Hazards and Risk Control, and Policy Management (Level 2)

Technical Skills Competency (TSC): Hazards and Risk Control, and Policy Management

LNS-WSH-2087-1.1

In the unlikely event of an emergency; remain calm and take instruction from the trainer.

Take note of the following:
- ❑ Exit door locations
- ❑ Location of first aid equipment
- ❑ Location of fire extinguishers and fire alarms
- ❑ Assembly area

Technical Skills and Competencies (TSC)

Skills Framework for Landscape	
TSC Category	Safety
TSC	Hazards and Risk Control, and Policy Management
TSC Description	Ensure a systematic and objective approach for hazards identification and risk assessment to effectively manage the hazards that may occur within the workplace
TSC Proficiency Description	Level 2
	LNS-WSH-2087-1.1
	Interpret relevant Workplace Safety and Health (WSH) legislations and relevant industry codes to aid in hazards identification at the workplace

Learning Objectives (LO)

Learning Unit	Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LU1: Interpret WSH Act, its subsidiary legislations and the relevant Codes of Practice	LO1 Recognize WSH Act, its subsidiary legislations, and the relevant Codes of Practice	A1 Establish job and WSH objectives according to work instructions, organisational WSH procedures and policies	K1 Types and interpretation of relevant WSH legislations and relevant industry Codes of Practice (CP)
			K2 WSH legislative requirements
LU2: Recognize Organisational Safety and Health Policies, Procedures and Programmes	LO2 Practice personal hygiene at workplace and use appropriate Personal Protective Equipment (PPE), safety devices and equipment	A2 Plan work activities to meet WSH requirements	K3 Types and usage of Personal Protective Equipment (PPE), safety devices and equipment
			K4 Types and interpretation of safety signage

Learning Objectives (LO)

Learning Unit	Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LU3: Conduct Risk Assessment in Accordance with Regulatory and Organizational Requirements	LO3 Participate in Risk Assessment activities including hazard identification, risk evaluation and risk control measures for the workplace	A3 Schedule daily work activities in accordance to organisational WSH procedures	K5 Organisational WSH procedures and Risk Assessment (RA)
		A4 Identify and monitor hazards by conducting WSH checks on work areas, safety signage, safety devices and equipment	K6 Types of hazards on work area, safety signage, safety devices and equipment.
		A5 Seek appropriate advice for monitoring hazard checks	K7 Common manufacturing hazards and risk controls

Learning Objectives (LO)

Learning Unit	Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LU4: Implement Risk Control	LO4 Apply risk control measures according to the risk management plan and explain implemented risk control measures to stakeholders	A6 Perform risk controls	K8 Types of risk control measures
		A7 Report any abnormalities and problems encountered in complying with WSH requirements	-
		A8 Provide constructive suggestions to apply WSH practice	-
LU5: Coordinate Workplace Emergency Response Procedures	LO5 Demonstrate the proper emergency procedures when dealing with emergencies at workplace	A10 Follow organisational emergency and evacuation procedures in the event of emergencies or drills	-

Facilitated Learning	Assessment	
16 hours	Role Play (60mins)	Oral Questioning (60mins)
Total Course Duration: 18hours		

LU1: Interpret WSH Act, its Subsidiary Legislations and the Relevant Codes of Practice

Learning Objectives (LO)

Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LO1 Recognize WSH Act, its Subsidiary Legislations, and the Relevant Codes of Practice	A1 Establish job and WSH objectives according to work instructions, organisational WSH procedures and policies	K1 Types and interpretation of relevant WSH legislations and relevant industry Codes of Practice (CP)
		K2 WSH legislative requirements

Scan to watch on your own device

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LG 7

Workplace Safety and Health (WSH) Act, its subsidiary legislations, and the Relevant COP

3 Guiding Principles of WSH Act

Reduce risk at the source by requiring all stakeholders to remove or minimise the risk they create

- The party who creates the risk is responsible for managing and mitigating the risk to as low as is reasonably practicable

Impose higher penalties for poor safety management and outcomes.

- Instil that poor safety and health management incurs cost and consequences

Encourage industries to **adopt greater ownership** of safety and health outcomes.

- Proactive planning to achieve a safety and healthy workplace

LG 8   **Workplace Safety and Health (WSH) Act, its subsidiary legislations, and the Relevant COP**

Introduction to Workplace Safety and Health Act

1 It places the responsibility for workplace safety on all stakeholders along lines of control at the workplace

2 It focuses on workplace safety & health systems and outcomes, rather than merely on compliance

3 It facilitates effective enforcement through the issuance of remedial orders
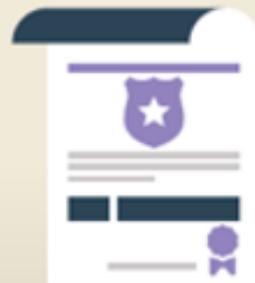
4 It imposes higher penalties for non-compliance and risky behaviour

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LG 8

Liabilities and Penalties under Workplace Safety and Health (WSH) Act

Not complying with a Remedial Order or Stop Work Order

Offence	Maximum fine	Maximum imprisonment	Conditions
Not complying with Remedial Order	$50,000 and additional fine of $5,000 for each day of continued offence	12 months	Either or both
Not complying with Stop Work Order	$500,000 and additional fine of $20,000 for each day of continued offence	12 months	Either or both

14

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Liabilities and Penalties under Workplace Safety and Health (WSH) Act

General penalties

For offences where no penalty is expressly provided in the WSH Act, the penalties are as follows:

Type of offender	Maximum fine	Maximum imprisonment	Conditions
Individual	First conviction: $200,000 Repeat offender: $400,000	2 years	Either or both
Corporate body	First conviction: $500,000 Repeat offender: $1 million	N.A.	N.A.

Source: https://www.mom.gov.sg/workplace-safety-and-health/workplace-safety-and-health-act/liabilities-and-penalties

LG 9   **Workplace Safety and Health (Risk Management) Regulation**

The WSH (Risk Management) Regulations is one of the key components of the Workplace Safety and Health (WSH) Act.

Purpose of the Regulation:

- To make every employer, self-employed person and/or principals (including contractors and sub-contractors) accountable.

- Assess risk to safety and health of any person who may be affected by their undertaking

- Identify hazards and risk of injuries/accidents

- take all reasonably practicable steps to eliminate any foreseeable risk to any person who may be affected by his undertaking in the workplace

- where risk cannot be eliminated, the employer, self-employed person and principal (including contractor and sub-contractor) must take reasonably practicable measures to minimise the risk (introducing controls)

LG 9

WSH (Risk Management) Regulations - Offences

Any employer or self-employed person who fails to comply with Part II of the provisions:

- First offense - fines not exceeding $10,000

- Repeat offense – fines not exceeding $20,000 or to imprisonment for a term not exceeding 6 months or to BOTH

Link to WSH (RM) Regulations: *https://sso.agc.gov.sg/SL/WSHA1920-RG8*
Link to Risk Management page from WSH Council website ; *https://www.tal.sg/wshc/Topics/Risk-Management*

LG 10

Work Injury Compensation Act (WICA)

The Work Injury Compensation Act (WICA) lets employees make claims for work-related injuries or diseases without having to file a civil suit under common law. It is a low-cost and quicker alternative to common law for settling compensation claims.

Who is covered	All employees regardless of salary level, with some exceptions.
What you can claim	Medical leave wages, medical expenses and lump-sum compensation for permanent incapacity or death. Learn about the types of compensation and their limits .
How to claim	Claims can be made up to 1 year from the accident. Learn about the claims processes for employees and for employers.
Related legislation	Work Injury Compensation Act 2019 ⤢

Changes to Work Injury Compensation Act in 2020
The changes to the Work Injury Compensation Act (WICA) take effect in 2020. For more info on key changes, refer to Changes to Work Injury Compensation Act in 2020 (mom.gov.sg)

Source: https://www.mom.gov.sg/workplace-safety-and-health/work-injury-compensation/what-is-wica

LG 10   **Other WSH Guidelines, Regulations and Standards relevant to Landscape Industry**

- WSH (Risk Management)

- WSH (General Provisions)

- WSH (Incident Reporting) Regulations

- Workplace Safety and Health (Confined Spaces) Regulations

- WSH (Scaffold) Regulations

- WSH (Noise) Regulations

- WSH (First Aid) Regulations

- WSH Guidelines on Management of Hazardous Chemicals Programme

- WSH Guidelines on Managing Heat Stress in the Workplace

- WSH Guidelines on Hearing Conservation Programme

LG 10   **Other WSH Guidelines, Regulations and Standards relevant to Landscape Industry**
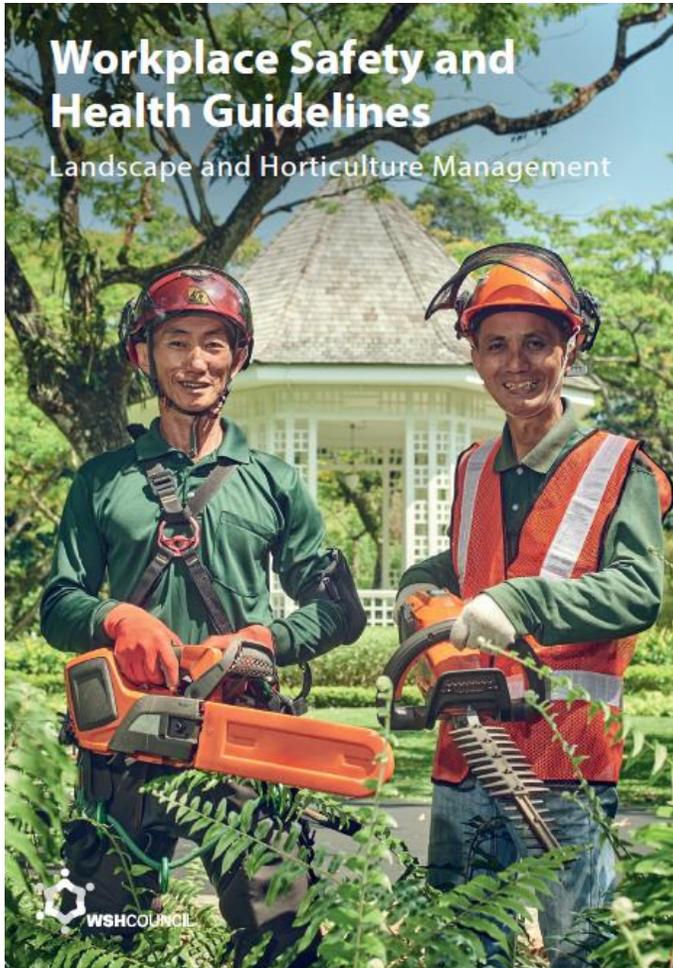
Workplace Safety and Health Guidelines for Landscape and Horticulture

Management

Provides information and guidance on:

- common landscaping maintenance activities hazards; and

- their preventive measures.

Applicable Singapore Standard SS and Code of Practice
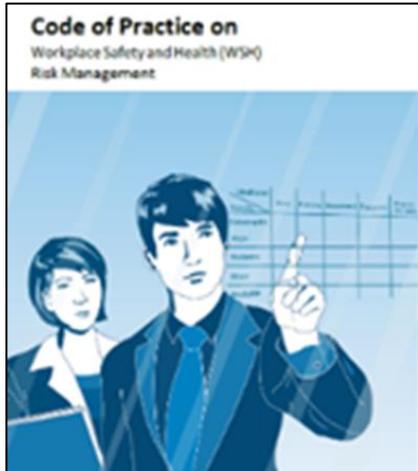
Code of Practice (CP)

Example – CP on Workplace Risk Management

- to establish the minimum requirements and duties for implementing workplace Risk Management in Singapore; and

- to provide guidance on its implementation

Link to Risk Management page from WSH Council website:
https://www.tal.sg/wshc/Topics/Risk-Management
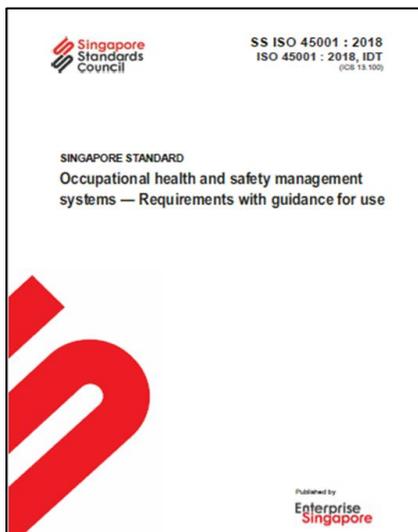
Singapore Standards (SS)

- nationally recognized documents established by consensus

Link to ISO website: https://www.iso.org/standard/63787.html

LG 11

Roles and Responsibilities under Workplace Safety and Health Act

Employer must:

- ensure workers comply with WSHA

- provide safety instruction and job training

- ensure workers have the right equipment and safety gear

- ensure workers are not exposed to health and safety hazards

- follow proper procedures in case of injury

- identify hazards and obtaining information about them

- conduct accident investigations and workplace inspections

- make recommendations to resolve safety and health concerns

LG 11

Roles and Responsibilities under Workplace Safety and Health Act

Persons at Work/Employee must:

- follow the workplace safety and health system, safe work procedures or safety rules implemented at the workplace.

- not engage in any unsafe or negligent act that may endanger yourself or others working around you.

- not tamper with any safety device or untaken any willful or reckless acts;

- use personal protective equipment provided to you to ensure your safety while working. You must not tamper with or misuse the equipment.

LG 12

Roles and Responsibilities under Workplace Safety and Health Act

Workplace Safety and Health Committee must:

- act as advisory body

- identify hazards & obtain information about them

- inspect workplace of any unsafe acts or unsafe conditions

- inspect any accident or dangerous occurrences occurs at workplace

- recommend corrective actions & monitor results of implemented solutions

- promote co-operation between management & employees

- assist in organizing activities to promote safe conduct of work

Case Study 1 – Fall from Height

Duration: 20mins

Description of Incident

The deceased and his co – worker were tasked to clear the leaves and branches on the rooftop of a building. Upon reaching the rooftop, the co-worker waited for the deceased. After waiting for about 5 minutes, the co-worker walked back to look for the deceased. He found the deceased lying about 1 meter away from the fixed ladder with a trash bag and broom beside him. He was pronounced dead at the scene.

Findings by Investigator

- It was the first time that the deceased and his co-worker attempted to clean the rooftop
- The deceased has probably carried the trash bag and broom thus lost his footing while climbing the vertical ladder
- RA and Safe Work Procedures were not relevant to the ad-hoc work activities which is cleaning of roof-top
- Workers was not wearing safety harness and proper PPE

For Discussion
1. Suggest ways on how the safety of the workers could be improved
2. Present your findings to the class

LU2: Recognize Organisational Safety and Health Policies, Procedures and Programmes

LG 13

Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LO2 Practise personal hygiene at workplace and use appropriate Personal Protective Equipment (PPE), safety devices and equipment	A2 Plan work activities to meet WSH requirements	K3 Types and usage of Personal Protective Equipment (PPE), safety devices and equipment
		K4 Types and interpretation of safety signage

Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs

Workplace Personal Hygiene

Why Must We Practise Personal Hygiene?
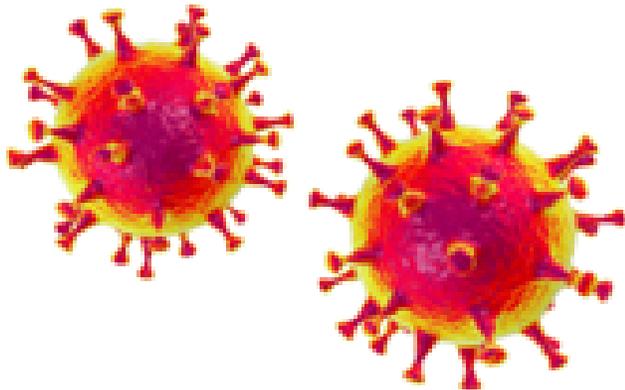
1. To get rid of the unwanted germs

2. To prevent spreading the germs

LG 14 **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Workplace Personal Hygiene

8 Steps of Hand Washing

Step 1:
Wet your hands and apply soap. Rub soap palm to palm

Step 2:
Soap in between fingers

Step 3:
Soap back of hands

Step 4:
Dry Hands

Step 5:
Back of Fingers

Step 6:
Fingernails

Step 7:
Wrists

Step 8:
Rinse and wipe dry

LG 14

When do we wash our hands?

Source:
https://www.fairprice.com.sg/tips/money
-saving/7-steps-of-handwashing/

Personal Hygiene Good Habits

Keep Fingernails Clean

Wear Clean Attire

Keep Hair Neat and Tied Back or Covered with Cap

Covering Cuts or Sores with Waterproof Plasters

Covering Mouth when Coughing or Sneezing

Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs

Personal Protective Equipment (PPE)

What is PPE?

- Worn to minimize exposure to hazards that cause serious workplace injuries and illnesses.

Responsibilities of Employers and Workers

Employers are required to train every worker and every worker should know:

1. when the use of PPE is necessary
2. what type of PPE is necessary
3. how to properly put it on, adjust, wear and take it off
4. limitations of the PPE
5. proper care, maintenance, and disposal of the equipment

Types of PPE and functions

Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs

Personal Protective Equipment (PPE)

In Summary, when selecting PPE, the employer and worker should:

- be able to recognize the hazards associated with the work involved

- be familiar with the best safety equipment available to protect against the hazards

- know the procedures for using the equipment

  ❑ check if the equipment is in a good condition

  ❑ correct ways of putting on the equipment

  ❑ choose the correct type of equipment

- keep equipment well-maintained and replace any worn-out equipment

LG 19   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Workplace Safety Devices for Machinery and Equipment

Types of Safety Devices
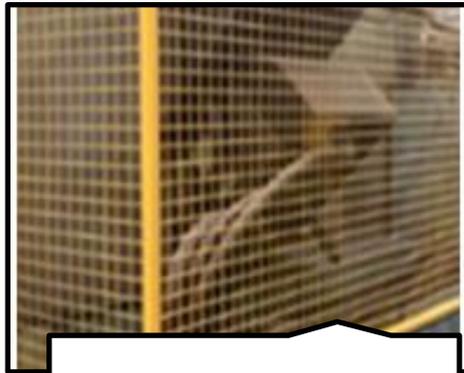
Fixed Guard

Safety Barriers or Railing - Plastic Mesh
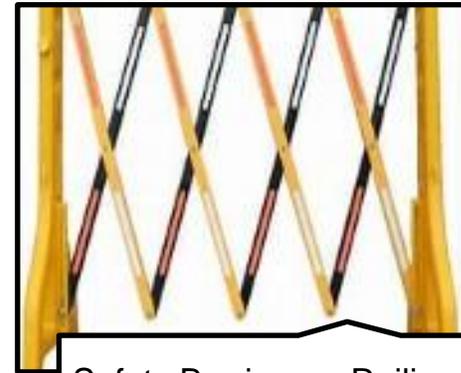
Safety Barriers or Railing -Plastic Barricades
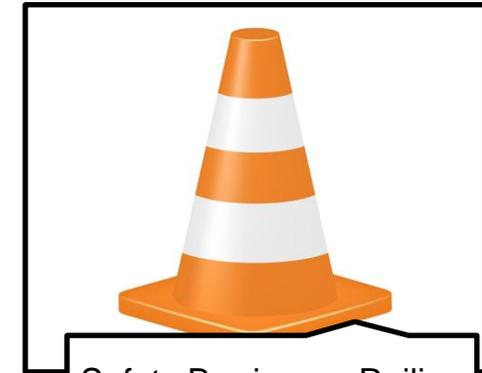
Safety Barriers or Railing - Traffic Cones

Safety Covers

4. Safety Signage - examples

a) Truck Mounted

4. Safety Signage

b) Blinking Beacon Lights

5. Emergency Button

35

LG 21   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Workplace Safety Devices for Machinery and Equipment

Types of Safety Devices

Log Out Tag Out Devices

Interlocks

Residual Current Circuit Breakers

Circuit Protective Device

LG 21   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Workplace Safety Devices for Machinery and Equipment

Ensuring Effectiveness of Safety Devices

1. Maintenance
2. Frequent inspection
3. Replacement

LG 22   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Interpret Common Safety Signs

Purpose of Safety Signs

- To alert persons to a specific hazard and how the hazard can be avoided.

- Safety signs provide information in a pictorial form

Types of Safety Signs

Prohibition Sign	**Mandatory Sign**	**Warning Sign**	**Safe Condition Sign**

Globally Harmonised System (GHS)	**Temporary Traffic Warning Signs**

Video on Guide to Landscape Safety
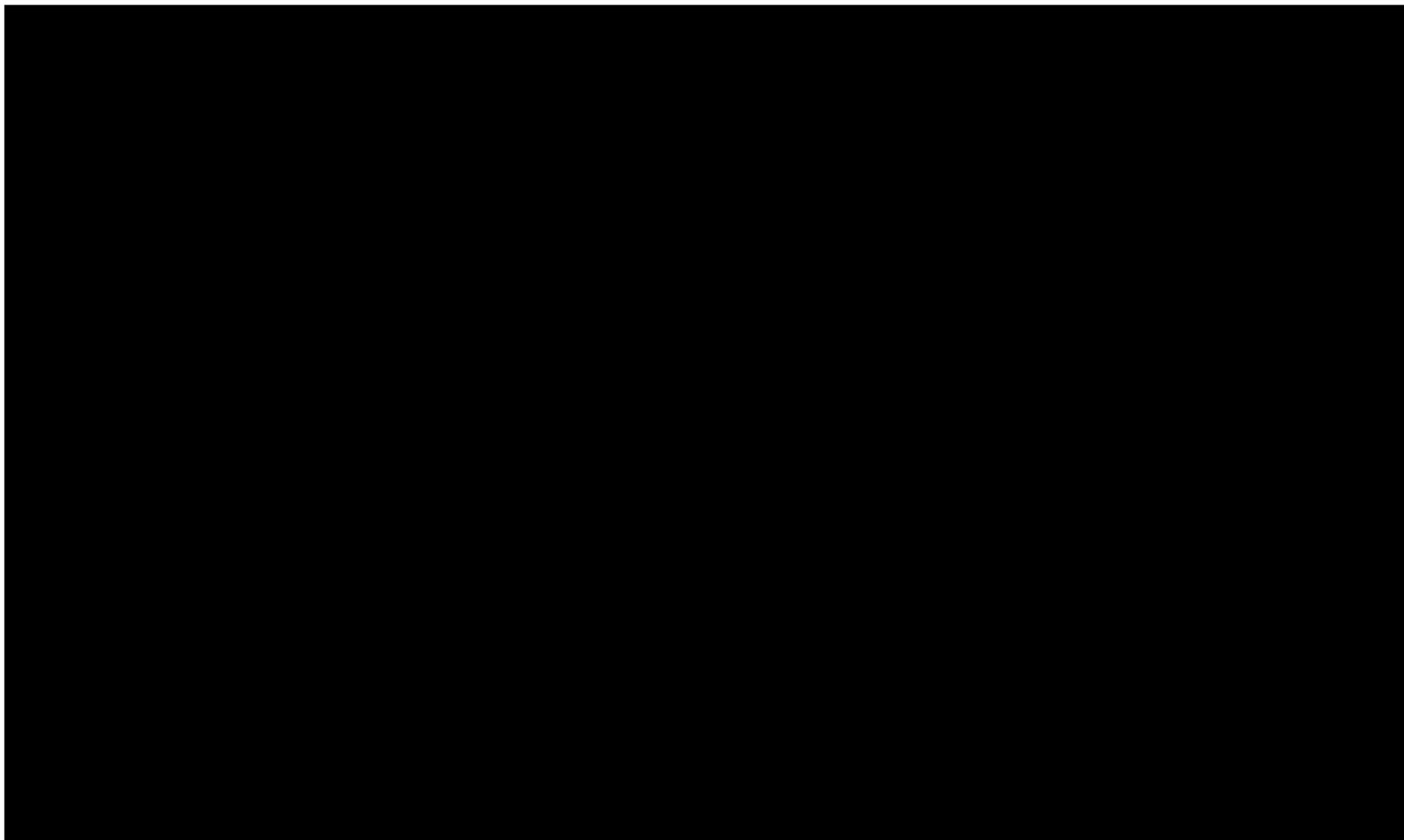
Scan to watch on your own device

https://go.gov.sg/guidetolandscapesafety

LG 24   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

Workplace Safety and Health Training

Objectives of WSH Training

So that work persons to perform their duties in manner that does not represent a safety hazard

When Should Workers be Trained?

- commencement of employment
- reassigned or transferred to a new job
- when there is new equipment, processes or procedures
- when performance does not meet safety and health requirements
- when planning must be done for non-routine or irregular tasks

LG 24   **Workplace Personal Hygiene, Safety Devices for Machinery and Equipment and Common Safety Signs**

<u>Workplace Safety and Health Training</u>

### Types of WSH Training

Workplace Safety and Health Information	Workplace Safety Awareness Training	Applying First-aid	Use of Fire-fighting Equipment
Use of PPE	Handling of Toxic and Flammable Chemicals	Handling of Spills	Disposal of Chemical and Toxic Waste
	Safe Operations of Overhead Equipment	Safe Operations of Powered Tools	

Session duration: 20 minutes

Instructional Method: Group Discussion

Learning Activity 1

Identify Personal Protective Equipment and Safety Devices

Form groups of 2-3.

1. Study the pictures at LG pg 55. Discuss the suitable PPE and safety devices to be used for the activities.

2. Record your findings and share with the class

LU3: Conduct Risk Assessment in Accordance with Regulatory and Organizational Requirements

LG 27

Learning Objectives

Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LO3 Participate in Risk Assessment activities including hazard identification, risk evaluation and risk control measures for the workplace	A3 Schedule daily work activities in accordance to organisational WSH procedures	K5 Organisational WSH procedures and Risk Assessment (RA)
	A4 Identify and monitor hazards by conducting WSH checks on work areas, safety signage, safety devices and equipment	K6 Types of hazards on work area, safety signage, safety devices and equipment.
	A5 Seek appropriate advice for monitoring hazard checks	K7 Common manufacturing hazards and risk controls

Risk Assessment at Workplace

Definition of Risk

A 'risk' means the likelihood that a hazard will cause a specific harm or injury to persons or damage to property.

Persons At Risk

At workplace, there will persons that may be affected by the works that is being carried out. They can be:

i. Persons directly involved in the work operations OR

ii. Persons not directly involved in the work operations, i.e.

−   Visitors of the workplaces

−   Members of the public

Risk Assessment at Workplace

Risk Management Process

1 **Preparation**

2 **Risk Assessment**

3 **Implementation**

4 **Record-keeping**

5 **Review**

What is Risk Management?

Assessment of risks associated with any work activity or trade. It also includes control and monitoring of such risks, as well as communicating these risks.

Risk Assessment (RA) is key to reducing workplace risks.

<u>3 Steps in Risk Assessment</u>:
1. Identify of hazards at workplace
2. Evaluate the risk levels through SEVERITY of hazards and LIKELIHOOD of occurrence
3. Implement WSH control measures

Identification of Hazards at Workplace

What is Hazards?

Anything, any source or any situation with the potential to cause bodily injury or ill-health

Identification of Hazards

1) Types of Hazards

Physical	Chemical	Mechanical	Electrical	Ergonomic	Biological

Infectious disease outbreak	Radiation	Fire and explosion	Psychosocial	Environment
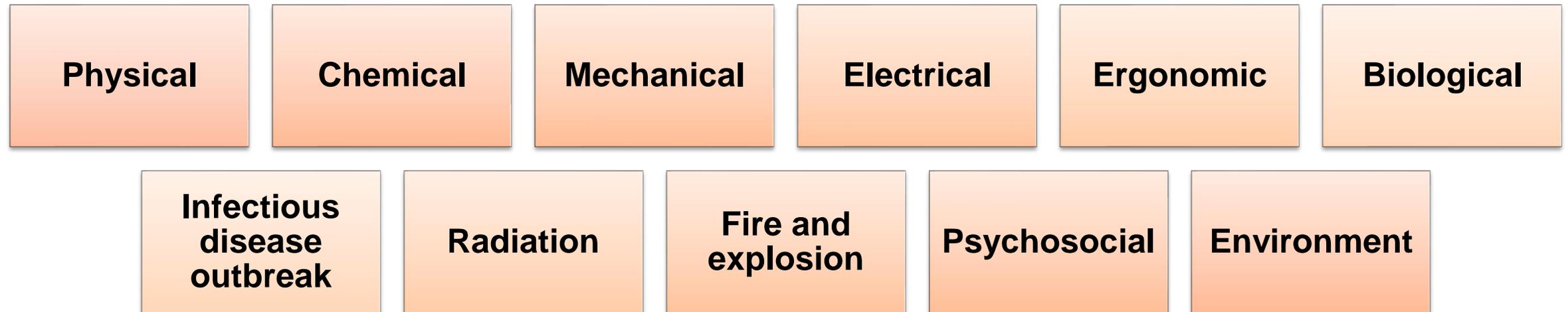
Identification of Hazards at Workplace

Identification of Hazards

2) Hazards Associated with Tools, Equipment, Materials and Machines
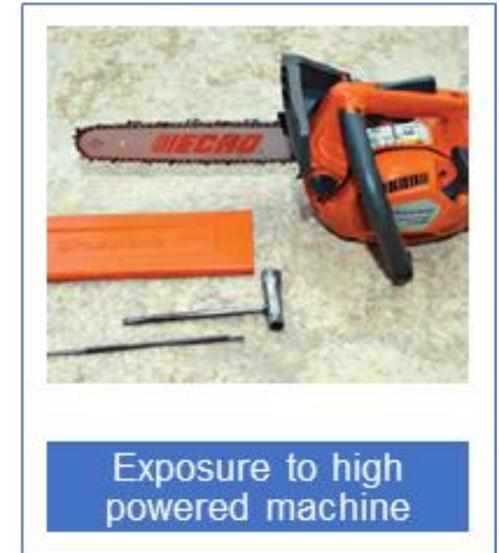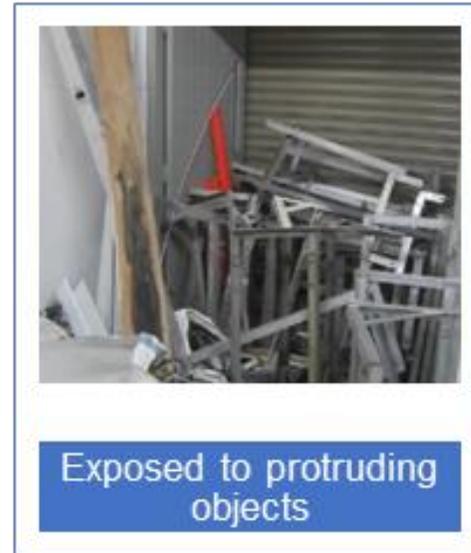
Expose to sharp or cutting edges

Exposed to nip points

Exposed to protruding objects

Exposure to high powered machine

Identification of Hazards at Workplace

Identification of Hazards

3) Hazards associated with Work Processes/Activities, Workplace Conditions and Environment

a) Hazardous Conditions

Working in Confined space

Improper storage of toxic or flammable substances

Poor Housekeeping

Working at unbarricaded floors

Slippery floors

Excessive noise

Unguarded Machines

Identification of Hazards at Workplace

Identification of Hazards

3) Hazards associated with Work Processes/Activities, Workplace Conditions and Environment

b) Hazardous Atmosphere

Lack of oxygen

Improper storage of chemicals

Poor air quality

Presence of mist, fume or dust in poor ventilated area

Identification of Hazards at Workplace

Identification of Hazards

3) Hazards associated with Work Processes/Activities, Workplace Conditions and Environment

c) Work Conditions or environment that expose person(s) to risks

Working during lightning

Working under hot sun

Working in work environment that has lack of PPE

Irregular floor surfaces

Identification of Hazards at Workplace

Identification of Hazards

3) Hazards associated with Work Processes/Activities, Workplace Conditions and Environment

c) Work Conditions or environment that expose person(s) to risks

Inclement weather
Wet weather and windy conditions can pose additional workplace risks for workers – e.g. forested area - tree fell, lightning; electrical risks slips, trips, and falls.

Wet Weather Safety - what to do during wet weather?
- Take shelter immediately in dry sheltered areas
- Not using power tools in the rain or under wet conditions
- Avoiding work at heights until the weather improves
- Looking out for slip and trip hazards, especially in wet work areas;
- Wearing the appropriate personal protective equipment (anti-fog eye protection, insulated gloves, safety boots, etc.)

Find out more about the latest weather updates at myENV app or at https://www.nea.gov.sg/myenv.

Identification of Hazards at Workplace

Identification of Hazards

3) Hazards associated with Work Processes/Activities, Workplace Conditions and Environment

d) At Risk Behaviours

An at-risk behaviour is taking a chance or ignoring an established safety policy or procedure. Unsafe practice can refer to:

- human action,
- an action causing a person unnecessary exposure to a hazard.

Identification of Hazards

At Risk Behaviours

Struck by or Struck Against Objects

Untrained or unqualified persons to person an operation

By-passing safety procedures

Inappropriate tools/equipment to carry out tasks

Taking short cuts

Disabling or bypass safety design features

54

Identification of Hazards

4) Individual and Work Organisational Factors

i) Work Organisation

Poor Work Organisation	Impact on poor work organisation leads to decrease in	Poor Work Organisation leads to increase in
• Work overload with unrealistic deadlines; • Lack of influence or control over how day-to-day work is done; • Prolonged working hours that may lead to fatigue and loss of concentration on the job; • Employees returning to work after recovery from injury/illness • Lack of training or preparation to do the job; • Ambiguity in job responsibilities or unclear expectations; • Poor communication among superiors and colleagues;	• Attention & vigilance • Reaction time • Memory recall • Decision-making ability • Ability to do complex tasks • Productivity &performance • Ability to handle stress • Ability to communicate	• Error in judgment • Tendency for risk-taking • Forgetfulness • Accident rate • Absenteeism

55

Identification of Hazards at Workplace

Identification of Hazards

4) Individual and Work Organisational Factors

ii) Individual health factors

- Older employees,

- Employees with pre-existing health conditions,

- Obese employees

Identification of Hazards

<u>Situational awareness</u>

Situational awareness is the practice of actively monitoring surroundings in the workplace and identify threats before they occur, therefore having time to react.

Examples of Situational Awareness on the job:

- Truck drivers need to watch out for hazards that could lead to an accident, such as inclement weather, unsafe drivers in surrounding lanes, or debris on the road

- Forklift operators are responsible for maintaining a reasonable speed, safely balancing the loads they're carrying, and watching for people or objects in their path

Identification of Hazards at Workplace

Identification of Hazards

Improving Situational Awareness at Workplace

Adopt a structured situational awareness framework

Practice SLAM technique:

I.   Stop and think before proceeding

II. Look around your work environment for safety hazards

III. Analyze the risks present and whether you're prepared for them

IV. Manage the situation, and if necessary, halt work until you can mitigate the risks

Identification of Hazards

<u>Improving Situational Awareness at Workplace</u>

2. Stay focused

- Limit electronic device usage

- Discourage multitasking

- Manage disruptions

3. Watch out for fatigue

- stress, heat, and overexertion, both physical and mental can also lead to fatigue.

NO PHONES

Identification of Hazards at Workplace

Identification of Hazards

<u>Improving Situational Awareness at Workplace</u>

4. Be vigilant

5. Encourage clear and thorough communication – between co workers and supervisors

6. **Use visual and auditory signaling devices**

• Flashing lights on heavy machinery when it's in operation

• Clear, loud beeping when vehicles such as trucks or forklifts are backing up

• Brightly coloured barriers, cones, or fences around non-obvious hazards like oil slicks, ice, or chemical spills

7. Reinforce situational awareness safety tips until they become second nature

LG 35

Identification of Hazards at Workplace

SG Secure

Vigilance	Cohesion	Resilience
•Stay Alert - to ever present security threats	•Stay United - as one people during peacetime and in crisis	•Stay Strong - to be resilient and bounce back quickly in a crisis.
✓ Train workforce to be alert to unusual behavior or items in surroundings ✓ Know how to report these to authorities	✓ Imbue the need to cherish and safeguard Singapore's multi-racial and multi religious social fabric	✓ Enable workforce to protect themselves and others during an attack. ✓ Strengthen preparedness through exercises

SGSECURE
STAY ALERT. STAY UNITED. STAY STRONG.

LG 35   **Identification of Hazards at Workplace**

SG Secure – Do your part

1. Download the SGSecure app.

2. Report when you see anything suspicious (Abnormal, Irregular, Strange or Unusual), e.g. unattended articles, suspicious human behaviour or vehicles. Call the Police immediately and provide information.

3. In event of a terrorist attack,

    - RUN away from danger

    - HIDE if you can't escape, hide

    - TELL inform the police

SGSECURE
STAY ALERT. STAY UNITED. STAY STRONG.

Evaluate Risk

Risk Evaluation

| 2 | Risk Assessment |

Remember the 3 steps in RA:

1. Identification of hazards associated with such workplace activities

2. Evaluate the risk levels through **SEVERITY** of hazards and **LIKELIHOOD** of occurrence

3. Implement WSH control measures to eliminate or minimum the risk

So How to Evaluate Risk?

- Risk is dependent on severity of risk and likelihood of hazards occurring

Severity X Likelihood = Risk Level

LG 36

Evaluate Risk

Risk Evaluation

Severity Rating

Level	Severity	Description
5	Catastrophic	Death, fatal diseases or multiple major injuries.
4	Major	Serious injuries or life-threatening occupational diseases (includes amputations, major fractures, multiple injuries, occupational cancers, acute poisoning, disabilities and deafness).
3	Moderate	Injury or ill-health requiring medical treatment (includes lacerations, burns, sprains, minor fractures, dermatitis and work-related upper limb disorders).
2	Minor	Injury or ill-health requiring first-aid only (includes minor cuts and bruises, irritation, ill-health with temporary discomfort).
1	Negligible	Negligible injury.

LG 36

Evaluate Risk

Risk Evaluation

2	Risk Assessment

Likelihood Rating

Level	Likelihood	Description
1	Rare	Not expected to occur but still possible.
2	Remote	Not likely to occur under normal circumstances.
3	Occasional	Possible or known to occur.
4	Frequent	Common occurrence.
5	Almost Certain	Continual or repeating experience.

Evaluate Risk

Risk Evaluation

Managing Risk

2	Risk Assessment

Risk Level	Risk Acceptability	Recommended Action
Low Risk	Acceptable	No additional risk control measures may be needed. However, frequent review may be needed to ensure that the risk level assigned is accurate and does not increase overtime.
Medium Risk	Moderately Acceptable	A careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as is practicable within a defined time period. Interim risk control measures, such as administrative controls, may be implemented. Management attention is required.
High Risk	Not Acceptable	High Risk level must be reduced to at least Medium Risk before work commences. There should not be any interim risk control measures and risk control measures should not be overly dependent on personal protective equipment or appliances. If need be, the hazard should be eliminated before work commences. Immediate management intervention is required before work commences.

Learning Activity 2

Identify Hazards and Recommend Risk Control Measures.

1. Form groups of 2-3.

2. Study the picture given.

3. Identify the hazards, risks and suggest the risk control measures to take for assigned tasks.

4. Record your findings and share with the class

LU4: Implement Risk Control

LG 37

Learning Objectives

Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LO4 Apply risk control measures according to the risk management plan and explain implemented risk control measures to stakeholders	A6 Perform risk controls	K8 Types of risk control measures
	A7 Report any abnormalities and problems encountered in complying with WSH requirements	-
	A8 Provide constructive suggestions to apply WSH practice	-

Video on Enhanced Risk Management

Scan to watch on your own device

https://go.gov.sg/enhancedrm
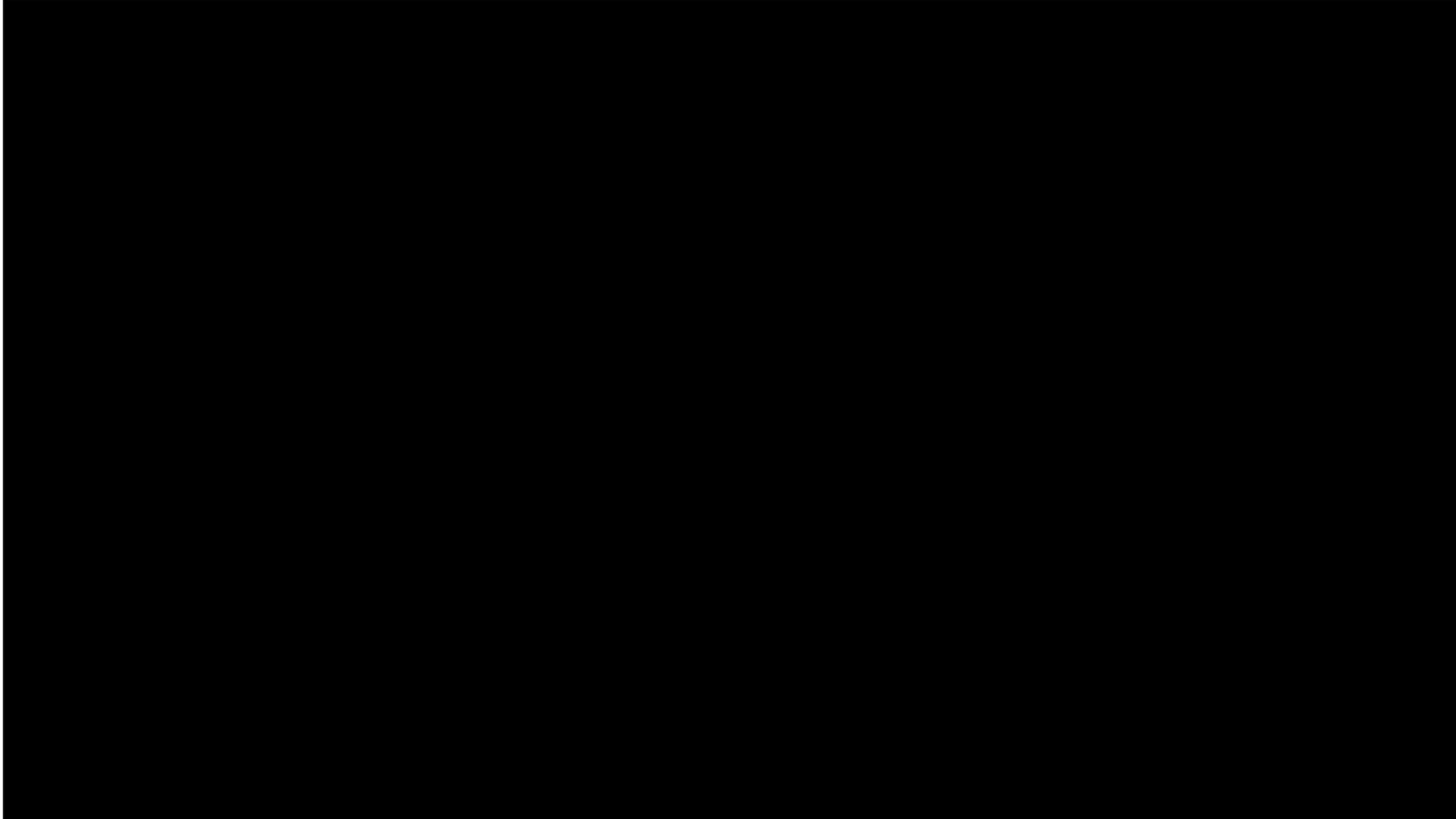
LG 38

Risk Controls

What are Risk Controls?

| 2 | Risk Assessment |

Controls are the measures put in place to decrease the likelihood or consequences from an unwanted event. They can:

- prevent the unwanted event or reduce the loss of control of the hazard

- reduce the effects

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LG 39

How to Control Risk?

The control of hazards and reduction

of risks can be done by following the

Hierarchy of Control

Most Preferred

Effectiveness of Control

Least Preferred

ELIMINATION

E.g.: Eliminate sharp protrusions in work area

SUBSTITUTION

E.g.: Substitute solvent-based paint with water-based paint

ENGINEERING CONTROL

E.g.: Use & maintain local exhaust ventilation system

ADMINISTRATIVE CONTROL

E.g. : SWPs, PTWs, training etc.

PERSONAL PROTECTIVE EQUIPMENT

E.g. : Safety boots, safety helmets, gloves etc.

LG 39   **Risk Controls**

How to Control Risk?

| 2 | Risk Assessment |

Recommend Risk Control Measures for the associated tasks according to Hierarchy of Control

Tasks	Hazards	Possible Injury	Risk	Risk Control Measures
Use of hazardous chemicals	Potential health concern	Burns	High	• Replace with less hazardous chemicals (Substitution) • Proper storage, handling of chemicals (Administrative control) • Use of suitable personal protective equipment (PPE)
Carry of heavy items	Potential backache due to improper posture or repetitive movement	Injury to back	Medium	• Use of trolley (Engineering control) • Buddy system (Administrative control)
Using ladder to access high area	Potential falling from the ladder due to broken rung	Fall from height	Medium	• Use of mobile elevated work platform (Engineering control) • Check the conditions of ladder before using (Administrative control)
Using of chainsaw for tree pruning	Potential noise induced deafness due to exposure of excessive noise	Deafness	High	• Use of proper hearing protection (PPE)

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Risk Controls

Implementation of Risk Control

Obtain Employer / Management Approval

Responsibility of Manager :

- approve RA form

- prepare an action plan to implement the measures

- implement the recommended risk control measures
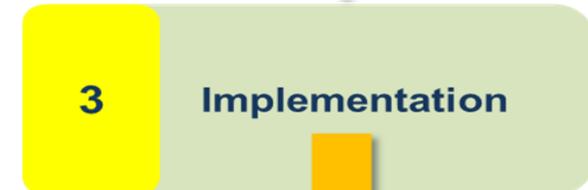
- monitor the action plan

LG 40

Communicate the Hazards and their Controls

.

Employer/Manager to Inform All Persons Exposed to the Risk about :

- The nature of risks

- Any measures / safe work procedures implemented

- Means to minimise / eliminate the risks
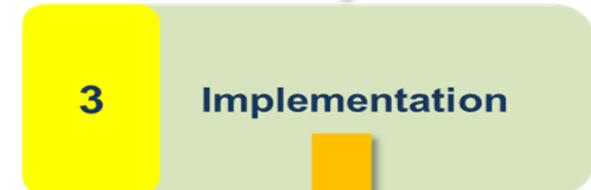

3   Implementation

Risk Communication

Communicate the Hazards and their Controls

Who to inform?

All Stakeholders, including:

1. Persons performing the work

2. Persons exposed to the risks

3. Supervisors

4. Management staff

5. Customers

6. Contractors/suppliers

7. Visitors

LG 40

Risk Communication

Communication Channels

3 — Implementation

Toolbox meeting	**Monthly WSH Meeting**	**WSH Committee Meeting**

WSH Safety Inspection	**WSH Behaviour Based Observation**
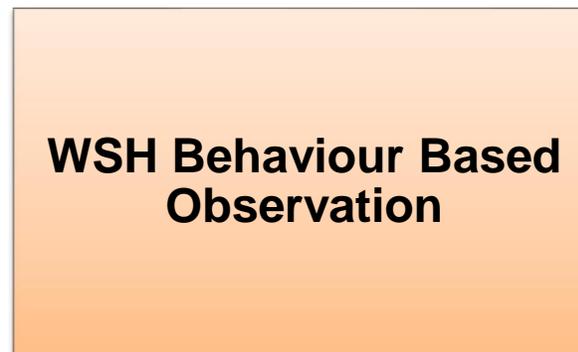
LG 41

Reporting Unsafe condition or Hazards at Workplace

˙Take note of the following and report to supervisor:

- Date and time

- Nature of abnormality / problem

- Location

- Equipment / personnel involved

3 Implementation

LG 41

Typical Flowchart for Reporting of WSH Issues

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3	Implementation

All personnel to be informed of their duty to report all
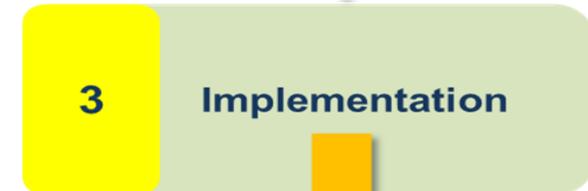unsafe conditions or practices to their supervisor

↓

Inform
Supervisor

↓

Supervisor, and other stakeholders to investigate and
implement control measures

↓

Supervisor report finding and measures to management

↓

Supervisor monitor, review and document risk control
measures.
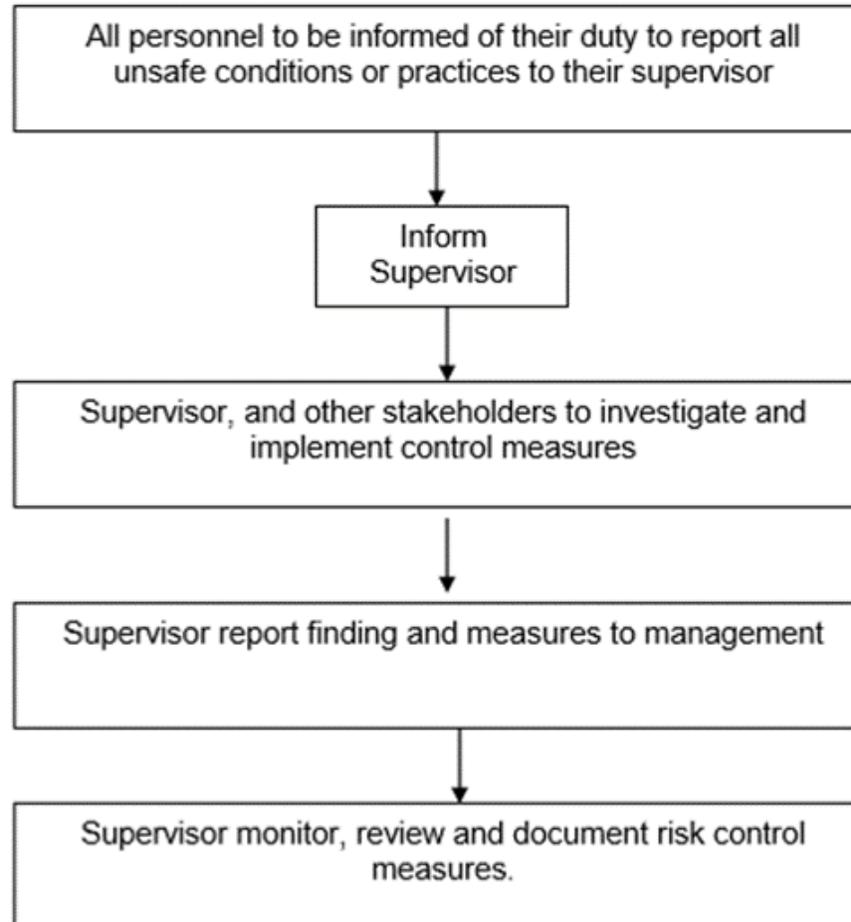
LG 41

Record Keeping

Risk Assessment records must be available upon request

Employer/Manager are to:

- Ensure RA records to be readily available upon request

- RA records include:

- RA forms

- RA Register

- Risk control measures records

- Safe work procedures

- Training records

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LG 59: Appendix C

Learning Activity 3

Report WSH Issues.

1. Form groups of 2-3.

2. Assign the role of supervisor, worker and observer in the group.

3. Read the scenario on LG pg 58 and discuss the unsafe conditions and unsafe practices.

4. Record your findings and share with the class

LU5: Coordinate Workplace Emergency Response Procedures

Learning Objectives

Learning Outcomes (LO)	Abilities (A)	Knowledge (K)
LO5 Demonstrate the proper emergency procedures when dealing with emergencies at workplace	A10 Follow organisational emergency and evacuation procedures in the event of emergencies or drills	-

LG 42

Workplace Emergency Response Procedures

What is an Emergency?

A situation that poses an immediate risk to health, life, property, or environment.

All employees and the management are to comply with the WSH Act and its subsidiary legislations. Workers are required to respond to workplace emergencies by following:

- emergency procedures

- instructions from authorized persons;

- and participating in emergency exercises

Workplace Emergency Response Procedures

Relevant Regulatory Bodies for Emergency Guidelines

Ministry of Manpower (MOM)	National Environment Agency (NEA)	Singapore Civil Defence Force (SCDF)
• Workplace Safety and Health Act • WSH (General Provisions) Regulations • WSH (Risk Management) Regulations • WSH (Incident Reporting) Regulations • WSH (First Aid) Regulations.	• Environmental Protection and Management Act	• Fire Safety Act • Fire Safety (Building Fire Safety) Regulations (Regulations 24) • Guidelines for Emergency Response Plan, SCDF • Maintenance of firefighting and fire protection systems, SCDF

Role and Responsibilities of General Worker in Emergency Situation

In event of an emergency you can:

- Check if colleague / buddy is safe and is aware of the emergency

- Leave the workplace in an orderly manner via the nearest exit

- Evacuate to the designated evacuation assembly area

- Respond to roll-call when name is called

- Assist in the emergency (if qualified)

- Remember and provide information as best as possible

Remember to always follow organizational procedures to handle different emergencies.
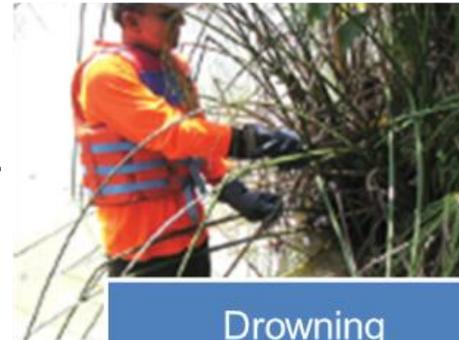
Workplace Emergency Response Procedures

Types of Emergencies at Workplace

Transportation Incident

Crush Injuries

Drowning

Faint/Collapse

Heat Stroke

Fall from height

Struck by object/equipment

Stung by Insects

Non-Emergency Incidents
- Near miss, close call
- Small cut / bruises due to slips & trips

React to Emergencies at the Workplace

Organisational Procedures When Responding to Emergencies

Every workplace has **emergency response plans** and designated **emergency response teams.**
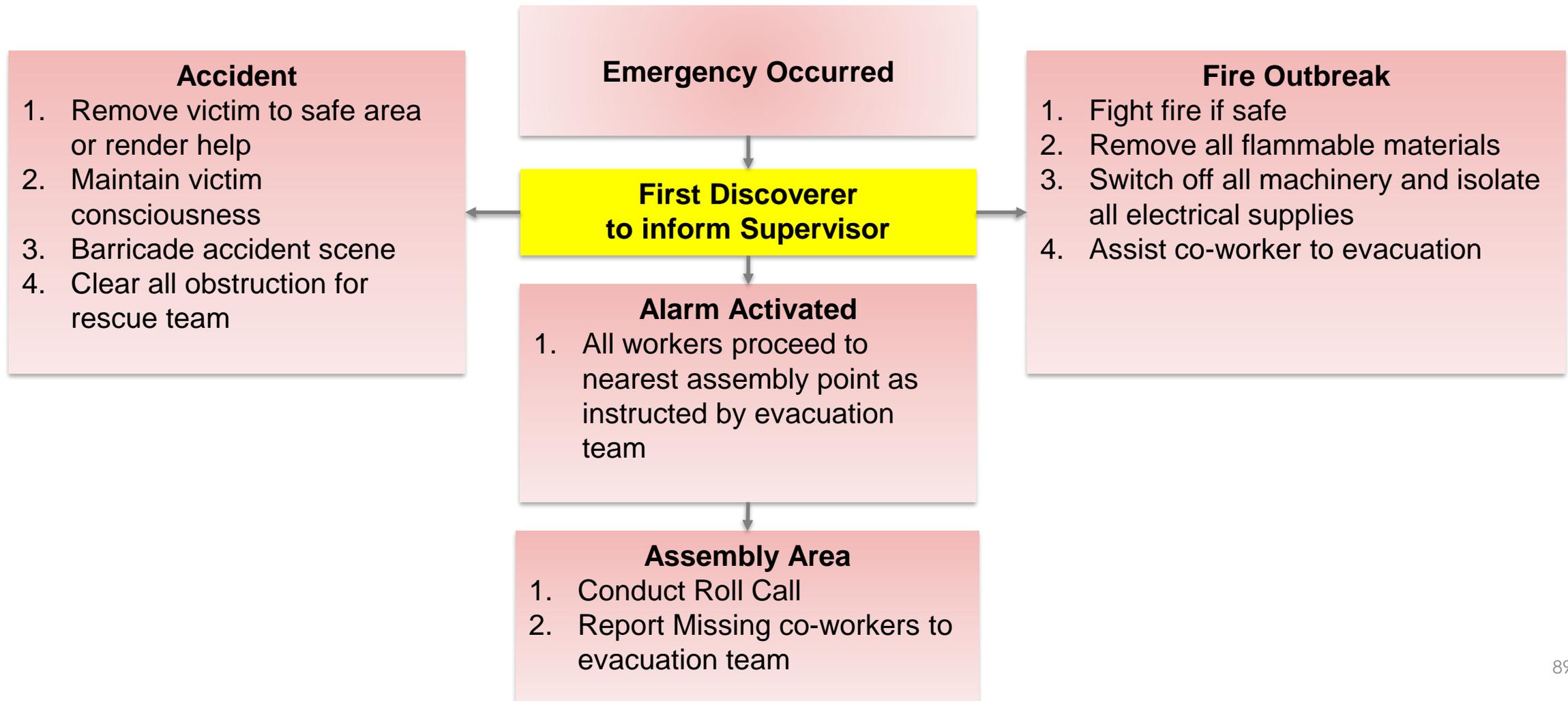
Emergency Response Team will:

- assess and manage emergencies,

- mobilise resources to deal with the situation

- conduct rescue and evacuation,

- do crowd control and roll calls at assembly areas

- coordinate with external emergency response teams

- present reports;

- secure the area

LG 44

Flowchart for Emergency Response

Emergency Occurred

First Discoverer to inform Supervisor

Accident
1. Remove victim to safe area or render help
2. Maintain victim consciousness
3. Barricade accident scene
4. Clear all obstruction for rescue team

Fire Outbreak
1. Fight fire if safe
2. Remove all flammable materials
3. Switch off all machinery and isolate all electrical supplies
4. Assist co-worker to evacuation

Alarm Activated
1. All workers proceed to nearest assembly point as instructed by evacuation team

Assembly Area
1. Conduct Roll Call
2. Report Missing co-workers to evacuation team

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React to Emergencies at the Workplace

Reporting Workplace Emergencies to Supervisors

- **Type of emergency** - fall from height, fire

- **Personnel involved** - Who, how many people

- **Injuries / fatalities sustained** - burns, broken limbs, head injuries

- **Hazard involved** - unstable structure, release of toxic gas

- **Location** - Place of the incident

- Brief description of the incident

React to Emergencies at the Workplace

Activating Emergency Services

Main police stations: 999

Fire or emergency ambulance: Call 995

Nonemergency ambulances: (1777)

React to Emergencies at the Workplace

Activating Emergency Services

Circumstances to call 999:

When immediate police assistance is required, e.g:
- A crime is in progress
- Someone suspected of committing a crime is close by, or you know where the person is.

999 could also be called when:
- someone is seriously injured or in danger
- When you see suspicious characters, incidents or parcels unattended at public areas

React to Emergencies at the Workplace

Activating Emergency Services

Circumstances to call 995:

- Unconsciousness,

- Difficulty in breathing or choking,

- Severe chest pains

- Deep cuts or wounds with profuse bleeding

- Dislocated or broken bones

- Head injuries followed by drowsiness, vomiting, bleeding (from the ears, nose or mouth) or unusual behaviour

React to Emergencies at the Workplace

Activating Emergency Services

Circumstances to call 1777:

Non-emergency medical cases. These are cases where treatment can be delayed.

- slight abdominal pains, slight fever, coughs and colds

- Aches and pains which have been present for a long time

- Minor bruises, slight cuts or broken skin

- Slight burns or scalds

- Mild vomiting, diarrhoea

LG 46

React to Emergencies at the Workplace

Resources Required for Workplace Emergency Response

a) Personal Protective Equipment

b) Fire Emergency – for five classes of fire: A, B, C, D, and K.

c) Barricades and warning signs

d) First-aid Kits

e) Chemical Spill Kit

f) Biological Hazard Protective Suit

React to Emergencies at the Workplace

Resources Required for Workplace Emergency Response

a) Personal Protective Equipment

PPE: Respiratory protector

Function: prevent inhalation of hazardous emission of gas, bacteria, viruses or dust

PPE: Eye Protection

Function: protect against incidental splashes to face and eyes.

PPE: Hand Protection

Function: protect against burns or exposure to e.g. hot surfaces, blood or bodily fluids.

PPE: Foot Protection

Function: protect against incidental struck by heavy objects and slip and fall due to wet condition.

PPE: Head Protection

Function: protect head against falling objects or knock against objects

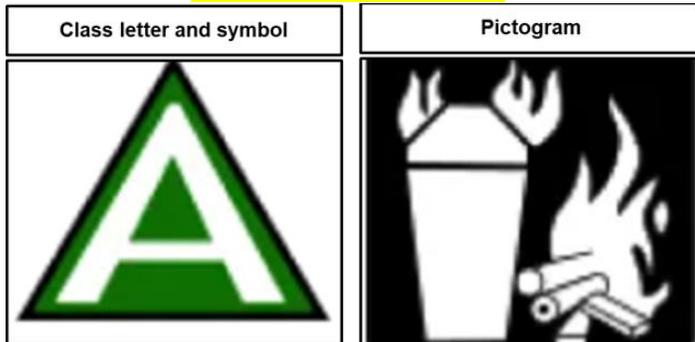Note: Depending on the nature of the emergency, different types of PPE may be required.

LG 47

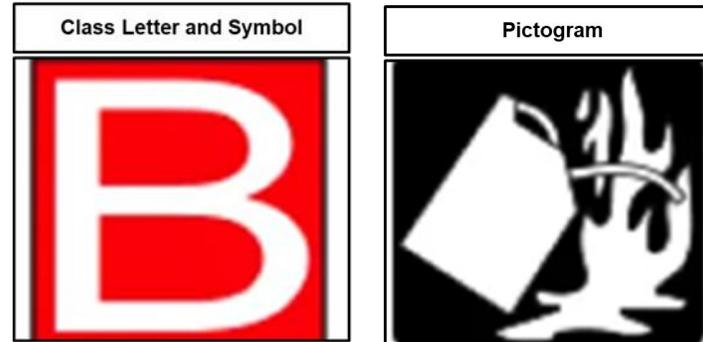**React to Emergencies at the Workplace**

Resources Required for Workplace Emergency Response

b) Fire Emergency
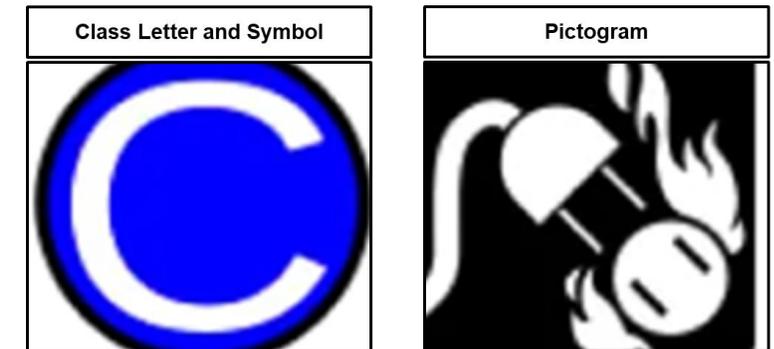

Class A Fire
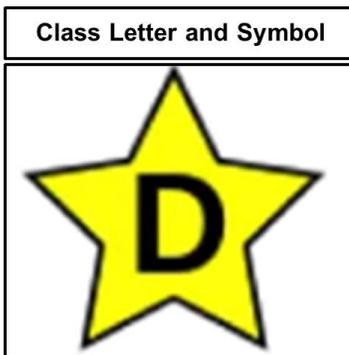
Class B Fire

Class C Fire

Class D Fire

Class K Fire
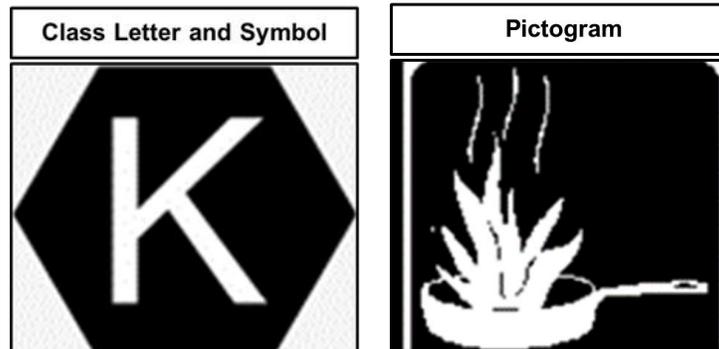
Note: Only to be used by trained personnel

(Source: https://opentextbc.ca/workplacesafety/chapter/emergency-procedures/)

React to Emergencies at the Workplace

Resources Required for Workplace Emergency Response

b) Fire Emergency

Other Equipment to Manage Fire

Fire Hose

Fire Alarm System

LIFT THEN PULL HANDLE

PULL FOR FIRE

Smoke Alarm System

(Source: https://opentextbc.ca/workplacesafety/chapter/emergency-procedures/)

React to Emergencies at the Workplace

Resources Required for Workplace Emergency Response

c) Barricades and Warning Signs

Barricades are installed to prevent people from entering an area that may be hazardous or high risky activity in operation.

To inform responders of the:
- Personal protective equipment required (e.g., respirators).
- Hazardous substances

(Source: https://opentextbc.ca/workplacesafety/chapter/emergency-procedures/)

Resources Required for Workplace Emergency Response

d) First-aid Kits

First aid box is to be provided where there are more than 25 workers

Items in First-aid box
- Individual wrapped sterile adhesives dressings
- Crepe bandages Absorbent gauze Hypoallergenic gauze Triangular bandages Scissors
- Safety pins
- Disposable gloves
- Eye shield
- Eye pads
- Resuscitation mask
- Sterile water/saline Torchlight

(Source: https://opentextbc.ca/workplacesafety/chapter/emergency-procedures/)

React to Emergencies at the Workplace

Resources Required for Workplace Emergency Response

e) Chemical Spill Kit

f)   Biological Hazard Protective Suit

(Source: https://opentextbc.ca/workplacesafety/chapter/emergency-procedures/)

LG 49

Responding to Emergency

What do you do?

In Event of **Fire or Explosion**:

1. Combat the fire if safe to do so. Make sure you have trained to use the fire extinguishers.
2. Raise the alarm by breaking the glass call point to activate the fire alarm.
3. Dial the in-house emergency number.
4. Escape route should be kept open should the fire escalate.

When you hear the **fire alarm**,

1. Evacuate using fire emergency exits
2. Proceed to the assembly area.
3. Wait for Role Call and Instructions of the Incident Site Commander
4. Find out the evacuation plan
5. Know where the assembly area is

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React to Emergencies at the Workplace

Responding to Emergency

What do you do?

If there is **collapse of any structures or equipment** at your site,

1. Stop all work and switch off machines and equipment immediately.
2. Vacate the workplace and gather at the assembly area.
3. Do not run or carry any portable tools during evacuation
.

If you are in contact or **close contact with chemical leaks or spills**,

1. Take a thorough shower.
2. Seek medical treatment immediately.
3. Place exposed clothing and shoes in tightly sealed containers.
4. Report to supervisor

LG 50

Responding to Emergency

What do you do?

If your fellow colleagues **are injured and unconscious**,

1. Dial in-house emergency number.
2. Provide basic information which include:
   - location
   - Person injured
   - Condition of the person injured.
3. Follow instructions given by person manning the emergency number.

Helping Someone with **Heat Stroke** - call 995
While waiting for the ambulance, you should:

1. Move the person to a shady or cooler area;
2. Loosen or remove the person's clothing;
3. Apply cool water and fan on the person;
4. Place ice packs under the person's armpits and groin area

React to Emergencies at the Workplace

Responding to Emergency

What do you do?

For accidents involving **death/fatality**,

1. Inform supervisor or security personnel immediately

2. Body of the deceased including immediate surroundings not to be moved or disturbed in any way.
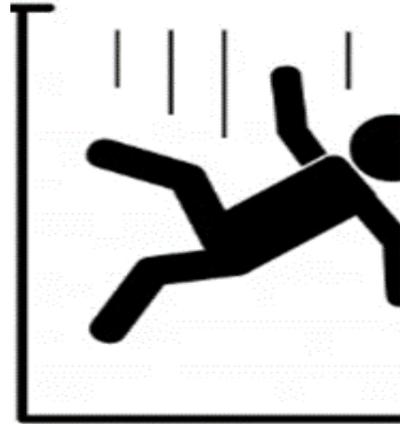
For accidents involving **electrocution**,

1. On finding a person in electric shock raise the alarm by calling for help from colleagues.

2. Switch off the power if possible. Push the person away from the conductor using a wooden object.

3. Call for ambulance

LG 51

Responding to Emergency

What do you do?

For accidents involving **falls**,
1. Contacting 999 or radioing for help immediately.
2. Stop work.
3. Unless casualty is in a position which exposes him to further danger, do not attempt to move a patient with a suspected broken bones or injured joints.
4. Wait for medical attention to arrive.

Struck by lightning
1. Call 999 and get medical care immediately.
2. Provide CPR if necessary by trained person. Unlike electrocution, you are in no danger helping a lightning victim.

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Learning Activity 4

React to Emergencies

1. Form groups of 2-3.

2. Refer to LG Appendix D. Each group will be given ONE emergency situation.

3. Discuss the procedure in responding the emergency for the emergency situations given and record your findings.

4. For the last 10 minutes, each group will present the information compiled to the class.

LG 52   **Infectious Disease Outbreak and Control**

What are Infectious Diseases?

Infectious diseases are illnesses caused by harmful agents (pathogens) that get into your body.

Common causes are viruses, bacteria, fungi and parasites.

Common Types of Infectious Diseases

- Flu (influenza).

- COVID-19.

- Stomach flu (gastroenteritis).

- Strep throat.

- Tuberculosis.

LG 52

How Do Infectious Diseases Spread?

- person to person when you cough or sneeze.

- surfaces like doorknobs, phones and countertops.

- contact with animal with an infectious disease.

- contaminated or improperly prepared food or water.

- working with contaminated soil or sand (like gardening).

.

Infectious Disease Outbreak and Control

Preventing the Spread of Infectious Disease at Workplace

- Maintain environmental cleanliness to minimise transmission of virus

- Employees to maintain high standards of personal hygiene.

- Employees who are not feeling well to seek medical attention.

- Employees who might be at higher risk of severe illness and complications due to infectious disease to take appropriate steps to enable them to work, while minimizing their risk of infection at the workplace.

- Precautionary measures such as staggering working hours.

- Urging employees on medical leave not to return to the workplace.

- Understanding the types of alert codes stipulated by Ministry of Health..

LG 53

Infectious Disease Outbreak and Control

Understanding DORSCON Flu Alert Codes

Green	No novel influenza virus outbreaks
Yellow	Inefficient human-to-human transmissions of influenza caused by a novel virus
Orange	Human-to-human transmission
Red	Wide spread infection. The virus is fully transmissible between humans
Black	High rates of severe disease and deaths

Refer to MOH website: https://www.moh.gov.sg/diseases-updates/being-prepared-for-a-pandemic

Infectious Disease Outbreak and Control

Responsibilities of General Worker

- Seek medical attention when unwell or if you experience flu-like symptoms

- If your suspect someone has Avian-Flu, take him/her to the nearest doctor.

- If you developed flu-like symptoms, stay at home and call a doctor

- Practice good hygiene in workplace which includes:

    1. Use PPE as appropriate

    2. Hand hygiene

    3. wear surgical mask if unwell

    4. conduct self-temperature check

    5. Maintain contacts tracing log

    6. Follow chain of command in reporting suspected cases at workplace

    7. Conduct self-temperature check

    8. Maintain designated isolation/empty room for suspected infectious disease case

    9. Maintain anti-viral, disinfectants and PPE stockpile as appropriate

Assessment Requirements

1. Oral Questioning (60mins) - Open Book. Candidates can refer to the learner guide (CUGE copy only)

2. Role Play (60mins)