

# Occupational Biohazards – High Yield Summary

## Definition

- Occupational biohazards are biological agents that pose risks to workers' health.
- They include microorganisms and biological toxins that may cause infectious diseases.
- Common in: healthcare, laboratories, agriculture, and waste sectors.

## Types of Biological Hazards

### 1. Bacteria

- Example: Mycobacterium tuberculosis
- Transmission: Airborne
- Risk: High in healthcare settings

### 2. Viruses

- Examples: Hepatitis B virus (HBV), HIV
- Transmission: Blood and body fluids

### 3. Fungi

- Example: Aspergillus species
- Effect: Respiratory infections
- Environment: Dusty areas

### 4. Parasites

- Example: Plasmodium species
- Transmission: Vectors (e.g., mosquitoes)
- Common in: Tropical regions

### 5. Biological Toxins

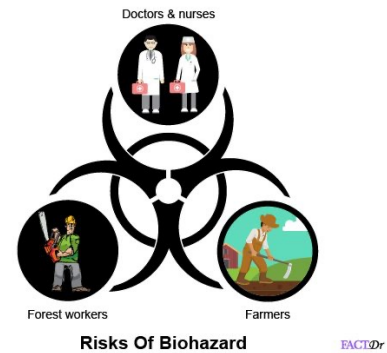
- Produced by microorganisms
- Example: Endotoxins
- Effect: Inflammatory reactions

## Routes of Exposure

- Inhalation
- Direct contact
- Needlestick injuries
- Ingestion
- Mucous membrane exposure

## High-Risk Occupations

- Healthcare workers
- Laboratory technicians
- Waste management workers
- Farmers and veterinarians



## Healthcare Setting Risks

- Exposure to bloodborne pathogens
- Improper sharps disposal
- Lack of PPE compliance

## Prevention and Control

### 1. Personal Protective Equipment (PPE)

- Gloves
- Masks / respirators
- Protective gowns
- Eye protection

### 2. Vaccination

- Hepatitis B vaccine
- Routine immunization
- Post-exposure prophylaxis

### 3. Engineering Controls

- Biological safety cabinets
- Proper ventilation systems
- Sharps disposal containers

### 4. Administrative Controls

- Training programs
- Standard operating procedures (SOPs)
- Exposure control plans

## Biosafety Levels (BSL)

- BSL-1: Minimal risk
- BSL-2: Moderate risk
- BSL-3: Serious airborne risk
- BSL-4: High-risk dangerous pathogens

## Risk Assessment

- Identify hazards
- Evaluate exposure likelihood
- Implement control measures



## Emergency Response

- Immediate wound washing
- Report incident
- Seek medical evaluation

## Conclusion (Exam Focus)

- Occupational biohazards are **preventable**
- Safety measures significantly **reduce risk**
- **Continuous education is essential**

