FIRST AID – UNIT STANDARD 02

NOTE TO THE FACILITATOR

First Aid training is governed by the Occupational Health and Safety Act and in the "Minimum Training Standards" compiled and regulated by the Department of Labour, there are strict rules that must be adhered to, to ensure that learners can receive accreditation for First Aid training.

By way of providing a short summary of these rules, the following:

1. ***Minimum Instructor Qualifications:***

1.1 A valid level 3 first aid certificate

1.2 A Department of Labour recognised valid Instructor's Certificate

2. ***Class / Instructor ratios:***

2.1 A maximum of 15 students per instructor for practical sessions

2.2 The course may be lengthened proportionately if there are more students for the practical sessions

2.3 Theoretical sessions are not limited to 15 students per instructor

3. ***Theoretical / a practical ratios:***

3.1 Training on a 50% theoretical and 50% practical basis

3.2 Evaluation on a 30% theoretical and 70% practical basis.

3.3 The theoretical examination may take the form of oral questions Incorporated during the practical examination

4. ***Minimum training aids:***

4.1 Resuscitation manikins (adult, child and infant)

4.2 Artificial wounds and artificial blood

4.3 Department of Labour legislated minimum content of a first aid box

4.4 A cervical collar

4.5 A resuscitation mouthpiece and surgical gloves for each learner

5. ***Minimum Course duration:***

5.1 Level 1 certificate = 36 hours ***excluding evaluation***

Module structure

In order to provide the learner with optimum understanding and skills, this module is divided into four separate themes. It is, however, of vital importance that the learner must be given

the opportunity for practical application of the skills after each and every section of every theme has been discussed.

It will serve the Adult Educator (AE) well to remember that Adult learners (AL) have a wealth of experience to draw from. For this specific reason the learner is well equipped to participate fully in group discussions and to draw from personal experience. The AE must therefore allow the learners to provide as much input into these training sessions as possible.

REMEMBER THAT IN THIS UNIT STANDARD THE LEARNERS ARE WORKING WITH HUMAN LIVES. THEREFORE THE NEED FOR ***KNOWLEDGE AS A REASONING AND DIAGNOSTIC TOOL*** AND ***PRACTICAL SKILLS AS A LIFE SAVING TOOL*** CAN NEVER BE STRESSED ENOUGH.

THEME NO. 1

Note to the facilitator

The time allocated for this theme is 2 hours. During this period the learner must gain full understanding of the idea of overall safety at an accident scene and the opportunity must be provided for the practical application of overall safety by means of discussions, role play and the simulation of accident scenarios.

Learning / Activity outcomes:

On completion of this theme the learner will be able to:

1. Know and describe the objectives of first aid

2. Apply the principles of personal safety, the safety of the accident scene and the safety of the casualty

3. Apply the principles of emergency scene management and utilise the available resources

4. Know and apply the medico-legal implications of providing first aid assistance

5. Define the history of an accident scene and observe the clues that may lead to an early diagnosis

1 OBJECTIVES:

1.1 to relieve pain

1.2 to maintain life

1.3 to prevent complications

2. SAFETY:

2.1 personal safety

2.2 The dangers of HIV/AIDS and Hepatitis B

2.3 Protective measures

2.4 Safety of the accident scene

2.5 Safety of the casualty

2.6 Possible dangerous situations

2.7 Medic alert disks / bracelets and their value

3. RESOURCES:

3.1 The use of bystanders

3.2 Calling the emergency services / medical services

3.3 Authorities that can be utilised eg. Police, Electricity Department, Traffic

Department etc.

4. THE MEDICO-LEGAL IMPLICATIONS OF PROVIDING FIRST AID ASSISTANCE:

4.1 The need to obtain consent

4.2 Acting within the scope of training and competency

4.3 Recording / reporting

5. HISTORY AND EARLY DIAGNOSIS:

5.1 Obtaining the history of an accident

5.2 Looking for clues to enable the making of an early diagnosis

THEME NO. 2

Note to the facilitator

The purpose of this theme is for the learner to gain an understanding of the structures of the human body, i.e. the anatomy as well as an understanding of the functioning of those structures, i.e. the physiology. Without this knowledge the learner will not be able to make informed decisions regarding the diagnosis and consequent first aid treatment.

It must be kept in mind that the learner is not readily able to visualise body structures and for this reason anatomical models must be used. In order for the learner to gain as deep an understanding as possible of this subject matter, the theme must be facilitated in as visual and realistic manner as possible. Good quality charts, overhead transparencies, etc., must be used to illustrate what will be a fairly unknown field to the Adult learners. Good use can be made of animal organs, e.g. a sheep's heart and lungs to provide clarity on the construction and function of certain organs.

Certain anatomical names must be mastered by the learner. (A list will be supplied at the end of this theme). The reason for mastering these basic anatomical names being that accurate information must be relayed to the emergency services and this can only be achieved if the learner is in command of the required terminology.

Learning / activity outcomes:

On completion of this theme the learner will be able to:

1. Understand the basic anatomy and physiology of the respiratory system

2. Understand the basic anatomy and physiology of the circulatory system

3. Understand the basic anatomy and physiology of the musculo-skeletal system

4. Understand the basic anatomy and physiology of the nervous system

5. Understand the consequences of injuries and illnesses

1. Understand the basic anatomy and physiology of the respiratory system

1.1 Anatomy of the lungs

1.2 Physiology of the lungs

2. Understand the basic anatomy and physiology of the circulatory system

2.1 Anatomy of the heart

2.2 Physiology of the heart

2.3 The difference between arteries and veins and their functions

2.4 Interaction between the heart, lungs and vascular system

3. Understand the basic anatomy and physiology of the musculo-skeletal system

3.1 The functions of the musculo skeletal system

3.2 Identify the bones of the upper body

3.3 Identify the bones of the lower body

3.4 The functions of muscles and ligaments

4. Understand the basic anatomy and physiology of the nervous system

4.1 Describe the brain and spinal column

4.2 Understand the functions of the different nervous systems

5. Understand the consequences of injuries to and illnesses of:

5.1 The heart

5.2 The lungs

5.3 The musculo skeletal system

5.4 The central nervous system

ANATOMICAL TERMINOLOGY TO BE MASTERED:

Aorta

Arteries

Autonomous nerves

Brachial artery

Brain

Bronchi

Capillaries

Carotid artery

Clavicle

Clavicula

Crepitus

Cyanosis

Dermis

Diaphragm

Epidermis

Extension

Femoral artery

Femur

Fibula

Flexion

Humerus

Joint

Left Atrium

Left ventricle

Ligament

Motor nerves

Pelvis

Pulmonary arteries

Pulmonary veins

Radius

Right ventricle

Right Atrium

Scapula

Sensory nerves

Skull

Somatic nerves

Spinal cord

Sternum

Temporal artery

Thorax

Tibia

Trachea

Ulna

THEME NO. 3

Note to the facilitator

The theme of basic life support cannot be facilitated without resuscitation manikins. ***PRACTISING LIFE SUPPORT TECHNIQUES ON A LIVE PERSON IS EXTREMELY DANGEROUS AND MUST AT ALL TIMES BE COMPLETELY DISCOURAGED AND AVOIDED****. In view of the fact that the anatomical landmarks differ from adult, child and infant, it will be necessary to have all three manikins available for training sessions in order to perform the practical exercises.*

It is of the utmost importance that learners must master Life Support techniques fully and obtain a high level of competency. To enable the learner to reach this level, provision must be made for regular and extended practice sessions working on the manikins.

It is also advisable to provide each learner with a resuscitation mouthpiece in order to provide protection against the spread of any infections.

Learning activities / outcomes:

On completion of this theme the learner will be able to:

1. Recognise and prevent respiratory emergencies

2. Open and maintain the airway including a casualty with a suspected neck injury

3. Perform adult, child and infant Artificial respiration (AR) according to the prescribed protocols

4. Recognise cardiac arrest

. 5. Perform one-rescuer Cardio Pulmonary Resuscitation (CPR) on an adult, child and infant according to the prescribed protocols

6. Provide follow-up care for a cardiac arrest patient

7. Recognise and prevent choking

8. Provide First Aid for a choking adult and child

1. RECOGNISE AND PREVENT RESPIRATORY EMERGENCIES

1.1 Depletion of oxygen supply

1.2 Heart and lung disfunction

1.3 Obstructed airway

1.4 The dangers of brain damage

2. OPEN AND MAINTAIN THE AIRWAY INCLUDING A SUSPECTED NECK INJURY

2.1 The chin-lift method

2.2 The jaw-thrust method

2.3 Fitting a neck collar

3. PERFORM ADULT, CHILD AND INFANT A.R.

3.1 When to initiate AR

3.2 Where to check the pulse in the adult, child and infant.

3.3 At what intervals the pulse must be checked

3.4 Ventilation rates for Adult, Child and Infant

3.5 Demonstrate AR on adult, child and infant manikins

3.6 Follow-up care for patient without neck injuries

3.7 Follow-up care for patient with neck injury

4. RECOGNISE CARDIAC ARREST

4.1 Checking vital signs

4.1.1 Respiration

4.1.2 Pulse

4.1.3 Temperature

4.2 Duration of vital sign checks

5. PERFORM ONE-RESCUER CPR ON AN ADULT, CHILD AND INFANT

5.1 Positioning of patient

5.2 Hand / finger position for Adult, child & infant

5.3 Compression depth for Adult, child & infant

5.4 Sequencing

5.5 Timing

5.6 Perform one-rescuer CPR on Adult, child and infant manikins

6. PROVIDE FOLLOW-UP CARE FOR CARDIAC ARREST VICTIM

5.1 Positioning

5.2 Constant surveillance

7. RECOGNISE AND PREVENT CHOKING

7.1 Airway obstruction

7.1.1 Partial

7.1.2 Complete

7.2 Causes and prevention of causal factors

8. Provide FIRST AID FOR A CHOKING ADULT AND CHILD

8.1 Conscious person

8.2 Unconscious person

8.3 Pregnant person

8.4 Obese person

THEME NO. 4

Note to the facilitator

Many of the Ancillary Health Workers (AHW's) will be active in areas where there are no medical facilities and where it may take an unacceptably long time for a patient to be moved to a health facility either by emergency vehicle or by private vehicle. The AHW will therefore have to perform first aid for many of the minor and major injuries that may arise in areas that lack proper medical care. In order to learn to cope with these situations, this theme covers the common injuries that the AHW may have to deal with in the course of performing his/her duties in the community as well as the most basic modes of transporting a patient.

The facilitator must make every effort to present this theme as realistically as possible. It will therefore be necessary to either make use of plastic wounds that are available or to learn the

simple art of wound simulation. Whatever medium is being used, it must be accompanied by artificial blood and good acting skills to simulate the signs and symptoms that would accompany the injury thereby providing the learner with the correct clues that must be utilised to make a proper diagnoses and decide on the correct treatment.

Once again it must be remembered that the AL has a wealth of experience from which to draw and the facilitator must make every effort to obtain full participation from the learners by means of open discussion on the various sections.

Please remember that the dangers of HIV/AIDS and Hepatitis B infection when working with blood and body fluids ***must at all times be stressed*** *by the facilitator and for this reason learners must be supplied with surgical gloves when participating in the practical sessions.*

Learning activities / outcomes

On completion of this theme the learners will be able to:

1. Understand what a first aider may and may not do

2. Perform a primary and secondary examination of a patient

3. Identify and treat shock

4. Understand the causes of soft tissue injuries and demonstrate the skills to provide first aid treatment

5. Understand internal and external bleeding and demonstrate the skills to provide first aid treatment

6. Understand the causes of musculo-skeletal injuries and demonstrate the skills to provide first aid treatment

7. Understand the causes of eye injuries and demonstrate the skills to provide first aid treatment

8. Understand the causes of head and spinal injuries and demonstrate the skills to provide first aid treatment

9. Understand the causes of unconsciousness and demonstrate the skills to provide first aid treatment

10. Understand different environmental illnesses and injuries and demonstrate the skills to provide fist aid treatment

11. Understand the different causes of and types of burns and demonstrate the skills to provide first aid treatment

12. Understand the causes of poisoning and demonstrate the skills to provide first aid treatment

13. Be able to demonstrate the most basic methods of transporting a patient

1. UNDERSTAND WHAT A FIRST AIDER MAY AND MAY NOT DO

1.1 Know and describe the principles of First Aid

1.1 Revise the medico-legal implications

2. PERFORM PRIMARY AND SECONDARY EXAMINATIONS

2.1 Vital signs

2.2 Evaluation of vital signs

2.3 Pulse rates of adult, child and infant

2.4 Respiration rates of adult, child and infant

2.5 Normalisation of the vital signs

2.6 Primary examination of a conscious patient

2.7 Primary examination of an unconscious patient

2.8 Secondary examination of a conscious patient

2.9 Secondary examination of an unconscious patient

2.10 Monitor vital signs

2.11 Monitor level of consciousness

2.12 Monitor splints and bandages for signs of inadequate distal circulation

3. IDENTIFY AND TREAT SHOCK

3.1 Recognise shock

3.1.1 Define shock

3.1.2 State when shock occurs

3.1.3 The symptoms and signs of shock

3.2 Prevention of shock

3.2.1 Ensure open airway

3.2.2 Ensure respiration

3.2.3 Ensure circulation

3.2.4 Keep patient calm

3.2.5 Reassure at all times

3.2.6 Maintain body temperature

3.3 Shock positions

3.3.1 The recovery position

3.3.2 Flat on the back (be alert for vomiting)

3.3.3 The semi-Fowler position

3.4 Reasons for not supplying food or water

3.5 Constantly monitor vital signs

3.6 Never leave shocked patient alone

4. UNDERSTAND THE CAUSES OF SOFT TISSUE INJURIES AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

4.1 Anatomy and physiology of the skin

4.2 Classification of soft tissue injuries

4.2.1 Contusions

4.2.2 Abrasions

4.2.3 Lacerations

4.2.4 Avulsions

4.2.5 Puncture wounds

4.3 Dangers and prevention of infection

4.4 The treatment of soft tissue injuries

5. UNDERSTAND EXTERNAL AND INTERNAL BLEEDING AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

5.1 Bleeding

5.1.1 Define external and internal bleeding

5.1.2 Normal blood volumes of adult, child and infant

5.1.3 Symptoms and signs of severe bleeding

5.1.4 When to suspect internal bleeding

5.2 General principles for the control of external bleeding

5.2.1 The use of gloves

5.2.2 The need to change gloves between patients

5.2.3 The importance of elevation

5.2.4 General principles for the application of direct pressure

5.2.5 Different types of pressure pads

5.2.6 Different techniques to control bleeding

5.3 Embedded foreign objects

5.3.1 Control bleeding

5.3.2 Positioning of pressure pads or ring pads

5.3.3 Stabilising the foreign object

5.3.4 Positioning pressure bandages

5.4 Inadequate distal circulation

5.4.1 Signs of inadequate distal circulation e.g. skin temperature, skin colour, pins and needles, lack of sensation, lack of pulse

5.4.2 Correct inadequate distal circulation

5.4.3 Avoid constricting bandages

5.5 Bleeding from the nose, ear and scalp

5.5.1 Nose by position, pressure, time and ice

5.5.2 Ear by dressing and position of head

5.5.3 When to avoid dressings on the ear

5.5.4 Scalp by dressing, ring pad and bandage

5.6 Internal bleeding

5.6.1 When to suspect internal bleeding

5.6.2 Steps to take when internal bleeding is suspected

5.6.3 The prevention and treatment of shock

6. UNDERSTAND THE CAUSES OF MUSCULO-SKELETAL INJURIES AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

6.1 Types of fractures

6.1.1 Closed fractures

6.1.2 Open fractures

6.1.3 Complicated fractures

6.2 The symptoms and signs of fractures

6.3 General principles for the treatment of closed, open and complicated fractures

6.4 Immobilisation of closed, open and complicated fractures of the upper and lower limbs

6.5 Monitoring of distal circulation and sensation

6.6 The improvisation of splints

7. UNDERSTAND THE CAUSES OF EYE INJURIES AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

7.1 Anatomy of the eye

7.2 Provide first aid for foreign bodies in the eye

7.3 Provide first aid for wounds around the eye

7.4 Provide first aid for burns to the eyes

8. UNDERSTAND THE CAUSES OF HEAD AND SPINAL INJURIES AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

8.1 Recognise a head injury

8.2 The serious nature of a head injury

8.3 Types of head injuries

8.4 Provide first aid for a head injury

8.5 Demonstrate the first aid for a scalp wound with an underlying fracture of the skull

8.6 Recognise a spinal injury

8.7 The serious nature of spinal injuries

8.8 History of the injury, symptoms and signs

8.9 Provide first aid for a spinal injury

8.10 State when a patient with a spinal injury may be moved

8.11 Precautions to be taken and method of moving a patient with a spinal injury

8.12 The dangers of improper handling of a patient with a spinal injury

8.13 The improvisation of a neck collar

8.14 The application of a neck collar

8.15 The “logg-roll” technique

8.16 Immobilization of the patient using five triangular bandages

8.17 Preparation of the spinal board

8.18 “Log-roll” onto the spinal board

8.19 Securing the patient to the spinal board and supporting the head

9. UNDERSTAND THE CAUSES OF UNCONSCIOUSNESS AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID

9.1 Recognise Unconsciousness

9.2 Maintain vital functions

9.3 Monitor patient

9.4 Appropriate positioning

10. UNDERSTAND DIFFERENT ENVIRONMENTAL ILLNESSES AND INJURIES AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID.

10.1 Understand the conditions that aggravate the effect of exposure to cold.

10.2 Understand the syptoms and signs of frostbite.

10.3 Understand the symptoms and signs of the progressive stages of hypothermia

10.4 Provide first aid treatment for frostbite

10.5 Provide first aid treatment for hypothermia

10.6 Understand the conditions that cause heat illnesses

10.7 Understand the symptoms and signs of Heat Cramps, Heat Exhaustion and Heat Stroke

10.8 Provide first aid treatment for Heat Cramps, Heat Exhaustion and Heat Stroke

11. UNDERSTAND THE DIFFERENT CAUSES OF AND TYPES OF BURNS AND DEMONSTRATE THE SKILLS TO PROVIDE FIRST AID TREATMENT

11.1 Demonstrate a knowledge of dangerous substances

11.2 Classify burns by cause and provide examples of each

11.3 Understand the factors that determine the seriousness of burns

11.4 Understand the symptoms and signs of a superficial burn

11.5 Understand the symptoms and signs of a deep burn

11.6 Establish burn wound percentages

11.7 Understand the complications that may result from burn wounds

11.8 Demonstrate the ability to provide first aid treatment for burns caused by:

11.8.1 Moist heat

11.8.2 Dry heat

11.8.3 Liquid chemicals

11.8.4 Dry chemicals

11.8.5 Electricity

11.8.6 Radiation

11.9 Demonstrate the ability to judge when medical assistance is require for a casualty who has suffered burn wounds

12. UNDERSTAND THE CAUSES OF POISONING AND DEMONSTRATE THE ABILITY TO PROVIDE FIRST AID TREATMENT

12.1 Understand the four routes by which poisons enter the body

12.2 Understand how the history of a poisoning incident may be determined

12.3 List the symptoms and signs of poisoning when the poison has been:

12.3.1 Ingested

12.3.2 Inhaled

12.3.3 Absorbed

12.3.4 Injected

12.4 Provide first aid for a conscious person who ingested poison.

12.5 Provide first aid for an unconscious person who ingested poison

12.6 Provide first aid for a person who inhaled a poisonous substance

12.7 Provide first aid for a person who absorbed poison through the skin

12.8 Provide fist aid for a person who had poison injected through the skin

12.9 Provide first aid for snake bites

12.9 Provide first aid for insect bites and stings

12.10 Provide first aid for tick bites

13. DEMONSTRATE THE MOST BASIC METHODS OF TRANSPORTING A PATIENT

13.1 Without a stretcer

13.1.1 Cradle

13.1.2 Pigck-a-back

13.1.3 Crutch aid

13.1.4 Fireman’s lift

13.1.5 Body drag

13.1.6 Double, three and four handed seat

DISASTER MANAGEMENT

COURSE OBJECTIVES

Note to the facilitator

Much of the course in Disaster management is common sense. It is, however, true that man, under circumstances that are less than optimum, seem to lose reasoning ability and often neccessity dictates that communities are situated in areas where they are extrememly vulnarable to disasters.

Field trips are of great value when facilitating this module and once again the Adult Learner's experience and input is required to make this an interesting and valuable module. Disaster management centres will also gladly assist groups with situational annalysis, informal talks, and as guest lecturers.

COURSE OBJECTIVES:

At the end of the module the learner will be able to:

1. Describe the causes / progression of disaster vulnerability as well as the disaster management continuum diagram

2. Describe the causal factors of disasters

3. Recognise the phases of disasters

4. Identify the relationship between disasters and development

5. Describe the impact of disasters on development programs

6. Identify the most important hazards and how they affect society

7. Identify the aims and elements of disaster management

Understand the Definitions and terminology of:

Hazard

Disaster

Emergency

Vulnaribility

Development

Disaster Management

Be able to describe:

A disaster as the interface between natural hazards and vulnerability conditions

The progression of vulnerability in the disaster management contex

Be able to describe the causal factors of disasters:

Poverty

Population growth

Rapid urbanisation

Transisions in cultural practices

Lack of awareness and information

Environmental degradation

War and civil strife

Misuse of technology

PHASES OF DISASTERS AND DISASTER CLASSIFICATION

Definitions and terminology:

Human-made disasters

Natural disasters

Risk

Relief phase

Rehabilitation

Reconstruction

Mitigation

Preparedness

Early warning

Phases of a disaster

Disasters can be viewed as a series of phases on a time continuum. Identifying and understanding these phases helps to describe disaster-related needs and to conceptualise appropriate disaster management activities

Define rapid onset disasters using the disaster management continuum

Define slow onset disasters using the disaster management continuum

Disaster Classification

Classification according to their speed of onset (slow or rapid)

Classification according to the causes (man-made or natural)

The difference between time-frames, procedures and resources required

Disasters and development:

Development can increase vulnerability

Development can decrease vulnerability

Disasters can set back development

Disasters can provide development opportunities

The impact on development programs:

Loss of resources

Interruption of programs

Negative impact on investment climate

Disruption of non-formal section

Political destabilisation

HAZARDS:

Categories:

SUDDEN ONSET HAZARDS:

Geological hazards:

Earthquakes

Tsunamis

Volcanic eruptions

Landslides

Climatic hazards:

Tropical cyclones

Floods

Droughts

SLOW ONSET HAZARDS:

Environmental hazards

Environmental pollution

Deforestation

Desertification

Pest infestation

EPIDEMICS

Water / food borne diseases (Cholera)

Person to person diseases (HIV/AIDS)

Vector borne diseases (Malaria)

INDUSTRIAL / TECHNOLOGICAL HAZARDS

System failures:

Industrial acidents

Spillages

Fires

Explosions

WARS AND CIVIL STRIFE:

Armed aggresstion / terrorism (displaced persons and refugees)

THE STRUCTURING OF EMERGENCY AND RESPONSE MEASURES

Causal phenomena

General characteristics

Predictability

Facors contributing to vulnerability

Typical affects

Possible risk reduction measures

Specific preparedness measures

Typial post-disaster needs

DISASTER PREPAREDNESS

Define disaster preparedness

Describe the aims and objectives of disaster management

Describe the elements of disaster management