Identification of Hazards

Dear Students, in to-day's lecture, we will discuss about "**Identification of Hazards".**This episode deals with different types of Hazards,types of Hazards,risk, threat to life and health,ect;
The fallowing points are highlighted;

Introduction

A hazard is a situation that poses a level of threat to life, health, property, or environment. Most hazards are dormant or potential, with only a theoretical risk of harm; however, once a hazard becomes "active", it can create an emergency situation. Workers also have a responsibility to work safely with hazardous materials. Poor work practices create hazards – examples of unsafe work practices commonly found in the workplace include, using defective tools or equipment or using tools or equipment in unsafe ways using hands or body instead of tools or push sticks. overloading, crowding or failing to balance materials or handling materials in other unsafe ways, including improper lifting, ect.

1. **Classication of Hazard Severity**
2. **Method of identification**
3. **Types of hazards**
4. **Inspections prevent hazards**
5. **workplace safety**

1:Classication of Hazard Severity

Hazard Severity can be classified in to four groups:

1: Catastrophic
2: Critical
3: Marginal
4: Negligible

Catastrophic: Death or total system loss

Critical: Severe injury, illness or major system damage

Marginal: Minor Injury or system damage

Negligible: Less than minor injury or system damage

Common symptoms and personal protection:

Identify, aches/pains, illnesses and injuries that are associated with your work.Identify and recognize the exposures and hazards linked to work-related illnesses and injuries.Personal Protective Equipment is a most important ,eg

- Special Clothing :gloves, aprons, boots, coveralls, etc.
- Eye Protection :safety glasses or face shields
- Hearing Protection
- Respiratory Protection :for emergency or short-term protection

Objective

- Hazards are identified, evaluated, eliminated or controlled to an acceptable level throughout LC
- Minimum risk is involved in design, testing, production
- Supporting safety data from other systems are considered
- Retrofit/Change to improve safety minimized
- Operational safety and maintainability demonstrated
- System termination established with clear methods and procedures

2:Types of hazards:

Physical hazards are the most common hazards and are present in most workplaces at some time. Examples include: frayed electrical cords, unguarded machinery, exposed moving parts, constant loud noise, vibrations, working from ladders, scaffolding or heights, spills, tripping hazards.

Generally they are; Chemical Hazards, Physical Hazards and Biological Hazards

Chemical Hazards: Most people automatically associate chemicals with scientists in laboratories, but chemicals are also found in many of the products we use at work and

at home. While they have a variety of beneficial uses, chemicals can also be extremely harmful if they are misused.

Here are some examples of commonly used household products that can damage your health or cause a fire or explosion if used incorrectly:

Gases
Vapors
Fumes
Mists
Solids
Liquids

Physical Hazards
Noise
Loudness and pitch
Radiation
Temperature
Pressures
Vibration

Biological Hazards : Biological agents are living things, or products of living things, that can cause illness and disease in humans. Biological agents include viruses, bacteria and fungi, as well as parasitic worms and some plants.
Biological agents enter the body when they are inhaled, eaten (ingested) or absorbed. Most biological agents are inhaled. Once inside the body, these infectious agents can multiply quickly and may be passed from one person to another. Some can survive outside the body for a quite a long time if they have the right breeding ground, such as water or food. Others die quickly without the protection of the body.

Associated with living organisms

Bacteria
Viruses
Dust mites
Pollens
Molds and other fungus

3:Method of identification

Workplace inspections prevent hazards
Regular workplace inspections are another important factor in preventing injuries and illnesses. By critically examining all aspects of the workplace, inspections identify and record hazards that must be addressed and corrected.

A workplace inspection should include:

Safety Inspections

Should be conducted in a work place regularly

- Equipment and tools
- Work environment
- Work practices and procedures
- Employees
- Behaviors (at risk or unsafe)
- System/equipment
- Process/procedure
- Safety training
- Personal/stress

listening to the concerns of workers and supervisors. identifying existing and potential hazards. monitoring hazard controls (personal protective equipment, engineering controls, policies, procedures).

Identifying Hazards and Controlling Risks

Being able to identify hazards is crucial in ensuring tasks are carried out safely. Your past experience in the workplace may help you to identify some hazards, but remember to also use the skills and knowledge of those around you to help.

Identifying hazards and controlling risk must be done continuously as new work processes, tasks, equipment and workers come into the workplace. Part of this process ask your employer to employ or engage a suitably qualified safety professional to come into the workplace to provide advice on health and safety.

Some ways to identify hazards and control risks:

1. Talk with workers (including contractors) who are or will be performing any tasks to identify all potential hazards and the best ways to eliminate or reduce risk.
2. Make sure you are aware of any high risk activities, work with new machinery or new work processes before they happen.

3. Understand the hazards associated with tasks you supervise and have risk controls in place before work starts. This could mean preventing work from being done while a safety issue is being resolved.
4. Take action to resolve health and safety issues as soon as possible. This includes escalating the issue to more senior management if necessary. Once agreement is reached on how to fix a problem, implement it as soon as possible.

4: Identifying Hazards And Controlling Risks

Being able to identify hazards is crucial in ensuring tasks are carried out safely. Your past experience in the workplace may help you to identify some hazards, but remember to also use the skills and knowledge of those around you to help.

Identifying hazards and controlling risk must be done continuously as new work processes, tasks, equipment and workers come into the workplace. **Some ways to identify hazards and control risks:**

1. Talk with workers (including contractors) who are or will be performing any tasks to identify all potential hazards and the best ways to eliminate or reduce risk.
2. Make sure you are aware of any high risk activities, work with new machinery or new work processes before they happen.
3. Understand the hazards associated with tasks you supervise and have risk controls in place before work starts. This could mean preventing work from being done while a safety issue is being resolved.
4. Take action to resolve health and safety issues as soon as possible. This includes escalating the issue to more senior management if necessary. Once agreement is reached on how to fix a problem, implement it as soon as possible.

Common trip hazards include:

1. Open filing cabinet drawers
2. Electrical wires or cords
3. Obstructions in walkways
4. curled floor mats or torn stair treads
5. Running on stairs
6. Poor lighting
7. Pant legs or long skirts caught in shoe heels
8. Cracked or chipped sidewalks
9. Carrying large objects that block your view
10. hurrying and not paying attention to the surroundings

Falls

Falls usually happen when your body movements shift your body too far away from your centre of balance. Any slip or trip can end up in a fall.

Statistics indicate that 60% of all falls happen on the same level. Falls from a height, such as from ladders, roofs or stairs, account for the remaining 40% of fall incidents.

Prevention

1)Fortunately, most accidents caused by slips, trips or falls can be prevented. Always pay attention to what you're doing. This is the most important guideline and the one that will give you the best protection .Look before you walk – make sure your pathway is clear. Close desk and cabinet drawers after use. Make sure electrical cords and wires are securely anchored, away from all walkways.

2) Report loose carpeting, damaged flooring, uneven sidewalks, broken pavement or other unsafe conditions to the appropriate person. Clean up spills immediately.

3) Make sure stairs and walkways are well lit, especially at night. Shovel, salt and/or sand stairs and paths to clear ice and snow. Never stand on a chair or convenient object to reach a high object.

4) Wear slip-resistant shoes or boots and dry off your shoes as soon as possible after entering a building (wet shoes on dry floors are almost as dangerous as dry shoes on wet floors). Use the proper cleaners and finishes on smooth walking surfaces. Apply non-abrasive strips and post warnings, where appropriate.

What are the major causes of ladder accidents? using defective ladders, losing footing on rungs or steps, failing to grip the ladder properly while climbing, unsafe position while on a ladder and placement of ladders on slippery surfaces, causing them to slide

Defective ladders should not be used. In the workplace, they should be taken out of service. Do not make temporary repairs to a ladder.

How should I set up a ladder?

1)Clear trash, construction material and other obstructions away from the base and top of the ladder.

2) The top of the ladder should be tied off or secured to prevent movement. If this is not possible, someone should hold the base of the ladder when it is being used. The person at the base of the ladder should face the ladder, with a hand on each side rail and one foot resting on the bottom rung.

3) Never set up ladders on boxes, carts, tables, or other unstable surfaces

5: workplace safety

Labels – All hazardous or controlled products must carry labels that clearly identify the product and provide hazard information about it. The label must indicate whether a workplace MSDS (see below) is available in the workplace.

2. **Material Safety Data Sheets (MSDS) –** An MSDS must be provided for every controlled product in your workplace. The MSDS provides much more detailed information than a label.

3. **Worker education –** Every employer is expected to develop and implement an up-to-date education program to enable workers to understand and use the information that is provided on the labels and MSDS. This program should be reviewed at least once a year, and whenever there is a change in conditions or new hazard information concerning any hazardous substances in the workplace. Employers must keep written records of employee education.

Health effects of biological hazards
Biological agents that are capable of causing disease are known as pathogens. People who work with animals or plants, or in health and child care are most at risk for biological hazards. People who work with ventilation systems, municipal sanitation or sewage operations are also at increased risk.

- Common diseases caused by biological agents:
- Bacterial diseases, such as tuberculosis, tetanus, food poisoning and blood poisoning .
- Fungal diseases, such as ringworm and thrush.
- Viral diseases, such as mumps, hepatitis, german measles, west nile virus.
- Parasitic worms that enter the body when their eggs are ingested

Controlling biological hazards

The best way to prevent illness is to reduce or eliminate exposure to biological agents. Here are some tips to protect yourself against infection: Practice good personal hygiene (e.g. **regular hand washing**) – it's one of the best ways to prevent the transmission of infection. Keep your immunizations up-to-date.

Ensure that any equipment that might harbour bio-hazards (e.g. fans, ventilation systems) is regularly maintained, cleaned and sterilized. Clean and disinfect work surfaces often. Clean up spills immediately.Handle and dispose of all bio-hazardous

waste materials safely. Blood and any other bodily fluids should always be handled as if they could be infectious**.** In the event of an injury or bleeding, every individual should be handled in a way that minimizes exposure to blood and body fluids. Wear personal protective equipment (e.g. gloves, masks), where appropriate.

Don't Underestimating the risks

It's very easy to underestimate the danger of these simple, common hazards. Yet slips and falls are responsible for thousands of injuries and compensation claims every year and can cause long-term pain and suffering. While the statistics are daunting, the good news is that that this type of injury is highly preventable. Slips, trips and falls can be easily avoided, simply by following some basic, common-sense safety procedures. The risks of injury are as high at home as they are at work, so preventing slips and falls is everyone's business.

Slips happen when there is not enough friction between your foot and the walking surface, causing you to lose your balance. Common causes of slips include

Icy surfaces are an obvious risk, but what about the snow and ice you track inside on your shoes? Pools of water on the floor can be as dangerous as any ice patch. The little things you forget, like mopping up a wet floor, often cause the biggest hazards

Common trip hazards include: open filing cabinet drawers. electrical wires or cords. obstructions in walkways. curled floor mats or torn stair treads. running on stairs. poor lighting. pant legs or long skirts caught in shoe heels. cracked or chipped sidewalks. carrying large objects that block your view. hurrying and not paying attention to the surroundings.

Falls usually happen when your body movements shift your body too far away from your centre of balance. Any slip or trip can end up in a fall.

Statistics indicate that 60% of all falls happen on the same level. Falls from a height, such as from ladders, roofs or stairs, account for the remaining 40% of fall incidents

Some infectious agents are transmitted directly:

1)Through physical contact between an infected and non-infected person.2) when droplets are projected, by a cough or a sneeze, into the mucous membranes of another person's nose, eyes or mouth.3) when a person is injected or punctured by an infected object, such as a needle

Other infectious agents are transmitted indirectly:

- By attaching themselves to food, water, cooking or eating utensils.
- When an insect carries them from an infected to a non-infected person.
- Through the air, where they can be inhaled

Health effects of biological hazards
Biological agents that are capable of causing disease are known as pathogens. People who work with animals or plants, or in health and child care are most at risk for biological hazards. People who work with ventilation systems, municipal sanitation or sewage operations are also at increased risk.

Common diseases caused by biological agents: bacterial diseases, such as tuberculosis, tetanus, food poisoning and blood poisoning. fungal diseases, such as ringworm and thrush.

- **Controlling biological hazards**
  The best way to prevent illness is to reduce or eliminate exposure to biological agents. Here are some tips to protect yourself against infection:
- Practice good personal hygiene (e.g. **regular hand washing**) – it's one of the best ways to prevent the transmission of infection.
- Keep your immunizations up-to-date
- Ensure that any equipment that might harbour bio-hazards (e.g. fans, ventilation systems) is regularly maintained, cleaned and sterilized.
- Ensure that any equipment that might harbour bio-hazards (e.g. fans, ventilation systems) is regularly maintained, cleaned and sterilized.
- Clean and disinfect work surfaces often and Clean up spills immediately.
- Handle and dispose of all bio-hazardous waste materials safely. ***Blood and any other bodily fluids should always be handled as if they could be infectious.*** In the event of an injury or bleeding, every individual should be handled in a way that minimizes exposure to blood and body fluids.
- Wear personal protective equipment (e.g. gloves, masks), where appropriate

Avoiding slips and falls

A slip or fall is nothing to worry about, right? Wrong! Slips, trips and falls account for 30% of all employee accidents in educational facilities and are a leading cause of accidental deaths across the country. Surprising, isn't it?

Underestimating the risks
It's very easy to underestimate the danger of these simple, common hazards. Yet slips and falls are responsible for thousands of injuries and compensation claims every year and can cause long-term pain and suffering. While the statistics are daunting, the good news is that that this type of injury is highly preventable. Slips, trips and falls can be easily avoided, simply by following some basic, common-sense safety procedures. The

risks of injury are as high at home as they are at work, so preventing slips and falls is everyone's business.

Slips
Slips happen when there is not enough friction between your foot and the walking surface, causing you to lose your balance. Common causes of slips include:

- wet or oily surfaces
- occasional spills
- weather hazards l
- Loose, unanchored rugs and mats

However, slips are most often caused by a sudden change in surface conditions. As your footing becomes less secure, you make split second balance adjustments, which may lead to injuries and falls.

1. You're more likely to slip when you step from: a dry spot to a wet one
2. A rough floor covering (carpet) to a smooth one (marble tile)
3. A clean, bare surface onto a patch of something loose or slick

Icy surfaces are an obvious risk, but what about the snow and ice you track inside on your shoes? Pools of water on the floor can be as dangerous as any ice patch. The little things you forget, like mopping up a wet floor, often cause the biggest hazards.

Conclusion:
A hazard is a situation that poses a level of threat to life, health, property, or environment. Most hazards are dormant or potential, with only a theoretical risk of harm; however, once a hazard becomes "active", it can create an emergency situation. Workers also have a responsibility to work safely with hazardous materials. Poor work practices create hazards – examples of unsafe work practices commonly found in the workplace include, using defective tools or equipment or using tools or equipment in unsafe ways using hands or body instead of tools or push sticks.
While Climb a ladder;Do not carry materials in your hands when climbing a ladder. Reaching out to either side of the ladder changes your centre of gravity, which can cause the ladder to become unstable

Identifying hazards and controlling risk must be done continuously as new work processes, tasks, equipment and workers come into the workplace. Part of this process ask your employer to employ or engage a suitably qualified safety professional to come into the workplace to provide advice on health and safety