Community Health Nursing II — Unit 5: Occupational Health

Occupational Health

Definition

- **Occupational health** protects and promotes the physical, mental and social wellbeing of people in relation to their work.
- It aims to prevent harm, adapt work to the worker and help a person remain safely employed or return to suitable work.
- It applies to organised industries and to agriculture, construction, transport, healthcare, domestic work and informal employment.

Important Terms

Hazard

- A **hazard** is something with the potential to cause harm, such as silica dust, an unguarded machine or excessive workload.

Risk

- **Risk** is the likelihood and seriousness of harm occurring under the actual conditions of exposure.
- The same chemical may create different risks depending on concentration, duration, ventilation and the way it is handled.

Occupational Disease

- An **occupational disease** is a disease caused by exposures or conditions arising from work.
- Establishing the diagnosis usually requires a clinical assessment together with evidence about the work exposure.

Work-related Disease

- A **work-related disease** has several contributing factors, with work causing or aggravating part of the problem.
- For example, back pain may be worsened by repeated lifting in a worker who also has other risk factors.

Objectives

- Prevent occupational injuries and disease through safe design, exposure control and early detection.
- Promote physical fitness, mental wellbeing and healthy work practices without placing all responsibility on the worker.

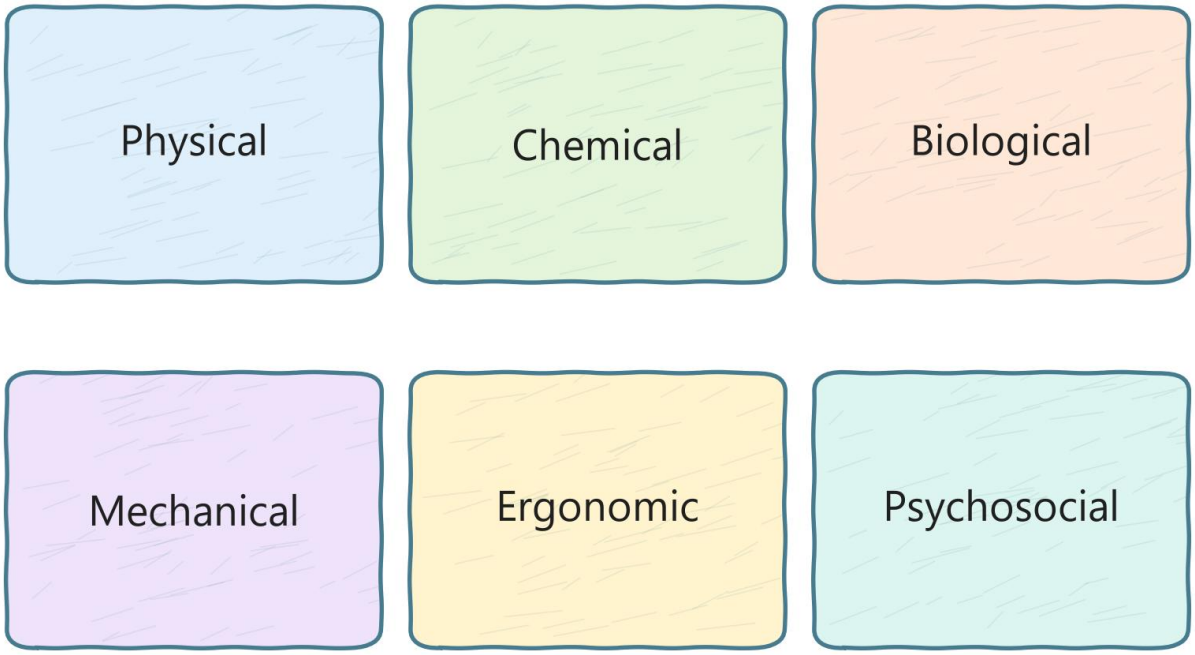
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- Provide first aid, referral, rehabilitation and support for appropriate social-security benefits.
- Use health and incident information to improve the work environment while protecting individual confidentiality.

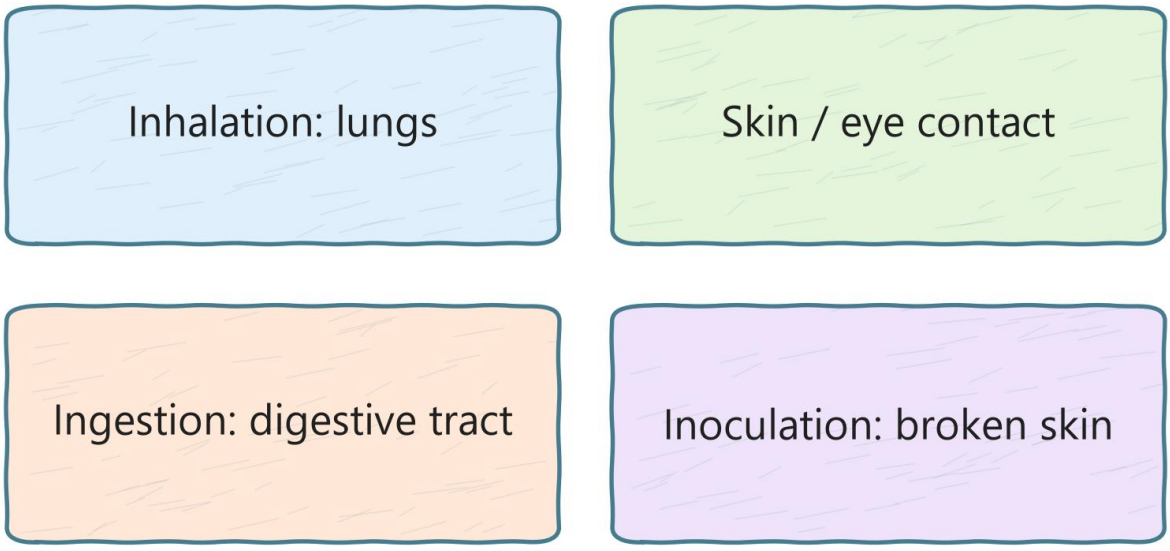
Occupational Health Hazards

Overview

- Hazards may be physical, chemical, biological, ergonomic, mechanical or psychosocial.
- A worker can experience several hazards at the same time, so assessment must cover the whole job and workplace.



Occupational hazard groups



Hazard entry routes

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Classification

1. Physical Hazards

Definition

- Physical hazards are harmful forms of energy or environmental conditions such as noise, heat, cold, vibration, radiation and poor lighting.

Examples

- Noise can damage hearing, heat can cause dehydration or heat illness and inadequate lighting can contribute to errors and injury.

Prevention

- Reduce exposure at the source through quieter equipment, shielding, ventilation, insulation and appropriate work design.
- Provide safe rest periods, drinking water, temperature control and task-appropriate personal protection.
- Monitor exposure and arrange hearing or other health surveillance where the risk requires it.

2. Chemical Hazards

Definition

- Chemical hazards include dusts, fumes, vapours, gases, solvents, pesticides, metals and corrosive substances.

Examples

- Chemicals may enter by inhalation, skin contact, ingestion or injection and may produce local or systemic effects.
- Examples include silica dust in stone cutting, lead in some industrial processes and pesticides in agriculture.

Prevention

- Replace hazardous products where possible and use enclosed processes or local exhaust ventilation.
- Keep containers labelled and make safety data sheets available in an understandable form.
- Prevent eating, drinking and smoking in contaminated areas and provide washing and changing facilities.

3. Biological Hazards

Definition

- Biological hazards arise from infectious organisms or biological materials encountered at work.

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Examples

- Healthcare workers may be exposed to blood-borne viruses or respiratory infections, while animal workers may encounter zoonoses.
- Waste handlers can be injured by contaminated sharps when segregation is poor.

Prevention

- Use vaccination, standard precautions, appropriate respiratory protection and safe sharps systems.
- Provide prompt post-exposure assessment and confidential follow-up after an injury or significant exposure.
- Control infection through ventilation, safe procedures and adequate supplies rather than relying on gloves alone.

4. Ergonomic Hazards

Definition

- Ergonomic hazards occur when tasks, tools or workstations do not fit the worker's physical abilities.

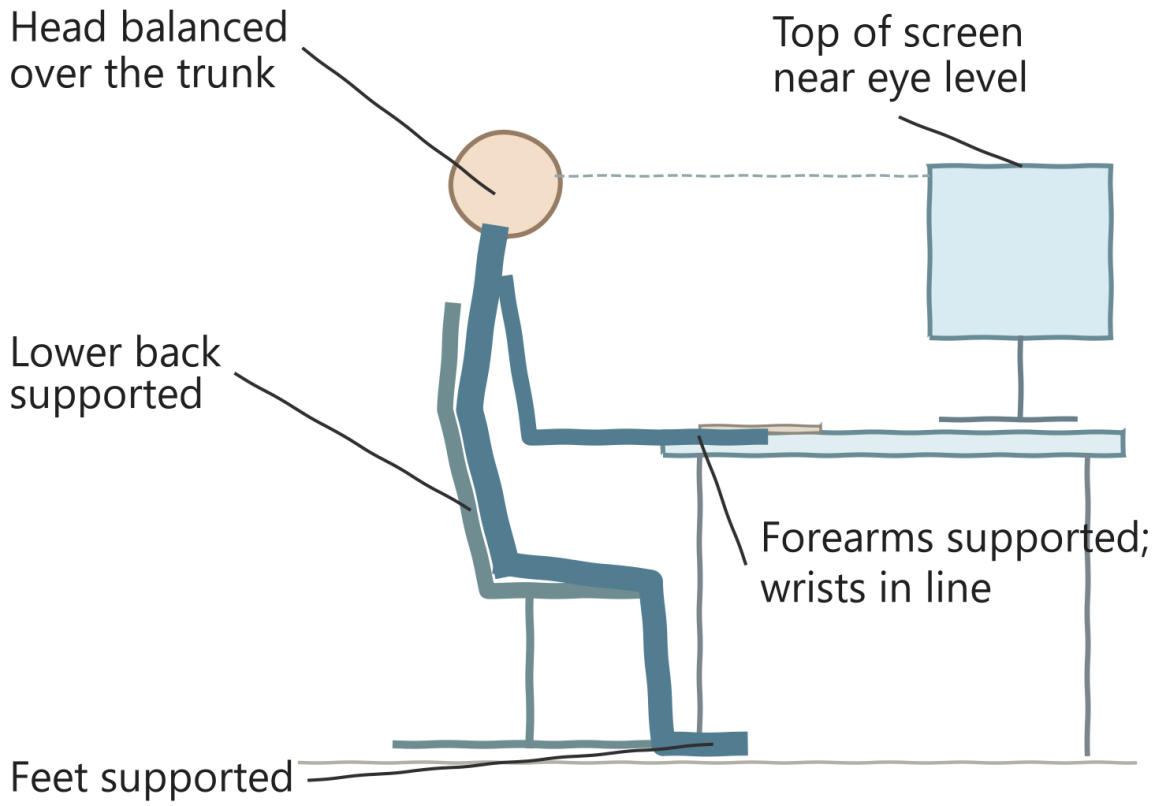
Examples

- Repeated movements, awkward posture, prolonged standing and lifting heavy loads can cause musculoskeletal injury.

Prevention

- Adjust work height, reach, seating and tools and use suitable mechanical aids for lifting or moving loads.
- Plan task variation and breaks and teach safe movement without using training as a substitute for equipment.
- In healthcare, assess the patient and use an appropriate transfer aid and sufficient trained staff.

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Adjust the work to the person and change position regularly; no single posture should be held all day

An adjustable workstation supports a comfortable working posture

5. Mechanical and Safety Hazards

Definition

- **Mechanical and safety hazards** are unsafe equipment, structures or working conditions that can directly injure a worker.

Examples

- Unguarded machinery, unstable scaffolding, exposed electrical wiring, slippery floors and moving vehicles can cause sudden injury.
- Confined spaces may contain toxic gases or insufficient oxygen and can endanger an unprotected rescuer.

Prevention

- Use machine guards, isolation procedures, fall protection, maintenance and clear traffic routes.
- Permit hazardous work only through the required trained and authorised system.
- Do not enter a contaminated or oxygen-deficient space without a specialist rescue arrangement.

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SEMESTERS I TO VII