Risk Assessment Evaluation and Control

Lecture Title: COMPILATION OF RISK ASSESSMENT

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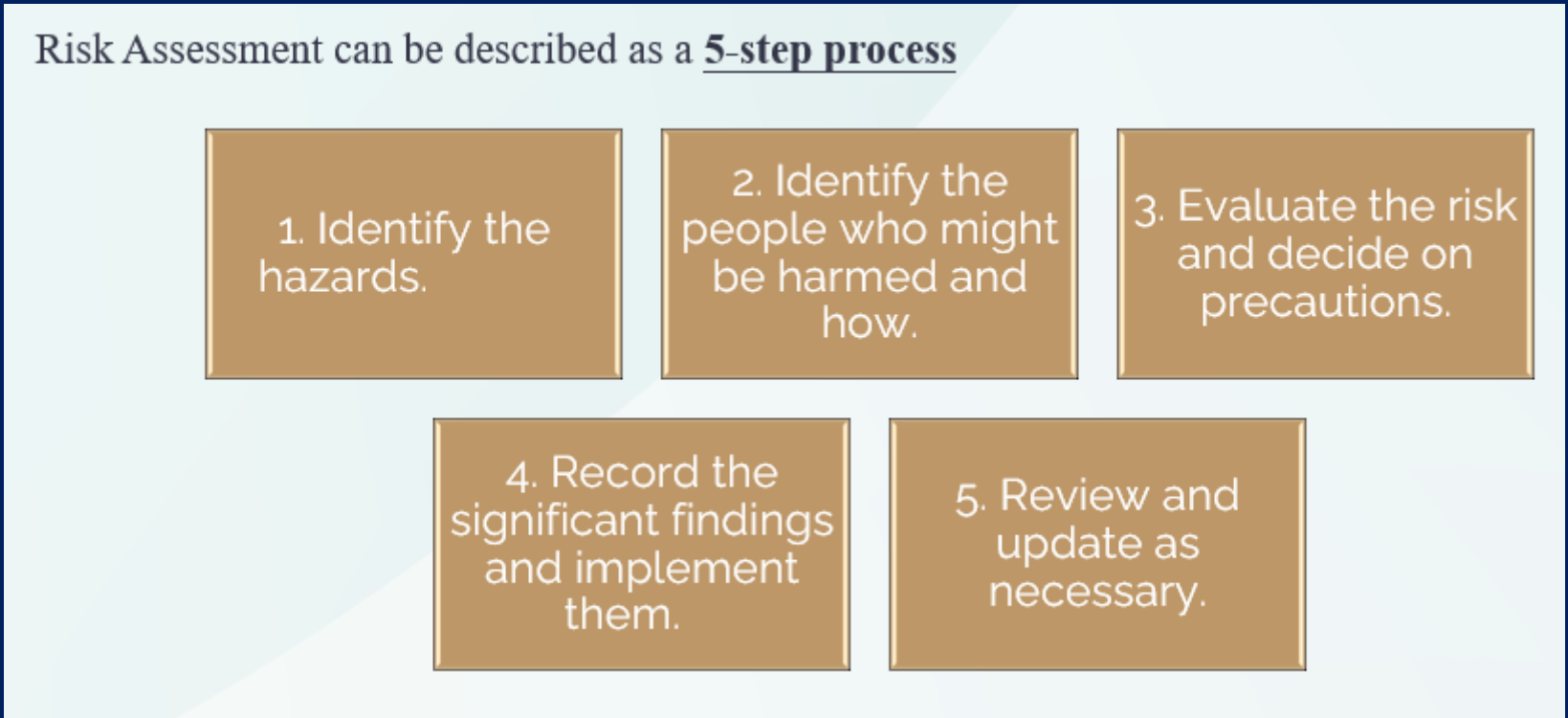
Undergraduate Diploma in
Occupational Health and Safety

Lecture Aim

- Identifying Hazard in Occupational Health and Safety
- Assessing likelihood and severity, evaluating risk, risk rating systems
- Understanding ALARP

Risk Assessment – 5 Steps Process



Aim: To remove the risk or reduce it to a level that is As Low As Reasonably Practicable (ALARP).

Step 2: Identify the People at Risk

Who MIGHT be at Risk in the Workplace?

Class Discussion

Step 2: Identify the People at Risk

When identifying people at risk, think not only of those carrying out particular activities but also of those who may be affected by those activities:

Workers / Operators – may be directly involved with the activity, working nearby or passing by. Some Hazards create risk only for the worker carrying out the work. Examples:

- *A worker up a ladder at risk from falling.*
- *General risk for all employees – vehicle traffic route that all employees may have to cross in order to reach a staff car park.*

Maintenance staff– involved in the removal of the usual safeguards present in the workplace because of the nature of maintenance work. Examples:

- *The lift engineer who has to climb on the top of a life, normal safeguards are being removed or bypassed, then risk to these workers increases and other methods have to be found to control this risk.*

Step 2: Identify the People at Risk

Continue…

Cleaners– may be exposed to greater risk because cleaning work may involve the removal of safeguards or additional activities that create additional risk. Example:

- *Window cleaning from an access cradle.*
- *Cleaners working alone, outside normal working hours, and therefore lone working becomes an issue.*

Visitors– to the workplace may not be working but are still exposed to certain types of risk. Example:

- *Fire.*

Members of the public– may simply be in the vicinity of the workplace and still affected by certain types of hazard. Example:

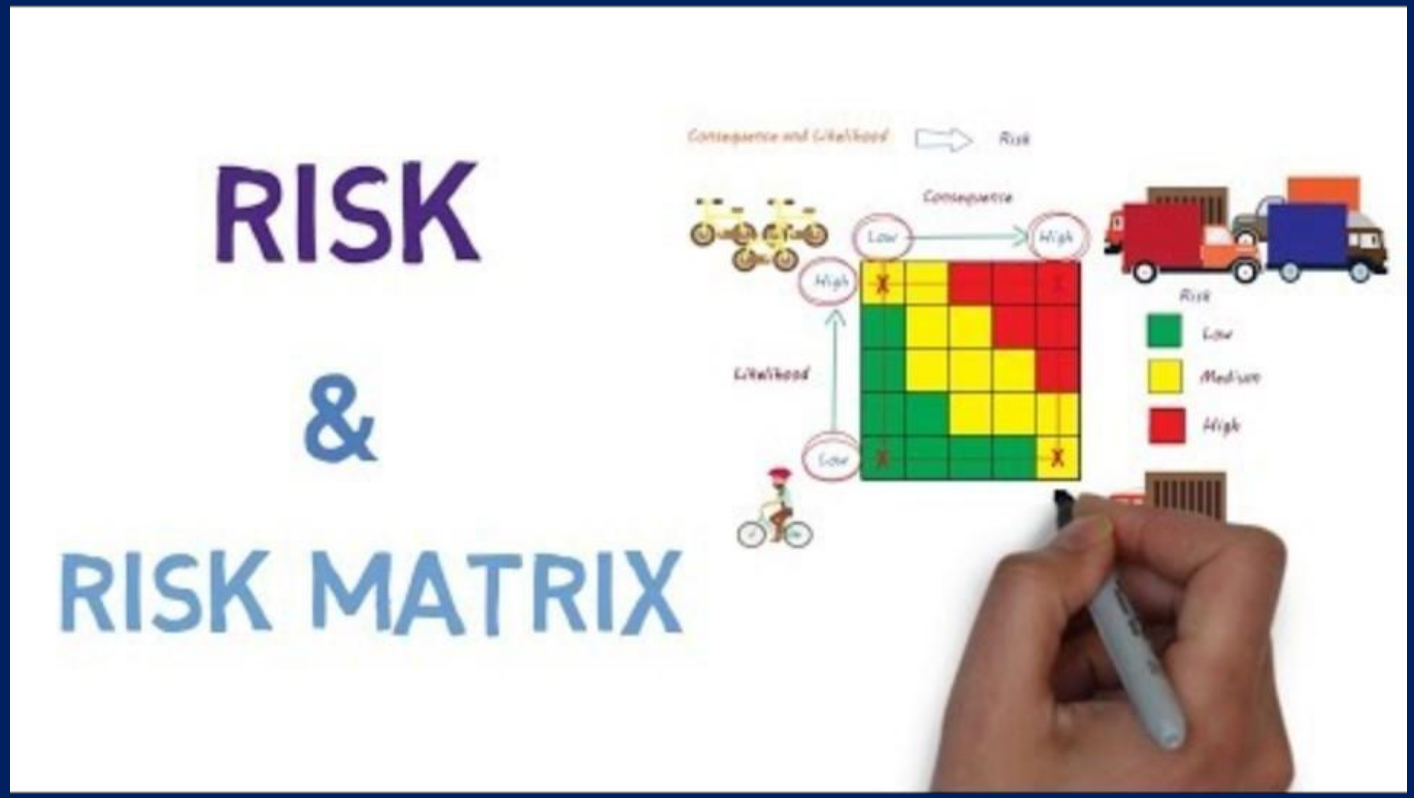
- *A release of toxic chlorine gas from an industrial site.*

Step 3: Evaluate the Risk and Decide on Precautions

Next Step in Risk Assessment process is to answer a simple question:

Is the level of risk generated by the hazard acceptable, or does it need to be reduced?

Step 3: Identify Risks



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Step 3: Evaluate the Risk and Decide on Precautions

Likelihood, Severity and Risk Rating

Risk is a combination of the likelihood that a hazard will cause harm and the foreseeable severity of injury, should harm occur.

Hazard create risk to safety i.e. immediate physical injury; many hazards create risks to health. Example:

Many chemicals create health risks.

These health risks may be **acute** or **chronic** in nature.

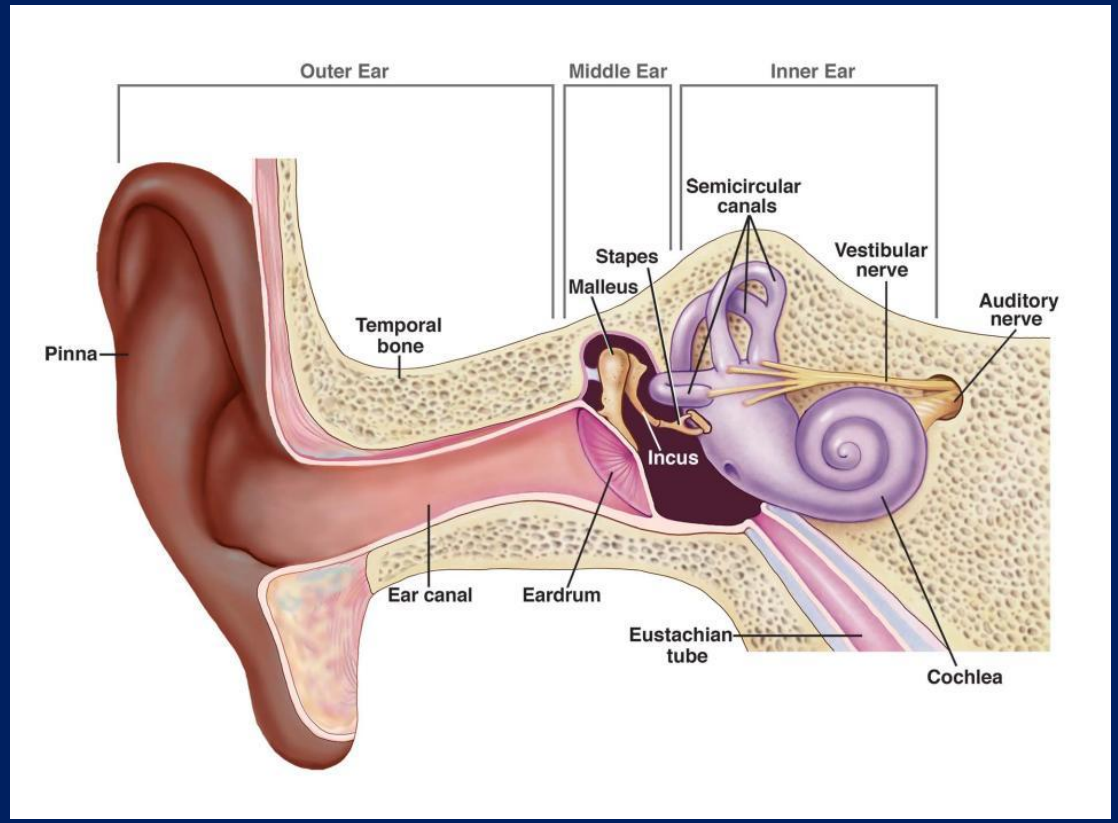
ACUTE Health Effects are SHORT Term	CHRONIC Health Effects are LONG Term
• Exposure to high levels of carbon monoxide gas will cause immediate unconsciousness followed by death within a few minutes	• Noise induced hearing loss can occur as a result of frequent exposure to excessively loud noise over months or years.

Chronic Health Effect- Noise

Damage to hearing occurs when noise levels are higher than 85 decibels, which is about the loudness of heavy traffic.

The degree of loss depends on the loudness of the noise and how long you are exposed to it.

Once hearing is damaged, it can't be restored.



Noise risk assessment shall be repeated every two years if any noise level exposures meet or exceed the action level (85 dBA 8-hour time-weighted average (TWA))

LN 158 of 2006: Exposure to Noise

https://legislation.mt/eli/sl/646.20/eng

Step 3: Evaluate the Risk and Decide on Precautions

RISK can be qualitatively described using words such as:

- 'Very High'
- 'High'
- 'Medium'
- 'Low'
- 'Insignificant'

A commonly adopted is to break risk down into its two component parts and define each separately:

RISK = Likelihood x Severity

Step 3: Evaluate the Risk and Decide on Precautions

By simply assigning a number score to each word it is possible to calculate a numerical risk rating for a particular hazard. For example:

Likelihood	Severity
1 = extremely unlikely	1 = very minor injury
2 = unlikely	2 = first-aid injury
3 = possible	3 = lost-time injury
4 = likely	4 = hospital treatment
5 = very probable	5 = disabling injury

Step 3: Evaluate the Risk and Decide on Precautions

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(1) Using this scoring system, the numerical risk rating generated by a trailing electrical cord positioned across a busy corridor might be calculated as **5 x4 = 20 (very probable x hospital treatment).**

(2) The same electrical cord trailing on the floor close to the rear wall of a rarely visited plant room might be rated as **1x4 = 4 (extremely unlikely x hospital treatment).**

Step 3: Evaluate the Risk and Decide on Precautions

Note: Both instances the severity of injury is the same. However there will be cases when the same hazard is being considered, but not always. Example:

- *Put the trailing cord in a care home for the elderly and the foreseeable injury becomes more sever simply because the elderly have brittle bones and suffer sever injuries when they fall over.*

There is no one right or wrong way to calculate the risk. Different organizations use different numbers and descriptions of likelihood and severity. It is the general principle that is important here, not the exact words and meaning.

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Step 3: Evaluate the Risk and Decide on Precautions

SEVERITY – Is relative to the Potential Consequences of each hazard and is many often, depending on industry categorized into:

- Harm to People
- Physical & Business Loss
- Environmental Impact
- Reputation Regulatory Impact

Step 3: Evaluate the Risk and Decide on Precautions

Again, we keep asking … What is Risk Assessment all about ?

- Identification of the Task Steps;
- Identify all the Hazards and Hazard Effects / severity those task steps may present;
- Calculate the level of Risk;
- Establish Control Measures;
- Re-calculate the residual (final) Risk.

- Aim: To remove the risk or reduce it to a level that is as low as reasonably practicable.

Step 3: Evaluate the Risk and Decide on Precautions

What should we Assess for Risk ?

- Critical Operations
- Non-Routine Activities
- Routine Activities
- (New Tasks)
- (Existing Tasks)
- (Low Risk Tasks)

Step 3: Evaluate the Risk and Decide on Precautions

High Risk Activities

High Activity: Accident in Malta

https://tvmnews.mt/en/news/20-years-since-cirkewwa-tragedy-worker-died-trying-to-rescue-colleagues/

Step 3: Evaluate the Risk and Decide on Precautions

Risk can never be completely eliminated from our places of work but every effort must be made to reduce the risk to a level

"as low as reasonably practicable" (ALARP)

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