

# Welcome

Hazards and Risk Control, and Policy  
Management

**LNS-WSH-2087-1.1**

## Safety Briefing



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

Make note of the following:

- Exit door locations
- Location of first aid equipment
- Location of fire extinguishers and fire alarms
- Assembly area

- **Learning Outcome 1:** Follow Safe Work Practices and Risk Control Procedures
- **Learning Outcome 2:** Participate in workplace safety and health management activities
- **Learning Outcome 3:** Follow workplace emergency response procedures

## **Learning Outcome 1: Follow Safe Work Practices and Risk Control Procedures**

- Workplace Safety and Health Act
- Personal Hygiene at Workplace
- Personal Protective Equipment
- Workplace Equipment and Safety Devices
- Safety Signs and Instructions

## Performance Criteria

PC 1.1: Practise **personal hygiene** at workplace in accordance with the organisational procedures

PC 1.2: Use and maintain **personal protective equipment** required for the work in accordance with the organisational procedures

PC 1.3: Use and maintain **workplace equipment and safety devices** in accordance with organisational procedures or manufacturer's instructions

PC 1.4: Follow **safety signs and instructions** in workplace

PC 1.5: Follow **workplace risk control measures** in accordance with the organisational procedures

PC 1.6: Report **workplace safety and health issues** to appropriate person in accordance with the organisational procedures and Workplace Safety and Health Act

## Underpinning Knowledge

UK1.1: The worker's responsibility stipulated under the Workplace Safety and Health Act

UK1.2: The role and responsibility of Workplace Safety and Health Committee stipulated under the Workplace Safety and Health [\(Workplace Safety and Health Committees\)](#) Regulations

UK1.3: Personal hygiene

UK1.4: Types of personal protective equipment

UK1.5: Important of safety signs and their purposes

UK1.6: Types of safety signs

UK1.7: Types of safety devices

UK1.8: Risk associated with assigned tasks

UK1.9: Workplace risk control measures

UK1.10: Types of workplace safety and health issues

UK1.11: Workplace procedures for reporting WSH issues

## **Workplace Safety and Health Act (UK1.1, UK1.2)**

The Workplace Safety and Health Act (WSHA) came into effect on 1 March 2006, and by September 2011, it covers all workplaces.

The WSHA aims to cultivate good safety habits in all individuals to engender a strong safety culture in our workplace, and emphasizes the importance of managing workplace safety and health proactively.

## **Workplace Safety and Health Act (UK1.1, UK1.2)**

### **3 Guiding Principles to prevent accident:**

- Reduce risk at source
- Greater industry ownership
- Higher penalty



## Workplace Safety and Health Act (UK1.1, UK1.2)

### Penalties under WSH Act

Category of offender	Maximum fine	Maximum imprisonment	Conditions
Individual persons	S\$200,000	2 years	Either or both
Corporate body	S\$500,000		
Workers who fail to use PPE or misuse any safety appliances	1st conviction – S\$1,000 2nd conviction – S\$2,000		
Repeat offenders for a 2nd or subsequent conviction for the same offences that cause the death of another person. <ul style="list-style-type: none"> <li>• Individual</li> <li>• Corporate body</li> </ul>	<ul style="list-style-type: none"> <li>• S\$400,000</li> <li>• S\$1,000,000</li> </ul>	2 years	Either or both

## Workplace Safety and Health Act (UK1.1, UK1.2)

# Construction worker dies from heatstroke; employer fined

Today 10 Dec 2010

SINGAPORE — A construction worker collapsed and died in April last year, only two days after he arrived here from China to work.

Mr Tian Wei, of Liaoning in north-eastern China where the average temperature is between 6° and 11°C, succumbed to heatstroke after working in the sun for five hours in a yard in Kranji Loop.

Mr Tian's employer, Cheang Heong Lan, the sole proprietor of

Chin Kong Trading Construction, was yesterday fined \$20,000 for her failure as an employer to ensure workplace safety and health measures that contributed to Mr Tian's death on April 25 last year. The average temperature that day was 32.9°C.

The Ministry of Manpower said in a statement that Cheang is the first employer to be fined under the Workplace Safety and Health Act for such an offence. She could have been fined up to

\$200,000 or jailed up to two years or both.

Mr Tian had not undergone any acclimatisation before commencing work, the court heard.

Ms Cheang's company did not have an acclimatisation programme, which would require, among other measures, new workers to be acclimatised over at least one week by gradually increasing the workload and time spent in the hot environment.

Mr Ho Siong Hin, MOM's

commissioner for workplace safety and health, said the employer "should have been aware and more mindful of the effects of heat exhaustion on workers, especially a worker who had come from a much colder climate than ours".

### Two more youth arrested in Downtown East case

Police have arrested two

## **Workplace Safety and Health Act (UK1.1, UK1.2)**

### **Roles and responsibilities of Employers**

- Ensuring that workers comply with WSHA
- Providing safety instruction and job training
- Ensuring that workers have the right equipment and safety gear
- Ensuring that workers are not exposed to health and safety hazards

## **Workplace Safety and Health Act (UK1.1, UK1.2)**

### **Roles and responsibilities of Employers**

- Following proper procedures in case of injury
- Identifying hazards and obtaining information about them
- Conducting accident investigations and workplace inspections
- Making recommendations to resolve safety and health concerns

## **Workplace Safety and Health Act (UK1.1, UK1.2)**

### **Duties of persons at work**

- You **must adhere to safe working procedures**
- You **must not endanger yourself or others** working around you through unsafe behaviour
- You **should not tamper with any safety device** or undertake any wilful or reckless acts
- You **should correctly use any personal protective equipment provide** at work.

## Workplace Safety and Health Act (UK1.1, UK1.2)

### Roles and responsibilities of Workplace Safety & Health Committee

- 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



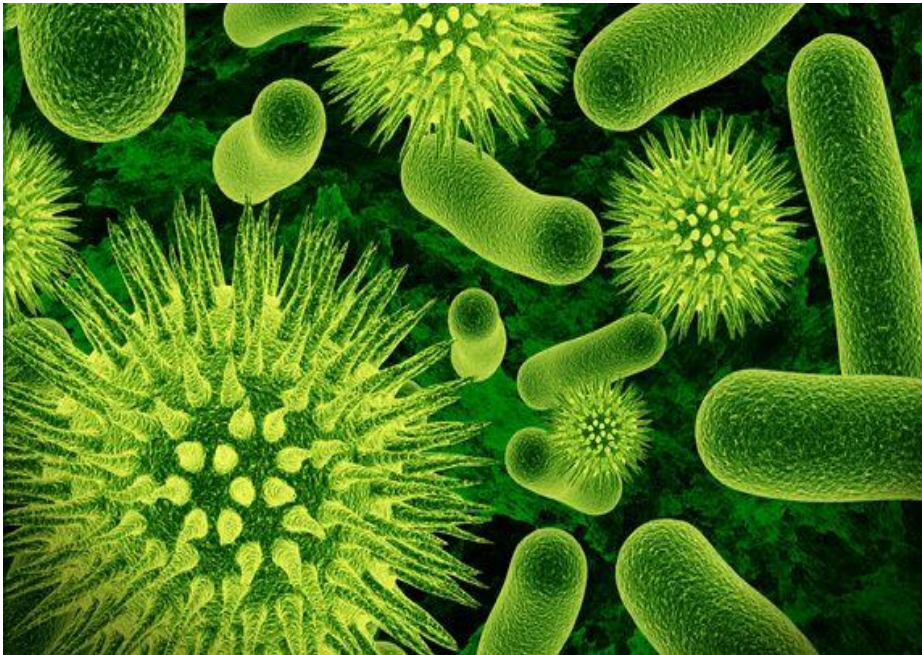
## Workplace Safety and Health Act (UK1.1, UK1.2)

### Roles and responsibilities of Workplace Safety & Health Committee

- **Recommend corrective actions** & monitor results of implemented solutions
- **Promote co-operation** between management & employees
- **Assist in organizing activities** to promote safe conduct of work



## **Personal Hygiene at workplace (PC1.1, UK1.3, UK3.6)**



*Source: [www.pinterest.com](http://www.pinterest.com)*

### **Importance of Practising Personal Hygiene**

- To get rid of unwanted germs that causes infection, illness and odours.
- To prevent the spread of infectious disease



## Personal Hygiene at workplace (PC1.1, UK1.3, UK3.6)

### Methods of washing hands thoroughly with soap and water

1. Wet hands with warm running water, apply soap and lather well.  
用温水冲湿双手，涂抹肥皂，搓揉至产生泡沫。

2. Rub each area together for at least 15 seconds.  
每个部位搓揉至少15秒钟。



The diagram shows seven circular illustrations of handwashing techniques. Each illustration is labeled with English and Chinese text. The labels are: Palm to palm (掌心对掌心), Between fingers (指缝间), Back of hands (手背), Base of thumbs (拇指指尖), Back of fingers (指背), Fingernails (指甲), and Wrists (手腕).

3. Rinse hands and dry thoroughly with a paper towel.  
冲洗干净，用纸巾彻底抹干。

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Health  
Promotion  
Board

## **Personal Hygiene at workplace (PC1.1, UK1.3, UK3.6)**

### **When to Wash Your Hands**

- After blowing/wiping the nose, coughing, sneezing and touching your hair
- After using the restroom
- Prior to eating meals or snacks
- Whenever hands are soiled
- Before putting on clean gloves
- Before and after contact with chemicals



## **Personal Hygiene at workplace (PC1.1, UK1.3, UK3.6)**

- Keeping finger nails clean
- Wearing 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

## **Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)**

When using personal protective equipment (PPE), a worker should:

- be able to recognize the hazards associated with the work
- be familiar with the best PPE available
- know the procedures for using the PPE (correct ways of putting on the equipment - choose the correct type of equipment )
- check if the PPE is in a good condition

## **Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)**

Maintaining the personal protective equipment, the followings should be observed:

- keep equipment stock rooms neat, clean, and orderly
- keep stocks of various items of equipment
- replace worn-out equipment

## Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)

<b>PPE Name</b>	<b>Part of Body protection</b>
Overalls	Whole body protection
Helmet / Hard hat	Head protection
Goggles	Eye protection
Ear Plug / Ear Muffler	Ear Protection
Gloves	Hand Protection
Safety boots / safety shoes	Foot protection
Safety belt / Restraint	Fall protection
Respirator	Health (inhalation of toxic fumes)

## Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)

**Overall** – protective clothing during work to protect against minor cuts by tree branches, shrubs or sharp tools.



**Chainsaw chaps**

**High visibility vest** – has highly reflective properties to increase the visibility of workers.



## **Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)**

**Eye/Face Protection** – protect face and eyes from splash of liquid chemicals or from flying objects.



**Foot Protection** – Protect foot from falling chemical or liquid spills, piercing objects and electrical hazards.





## Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)

**Head Protection** – Protects head from falling objects, striking against low hanging objects.



**Hand Protection** – Protects hands from chemical contact.



## Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)

**Hearing Protection** – Protect hearing from noise levels.



**Respiratory Protection** – Protection breathing in vapors, mists, particulates, and gases from chemicals or biological waste.



## **Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)**

### **Fall protection**

- Provides protection from person falling from height.
- Example, Safety belt or safety harness are personal fall protection equipment.
- All fall protection system shall be checked daily before usage. Ensure the buckles, stitching, lanyards are in good condition.

## Personal Protective Equipment (PC1.2, PC2.4, UK1.4, UK2.4)



### Upper Body PPE and required Climbing Equipment:

1. Approved helmet with chinstrap
2. "Class 5" ear protection
3. Safety glasses or visors
4. High visibility clothing
5. Climbing rope (minimum 22kN tensile strength)

### Lower body PPE and required Climbing Equipment:

6. Steel toe safety boots
7. Cut resistant chainsaw trousers
8. Work positioning harness
9. Lanyard (secondary point of attachment)

Source: WSH Guideline Landscape  
and Horticulture management

## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Safety Devices

- To protect operators from injury
- Maintenance is important
- Frequent inspection and replace



Safety guard of ride-on  
mower must be in-place  
before operating

## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Types of Safety Devices

- Fixed guard
- Safety covers



## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Types of Safety Devices

- Safety barriers or railing
  - Plastic mesh fence
  - Plastic barriers
  - Traffic cone
  - Roof top railing



## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Types of Safety Devices

- Safety signage
- Truck mounted attenuators
- Blinking beacon lights





## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Types of Safety Devices

- Emergency button
- Lock out and tag out devices



## Workplace Equipment and Safety Devices (PC1.3, PC2.5, UK1.7, UK2.5)

### Types of Safety Devices

- Interlocks
- Residual current circuit breakers
- Circuit protective devices



## **Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)**

### **Importance of safety signs and their purposes**

Safety signs warn workers of the likely hazards or precautionary measures to observe.

Hence, it is important for workers to know the safety signs commonly located at their workplace.

## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Types of safety signs

#### Regulatory - Prohibition (Colour: Red)

A prohibition sign shall be circular in shape and has a red circular band and a red cross bar.



## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Regulatory - Mandatory (Colour: Blue)

A mandatory sign shall be circular in shape, has blue as its background colour and white for the text and symbol



## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Regulatory - Mandatory (Colour: Blue)

A mandatory sign shall be circular in shape, has blue as its background colour and white for the text and symbol



Wear hand protection



Wear head protection



Pedestrians must use this route



Wear respirator



Sound horn



Wear protective clothing

## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Hazardous / Warning (Colour: Yellow)

A warning sign shall be triangular in shape with a black triangle band as its perimeter, yellow as its background colour with a black symbol or text or both.



Slippery surface



Electric



Hazard



Biological material



Falling objects



Ionising radiation

## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Globally Harmonised System (GHS)

A system for chemical classification and hazard communication



Flammable substances



Acute toxicity



Corrosives



Respiratory sensitizer



Oxidizing substance



Environmental toxicity



## Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)

### Information - Fire Safety / Emergency sign's



## **Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)**



Warn road users of the work zone ahead. Convey the warning that road users should be more cautious. Usually the 1<sup>st</sup> warning sign to be seen.



Warn road users of the works ahead by the relevant department. Usually the 2<sup>nd</sup> warning sign to be seen.

## **Safety Signs and Instructions (PC1.4, UK1.5, UK1.6)**



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## Learning Activity 1

### ***Identify the personal protective equipment and safety devices***

#### **Session duration**

45 minutes

#### **Instruction**

- This activity will take place in a park or garden.
- Once at the designated location, learners are to form groups of 3-4 learners per group.
- Learners will be shown various activities commonly encountered in the landscape industry.
- Observe the activities from a safe distance.
- In your groups, discuss the suitable PPE and safety devices to be used for the activities shown and record your findings.
- Do not wander off without informing the trainer.
- For the last 10mins, each group will present the information compiled to the class
- Ask questions and seek clarification of any points that are unclear.

## **Learning Outcome 2: Participate in Workplace Safety and Health Management Activities**

- WSH (Risk Management) Regulations 2006
- Workplace Procedures and Practices
- Potential Hazards and Risks associated within the Work Area
- Follow Workplace Risk Control Measures
- Resolving Hazards and Risks Identified
- Workplace Safety and Health Issues, Unsafe Working Conditions and Work Practices
- Report Workplace Safety and Health Issues to Appropriate Personnel
- Information Needed to Handle Workplace Emergencies
- Workplace Safety and Health Training

## Performance Criteria

PC2.1: **Identify and report potential hazards and risks** associated within the work area in accordance with the organisational procedures

PC2.2: Report **unsafe working conditions and work practices** in accordance with the organisational procedures

PC2.3: **Participate in resolving hazards and risks identified** in the work area in accordance with the organisational procedures

PC2.4: **Participate in identifying personal protective equipment requirements** for the work in accordance with the organisational procedures

PC2.5: **Participate in identifying safety device** required for safe operations of machinery and equipment if any at the workplace

PC2.6: Participate in identifying information needed to handle **workplace emergencies**

PC2.7: Participate in **workplace safety and health training**

## **Underpinning Knowledge**

UK2.1: Workplace Safety and Health Act & its subsidiary legislation

UK2.2: Typical unsafe working conditions and work practices within industry concerned

UK2.3: Workplace procedures for contributing and participating in WSH

UK2.4: Common types of personal protective equipment and their functions

UK2.5: Common types of machinery and equipment safety devices and their functions

UK2.6: Definition of hazards and types of hazards

UK2.7: Definition of risk

## **Underpinning Knowledge**

- Definition of emergency
- The types of information needed to handle emergencies
- Organisational procedures for risk control and dealing with emergencies
- Importance of workplace safety and health training
- Types of workplace safety and health training needs



## **WSH (Risk Management) Regulations 2006 (UK2.1)**

### **Every employer, self-employed, or principal shall:**

- Conduct a risk assessment for the workplace.
- Take reasonably practicable measures to eliminate or reduce safety and health risks.
- Establish safe work procedures if the risks cannot be eliminated.

## **WSH (Risk Management) Regulations 2006 (UK2.1)**

### **Every employer, self-employed, or principal shall:**

- Specify the roles and responsibilities of persons involved in the implementation of risk control measures and safe work procedures.
- Inform employees of the nature of the risks involved and any risk control measures or safe work procedures implemented.
- Keep records of risk assessment.

## **WSH (Risk Management) Regulations 2006 (UK2.1)**

### **Every employer, self-employed, or principal shall:**

- Review or revise risk assessment at least once every 3 years. It must be reviewed in the event of the following:
  - After an accident as a result of exposure to a hazard,
  - When there is a significant change in work processes that could affect the safety and health of the workers, for example, the introduction of new machinery or chemicals.

## **Workplace procedures and practices (UK2.3)**

### **Job procedure and work instructions**

- Rules on safe working
- Procedures for reporting incidents and hazards
- Instructions on the correct use of personal protective equipment
- Information on their role of the health and safety and Safety and Health representative.



## **Workplace procedures and practices (UK2.3)**

### **The specific workplace safety and health information**

- Specific hazards
- Safety signs and symbol
- Emergency response
- Hazard identification, risk assessment and controls
- Use of personal protective equipment (PPE)



## **Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)**

### **Definition of hazards**

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

### **Definition of risk**

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

## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<p><b>Physical</b></p>	<ul style="list-style-type: none"> <li>• Working at height</li> <li>• Slips &amp; trips hazards</li> <li>• Falling objects</li> <li>• Prolonged exposure to extreme of temperature</li> <li>• Exposure to excessive level of noise</li> <li>• Accidentally contact with sharp objects</li> </ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Chemical</b>	<ul style="list-style-type: none"><li>• Accidentally contact with / exposure to corrosive, flammable, carcinogenic chemicals</li><li>• Improper storage and handling of chemicals</li></ul>





## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Radiation hazard</b>	<ul style="list-style-type: none"><li>• Expose to radiation like alpha particles, beta particles, gamma rays, X-rays, neutrons</li></ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Ergonomics</b>	<ul style="list-style-type: none"><li>• Awkward / static posture</li><li>• Repetitive work</li><li>• Over-stretching</li></ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Mechanical</b>	<ul style="list-style-type: none"><li>• Contact with sharp point,</li><li>• Contact with pinch point</li><li>• Equipment operated by non-competent persons</li><li>• Faulty machinery and equipment safety devices, e.g. absence of safety guard</li><li>• Poor maintenance of machinery and equipment</li></ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<p><b>Biological</b> <b>Infectious disease</b> <b>outbreak</b></p>	<ul style="list-style-type: none"> <li>• Bitten by animals</li> <li>• Contact with poisonous plants</li> <li>• Stung by insects</li> <li>• Exposure to bacteria; fungi</li> <li>• Outbreak of contagious disease: Avian flu, seasonal flu</li> </ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Electrical</b>	<ul style="list-style-type: none"><li>• Overloaded plug</li><li>• Exposed wire</li><li>• Un-insulated wires</li><li>• Use of faulty equipment</li><li>• Electrical installation without tripping devices</li></ul>



## **Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)**

<b>Category of hazards</b>	<b>Examples</b>
<b>Manual handling</b>	<ul style="list-style-type: none"> <li>• Improper posture when pushing, pulling, lifting heavy objects</li> </ul>
<b>Fire and explosion</b>	<ul style="list-style-type: none"> <li>• Incompatibility of activities, e.g. presence of naked flame in vicinity with the storage of flammable materials</li> <li>• Incompatibility of storage of chemicals</li> <li>• Obstruction to the ventilation of heaters, machinery or office equipment</li> </ul>

## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

Category of hazards	Examples
<b>Environment</b>	<ul style="list-style-type: none"><li>• Confined space</li><li>• Lack of ventilation</li><li>• Poor housekeeping, e.g. untidy work station</li></ul>



## Potential hazards and risks associated within the work area (PC2.1, UK1.8, UK2.6, UK2.7)

### Risk Assessment

- Identify hazards associated with such workplace activities
- Evaluate their risk levels through **SEVERITY** of hazards and **LIKELIHOOD** of occurrence
- Implement WSH control measures to eliminate or minimum the risk





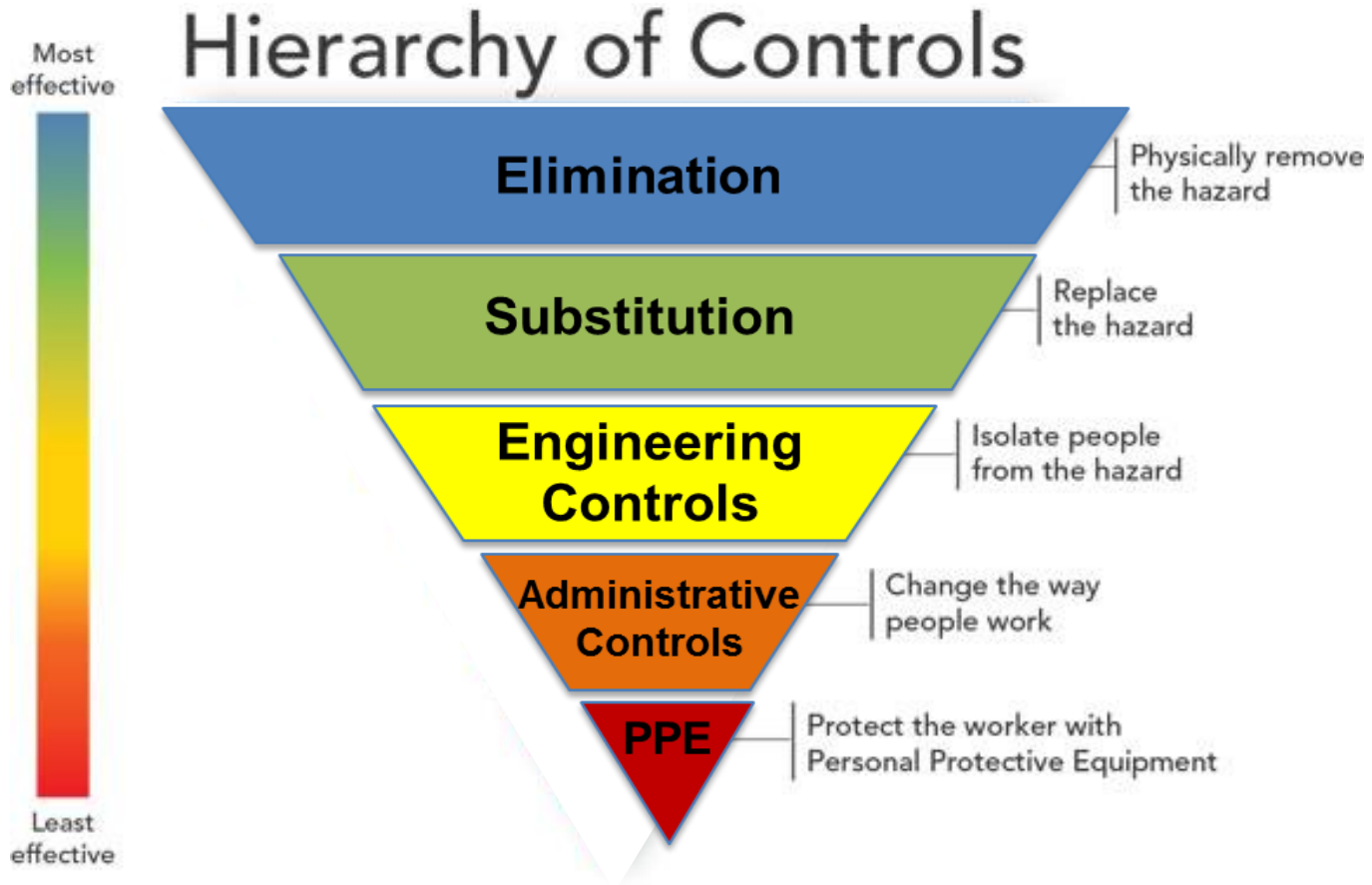
## **Follow workplace risk control measures (PC1.5, UK1.9)**

### **Workplace risk control measures**

Based on the risk level determined, risk controls will have to be selected to reduce the risk level to an acceptable level.

This shall be done according to the hierarchy of controls.

## Follow workplace risk control measures (PC1.5, UK1.9)



## Follow workplace risk control measures (PC1.5, UK1.9)

Tasks	Hazards	Risk	Risk Control measures
<b>Welding activity performed near the storage of flammable materials</b>	Potential fire due to incompatibility of activity	High risk	<ul style="list-style-type: none"> <li>Relocate the location of welding activity (Elimination)</li> </ul>
<b>Use of hazardous chemicals</b>	Potential health concern	High risk	<ul style="list-style-type: none"> <li>Replace with less hazardous chemicals (Substitution)</li> <li>Proper storage, handling of chemicals (Administrative control)</li> <li>Use of suitable personal protective equipment (PPE)</li> </ul>
<b>Carry of heavy items</b>	Potential backache due to improper posture or repetitive movement	Medium risk	<ul style="list-style-type: none"> <li>Use of trolley (Engineering control)</li> <li>Buddy system (Administrative control)</li> </ul>

## Follow workplace risk control measures (PC1.5, UK1.9)

Tasks	Hazards	Risk	Risk Control measures
<b>Using ladder to access high area</b>	Potential falling from the ladder due to broken rung	Medium risk	<ul style="list-style-type: none"> <li>• Use of mobile elevated work platform (Engineering control)</li> <li>• Check the conditions of ladder before using (Administrative control)</li> </ul>
<b>Using of chain saw for tree pruning</b>	Potential noise induced deafness due to exposure of excessive noise	High risk	<ul style="list-style-type: none"> <li>• Use of proper hearing protection (PPE)</li> </ul>

## **Resolving hazards and risks identified (PC2.3, UK2.10a)**

- **Participating in WSH programs**
  - Safety awareness campaigns
  - Safety awareness competitions
  - Risk assessment
- **Providing feedback for improving organizational WSH**
- **Reporting WSH issues**
- **Observe the in-house safety rules and regulations**

## **Resolving hazards and risks identified (PC2.3, UK2.10a)**

### **Organisational procedure for risk control**

- Prepare an action plan - timeline and the names of the persons responsible.
- Monitor the plan regularly until all the measures are implemented.
- Inform all persons exposed to the risks :
  - the nature of risks; and
  - any measures or SWP implemented.
- Conduct regular inspections and process audits to ensure effective of risk controls.



## Learning Activity 2

### ***Identify the potential hazards for the activities.***

#### **Session duration**

45 minutes

#### **Instruction**

- This activity will take place in a park or garden.
- Once at the designated location, learners are to form groups of 3-4 learners per group.
- Learners will be shown various activities commonly encountered in the landscape industry.
- Observe the activities from a safe distance.
- In your groups, discuss the potential hazards for the activities given and record your findings.
- Do not wander off without informing the trainer.
- For the last 10mins, each group will present the information compiled to the class.
- Ask questions and seek clarification of any points that are unclear.

## **Workplace safety and health issues, unsafe working conditions and work practices (UK1.10, UK2.2)**

### **Types of Workplace Safety and Health Issues**

- Unsafe working conditions
- Unsafe work practices/ behaviours/ acts
- Biological hazards
- Signs of infectious diseases



## **Workplace safety and health issues, unsafe working conditions and work practices (UK1.10, UK2.2)**

### **Unsafe work practices**

Unsafe acts can be regarded as a person's act with or without knowledge that can cause serious impact to the environment, other person or even himself.

Example:

- Taking shortcuts
- Not following safe work practices
- Not wearing his personal protective equipment
- Carrying heavy weights more than his capacity
- Horseplay

## **Workplace safety and health issues, unsafe working conditions and work practices (UK1.10, UK2.2)**

### **Unsafe working condition**

This can be regarded as a physical environment that can initiate an incident resulting in injury, death or property damage.

Example:

- Absence of guard or support
- Locked emergency exit doors
- Obstruction of emergency exit
- Congested working environment
- Defecting tools, equipment or machinery
- Excessive noise, too cold environment
- Inadequate warning system
- Poor housekeeping

## **Workplace safety and health issues, unsafe working conditions and work practices (UK1.10, UK2.2)**

### **Biological hazards**

Presence of bacteria, fungi, virus and parasites are by considered as biological hazards. The effect can be acute or chronic.

Example:

- Level 1 bacteria like E.Coli, bacillus.
- Level 2 biohazards consist of viruses and bacteria that can have a limited detrimental effect on humans, like salmonella poisoning, hepatitis, measles
- Level 3 biohazard cause serious illness or even death.

## **Workplace safety and health issues, unsafe working conditions and work practices (UK1.10, UK2.2)**

### **Signs of infectious diseases**

Common signs of infectious diseases include

- Fever
- Nausea
- Inflammation
- Fatigue
- Dizziness
- skin allergies
- pain in different part of body

## **Report workplace safety and health issues to appropriate personnel (PC2.2, PC1.6, UK1.11)**

### **Workers can feedback unsafe conditions and practices through:**

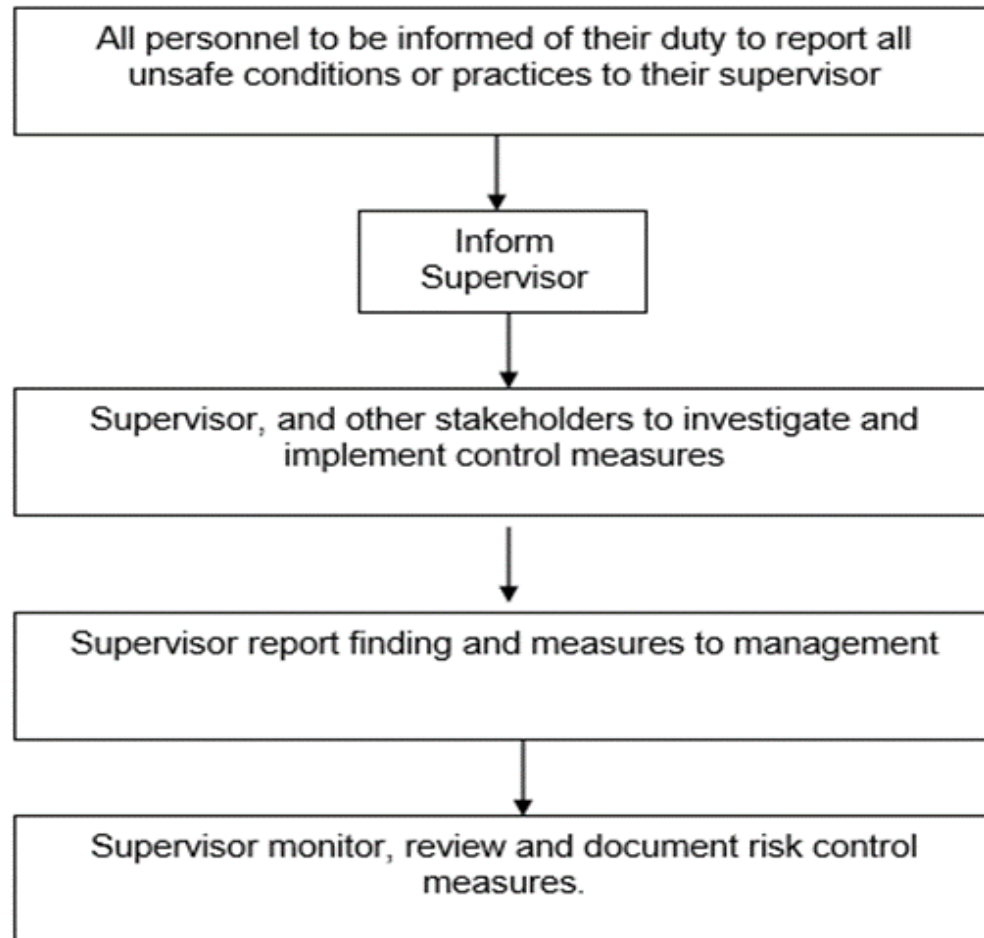
- Toolbox meeting
- Monthly safety meeting
- WSH committee meeting
- Safety inspection
- Behaviour based observation
- Directly to their supervisor or Safety and Health representatives

### **Things to be reported:**

- Date and time
- Nature of abnormality / problem
- Location
- Equipment / personnel involved

## Report workplace safety and health issues to appropriate personnel (PC2.2, PC1.6, UK1.11)

### Organisational procedures in reporting of WSH issues





## Learning Activity 3

***Identify and report unsafe conditions and unsafe work practices.***

### **Session duration**

30 minutes

### **Instruction**

- Get into small groups with 3-4 learners.
- Discuss the unsafe conditions and unsafe practices and record your findings.
- For the last 10 minutes each group will conduct the role play.
- Observer will observe and record the role play.



## Learning Activity 3

### Scenario

During work, you observe your co-worker, who is standing on the work platform of crane, does not secure the body harness on the designated anchorage. He is stretching his body to cut a branch. In addition, the work area is not barricaded. Identify the unsafe condition and unsafe work practice. Report the WSH issues to your supervisor accordingly.





## **Information needed to handle workplace emergencies (PC2.6, UK2.8, UK2.9)**

### **Definition of emergency**

An emergency is a situation that poses an immediate risk to health, life, property or environment.

#### Examples of emergencies:

- Fire or explosion
- Chemical spillage
- Unconscious person
- Infectious disease outbreak

#### Non emergency incidents:

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

## **Information needed to handle workplace emergencies (PC2.6, UK2.8, UK2.9)**

### **List of essential contact numbers**

SCDF (Ambulance & Fire brigade) @ 995

Police @ 999

MOM OSD @ 6317 1111

Police Hotline @ 1800 2550 000

Ministry of Health Hotline @ 1800 3339 999

Singapore Power Hotline @ 1800 7788 888

Piped Gas Hotline @ 1800 7521 800

- **Supervisor**
- **Safety Officer**
- **Guard House**
- **HR Department**
- **CEO or MD**
- **Clinic or Doctor**
- **First Aider**

## **Information needed to handle workplace emergencies (PC2.6, UK2.8, UK2.9)**

### **Information needed to handle workplace emergencies**

- Type of emergency
- Personnel involved - Who, how many people
- Injuries / fatalities sustained
- Hazard involved
- Location
- Brief description of the incident

## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

The objective of workplace safety and health training is to equip work persons with the knowledge, skills and attitudes which will enable them to perform their duties in manner that does not represent a safety hazard.



## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Type of WSH Training:**

#### **Workplace safety awareness training**

- Safety and health policy of the organization
- Roles and responsibilities in terms of Safety and Health
- Details of Safety and Health representative
- Incident reporting procedure
- Emergency response
- In-house rules and regulations
- Importance of safety and health and consequences of deviation

## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Applying first-aid**

Trained first aiders are allowed to render first aid treatment for the deceased.

The appointed first aiders shall attend occupational first aid course by approved training provider.



## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Use of PPE**

General information to be provided to workers:

- PPE must be clean, serviceable and readily available for use
- PPE shall fit for purpose
- Sequence of donning various PPE
- Example: Use chemical resistance suits/ gloves / safety boots/ goggles when handling chemicals

## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Handling of toxic and flammable chemicals**

Follow safety data sheet (SDS) provided by the Manufacturers or suppliers.

Workers shall be trained in storage and handling of chemicals.





## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Handling of spills**

Workers shall be trained in responding to chemical spillage and use of spill kit.

Refer to the SDS and National Environment Agency (NEA)'s requirements.



## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Disposal of chemical and toxic waste**

Waste chemicals should be disposed properly to prevent pollution and endangering the safety and health of workers.

Refer to the SDS and National Environment Agency (NEA)'s requirements.



## **Workplace Safety and Health Training (PC2.7, UK2.11, UK2.12)**

### **Safe operations of overhead equipment**

Only trained and authorized person shall operate the overhead equipment like cranes, hoist, mobile elevated work platforms.

### **Safe operations of powered tools**

Only trained and authorized person shall operate the powered tools, e.g. powered drill, chainsaw, water jet.

## **Learning Outcome 3: Follow Workplace Emergency Response Procedures**

- Workplace Safety and Health Act and its Subsidiary Legislation and other Regulatory Requirements
- React to Emergencies at the Workplace
- Equipment and Materials for Emergency Response
- Activate Emergency Services
- Follow the Instructions in the Event of Emergency
- Participate in Organisational Emergency Response Exercise
- Infectious Disease Outbreak Control

## Performance Criteria

PC3.1: React to the **types of emergencies** at the workplace

PC3.2: Use **equipment and materials required for workplace emergency response** in accordance with the organisational procedures

PC3.3: **Activate emergency services** in the event of emergency at the workplace in accordance with the organisational procedures

PC3.4: **Follow the instructions** given by authorized personnel in the event of emergency at the workplace

PC3.5: **Participate in the organisational emergency response exercise** in accordance with the guidelines provided by the relevant regulatory requirements

PC3.6: **Follow infectious disease outbreak control** at the workplace in accordance with the guidelines provided by the relevant regulatory bodies

## **Underpinning Knowledge**

UK3.1: Workplace Safety and Health Act & its subsidiary legislation

UK3.2: The responsibilities of a general worker in response to types of emergencies at the workplace

UK3.3: The role of a general worker in response to infectious disease outbreak

UK3.4: The organization-based procedures in responding to emergency at the workplace

UK3.5: Types of emergencies at the workplace

UK3.6: Importance of practicing good hygiene at the workplace

UK3.7: Type of PPE to be worn in the event of emergency at the workplace

UK3.8: The precautionary steps to take to prevent spread of infectious disease at the workplace

UK3.9: Types of alert codes stipulated by Ministry of Health Singapore

## **Workplace Safety and Health Act & its subsidiary legislation and other regulatory requirements (UK3.1)**

### **Ministry of Manpower**

- Workplace Safety and Health Act
- WSH (General Provisions) Regulations
- WSH (Risk Management) Regulations
- WSH (Incident Reporting) Regulations
- WSH (First Aid) Regulations.



**MINISTRY OF  
MANPOWER**

## **Workplace Safety and Health Act & its subsidiary legislation and other regulatory requirements (UK3.1)**

### **Singapore Civil Defence Academy**

Fire Safety Act

Fire Safety (Building Fire Safety)  
Regulations (Regulations 24)

Maintenance of fire fighting and fire  
protection systems



**SCDA**  
The Life Saving Force

### **National Environment Agency**

Environmental Protection and  
Management Act



**National  
Environment  
Agency**

Safeguard · Nurture · Cherish



## **React to emergencies at the workplace (PC3.1, UK3.2, UK3.5, UK2.10b)**

### **Type of emergencies**

- Fire or explosion
- Collapse of structures or equipment
- Hazardous chemical leaks or spills
- Injuries
- Unconscious person
- Fatality
- Infectious disease outbreak
- Fall from heights
- Electrocutation
- Strike by lightning

## **React to emergencies at the workplace (PC3.1, UK3.2, UK3.5, UK2.10b)**

### **The responsibilities of a general worker in response to types of emergencies at the workplace include:-**

- Checking if colleague / buddy is safe and is aware of the emergency
- Leaving the workplace in an orderly manner via the nearest exit
- Evacuating to the designated evacuation assembly area

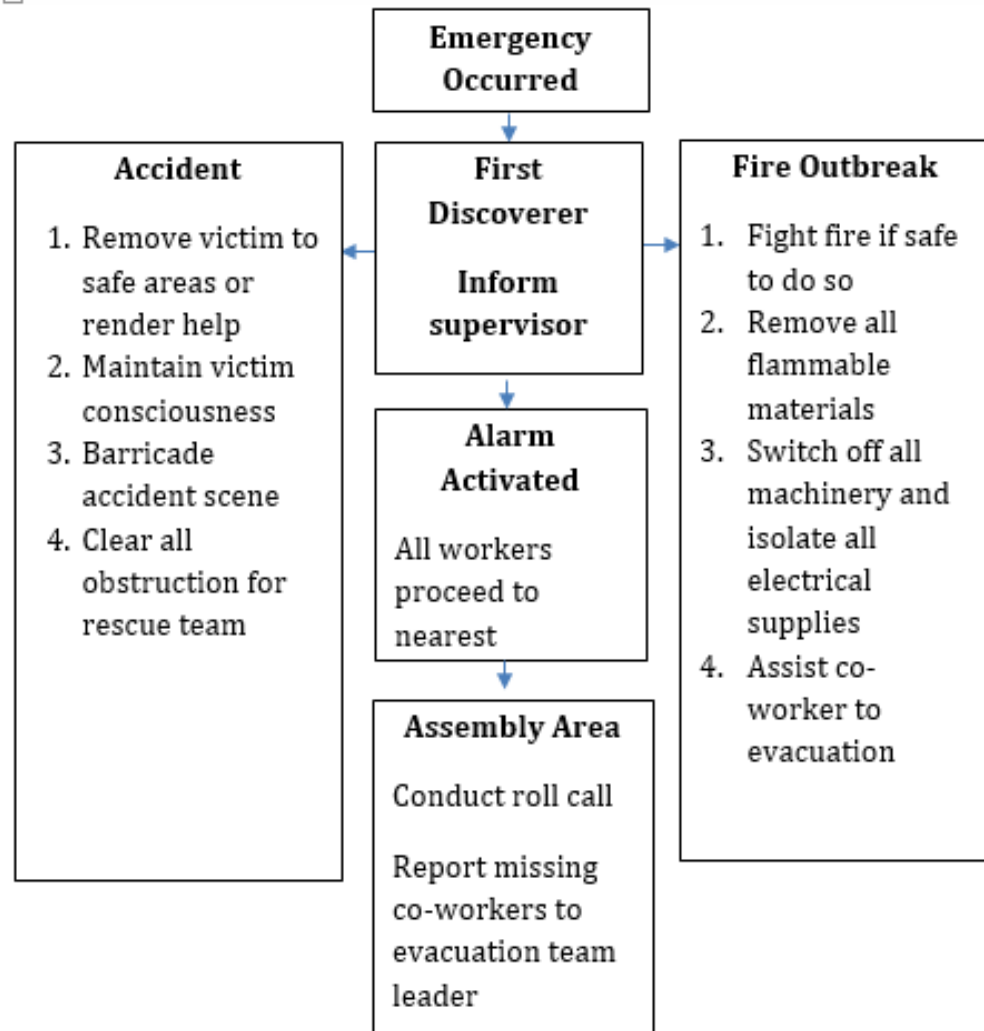
## **React to emergencies at the workplace (PC3.1, UK3.2, UK3.5, UK2.10b)**

**The responsibilities of a general worker in response to types of emergencies at the workplace include:-**

- Responding to roll-call when name is called
- If qualified to do so, assisting in the emergency where required
- Providing information as best as possible

## React to emergencies at the workplace (PC3.1, UK3.2, UK3.5, UK2.10b)

### Organisational procedures for dealing with emergencies



## Equipment and materials for emergency response (PC3.2, UK3.7)

Type of PPE	Examples	Functions
<b>Respiratory protector</b>	N95 and surgical masks, air purifier, powered air purifying, supplied air, self-contained breathing apparatus (SCBA)	To prevent inhalation of hazardous emission of gas, bacteria, viruses or dust.
<b>Eye protection</b>	Face shield and goggles	To protect against incidental splashes to face and eyes.
<b>Hand protection</b>	Disposable gloves, leather gloves, heat resistant gloves	To protect against burns or exposure to blood or bodily fluids.

## Equipment and materials for emergency response (PC3.2, UK3.7)

Type of PPE	Examples	Functions
<b>Foot protection</b>	Safety boots, anti-slip footwear	To protect against incidental struck by heavy objects and slip and fall due to wet condition.
<b>Head protection</b>	Hard hats/helmets	To protect head against falling objects or knock against objects.

## Equipment and materials for emergency response (PC3.2, UK3.7)

### In the event of fire emergency:

#### Fire extinguisher

- Class A Fires: Ordinary combustibles e.g. wood, paper, cloth
- Class B Fires: Flammable liquids, grease e.g.. gasoline, paints and oils.
- Class C Fires: Electrical equipment e.g.. motors, switches.
- Class D Fires: Combustible metals e.g.. Magnesium, phosphorus and iron.



## Equipment and materials for emergency response (PC3.2, UK3.7)

### In the event of fire emergency:

#### Fire hose

- All factories, commercial and industrial buildings are equipped with sufficient numbers of fire hoses at each level.
- Housed in fire hose cabinet.
- While using the hose, turn on the valve and release all the hose to its maximum length.





## Equipment and materials for emergency response (PC3.2, UK3.7)

### In the event of fire emergency:

#### Fire alarm system

- Fire alarm system is activated at the call point.
- Manual call points are clearly identifiable and simple to use with instruction on it like “Break the glass and press to sound the alarm”.



## Equipment and materials for emergency response (PC3.2, UK3.7)

### In the event of fire emergency:

#### Smoke alarm system

- A fire detector installation is to detect the fire at initial stage when it starts smoking.
- The smoke reached the detection system and then will automatically trigger the alarm to notify the fire.



## **Equipment and materials for emergency response (PC3.2, UK3.7)**

### **Barricades and warning signs to forewarned hazards and prevent access and falling from height**

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

### **Warning signs are to be provided to inform workers:**

- Need to wear personal protective equipment (e.g., ear plugs during grinding).
- No smoking or naked lights.
- Safety boots before entry.

## Equipment and materials for emergency response (PC3.2, UK3.7)

### Chemical spill kit

Contains chemical absorption materials or containments kits to contain and clean spills.



## Equipment and materials for emergency response (PC3.2, UK3.7)

### Biological hazard protective suit to protect against exposure to biological hazards.

- Provides protection against dual-use industrial biological warfare agents.
- Garment is designed for one operational use.
- Coverall must be disposed of after any chemical liquid or vapour exposure.



## Equipment and materials for emergency response (PC3.2, UK3.7)

### Disinfectants

There are different types of disinfectants that is used to destroy any living organism that cause infections.

### N95 masks

N95 masks are disposable respiratory protectors. Respirators filter the air breathe in to help protect from microorganisms including bacteria and many viruses.





## Learning Activity 4

***React to the emergencies.***

### **Session duration**

45 minutes

### **Instruction**

- Learners to form groups of 3 – 4 learners per group
- Discuss the procedure in responding to various emergency situations given and record your findings.
- For the last 10 mins, each group will present the information compiled to the class.

## **Activate emergency services (PC3.3)**

### **Types of emergency services to be activated in the event of emergency:**

- Main police stations: 999
- Fire or emergency ambulance: Call 995

To facilitate a faster response to the patient, the 995 caller should do the following:

- Identify yourself and provide a telephone contact number.
- Provide the location and specific address of the patient found.
- Describe the patient's signs and symptoms briefly.
- Hang up the telephone only after the "995" Control Room Operator does so.
- Standby to assist if required.



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Organisational procedures in responding to emergency:**

- Reporting workplace emergency.
- Participating in emergency response exercise at the workplace.
- Responding to infectious disease outbreak at the workplace.



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Fire or explosion**

- On discovery of a fire or explosion:
- Combat the fire if safe to do so. Make sure you have trained to use the fire extinguishers.
- Raise the alarm by breaking the glass call point to activate the fire alarm.
- Dial the in-house emergency number.
- Escape route should be kept open should the fire escalate.

### **In the event of a fire alarm:**

- Evacuate using fire emergency exits
- Proceed to the assembly area.
- Wait for Role Call
- Find out the evacuation plan
- Know where is the assembly area



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Collapse of structures or equipment**

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

### **Hazardous chemical leaks or spills**

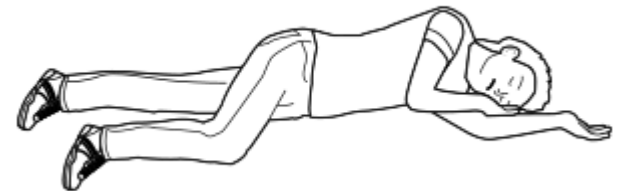
- Take a thorough shower.
- Seek medical treatment immediately.
- Place exposed clothing and shoes in tightly sealed containers.
- Report to supervisor.



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Injuries/unconscious person**

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



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Fatality**

- Inform supervisor or security personnel immediately
- Body of the deceased including immediate surroundings not to be moved or disturbed in any way.

## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Infectious disease outbreak (e.g. Avian Influenza)**

- Seek medical treatment if experience flu-like symptoms.
- If you 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.



## Follow the instructions in the event of emergency (PC3.4, UK3.4)

### Infectious disease outbreak (e.g. Avian Influenza)

- Practise good personal hygiene which include:
  - Hand hygiene
  - Wear surgical mask if unwell
  - Conduct self temperature check
  - Maintain contacts tracing log
  - Follow chain of command in reporting suspected cases at workplace.



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Fall from heights**

- Prompt rescue shall be provided for personnel who have fallen by contacting 999 or radioing for help.
- Stop work
- Do not attempt to move a patient
- Wait for medical attention to arrive.





## Follow the instructions in the event of emergency (PC3.4, UK3.4)

### Electrocution

- On finding a person in electric shock raise the alarm by calling for help from colleagues.
- Switch off the power if possible.
- Push the person away from the conductor using a wooden object.
- Call for an ambulance.



## **Follow the instructions in the event of emergency (PC3.4, UK3.4)**

### **Strike by lightning**

- If a person is struck by lightning, call 999 and get medical care immediately.
- Cardiac arrest and irregularities, burns and nerve damage are common in cases where people are struck by lightning.



## **Participate in organisational emergency response exercise (PC3.5)**

Emergency exercises where employees can involve are:

- Fire fighting
- Rescue operation
- Containment of chemical
- Hazardous material release
- Medical and first aid activities (If trained)

## **Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)**

### **Precautionary steps to take to prevent spread of infectious disease at workplace**

- Maintaining environmental cleanliness
- Maintain high standards of personal hygiene
- Advising employees who are not feeling well to seek medical attention.
- Considering the needs of employees (higher risk of severe illness and complications due to infectious disease)

## **Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)**

### **Precautionary steps to take to prevent spread of infectious disease at workplace**

- Considering taking 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.

## **Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)**

### **Role of general worker in response to infectious disease outbreak**

- Seek medical attention when unwell
- Practice good hygiene in workplace
- Use PPE as appropriate
- Conduct self-temperature check

## **Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)**

### **Role of general worker in response to infectious disease outbreak**

- Maintain contacts tracing log
- Maintain designated isolation/empty room for suspected infectious disease case
- Maintain anti-viral, disinfectants and PPE stockpile as appropriate
- Follow the chain of command in reporting suspicious infectious disease case at the workplace

## **Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)**

### **Understanding DORSCON Flu Alert Codes**

The DORSCON Alert codes (Disease Outbreak Response System) are a mechanism for risk management as they describe the risk of acquiring an infectious disease. It provides a guide for planning and execution in the event of an influenza pandemic.



## Infectious Disease Outbreak Control (PC3.6, UK3.3, UK3.8, UK3.9)

### 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

# Assessment briefing