All possible emergencies, consequences, required actions, written procedures, and the resources available.
- Detailed lists of personnel including their home telephone numbers, their duties and responsibilities.
- Floor plans.
- Large scale maps showing evacuation routes and service conduits (such as gas and water lines).

# FIRST AID AND EMERGENCY EXIT SIGNS

	FIRST AID KIT FIRST AID ROOM
	EMERGENCY SHOWER
	EMERGENCY EYEWASH





# WORKPLACE EMERGENCY RESPONSE TEAMS

Emergency response team members should be thoroughly trained for potential crises and physically capable of carrying out their duties. Team members need to know about toxic hazards in the workplace and be able to judge when to evacuate personnel or when to rely on outside help.



# WORKPLACE EMERGENCY RESPONSE TEAMS

One or more teams must be trained in:

- Use of various types of fire extinguishers,
- First aid, including cardiopulmonary resuscitation and self-contained breathing apparatus,
- Requirements of the OSHA blood borne pathogens standard,
- Shutdown procedures,
- Chemical spill control procedures,
- Search and emergency rescue procedures,
- Hazardous materials emergency response,

# REPORTING ACCIDENTS AND EMERGENCIES

Are you aware of the workplace emergency and accident procedures?

## *What are your responsibilities?*

- Discuss notification of near misses, minor injuries, damage to property but not people and potential behavioural changes such as medication changes that may mean a supported employee will be drowsy.
- Details of where information is kept, and who controls it should be highlighted.

## EXAMPLES OF WORKPLACES DANGER



# The five main categories of the workplace danger are;

- ✓ Physical
- ✓ Chemical
- ✓ Biological
- ✓ Psychological
- ✓ Ergonomic



Physical Hazards



Chemical Hazards



Biological Hazards



Ergonomic Hazards

# PHYSICAL RISK FACTORS

- Noise
- Lighting
- Heat and Humidity (Thermal Comfort)
- Vibration
- Pressure



## NOISE

# PHYSICAL



- ✓ The energy waves perceived by the propagation of vibrations of any substance, such as air, liquid, or gas, are called sound.
- ✓ While noise is defined as unwanted and disturbing sound, noise in workplaces can be described as sounds that leave physiological and psychological effects on employees while also negatively impacting work efficiency and production.
- ✓ The noise in mechanical rooms or around equipment can exceed the Provincial guidelines. The sound levels are measured and signs are posted as required.

## NOISE

# PHYSICAL



- ✓ According to the ILO, noise is defined as any sound that may cause hearing loss or be harmful or otherwise dangerous to health.
- ✓ Approximate values for some sound levels: Weakest audible sounds, hearing threshold **0 dB**, low voice **30 dB**, normal quiet conversation **50 dB**, busy office, loud conversation **60 dB**, noisy radio, TV, crowded traffic **70-80 dB**, subway, cinema **90 dB**, road drill **100 dB**, thunder **120 dB**, close-air jet **140 dB** (Pain threshold), rocket launch **180 dB**

## NOISE

# PHYSICAL

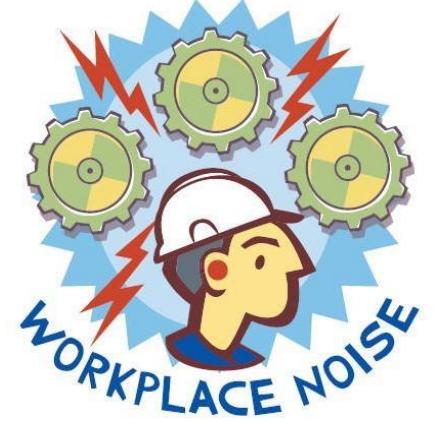
The effects of noise on humans are generally divided into 4. These are;

**Physical effects:** Temporary or sudden hearing loss, pain, nervous and circulatory system disorders and hormonal imbalance. At this point, the duration of exposure is important.

**Interfering with conversations:** These impact features can lead to a decrease in work efficiency.

**Physiological effects:** Fatigue, inability to sleep, insomnia.

**Psychological effects:** Behavioural disorders, anger, anxiety, stress, general feeling of discomfort.



## HEARING LOSS

# PHYSICAL



It is the effect of noise on human hearing.

**Acoustic Trauma:** Occurs at very high sound levels. Intense sound pressure disrupts the structure of the middle and inner ear and destroys the organs of Corti in the inner ear.

**Temporary hearing loss:** A person standing in a noisy environment for a certain period of time has a temporary decrease in hearing. This condition disappears after a certain period of time.

**Permanent hearing loss:** Permanent loss of hearing in people who have been in a noisy environment for many years. This loss depends on factors such as noise level, duration, physiological status, etc.

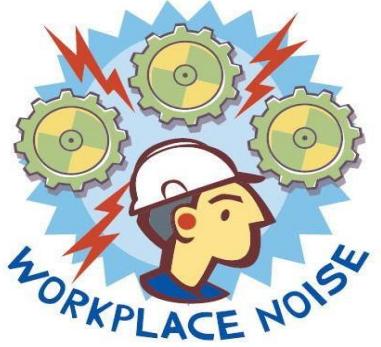


## PHYSICAL

**When we look at the legal obligations regarding noise, these are;**

In places where heavy and dangerous work is not carried out, the noise level will not exceed 80 db. In places where work requiring more noisy work is carried out, the noise can be up to 95 db. However, in this case, workers will be provided with appropriate protective tools and equipment such as headgear and earplugs.

According to noise control regulation article, the following table value shall be taken as basis for the highest noise levels acceptable for hearing health.



# PHYSICAL

Duration of Exposure (hour/day)	Maximum Noise Level (db)
7.5	80
4	90
2	95
1	100
0.5	105
0.25	110
1/8	115

# PHYSICAL

## VIBRATION

Vibration is a low-frequency and high-amplitude energy emission, usually propagating in a solid medium, perceived by the sense of touch. Its characteristics and effects depend on the frequency, duration, direction, personal sensitivity, the area affected and risk factors.

Vibration frequency is measured as the number of vibrations per second and in Hertz unit. The vibration frequencies of the tools and equipment used vary: 20-30000 hz range.



**Warning**  
**High**  
**vibration risk**

# PHYSICAL

## VIBRATION

Factors determining vibration loading are divided into periodic and non-periodic vibrations. Periodic vibrations are formed by the combinations of various harmonic vibrations.

Non-periodic vibrations, i.e. impact-actuated tools, change their direction of deflection over time.

If there is a vibration that affects the organism generally or locally, tissue damage occurs in the organism. The degree of harmful effect varies according to the height, frequency, duration, place of impact, direction of impact, nature of the tissue affected, personal sensitivity and risk factors.



# **PHYSICAL**

## **VIBRATION**

1. Movement system (bones)
2. Peripheral vessels,
3. Peripheral and partly central nervous system may sustain damage

Research in this area has shown harmful and permanent effects on muscle and joint systems, the inner ear and the organ of balance, the subcutaneous sensory organs of the skin, etc.

In addition to these complaints, mechanical vibrations also affect performance. Especially important in driving steering activities, the perception of performance and the coordination of motoric movements can be impaired by vibration.

# **PHYSICAL**

## **VIBRATION**

The most typical example of the vibration effect has been seen in workers cutting wood chainsaws in cold climatic conditions. This has been explained as the prolonged effect of vibrations causing a nervous disorder that constricts the capillaries in the fingers of the hands. Similar phenomena have been observed in workers excavating with compressors.

Low frequency vibrations (i.e. 2-20 hz) are seen in large machinery and vehicles (trucks, tractors, road machinery). The effect of high intensity vibrations is intensified by poor sitting posture, side force effects and the need to use muscular strength. In these cases, disc deformations in the lumbar, back and, to a lesser extent, cervical spine are typical. Unfavorable comfort factors (such as inadequate suspension) and ergonomic inadequacies resulting from the construction of the vehicles further facilitate the harmful effect.

# **PHYSICAL**

## **VIBRATION**

- Medium frequency vibrations (8-1000 hz) are mostly caused by hand-held air-pressurized tools. Such tools, usually weighing 10-35 kg, are used either completely by hand or by resting on the shoulder and calf. The effect of such tools used in cutting (automatic hand saws), drilling, sanding, polishing, etc. may increase depending on the vibration-frequency, height, weight of the tool, rebound power, the nature of the work, the way it is used, the temperature and humidity of the working environment and the duration of the work.
  
- Very high frequency vibrations (1000-30000 hz) are usually found in stationary industrial machinery. They cause vasomotor disorders and sensory damage, mostly to the hands.

# **PHYSICAL**

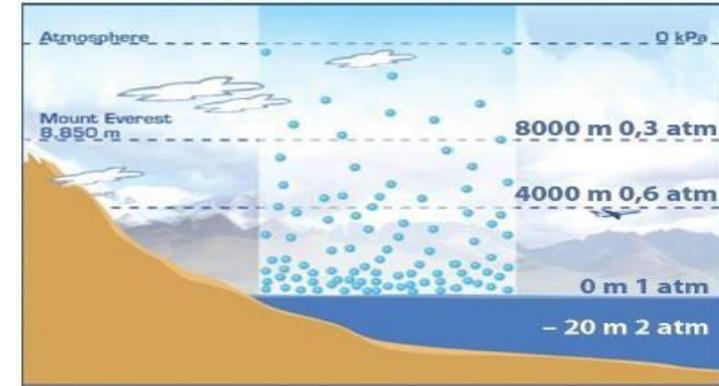
## **VIBRATION**

- The following measures can be taken to protect against harmful effects of vibration:
  - Frequency harmonization or de-harmonization of the entire vibration system
  - Changing the number of revolutions to avoid resonant frequency
  - Elimination of dynamic imbalances
  - Use of vibration dampers
  - Vibration isolation
  - Damping the transmission of vibration to humans

# PHYSICAL

## PRESSURE

- The force applied per unit area is called pressure. Sudden pressure changes can cause life-threatening health problems affecting the cardio vascular, respiratory system.
- At high pressure, in addition to confusion, decreased mental functioning, headache, ringing in the ears, life-threatening conditions such as strokes can also be encountered. The people working under water or in environments such as pressure chambers, divers, underwater construction workers are at risk.
- On the contrary, both the air pressure decreases and the oxygen content of the air decreases as you go up to high places. For this reason, increased respiratory rate and heart rate indicate oxygen deficiency. As a result of this condition, symptoms such as headache, vomiting, nausea, insomnia, fatigue and exhaustion may be observed.



# Physical

## DUSTINESS

**Low:** Pellets and similar. Little dust is seen during use

**Medium:** crystalline, granular solids. When used, dust is seen but settles out quickly

**High:** Fine, light powders. There are dust clouds that can remain for minutes



## VOLATILE MATTER:

### PARTICLE SIZE

### CHARACTERISTICS

300 - 100 micron

It cannot stay suspended in the air for long periods of time. They cannot penetrate the body.

100 - 50 micron

It is retained in the upper respiratory tract and visible to the eye.

50 - 5 micron

It reaches the lungs and accumulates in the alveoli.

< 0.5 micron

It is harmless to the body goes in and out of the lungs.

# Physical

## HOT and COLD

- ✓ In developed industrialized countries, the most comfortable ambient temperature in factories where workers perform light physical work is considered to be 18-20 C.
- ✓ The lower and upper limits of the comfortable working environment were found to be between 15-20 C.
- ✓ If the environment is above the comfortable working temperature, it may cause some negative effects in terms of OHS.
  - Intensification of errors, low efficiency in mental work, declining abilities and skills, difficulty in blood circulation, fatigue.

# Physical

## HOT and COLD

- ✓ In working under cold environmental conditions the factors that make people feel the cold are especially the temperature and air flow rate in the working place.
- ✓ The effect of cold on human health;
  - Cold ailments,
  - Freezing of certain parts of the body,
  - Cold burn

# Physical

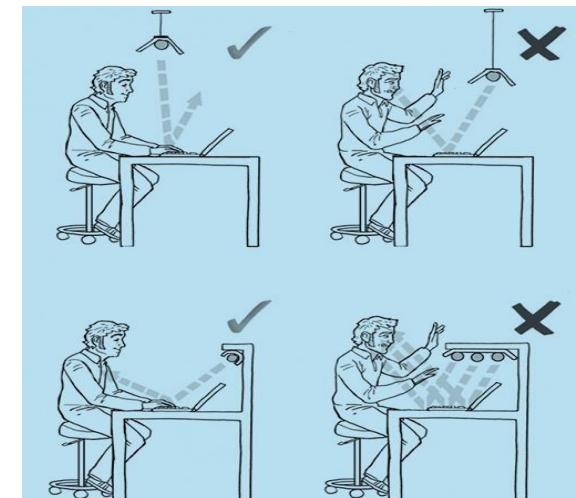
## HOT and COLD

- ✓ Problems associated with a cold work environment are easier to deal with than extreme heat stress. Workers can be protected against the effects of ambient cold if they are provided with appropriate clothing.
- ✓ However, it is difficult to protect fingers and toes, nose and ears from cold. Fingers affected by cold lose their ability to do fine work and functionality.
- ✓ Their sense of touch loses its sensitivity, work efficiency decreases, the risk of accidents increases as perception, reaction and reflex times are prolonged.

# Physical

## LIGHTING

- ✓ The eye is the most important sensor in human perception of information. Between 80-90% of all perception takes place through the eye.
- ✓ The unit of measurement of lighting intensity is lux (lx). This value is the light flow per unit area. The illuminance is 100,000 lx on a cloudless summer day. On an overcast light day it reaches 3000 lx.



## **LIGHTING**

# **Physical**

- ✓ In the design of a good lighting:
  - Eye health,
  - High level of business skills,
  - Optimal efficiency,
  - A criterion such as providing a level of illumination at which employees feel comfortable can be used.

# Physical

## LIGHTING

- ✓ Rest breaks should be given to prevent eye fatigue in workers engaged in long-term fine work and especially in quality control staff. During rest breaks, workers should look at long distances and generally prefer to look at distant objects that do not shine too much.
- ✓ In addition to good lighting, the lighting scheme of a workplace should also include other conditions.

# Physical

## LIGHTING

For better work environment;

- ✓ The quality of the light used must be appropriate
- ✓ Lighting should be uniform and static
- ✓ Lighting should not cause glare
- ✓ No shadow should fall on the working surface.
- ✓ Stress on the visual apparatus produces two different types of fatigue, visual and neural.  
Visual fatigue creates intense stresses on the individual functions of the eye.
- ✓ In the retina, stress creates localized contrast in the form of brightness.

## **LIGHTING**

Visual fatigue causes the following consequences;

Watery,

Double vision

Headache

Decrease in adaptive power

Visual quality is reduced in terms of contrast sensitivity and speed of perception.

# **Physical**

## **LIGHTING**

# **Physical**

The intensity of lighting in workplaces also varies according to the age of the workers.

Ages above the 40 years of age generally require more illumination.

Especially in places where older workers work, the degree of illumination should be optimal.

A 60-year old workers need about 2-5 times stronger lighting than a 20 year old young worker.

# Physical

## ULTRAVIOLET LIGHT

- ✓ UV light is produced during the welding process. Care must be taken to wear the proper eye and face protection while welding.



## HEIGHTS

- ✓ Working at heights above 3 meters requires you to be tied off.



# Physical

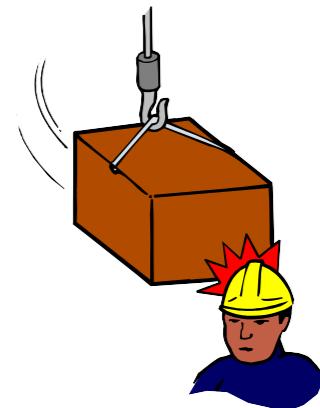
## FORKLIFT

The forklift traveling through the facility can be hazardous for anyone walking, the load being carried could restrict the vision of the operator. Operators must be certified to operate the forklift.



## CRANE

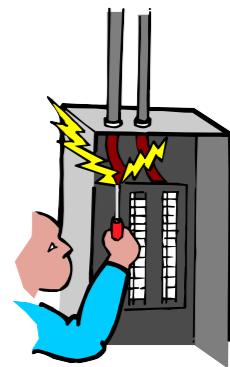
The crane moving back and forth could be carrying loads and creating a hazard overhead. Operators must be certified to operate the Crane.



# Electrical / Magnetic

## ELECTRICAL FIELDS

- ✓ The CLS uses high voltage and current to operate various power supplies.
- ✓ There are 4 main types of injuries
  - Direct contact with electrical energy
  - Electrical arcs
  - Thermal burns
  - Muscle contractions causing a worker to fall



## MAGNETIC FIELDS

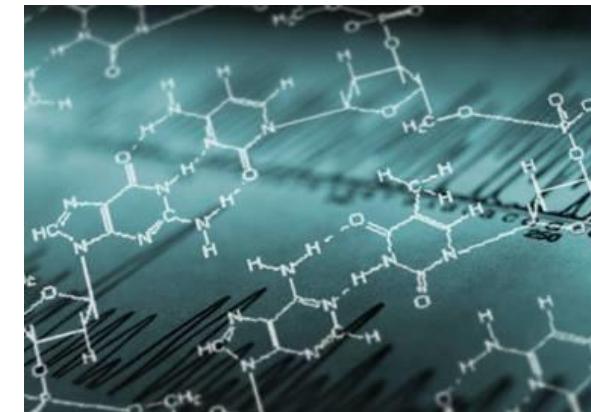
- ✓ Exposure to magnetic fields of extremely low frequency may present a health risk.



# CHEMICAL RISK FACTORS

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- METALS
- SOLVENTS (SOLVENTS)
- GAS
- ACIDS AND ALKALIS
- PESTICIDES



# CHEMICAL RISK FACTORS

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## Material Safety Data Sheet (MSDS)

- Maximum permissible presence of chemical substances in the working environment concentration and recommended threshold limit value .



# CHEMICAL RISK FACTORS

---

## Flammable and Very Flammable Substances

- Ethyl Ether
- Sodium
- Acetone
- Hydrogen
- Lithium
- Acetylene
- Ethyl Alcohol
- Potassium



## Corrosive (Corrosive) Substances

- Sulfuric Acid
- Hydrochloric Acid
- Nitric Acid
- Ammonium Hydroxide
- Sodium Hydroxide
- Chromium Trioxide

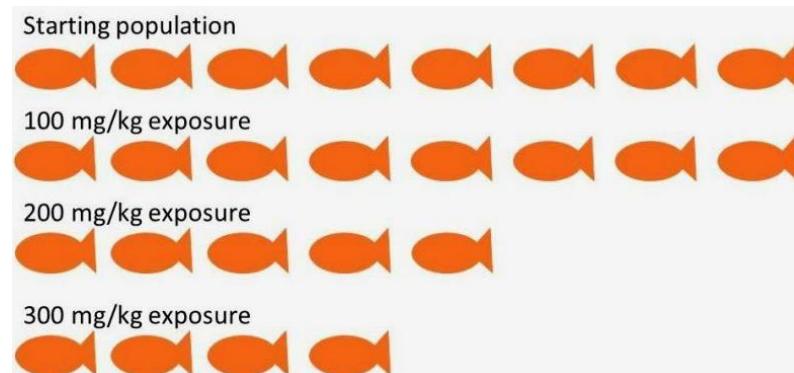


# CHEMICAL RISK FACTORS

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## Toxic Substances

- The dose at which a chemical causes the death of 50% of experimental animals is defined as LD50
- The lower the LD50, the more toxic the substance.

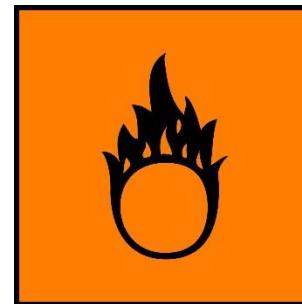


# CHEMICAL RISK FACTORS

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## Oxidizing Agents

- Peroxides
- Hyperperoxides
- Peroxy Esters



## Compressed Gases

- Contains large amounts of energy and has high flammability and toxicity potential



# CHEMICAL RISK FACTORS

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- **Explosive Materials**

- Acetylene
- Acid
- Hydrogen
- Nitro Compounds

- Ammonia
- Organic Peroxides
- Perchlorates
- Bromates



- **Harmful, Irritant**

- Ammonia
- Hydrochloric Acid
- Sodium hydroxide

- Hydrofluoric Acid
- Nitric acid



## **THE FACTORS WHICH DETERMINATE THE DAMAGES OF CHEMICALS**

**1-Physical and chemical properties**

**2-how exposed, how much exposed?**

**3- Characteristics of the exposed person**

**4- Environmental properties**

# CHEMICAL RISK FACTORS

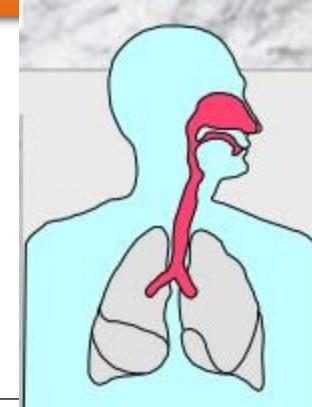
	Flammable	Explosive	Toxic	Radioactive	Flaming Liquids	Harmful
Flammable	+	-	-	-	-	+
Explosive	-	+	-	-	-	-
Toxic	-	-	+	-	-	+
Radioactive	-	-	-	+	-	-
Flaming Liquids	-	-	-	-	+	○
Harmful	+	-	+	-	○	+

- ⊕ Can be Stored Together
- ⊖ Cannot be Stored
- Together
- Can be stored together with special precautions.

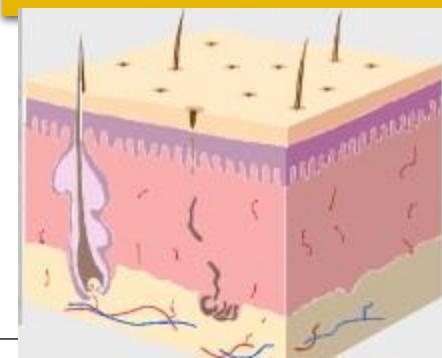
## ROUTES OF INTAKE CHEMICALS TO THE BODY

Chemicals harm the health by entering the body in three ways.

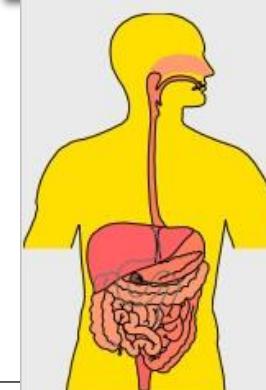
**INHALATION  
(breathing)**



**SKIN  
ABSORPTION**



**INGESTION  
(swallowing)**



# ROUTES OF INTAKE CHEMICALS TO THE BODY

## INHALATION

Breathing in dusts, gases and vapours is the **most common** route of entry.

Inhalation may result in: Bronchitis; asthma; cancers, etc.



## ABSORPTION

Absorption through the skin (or eye) is another route of entry for toxic substances.

Effects include:  
Burning of the skin/eye;  
Irritation of the skin (dermatitis); sensitising effects (contact dermatitis); skin cancer;



## INGESTION

Swallowing substances is the least common route of entry for toxic substances.

However, they can pass through the digestive system, and affect the gastro-intestinal organs of the body:  
Chemicals may be swallowed accidentally if food or hands are contaminated.



# BIOLOGICAL RISK FACTORS

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- It is also genetically modified, which can cause any infection, allergy or poisoning;

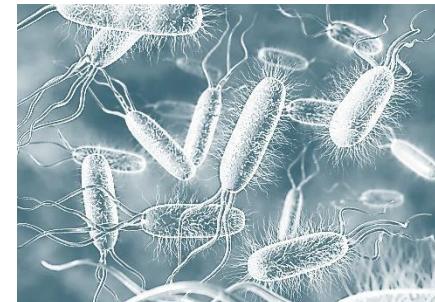
Microorganisms, Cell cultures, Human endoparasites



# BIOLOGICAL RISK FACTORS

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- The ability of the agent to make you sick (Virulence-Pathogenicity)
- Transmission routes,
- Host susceptibility,
- Environmental factors





# Psychological Risk Factors

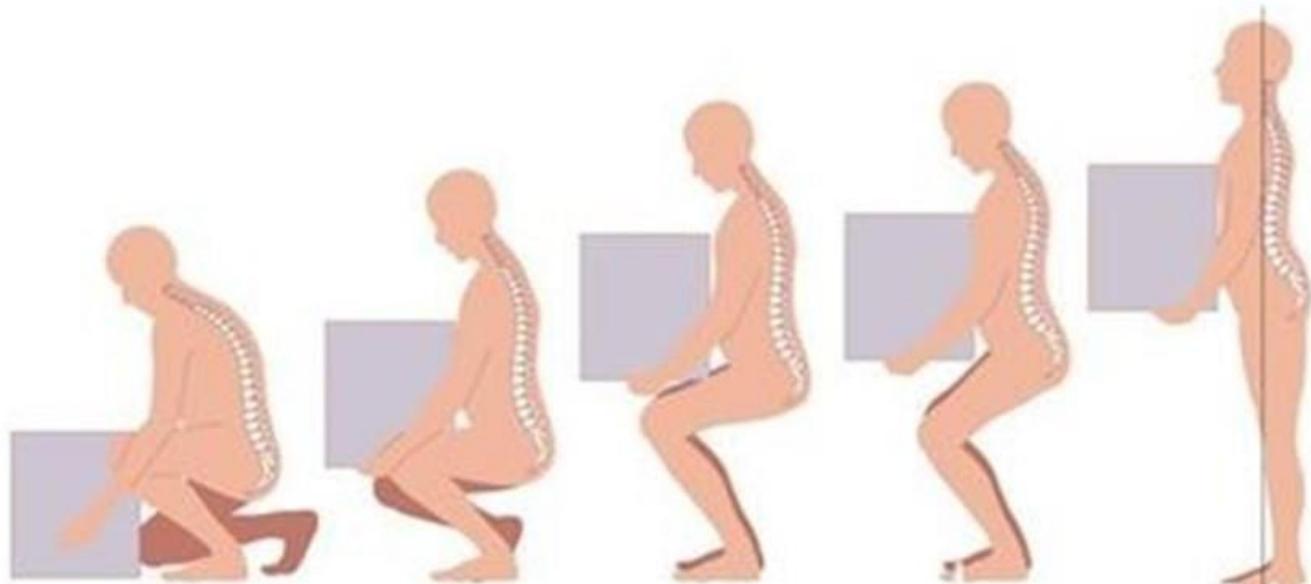
Workplace stress is the emotional, cognitive, and physical reactions of employees affected by all kinds of harmful factors related to work.

There are also some psychological risks from the working environment or the nature of the work that affect employee health.

Physical conditions of the workplace such as temperature, humidity, lighting, working time, shift work, wage, workplace violence, discrimination and mobbing are the main psychological risk factors.

Psychosocial risks and employees' interactions with these risks adversely affect employee health by causing problems such as restlessness, sleep disturbance, burnout syndrome, anxiety, behavioural disorders, biochemical and immune system disorders.

# ERGONOMICS



# **ERGONOMICS**

Ergonomics is the science of matching the job to the worker and the product to the user covering the situations such as lifting, lighting, office/desk set up, etc. that may contribute to injury.

Ergonomics is the study of the interaction between the worker and the workstation.



# What is Ergonomics?

- The applied science and art that seeks to fit the job to the worker through the evaluation and design of work environment in relation to human characteristics and interactions in the workplace.
- “Adjusting the workspace to best fit the employee”



# Ergonomics Applies to...

- Workstation Design (desks, chairs, space, layout)
- Work Postures (sitting, standing, reaching, lifting)
- Work Organization (Pace, Breaks, Variety)
- Tools, Equipment, and Furniture Design (body size, height, gender, promoting neutral postures, reduced vibration, exposure to acceptable lighting, noise, temperature)
- Manual Materials Handling (lifting, lowering, pulling, pushing, carrying and holding materials)
- Work Environment (ventilation, noise, temperature & humidity, lighting and vision)

# Ergonomics

## ➤ Injuries can occur from:

- ✓ Repetitive motions
- ✓ Forceful exertions
- ✓ Vibration
- ✓ Mechanical compression
- ✓ Sustained or awkward position
- ✓ Limitations on motion or action

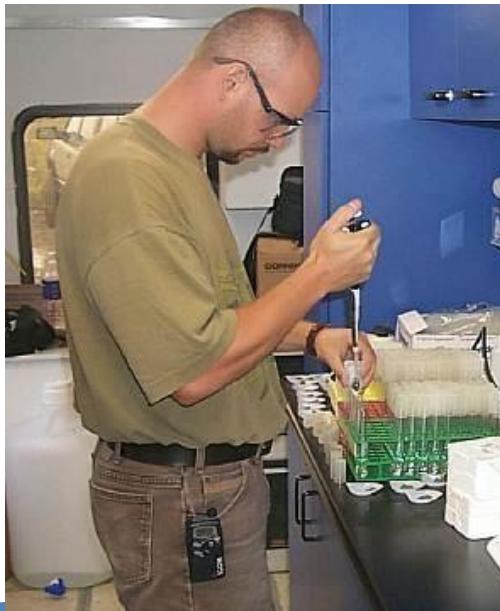
## ➤ To prevent injuries:

- ✓ Adjust your workstation to fit you
- ✓ Take needed breaks to allow for the movement of your joints
- ✓ Use equipment that is designed to reduce harmful effects of the activity

# ERGONOMIC: Standing Work

## Associated Risk Factors:

- Static Postures
- Erroneous Postures – neck, head and arms



## Associated Health Concerns:

- Sore feet
- Swelling of the legs
- Fatigue
- Low back pain
- Neck pain

## Standing Work...

### Preventative Measures:

- Proper shoes
- Change in posture
- Walking
- Footrests
- Sit-stand stools
- Anti-fatigue mats

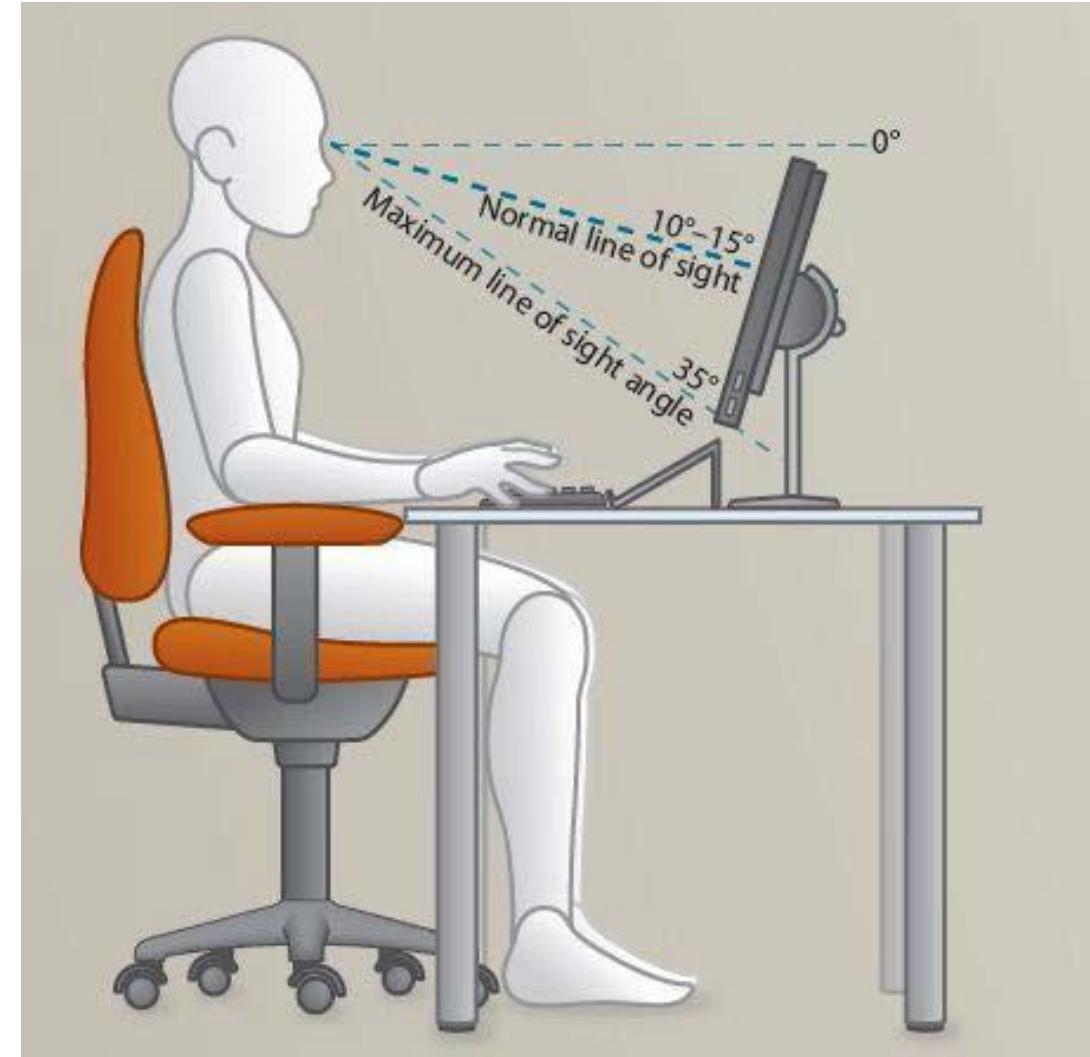
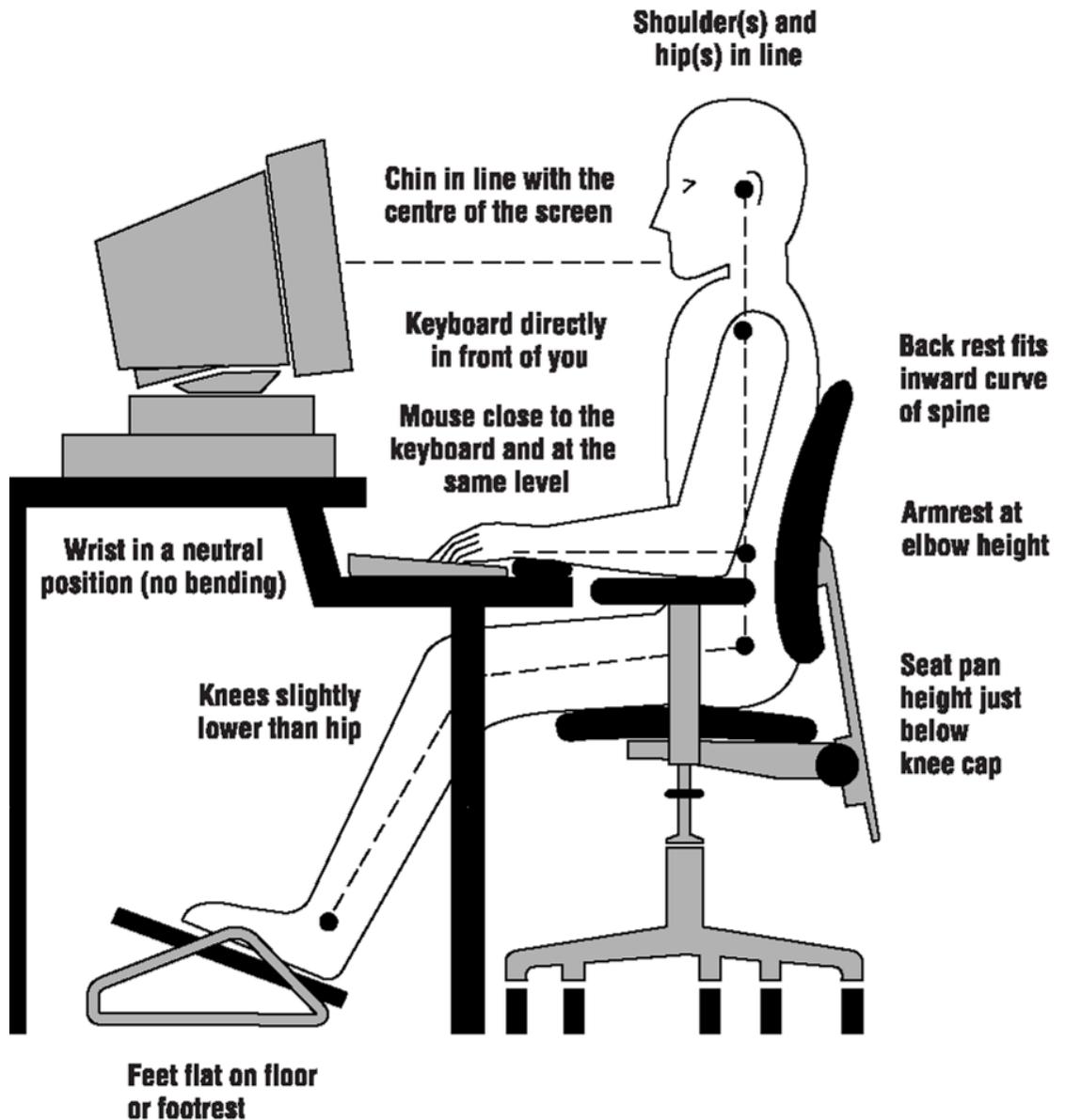


# ERGONOMIC: Computer Workstation Ergonomics

## Computer workstation ergonomic considerations:

- User
- Workstation configuration
  - ✓ Chair
  - ✓ Desk & Keyboard/Mouse Tray
  - ✓ Input Devices
  - ✓ Monitor – CRT vs. LCD
- Tasks
- Office lighting





# ERGONOMIC: Lifting

## Risk Factors:

- Health & injury history
- Lifting, carrying, pulling & pushing
- Awkward & static postures
- Object weight

## Preventative Measures:

- Neutral postures
- Fitness
- Shorten lever arms
- Minimize weight
- Proper lifting technique



# Safe Lifting

- The center of gravity of the load should be planned close to the worker.
- The storage area should be at or above waist level to prevent body tilting.
- The load must be carried by mechanical lifts up to waist height.
- More than one person may be required to carry the load.

**THEN**

**WHICH ONE IS CORRECT?**



# Safe Lifting

TRUE



FALSE



TRUE



FALSE



TRUE



FALSE



TRUE



FALSE



## Ergonomic: Chairs

- Chairs are one of the most important pieces of office equipment. To be effective, the chair needs to be adjusted to suit the user.
- Features of a well-designed chair that can be adjusted to suit a range of people include:
- Back rest easily adjustable in height and angle
- Back rest provides lumbar support
- Height of chair is adjustable
- Seat (pan) width is appropriate for the individual user
- Seat (pan) depth is appropriate or adjustable
- Adjustable or removable armrests
- Five star castor base for stability, and
- “Breathable” fabric.



# FIRE TRAINING



# COMBUSTION AND FIRE

Work accidents are important and cause significant material damage and loss of life. Therefore, it is very important and should be emphasized in detail.

Combustion is defined as the rapid chemical reaction of fuel or combustible material with combustible material (oxygen). As can be seen from this definition, in order for combustion to occur, combustible and combustible substances must come together under certain conditions. In order for this chemical reaction to start, heat must be given up to a value called ignition temperature.

**Fire is an** out-of-control combustion event. The combustible substance is usually oxygen, which is 21% in the air. Therefore, there is no fire where there is no air. In other words, the most important way to stop combustion is to cut the relationship between combustible material and air.

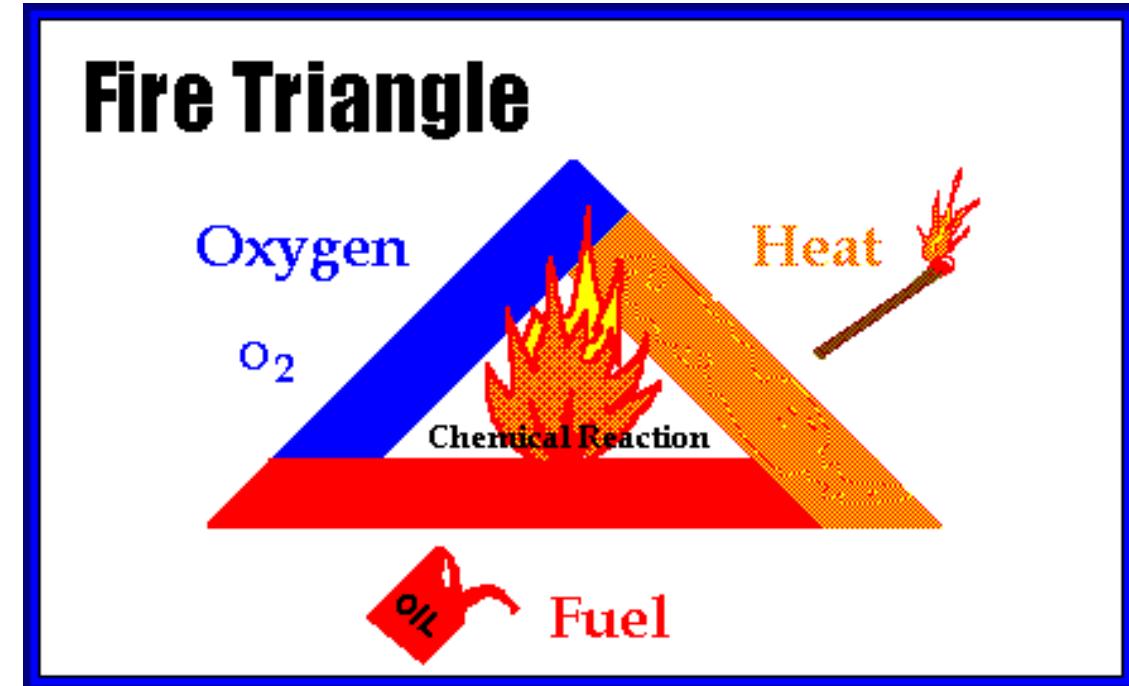
As a result of combustion, CO, CO<sub>2</sub> and H<sub>2</sub>O heat is released in simple fires. In other fires, toxic gases are also released.

# FIRE

➤ Basic components of a fire are:

- ✓ Fuel
- ✓ Source of ignition
- ✓ Oxygen
- ✓ Process of combustion

➤ Commonly referred to as the "fire triangle"



# **Workplace: FIRE PREVENTION**

## **FLAMMABLES**

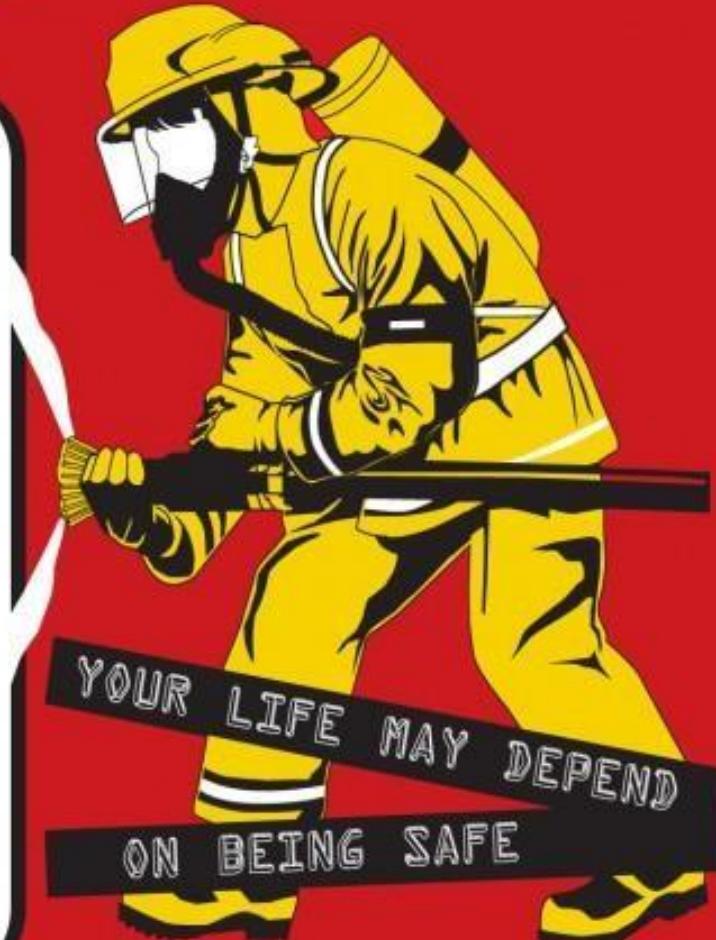
- 1) Use approved containers that are designed to prevent sparking activity.**
- 2) Keep area free of drips and spills.**
- 3) Follow rules for disposing of containers and items containing flammable wastes.**

## **CHECK EQUIPMENT**

- 1) Check and maintain machinery at regular intervals.**
- 2) Check that fire fighting equipment and extinguishers are recharged and in operational condition.**

## **WORK SAFELY**

- 1) Keep work area clean and tidy.**
- 2) Show care in handling combustible materials.**
- 3) Use safety cans for oily or flammable rags.**
- 4) Smoke only in designated areas.**



## FIRE TYPE

**Class A fire:** Means a fire involving ordinary combustible materials such as paper, wood, cloth, and some rubber and plastic materials. **Ordinary combustibles**

**Class B fire:** Means a fire involving flammable or combustible liquids, greases and similar materials, and some rubber and plastic materials. Crude petroleum, gasoline, gas oil, engine oils, etc.

**Flammable liquid**

**Class C fire** Fires caused by flammable gases fall into this category. Butane, ether, acetone, LPG, natural gas, etc. are examples of combustible materials in this group. The combustion occurs at the surface where the gas leaks **Flammable gases**

**Class D fire** Means a fire involving combustible metals such as magnesium, titanium, zirconium, sodium, lithium and potassium. **Metal**

# CAUSES OF FIRE

- Failure to take fire prevention measures
- Ignorance
- Accidents
- Sparks
- Sabotage
- Natural events

## **FIRE PREVENTION AND EXTINGUISHING METHODS**

The methods used to extinguish fires are based on eliminating one or more of the three elements necessary for combustion to occur.

These are;

**1-Cooling:** The combustible material is usually cooled with water. The temperature should be below the ignition temperature. (Class A)

**2-Suppression:** A buffer is created between the air and the flammable substance with various substances and the air is prevented from reaching the flammable substance. (Class B)

**3-Dispersion:** Removal of combustible materials that can burn but have not yet started to burn from the fire by various methods. (Class C)

- The most important measure to be taken in workplaces in terms of fire safety is the establishment of fire, rescue evacuation and first aid teams. These teams should also conduct drills from time to time. In addition, hydrophore installation, springer installation and necessary fire extinguishing and intervention tools and materials should be available.
- *The scope of the training can be grouped as follows:*

- ❖ **Fire Extinguisher Use Training:** Training on how to use fire fighting systems such as fire extinguishers and hydrants.
- ❖ **Reporting Training:** Teaching the fire fighting group, as well as others in the business, the methods of reporting, reporting and reporting fire.
- ❖ **Evacuation and First Aid Trainings:** Separating evacuation routes, teaching how to guide people to evacuate and how to use evacuation tools.
- ❖ Comprehensive training should be planned and implemented. Practical training should be conducted at least twice a year. Each of the materials and equipment must be used correctly according to the instructions for use.

# Fire Extinguishers

EXTINGUISHER

Colour	Type	Solids (wood, paper, cloth etc)	Flammable Liquids	Flammable Gasses	Electrical Equipment	Cooking Oils & Fats
	Water	 Yes	 No	 No	 No	 No
	Foam	 Yes	 Yes	 No	 No	 Yes
	Dry Powder	 Yes	 Yes	 Yes	 Yes	 No
	Carbon Dioxide (CO2)	 No	 Yes	 No	 Yes	 Yes

# Extinguisher Classification



Water



Dry chemical powder



Carbone dioxide



Foam

# Extinguisher Classification



The most commonly used substance in fire extinguishing is water. Water absorbs a significant amount of energy from its surroundings to raise its temperature, thereby cooling the surface temperatures of the materials it comes into contact with.



CO<sub>2</sub> is used in fires caused by fuel and electricity as it is non-flammable and does not readily react with chemicals. Being in a gaseous state, it easily disperses over the fire and covers the surface of the flammable material. However, in fires caused by electricity, it is necessary to cut off the electricity supply before intervening in the fire.



They are used in fuel fires and fires involving electrical equipment. They usually consist of sodium bicarbonate (NaHCO<sub>3</sub>) and potassium bicarbonate (KHCO<sub>3</sub>). Powders used for class B and C fires consist of sodium bicarbonate, while powders used for class A, B, and C fires consist of compounds based on ammonium phosphate. Dry chemical powders have the property of preventing chain reaction fires.



The foam produced by foam-making agents mixed with water in specific proportions covers the surface of the burning liquid, cutting off its contact with air and reducing the heat of combustion. Mechanical and synthetic types are the most commonly used today.

# Maintaining Portable Fire Extinguishers

- Must maintain in a fully charged and operable condition
- Must keep in their designated places at all times except during use
- Must conduct an annual maintenance check
- Must record the annual maintenance date and retain this record for one year after the last entry or the life of the shell, whichever is less



## Remember the PASS word



# Pull

**Pull** the pin (or other motion) to unlock the extinguisher.



# Aim

**Aim** at the base (bottom) of the fire and stand 6 - 10 feet away.



# Squeeze

**Squeeze** the lever to discharge the agent.



# Sweep

**Sweep** the spray from left to right until the flames are totally extinguished.



## YANLIŞ



Yangına rüzgar  
istikametinde  
yaklaşın



Yangını önden  
arkaya, aşağıdan  
yükarıya doğru  
söndürün



Ancak; yakıtı akan  
ve damlayan  
yangınlarda  
yukarıdan aşağıya  
doğru müdahale edin



Birden fazla portatif  
söndürücüyü arka  
arkaya değil aynı  
anda birlikte  
kullanın



Yeniden  
alevlenmeye  
dikkat edin  
Kor artıklarını su ile  
tamamen söndürün



Kullanılan portatif  
söndürücüler tekrar  
doldurmadan  
yerlerine asmayın

## DOĞRU



# FIRE DETECTION SYSTEMS

- ❖ Ionization Smoke Detector
- ❖ Optical Smoke Detector
- ❖ Flame Detector
- ❖ Heat Detector

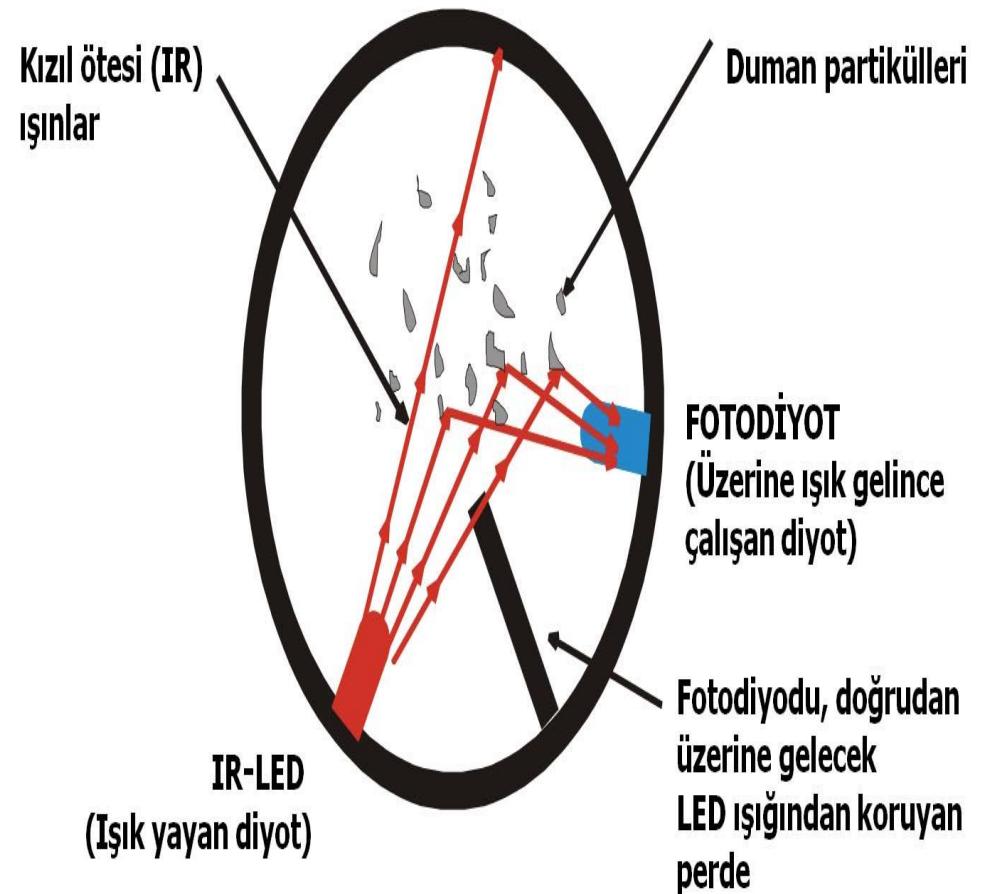


## **Ionization Smoke Detector:**

It is an ionization type smoke detector that responds most quickly to the small particle black smoke that occurs in hydrocarbon fires, which constitute the majority of fires. The dual-chamber ionization cell used as a sensor prevents the detector from being affected by changes in ambient temperature and humidity and eliminates the possibility of false alarms.

# IONIZATION SMOKE DETECTOR

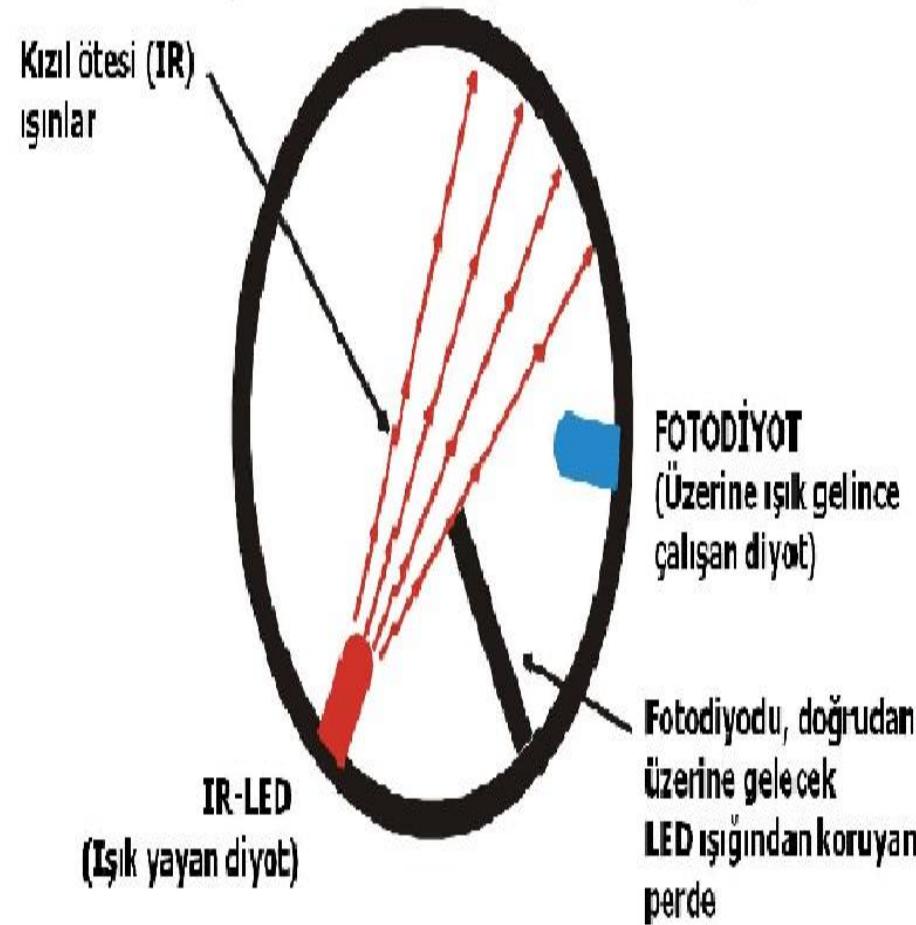
## Algılama Prensibi (Yangın Durumu)



□ **Optical Smoke Detector:** It uses an optical detection method that can respond quickly to fires that produce white smoke with thick particles, to which Ionization smoke detectors respond later. Using an optical sensing cell based on light scattering, the detectors can be created in such a way that they can respond to the smoke spectrum in smoke detection in the fastest way.

# OPTICAL SMOKE DETECTOR

## Algılama Prensibi (Normal Durum)

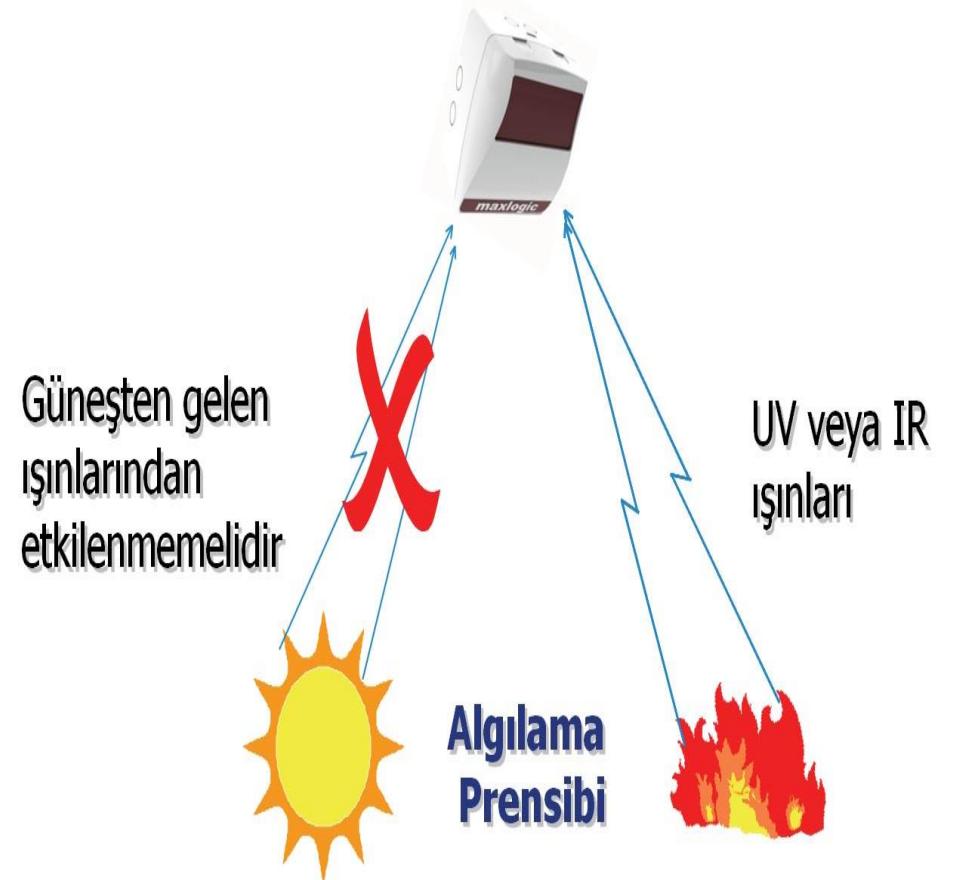


**Flame Detector** Flame detectors are systems that detect and warn of flames that occur during a fire.

**Heat Detector:** They are designed to detect sudden temperature increases. By comparing two separate conductive temperature sensors, they can respond to fire very quickly. This type of detector is the most widely used type of detector in environments where the use of smoke detectors is not suitable. They can also be alarmed at very slow temperature increases when the temperature reaches 60 C.

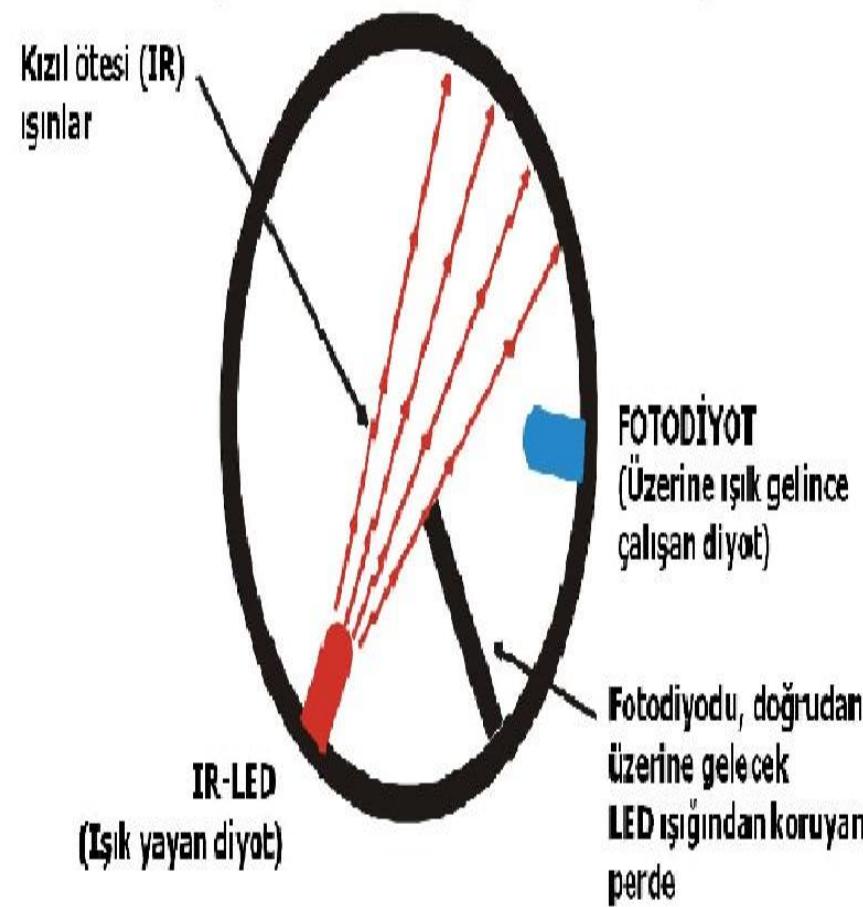
# FLAME DETECTOR

## Alev etkisi ve Alev dedektörleri



# HEAT DETECTOR

## Algılama Prensibi (Normal Durum)



Passive measures are very important among fire precautions. It is necessary to provide the necessary openings on the facade so that the fire brigade can quickly reach the building, approach the building, and if necessary, fire trucks can enter the building. Industrial buildings are structures with aqueous fire water column.



# **PASSIVE FIRE PROTECTION METHODS**

- ❖ Compartmentalization
- ❖ Natural Ventilation
- ❖ Mechanical and Electronic Ventilation

# FIRST AID



# **FIRST AID**

## **A) WHAT IS FIRST AID?**

In any accident or life-threatening situation, until the help of paramedics is provided, the applications made without medication in order to save life or prevent the situation from getting worse are called **first aid**.

## **B) WHAT IS THE AIM OF FIRST AID?**

- 1.** Protecting and sustaining life.
- 2.** Preventing worsening of the situation.
- 3.** To facilitate recovery.

## **Actions Required for First Aid;**

- Ensuring the safety of the patients and injured individuals
- Calling for help promptly (Dial 112)
- Assessing the current condition of patients/injured individuals and determining who needs assistance first
- Calming down the patient/injured person, relieving their fears and concerns
- Organizing individuals who will assist the patient/injured individuals
- Providing necessary interventions with personal resources and available means to prevent the patient/injured person's condition from worsening scenario
- Maintaining the patient/injured person's body temperature or making necessary changes to their body temperature based on the nature of the injury.
- Ensuring that the patient/injured person remains as immobile as possible.
- Transporting the patient/injured person to the nearest healthcare facility using the most appropriate methods (with the assistance of 112).

In order to preserve and sustain life, it is necessary to apply the ABCs of first aid. Consciousness should be checked by gently shaking the patient's/injured person's shoulders and asking how they are feeling. If consciousness is impaired, the following should be rapidly evaluated.

These ABCs are the initials of the following words in English.

Airway: Evaluation and opening of airway patency.

Breathing: Respiratory control and support(Look-Listen-Feel).

Circulation:Assessment of circulation and support (This step is not expected to be performed by non-healthcare individuals).

- A.** Opens the respiratory tract
- B.** Provides respiration
- C.** Provides circulation

A blockage in the airways of an accident victim, spontaneous breathing, cardiac arrest and loss of blood flow in the blood vessels can cause death within minutes.

The symptoms of airway blockage are as follows:

Partial blockage symptoms;

- Coughing,
- Ability to breathe,
- Ability to speak.

In such cases, avoid touching the patient, focus on calming the patient and encourage them to cough. Be prepared to intervene swiftly if signs of unconsciousness or cyanosis are observed.

In case of complete blockage;

- The patient is unable to breathe,
- Experiences pain, clutches their throat, cannot speak, and their complexion becomes blue.

In such cases, the Heimlich Maneuver (Abdominal Thrusts) should be performed.

## Heimlich Maneuver for Conscious Individuals;

- The patient may be in a standing or sitting position.
- Stand behind the person and wrap your arms around their body.
- Form a fist with one hand and position it with the thumb side against the upper part of the abdomen, just below the ribcage.
- Grasp your fist with your other hand.
- Apply strong upward and inward thrusts.
- Repeat this action 5-7 times until the foreign object is dislodged.
- Check the person's pulse and breathing.
- Seek medical assistance (112).



# **FIRST AID IN ELECTRIC SHOCK**

As a result of electric shock, burns on the skin, impairment of the respiratory and circulatory system, loss of consciousness, falls and related fractures and injuries occur.

1. First, the first assistant ensures his/her own safety.
2. The electric current is cut off, if it cannot be cut off, the patient is pulled or the cable is pushed with electrically impermeable materials such as dry pieces of wood and rubber.
3. If breathing has stopped, artificial respiration is started, if the heart has stopped, the heart message is started.
4. If there is a burn, it is washed with cold water.
5. If the clothes on the injured person are on fire, no intervention with water should be made.

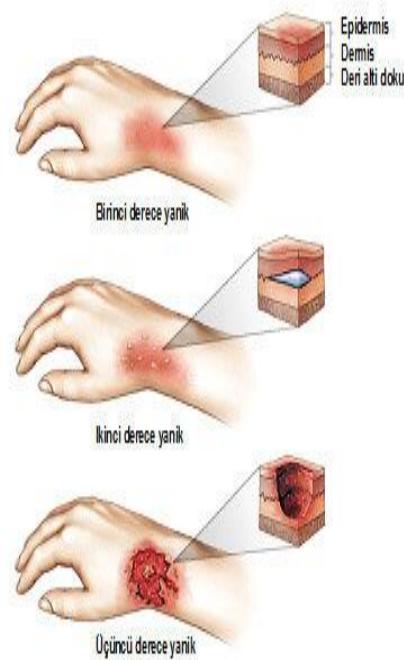
# FIRST AID FOR BURNS

Burns are damage to the body caused by exposure to very high temperatures. The causes of burns are fire, electricity, sun, hot water or oil, chemicals and hot metals.

**1st Degree Burn:** Skin redness, pain, and swelling are present in the burned area. It heals in approximately 48 hours. Sunburn is the best example of a 1st-degree burn.

**2nd Degree Burn:** Blisters filled with fluid develop on the skin, causing pain. It heals naturally through the skin's self-regeneration process. Changes in skin color may occur, and scarring is possible.

**3rd Degree Burn:** All layers of the skin are affected, especially impacting muscles, nerves, and blood vessels. It can range in color from white and brown to black. Nerve damage may result in the absence of pain.



## **HOW TO GIVE FIRST AID FOR HEAT INDUCED BURNS?**

1. Pain is reduced with cold tap water (min 20 min).
2. The patient's jewelry is removed.(It may be difficult to remove due to swelling that may occur later.)
3. The bubbles formed are not burst.
4. The burning parts are covered with clean gauze and nothing is applied.
5. If the patient is conscious, he/she is given plenty of water to drink.

The body loses water from this part and is open to germs like an open wound. Burns affecting more than 20% of the total body surface can result in life-threatening consequences.

## **HOW TO GIVE FIRST AID FOR CHEMICAL BURNS?**

1. The vital signs of the patient/injured person are assessed, and assistance is called for.
2. The skin's contact with the chemical substance should be immediately interrupted.
3. The area should be washed thoroughly with plenty of water for at least 15-20 minutes.



# **HEAT STROKE AND FIRST AID.**

Changes in the body as a result of exposure to more heat than the body can cope with.

## **SYMPTOMS.**

1. Body temperature is above 39 °C.
2. The skin is dry and red.
3. Blood pressure drops and the person's interest in the environment decreases and loss of consciousness begins.

## **FIRST AID**

The body is cooled rapidly up to 39 °C and slowly after 39 °C.

Ice is never applied to the body.

1. The body is wetted with water at normal temperature or wrapped in a wet sheet.
2. Cooling can be facilitated by using a fan or creating drafts through open doors and windows.

The individual should be moved to a cool, well-ventilated area and their clothing should be removed. Then, warm towels and sheets can be placed over them. They should be positioned on their back to help prevent shock. If they are conscious, encourage them to drink fluids to replenish lost fluids and electrolytes.

# COLD EXPOSURE AND FIRST AID

The body is affected by prolonged exposure to 0 °C cold temperatures and the formation of wounds called cold sores, shock and slowing down of vital activities in the body.

**First-degree:** This is the mildest form of burn injury. With prompt intervention, it typically heals quickly. Initially, the affected skin may appear pale and feel cool, accompanied by numbness and weakness. Subsequently, redness and a tingling sensation may develop.

**Second-degree:** Symptoms intensify with prolonged exposure to cold. The affected area may feel tight. Swelling, puffiness, and the formation of fluid-filled blisters are common indicators.

**Third-degree:** It signifies irreversible damage to the tissues, characterized by the formation of a distinct black area that is sharply separated from the surrounding healthy skin.

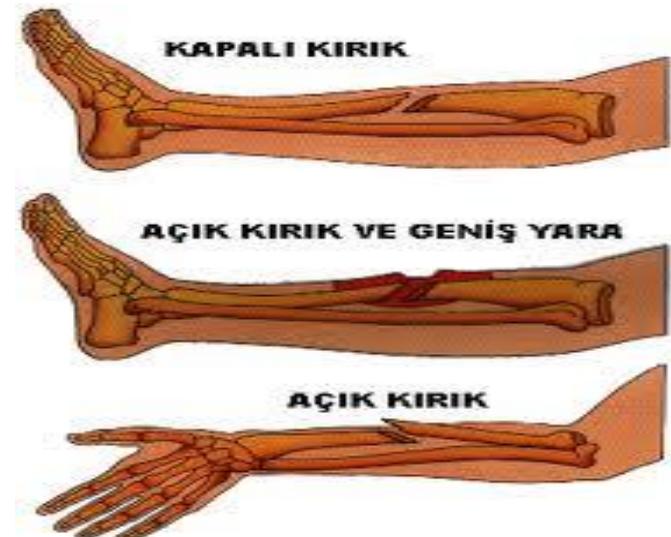
## FIRST AID

1. Warm water is applied and as the body gets used to it, hot water is added to the water and continued until normal temperature.
2. The swelling in the wound is not popped, the wounds are closed with a sterile dry dressing.

# FIRST AID FOR FRACTURES AND DISLOCATIONS

The result of the destruction of bone integrity as a result of impact or fall is called fracture. Fractures are classified into two types: closed and open. In a closed fracture, the bone integrity is compromised but the skin remains intact. In an open fracture, the skin integrity is compromised, and the fracture ends may protrude outward, posing risks of bleeding and infection.

Among the symptoms of a fracture are increased pain with movement, deformity, loss of mobility, swelling, and bruising due to bleeding. During first aid for fractures, priority is given to life-threatening injuries. Help is quickly summoned. The patient/injured person is not moved and kept warm. Later, existing jewelry should be removed due to potential swelling. When applying a bandage, fingers are left visible. The fractured limb is attempted to be kept above heart level.



# FIRST AID FOR FRACTURES AND DISLOCATIONS

Dislocation is the permanent separation of joint surfaces. It cannot return to its normal position on its own. Among the symptoms are noticeable deformity of the joint, severe pain, swelling, redness, and loss of function.

The dislocation should not be attempted to be put back in place. Since emergency surgery may be required, nothing should be given orally to the patient. Pulse, skin color, and temperature are checked in the area. Triangular bandages, roller bandages, blankets, ties, scarves, boards, cardboard, etc., can be used to immobilize the injured area.

# FIRST AID FOR SPRAIN

Sprain: It is the injury or tearing of muscles as a result of bending and stretching of the joint beyond the normal limit of movement. It occurs mostly in the knee, foot and wrist.

The sprained joint is immobilized with a tight bandage for first aid. The area is elevated above heart level to reduce swelling. Medical assistance is sought.

## FIRST AID FOR SPRAINS.

1. The area is lifted up to reduce swelling.
2. Cold application is made to prevent swelling.
3. It is not moved, if it does not pass for a long time, medical intervention is performed.



# **FIRST AID FOR INJURIES**

An injury is the disruption of the integrity of the skin or mucous membrane as a result of damage. Along with the skin tissue, structures such as blood vessels, muscles, and nerves may be affected. The protective function of the skin is compromised, increasing the risk of infection. Pain, bleeding, and disruption of tissue integrity are common features of wounds.

**Cut wounds:** These are wounds caused by cutting tools (such as knives, razors, glass, etc.). They are generally simple wounds, and their depth can be easily determined.

**Wounds resulting from crushing:** These injuries occur due to the intense impact of hard objects like stones or sticks. The edges of the wound are typically crushed. While there may not be significant bleeding, tissue damage and sensitivity are common.

**Infected wounds:** These are wounds that are at risk of being contaminated with microorganisms. Wounds that are delayed in treatment (more than 6 hours), those with separated stitches, highly dirty and deep wounds, and wounds resulting from bites and stings are at a high risk of infection.

# FIRST AID FOR INJURIES

First aid for injuries involves assessing vital signs (ABC) and then calling for help. The wound is evaluated based on its nature, cause, duration, presence of foreign objects, and signs of bleeding. If there is bleeding, it is controlled. Foreign objects in the wound should not be touched. If the wound is dirty or contains dust or soil-like substances, it should be washed for 5 minutes.

## FIRST AID

1. Bleeding should be stopped immediately with direct pressure.
2. The respiration and circulation of the patient's airway should be maintained.
3. Precautions should be taken against shock: elevation of the feet is necessary.
4. If bleeding cannot be stopped despite direct pressure and lifting above the level of the heart, a tourniquet may be applied as a last option.

# **BLEEDING AND INJURY**

Bleeding is when blood flows out of the vessel, into or out of the body as a result of disruption of vascular integrity.

Bleeding is divided into three groups according to the type of injury.

1. Capillary bleeding.(Lower degree)
2. Vein hemorrhages.(Moderate)
3. Arterial bleeding (the most dangerous)

The aim of first aid in bleeding is to prevent the escape of blood from the vein and then to prevent the injured person from going into shock due to decreased blood volume.

1. Direct pressure on the bleeding area.
2. Pressure is applied on special points on the way from the heart to the bleeding vessel.

- 3.Tourniquet is applied.
- 4.If the bleeding is in the arms or legs and there is no suspicion of fracture, keep the bleeding area above the heart level.
5. Check vital signs frequently in 2-3 minutes.

Internal bleeding should be considered if the victim has restlessness, weakness, drowsiness, vision and hearing problems, cold, pale and moist skin, abdominal hardness and pain when pressed, bruising and swelling, thirst, weak but rapid breathing and pulse.

## FIRST AID

- 1.The consciousness and breathing of the patient or injured person are evaluated.
- 2.The patient or injured person is placed on his/her back, covered and his/her feet are 30 cm. shock position.
3. He is never given food or drink, not even water. He is immobilized.

# SHOCK AND FIRST AID

Reduced functioning of the systems due to insufficient blood flow to all parts of the body as a result of various reasons, especially as a result of insufficiency of the circulatory system. In this case, the blood cannot supply enough oxygen and nutrients to the tissues and organs. Many organs are affected, but the brain is the first to be affected.

## FIRST AID

1. First of all, the cause of the shock is tried to be eliminated.
2. Absolutely shock position is given.
3. The airway is kept open, efforts are made to keep him/her conscious.



Resim 142: Shock geçiren hastanın yangacı pozisyonu

# **POISONING AND FIRST AID**

Poisons are substances that harm the organism or damage its functions by their chemical effects when digested, inhaled, in contact with the skin or injected.

1. The patient is urgently taken to fresh air.
2. He/she is kept awake, his/her breathing is checked and artificial respiration is performed if necessary.

## **Poisoning Through the Skin;**

Toxic substance enters the body directly through the skin

These poisonings are caused by contacts such as animal bites, insect bites, pesticides.

1. Crime scene security is ensured, patient's consciousness and vital signs are evaluated.
2. The substance causing poisoning is removed from the environment as soon as possible and the effect is reduced, 112 emergency aid and 114 poison information center is informed.

# FIRST AID FOR DROWNING

Drowning is the result of tissues not receiving adequate oxygen, leading to tissue damage. Fainting can occur due to loss of consciousness, backward movement of the tongue, filling of the airway with fluid or foreign objects, choking, lung damage, and gas poisoning.

- During drowning incidents, the constriction of the airway entrance limits the amount of water that enters the lungs.
- Prompt initiation of artificial respiration and cardiac massage is crucial, even if 20-30 minutes have elapsed, particularly in cold weather conditions.
- In cases of drowning, intervening with the victim in deep waters may not be feasible; hence, swiftly moving the patient to shallow water is necessary.

# General Guidelines for Transporting Patients/Injured Individuals

- The first aider should prioritize their own safety during the transportation of patients or injured individuals.
- Patients or injured individuals should be moved with minimal disturbance.
- Transportation of patients should only occur when absolutely necessary and within established safety protocols.
- When carrying patients, it's essential to grip them from at least six points, focusing on the head-neck-trunk alignment.
- Patient transportation necessitates teamwork.
- A designated individual should oversee and direct all movements, issuing clear commands (such as "lifting with caution").
- Typically, this individual should support the head and neck, which require the most attention due to their weight distribution.

# Ethics in Occupational Health and Safety



# Ethics in OHS

Ethics refers to a system of moral principles, values, and standards that examine notions such as good, bad, right, and wrong, determining what is morally acceptable or unacceptable in individual and group behavior.

Some important ethical principles include:

1. Honesty and impartiality
2. Integrity and trustworthiness
3. Courtesy and respect
4. Public service commitment
5. Adherence to service standards
6. Commitment to purpose and mission
7. Reporting to competent authorities
8. Avoidance of conflicts of interest
9. Not using duties and powers for personal gain
10. Use of public goods and resources
11. Transparency, information sharing, and inclusivity

# Ethics in OHS

The initial step in assessing an action is to ascertain whether it aligns with ethical values. Ethics, considering societal viewpoints, delineates unsuitable behaviors of individuals. Within societal realms, there exist certain moral guidelines that individuals ought to adhere to concerning society, and reciprocally, society towards individuals.

Unethical behaviors include corruption, discrimination, engaging in politics in business relationships, intimidation, negligence, exploitation, selfishness, violence, coercion, and aggression.

Ethical systems are formed based on the concepts that influence and give rise to ethics rather than the systematic nature of ethics. They are classified as consequentialist ethics, social ethics, social contract ethics, rule ethics, and personal ethics.

# **1.THE CONCEPT OF ETHICS**

## **1.1. Definition of Ethics**

Many definitions of the concept of ethics have been made in the historical process. As a dictionary definition, ethics is defined as the science of morality, moral science, ethics, morality.

One common interpretation defines ethics as the science of morality or moral science. It serves as the branch of philosophy dedicated to exploring human behavior and the essence of morality.

Essentially, ethics delves into the fundamental principles guiding human actions and behavior.

**Ethics is a discipline that** examines and addresses the concepts of

**right and wrong, good and bad,** within the framework of moral

duties and obligations. These arise from the relationships individuals form within society and with each other.

In a broader sense, ethics can be described as the guiding principles that regulate individuals' behavior towards each other and their interactions.

**Ethics doesn't create morality; rather, it contemplates, discusses, and studies moral principles.**

Professional ethics, on the other hand, focuses on the rules and principles that individuals should adhere to in their roles within specific fields of work.

**Ethics** constitutes the theoretical framework governing **right** and **wrong** behavior, while **morality** embodies its practical application. **Ethics** pertains to **principles**, while morality pertains to behavior. **Ethics** encompass the values an individual aims to uphold in a given situation, whereas **morality reflects** how those values are enacted in action.

## **ETHICS-MORALITY RELATIONSHIP OF CONCEPTS**

**What Morality and Ethics have in common is** that they encompass the rules of behavior governing individuals' interactions with each other and the principles guiding their relationships.

**Morality;** as a term, encompasses a set of learned attitudes and behaviors, societal norms expected to be adhered to in one's personal life, inherent qualities known as temperament within individuals, as well as virtues of goodness and beauty.

**The concept of ethics is** often interchanged with morality or ethicality in daily conversations.

**Morality reveals the** rights and wrongs based on cultural values and ideals, dictating how one should behave in alignment with them. Morality encompasses the unwritten rules accepted in society.

A code of **ethics**, conversely, is expected to incorporate explicit regulations tailored to a specific field.

## 1.2. Moral Development Process

**Morality comprises a collection of unwritten guidelines that determine the behaviors considered good or bad by a society.**

The term «morality» originates from Latin (morale) and is related to human behavior, which is characterized as right and wrong, positive and negative, good and bad.

**Moral rules** exhibit greater flexibility in response to evolving social conditions and are subject to easier alteration.

**Morality constitutes a framework** of regulations and standards aimed at maintaining social order through the expected behaviors individuals engage in within their interactions with one another or with the state, thereby representing a social phenomenon.

**Morality** is a individual's conscience's characterization of certain actions as "**right**" and "**good**". In society, morality is the set of behaviors or regulations that people adopt and adhere to.

**Morality** endeavors to determine the optimal way to live. It states that some actions and thoughts in social realms as either commendable or objectionable.

One of the sciences that is similar to morality is **law**.

**Law**; consists of written mandates and prohibitions, whereas morality, comprises a set of rules accepted by the society that do not have a written commanding characteristic.

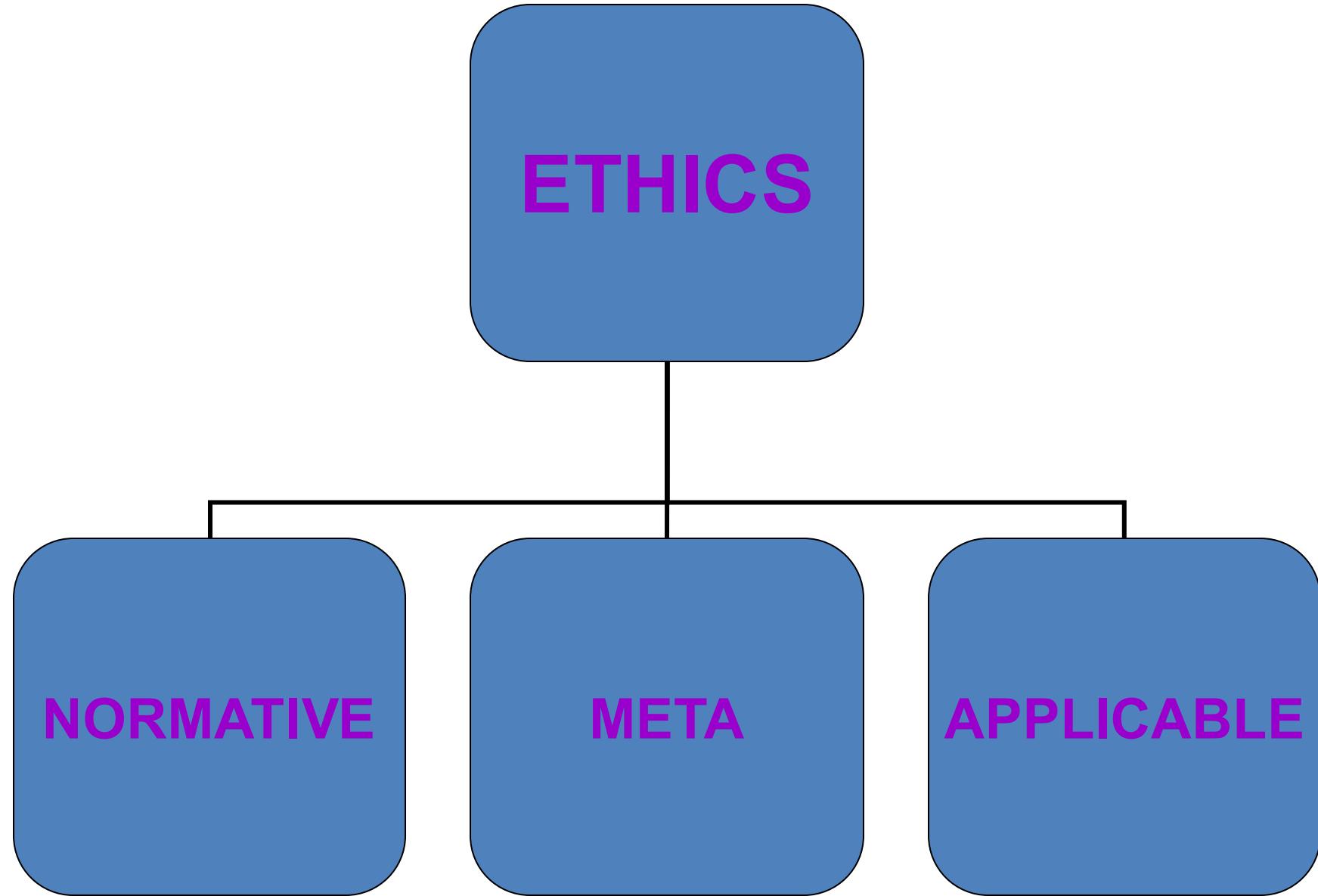
Just as a law devoid of moral principles is inconceivable, a law that conflicts with moral values ceases to be functional.

## 1.3. Code of Ethics

Ethics shows what should be done, delineating what action is good, what gives meaning to life.

To summarize, ethics is the reflection on the phenomenon of morality, related to philosophical inquiry, "**Normative ethics**" establishes specific rules and norms.

The guidelines we adapt our actions to in order to behave well and perform good acts are called "**applied (practical) ethics**".



## NORMATIVE ETHICS

HOW TO TAKE ACTION?

HOW TO LIVE?

WHAT KIND OF PERSON SHOULD I BE?

THE ETHICS THAT SEEKS ANSWERS TO THESE QUESTIONS IS NORMATIVE ETHICS.

## META-ETHICS (ANALYTICAL APPROACH)

**WHAT'S BAD?**

**WHAT'S GOOD?**

Moral knowledge encompasses information concerning ethical principles, values, and norms guiding human behavior.

## **BENEFITS OF ETHICAL VALUES**

- It facilitates aligning thoughts and actions according to moral values.
- It ensures harmonious working between individuals and institutions.
- It increases efficiency in the organization and gives the organization effectiveness and prestige.
- It increases the orientation towards what is true and trustworthy.
- It instigates a demand for ethical conduct.

In general, when individuals encounter an ethical problem because of the decision they've made, they experience two type of emotions: positive and negative.

## Negative Emotions

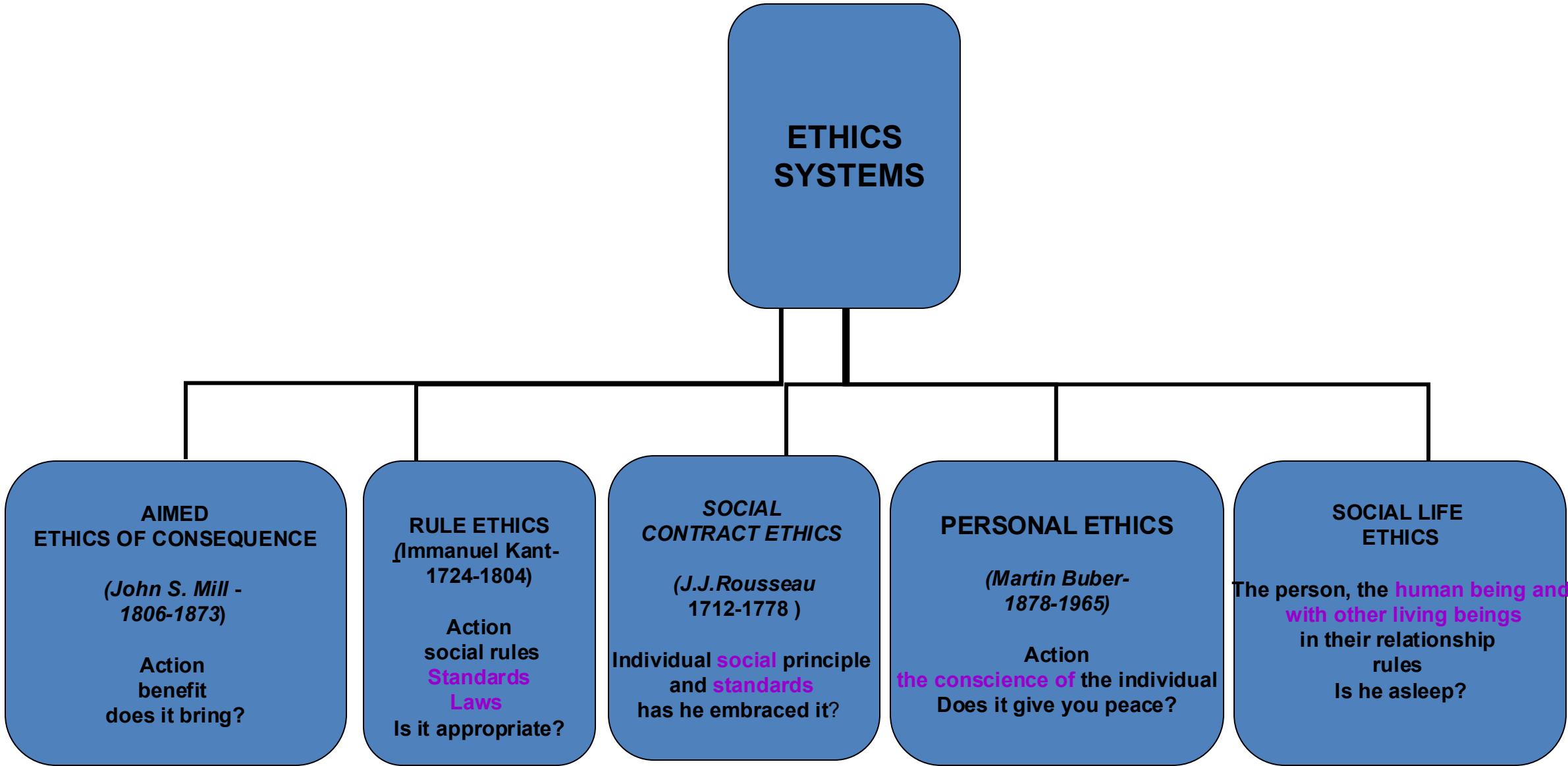
- Fear
- Fatigue and exhaustion
- Feeling under pressure
- Distress and anxiety

Arbitrary decisions made without ethical values, often result in negative emotions.

# Positive Emotions

- Feeling good about the decision
- Experiencing the satisfaction of doing a good job
- Peace of conscience and peace of mind

Decisions made in accordance with ethical principles and values, with justice, equality and honesty also create positive emotions.



# Ethics in OHS

In **consequentialist ethics**, the morality of an action hinges on its intended outcomes, a concept known as utilitarianism. The practical approach of consequentialist ethics, with its utilitarian perspective, emphasizes considering the impact of actions on individuals affected and can assist in resolving issues.

**Social ethics** refers to the social and ecological norms that individuals are expected to follow in their lives. As social beings, humans are required to coexist harmoniously with other living organisms, adhering to the established rules governing these interactions.

In **social contract ethics**, the moral correctness of behaviors is determined by the norms and traditions of a particular society, and these behaviors should be accepted by a large segment of the society.

**Rule ethics** involves the rules and behaviors that must be followed in life, as determined by laws. Most of these rules are written rules, and there are legal consequences for not complying with them. Real ethics is higher than what is legal. Additionally, there are unwritten rules, which include the specific traditions, customs, norms, and beliefs that a society considers correct. These unwritten rules often do not have legal consequences but individuals who do not adhere to them may face social exclusion or other consequences within the community due to their entrenched nature within society.

# Ethics in OHS

**Personal ethics** are determined by an individual's moral compass, guiding their conduct based on their own sense of right and wrong. It defines an individual's personal stance within society, shaping their responses and attitudes towards the environment and events therein. Personal ethics enable individuals to draw upon their conscience for strength, aiding them in making sound decisions when faced with unique challenges.

The ethical rules that an occupational health specialist should pay attention to while performing their duties:

1. Competence, integrity, and impartiality: Prioritize worker health and safety, conveying opinions based on scientific knowledge and technical proficiency.
2. Professional independence: Make decisions with complete autonomy in all professional practices.
3. Equality, non-discrimination, and communication: Establish relationships with employees founded on trust, confidentiality, and equality.
4. Ethical provisions in employment contracts, records: Maintain appropriate records while adhering to confidentiality principles.
5. Medical confidentiality: Record and share individual research data within legal frameworks.
6. Aggregate health data: Share data for occupational health protection purposes if individual identification is absent.
7. Relationships with healthcare workers: Obtain information with employee consent.
8. Combatting abuse: Inform managers accordingly; preserving health records is crucial.
9. Relationships with social parties: Ensure that workers and employers are well-informed.
10. Supporting and supervising ethics: Dedicate efforts to continuous improvement.

# **Relationship between Ethics and Society**

The primary requirement for becoming a member of a society is to acknowledge the prevailing moral framework.

While other rules of social life, such as laws, are mandatory rules. In reality, society can be considered as a network of social institutions and social relations. Therefore, the main elements that constitute society and regulate human relations in society are norms, culture, values, law, morality, ethics, ethics and religion.

# Consequences of Ethical Behavior

Behaviors in accordance with ethical values have various consequences. These can be positive or negative consequences.

When we look at the positive results, we can see the following:

- Gaining respect
- Reliability
- Having a good image
- Receiving help in problem solving
- Acceptance in society, etc.

# Social Corruption

The emergence of value confusion in society and the fact that utilitarianism takes precedence over time also affects the application of ethical rules. We briefly call this situation **social degeneration**.

There are various reasons for social degeneration. We can list these reasons as follows.

- Causes arising from the public structure
- Causes arising from the economic structure
- Causes arising from the political structure
- Reasons arising from bureaucratic structure
- Causes arising from the social structure
- Historical reasons

## 2. PROFESSIONAL ETHICS

### 2.1. The Concept of Professional Ethics

The totality of ethical principles and standards that guide and guide the behavior in business life is called "**professional ethics**".

Professional principles of a particular professional group that command the members of the profession, limit their personal tendencies that force them to behave according to certain rules, exclude incompetent and unprincipled members from the profession, regulate professional competition and aim to protect service ideals

## **Definition of Professional Ethics;**

Professional ethics concerns discerning **right** and **wrong** conduct within a professional context. It comprises a collection of principles and rules grounded in beliefs about what constitutes ethical and unethical behavior.

## PROFESSIONAL ETHICS AND BASIC PRINCIPLES

- Accuracy
- Legality
- Competence
- Reliability
- Commitment to the profession

The purpose of the professional code of ethics is to set center- and unit-specific standards for the performance, conduct and behavior of the personnel and units covered by it, both at the organizational and individual levels.

This Code aims to clarify the standard of conduct expected of all members of the internal audit function in the performance of their duties.

One of the most important features of professional codes of ethics is that individuals working in the same profession, regardless of their location, are required to act in accordance with these codes of conduct.

# Work, professional and business ethics

They are not completely independent areas.

- ❖ **For example:** a physician's punctuality at work on time demonstrates their **work ethic**.
- ❖ Within the realm of **professional ethics, it's imperative of** the same physician not to prescribe unnecessary medication to patients in line with the wishes of pharmaceutical companies.
- ❖ However, it's possible that the broader **business ethics** or policies of the healthcare company where they both operate may come into play simultaneously.

Today, various fields of ethics have emerged, such as public service ethics, information ethics, media ethics, science and technology ethics, or ethics in politics, ethics in public administration, ethics in the judiciary, ethics in sports, ethics in education, ethics in maritime ethics and even ethics in the gendarmerie. Examples of ethical issues in these fields are given below:

- Ethics in Politics: Politicians should not make promises they cannot fulfill
- Ethics in Public Administration: Treating and serving citizens equally
- Ethics in the Judiciary: Observing the balance between the state and the individual in the decisions of judicial bodies and making the processes work faster
- Ethics in Education: Teachers should not give private lessons to their students
- Science Ethics: Non-distortion of research findings
- Media Ethics: Distinguishing between news and commentary
- Ethics in Sport: Doping and match-fixing etc.

## **2.2. Professional Ethical Principles**

### **2.2.1. Accuracy**

**Truthfulness is a** concept that refers to truthfulness and trustworthiness.

**Ethical behavior** requires honesty and sincerity in dealing with others.

Those who do not act sincerely and honestly bring about their own demise in relationships and trust is destroyed.

The most important form of damaging behavior is lying, which is often rooted in fear and insecurity. By avoiding lying, people have to maintain complete trust in their superiors and subordinates.

## 2.2.2. Legality

Adhering to the law in the production of all kinds of goods produced in business life and in solving problems related to employees is also one of the principles of professional ethics.

Today, there are laws that regulate both production and working life in business life. We can even say that not only states but also a number of international organizations are effective in this regard.

Examples include the International Labor Organization, which regulates working life, and the International Organization for Standardization (ISO), which regulates production standards.

## **2.2.3.Competence**

In business, constant developments necessitate ongoing adaptation and renewal, constituting significant principles of professional ethics. **Following these developments, renewing oneself and adapting oneself to business life have** an important place among the principles of professional ethics. The professional dimension in the profession gives the person an identity such as "expert», "authorized" or "competent person" in the society to do that job.

Obtaining a diploma or any other document to do a job actually gives that person the right and authority to do that job. For this reason, professionals must prioritize a solid education.

**Competence** is also the ability to take responsibility and initiative and take ownership of tasks.

## **2.2.4. Reliability**

All professions have their own ethical values and principles. Members of a profession must adhere to these ethical values and principles. In case they do not act appropriately, the principles of professional ethics come into play.

General rules of professional ethical behavior include:

- Removing incompetent and unethical members from the profession,
- Regulating intra-professional competition,
- Protecting the ideals of the profession.

These rules may vary depending on the type of profession, specialty and service area.

## 2.2.5. Professional Commitment

One of the principles of professional ethics is **to care about one's work and try to do it in the best way possible**. This is known as **commitment to the profession**.

Continuous self-development and taking advantage of training opportunities in one's professional life demonstrate the importance one attaches to one's work. Professional ethics encompass not only focusing on one's own development but also contributing to the professional growth of colleagues. Commitment to the profession contributes to the person loving his/her job and working in a peaceful environment, ultimately increasing productivity.

# Characteristics of professional ethics principles



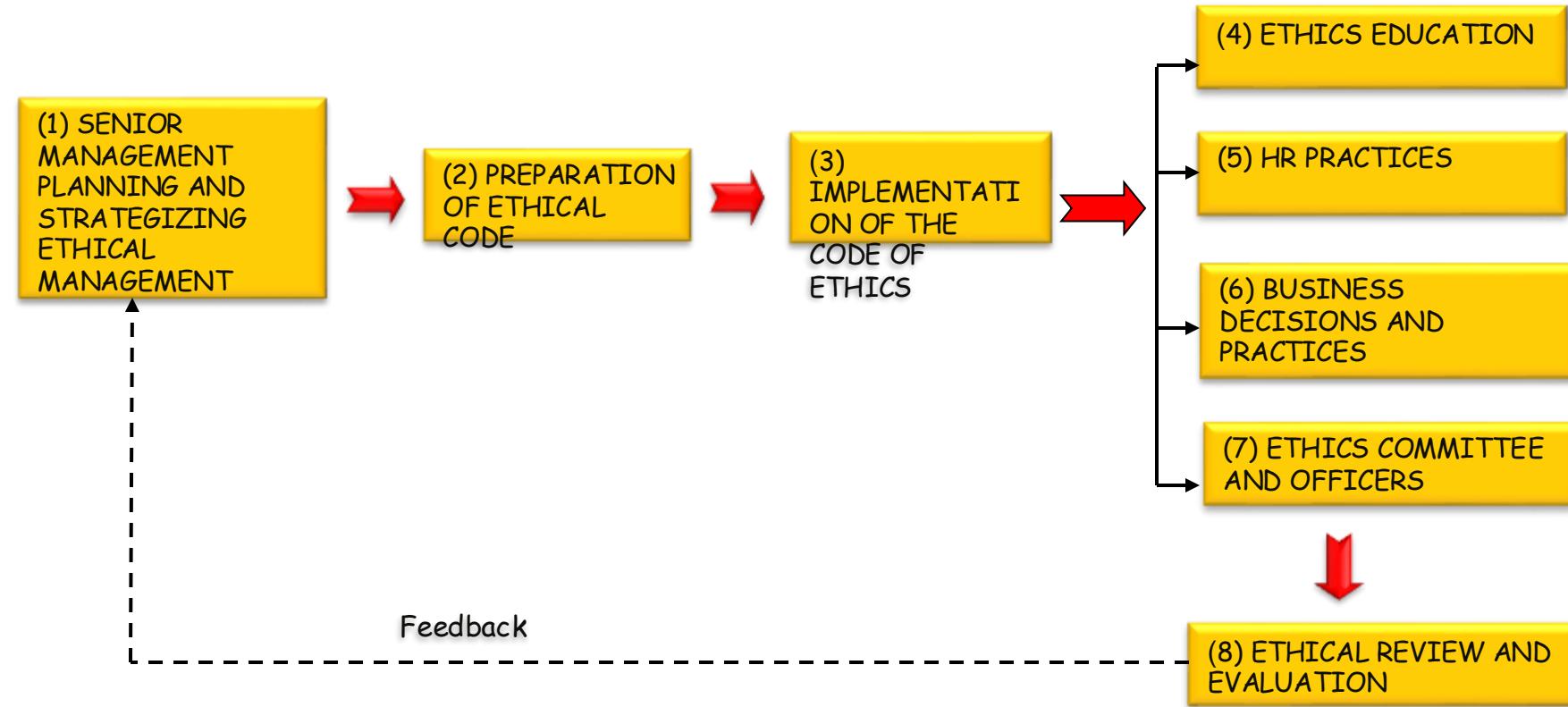
**It sets out standards of practice.**

**It does not have to be in writing.**

**It must be known by all members.**

**It does not have criminal sanctions like the rules of law, but rather appeals to conscience.**

# INSTITUTIONALIZATION OF ETHICS



## **What needs to be done to realize a working environment in accordance with ethical values are as follows**

- Commitment to ethical values
- Setting an example through behavior
- Taking responsibility for embedding ethical behavior
- Determining the ethical principles of the organization
- Clearly articulating ethical values
- Training employees
- Supporting open communication
- Maintaining consistency

# Professional Corruption

Corruption in a society affects all areas of life as well as business life. There are various reasons for professional corruption.

We can list these reasons in items.

- Excessive ambition, selfish and greedy behavior
- Insufficient sensitivity
- Incomplete assessment
- Lack of planning
- Motive to protect friends in good faith
- Lack of knowledge of laws, rules and procedures
- Delay in legal regulations parallel to technological and social developments in business life
- Self-preservation instinct
- Discrimination

### **3. PROVIDING AN ETHICAL ENVIRONMENT IN THE WORKPLACE**

One of the basic conditions for ensuring a peaceful and productive work environment in organizations is to act in accordance with ethical principles.

### **3.1.Ethical Principles in Different Professions**

In general, ethical principles in business life have similar characteristics.

However, differences and even contrasts can be observed across various professional groups.

Although this may seem contradictory, it aligns with the specific nature of each profession. For example, while advertising is an important element for companies in the food sector, advertising is prohibited in the financial advisory profession

Today, these ethical principles have been written down by associations established by some professional groups.

Examples include the code of ethics for physicians and the code of ethics for software engineers.

There are codes of ethics, all of which refer to a particular profession. There are as many ethical principles as there are different professions.

There may be contradictions in ethical principles according to the characteristics of the professions. For example, a psychological counselor keeps the patient's secrets. While judges do not provide information during the investigation process in any case, they ensure that what is known is clarified during the trial process.

The aim of a professional association is to ensure unity and solidarity among its members, to gather them around the same principles and values, to evaluate the professional group to an honorable and respected position in society and to provide a beneficial professional environment for everyone.

People in the same professional group have come together to form various associations. These include institutions such as medical chambers, chambers of commerce, drivers' associations, tradesmen and artisans' associations, etc. that establish institutional and legal cooperation.

## **3.2. Ethical Profiles of Employees**

The responsibility of employees towards the business begins, first and foremost, with the awareness of loyalty. The rights of the business and the rights of the employees are intertwined. Ignoring the rights of one party will negatively impact the rights of the other party over time. Whether it is a private enterprise or a public organization, it is important that employees protect and embrace all the values of the enterprise at the maximum level, as if they were their own values.

One of the most important issues to be examined in business ethics is individual ethical behavior.

Examining the ethical behavior of individuals is crucial factor for determining business ethics.

Another characteristic that affects the ethical behavior of individuals is the characteristics of employees.

In general, we can evaluate employees in three behavior patterns.

Ø Extractive

Ø Attendant

Ø Moralist

**Self-interested behavior** is a form of behavior that ignores ethical principles.

**Dutiful behavior** includes the understanding of fully obeying the rules and values.

**Moralistic behavior** is a form of behavior that prioritizes the benefit of the institution and its services.

### **3.3.Ethical Leadership**

A leader can be defined as a person who has power and influence in management, a leader, a chief, a person in charge of the highest level management of a party or an organization.

Leadership can be defined as the process of influencing, motivating and directing other elements of the organization to achieve certain individual and group goals under certain conditions.

Ethical (moral) leadership is a leadership approach that prioritizes certain ethical values and principles.

In order to demonstrate ethical leadership, the environment must be appropriate and those who follow the leader must adopt the same values and principles.

- The leader puts into practice the principles of truth and fairness, is sensitive to the problems of subordinates, and allows different opinions to be expressed.
- Ethical leadership is based on the principles of identity, participation, equity and competence for organizational success.
- The leader motivates employees and approaches problems by creating a work culture that values the identity of employees.
- Combining ethics and organizational commitment can produce surprising results.
- It values hard work, honesty and high performance and organizes the organization in a way that rewards these values.
- Within the limits of ethical principles, ethical leadership mobilizes the full potential of the organization.

One of the tasks of leaders is to establish a corporate understanding of ethics. In developing this understanding, they should make ethical principles everyone's top priority, encouraging all employees to work hard on this issue. Leaders should ensure active interest in these principles, pay attention to the relationship between ethical behavior and performance, demonstrate an open communication style and set an example through behavior and actions.

We can list the characteristics of an ethical leader as follows.

- Do as they say
- Being consistent
- Being a guide
- Being motivating
- Giving confidence
- Being impartial and broad-minded
- Playing a vital role.

## **For a corporate ethical environment, leaders should do the following:**

- It makes ethics everyone's number one priority.
- It encourages everyone to work hard on it.
- It encourages an active interest in these principles.
- Pay attention to the relationship between ethical behavior and performance.
- Set an example with behavior and actions.
- Demonstrates an open communication style.