

Module 8 Safety

Unit 8.5 First Aid

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Introduction

About this unit

Welcome to Unit 8.5 on first aid.

This unit teaches about ways you can deal with accidents and emergencies in the workplace. You will be given information about the important things you might have to do if an accident or emergency happens.

Examples of procedures to follow and ways that you can stop accidents and emergencies from happening are given in this unit. This unit also has information about ways you can help people to avoid becoming ill because of the work they are doing.

How to use this book

As well as information about accidents, emergencies and first aid, this book contains exercises.

These exercises do not play a part in your assessment for this unit, but they will help you find out how much you have learned.

Read the information, then answer the questions in the exercises as you work through the book.

Answers are provided for you to check your learning at the end of each assessment.

Your tutor will give you assessment tasks to check how much you have learned about first aid when you have completed this unit.

These assessment tasks determine your competence in this unit.

How you will be assessed

To be assessed for this unit you will be given two tasks.

You will do these tasks when you have finished certain parts of the work in the book.

Your tutor will help you understand what you need to do for the tasks — do ask your tutor straightaway to explain anything you do not understand.

Finding your way

As you work through the text, you'll see symbols in the left margin of some pages. These symbols or "icons" are to guide you through the book.



Read



Important- take note!



Self-checking question/activity



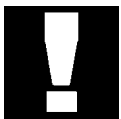
Assessment task



Things to do



Things not to do



Competency

The content of this training programme for Technical and Vocational teachers is based on the skills that you need to develop. The skills for each unit are set out as things that you must have learned or are able to do.

The assessment by your tutor will test what you have learned and your level of skill.

Each unit sets out the skills needed. If you already think you know enough about the unit to show that you have the skills needed, you may be able to get your tutor to test you without studying the unit.

Learning outcomes

When you have completed this unit you should be able to:

- Explain the procedure for obtaining help in an accident or emergency.
- Write examples of concise messages to emergency services to cover fire and personal injury.
- Identify local bodies qualified to provide first aid training.
- Explain the basic elements of occupational health issues and indicate preventive strategies.
- Carry out an emergency evacuation.

Assessment criteria

Your tutor will assess what you have learned by getting you to:

- Explain procedures, which ensure the safety of occupants of the workshop as a first priority ahead of equipment and buildings, for obtaining help in an accident or emergency.
- Write examples of messages to emergency services, which enable the receiver to determine type, location in detail, any pertinent restrictions and circumstances relating to the accident or emergency, and the potential and current degree of the situation, to cover fire and personal injury.
- List, without error, local bodies qualified to provide first aid training.
- Explain, in accordance with national and/or local regulations, the basic elements of occupational health issues.
- List, in accordance with a pre-arranged plan, the steps to be followed for the emergency evacuation of a building or a room.

Assessment methods

Your tutor may test your skills by:

- giving you an oral or written test
- giving you an assignment

The instructor may also use the points contained in the learning activities as a guide to assessing your performance.

Other resources you may find useful

Handbook for Joint Safety and Health Committees in the English-speaking Caribbean published by the International Labour Office.

Available from:

Caribbean Office and Multidisciplinary Advisory Team

Port of Spain

Trinidad and Tobago

Phone: (868) 628-1453 to 6; Fax: (868) 628-2433

- information from local fire and ambulance services
- information on health and safety from national or local government
- information on health and safety from large industries in your local area

Section 1



Accidents and emergencies — procedures to follow

What is an accident and what is an emergency?

An *accident* is something that happens by chance and sometimes will injure a person. Sometimes an accident will happen and not injure a person but might damage buildings, machinery or other objects.

An *emergency* may be a situation that needs quick action to:

- stop a person becoming injured
- stop an injury or illness to a person becoming worse
- stop buildings, machinery or other objects being damaged
- stop more damage to buildings, machinery or other objects



Activity 1

Here are some examples of things that have happened.

If you think what is described is an accident, put a circle around the word “accident”. If you think what is described is an emergency put a circle around the word “emergency”.

You may circle both answers if you think that what is described is an accident and an emergency.

- | | | |
|--|----------|-----------|
| 1. A shelf of books falls off the wall and books are scattered all over the floor | Accident | Emergency |
| 2. A person trips over the books but is not injured. | Accident | Emergency |
| 3. A person becomes very ill at work and is found unconscious in a workshop | Accident | Emergency |
| 4. Sawdust under a woodworking machine catches fire and the workshop fills with smoke. | Accident | Emergency |
| 5. A person traps their arm in a metalworking lathe. Their arm seems to be broken and they are in a lot of pain. | Accident | Emergency |

Compare your answers with those on the next page.



Activity 1 Answers

1. A shelf of books falls off the wall and books are scattered all over the floor ***Accident***
2. A person trips over the books but is not injured. ***Accident***
3. A person becomes very ill at work and is found unconscious in a workshop. ***Emergency***
4. Sawdust under a woodworking machine catches fire and the workshop fills with smoke. ***Accident and Emergency***
5. A person traps their arm in a metalworking lathe. Their arm seems to be broken and they are in a lot of pain. ***Accident and Emergency***

Accidents and emergencies can happen for all sorts of reasons. As you saw above, accidents and emergencies can affect people, objects or both. You may find injured or ill people because of an accident or emergency.



The most important things to do in an accident or emergency are:

- keep yourself safe
- keep calm
- remember what you have learned
- act quickly



Do not

- panic

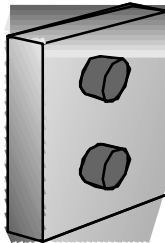


Cut-off switches, alarms and signals

Cut-off switches are usually found on or near individual machines. These switches can be used to turn off the power to a machine if an accident or emergency happens.

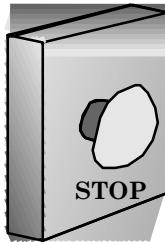
In some workshops there are cut-off switches that can be used to switch off all the machines in the area. Cut-off switches may also be found on portable machinery, especially those that supply power to other machinery, for example portable generators and some farm machinery.

The most common types of switches are the push button types shown below.



On this type of switch the cut-off button is red and usually marked **STOP**.

The other button is the **ON** switch and usually a green button.



With this type of switch the button is large enough to be hit with the hand. The button should be red and is sometimes marked with the word **STOP**.

Sometimes you will find this sort of button fixed to the side of a machine where it can be pressed with the foot.



Some cut-off switches may have a sign to show what they are for.

When the power is cut off by this sort of switch the power should stay off, even when you let go of the switch.

You may find that some workshops do not have these types of cut off switches. If this is so then you should:



- find out which switches cut off the power
- ask for emergency stop switches to be fitted

The following examples tell you when you might need to use cut-off switches.

Use the cut-off switches if:

- a person is trapped in machinery
- a machine sounds like it is not running correctly
- you see smoke coming from a machine
- something flies out of a machine
- you see people using machines in the wrong way
- you think a machine has developed an electrical fault
- a person gets an electrical shock from a machine
- if a person becomes ill when working on or near machinery

There are special cut-off switches built into some electrical equipment, circuits and power leads which are known as:

- surge protectors
- earth leakage detectors
- trip switches

These switches cut off the electrical power, especially if a fault develops and a person gets an electrical shock. They are automatic and if they have activated, then you should cut off the main power until you know what the problem is or an electrician has checked everything out.

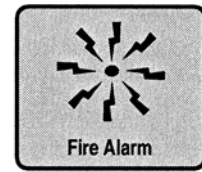
Fire alarms are the most usual alarm to find in a workshop or building. There are two types, manual and automatic.

The type of alarm you will be most familiar with is the manual sort where you have to break the glass to sound the alarm. Usually these are small red painted boxes with a glass front and a bottom behind the glass. In most cases as soon as the glass is broken the alarm will sound.



Always use something to break the glass otherwise you may get cut.

Sometimes the fire alarm points will be marked with a sign. There are many types of signs and they may look something like the ones below.



When the alarm is used the warning signal may be any of the following:

- bells
- klaxons
- sirens



Make sure you know:

- what signs are used
- what the alarms and warning signals should sound like
- where the fire alarms are for the areas you work in

Automatic fire alarms are usually linked to heat or smoke detectors. With this system, there may be a water sprinkler system that would come on when the fire alarms are activated.



First aid

The purpose of this section is to explain the basics of what to do if an accident or emergency happens. It will not tell you everything you will need to know to perform first aid.

Unless you are a trained in first aid, you will need to:

- give what help you can
- call for help from a someone trained in first aid or from the emergency services.

The table on the next page gives you the basics of first aid. In all the situations in the table below you may find that the person goes into shock (they may feel dizzy, faint, sick). ***To prevent this happening, lay them down, if possible, before starting first aid.***

What is wrong with the person	What you do
Heart stopped, breathing stopped or both	Give emergency resuscitation (Cardiopulmonary resuscitation - CPR)
Unconscious	Check for broken bones Roll person on to their side Keep their airway clear
Serious bleeding from bad cuts	Put pressure on the site of bleeding, use your hand first if necessary Use a pad and bandage to tie over the wound when you can
Fractures (broken bones)	Don't move the person Keep them as comfortable as possible until help arrives If you think the person has a broken back or neck DO NOT MOVE THEM unless it is ABSOLUTELY necessary
Burns	Cool the burnt areas by running COLD WATER onto them for at least 10 minutes
Chemicals or dust in the eyes	Get the person to the nearest eyewash station or source of water Flush both eyes with lots of water for at least 10 minutes
Other objects in the eye	Do not try and remove the object Get the person to the nearest eyewash station or source of water Flush both eyes with lots of water for at least 10 minutes
Swallowed a poisonous substance	Stay with the person and reassure them Get them to drink lots of milk or water Do not make them vomit (for example getting them to stick their fingers down their throat) Try and find out what they have swallowed If they become unconscious treat them as shown for unconsciousness above
Part of their body or clothing is caught in moving machinery	Use the emergency cut-off switch to stop the machine Try and cut away any clothing that is wrapped tight around them Try and stop any bleeding Get help quickly before trying to free the person



If both you and the person who needs first aid, are in a dangerous place such as:

- a room or building that is on fire
- a room or building that is collapsing
- an area where there is a poisonous or inflammable gas

You will need to get them to a safer place as quickly as possible before treating them. If you are not able to move the injured person from the dangerous place, **you must leave** or you will become injured yourself.

Isolating the accident area

In nearly all cases of an accident or emergency you will need to:

- keep people away from the place so that they are not put in danger
- keep people away from the place so that injured people can be treated
- keep things the way they were so that investigators can see what happened

If an accident happens and no other people are in danger then isolating the area is fairly easy. You should:

- ask a responsible person to get others out of the area and wait in another room, for example a library or canteen
- get one person to wait with you in case you need extra help
- get the responsible person to come back and wait outside the area to keep unauthorised people away

Once the injured person has been treated and moved out of the area, you must ensure that the accident scene remains isolated.

If the accident was in a room:

- lock the door
- fix a notice to the door which says “No entry” and give the name and phone number of the person to contact

If the accident was ***in an open area*** which can't be locked:

- use brightly coloured notices and tape to form barriers at places where people could get into the area

- until the investigation has started, use people to stop others getting into the area especially when there are lots of people around during the day

If an accident happens and **other people are in danger** then:

- move everybody out of the area and to the pre-determined assembly points, using the evacuation procedure
- get responsible people to wait at a safe distance outside the area to keep unauthorised people away and direct the emergency services
- if possible, use brightly coloured notices and tape to form barriers at places where people could get into the area
- until the investigation has started, use people to stop others getting into the area especially when there are lots of people around during the day

If you have called the emergency services, they may isolate the area when they have made it safe.

As a teacher your job is to keep yourself, your students and your colleagues safe until help arrives.

The professional help may be from:

- the fire service
- the ambulance service
- the police
- doctors
- nurses.

When professional help arrives your job is to give them as much information about the accident or emergency as possible. **Follow the instructions they give you.**



Activity 2

Here are some statements about procedures to be followed if an accident or emergency happens.

If you think the statement is true put a circle around the word “True”. If you think what is described is not true put a circle around the word “False”.

- | | | | |
|----|---|-------------|--------------|
| 1. | If an accident or emergency happens you must keep calm, act quickly and remember what you have learned. | True | False |
| 2. | If a person is trapped in a machine you must not press the cut-off switch. | True | False |
| 3. | Fire alarms can be manual or automatic. | True | False |
| 4. | If a person is burnt you must put cream on the burn. | True | False |
| 5. | If an accident or emergency happens and people are in danger you must use an evacuation procedure to move people to safety. | True | False |
| 6. | Policemen, doctors and firemen are people who can give professional help if an accident or emergency happens. | True | False |



Activity 2 Answers

1. If an accident or emergency happens you must keep calm, act quickly and remember what you have learned. **True**
2. If a person is trapped in a machine you must not press the cut-off switch. **False**
3. Fire alarms can be manual or automatic. **True**
4. If a person is burnt you must put cream on the burn. **False**
5. If an accident or emergency happens and people are in danger you must use an evacuation procedure to move people to safety. **True**
6. Policemen, doctors and firemen are people who can give professional help if an accident or emergency happens. **True**

Section 2



Information to emergency services

Now you have learned what an accident or emergency is, and some of the main points about the procedures to follow, you must now learn how to pass on information to the emergency services.

There are three occasions when you may need to pass on information to the emergency services — they are when:

- you are calling for their help
- they arrive to give help
- they are investigating an accident or emergency

It is very important to give accurate information and pass it on quickly when calling for help and when the emergency services arrive to give you their help.

Emergency services are usually contacted by telephoning an emergency number such as 111, 119, 911 etc. (**Find out the number for your region**).

Often this emergency number is answered at a dispatch office and the person answering will ask you which service you require.

Listen carefully to what the person answering your call asks you – they are trained to talk with people in accident or emergency situations and get the right information to pass on to the emergency services.

The information you give when calling for help **must include**:

- a) The type of help you require — fire, ambulance or police services
- b) The type of problem you have — include the number of injured people or dangerous situation or both
- c) The exact location of the incident
- d) The best way for the emergency services to get to the area
- e) Any problems they may find with getting to the place where you need the help
- f) The current situation
- g) The potential situation.

Remember — the operator answering your emergency call may ask you direct questions to get the right information from you.

You may have to repeat some of the information you have already given or give extra information like your name or telephone number.

Remember – when you give your message speak **slowly** and **clearly**.

When the emergency services arrive they may ask you to tell them of any changes in the situation.

Once you have called for help, you can get somebody to tell others in charge of the place where you are working. They should be able to give you extra help such as getting somebody to meet the emergency services and show them where they need to go.

Here is an example of an incident and the message that might be given to the emergency services. The headings listed previously have been used in the example message to help you.

Incident

A student has caught their hand in a woodworking machine and they have a broken finger with some very bad cuts on the hand. Their hand has been freed from the machine. There are no other people involved.

Message:

- a) The type of help you require — fire, ambulance or police services

I require an ambulance immediately to the Kings College on Albert Street.

- b) The type of problem you have — injured people or dangerous situation or both

There is one injured man who caught his hand in a machine. He has very deep cuts on the hand and a broken finger.

- c) The exact location of the incident

The injured person is now in the first aid room.

- d) The best place for the emergency services to get to the area

You should come to the main entrance on Albert Street. A member of staff will meet you and show you to the first aid room.

- e) Any problems they may find with getting to the place where you need the help

There are no problems getting to the main entrance.

- f) The current situation

The injured man is in a lot of pain and I cannot stop the bleeding.

- g) The potential situation

I do not think I will be able to stop the bleeding.

You have now given all the information that is needed but *do not hang up* because the operator may ask you some more questions.



Activity 3

Write a message to be given to the emergency services to summon help for the incident described below.

Incident

A fire has started in a machine in the woodwork room of Kings College. One of the female students has a badly burned arm.

You have not been able to put out the fire so you have evacuated the woodwork room and the rooms that are close to it. The injured student has been evacuated with the rest of the students.

As you leave the room you see that the fire is spreading quickly because of the wood shavings and sawdust that is in the area. There are many tins of paint and glue stored in the woodwork room.

The woodwork room can be reached along a road from a gate that is on Victoria Road.



Activity 3 Answers

In the message below, the information that should have been in your message are in bold type. Make sure that all those bold words or phrases (or ones that are very similar) were in the message that you wrote.

*I require the **fire and ambulance** services immediately at the **woodwork room of Kings College**.*

*There is a **fire in the woodwork room and one injured female who has a burnt arm**. She has been **taken to safety but needs treatment**.*

*You can reach the woodwork room from a **gate on Victoria Road**. A person will be **at the gate to direct you**.*

*At the moment, the **fire is only in the woodwork room** but it is **spreading quickly because of the large quantity of flammable material** in the room. The **rooms next to the woodwork shop** may **catch fire** before you arrive.*

Section 3



Local bodies qualified to give first aid training

In Section 1 you were given some basic information on first aid that should be given if an accident happens.

To become qualified at first aid yourself or to arrange for others to become qualified, you will need to know who in your local area is qualified to give first aid training.

The types of organisations that might be qualified to give first aid training are the:

- Red Cross
- local ambulance service
- local fire service
- local hospitals

You should be able to find out who is qualified to give the training by contacting one of the above organisations or by contacting:

The Ministry of Labour for your country

or

The International Labour Organization (ILO)
Caribbean Office and Multidisciplinary Advisory Team
Port of Spain
Trinidad and Tobago
Phone: (868) 628-1453 to 6 Fax: (868) 628-2433

or

Caribbean Environmental Health Institute
PO Box 1111
Castries
St. Lucia, W.I.
Phone: (758) 452 2501/452 1412 Fax: (758) 453 2721



Activity 4

Write down two organisations in your area that are qualified to give first aid training.

Organisation 1

Name:

Address:

Telephone:

Fax:

Organisation 2

Name:

Address:

Telephone:

Fax:

Section 4



Occupational health — laws

Occupational health is a term used to describe the health issues that may affect a person because of the work they do.

Occupational safety and health laws have existed in the Caribbean since the early 1940s and were similar to the old British Factories Act. In some cases, the law was general and nearly all the health and safety standards were found in regulations. The Factories Act of Jamaica (1943) is an example.

More recent laws and regulations have been made. For example, the Health and Safety at Work Acts of Bermuda (1982), Barbados (1984), Dominica (1985) and St. Lucia (1985) are accompanied by several regulations setting out health and safety standards. The Factories Act (1984) of Barbados, however, contains health and safety standards.

Occupational Safety and Health Administration (OSHA)

OSHA is an agency of the U.S. Department of Labour, which was established by an act of Congress in 1970, and is headquartered in Washington, D.C.

OSHA is responsible for reducing hazards in the workplace and enforcing mandatory job safety standards, and to implement and improve health programmes for workers. The general objective of OSHA is to make work safer, and for protecting the physical well-being of the worker.

The laws about health and safety standards are different from place to place.

To help you complete the next exercise you might need to contact your local Ministry of Labour or a firm of attorneys.

They should be able to tell you which health and safety laws apply to your country.



Activity 5

Find out the names, along with the implementation dates, of what workplace health and safety laws or regulations there are for your country, and write them down here.



Occupational health – issues

People at work can be exposed to dusts, liquids, gases, noise and heat and sometimes this can make them ill. For example, dusts can be breathed in or accidentally swallowed, and if they are poisonous, they can make the person ill.

In this section you will learn about some of the illnesses that people may suffer from because of their work. The important point is that you may be able to help stop some illnesses that could happen because of the work people do.

The issues we will discuss are:

1. Hearing conservation
2. Exposure to lead or asbestos
3. Industrial hygiene
4. Occupational stress
5. Alcohol and drug abuse
6. Smoking
7. Ergonomics
8. Age of the worker

You should find out what laws or regulations apply to these issues in your country.

Hearing conservation

High noise levels can be produced from sources such as workshop machinery, road drills, aircraft and even tractor engines.

High noise levels can make people deaf if they do not protect their ears. This deafness happens over a long period so people often do not realise that they are going deaf until it is too late.

Noise levels are measured in decibels (dB) by special instruments called noise meters or sound level meters.

In many countries a level of 85 dB has been set as the point where hearing protection devices (HPDs) should be worn.

HPDs are usually earmuffs or earplugs. There are many different sorts and you might need the help of a health and safety specialist to choose the appropriate type for the particular work situation.

Hearing conservation aims to stop people going deaf because of noisy work. The most common ways of doing this are to:

- use quieter machines
- soundproof the source of the noise
- get people to wear hearing protection
- get people to spend less time in noisy places

In some types of work it is recommended that people have their hearing tested regularly.

Exposure to lead or asbestos

In many countries there are laws or regulations that aim to stop people becoming ill from exposure to lead or asbestos.

You should find out if your country has special laws, regulations or guidance that cover exposure to lead or asbestos.

Lead is used for many reasons and can be found as lead metal, as part of other metal alloys or in other materials such as paint.

If the lead is in a form that can be breathed in or swallowed, the person can suffer from lead poisoning.

To prevent lead poisoning:

- the workplace has to be kept very clean
- lead dust should be prevented from getting into the air
- the worker may need to wear a dust mask
- special showering facilities may need to be provided

If a worker is exposed to a lot of lead then she may need to have regular blood tests to make sure they do not have too much lead in their body.

Asbestos is a material that has many uses such as:

- insulation against heat
- strengthening for cement pipes and boards
- roofing material
- vehicle brake pads

Today asbestos is not used very much but there are still a lot of things that contain asbestos, especially building materials.

Asbestos can produce a fine dust, which if breathed in over a long time, can produce a serious lung disease called **asbestosis**. Asbestos sometimes causes **lung cancer**. These diseases can be serious enough to cause a person to die.

Prevention of these diseases is the same as that against lead poisoning:

- the workplace has to be kept very clean
- asbestos should be prevented from getting into the air
- the worker may need to wear a dust mask
- special showering facilities may need to be provided

Both lead and asbestos should be handled and disposed of very carefully.

Industrial hygiene

Industrial hygiene aims to **recognise, measure** and **control** hazards in the workplace.

Much of the work carried out in occupational hygiene involves measuring the level of hazardous substances in the workplace air to find out how much a worker might breath in and whether that is dangerous to his/her health.

Industrial hygienists also help to design systems that control hazards, preventing them from reaching “dangerous” levels in the workplace.

Examples of systems that control hazards are:

- soundproofing systems on noisy machines
- ventilation systems to take away dangerous dusts or fumes
- shields that can be used to prevent exposure to welding flashes

Occupational stress

Some stress is good for us: it makes things exciting and keeps us interested in what we are doing. However, if we have too much stress, it can stop us working well and even make us ill.

Stress as a result of working conditions has recently become recognised as a serious but preventable illness. It can lead to a worker becoming unable to work, in the same way as other illnesses and is sometimes called ***occupational stress***.

Occupational stress is often caused because a worker is:

- given work deadlines that are impossible to meet
- given different requests from superiors which seem to conflict
- working in a workplace which is always changing
- bored with the work they do
- asked to use computer software that doesn't work well
- in a job with poor security
- not coping with shift work

This can lead to ill health, which may be seen as:

- tension
- anxiety
- depression
- alcohol or drug abuse
- anger
- fatigue
- health complaints

This ill health may lead to increased absenteeism, increased accidents and decreased productivity.

The aim of occupational health professionals is to identify what is causing the stress and fix those problems rather than just treating the illnesses. Counselling workers suffering from occupational stress can do much to improve their health but identifying and fixing the causes must also be done.

Alcohol and drug abuse

Alcohol abuse or drug abuse amongst workers may be a way of coping with occupational stress. It may also be part of the social and cultural background of the worker.

A worker who has an alcohol or drug abuse problem will show similar symptoms as those suffering from occupational stress (see above).

The effects of alcohol and drug abuse are similar to those seen in cases of occupational stress, increased absenteeism, increased accidents and decreased productivity.

Smoking

Much has been written about smoking in the workplace and its effects.

There is clear evidence that those who smoke suffer more lung and heart diseases than those who do not smoke. These will lead to increased absenteeism.

There is also evidence that those who do not smoke but work in places where smoking is allowed also suffer from more illnesses. However, the evidence is not as clear.

Those who do not smoke are often irritated by the smoke of those who do, and this can affect their comfort and productivity.

Smoking in the workplace also increases the risk of fires. Banning smoking completely in the workplace can lead to increased stress amongst smokers. It can also increase the risk of a fire because smokers will try to smoke in areas where there are no facilities to put the cigarette out properly.

Many organisations have set aside areas in the workplace for smoking in order to keep smokers and non-smokers comfortable.

Ergonomics

Ergonomics is the study of how work is matched to the humans that do the work. This matching is done to:

- prevent ill health and accidents
- increase productivity

For example, trying to lift a large awkwardly shaped load may lead to a back injury — if the load was smaller in size it could be carried more easily.

Another example is a machine that is placed in a poorly lit area of a workshop. This can mean it is difficult to see the work that is being done on the machine. Poor lighting can lead to difficulty in producing work of good quality. A work arrangement like this can also lead to increased accidents and sometimes to occupational stress.

Age of the worker

Many countries have age restrictions for young workers. Young workers are often unable to cope with the physical and mental demands of work and suffer more illnesses as a result.

Young people are also at more risk from accidents as they have not developed many of the skills needed to keep them safe.

There are also upper age limits on workers in some countries. This is sometimes called the retirement age. Like young people, older people are less able to cope with the physical demands of some work and could suffer more ill health if they continued to work.

You should check age limitations on workers with your Ministry of Labour.



Activity 6

To test what you have learned fill in the blank spaces for the following questions.

1. Noise levels are measured in _____.
2. Two examples of hearing protection devices are _____.
3. Asbestos can cause two types of lung disease, which are _____.
4. Industrial hygiene aims to _____ hazards in the workplace.
5. Some of the signs of occupational stress are _____.
6. Ergonomics is the study of _____.
7. A large awkwardly shaped load could cause a _____ when it is lifted.

Check your answers on the following page



Activity 6 Answers

The answers are shown in **bold** type.

1. Noise levels are measured in **decibels (dB)**
2. Two examples of hearing protection devices are **earmuffs or earplugs**.
3. Asbestos can cause two types of lung disease, which are **asbestosis** or **lung cancer**
4. Industrial hygiene aims to **recognise, measure and control** hazards in the workplace.
5. Some of the signs of occupational stress are **tension, anxiety, depression, alcohol or drug abuse, anger, fatigue and health complaints**
6. Ergonomics is the study of **how work is matched to the humans that do the work**.
7. A large awkwardly shaped load could cause a **back injury** when it is lifted.

Section 5



Emergency evacuation procedure

The evacuation of people may have to be done for different reasons, for example if there is a

- fire
- spill of dangerous substances
- release of dangerous gas
- flood
- dangerous building structure

An evacuation should be started if there is an immediate possibility of any of the above happening.

The important points about evacuations are:

- Evacuations must move people to safe assembly points.
- There must be a plan and it should be written down.
- There should be one plan that can be used for nearly all situations.
- Evacuation procedures must be carried out as soon as the alarm sounds.
- The evacuation must allow people to move quickly and safely out of the building by the nearest available exit. Do not use the lifts. Do not re-enter the building.
- There must be a way of checking that everybody is out of danger.
- Assembly points must be clearly marked.
- There must be a procedure to stop people going back into a dangerous area.
- Evacuation procedures must be practised.
- The evacuation practise must be reviewed to find out what worked well and what didn't work well.
- The evacuation procedure must be changed to improve the things that did not work well

In an evacuation, your job as a teacher is to make sure that all your students (and any visitors you may have at the time) are moved safely to the assembly point.

It is usual for an evacuation to be started when an alarm is sounded. The sound of the alarm must be written down on the evacuation plan.

Students must be told about the evacuation plan and know what to do when the alarms are sounded.

One of the most difficult things to do in an evacuation is to check that everybody is out of the building or room.

If you are not sure that all the people are safely out of a building, members of the emergency services may have to risk their own lives looking for them.

Here are some important points to remember to include in your evacuation procedures. They will help to make sure that there are no people left in a building. The points are:

- Some people may need extra help, such as those who use wheel chairs or who can't hear the alarms. Make sure you know who these people are and always assign a "buddy" to each person who needs help.
- As you leave a building, try to check that all rooms are clear as you leave. Only do this if you have time and it is safe to do so. This job might be done by a floor marshal (see below).
- You should know for which students you are responsible and you should have their names in a register.
- The register should be taken with you to the assembly point when you evacuate a building.
- People should be told to leave the building by the nearest exit and wait at the assembly point.
- People must not leave the assembly point until asked to do so by a member of the emergency services.

Evacuation marshals

It is usual to choose a person who is always at the site to act as the **liaison marshal**.

The duties of the **liaison marshal** are:

- when the fire alarm is heard, go to the assembly point

- liaise with the emergency services and report:
 - a) the number and location of any persons left in the building
 - b) the location of the fire, if known
 - c) any special hazards associated with the building
 - d) any injured people.

In addition it is usual to have people to act as floor marshals.

These marshals can be permanently assigned to a floor, or if nobody works permanently on that floor, it may be the person who first puts on the floor marshal's armband (or jacket) who takes the role of floor marshal

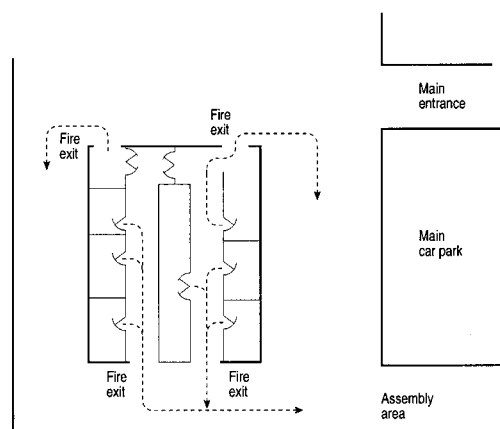
These armbands or jackets should be kept close to the nearest emergency exits so that the floor marshal can put them on.

During an evacuation floor marshals should:

- check everyone in their area is evacuated and that doors are closed
- station themselves at final exit doors to ensure that all personnel are moved as quickly as possible to the assembly point
- go to the liaison marshal at the assembly point and report the number and location of any persons left in the building
- report to the liaison marshal if they were unable to check their area
- stay at the assembly point until instructed to return to the building or go somewhere else

Procedures and assembly points

Here is a sample map of exits:



Here is a sample procedure:

- The person discovering or an emergency needing evacuation shall sound the fire alarm.
- In the event of the fire alarm sounding, the liaison marshal or deputy will call the fire service.
- All people will leave the building as quickly as possible by the nearest exit. **Do not use the lifts.** Do **not** re-enter the building.
- All people must go to the assembly point, keeping as far away from any entrance gates as possible.
- Stay at the assembly point until instructions are given by the liaison marshal.

Assembly points

Assembly points must be:

- be clearly marked
- away from entrances that might be used by emergency services
- a safe distance away from buildings so debris does not fall on people
- shown on evacuation plans

Reporting

When at the assembly point

- students will report to their teacher
- floor marshals will check with teachers if any people are missing or injured
- floor marshals will report missing or injured people to the liaison marshal
- liaison marshals will report to the emergency services

**Activity 7**

Contact a local organisation such as a local government building, large college or industry and ask if you could have a copy of their evacuation plans and procedures.

If you are unable to obtain these plans, ask the college that you enrolled at if you can have a copy of their plans and procedures.



Assignment No. 8.5-1

Unit 8.5 First aid

You are now required to do the Assignment 8.5 – 1 that will be found at the end of this unit or distributed by your tutor.



Assignment No. 8.5-1

Unit 8.5 First Aid and Occupational Health

To be completed and returned to your tutor for assessment.

This is an open book assignment and you may refer to whatever references you have at your disposal.

Name: _____ Due Date: _____

Question 1

Imagine an emergency has happened in your workshop during a class. A person has had an electric shock while using a saw and has got serious burns. The saw is still running and the person has collapsed next to the saw unconscious. Answer the following questions.

List in order four things you would do to make sure the victim and other people in the room are safe.

1.1 _____

1.2 _____

1.3 _____

1.4 _____

Question 2

Using the situation described for Question 1.

Answer **true** or **false** to the following statements:

- 2.1 _____ You should throw water on the victim's burns.
- 2.2 _____ You should not press the cut-off switch.
- 2.3 _____ Only a person trained in first aid should attempt first aid.
- 2.4 _____ You should immediately go home for the rest of the day.
- 2.5 _____ You should move everybody out of the area to the assembly points using the evacuation procedures.
- 2.6 _____ You should ensure all others are out of the area but stay there yourself to look after the workshop.
- 2.7 _____ You should seek emergency help if needed and ensure no-one can enter the unsafe area.
- 2.8 _____ You should get responsible people to wait at a safe distance to keep unauthorised people away.
- 2.9 _____ If the area is unsafe because of further electrical or fire hazards you should try and move the victim.
- 2.10 _____ If you cannot move the victim and the place is dangerous for you and others, you should leave the victim.

Question 3

Sparks from a faulty machine in your workshop have landed in some paper and caused a small fire. While somebody was trying to put out the fire, they got burns on their arms and legs. You turn off the main power supply in the workshop and evacuate everybody and the injured person gets taken to the first aid room. You try to put out the fire with an extinguisher but it has become too big and is out of control.

Write an example of what you would say to the emergency services when you phone them. Pretend it has happened in your workshop so use real details such as your real address.

Question 4

4.1 Name two local bodies qualified to give first aid training in your area.

Question 5

5.1 Name the main health and safety regulations in your local and or national area.

5.2 Where can you get information on health and safety in the workplace?

Question 6

Fill in the blanks below.

6.1 Hearing conservation aims to prevent damage to _____.

6.2 The disease Asbestosis is caused by breathing _____ dust over a long period.

6.3 List one of the three main aims of industrial hygiene.

6.4 Stress caused as a result of working conditions is known as _____ stress.

6.5 Two signs of occupational stress are: _____ and _____.

Question 7

What are the five (5) key points that should be in an emergency evacuation plan for a specific building or room.

Question 8

Put in order the following steps of the emergency evacuation procedure during a fire:

- _____ all people to go to the assembly point
- _____ stay at the assembly point until instructions given by the liaison marshal
- _____ all people leave the building by the nearest exit
- _____ check that all rooms are clear of people on the way out
- _____ the person discovering the emergency to sound the fire alarm