



Department of Labour  
Ministry of Industry, Commerce & Employment  
P.O Box #1036, Thongsel Lam  
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Supported by:



# GUIDELINE ON INVESTIGATION AND REPORTING OF OCCUPATIONAL DISEASES

February 2024



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Department of Labour  
Ministry of Industry, Commerce and Employment

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Commerce and Employment

Publication: 2024

Supported by:



Japan International Cooperation Agency

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Royal Government of Bhutan  
Ministry of Industry, Commerce and Employment  
Department of Labour



## Foreword

As the Director of the Department of Labour (DoL), MoICE, I am honoured to present the 'Guideline on the Investigation and Reporting of Occupational Diseases'.

It is our collective responsibility to ensure a safe and healthy working environment for every employee, irrespective of nationality. Occupational diseases pose a significant challenge, impacting the health and productivity of workers across various industries and costing the public healthcare system. This guideline serves as a comprehensive resource for employers, employees, and professionals, outlining the necessary steps in investigating and reporting occupational diseases. A systematic approach to the identification, assessment, and reporting of workplace accidents and occupational diseases, would enhance workplace safety and contribute to the overall health of our workforce. Timely and accurate reporting not only facilitates appropriate medical intervention but also allows for the implementation of preventive measures to mitigate future risks.

I commend the dedicated efforts of our team from the Labour Protection Division (LPD) in preparing this guideline, drawing on the expertise of professionals in the field and aligning with international best practices. I encourage all stakeholders to embrace these guidelines and integrate them into their OHS frameworks and practices.

Together, let us foster a culture of transparency, collaboration, and proactive risk management. By doing so, we can create work environments that prioritise the well-being of our workforce, paving the way for a healthier, happy and more resilient labour force.

Thank you for your commitment to ensuring the health and safety of our workers.

Tashi Delek.

Lham Dorji  
Director



## Message from JICA Chief Representative

This important aspect of Occupational Disease is often overlooked as part of workplace safety. As organizations strive for safer and healthier work environments, understanding and addressing the risks associated with occupational diseases is very important. I hope this guideline will empower employers, employees, and OHS professionals with the knowledge and tools needed to identify, prevent, and manage occupational diseases effectively.

As elaborated in the Labour and Employment Act of Bhutan 2007, it is the responsibility of the employer to provide a safe and healthy workplace to the employee. Employers bear a responsibility to provide conducive work environments, that do not jeopardize the physical or mental health of their employees. Addressing occupational diseases is not merely a legal obligation but a moral imperative, fostering a workplace culture that prioritizes the well-being of its human capital. By integrating occupational disease management into OHS protocols, organizations can create resilient systems that anticipate and mitigate potential health risks, thereby fostering a safer working environment.

I would like to congratulate the officials of the Department of Labour coming up with such a comprehensive 'Guideline on the Investigation and Reporting of Occupational Diseases'.

I hope this Guideline will bring in proactive measures, informed policies, and comprehensive strategies aimed at prevention, detection, and mitigation of occupational diseases. I am certain that this would provide a foundation for a healthier, more resilient workforce and society.



Tomoyuki Yamada  
Chief Representative





## Acknowledgment

The Department of Labour is profoundly grateful for the invaluable support received from the JICA Bhutan Office in bringing this document to fruition. Their unwavering dedication and collaborative spirit were instrumental in expediting the document's completion. Without their partnership, achieving this milestone within the envisioned timeframe would have been considerably more challenging.

We are deeply indebted to Dr. Asish Mettal for his exceptional generosity in volunteering his expertise to refine this document. His commitment went above and beyond, as he selflessly dedicated a week in Bhutan to work on this document at our request. This speaks volumes about his dedication to the cause and his genuine desire to support our endeavours.

Heartfelt appreciation is also extended to Mr. Kishna Subba, Chief Program Officer, JICA office Bhutan, for his extensive and multifaceted contributions throughout the project. From meticulous planning and budgeting to ensuring its seamless execution, he has been a pillar of strength and a driving force behind the project's success.

We are eternally grateful to the dedicated drafting team, whose invaluable contributions have shaped this document into a truly exceptional piece of work. Their unwavering dedication, meticulous attention to detail, and tireless efforts have significantly elevated the quality of our work, exceeding all expectations. Equally deserving of our heartfelt thanks is the document validation team. Their keen eyes and insightful feedback have been invaluable in refining the document, adding immense value, and ensuring its accuracy and efficacy.

We are truly humbled by the unwavering support and collaborative spirit demonstrated by all parties involved. This collective effort has been truly enriching and has solidified our belief in the power of teamwork and collaborative spirit.



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## Abbreviations

<b>OD</b>	Occupational Disease
<b>PEL</b>	Permissible Exposure Limit
<b>ICD</b>	International Classification of Diseases
<b>DoL</b>	Department of Labour
<b>CDCL</b>	Construction Development Corporation Limited
<b>MoH</b>	Ministry of Health

## Definition

For this guideline, unless the context indicates otherwise, the words, phrases, and acronyms are defined as follows:

**Employee** means a person employed under a contract of employment.

**Hazard** means anything with the potential to cause bodily injury, and includes any physical, chemical, biological, mechanical, electrical or ergonomic hazard.

**Injury** means any physical, mental, or emotional deprivation or damage to a person resulting from an accident or exposure to risk over a period of time as, for example, with hearing loss.

**Occupational Disease** means any illness or sickness or ailment contracted as a result of an exposure to risk factors arising from work activity.

**Risk** means the likelihood that a hazard will cause a specific bodily injury to any person.

**Workplace** means any place, whether a building or structure, open space, home, office or factory, where an employee works.

## List of Figures

*Figure 1: Illustrate the OD investigation and reporting procedures.*

### 1.1 Introduction

Occupational diseases are significant contributors to morbidity and mortality worldwide, impacting both the individual and society as a whole. Early detection and accurate reporting are crucial for effective prevention, management, and compensation. This guideline aims to provide medical professionals with a comprehensive framework for investigating and reporting suspected occupational diseases. This guideline is developed under the Labour and Employment Act of Bhutan 2007 and its related regulations.

By implementing standardized procedures, we can ensure timely diagnosis, appropriate treatment, and effective interventions to protect the health of workers and prevent future occurrences. This guideline emphasizes the importance of collaboration between medical professionals, employers, employees, the Department of Labour, and Public Health authorities in tackling the challenge of occupational diseases.

### 1.2 Scope

This guideline covers the investigation and reporting of suspected or confirmed occupational diseases in all workplaces and industries. It encompasses a wide range of potential occupational exposures, including physical, chemical, biological, and ergonomic factors.

The guideline addresses the following aspects:

- Recognition and identification of suspected or confirmed occupational diseases
- Collection of relevant information and medical history
- Conducting a comprehensive occupational health assessment

- Diagnosis and confirmation of occupational diseases
- Reporting procedures and documentation
- Communication and collaboration with relevant stakeholders

### 1.3 Purpose

The primary purpose of this guideline is to:

- facilitate the medical professionals to identify and diagnose occupational diseases;
- enhance the capacity of safety personnel in notifying the suspected Occupational disease;
- standardize the investigation and reporting procedures for occupational diseases;
- improve the quality and accuracy of data on occupational diseases;
- promote collaboration between medical professionals, employers, employees, the Department of Labour, and public health authorities; and
- ensure effective management and compensation for workers affected by occupational diseases.

Adhering to this guideline, medical professionals can play a critical role in safeguarding the health of workers and creating a safer and healthier working environment for all.

### 1.4 Implementing partners

- MoH; and
- any National Medical Services

## 1.5 Legislation Requirement

This section outlines the legal framework governing occupational disease investigation and reporting. It highlights the key requirements and responsibilities of various stakeholders, including employers, employees, medical professionals, and government agencies. Understanding and adhering to these legal obligations is crucial for ensuring the effective prevention, detection, and management of occupational diseases.

The following Act and regulations apply to Occupational Diseases;

- (1) Labour and Employment Act of Bhutan, 2007 (Act)
- (2) Regulation on Working Conditions, 2022 (RWC)
- (3) Regulation on occupational health, safety, and welfare, 2022 (ROHSW)
- (4) Regulation on occupational health and safety in construction industry, 2022 (ROHSCI)

Section 154 of the Act (*Injury*) states that

*“154. An employer shall immediately notify the Chief Labour Administrator of an accident or an incident that:*

- (1) resulted or could have resulted in death, loss or impairment of bodily function, loss of consciousness, electrical shock, acute or chronic symptoms of exposure to any substance at the workplace, any other serious bodily injury, or any injury or disease requiring medical treatment; or*
- (2) caused a loss of production or working time at the workplace.”*



Section 460 of ROHSW, 2022 (timeline for detailed written report) states that

*“460. An employer shall prepare a written record of the accident or incident referred to in sections 154 and 155 and submit it to the Chief Labour Administrator within 5 calendar days of the employer becoming aware of it.”*

Section 462 of ROHSW, 2022 (Loss of Working Days) states that

*“462. The employer shall report any accidents where an employee is away from work, or unable to perform their normal duties for more than 3 consecutive days as a result of the injury. The 3-calendar day period does not include the day of the accident. The report must be made within 5 calendar days of the accident to the Chief Labour Administrator.”*

Section 464 of ROHSW, 2022 (Occupational Diseases) states that

*“464. Where any employee at a workplace contracts any occupational disease specified in Schedule XII, the employer shall immediately notify the same to the Chief Labour Administrator in Form 8.”*

Moreover, Chapters 16 and 17 of Regulation on Occupational Health, Safety, and Welfare, 2022, emphasize reporting occupational diseases and workers' compensation. It includes Schedule XII, detailing reportable occupational diseases, Schedule XIII for injuries resulting in total or partial permanent disablement, Schedule XVI for occupational diseases, and Form 8 for workplace injury and disease reporting and recording under the ROHSW, 2022.

## 1.6 Confidentiality and privacy

Maintaining confidentiality in occupational disease investigations is crucial for various reasons, encompassing both legal and ethical obligations:

### (1) Legal Importance

- (a) **Legal Compliance:** Many jurisdictions have laws and regulations mandating confidentiality regarding employee health and personal information. Violating these laws can lead to legal consequences for the company or individuals involved.
- (b) **Employee Privacy Rights:** Workers have a right to privacy regarding their health conditions and personal information. Breaching this confidentiality can lead to legal action against the company for violating these rights.
- (c) **Protection Against Discrimination:** Revealing personal health information might lead to discrimination against the affected employees, which can result in legal issues for the organization.

### (2) Ethical Importance

- (a) **Trust and Employee Relations:** Maintaining confidentiality builds trust between the employer and employees. Employees are more likely to cooperate in investigations if they trust that their privacy will be respected.
- (b) **Respect for Individuals:** Respecting confidentiality demonstrates a commitment to respecting individuals' personal and sensitive information, fostering a positive and respectful work environment.

- (c) **Avoiding Stigmatisation:** Disclosure of health-related issues can stigmatise individuals, affecting their morale and reputation within the workplace.

### (3) Moral Obligations

- (a) **Avoiding Stigmatisation:** Disclosure of health-related issues can stigmatise individuals, affecting their morale and reputation within the workplace.
- (b) **Protecting Dignity:** Upholding confidentiality safeguards the dignity of individuals affected by accidents or diseases. It shows respect for their situations and ensures their dignity is preserved.
- (c) **Responsibility towards Employees:** Employers have a moral obligation to protect the well-being and privacy of their employees, even during investigations.

## 1.7 Different level of roles of health professionals in OD investigation;

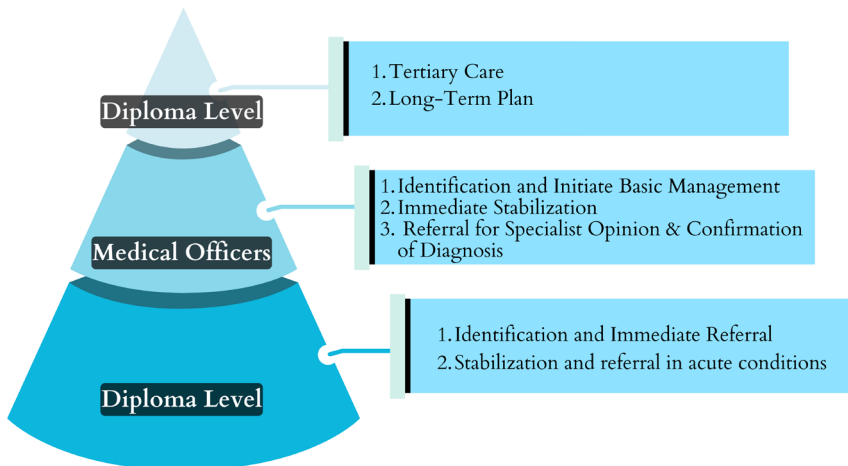


Figure 1:- Skills required by investigators

A brief description on the roles of health professionals in Occupational Disease (OD) investigation:

**(1) Diploma Level:**

- (a) *Identification and Immediate Referral:* Health professionals at the diploma level (Primary health care level) is primarily responsible for recognizing the signs and symptoms of diseases related to workplace exposures and promptly refer to higher healthcare centers.
- (b) *Stabilization and referral in acute conditions:* In case of acute condition resulting from occupational diseases, they must provide immediate stabilization measures before facilitating the referral to higher health care centers.

**(2) Medical Officers**

- (a) *Identification and Initiate Basic Management:* Medical officers must identify cases, assess the situation, and initiate basic management to address immediate health concerns related to occupational exposures or illness.
- (b) *Immediate Stabilization:* Similar to diploma-level professionals, medical officers contribute to the stabilization of individuals affected by occupational diseases, providing immediate care to address acute health issues.
- (c) *Referral for Specialist Opinion and Confirmation of Diagnosis:* Recognizing the complexity of occupational diseases, medical officers refer individuals for specialist opinions to confirm the diagnosis and ensure a comprehensive understanding of the occupational health issue.

### **(3) Medical/Occupational health Specialist:**

- (a) **Tertiary Care:** Specialists must provide tertiary care, involving advanced medical interventions and specialized treatments for individuals affected by occupational exposures.
- (b) **Long-Term Plan:** Specialists must provide the long-term plan for the management and prevention of occupational diseases. This may include ongoing medical monitoring, rehabilitation, and strategies to mitigate workplace exposures, ensuring the well-being of affected individuals over the long term.

*Special note: Based on the regulatory provisions, a competent health professional may issue the health certificate related to occupational health and diseases.*

## **1.8 Reportable Occupational Diseases**

It is the responsibility of the employer to report any occupational diseases specified below to the Department of Labour in Annexure I (Form 8) and the Annexure II.

### **(1) Occupational diseases caused by exposure to agents arising from work activities**

- (a) Diseases caused by chemical agents
- (b) Diseases caused by physical agents
- (c) Biological agents and infectious or parasitic diseases

## (2) Occupational diseases by target organ systems

- (a) Respiratory diseases
- (b) Skin diseases
- (c) Musculoskeletal disorders
- (d) Mental and behavioral disorders

## (3) Occupational cancer

- (a) Cancer caused by agents

## (4) Other diseases

### 1.9 Determination of Occupational Diseases

As per the Section 477 of RHSW 2022, any OD resulting in injury or death must satisfy four key conditions as mentioned.

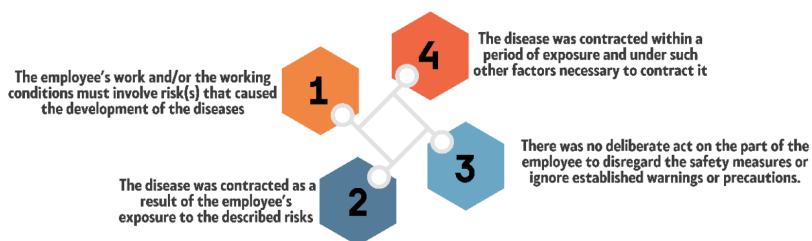
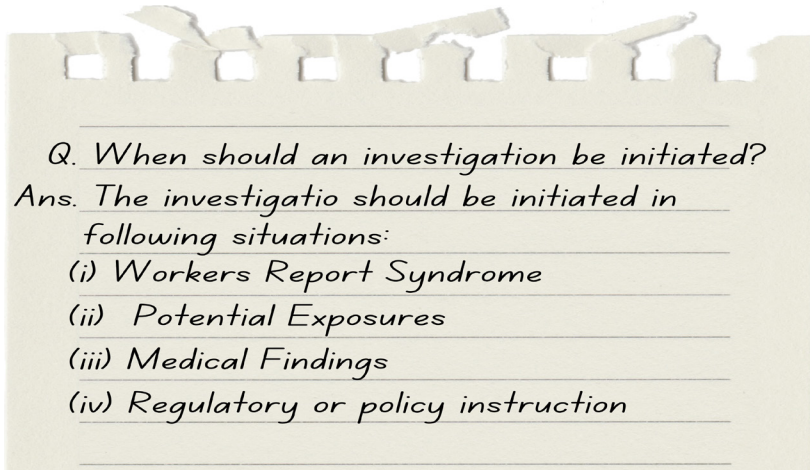


Figure 2

- (1) the employee's work and/or the working conditions must involve risk(s) that caused the development of the diseases;
- (2) the disease was contracted as a result of the employee's exposure to the described risks;
- (3) the disease was contracted within a period of exposure and under such other factors necessary to contract it; and
- (4) there was no deliberate act on the part of the employee to disregard the safety measures or ignore established warnings or precautions.

## 1.10 When should an investigation be initiated?

Initiating an investigation for occupational disease is vital to safeguarding worker health. Several key situations warrant prompt investigation, categorized as follows;



### (1) Workers Report Syndrome

- (a) Workers experiencing new or worsening health problems potentially linked to their work environments, such as respiratory issues, skin conditions, or neurological symptoms. This includes situations where a worker develops a known occupational disease, necessitating an investigation to identify the exposure source and potentially exposed colleagues.

### (2) Potential Exposures

- (a) Information indicating potential exposure to hazardous substances or physical agents, such as exceeding permissible exposure limits or working in processes or industries known for inherent hazards. This includes

instances where a cluster of similar illnesses arises among workers in the same workplace, suggesting a common exposure source.

- (b) Information from air monitoring data, safety reports, or worker complaints.
- (c) Suspicion of exposure to hazardous substances or physical agents.

### **(3) Medical Findings**

- (a) Unusual patterns observed in routine medical history or lab reports, including reports from health centers, hospitals, or public health authorities. This encompasses situations where a sentinel case, the first identified case of a potential occupational disease, sets off an investigation.
- (b) Similar health problems among workers in the same workplace
- (c) Identification of occupational disease in a worker

### **(4) Regulatory or policy instruction**

- (a) Requests from government agencies or regulatory bodies, compensation/ insurance claims related to potential occupational diseases, and reports from the public concerning health issues.
- (b) This instruction can initiate investigations even before symptoms manifest, aiding in proactive prevention and management.



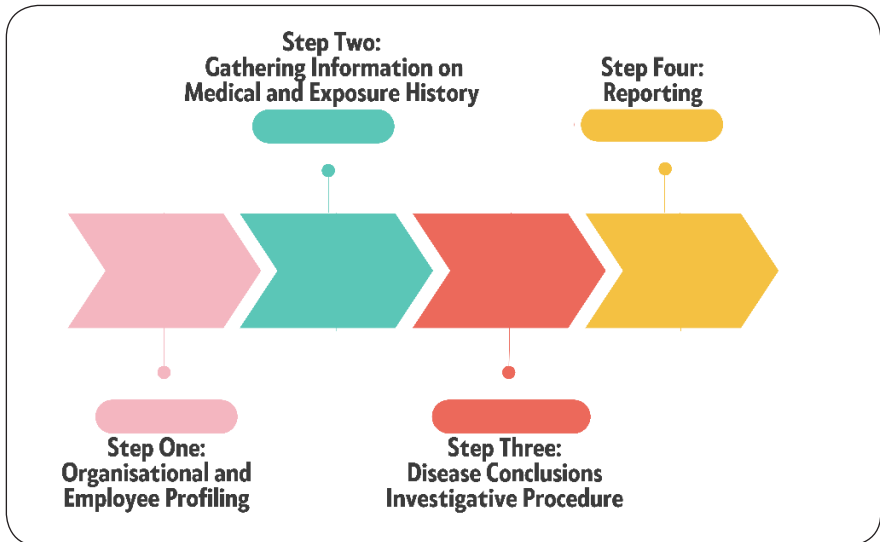


Figure 3: Illustrate the OD investigation and reporting procedures.

### 2.1 Step One: Organisational and Employee Profiling

(1) Step one intends or should cover the following information:

- (a) Employee's details like name, Date of Birth, Home Address, Contact details, Job title & employment type
- (b) Company information like company name, Economic activity of company, address, Total number of employees, and name & contact number of the Contact person.

(2) This information should be documented in section 1 of Annexure II.

## 2.2 Step Two: Gathering Information on Medical and Exposure History



### (1) Employment History

- (c) To accurately assess potential health risks, a comprehensive occupational exposure history is crucial. Ensure that this information is documented chronologically as per the Section 2 of Annexure II.
- (d) For the interview tips, please refer Annexure V

### (2) Personal habits

- (a) High risk behavior such smoking, alcohol use, substance abuse, others such as not adhering to safety procedures while being exposed to high level stressor. This information should be documented as per the Section 3 of Annexure II.

### **(3) Exposure History - Work Conditions and Occupational Risk Prevention Information**

#### **(a) Work condition and Occupational Risk**

- Duration of exposure captured in the form of daily, or any number of years
- Risk (stressors); exposed to the risk such as chemical, thermal, physical, aerosol, and pressure
- This information should be documented in Section 4 of Annexure II

#### **(b) Protection at workplace**

- The information regarding protection at workplace should be documented in section 5 of Annexure II.

### **(4) Medical History**

(a) This section will gather the information about the current symptoms of the worker's past history of chronic medical illnesses, and family history where relevant.

(b) This information should be documented from Section 6 to 8 of Annexure II.

### **(5) General physical examination**

(a) General physical examination should focus on the important signs relevant to potential occupational exposures and occupational diseases.

(b) This information should be documented in section 9 of Annexure II.

## **(6) Investigation**

- (a) This section will consider all the available investigation records of the worker like blood tests, x-rays, audiometry tests, pulmonary function tests, and etc, to build an evidence-based diagnosis of occupational disease (current investigation may be required for further confirmation of diagnosis).
- (b) This information should be documented in section 10 of Annexure II.

### **2.3 Step Three: Disease Conclusions Investigative Procedure**

The medical professional based on the expert findings can provide conclusion which could be any of the followings:

- (1) ICD 11 Code
- (2) Fit for work
- (3) Fit for work with some restrictions or limitations
- (4) Unfit for work
- (5) Pending evaluation
- (6) Unknown
- (7) Examiners' information

This information should be documented in section 11 of Annexure II.

### **2.4 Step Four: Reporting**

- (1) **Internal Reporting:** For the internal reporting, use Annexure II which is dully filled by the competent health professionals.
- (2) **External Reporting:** The external report, fulfilling legal requirements, should focus on the following key points:

- (a) Utilize the Annexure I Workplace Injury and Disease Reporting and Recording Form 8.
- (b) Supplement Annexure I (Form 8) with the Annexure II with details from the medical investigation form completed and signed by competent health professional.

***Remember:** Accurate and timely reporting of occupational diseases is crucial for protecting employee health, ensuring workplace safety, and upholding regulatory compliance. By following these procedures, medical professionals can effectively contribute to this vital process.*

# Annexures

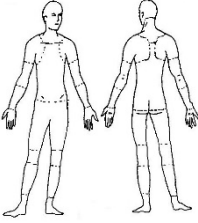
## Annexure I: Workplace Injury and Disease Reporting and Recording Form 8

1. Name of the Enterprise/workplace: .....
2. Nature of Business: .....
3. Contact person: .....
4. Address/ Location: .....  
 Tel: ..... Fax: ..... E-mail: .....
5. Incident Investigation

*Instructions: Complete this form as soon as possible after an incident that results in serious injury or illness. (Optional: Use to investigate a minor injury or near miss that could have resulted in a serious injury or illness.) Individual incident investigation form should be filled up for every person involved in incident or accident.*

This is a report of a: <ul style="list-style-type: none"> <li>Death</li> <li>Lost Time Injury</li> <li>First Aid Only</li> <li>Dangerous Occurrence</li> </ul>	Date of incident: This report is made by: <ul style="list-style-type: none"> <li>Employee</li> <li>Supervisor</li> <li>Safety Officer</li> <li>Other .....(Please specify)</li> </ul>
--	--

### Step 1: Injured employee (complete this part for each injured employee)

Name:	Sex: <ul style="list-style-type: none"> <li>Male</li> <li>Female</li> </ul>	Age:
Department:	Job title at time of incident:	
Part of body affected: (shade all that apply) <div style="text-align: center; margin-top: 10px;">  </div>	Nature of injury: (most serious one) <ul style="list-style-type: none"> <li>Abrasion, scrapes</li> <li>Amputation</li> <li>Broken bone</li> <li>Bruise, Burn (heat)</li> <li>Burn (chemical)</li> <li>Concussion (to the head)</li> <li>Crushing Injury</li> <li>Cut, laceration, puncture</li> <li>Hernia, Illness</li> <li>Sprain, strain</li> <li>Damage to a body system:</li> <li>Other: .....</li> </ul>	This employee works: <ul style="list-style-type: none"> <li>Regular full time</li> <li>Regular part time</li> <li>Seasonal</li> <li>Temporary</li> </ul> Months with this employer:  Months doing this job:

### Step 2: Describe the incident

<b>Exact location of the incident:</b>	<b>Exact time:</b>
What part of employee’s workday? <ul style="list-style-type: none"> <li>• Entering or leaving work</li> <li>• Doing normal work activities</li> <li>• During meal period</li> <li>• During break</li> <li>• Working overtime</li> <li>• Other _____</li> </ul>	Names of witnesses (if any):

<b>Number of attachments:</b>	<b>Written witness statements:</b>	<b>Photographs:</b>	<b>Maps / drawings:</b>
What personal protective equipment was being used (if any)?			
Describe, step-by-step the events that led up to the injury. Include names of any machines, parts, objects, tools, materials and other important details.			
Description continued on attached sheets:			

### Step 3: Why did the incident happen?

Unsafe workplace conditions: (Check all that apply) <ul style="list-style-type: none"> <li>• Inadequate guard</li> <li>• Unguarded hazard</li> <li>• Safety device is defective</li> <li>• Tool or equipment defective</li> <li>• Workstation layout is hazardous</li> <li>• Unsafe lighting</li> <li>• Unsafe ventilation</li> <li>• Lack of needed personal protective equipment</li> <li>• Lack of appropriate equipment / tools</li> <li>• Unsafe clothing</li> <li>• No training or insufficient training</li> <li>• Other: _____</li> </ul>	Unsafe acts by people: (Check all that apply) <ul style="list-style-type: none"> <li>• Operating without permission</li> <li>• Operating at unsafe speed</li> <li>• Servicing equipment that has power to it</li> <li>• Making a safety device inoperative</li> <li>• Using defective equipment</li> <li>• Using equipment in an unapproved way</li> <li>• Unsafe lifting</li> <li>• Taking an unsafe position or posture</li> <li>• Distraction, teasing, horseplay</li> <li>• Failure to wear personal protective equipment</li> <li>• Failure to use the available equipment / tools</li> <li>• Other: _____</li> </ul>
Why did the unsafe conditions exist?	





## Annexure II: Investigation Form for Occupational Diseases

Case ID: \_\_\_\_\_

Start Date: \_\_\_\_\_ Finish Date: \_\_\_\_\_

### Section 1: Basic Identification Data

Part A: Worker's Information		Part B: Company's Information	
Unique ID No.		Company Name:	
Full Name:		Economic activity of company:	
Sex:		Address (Exact location):	
Date of Birth	dd/mm/yyyy	Total number of employees	
Father's Name:			
Contact Number:			
Job Title:			
Contract Type:			

### Section 2: Employment History

Name of Organization	Duration of Work (In years)	Designation/ Job description	Workplace hazards

### Section 3: Personal habits

Particulars		Yes/ No	Quantity per day	Years of smoking/ consumption
1. Smoking	Current Smoker			
	Ex Smoker			
2. Tobacco Chewing				
3. Alcohol				

Drugs /substance use (Yes/No): \_\_\_\_\_ If yes, name of the drugs/  
 substance: \_\_\_\_\_

Any other information/ observation/ special comments about personal habits:

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**Section 4: Exposure History: Work Conditions and Occupational risk prevention information**

Questions <i>(Tick the most appropriate)</i>	Remarks
Are you: <ul style="list-style-type: none"> <li>• Skilled</li> <li>• Semi-skilled</li> <li>• Unskilled</li> </ul> <p style="text-align: right;"><i>(Tick one of the above)</i></p>	
Working Hours: <ul style="list-style-type: none"> <li>• &lt;8 hours</li> <li>• &gt;8 hours</li> </ul> <p style="text-align: right;"><i>(Tick one of the above)</i></p>	
Training for work: <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul> <p style="text-align: right;"><i>(Tick one of the above)</i></p>	
Are you exposed to: <ul style="list-style-type: none"> <li>• Excessive Heat / Cold</li> <li>• Dust</li> <li>• Noise</li> <li>• Vibrations</li> <li>• Radiation (alpha/ beta/ gamma/ UV)</li> <li>• Improper illumination</li> <li>• Work in awkward positions</li> <li>• Repetitive movement of body parts</li> </ul> <p style="text-align: right;"><i>(Tick one of the above)</i></p>	

<p>Do your work involve:</p> <ul style="list-style-type: none"> <li>• Handling loads</li> <li>• Biological agents</li> <li>• Fumes / Gas</li> <li>• Chemicals</li> <li>• Sitting most of time</li> <li>• Standing most of time</li> <li>• Moving most of time</li> <li>• Physical overload (handling loads)</li> <li>• Maintenance of painful postures</li> <li>• Performing repeated movements</li> <li>• Static postures maintenance</li> <li>• Force or pressure application</li> </ul> <p style="text-align: right;"><i>(Tick one of the above)</i></p>	
<p>Any work /task apart from this work:</p>	
<p>Details of above affirmation:</p> <p>Any other information / observation / special comments about exposure:</p> <ul style="list-style-type: none"> <li>• Other workers reported with / for similar symptoms:      Yes/ No</li> <li>• No. of workers with such symptoms: _____</li> <li>• Commonworkexposureinalloftheseworker_____</li> </ul> <p>Any other Comments:</p>	

### Section 5: Protection at workplace

Sl. No.	Protection	Yes/ No	If yes, give details
1	Do you use respiratory Personal Protective Equipment at workplace		
2	Do you wear helmet		
3	Do you wear ear protection		
4	Do you wear goggles		
5	Do you wear gloves		

Sl. No.	Protection	Yes/ No	If yes, give details
6	Do you wear safety shoes		
7	Do you: eat or drink in the work area?		
8	Smoke in the work area?		
9	Wash your hands before eating or smoking?		
10	Wear your work clothes home?		
11	Are facilities available for eating in clean area?		
12	Are facilities available for handwashing?		
13	Are facilities available for showers?		
14	Are facilities available for Laundering of work clothes at the workplace?		
Any other information:			

### Section 6: Symptoms

Sl. No.	Protection	Yes/ No	If yes, give details
1	Weight loss		
2	Fatigue		
3	Recurrent cough		
4	Breathing difficulties		
5	Loss of appetite		
6	Abdominal pain		
7	Nausea/vomiting		
8	Eye problem		
9	Hearing loss		
10	Irritability		
11	Headaches		
12	Memory problems		
13	Difficulty concentrating		
14	Joint pain		
15	Numbness or tingling of hands or feet		
16	Movement limitation		

Sl. No.	Protection	Yes/ No	If yes, give details
17	Change in menstrual periods (Women)		
18	Other		

### Section 7: Any past History of following disease

Sl. No.	Diagnosis	Yes / No	Duration	Medication
1	High blood pressure			
2	Heart Disease			
3	Anaemia			
4	Diabetes Mellitus			
5	Asthma			
6	Allergy			
7	Skin Diseases			
8	Jaundice			
9	Kidney failure			
10	Psychological Disorder			
11	Cancer			
12	Arthritis			
13	Tuberculosis			
Any other information:				
Are you on any other medication for any other ailment & duration of such medication:				

### Section 8: Family History of:

Sl. No.	Diagnosis	Father	Mother	Sibling
1	High blood pressure			
2	Heart Disease			
3	Anaemia			
4	Diabetes Mellitus			
5	Asthma			

6	Allergy			
7	Cancer			
Any other information:				

### Section 9: Physical Examination:

Sl. No.	Particulars	Remarks
1	Height (in cm)	
2	Weight (in Kg)	
3	SPO2	
4	Pulse / min	
5	BP (Systolic & Diastolic)	
6	Vision Rt. / Lt.	
7	Colour Vision	
8	Oro-dental Hygiene	
9	ENT	
10	Skin	
11	Abdomen	
12	Respiratory System	
13	CVS	
14	CNS <ul style="list-style-type: none"> <li>• Cranial nerves</li> <li>• Motor strength</li> <li>• Sensory</li> <li>• Coordination</li> <li>• Affect</li> <li>• Orientation (place, person, time)</li> <li>• Memory (object recall)</li> <li>• Attention</li> <li>• Visual-spatial (design copying)</li> </ul>	
15	Musculo-skeletal	
16	Present Complaint if any	

**Section 10: Investigation Conducted**

Sl. No.	Name of the test conducted	Findings	Interpretation/ Diagnostic

**Section 11: Conclusions of the investigation:**

Last Health Exam (Date): \_\_\_\_\_

ICD 11 Code/ Outcome: \_\_\_\_\_

Advice	Remarks
Fit for work	
Fit for work with some restrictions or limitations	
Unfit for work	
Pending evaluation	
Unknown	

-----  
Signature (with date) of the investigating Physician

Name:

Designation:

Affiliation:

## Annexure III: List of Reportable Occupational Diseases

### 1. Occupational diseases caused by exposure to agents arising from work activities

#### 1.1. Diseases caused by chemical agents

- Diseases caused by beryllium or its compounds
- Diseases caused by cadmium or its compounds
- Diseases caused by phosphorus or its compounds
- Diseases caused by chromium or its compounds
- Diseases caused by manganese or its compounds
- Diseases caused by arsenic or its compounds
- Diseases caused by mercury or its compounds
- Diseases caused by lead or its compounds
- Diseases caused by fluorine or its compounds
- Diseases caused by carbon disulfide
- Diseases caused by halogen derivatives of aliphatic or aromatic hydrocarbons
- Diseases caused by benzene or its homologues
- Diseases caused by nitro- and amino-derivatives of benzene or its homologues
- Diseases caused by nitroglycerine or other nitric acid esters
- Diseases caused by alcohols, glycols or ketones
- Diseases caused by asphyxiants like carbon monoxide, hydrogen sulfide, hydrogen cyanide or its derivatives
- Diseases caused by acrylonitrile
- Diseases caused by oxides of nitrogen
- Diseases caused by vanadium or its compounds



- Diseases caused by antimony or its compounds
- Diseases caused by hexane
- Diseases caused by mineral acids
- Diseases caused by pharmaceutical agents
- Diseases caused by nickel or its compounds
- Diseases caused by thallium or its compounds
- Diseases caused by osmium or its compounds
- Diseases caused by selenium or its compounds
- Diseases caused by copper or its compounds
- Diseases caused by platinum or its compounds
- Diseases caused by tin or its compounds
- Diseases caused by zinc or its compounds
- Diseases caused by phosgene
- Diseases caused by corneal irritants like benzoquinone
- Diseases caused by ammonia
- Diseases caused by isocyanates
- Diseases caused by pesticides
- Diseases caused by sulphur oxide
- Diseases caused by organic solvents
- Diseases caused by latex or latex-containing products
- Diseases caused by chlorine
- Diseases caused by other chemical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these chemical agents arising from work activities and the disease(s) contracted by the employee

## 1.2. Diseases caused by physical agents

- Hearing impairment caused by noise
- Diseases caused by vibration (disorders of muscles, tendons, bones, joints, peripheral blood vessels or peripheral nerves)
- Diseases caused by compressed or decompressed air
- Diseases caused by ionizing radiations
- Diseases caused by optical (ultraviolet, visible light, infrared) radiations including laser
- Diseases caused by exposure to extreme temperatures
- Diseases caused by other physical agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these physical agents arising from work activities and the disease(s) contracted by the employee.

## 1.3. Biological agents and infectious or parasitic diseases

- Brucellosis
- Hepatitis viruses
- Human immunodeficiency virus (HIV)
- Tetanus
- Tuberculosis
- Toxic or inflammatory syndromes associated with bacterial or fungal contaminants
- Anthrax
- Leptospirosis
- Diseases caused by other biological agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods

appropriate to national conditions and practice, between the exposure to these biological agents arising from work activities and the disease(s) contracted by the employee

## **2. Occupational diseases by target organ systems**

### **2.1. Respiratory diseases**

- Pneumoconioses caused by fibrogenic mineral dust (silicosis, anthraco-silicosis, asbestosis)
- Silicotuberculosis
- Pneumoconioses caused by non-fibrogenic mineral dust
- Siderosis
- Bronchopulmonary diseases caused by hard-metal dust
- Bronchopulmonary diseases caused by dust of cotton (byssinosis), flax, hemp, sisal or sugar cane (bagassosis)
- Asthma caused by recognized sensitizing agents or irritants inherent to the work process
- Extrinsic allergic alveolitis caused by the inhalation of organic dusts or microbially contaminated aerosols, arising from work activities
- Chronic obstructive pulmonary diseases caused by inhalation of coal dust, dust from stone quarries, wood dust, dust from cereals and agricultural work, dust in animal stables, dust from textiles, and paper dust, arising from work activities
- Diseases of the lung caused by aluminium
- Upper airways disorders caused by recognized sensitizing agents or irritants inherent to the work process
- Other respiratory diseases not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the disease(s) contracted by the employee

## 2.2. Skin diseases

- Allergic contact dermatoses and contact urticaria caused by other recognized allergy- provoking agents arising from work activities not included in other items
- Irritant contact dermatoses caused by other recognized irritant agents arising from work activities not included in other items
- Vitiligo caused by other recognized agents arising from work activities not included in other items
- Other skin diseases caused by physical, chemical or biological agents at work not included under other items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the skin disease(s) contracted by the employee

## 2.3. Musculoskeletal disorders

- Radial styloid tenosynovitis due to repetitive movements, forceful exertions and extreme postures of the wrist
- Chronic tenosynovitis of hand and wrist due to repetitive movements, forceful exertions and extreme postures of the wrist
- Olecranon bursitis due to prolonged pressure of the elbow region
- Prepatellar bursitis due to prolonged stay in kneeling position
- Epicondylitis due to repetitive forceful work
- Meniscus lesions following extended periods of work in a kneeling or squatting position
- Carpal tunnel syndrome due to extended periods of repetitive forceful work, work involving vibration, extreme postures of the wrist, or a combination of the three

- 2.3.8. Other musculoskeletal disorders not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the musculoskeletal disorder(s) contracted by the employee

## **2.4. Mental and behavioural disorders**

- 2.4.1. Post-traumatic stress disorder
- 2.4.2. Other mental or behavioural disorders not mentioned in the preceding item where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to risk factors arising from work activities and the mental and behavioural disorder(s) contracted by the employee

## **3. Occupational cancer**

### **3.1. Cancer caused by the following agents**

- Asbestos
- Benzidine and its salts
- Bis-chloromethyl ether (BCME)
- Chromium VI compounds
- Coal tars, coal tar pitches or soots
- Beta-naphthylamine
- Vinyl chloride
- Benzene
- Toxic nitro- and amino-derivatives of benzene or its homologues
- Ionizing radiations

- Tar, pitch, bitumen, mineral oil, anthracene, or the compounds, products or residues of these substances
- Coke oven emissions
- Nickel compounds
- Wood dust
- Arsenic and its compounds
- Beryllium and its compounds
- Cadmium and its compounds
- Erionite
- Ethylene oxide
- Hepatitis B virus (HBV) and hepatitis C virus (HCV)
- Cancers caused by other agents at work not mentioned in the preceding items where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure to these agents arising from work activities and the cancer(s) contracted by the employee.

## **4. Other diseases**

### **4.1. Miners' nystagmus**

- Other specific diseases caused by occupations or processes not mentioned in this list where a direct link is established scientifically, or determined by methods appropriate to national conditions and practice, between the exposure arising from work activities and the disease(s) contracted by the employee.

## Annexure IV: Occupational Diseases

Sl#	Description of occupational disease or injury	Nature of occupation
1	Anthrax	Any occupation involving exposure to animals infected with the anthrax spores or bacteria, tissues or products of infected animals, or any material or substance containing the anthrax spores or bacteria.
2	Asbestosis	Any occupation involving exposure to asbestos fibre.
3	Barotrauma	Any occupation involving exposure to compressed air.
4	Byssinosis	Any occupation involving exposure to raw cotton fibre.
5	Cataracts due to infra-red, ultraviolet or X-ray radiation	Any occupation involving frequent or prolonged exposure to infra-red, ultraviolet or X-ray radiation.
6	Compressed Air Illness or its sequelae, including dysbaric osteonecrosis	Any occupation involving exposure to compressed air.
7	Diseases caused by ionizing radiation	Any occupation involving 12 months exposure to ionizing particles from radioisotopes or irradiation apparatus
8	Diseases caused by excessive heat	Any occupation involving exposure to excessive heat.
9	Glanders	Any occupation involving exposure to animals infected with the Burkholderia mallei bacterium, tissues of infected animals, or any material or substance containing the Burkholderia mallei bacterium.
10	Leptospirosis or its sequelae	Any occupation involving exposure to animals infected or environment contaminated with the Leptospira bacteria, or any material or substance containing the Leptospira bacteria.
11	Liver Angiosarcoma	Any occupation involving exposure to vinyl chloride monomer or arsenic.

Sl#	Description of occupational disease or injury	Nature of occupation
12	Mesothelioma	Any occupation involving exposure to asbestos fibre.
13	Musculoskeletal disorders of the upper limb	Any occupation involving exposure to occupational risk factors involving repetitive motion, forceful exertion, awkward postures or vibration, affecting the upper limbs.
14	Noise-Induced Deafness	Any occupation involving prolonged exposure to excessive noise.
15	Occupational Asthma	Any occupation involving exposure to any chemical or other agent which is known to irritate or sensitise the respiratory system.
16	Occupational skin cancers	Any occupation involving exposure to polycyclic hydrocarbons, tar, pitch, bitumen, mineral oil (including paraffin), soot or arsenicals, or any compound, product, or residue of any of these substances, or to ultraviolet radiation
17	Occupational skin diseases	Any occupation involving exposure to any skin irritant or sensitizer or any other agent which is known to damage skin.
18	Poisoning by:	Any occupation involving exposure to —
	• Arsenic	arsenic or any of its compounds, or any mixture or solution containing arsenic or any of its compounds;
	• Benzene or a homologue of benzene	benzene or any of its homologues, or any mixture or solution containing benzene or any of its homologues;
	• Cadmium	cadmium or any of its compounds, or any mixture or solution containing cadmium or any of its compounds;
	• Carbamates	carbamate, or any mixture or solution containing any carbamate;



Sl#	Description of occupational disease or injury	Nature of occupation
8	• Carbon disulphide	carbon disulphide or any of its compounds, or any mixture or solution containing carbon disulphide or any of its compounds;
	• Carbon dioxide gas	excessive levels of carbon dioxide;
	• Carbon monoxide gas	excessive levels of carbon monoxide;
	• Cyanide	cyanide, or any mixture or solution containing any cyanide;
	• Halogen derivatives of hydrocarbon compounds	any halogen derivative of hydrocarbon compounds or any mixture or solution containing any halogen derivative of hydrocarbon compounds;
	• Hydrogen sulphide	hydrogen sulphide;
	• Lead	lead, or any of its compounds, or any mixture or solution containing lead or any of its compounds;
	• Manganese	manganese or any of its compounds, or any mixture or solution containing manganese or any of its compounds;
	• Mercury	mercury or any of its compounds, or any mixture or solution containing mercury or any of its compounds;
	• Oxides of nitrogen	excessive levels of oxides of nitrogen;
	• Organophosphates	organophosphates;
	• Phosphorus	phosphorus or any of its compounds, or any mixture or solution containing phosphorus.
19	Silicosis	Any occupation involving exposure to silica dust.
20	Toxic hepatitis	Any process involving exposure to tetrachloroethane, nitro-derivatives or amino-derivatives of benzene or vinyl chloride monomer.

Sl#	Description of occupational disease or injury	Nature of occupation
21	Tuberculosis	<p>Any occupation involving —</p> <p>(a) close and frequent contact with a source of tuberculosis infection, e.g. in the medical treatment or nursing of a person or persons suffering from tuberculosis, or in a service ancillary to such treatment or nursing; or</p> <p>(b) exposure to any material which is a source of tuberculosis infection, e.g., in a laboratory.</p>
22	Ulceration of the corneal surface of the eye	Any occupation involving exposure to tar, pitch, bitumen, mineral oil (Including paraffin), soot or any compound, product, or residue of any of these substances.

## Annexure V: Interview tips

Effectively interviewing workers suspected of having an occupational disease is crucial for accurate diagnosis and timely intervention. This guide provides medical professionals with key tips for conducting interviews that gather reliable information and contribute to a proper diagnosis. The following table provides tips for conducting an interview and gathering the required information from the suspected OD employee.



Following these tips, medical professionals can conduct effective interviews that contribute to accurate diagnosis and timely intervention for occupational diseases.

Characteristics	Descriptions
Building Rapport	<ul style="list-style-type: none"> <li>• Introduce yourself and explain the purpose of the interview.</li> <li>• Address the worker by name and use respectful language.</li> <li>• Create a comfortable and confidential environment.</li> <li>• Actively listen and demonstrate empathy and understanding.</li> </ul>

<b>Characteristics</b>	<b>Descriptions</b>
Gathering Information	<ul style="list-style-type: none"> <li>• Use open-ended questions to encourage detailed responses.</li> <li>• Focus on the worker’s current and past work history.</li> <li>• Inquire about specific tasks, tools, materials, and chemicals used.</li> <li>• Ask about exposure to dust, fumes, noise, and other potential hazards.</li> <li>• Explore the worker’s personal medical history and health concerns.</li> <li>• Be mindful of the latency period for specific occupational diseases.</li> <li>• Document all information accurately and objectively.</li> </ul>
Probing Deeper	<ul style="list-style-type: none"> <li>• Clarify any unclear or ambiguous responses.</li> <li>• Follow up on inconsistencies and seek further details.</li> <li>• Explore potential relationships between symptoms and work-related exposures.</li> <li>• Seek additional information from medical records and occupational health reports.</li> </ul>
Additional Considerations	<ul style="list-style-type: none"> <li>• Acknowledge the worker’s concerns and feelings about their health.</li> <li>• Avoid making assumptions or jumping to conclusions.</li> <li>• Explain the next steps in the diagnostic process.</li> <li>• Offer support and resources to the worker</li> </ul>
Utilise Tools	<ul style="list-style-type: none"> <li>• Consider using standardised questionnaires or check-lists specific to occupational diseases.</li> <li>• Refer to relevant occupational health resources and guidelines.</li> <li>• Collaborate with other healthcare professionals and occupational health specialists.</li> </ul>

<b>Characteristics</b>	<b>Descriptions</b>
Ethical Considerations:	<ul style="list-style-type: none"> <li>• Maintain confidentiality of all information provided by the worker.</li> <li>• Obtain informed consent for any additional tests or procedures.</li> <li>• Treat the worker with respect and dignity throughout the interview process.</li> </ul>
Remember	<ul style="list-style-type: none"> <li>• Your role is to gather information and assist in the diagnostic process.</li> <li>• Do not diagnose or make assumptions about the worker's condition.</li> <li>• Focus on building trust and rapport to encourage open communication</li> </ul>

## Annexure VI: Occupational Disease Epidemiology: three-phase exposure

Occupational disease epidemiology analyses the relationship between work-related exposures and the development of diseases.

### (1) Phase 1: Short and High-Intensity Exposure (Single Risk)

This phase typically involves acute or rapidly developing diseases caused by short-term exposure to high levels of a single hazardous agent.

*Examples include:*

- Occupational asthma from inhaling chemical fumes
- Acute poisoning from exposure to toxic substances
- Noise-induced hearing loss from working in loud environments

*Key characteristics:*

- Strong causal link: The relationship between exposure and disease is often clear and well-established.
- Short latency period: Diseases develop quickly after exposure, often within days or weeks.
- Easy identification: The specific exposure and the resulting disease are readily identifiable.
- Relatively simple prevention: Implementing controls to limit exposure to a single hazard is often effective in preventing disease.

## **(2) Phase 2: Long, Medium, and Low-Intensity Exposure (Risk Mixture)**

This phase focuses on diseases resulting from chronic exposure to a mixture of hazardous agents at various intensities over time.

*Examples include:*

- Chronic obstructive pulmonary disease (COPD) from exposure to dust and fumes
- Cancer from exposure to carcinogens over many years
- Musculoskeletal disorders from repetitive motions

*Key characteristics:*

- Multifactorial: Diseases develop from the combined effects of multiple risk factors, making it more difficult to establish a direct causal link to work.
- Long latency period: Diseases may take years or even decades to develop after exposure.
- Complex identification: Identifying the specific exposures and their contributions to the disease can be challenging.
- Multifaceted prevention: Strategies need to address the various risk factors and may involve exposure reduction, health promotion, and early diagnosis.

### **(3) Phase 3: Long and Low-Intensity Exposure (Poor Differentiation between Work Risk and Common Risk)**

This phase deals with diseases with long latency periods and unclear causal links to work-related exposures. Often, these diseases are also prevalent in the general population, making it difficult to distinguish between occupational and non-occupational risk factors.

*Examples include:*

- Cardiovascular diseases
- Certain types of cancer
- Mental health disorders

*Key characteristics:*

- Weak causal link: The relationship between work and disease is often complex and difficult to quantify.
- Long latency period: Diseases develop over a long time, making it challenging to identify the specific exposures responsible.
- Confounding factors: Non-occupational lifestyle factors and pre-existing medical conditions can significantly impact disease risk and complicate the analysis.
- Difficult prevention: Interventions need to address broader public health issues and may involve promoting healthy lifestyles and reducing overall risk factors in the population.

Understanding these different phases is crucial for effectively preventing occupational diseases. Each phase requires tailored approaches to:

- Exposure assessment: Identifying and measuring the relevant hazardous agents and their intensity levels.



- Disease surveillance: Monitoring the incidence and prevalence of occupational diseases.
- Epidemiological research: Conducting studies to establish causal links and understand the complex interplay of risk factors.
- Prevention strategies: Implementing interventions that are specific to the phase and address the unique challenges of each exposure scenario.

## Annexure VII: Importance of medical diagnosis of occupational disease

Accurate and timely medical diagnosis of occupational diseases (OD) is not just crucial for individual workers' health and well-being; it plays a pivotal role in ensuring equity, quality worker welfare, and a safe and healthy work environment for all.

Establishing the cause of illness through proper diagnosis opens doors to a multitude of benefits:

Sl. No.	Topic	Description
1	Preventing Further Deterioration	Early diagnosis and intervention can halt the progression of OD, minimizing long-term health consequences for the affected worker.
2	Protecting Others and the Environment	Identifying the source of exposure allows for targeted prevention measures, and safeguarding other employees and the broader community from occupational hazards.
3	Effective Treatment:	Accurate diagnosis guides appropriate treatment plans, optimizing recovery and improving the worker's quality of life.
4	Compensation and Insurance Claims	A confirmed OD diagnosis serves as essential documentation for insurance claims and compensation, ensuring workers receive the support they deserve.
5	Mandatory Reporting	Legal requirements often mandate notification to competent authorities upon OD diagnosis, facilitating necessary investigations and preventive actions.
6	Rehabilitation and Return to Work	Diagnosis informs personalized rehabilitation programs, helping workers regain functional abilities and safely return to suitable work when feasible.

<b>Sl. No.</b>	<b>Topic</b>	<b>Description</b>
7	Occupational Hazard Control	Identifying the specific hazard responsible for the OD empowers targeted control measures, preventing future occurrences and protecting other workers
8	Fitness for Work Assessment	Post-diagnosis assessments determine whether the worker is fit to continue their existing job duties, ensuring their safety and maximizing productivity.
9	Job Redesign and Relocation	Understanding the specific triggers of the OD allows for job redesign or relocation, preventing re-exposure and safeguarding the worker's health.
10	Burden of Disease Calculation	Accurate diagnosis data helps calculate the true burden of specific occupational diseases, informing public health policy and resource allocation.
11	Health Preparedness and Resources	Diagnosis trends guide manpower training, lab investigation facilities development, and other resource allocation for effective future response.
12	Stakeholder Education and Training	Diagnosis data informs educational programs and training initiatives for employers, workers, and healthcare professionals, raising awareness and promoting preventive practices.
13	Collective Bargaining and Advocacy	Reliable data on OD prevalence strengthens the case for improved working conditions and worker protection through collective bargaining and advocacy efforts
14	Risk Control and Elimination	Understanding the root causes of occupational disease facilitates targeted risk control measures and, ultimately, elimination of these hazards altogether, creating a safer and healthier future for all.

## Annexure VIII: Case study

A 38-year-old male worker employed at XYZ stone-crushing unit in Samtse was reported to the Department of Labour (DoL) as a sentinel case of breathlessness. The DoL initiated an inquiry to establish a cause-effect relationship, and an occupational health physician (OHP) was commissioned to investigate the link between workplace exposure and the worker's symptoms. This investigation aimed to determine if the worker had an occupational disease.

The worker was ordered to report to the OHP's office with all past medical records and medication history at a specified date and time. He reported working at the stone-crushing unit for eight years, performing drilling, cleaning, loading, and unloading activities during his typical eight-to-ten-hour workday.

Before his current role, the worker had worked odd jobs for five years (mainly in hotels and restaurants) followed by five years as a mason's helper in construction. During these jobs, he was exposed to kitchen cleaning agents, dust, cement, paints, and, in his current role, primarily stone dust. He admitted to only using a cloth face covering as personal protection and stated he was unaware of any hazard control measures at any of his past or present workplaces. Additionally, he had not received any safety training for his job.

Married for 15 years with two healthy children, the worker reported being a non-smoker but acknowledged chewing tobacco for 15 years and consuming local-made alcohol weekly (approximately 250 ml). Ten years prior, he was diagnosed with pulmonary tuberculosis and underwent successful nine-month antitubercular treatment, with no documented medical records remaining. He has no significant medical history or ongoing treatments besides his father's hypertension, managed with medication for the past five years.

The worker described recurrent episodes of dry cough with occasional white expectoration and progressive breathlessness, even at rest, for

the past four to five months. He reported audible chest sounds during episodes and responded to prescribed medication and an inhaler. He also noted weight loss (4-5 kg) in the past two years, along with occasional night sweats, feverishness, and worsening fatigue in the past two to three months despite medication. He was advised to undergo blood tests, a chest X-ray, pulmonary function tests, and consult a chest physician with all the results.

The investigations revealed an elevated erythrocyte sedimentation rate (ESR), borderline low hemoglobin, normal total leukocyte count, small ill-defined opacities in the upper lobes of both lungs, and moderate-to-severe airflow obstruction. The general physical examination showed a thin build with a BMI in the underweight range, a respiratory rate of 22 breaths per minute, a pulse rate of 104 beats per minute, a blood pressure of 134/92 mmHg, and bilateral gross expiratory rhonchi.

Based on the occupational history, investigation findings, and physical examination, the worker was clinically diagnosed with silicosis, an occupational lung disease.

## References and further reading

1. Labour and Employment Act of Bhutan, 2007
2. Regulation on Occupational Health, Safety and Welfare, 2022
3. Regulation on Occupational Health and Safety in construction Industry, 2022
4. <https://www.hse.gov.uk/pubns/hsg245.pdf>
5. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_dialogue/---lab\\_admin/documents/publication/wcms\\_346714.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---lab_admin/documents/publication/wcms_346714.pdf)
6. [https://www.osha.gov/sites/default/files/InclnvGuide4Empl\\_Dec2015.pdf](https://www.osha.gov/sites/default/files/InclnvGuide4Empl_Dec2015.pdf)

