

# Occupational Health

## 1. Objectives

- Define occupational health and disease
- Understand the criteria of occupational diseases
- Identify the occupational health program

## 2. Definitions

Occupational Health (ILO Committee, 1980)

“The highest degree of physical, mental and social well-being of workers in all occupations.”

### Concept of Occupational Health

- A dynamic equilibrium between:
- Worker
- Occupational environment

### Scientific Definition

Occupational health is:

- The science devoted to:
- Recognition
- Evaluation
- Control

of workplace hazards that may cause:

- Disease
- Impaired health
- Discomfort

### WHO & ILO Definition (1950)

“Promotion and maintenance of the highest degree of physical, mental and social well-being of all workers.”

### Key Points:

- Focus on health, not disease
- Emphasis on **primary prevention**
- Covers:
- Health
- Safety
- Combines:
- Occupational medicine
- Occupational hygiene

### 3. Occupational Hazards

- Millions of workers are exposed to toxic materials
  - These exposures may cause health problems
  - Important feature:
- Most occupational hazards are preventable

### Role of Health Professionals

- Recognize work-related diseases
- Prevent hazards

### 4. Occupational Environment

#### Interaction between:

- Man & physical, chemical, biological agents
- Man & machines
- Man & other humans

### 5. Occupational Disease

#### Definition

#### A disease caused by:

- A specific agent at work
- That is:
- Identified
- Measured
- Controlled

#### Examples:

- Silicosis
- Brucellosis
- Lead poisoning

#### Expanded Definition

- Diseases that arise during employment
- Caused by specific workplace exposure
- Symptoms often appear during work

#### Examples:

- Silicosis
- Asbestosis
- Noise-induced hearing loss
- Metal poisoning

## 6. Characteristics of Occupational Illness

### 1. Similar to Other Diseases

- Same clinical/pathological features as non-occupational diseases
- Example: occupational asthma

### 2. Delayed Appearance

- Can occur after exposure ends
- Example:
- Mesothelioma → 20–40 years later

### 3. Dose-Dependent Effects

- Severity depends on:
- Dose
- Duration

Example:

- Mercury:
- High dose → lung toxicity
- Low dose → nervous system effects

### 4. Interaction with Other Factors

- Occupational + non-occupational risks

Example:

- Asbestos + smoking:
- Huge increase in lung cancer risk

### 5. Difficult Diagnosis

- Mimics other diseases
- Often:
- Misdiagnosed
- Underreported

## 7. Criteria of Occupational Disease

Two Main Elements

1. Clear causal relationship
2. Occurs more frequently in exposed workers

## General Criteria

### 1. Strength of Association

- Strong link → higher likelihood

### 2. Consistency

- Similar results across studies

### 3. Temporality

- Exposure occurs before disease

### 4. Biological Gradient

- More exposure → more disease

### 5. Specificity

- Specific exposure → specific disease

## 8. Work-Related Disease

### Definition

- Not directly caused by work
- But worsened by work conditions

### Examples:

- Bronchial asthma
- Hypertension
- Heart disease

## 9. Occupational Medicine

### Definition (Royal College of Physicians, 1978)

A branch of preventive medicine with some therapeutic roles

### Scope

- Worker health
- Work environment
- Prevention & treatment

## Differences between occupational medicine and clinical medicine



### 10. Occupational Hazards Types

1. Physical
2. Chemical
3. Biological
4. Mechanical
5. Psychosocial

### 11. Goals of Occupational Health

- Reduce industrial accidents
- Prevent diseases
- Improve human & machine efficiency
- Reduce absenteeism

### 12. Objectives of Occupational Health Program

- Promote worker well-being
- Prevent diseases & injuries
- Adapt workplace (ergonomics)
- Focus on prevention

### 13. Functions of Occupational Health Services

#### Basic Functions:

1. Pre-employment examination
2. First aid & emergency care
3. Work environment supervision
4. Periodic medical exams
5. Health education

#### Additional Functions:

6. Health monitoring for women & children
7. Advise employers
8. Environmental monitoring
9. Sanitation & hygiene supervision
10. Medical records maintenance

Items	Occupational Medicine	Clinical Medicine
<b>Target group</b>	Workers at all jobs (Healthy)	Patients irrespective to their jobs
<b>Health status</b>	Healthy and diseased	Diseased only
<b>Place</b>	Plants	Hospitals & Clinic
<b>Diagnosis</b>	System of medical examinations	Examination and investigations
<b>Management</b>	Occupational health program	Medical/surgical treatment



## 14. Control Measures

### A. Medical Measures

- Preplacement exams
- Periodic exams
- Health care services
- Notification
- Record keeping
- Health education

### B. Engineering Measures

- Building design
- Ventilation
- Mechanization
- Substitution
- Isolation
- Dust control
- Protective devices
- Environmental monitoring

### C. Legislation

#### 1. Factories Act (1948)

- Health
- Safety
- Working hours
- Hazardous processes

#### 2. ESIS Act (1948)

Provides:

- Medical care
- Sickness benefits
- Maternity benefits
- Disability support
- Rehabilitation