First Aid Training for all walks of life...

First Aid Level 1

SAQA US: 119567
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EMERGENCY PROCEDURE

ON ARRIVAL THE FIRST AIDER SHOULD FOLLOW THE PROCEDURE BELOW:

PRIMARY EXAMINATION

SECONDARY EXAMINATION

3 INJURIES THAT TAKE PRECEDENT:

ASSESSING THE EMERGENCY SITUATION

SAMPLE HISTORY

MAKING THE AREA SAFE

KNOW WHO TO CALL

RELAY INFORMATION

COMMON INJURIES AND THEIR TREATMENT

CRITICAL INJURIES

SUDDEN ILLNESS

BONE, JOINT AND MUSCLE INJURIES

BONE INJURIES / FRACTURES

HEAD, SPINE AND NECK INJURIES

MUSCLES

CIRCULATORY PROBLEMS

FAINTING / DIABETIC EMERGENCY

HEART ATTACK

SHOCK (CIRCULATORY)

ENVIRONMENTAL INJURIES

BURNS

ELECTRIC SHOCK

POISONING

NERVOUS SYSTEM PROBLEMS

SEIZURES

STROKE

UNCONSCIOUSNESS

RESPIRATORY PROBLEMS

DROWNING

WOUNDS AND BLEEDING

BLEEDING

MAJOR EXTERNAL BLEEDING

INTERNAL BLEEDING

WOUNDS

OTHER COMMON INJURIES/AILMENTS

ALLERGIC REACTIONS

APPENDICITIS

ASTHMA

BEE STING

BLEEDING NOSE

CROUP

DIARRHOEA

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HEAT STROKE

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THE NATIONAL QUALIFICATIONS FRAMEWORK

WHAT IS THE NATIONAL QUALIFICATIONS FRAMEWORK (NQF)?

It is a framework i.e. it sets the boundaries – a set of principles and guidelines that provide a vision, a philosophical base and an organisational structure for construction of a qualification system. Detailed development and implementation is carried out within these boundaries.

It is national because it is a national resource, representing a national effort at integrating education and training into a united structure of recognised qualifications. It is a framework of qualifications i.e. records of learner achievement.

In short, the NQF is the set of principles and guidelines by which records of learner achievements are registered to enable national recognition of acquired skills and knowledge, thereby ensuring an integrated system that encourages life-long learning.

OBJECTIVES OF THE NQF

- Create an integrated national framework for learning achievements
- Within this framework to facilitate access to, and mobility and progression within, education, training and career paths
- Enhance the quality of education, training and skills development
- Accelerate the redress of past unfair discrimination in education, training and employment opportunities, and thereby to
- Contribute to the full personal development of each learner and the social and economic development of the nation at large.

PRINCIPLES OF THE NQF

- Integration – To allow a unified approach to education and training across different areas and levels of learning, and between different components of the learning delivery system.
- Relevance – To be responsive to national development needs.
- Credibility – To have international and national value and acceptance.
- Coherence – To work within a consistent framework of principles and certification.
- Flexibility – To allow for multiple pathways to the same learning ends.
- Progression – To ensure that the framework of qualifications permits individuals to move through the levels of national qualifications via different combinations of learning programmes.
- Standards – To be expressed in terms of a nationally agreed framework and internationally acceptable outcomes.
- Legitimacy – To provide for the participation of all national stakeholders in the planning and co-ordination of learning end-points.
- Access – To provide ease of entry to appropriate levels of education and training for all prospective learners in a manner which facilitates progression.
- Portability – To enable learners to transfer credits of qualifications from one learning institution and / or employer to another.

NQF LEVELS

Every qualification on the NQF gets registered on a specific NQF level from 1 to 10 to reflect progression in learning. The levels are grouped into three sectors reflecting the transition from general education to further education, to higher education.
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<td>General Education &amp; Training (GET)</td>
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QUALIFICATIONS AND SKILLS PROGRAMMES

National Qualifications, which are available to everyone, are based on national standards, and recognised by industries throughout South Africa. National Qualifications are designed to provide:

- Individuals with a clear path in terms of career development, which is not tied to a specific route of learning, and
- Employers with a means of recruiting qualified and competent staff, as well as managing their performance.
Each qualification consists of the following elements:

- **Fundamental unit standards** – Those unit standards that make the learner a better learner or a better person (study & life skills).
- **Core unit standards** – Those unit standards that are common to all qualifications within the specific field of interest or cluster of qualifications.
- **Elective unit standards** – Those unit standards from which a learner can choose in order to pursue a specific field of interest.

Skills Programmes are made up of clusters or single unit standards, which will equip the learner with a specific skill that might be part of a National Qualification. These unit standards are usually job orientated.

### UNIT STANDARDS

Unit standards are the building blocks of a qualification. It is the registered statement of desired education and training outcomes that a learner must achieve to be declared competent. At the same time it gives the associated assessment criteria together with administrative and other information that is needed to train and assess that specific unit standard.

Unit standards always describes the level at which the unit standards are registered as well as the credit value attached to each unit standard.

### CREDITS

Credits are obtained on all unit standards of a qualification or skills programme.

Credit allocation is simply a way of indicating the notional time the average learner takes to achieve the outcomes of a particular unit of learning. One credit is allocated to ten notional hours of learning – being the total time notionally taken by the average learner to achieve the outcomes of that unit of learning.

Credit assignment is not, moreover, to be confused with level assignment: it is the complexity of learning described in the level descriptors which will determine the level a qualification is pegged on the Framework. Credit assignment remains merely a convenient mechanism for arbitrary determination of notional time taken to achieve the outcomes of a unit of learning.

### BENEFITS OF THE NQF SYSTEM

- Learners are placed on a pathway of Learning for Life.
- Learners get national recognition for qualifications and all qualifications are comparable to one another.
- Quality Control over training is assured through the SETA’s who interact regularly to assure that similar qualifications are assessed the same way.
- Learners have the advantage of using units already qualified in, in other qualifications thus ensuring the portability of their knowledge without wasting training time.

This all lead towards:

- Skilled, motivated staff is more productive and contribute towards a more professional industry.
- Staff development is enhanced because employees have recognised, measurable qualifications of which they can be proud.
- National qualifications assist with recruiting staff that are nationally recognised as competent.
The explicit, national standards of qualifications enable the results of training of employees to be measured.

Training towards qualifications is geared to the needs of the job market.

Qualifications promote multi-skilling, which makes staff more adaptable.

Customers receive a more professional service, ideally in line with international standards.

Training employees against qualifications assist with complying with the Skills Development Act and the Employment Equity Act.

IMPORTANT POLICIES AND PROCEDURES

ASSESSMENT PROCESS

1. Formative Assessments are done during the Learning Programme.
2. A summative assessment will be done after completion of the Learning Programme.
3. A Pre-assessment meeting / briefing is held before the assessment takes place.
4. The learning outcomes, assessment criteria, assessment procedure, assessment plan, assessment instrument and appeals process will be given and discussed with the learner.
5. The assessment date will be scheduled.
6. Support will be available to the Learner while preparing for assessment.
7. Assessment will be conducted according to the unit standard ‘Conduct outcomes-based assessment (115753)’ and HW SETA requirements and the Principles of Assessment will be upheld. These are outlined in the Learner Programme Assessment Guide.
8. Feedback will be given to the Learner and other relevant parties after the assessment. The way forward will be discussed.
9. The assessment will be reviewed and sent to the Moderator for moderation before certification will take place.

ASSESSMENT ATTEMPTS

1. The Learner has two assessment attempts without having to pay extra.
2. After the second attempt the Learner has to pay the set amount for any further assessment attempts.
3. If the Learner was found not yet competent with the first assessment attempt an inquiry will be conducted to find possible reasons for the result and addressed accordingly.
4. If the Learner was found not yet competent with the second assessment attempt an inquiry will be conducted to find possible reasons for the result and addressed accordingly.
5. The third and any further assessments will be done after the set amount is paid.
6. The Learner will receive guidance and coaching through the whole process.
7. A total of five attempts will be allowed for assessment.

APPEALS PROCESS

Any Learner may appeal:

1. The Learner has the right to appeal against any assessment outcome if s/he believes the assessment was in any way unfair, invalid, unreliable or impractical.
2. The Learner has the right to appeal to any Assessor or Moderator in Drum Beat Academy’s Appeal Structure.
3. If the Appeal Outcome does not satisfy the Learner, the Learner has the right to appeal to Drum Beat Academy’s CEO. If the Appeal Outcome does not satisfy the Learner, the Learner has the right to appeal to the HW ETQA, and even to the SAQA ETQA.
4. The Learner has the right to appeal to the CCMA for any alleged Unfair Labour Practice.
5. The Learner has the right to Learner Representation and Mentorship throughout the Appeal process.
General procedure:

1. If the learner is not satisfied with the assessment outcome, s/he must discuss it with the assessor and try to reach a satisfactory solution.
2. If the Learner is still not satisfied s/he completes the Appeal Application Form and submits it to any of the assessors or moderators of Drum Beat Academy as soon as possible.
3. The Assessor/Moderator report the Appeal to the Administrator, who logs the Appeal in the Register.
4. The Moderator must initiate the Appeal Investigation and arranges a meeting with the assessor and the learner within 5 working days of receiving the Appeal.
5. The Moderator may:
   a. ask the assessor to reassess the learner;
   b. ask the assessor to reassess the learner with the moderator present;
   c. ask another assessor to assess the learner.
6. The Moderator compiles his/her Appeal Outcome Report and the outcome is recorded on the Appeal Register and a copy of the Report kept on the learner’s file.
7. If the learner is still not satisfied with the outcome, s/he may appeal to the Drum Beat Academy’s CEO by completing another Appeal Application Form.
8. The CEO initiates an Appeal Investigation by reviewing the documentation of the previous Appeal and arranges a meeting with the relevant parties.
9. The CEO may:
   a. appoint a member to assess the learner;
   b. ask another assessor to assess the learner;
   c. ask the assessor to reassess the learner with a member present.
10. The CEO completes the Investigation Report and notifies all relevant parties of the decision.
11. The outcome is recorded in the Appeal Register and a copy filed on the learners file.
12. If the learner is still not satisfied then s/he may Appeal to the HW ETQA or SAQA ETQA.
13. A copy of the Investigation Report is filed on the learner’s file and the outcome logged on the Appeal Register.

OVERVIEW OF THE LEARNING PROGRAMME

FIRST AID LEVEL 1 UNIT STANDARD

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SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED UNIT STANDARD:

Perform basic life support and first aid procedures

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QUALITY ASSURING BODY

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<td>Curative Health</td>
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ABET BAND | UNIT STANDARD TITLE | PRE-2009 NQF LEVEL | NQF LEVEL | CREDITS |
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REGISTRATION STATUS | REGISTRATION START DATE | REGISTRATION END DATE | SAQA DECISION NUMBER |
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LAST DATE FOR ENROLMENT | LAST DATE FOR ACHIEVEMENT |
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<td>2019-06-30</td>
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In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This unit standard replaces:

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<td>Perform basic life support and/or first aid procedures in emergencies</td>
<td>Level 1</td>
<td>NQF Level 01</td>
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<td>116509</td>
<td>Apply primary emergency life support</td>
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<td>NQF Level 01</td>
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<td>Complete</td>
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<td>Carry out basic first aid treatment in the workplace</td>
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<td>NQF Level 01</td>
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PURPOSE OF THE UNIT STANDARD

This unit standard is for persons required to assess the emergency situation and providing basic Life Support and basic First Aid in order to stabilise patients prior to transfer to the emergency services.

People credited with this unit standard are able to:
- Demonstrate an understanding of emergency scene management
- Demonstrate an understanding of elementary anatomy and physiology
- Assess an emergency situation
- Apply First Aid procedures to the life-threatening situation
- Treat common injuries

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

- Communication at ABET level 3
- Mathematical Literacy at ABET level 3

UNIT STANDARD RANGE

- The recognition and management of a range of emergencies according to the prescribed protocols.
- Rendering basic First Aid to the community even if the required resources have to be improvised.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Demonstrate an understanding of emergency scene management.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1
Maintenance of personal safety is explained in terms of preventing injuries to self and infectious diseases.

**ASSESSMENT CRITERION 2**
Methods of safeguarding the emergency scene are explained in accordance with relevant practices and legislation.

**ASSESSMENT CRITERION 3**
Methods of safeguarding the injured person are explained in accordance with relevant practices and legislation.

**ASSESSMENT CRITERION 4**
The medico-legal implications of rendering First Aid are explained in terms of relevant legislation.

**SPECIFIC OUTCOME 2**
Demonstrate an understanding of elementary anatomy and physiology.

**ASSESSMENT CRITERIA**

**ASSESSMENT CRITERION 1**
The different systems of the human body are described in terms of their structure and function.

**ASSESSMENT CRITERION 2**
The manner in which the systems relate to each other is explained in accordance with basic medical science.

**ASSESSMENT CRITERION 3**
The way in which each system operates is explained in accordance with basic medical science.

**SPECIFIC OUTCOME 3**
Assess an emergency situation.

**ASSESSMENT CRITERIA**

**ASSESSMENT CRITERION 1**
The emergency situation is assessed in terms of priority treatments.

**ASSESSMENT CRITERION 2**
The cause of the emergency is identified in terms of main contributing factors.

**ASSESSMENT CRITERION 3**
The type of injury is identified in terms of broad classifications.

**ASSESSMENT CRITERION RANGE**
Fractures, burns, lacerations, difficulty with breathing, severe haemorrhage, head injuries, spinal injuries, level of consciousness, strains and sprains.

**ASSESSMENT CRITERION 4**
The situation is assessed in terms of the type of assistance required.

**SPECIFIC OUTCOME 4**
Apply First Aid procedures to the life-threatening situation.

**OUTCOME RANGE**
Cardio-Pulmonary (CP) arrest; cessation of breathing; severe haemorrhage.

**ASSESSMENT CRITERIA**
ASSESSMENT CRITERION 1
First Aid treatment applied is appropriate to the situation and the prevention of complications.

ASSESSMENT CRITERION 2
Equipment that is not readily available is improvised in terms of the First Aid procedure required.

ASSESSMENT CRITERION 3
Universal precautions are taken which are appropriate in terms of preventing infection.

ASSESSMENT CRITERION 4
First Aid is applied in accordance with current practice.

ASSESSMENT CRITERION 5
Cardio-Pulmonary Resuscitation (CPR) and Artificial Respiration (AR) is performed in accordance with accepted procedures.

ASSESSMENT CRITERION 6
Referral to medical assistance is done in accordance with the specific needs of the casualty.

SPECIFIC OUTCOME 5
Treat common injuries.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1
Different types of injuries and conditions are identified and described in terms of their severity, cause and possible treatment.

ASSESSMENT CRITERION 2
Universal precautions taken are appropriate in terms of preventing infection.

ASSESSMENT CRITERION 3
Equipment that is not readily available is improvised in terms of the First Aid procedure required.

ASSESSMENT CRITERION 4
Referral to medical assistance is in accordance with the specific needs of the casualty.

ASSESSMENT CRITERION 5
Follow-up care is provided in accordance with the specific needs of the casualty.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS
- Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA the relevant ETQA or with an ETQA that has a memorandum of understanding with the relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard must be accredited as a provider through the relevant ETQA the relevant ETQA or with an ETQA that has a memorandum of understanding with the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA the relevant ETQA or with an ETQA that has a memorandum of understanding with the relevant ETQA, according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE
The following embedded knowledge is addressed in an integrated way in the unit standard:
1. Names & functions of:
   - Anatomy and physiology of the human body
   - Primary and secondary examinations
   - Scope of practice, consent, recording

2. Attributes, descriptions, characteristics & properties:
   - Confidence attained through repeated practical applications
   - Willingness to assist in emergency situations

3. Sensory cues:
   - Effective diagnosis and treatment and safety of the accident scene and bystanders

4. Purpose of:
   - Precautionary measures for blood and body fluids
   - Specific equipment and training aids
   - Specific treatment

5. Events, causes and effects, implications:
   - Events relating to injury mechanisms
   - Safety requirements relating to the situation
   - Transportation of patients, services available and cost implications

6. Categories:
   - Adults, children and infants
   - Sick or injured
   - Emergency situations
   - Disaster situations

7. Procedures and techniques:
   - Evaluation of the patient's condition and severity of injuries e.g. critical, stable, level of
     consciousness etc
   - Basic communication skills

8. Regulations, legislation, agreements, policies, standards:
   - Standards set according to legislation as per the Occupational Health and Safety Act and other related legislation
     and policies

9. Theory, rules, principles, laws:
   - Interdependence of the various systems of the body
   - Specific treatments

10. Relationships, systems:
    - Family, community, colleagues
    - Emergency and disaster services

**UNIT STANDARD DEVELOPMENTAL OUTCOME**

N/A

**UNIT STANDARD LINKAGES**

N/A

**Critical Cross-field Outcomes (CCFO):**

**UNIT STANDARD CCFO IDENTIFYING**

Identify and solve problems related to the prevention of complications with regard to injuries and mechanisms of
injuries sustained, treatment to be provided, improvisation where equipment is unavailable and referral systems.

**UNIT STANDARD CCFO WORKING**

Work effectively with others as part of a team, including other health workers including casualty and other referral
services, emergency services including Fire and Ambulance and disaster services.
UNIT STANDARD CCFO ORGANISING
Organise and manage oneself and one’s activities responsibly and effectively in a life support context.

UNIT STANDARD CCFO COLLECTING
Collect, analyse, organise and evaluate information about clients, family and community with regard to signs and symptoms and make a correct diagnosis.

UNIT STANDARD CCFO COMMUNICATING
Communicate effectively with other health workers including casualty and other referral services, emergency services including Fire and Ambulance and disaster services.

UNIT STANDARD CCFO SCIENCE
Use science and technology effectively with regard to information and communication systems and the correct use of available equipment.

UNIT STANDARD CCFO DEMONSTRATING
Demonstrate an understanding of the world as a set of related systems with regard to community and community structures in managing emergency situations.

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

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OVERVIEW OF THE MODULES

MODULE 1: EMERGENCY SCENE MANAGEMENT

In this module we discuss the maintenance of personal safety in terms of preventing injuries to self and infectious diseases. We look at the methods of safeguarding the emergency scene and the injured person in accordance with the relevant practices and legislation. We will also discuss the medico-legal implications of rendering First Aid.

MODULE 2: ANATOMY & PHYSIOLOGY

In this module we look at the structure and function of the different systems of the human body, the manner in which they relate to each other and the way in which these systems operate.

MODULE 3: EMERGENCY SITUATIONS & COMMON INJURIES

In this module we are going to look at assessing the emergency situation in terms of priority treatments, identifying the cause of the emergency and the types of injuries and their treatment.

MODULE 4: FIRST AID/LIFESAVING PROCEDURES

In this module we will do practical CPR, Artificial Respiration, Recovery Position and assisting a person that is choking (Abdominal Thrusts).
WHAT IS FIRST AID?

First aid is the initial assistance or care of a suddenly sick or injured person. It is the vital initial care we all feel an impulse to give as soon as possible after an accident or illness.

Not every incident requiring first aid will be a life and death situation and most commonly first aid knowledge is used to manage minor injuries at home or work.

This prompt care and attention prior to the arrival of an ambulance can sometimes mean the difference between life and death, or between a full or partial recovery.

THE MAIN AIMS OF FIRST AID ARE TO:

- Preserve life
- Protect the casualty from further harm
- Provide pain relief
- Prevent the injury or illness from becoming worse
- Provide reassurance
- Promote a speedy recovery

WHY IS PROMPT FIRST AID CARE IMPORTANT?

The principle to be adopted in first aid is to take immediate action. Bystanders or relatives may not recognise the basic signs and symptoms of an injury or illness and may wait hours until they call for help.

Often people are worried about doing the wrong thing, so they don’t attempt any first aid at all. If a person is sick or injured, then they need help and they need it immediately.

A casualty who is not breathing effectively, or is bleeding heavily, requires immediate assistance and if prompt effective first aid is provided, then the casualty has a much better chance of a good recovery.

It is important that prompt action does not lead to panic and the first aider should form a plan of action. Careful and deliberate action undertaken without too much delay is most beneficial to the casualty.

Try to remain calm and think your actions through. A calm and controlled first aider will give everyone confidence that the event is being handled efficiently and effectively.

Each emergency is different so it is impossible to provide you with a precise list of things you need to do for every emergency. However, if you follow the principles of first aid, you should deliver appropriate care, even if you are not sure of what the underlying problem is.

Don’t panic.
Calm yourself first.
Stay in control.
Call emergency services ASAP.
MODULE 1:
EMERGENCY SCENE MANAGEMENT

MODULE 1 LEARNING OUTCOMES

On completion of this module the Learner will be able to:

- Explain the maintenance of personal safety in terms of preventing injuries to self and infectious diseases.
- Explain the methods of safeguarding the emergency scene in accordance with relevant practices and legislation.
- Explain the methods of safeguarding the injured person in accordance with relevant practices and legislation.
- Explain the medico-legal implications of rendering First Aid in terms of the relevant legislation.
SAFETY

When you give first aid, it is important to protect yourself (and the casualty) from infection as well as further injury. Take steps to avoid cross infection – transmitting germs or infection to a casualty or contracting infection yourself from the injured person.

PERSONAL SAFETY

When you come upon an emergency scene, make sure that it is safe for you to approach. Look for hazards such as electrical wires, oncoming traffic, a building that might collapse or any other danger to yourself.

Where possible always make sure that you wear gloves and use one-way valve mouthpieces when conducting artificial respiration. These will help to safeguard you against possible infections.

SAFETY OF THE SCENE

It is crucial that you safeguard the scene before you commence with the treatment of the injured person as you might not be aware of what is happening around you while you are busy with the injured person.

Remove all hazards or potential dangers from the scene. For example put out the emergency triangle of the car. Place a rock behind the vehicle’s wheels to prevent it from moving forwards or backwards.

Only approach a scene when you are absolutely sure that it is safe for you to do so. You are the most important person in a first aid equation.

IMPORTANT

Use a one-way valve mouthpiece.
Wear disposable gloves.
Cover open wounds on your hands.
Clean hands thoroughly afterward.

SAFETY TO THE INJURED PERSON

Once you have ensured safety to yourself and safeguarded the scene you can attend to the injured person.

Only move the injured person when his/her life is in danger for example the vehicle is leaking gas and it might catch fire or explode.

Remember never try to remove a casualty from a dangerous situation if it might put you at risk, rather call emergency services. They use specialised equipment that makes it easier and safer for both the patient and the rescuer.
MEDICO-LEGAL IMPLICATIONS

It is very important that the First Aider only treats an injured person in accordance to the level in which s/he has been trained. The First Aider could face criminal charges should the treatment s/he rendered was outside of the protocols s/he was trained in.

There are certain practices in use to minimise the legal consequences that might arise from the First Aider assisting or failure to assist an injured person. It is very important for the First Aider to take note of these practices and apply it.

CONSENT

Before a First Aider can treat an injured person s/he must obtain consent from the injured person. Failure to do so may lead to charges brought against the First Aider. These may include assault charges or even culpable homicide if the injured person dies and the First Aider did not obtain consent or if the First Aider provided treatment that is outside his/her level of training.

ACTUAL CONSENT

Actual consent is where the First Aider directly asks the injured person if s/he can assist. The injured person must reply in the affirmative before the First Aider can go ahead and assist.

IMPLIED CONSENT

Implied consent is obtained through the actions or the absence of objection by the injured person and comes into play when the injured person is unconscious or unable to tell the First Aider to help him/her due to the nature of his/her injuries.

When operating under implied consent it is standard and safe practice for the First Aider to constantly inform the injured person of the actions being taken by him/her.

CONSENT IN CASE OF A MINOR OR MENTALLY ILL PERSON

When a parent or guardian accompanies the minor or mentally ill person, actual consent must be obtained from the parent or guardian. When the minor or mentally ill person is unaccompanied, consent should be obtained from the minor or mentally ill person him/herself.

When the minor or mentally ill person is unable to give consent because of his/her injuries, emergency treatment should be applied and the details of the treatment be relayed to a member of the South African Police Service as soon as possible. The police member would notify the court in order to obtain a retrospective court order authorising the treatment.

IMPORTANT

Ask for permission: Tap the patient on the shoulder and say: Hallo, hallo, my name is .........., I’m a first aider, may I help you?
GOOD SAMARITAN CLAUSE

You are a Good Samaritan when you help an injured person when you have no legal duty to do so. As a Good Samaritan you give help in good faith and without being paid. When you help a person in an emergency situation you should apply the following principles:

- You identify yourself as a First Aider and ask permission to help before you touch the person
- You use reasonable skill and care that is in accordance with your level of knowledge and skill
- You are not negligent in what you do
- You don’t abandon the person

If something goes wrong while treating an injured person and provided the First Aider acted according to his/her level of training the Good Samaritan Clause apply. It works on the basis that once a charge has been laid against the First Aider, the investigating body will source emergency care providers of the same qualification and similar experience as the First Aider, and place them in the same situation. Should they act in a similar manner as the First Aider, the charges would probably be dropped.

ABANDONMENT

Once the First Aider has started treating the injured person the First Aider becomes responsible for the injured person. This responsibility can only be relinquished to the injured person or to a person with the same or higher qualification.

Should the First Aider leave the injured person prematurely a charge of Abandonment may be brought against the First Aider. If this happens the test of the reasonable man comes into play for example, if the injured person became abusive or violent towards the First Aider the abandonment may be considered prudent and justified.

IMPORTANT

A casualty has the right to refuse help, even if it causes further harm.

Be sure to tell the emergency services that you offered first aid but was refused. Stay and observe until help arrives, remember we don’t abandon casualties.
MODULE 2: ANATOMY & PHYSIOLOGY

MODULE 2 LEARNING OUTCOMES

On completion of this module the Learner will be able to:

- Describe the different systems of the human body in terms of their structure and function.
- Explain the manner in which the systems relate to each other in accordance with basic medical science.
- Explain the way in which each system operates in accordance with basic medical science.
SYSTEMS OF THE HUMAN BODY

THE HEART

Although light in weight and compact in size, the heart is remarkably successful in performing its life-sustaining work: not only does it pump blood that is rich in oxygen and nutrients to every cell in the body, but it also helps to carry off waste products, such as carbon dioxide.

These are not easy tasks: the body has thousands of kilometres of blood vessels, and to do its work properly, the heart must beat regularly and steadily – the average pulse rate in an adult is 72 beats per minute but it can vary between 60 and 80. It increases during stress, exercise, some illnesses, while taking alcohol, or as a result of injury. The pulse rate in elderly persons and some athletes may be slower (between 50 and 60 beats per minute), and it is faster in young babies (about 120 beats per minute).

Roughly equivalent in size to a clenched fist, the heart normally squeezes out four to five litres of blood a minute – or up to 24 litres a minute when exercise makes it necessary – with relative ease.

In simplest terms, the heart consists of two muscular pumps, set side by side, four chambers and four one-way valves. The two upper chambers are called atria: the right atrium collects oxygen-depleted blood; the left atrium is a reservoir for freshly oxygenated blood. The lower chambers – called ventricles – have muscular walls and do the heavy pumping.

A cycle may begin with the left ventricle squeezing oxygenated blood to the body, through the aorta and arteries to the capillaries. After supplying oxygen to the cells, the blood returns to the heart’s right atrium. It is then pumped into the right ventricle, which sends it to the lungs. Once oxygenated, blood flows back into the left atrium and passes through the mitral valve into the left ventricles and the cycle begins again.

THE RESPIRATORY SYSTEM

Deep within the lungs, in hundreds of millions of tiny sacs called alveoli, one of the most crucial of all physiological exchanges takes place: oxygen, which is required by every cell in the body to release energy, is drawn from the air that you breathe in, and enters the red blood cells, while carbon dioxide, a waste product, is given off. The route to this life-giving micro-universe is long and tortuous, beginning in the nose and mouth and leading down through the windpipe, or trachea,
to the bronchi, the tubes that lead into each lung, and on into a network of even smaller passageways, known as bronchioles.

The pathway is reasonably well protected by the nose, which warms and filters the air you breathe, and by the mucous lining that cloaks the system, and is activated by millions of cilia, tiny hair-like projections that help to move impurities back towards the mouth and nose.

The respiratory system is a remarkable mechanism that combines the delicate biochemistry required to exchange oxygen for waste carbon dioxide with the powerful mechanical action of the muscles that enable you to breathe.

The diaphragm, which is located just below the lungs, launches the breathing sequence by contracting and flattening as you inhale; at the same time, the muscles between the ribs tighten and lift. When this happens, the chest and lungs expand, drawing in air, of which roughly one-fifth consists of oxygen, down the trachea to the ever-narrowing bronchial tubes and alveoli, the air sacs in which oxygen and carbon dioxide are exchanged. After this, the diaphragm relaxes and curves upwards, the ribs descend and the air you inhaled moments before, carrying less oxygen now and more carbon dioxide is exhaled from the body. The sequence then begins again.

A respiratory centre in the brain determines the rate and depth of breathing – the average adult normally breathes 16 – 18 times per minute, and children and infants breathe 20 – 30 times per minute. This rate often increases during stress, exercise, injury or illness. The heart rate will increase accordingly to carry the extra oxygen around the body.

THE DIGESTIVE SYSTEM

The digestive system plays a crucial role in keeping us alive – and every cell in the body properly nourished. Measuring about 9m when fully extended, this remarkable network (most of it known as the gastrointestinal – or GI – tract) is in fact a kind of circuitous tunnel, large in some places, tightly coiled in others, through which all the food consumed must travel. During much of this journey, which begins at the mouth and ends at the anus, foods are bombarded with a variety of fluids and enzymes and churned by an endless series of muscular clenching motions, which are known collectively as peristalsis.

The GI tract is made up, chiefly, of the oesophagus and stomach, the small and large intestines and the rectum, and each is secured by one or more sphincter muscles, which, like the strings of a purse, can open and close at various junctions in the digestive process.

The stomach stores and partially digests food that has been broken down in the mouth and mixed with enzymes and saliva. As it churns the mass, the stomach adds more secretions – hydrochloric acid and pepsins. Yet digestion occurs largely in the duodenum and small intestine. Here additional digestive enzymes and contractions convert food into basic elements such as protein, sugar and fat. It is also in the small intestine that nutrients are absorbed and carried to the bloodstream and lymphatic system and on to the rest of the body.
During the final stage of the digestive trip, which takes place in the large intestine, indigestible fibres and wastes are compressed, water is reabsorbed, and the mass that remains is ready for elimination.

**THE BRAIN AND NERVOUS SYSTEM**

No computer yet devised is as complex or as awe-inspiring as the compact mass of folded and wrinkled grey and white matter that is the human brain. Seat of consciousness, reason and emotion, centre of learning and skill, and storehouse of memories, the brain is truly a master organ, controlling the activities of all the other organs and systems of the body.

Every second of our lives the brain receives, processes and acts on information. Scientists estimate that even while we are asleep the brain receives and sends out about 50 million messages per second. But the brain doesn’t work alone: it relies on our sense organs for reports from the outside world; and it needs a means of communicating with the rest of the body.

This is where the nerves come in. Through the spinal cord and the vast network of branching nerves that make up the peripheral nervous system, nerve impulses pass back and forth between the brain and every part of the body. These crucial messages not only keep us alive but enable us to feel, think, remember and carry out acts as simple as raising a hand or as complex as composing a concerto.
THE BRAIN

The brain consists of three main parts, the cerebrum, the cerebellum and the brain stem.

The cerebrum interprets messages from the sense organs and controls such higher functions as the ability to speak, reason and remember. This activity takes place largely in the outer grey layer of the cerebrum, the cortex.

The cerebellum orchestrates balance and muscle co-ordination.

The brain stem links the brain with the spinal cord and helps to regulate breathing, heartbeat and other vital functions.

Deep within the brain are several crucial structures: the thalamus relays sensory nerve impulses to the cerebral cortex; the hypothalamus helps to regulate appetite and sex drive; the pituitary gland activates other glands throughout the body; the basal ganglia relay outgoing impulses from the cerebral cortex and are associated with the ability to move rapidly and smoothly.

THE NERVOUS SYSTEM

If the brain can be compared to a computer, then the nerves can be regarded as the ‘wiring’ the brain depends on for input and output. The central nervous system is made up of the brain and the spinal cord, a cable of nerve tissue, about 50cm long that runs from the brain down the back inside a chain of bones called vertebrae. The spinal cord serves as the main conduit for nerve impulses to and from the brain and as the relay centre for reflex actions.

With the exception of the 12 pairs of cranial nerves, which connect directly with the brain, all other nerves in the human body branch out from 31 pairs of nerves rooted in the spinal cord.

This vast network of nerves, known as the peripheral nervous system, consists of two parts: the motor and sensory nerves of the somatic system serve those parts of the body that are under voluntary control and enable conscious and reflex actions to be carried out; the autonomic system, on the other hand, controls such vital involuntary functions as the heartbeat and breathing.
THE EYES

Our eyes can tell us more about the world around us than any of our other sense organs. Like a camera, but far more complex and intricate than any camera, the eyes take rays of light, bend and converge them, and transmit the resulting ‘pictures’ to the brain for interpretation. Yet they are more than just windows to the world; they also reveal much about our inner feelings and, to a doctor, about our state of health.

Light rays entering the eyes are bent by the cornea, and then pass through the pupil – the hole in the iris, or coloured part of the eye – to the lens.

The amount of incoming light is controlled by the opening and closing of the iris. The lens focuses the light rays through the vitreous humour onto the retina, where the rays from an upside-down image of whatever the eye is looking at.

The retina’s rod and cone cells convert the light into nerve impulses, which are sent via the optic nerve to the visual cortex at the back of the brain. On the way to the visual cortex, the optic nerves from each eye meet at the optic chiasma.

EARS, NOSE AND THROAT

Together with the eyes and skin, the ears, nose and speech organs in the throat are the principal means of contact with the outside world.

Your ears enable you to hear what goes on around you and, in another important role, help you to maintain your balance.

Your nose allows you to perceive smells and is the gateway to the respiratory system.

In addition to passageways for food and air, your throat contains the larynx and vocal cords, which enable you to speak.

The structures within the ears, nose and throat are complex and delicate and, because they are exposed to the outside world, they are vulnerable to a host of bacteria and viruses.

THE EAR

The ear is divided into three sections: the outer ear, the middle ear and the inner ear. The outer ear consists of the pinna (external ear) and the ear canal, a channel protected from foreign bodies and invading insects by stiff hair and a secretion of wax. The outer ear and ear canal carry sound waves to the eardrum (tympanum), a thin membrane that stretches across the entrance of the middle ear and vibrates in response to the frequencies of incoming sound waves.
The Eustachian tube connects the middle ear to the back of the nasal cavity and equalises air pressure on both sides of the eardrum.

Three tiny bones in the middle ear – the hammer (or malleus), the anvil (or incus) and the stirrup (or stapes) – conduct sound vibrations from the eardrum through the oval window (or vestibule) of the inner ear into the fluid-filled cochlea.

Sensory cells in the cochlea convert the sound waves, now in fluid form, into nerve impulses, which are then transmitted by the auditory nerve to the brain.

Also forming part of the inner ear are the special fluid-filled semi-circular canals that enable you to keep your balance.

THE NOSE

Air pours into the nose through the nostrils – two openings separated by the septum, a thin wall of cartilage and bone lined with mucous membrane – and flows from there into the nasal passage. These contain a series of mucus-lined bony projections, called turbinates, which helps to warm and moisten the inhaled air before it passes into the windpipe.

The hairs of the nostrils and the sticky lining of the nasal passages also help to filter out particles, bacteria and other debris from the air. At the peak of the nasal passages are the tiny, hair-like endings of the olfactory nerve. These sensitive receptor cells detect odours in inhaled air and relay this information by means of the olfactory nerve to the brain.

THE THROAT

In addition to passageways for air and food, the throat also contains the larynx and the vocal cords, which enable you to speak.

The vocal cords are two bands of tissue that extend across the larynx (voice box).

When the cords tighten, air passing over them causes them to vibrate and produce sounds.
THE MOUTH AND TEETH

The gateway to the digestive system, a secondary opening to the respiratory tract, a food processor, a taste organ and an instrument of speech – the mouth is all these and more.

The lips and a healthy set of teeth enable us to smile in a pleasing manner and register a variety of emotions. By changing the shape of the mouth, lips and tongue, we can produce the sounds of speech.

While the teeth tear and crush food, saliva produced by glands in the mouth mixes with it to ease swallowing and helps to break down starches. The tongue helps too – moving food around in the mouth as we chew it, packing it into a compact ball and pushing it back into the throat. The highly versatile tongue also contains the special buds that enable us to taste and enjoy good food and to detect and reject unpleasant and dangerous substances.

SKIN, HAIR AND NAILS

The skin is the largest, most visible part of the body – and one of the most useful. The boundary line between each of us and the outside world, the skin keeps moisture and vital chemicals inside, while protecting us from germs, heat, cold, shocks and external injury.

The blood vessels, sweat glands and fatty tissue of the skin help to regulate body temperature. Its complex array of nerve endings makes the skin a major sense organ and the focus of sexual feeling and expression.

Its pigment determines its colour and helps to protect it from the sun’s damaging rays. The pattern of the skin on the fingertips, palms and soles of the feet provides an infallible way of distinguishing each one of us from the other. Because it is so visible and sensitive, the skin is an important indicator of health and emotions. A clear complexion is a classic sign of good health. Illness, on the other hand, can show up as pallor or a skin rash. We blush when we are embarrassed; redden when we are angry and sweat when we are nervous or afraid.

The hair and nails are actually outgrowths of the skin – dead tissue pushing out from a living root or matrix. The nails provide some protection for the fingertips, and both hair and nails can reflect ill health.

THE SKIN

The skin consists of a thin surface layer known as the epidermis and a thick underlying sheet of connective tissue known as the dermis. Under the dermis is the fatty subcutaneous tissue. The epidermis itself is composed of several layers. In its deepest (basal) layer, new cells
are constantly being produced and pushed to the surface. These migrating cells gradually die and are filled with a hard protein substance called keratin.

Also in the basal layer are specialised cells that produce melanin, the pigment that colours the skin. The uppermost layer of the epidermis, the stratum corneum, is a protective barrier made up of dead, keratinised cells that are constantly shed and replaced. Embedded in the dermis are blood and lymph vessels; nerves; hair follicles; sebaceous glands, which secrete a skin lubricant called sebum; eccrine sweat glands, which are distributed all over the body and help to regulate body temperature by releasing perspiration; and apocrine sweat glands, which occur in hairy parts of the body and produce a fluid that contributes to the creation of body odour.

**THE BONES AND MUSCLES**
Every movement we make depends on the interaction of the muscles, bones, ligaments and tendons that make up our musculoskeletal system. Although the 206 major bones that form the skeleton can be regarded as the body’s scaffolding, they do much more than provide simple support. The skull and spine protect the brain and spinal cord, while the rib cage and pelvis shield other vital organs.

The joints – those elegantly engineered intersections where bones meet and are bound together by ligaments – permit the wide range of movements of which all human beings are capable. The bones also serve as living storehouses for minerals, constantly releasing and reabsorbing calcium and other essential elements. Inside certain bones lies the red marrow that manufactures most of our new blood cells.

The approximately 650 muscles in the body are grouped into three main categories. The skeletal muscles, which make it possible for us to move, are anchored to two or more bones, usually by means of tendons. Most of them work in pairs. When triggered by nerve impulses, one muscle contracts, its counterpart relaxes, the bones they are attached to move – and so do we. Unlike the skeletal muscles, which are under our conscious control, the cardiac muscles of the heart and the visceral muscles of the stomach and other internal organs function automatically.

The bones of the skeleton support the body and protect the vital organs. The hollow shaft of a typical long bone is made up mostly of hard compact bone and contains a reserve of fat called yellow marrow. The rounded ends of the bone consist mostly of spongy bone inside a thin outer layer of compact bone. Spongy bone contains the red marrow in which the blood cells are made. Most bone surfaces are wrapped in a tough fibrous membrane called the periosteum.

THE BLOOD AND LYMPHATIC SYSTEM

THE BLOOD

The blood that flows in a continuous cycle through the arteries, capillaries and veins is both the transport system and an infection-fighting defence mechanism of the body. Every organ and living tissue depends on the free circulation of blood for nourishment and survival. If the supply is interrupted, as can happen in a heart attack or a stroke, blood-deprived cells quickly begin to die and an organ may be damaged beyond repair. If the body loses too much blood, a life-threatening condition known as shock may result.

Each of the major components of blood serves a complex and vital function. For example, red blood cells supply the body with oxygen; white blood cells make up the body’s primary defence system against disease and infections; and platelets play a crucial role in the blood-clotting process. All these cells are suspended in plasma, a straw-coloured liquid that transports salts, proteins, minerals, nutrients, hormones and other essential substances throughout the body, and delivers cell waste products to the liver and kidneys for disposal.
The blood also helps to regulate the temperature of the body and to keep its internal environment in proper balance.

The blood is made up of liquid plasma and various types of blood cells suspended in it. The most common blood cells are red cells, white cells and platelets. The red cells (erythrocytes), which carry oxygen from the lungs to all parts of the body, and carbon dioxide from the body tissues to the lungs. Platelets (thrombocytes) are cell fragments that initiate the clotting sequence at an injury site. The several varieties of white cells (leucocytes) defend the body against foreign invaders: monocytes are large scavenger cells that clear tissue spaces of dead and foreign matter; lymphocytes recognise foreign substances, produce antibodies to destroy them, and are a part of the body’s immune response; neutrophils engulf and destroy bacteria; eosinophils and basophils play roles still not fully understood in allergic and inflammatory reactions.

**THE LYMPHATIC SYSTEM**

As the blood delivers oxygen and nutrients to the cells, some of the plasma passes out of the blood vessels. White blood cells also migrate through blood vessels into surrounding tissues. The escaped plasma and white cells are returned to the bloodstream by the lymphatic system – a separate network of tube-like vessels (called lymphatic vessels) similar to those in the circulatory system. Oval-shaped glands, known as lymph nodes, occur periodically along the lymphatic vessels, clusters of them being located in various parts of the body, especially in the neck, jaw, chest, groin and under the arms.

Lymph nodes are crucial intermediate stations in the immune system, generating some lymphocytes and storing various types of cells required in an immune response. As lymph trickles through them, the nodes filter out bacteria and other debris.

The main components of the lymphatic system are the fluid lymph, the lymphatic vessels, lymph nodes, spleen, tonsils and thymus.

**THE URINARY TRACT**

The urogenital system, whether in a man or a woman, is a triumph of biological engineering. For this complex group of organs, glands, tubes and ducts is in fact two distinct but closely interrelated systems: the urinary tract and the reproductive system.

Like the lungs, skin and large intestine, the urinary tract is an important part of the excretory, or waste disposal, network. About one litre of blood per minute flows through the kidneys, which extract waste and excess water and releases urine. From the kidneys, the urine passes down narrow tubes, called ureters, into the bladder, a muscle-walled bag that stores the fluid until it is ready to leave the body through the urethra.
MODULE 3 LEARNING OUTCOMES

On completion of this module the Learner will be able to:

- Assess the emergency situation in terms of priority treatments.
- Identify the cause of the emergency in terms of the main contributing factors.
- Identify the type of injury in terms of broad classification.
- Assess the situation in terms of the type of assistance required.
- Identify and describe the different types of injuries and conditions in terms of their severity, cause and possible treatment.
- Taking the appropriate universal precautions in terms of preventing infections.
- Improvise equipment that is not readily available in terms of the First Aid procedure required.
- Provide follow-up care in accordance with the specific needs of the casualty.
EMERGENCY PROCEDURE

The importance of identifying emergency situations quickly and correctly is that you can save lives and prevent the patient's condition from becoming worse.

At no time should untrained personnel be allowed to administer first aid in an emergency situation as this could seriously increase the severity of the injuries and result in unnecessary death.

If the scene is safe, try to determine what caused the accident. Determine how many casualties there are, and look for bystanders who may be able to help by:
- providing information about the casualty or the accident,
- calling Emergency Services, or
- giving treatment to the casualty.

ON ARRIVAL THE FIRST AIDER SHOULD FOLLOW THE PROCEDURE BELOW:

1. Take charge of the situation.
2. Call to attract the attention of bystanders.
3. Assess hazards, establish cause of the accident and secondary causes as a result thereof.
4. Identify yourself as a first aider and offer help.
5. Before attending to the casualty, you must first survey the scene to ensure your safety.
6. Then, do a primary survey of the casualty.
7. After checking the casualty, call the Emergency Medical Services (EMS), giving them a description of the emergency situation as well as the location of the scene.
8. After calling EMS, provide appropriate care based on your primary survey of the casualty until EMS or other advanced medical personnel arrives and takes over.

HHHSCAB PROCEDURE

<table>
<thead>
<tr>
<th>H</th>
<th>Hazards</th>
<th>Check to see if the area is safe for you to enter. Make sure there is no threat to safety for both you and your patient.</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Hallo</td>
<td>Obtain consent from your patient by asking: Hallo, hallo my name is .........., I’m a first aider, may I help you?</td>
</tr>
<tr>
<td>H</td>
<td>Help</td>
<td>Call EMS yourself or ask a bystander to call for help. Give them the emergency number to phone. If he/she does not have airtime or a cellphone then give him/her yours.</td>
</tr>
<tr>
<td>S</td>
<td>Safety</td>
<td>Your personal safety, use latex-free disposable gloves and a one-way valve mouthpiece.</td>
</tr>
<tr>
<td>C</td>
<td>Circulation / Pulse &amp; CPR</td>
<td>Check to see if you can feel the casualty’s pulse, feel for at least 10 seconds. If no pulse is present place your hands in the centre of the chest, elbows locked and compress the chest about 1/3 of the depth 30 times. Recheck for a pulse, if no pulse is present check the airway.</td>
</tr>
<tr>
<td>A</td>
<td>Airway</td>
<td>Check the patient’s breathing. Lift the chin and tilt the head back, opening the airway. Look, listen and feel for breathing for approximately 10 seconds.</td>
</tr>
<tr>
<td>B</td>
<td>Breathing</td>
<td>Lift the chin, tilt the head back, close the nose tightly and breathe two full forceful breaths (for adults).</td>
</tr>
</tbody>
</table>
The most important first aid treatment is 

**to stop severe bleeding first.** Performing 

CPR on a casualty with severe bleeding 

will cause them to bleed out quicker.
Skull – check for bruises, bumps or bleeding that may indicate head injuries.

Neck – check the neck gently. If there is pain, or deformity, suspect a fracture of the spine at the neck.

Spine – feel along the centre line of the back for irregularities. If there is bleeding (you feel an area that is warm and wet) or if there is tenderness and pain, suspect a fracture of the spine.

Chest areas – look for wounds and note any unnatural movement of the chest. Gently feel the ribs with the fingertips for irregularities or, if the casualty is conscious, ask him to take a deep breath and cough. Pain and tenderness indicate a possible fracture of the ribs or sternum.

Abdominal areas – look for wounds and bleeding and ask the casualty to pull in and push out their abdomen. Suspect internal injuries if this causes pain.

Pelvic area – gently feel on either side of the hips for signs of tenderness or irregularities that might indicate a fracture of the pelvis or dislocation of the hip.

Lower and upper limbs – check the limbs for irregularities in the long bones or joints. To assess for nerve injury and loss of power, ask the casualty if he has feeling in the fingers and toes and if he can move the limbs. Check for proper blood flow (shoulder to fingertips) by looking for capillary refill using the fingernails.

There are 3 injuries that take precedent over the rest and Emergency Services should be called if:

- The casualty has sustained injuries to the head, neck or back.
- The casualty is having trouble breathing.
- The casualty is unable to move or use the injured body part without experiencing pain.

These require special and careful attention.
ASSESSING THE EMERGENCY SITUATION

Information needed to assess the person’s illness or injuries are grouped under three headings; history, signs and symptoms and are defined as follows:

- **History** – events leading up to the emergency situation/s, accidents/violence can be obtained from the surroundings, the casualty or bystanders.

- **Signs** – conditions you can see, feel, smell or hear that indicate disease or injury e.g. body temperature, pulse, and breathing patterns. Commonly named as the vital signs.

<table>
<thead>
<tr>
<th>Sight</th>
<th>Touch</th>
<th>Smell</th>
<th>Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration</td>
<td>Dampness</td>
<td>Breath</td>
<td>Breathing</td>
</tr>
<tr>
<td>Bleeding</td>
<td>Temperature</td>
<td>Burning</td>
<td>Groans</td>
</tr>
<tr>
<td>Wounds</td>
<td>Pulse</td>
<td>Gas</td>
<td></td>
</tr>
<tr>
<td>Foreign bodies</td>
<td>Swelling</td>
<td>Alcohol</td>
<td></td>
</tr>
<tr>
<td>Colour of face</td>
<td>Deformity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swelling</td>
<td>Irregularity</td>
<td></td>
<td></td>
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<tr>
<td>Deformity</td>
<td>Tenderness</td>
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<tr>
<td>Bruising</td>
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<tr>
<td>Reflexes</td>
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<tr>
<td>Response to</td>
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<td></td>
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<tr>
<td>touch and sound</td>
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<tr>
<td>Incontinence</td>
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<tr>
<td>Vomit</td>
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<tr>
<td>Containers</td>
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</tbody>
</table>

- **Symptoms** – the sensation the person feels as a result of the injury or illness:

<table>
<thead>
<tr>
<th>Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenderness</td>
</tr>
<tr>
<td>Loss of normal movement</td>
</tr>
<tr>
<td>Loss of sensation</td>
</tr>
<tr>
<td>Cold</td>
</tr>
<tr>
<td>Heat</td>
</tr>
<tr>
<td>Thirst</td>
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<tr>
<td>Nausea</td>
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<tr>
<td>Weakness</td>
</tr>
<tr>
<td>Dizziness</td>
</tr>
<tr>
<td>Faintness</td>
</tr>
<tr>
<td>Temporary loss of consciousness</td>
</tr>
<tr>
<td>Loss of memory</td>
</tr>
</tbody>
</table>
SAMPLE HISTORY

The SAMPLE history is usually taken along with vital signs. The questions are most commonly used in the field of emergency medicine by police officers and EMS. It is used for alert people, but often much of this information can also be obtained from the family or friend of an unresponsive person.

S  signs and symptoms
A  allergies
M  medication - prescription, non-prescription, illegal
P  past / present medical history
D  diabetes
E  epilepsy
A  asthma / AIDS
T  tuberculosis
H  heart disease / HIV
L  lung disease
L  last meal / oral consumption
E  events leading up to

MAKING THE AREA SAFE

Below are guidelines/procedures to follow to ensure:

- Safety of emergency area
- Accurate assessment of the casualty
- Assistance for backup of emergency services

Before you try to help the casualty, you must determine if the scene is safe. If anything dangerous is present, such as a live wire, a vicious animal, deep water or fire, you cannot endanger your own life to try to help the casualty. Summon trained medical personnel immediately, and they will handle the situation. If you get hurt at the scene, you end up as just another casualty for the Emergency Medical Services to treat. Once you have called EMS, you have done all you can in such a situation.

Never move the casualty to give treatment unless immediate life-threatening danger exists, like a fire or an unstable structure about to collapse.

If the scene is safe, try to determine what caused the accident. Determine how many casualties there are, and look for bystanders who may be able to help by:

- providing information about the casualty or the accident,
- calling the Emergency Medical Services, or
- giving treatment to the casualty.

IMPORTANT

Always remember to:
Check for medical alert bracelet or necklace.
Be guided by complaints of pain or numbness from a conscious patient and address those first.
KNOW WHO TO CALL

10177 – Ambulance service, will refer calls to all other emergency services
10111 – Police service, will refer calls to all emergency services
1020 – Telkom Emergency Call Assistance service
112 on Cell phone – referral centre for all major emergency services
082 911 – Netcare private paramedic and ambulance call centre
084 124 – ER 24 private paramedic and ambulance call centre
0800 113 911 – National Poison Centre

RELAY INFORMATION

When the Emergency Medical Services arrive, you’ll have to give them the following information:

- **History:**
  (What happened) events leading to the emergency situation

- **Vital signs and symptoms:**
  The condition in which you found the patient – not breathing, no pulse, patient cold, in pain
  What you have done – provided first aid, rescue breathing, CPR

As soon as you have done this, get out of the way, but be available for information or assistance if necessary.
COMMON INJURIES AND THEIR TREATMENT

CRITICAL INJURIES

Critical injuries in any instance require quick action from any bystanders/family members/first responders. These injuries can cause severe long term damage or even death.

These include:

- Injuries to the head neck or back
- Breathing problems
- Excruciating pain to injured body part
- Severely broken bone/s
- Severe bleeding

SUDDEN ILLNESS

THE MOST COMMON ILLNESSES ARE:

- Heart attack
- Shock
- Stomach ailments
- Asthma
- Allergic reactions

SIGNS & SYMPTOMS OF SUDDEN ILLNESS

- Feelings of light-headedness, dizziness, confusion, or weakness
- The casualty may become pale or flushed, and may start sweating
- Nausea and vomiting are causes for concern, as is diarrhoea
- Changes in consciousness
- Seizure
- Paralysis
- Slurred speech
- Difficulty seeing
- Severe headache
- Breathing difficulty
- Persistent pressure or pain

TREATMENT FOR SUDDEN ILLNESS

1. First, call EMS immediately and care for any life-threatening conditions the casualty may have.
2. Check CAB and start CPR if necessary.
3. Help the casualty rest comfortably, and prevent him/her from getting chilled or overheated.
4. Reassure the casualty. Monitor him/her for changes in consciousness, and do not give the casualty anything to eat or drink.
5. If the casualty vomits, place the casualty on his/her side to prevent choking.
6. If the casualty faints, position him/her on the back and elevate the legs about 30cm if you do not suspect a head, neck or back injury. A person about to faint becomes pale, begins to perspire, and then loses consciousness and collapse. Remember the adage: “if the head is pale, raise the tail,” which refers to returning blood and circulation to normal after fainting.
7. If the casualty has a diabetic emergency, give him/her some form of sugary drink or sweets.
BONE, JOINT AND MUSCLE INJURIES

BONE INJURIES / FRACTURES

Bones are dense and very strong, and they tend not to break easily, except in elderly people who have developed osteoporosis, a gradual weakening of the bones. Bone injuries are often quite painful, and they may bleed, as all bones have an ample amount of blood and nerves.

TYPES OF BONE INJURIES

- **fractures**, which may be open or closed, and
- **dislocations**, which involve muscles and joints as well.

An open fracture occurs when an arm or a leg twists in such a way that the broken bone ends tear through the skin, causing an open wound. In a closed fracture the skin is not broken; this type of fracture is much more common than an open fracture. An open fracture brings with it a chance of infection and also severe bleeding.

Fractures can be life threatening if they sever an artery, affect breathing, or occur in very large bones such as the femur in the thigh. A motor vehicle accident or any fall from a height may cause a fracture.

**SIGNS & SYMPTOMS OF FRACTURES**

For both open and closed fractures, there is usually:

- Pain/tenderness at place of fracture
- Inability to use limb (or a lack of will – any movement will be painful)
- Irregular line of the bone under the skin
- Shock
- Crepitus (grating noise as the broken end of the bone rubbing against each other)
TREATMENT FOR FRACTURES

1. Do not try to move a patient with a severely broken bone unless it is absolutely necessary.
2. Calling EMS is the best course of action in this case.
3. However, if you must move the patient you must immobilize the injured body part. One way is to splint it, but do this only if it can be done without hurting the casualty, and always attempt to splint the part in the position you find it.
4. Splint the injured area & the joints above and below the injured area. You may use another body part, like splinting an injured leg to an uninjured one, or an injured arm to a chest - this is called an anatomic splint. Make a soft splint from folded blankets or towels, or use a triangular bandage to make a sling, another type of soft splint, which is used to support an injured arm, wrist or hand. Use folded magazines or newspapers, cardboard or metal strips to support the injured body part with a rigid splint. Use several folded triangular bandages to secure the injured body part to the splinting material, tying them securely but not too tight.
5. Maintain body temperature.
6. Remember to be reassuring.

IMPORTANT

In an ideal situation the splint you use should be longer than the broken or fractured bone.
HEAD, SPINE AND NECK INJURIES

These are considered critical injuries and take precedents over the rest and Emergency Medical Services should be called even if you only suspect a head, spine or neck injury.

SIGNS & SYMPTOMS OF HEAD, SPINE AND NECK INJURIES

- Changes in consciousness
- Vision and breathing problems
- Nausea and vomiting
- Inability to move a body part
- Steady headache
- Tingling or loss of sensation in hands, fingers, feet or toes
- Blood in the ears or nose
- Seizures
- Severe pain, pressure or bleeding in the head, neck or back
- Bruising of the head
- Loss of balance

TREATMENT FOR HEAD, SPINE AND NECK INJURIES

To care for head, spine or neck injuries, proceed as follows:

1. Call Emergency Services immediately, and DO NOT attempt to move the casualty or you may injure him or her further.
2. Minimize movement of the head and spine, maintain an open airway (lift the chin slightly but DON’T tilt the head otherwise you might paralyze the casualty).
3. Check consciousness and breathing.
4. Control any bleeding.
5. Prevent the casualty from getting chilled or overheated.

JAW THRUST TECHNIQUE

If you have a trauma casualty (violence/accident caused the injuries) and you suspect a head, spine or neck injury then use the jaw thrust technique to open the airway.

Kneeling at the top of the casualty’s head, at a 45° angle, reach forward and place one hand on each side of the lower jaw; do your best to immobilize the head using your forearms.

Use your index fingers to push forward on the angles of the lower jaw to open the mouth; use your thumbs to open the mouth and maintain an open airway.

Begin rescue breathing if the casualty is in respiratory arrest. This applies whether you perform mouth to mouth or mouth to mask resuscitation.

LOG ROLL MANOEUVRE

The log roll manoeuvre is used to place a casualty with a suspected head, spine or neck injury on a backboard for stable transportation. The log roll manoeuvre can also be used to help turn a casualty with a suspected head, spine or neck injury on their back if CPR has to be performed.
The log roll helps to minimise the movement of the head, spine and neck and keeps everything in one straight line, minimising the chance for further damage.

1. Ask for at least 4 volunteers to assist with the log roll.
2. You, as first aider, should take the position at the head. You will be in charge of giving the commands, it is imperative that all others do exactly what is ordered.
3. Lie down on your stomach; place your hands on each side of the casualty’s face, being careful not to move the head. Spread your fingers apart so that your thumbs are actually pointing up the casualty’s temple and close to the forehead. Your index and middle fingers will run along the cheeks, and your ring and pinkie fingers should curve around the base of the skull.
4. Direct 3 volunteers to the side of the casualty you will be rolling them to. One at the shoulder, the second at the hips the last at the knees.
5. Move the casualty’s arms slowly to the sides of the body.
6. Volunteer one should place his/her one hand on the opposite shoulder and the other hand on the opposite hip.
7. Volunteer two should place one hand over volunteer one’s arm and grab hold of the opposite arm close to the elbow. The other hand should reach over and grab the opposite knee.
8. Volunteer three should place one hand over volunteer two’s arm and grab hold of the opposite thigh. The other hand must be used to keep the feet together (the feet can also be tied together).
9. Volunteer four should sit on the side of the casualty that is to be lifted, placing his/her hands between the other volunteers hands. Volunteer four should also be the person to handle the backboard if one is to be used and must be kept ready and close at hand.
10. Following the first aider’s (person at the head) instructions all volunteers will react on his/her count. Make sure to tell the volunteers to move slowly and precisely. On the final count, all the volunteers will lift the body up and towards themselves, so that the casualty is rotating on the side of the body close to them.
11. You, the first aider, should roll with the body, keeping the head steady and the neck and spine in one line. You should be on your side along with the casualty, by doing this you will ensure that the casualty’s head is always facing away from his/her body, always looking directly forward.
12. Once the casualty is straight up on his/her side, have the fourth volunteer slide the backboard all the way against the body so when he/she is rolled back down, he/she will be rolled back onto the board.
13. Countdown again, and in one move roll the casualty back onto the backboard. You must continue to hold the head until EMS arrives and takes over from you.
MUSCLES

Injuries to the brain, the spinal cord or nerves can affect a person’s muscle control, and when a muscle is injured, a nearby muscle may take over for the injured one.

A joint is formed where the ends of two or more bones come together in one place. The bones are held together by ligaments, which tear when a joint is forced beyond its normal range of movement.

TYPES OF MUSCLE INJURIES

- **Dislocations** – (abnormal bump, ridge or hollow due to displaced bone)
- **Sprains** – (swelling at the joint)
- **Strains** – (stretching and tearing of muscles or tendons)

SIGNS AND SYMPTOMS OF MUSCLE INJURIES

A dislocation is typically more noticeable than a fracture. A dislocation occurs when a bone moves away from its normal position at a joint. A violent force tears the ligaments that hold the bone in place at a joint and the joint will no longer function. Usually, the displaced bone causes an obviously abnormal bump, ridge or hollow.

A sprain is the tearing of ligaments at a joint. Sprains may swell but typically heal quickly. Pain may be minimal and the casualty may be active soon, in which case the joint won’t heal properly and will remain weak. It is likely to be re-injured more severely, possibly involving a fracture or dislocation of the bones at the joint. The most easily injured joints are at the ankle, knee, wrist and fingers.

A strain is a stretching and/or tearing of muscles or tendons. Lifting a very heavy object or working a muscle too hard frequently causes strains. They usually involve muscles in the neck, back, and thigh or back of the lower leg. Strains tend to reoccur; especially those located in the neck or back.

TREATMENT FOR MUSCLE INJURIES

1. The formula for proper care is rest, ice, compression and elevation (RICE).
2. Make the casualty as comfortable as possible, and apply ice (not directly onto the skin) to reduce pain and swelling.
3. Minimize movement of the injured part by supporting it with something like a pillow.
CIRCULATORY PROBLEMS

FAINTING / DIABETIC EMERGENCY

When the insulin level in the body is too low and the blood sugar level is too high, the resulting condition is called hyperglycemia. If this condition is not corrected, the casualty may go into a diabetic coma.

When the insulin level in the body is too high and the blood sugar level is too low, the resulting condition is called hypoglycemia.

SIGNS & SYMPTOMS OF FAINTING / DIABETIC EMERGENCY

Unfortunately, the symptoms of hyper and hypoglycemia are very similar. They include:

- Dizziness
- Drowsiness
- Confusion
- Rapid breathing
- Rapid pulse
- Sweating yet with skin that is cold to the touch

TREATMENT FOR FAINTING / DIABETIC EMERGENCY

1. If you know that a person is diabetic and he or she is experiencing these symptoms, treat the person as though he or she has hypoglycemia, or low blood sugar.
2. If the casualty is conscious, give him or her something to eat or drink that contains plenty of sugar, such as sweets, fruit juice, cola, etc. If the person is suffering from low blood sugar, or hypoglycemia, the sugar will help within minutes. If the person is feeling ill because of high blood sugar, or hyperglycemia, he or she will not be harmed by the extra sugar.
3. If the casualty does not feel any better after five minutes, call Emergency Medical Services.
HEART ATTACK

During a heart attack, symptoms typically last 30 minutes or longer and are not relieved by rest or oral medications. Initial symptoms may start as a mild discomfort that progress to significant pain.

SIGNS & SYMPTOMS OF A HEART ATTACK

- Discomfort, pressure, heaviness, or pain in the chest, arm, or below the breastbone.
- Discomfort radiating to the back, jaw, throat, or arm.
- Fullness, indigestion, or choking feeling (may feel like heartburn).
- Sweating, nausea, vomiting, or dizziness.
- Extreme weakness, anxiety, or shortness of breath.
- Rapid or irregular heartbeats.

TREATMENT FOR A HEART ATTACK

1. If you think you or anyone else is having a heart attack call for emergency help. Immediate treatment of a heart attack is very important to lessen the amount of damage to your heart.
2. Don’t tough out the symptoms of a heart attack for more than five minutes.
3. Chew and swallow an aspirin, unless you’re allergic to aspirin or have been told by your doctor never to take aspirin. But seek emergency help first, such as calling EMS.
4. Place casualty in a comfortable position, sitting up. Use pillows for support.
5. Loosen any tight or restrictive clothing, especially around the neck.
6. Begin CPR if the person is unconscious. If you’re with a person who might be having a heart attack and he or she is unconscious, call EMS. You may be advised to begin cardiopulmonary resuscitation (CPR).

HEART ATTACK

Heart attacks can be caused by:
- Deposits of calcium / cholesterol
- Hereditary factors
- Tobacco
- Obesity
- High blood pressure
- Emotional stress
- Inflammatory disease of arteries
- Trauma / disease of heart
SHOCK (CIRCULATORY)

Shock is a life-threatening condition that can be caused by severe bleeding, an injury or sudden illness. The circulatory system fails to carry oxygen-rich blood to all body parts. The body’s oxygen-starved major organs cannot function properly, triggering a series of responses, which produce specific signals known as shock.

Three conditions are needed for the body to maintain adequate blood flow:

- the heart must be working well,
- an adequate amount of blood must be circulating, and
- the blood vessels must be intact and able to adjust blood flow.

When a severe injury or illness occurs, the body sends blood to the vital organs:

- brain,
- heart and
- lungs, among others.

When the tissues of the arms and legs begin to die, the body sends blood to them and away from the vital organs. The casualty becomes unconscious as the brain is affected, his/her heartbeat slows and stops as the heart is affected, and then breathing stops as well. **Without proper medical treatment, a person in shock will die.**

SIGNS & SYMPTOMS OF CIRCULATORY SHOCK

- Restlessness or irritability
- Altered consciousness
- Pale, moist, cool and eventually blue skin
- Rapid breathing
- Rapid pulse
- Thirst
- Weakness and dizziness
- Nausea and possible vomiting

TREATMENT FOR CIRCULATORY SHOCK

1. Call Emergency Medical Services immediately.
2. Have the casualty lie down in order to rest comfortably, minimizing pain.
3. Control any bleeding.
4. Prevent the casualty from becoming chilled or overheated.
5. Reassure the casualty.
6. Elevate the legs about 30cm unless you suspect head, neck or back injuries or broken bones in the hips or legs, in which case you must leave the casualty lying flat.
7. Do not give the casualty anything to eat or drink.
ENVIRONMENTAL INJURIES

BURNS

A burn can be caused by:

- heat (flames, hot grease, or boiling water),
- the sun (solar radiation),
- chemicals or,
- electricity.

When a burn breaks the skin, infection and loss of fluid can occur. Burns can also result in difficulty breathing. If a burn casualty has trouble breathing, has burns on more than one part of the body, or was burned by chemicals, an explosion, or electricity, call EMS immediately.

Burns caused by flames or hot grease usually require medical attention as well, especially if the casualty is a child or an elderly person.

RULE OF NINES

The rule of nines is a standardised method used to quickly assess how much body surface area (BSA) has been burned on a patient. This rule is only applied to 2nd and 3rd degree burns. The diagram below depicts BSA percentages for adults and infants of one year or less. For children over the age of one year, please see the formula below.

For children over the age of one year, for each year above one, add 0.5% to each leg and subtract 1% for the head. This formula should be used until the adult rule of nines values are reached. For example, a 5-year old child would be +2% for each leg and -4% for the head.
TYPES OF BURNS AND THEIR SIGNS & SYMPTOMS

Superficial Burn (First Degree):
A first-degree burn involves only the top layer of skin. The skin is red and dry and usually painful. The burned area may also swell. Most sunburn is superficial burns. This type of burn usually heals in 5-6 days without any permanent scarring.

Partial-Thickness Burn (Second Degree):
A second-degree burn involves the top layers of skin. The skin is red with blisters that may open and weep clear fluid, giving the skin a wet appearance. The area may also appear mottled. The burn is usually painful and often swells. This type of burn usually heals in 3-4 weeks, and scarring may occur.

Full-Thickness Burn (Third Degree):
A third degree burn destroys all layers of skin and any or all of the underlying structures (fat, muscles, bones and nerves). The burn appears brown or black (charred) with the tissues underneath sometimes appearing white. This type of burn can be extremely painful or relatively painless if the burn destroys the nerve endings. This burn is critical and requires immediate medical attention.

TREATMENT FOR BURN WOUNDS

Thermal Burns:
1. Stop the burning. Put out flames or remove the casualty from the source of the burn.
2. Cool the burn. Use large amounts of water to cool the burn. Never use ice, it causes body heat loss. If the area cannot be immersed, like the face, you can soak a clean cloth and apply it to the burn, being sure to continue adding water to keep the cloth cool.
3. Cover the burn. Use dry, sterile dressings or a clean cloth to help prevent infection and reduce pain. Bandage loosely.
4. Call EMS if the burn covers a large part of the body. Always advise a casualty to seek medical attention even if they only sustained a minor burn wound.

Chemical burns:
Chemical burns can be caused by chemicals used in manufacturing or in a lab, or by household products such as bleach, garden sprays or paint removers.

1. Call Emergency Services in any case of a chemical burn.
2. Remove the chemical from the skin or eyes immediately by flushing the area with large amounts of cool running water until EMS arrives.
3. Remove any clothes with chemicals on them, and be careful not to spread the chemical to other body parts or to yourself.
**Electrical Burns:**
Electrical burns can be caused by power lines, lightening, defective electrical equipment, and unprotected electrical outlets.

1. Call Emergency Services in the case of an electrical burn.
2. Do not go near the person unless you are sure the power source has been turned off.
3. If the casualty is unconscious, check breathing and pulse.
4. The burn itself will not be the major problem. Check for other injuries, and do not move the casualty because he/she may have spinal injuries.
5. Cover an electrical burn with a dry, sterile dressing. Do not cool the burn unless you are sure it is safe to use water at the scene.
6. There may be two wounds, one where the current entered the body and one where it left, make sure to check for and treat both.
7. Maintain body temperature.
8. Reassure the casualty.

**DO NOT**
- DO NOT apply ointment, butter, ice, medications, fluffy cotton dressing, adhesive bandages, cream, oil spray, or any household remedy to a burn. This can interfere with proper healing.
- DO NOT allow the burn to become contaminated. Avoid breathing or coughing on the burned area.
- DO NOT disturb blisters or dead skin.
- DO NOT immerse a severe burn that covers a large part of the body in cold water. This can cause shock.
- DO NOT place a pillow under the casualty’s head if there is an airway burn and they are lying down. This can close the airway.
Electric shock occurs upon contact of a body part with any source of electricity that causes a sufficient current through the skin, muscles, or hair. Electric shock can be caused by faulty appliances, exposed wires, electric fencing and lightning.

What happens during electric shock?

- Makes you fall down
- Muscle contraction
- Seizures
- Dehydration
- Burns
- Fractures
- Clotting of blood
- Tissue death (narcosis)
- Respiratory/heart/kidney failure

SIGNS AND SYMPTOMS OF ELECTRIC SHOCK

Symptoms depend on many things, including the type and strength of voltage, how long you were in contact with the electricity, how it moved through your body, and your overall health.

- Changes in alertness (consciousness)
- Broken bones
- Heart attack
- Headache
- Problems with swallowing, vision, or hearing
- Irregular heartbeat
- Muscle spasms and pain
- Numbness or tingling
- Breathing problems or lung failure
- Seizures
- Cold, clammy skin (when going into shock)
- Skin burns

IMPORTANT

Burns are usually most severe at the points of contact with the electrical source and the ground. The hands, heels, and head are common points of contact.

TREATMENT FOR ELECTRIC SHOCK

1. Do not attempt to move the casualty from the current source
2. First step is to switch off the current source, otherwise, move the source using a wooden stick (non-conductive)
3. Call EMS
4. Attend to the casualty
5. Check for breathing, no breathing, do CPR
6. Re-establish vital functions
7. If breathing, do a physical secondary examination
8. Treat for minor burns and other injuries (look out for shock)
9. Excessive burns may require hospitalization/ surgery
10. Supportive care must be provided

A casualty of electric shock must be examined by a medical professional no matter how minor the incident was.
POISONING

4 TYPES OF POISONING

- Swallowed
- Inhaled
- Absorbed
- Injected

SWALLOWED POISONS

Commonly swallowed poisons include medication, paraffin, poisonous plants and cleaning agents.

SYMPTOMS & SIGNS OF SWALLOWED POISONS

- Nausea & vomiting
- Abdominal cramps
- Diarrhoea
- Difficulty breathing
- Coughing blood
- May or may not turn blue
- Lethargy
- Convulsion
- There may be burn marks in or around the mouth

TREATMENT FOR SWALLOWED POISONS

1. Call emergency services if the person is unconscious or there are signs of poisoning.
2. Provide information about the poisoning: what poison was taken; the amount; how it entered the body; when it was taken; the person's age and approximate size/weight.
3. Perform CPR if the person is unconscious and not breathing, but first check for poisonous material around the mouth. Wash the area around the person's mouth and if necessary, use a barrier device.
4. Keep a sample of what the person has taken, even if it is an empty container.
5. Never try to induce vomiting as this could cause further damage. Some poisons, especially corrosive substances, can cause further damage during vomiting.
6. DO NOT give anything to eat or drink.

INHALED POISONS

Common sources are carbon monoxide and gas used for heating/cooking.

SYMPTOMS & SIGNS OF INHALED POISONS

- Irritated eyes, nose, throat or lungs.
- Coughing
- Headache
Shortness of breath or dizziness.

**TREATMENT FOR INHALED POISONS**

1. Call EMS if the casualty is unconscious or there are signs of poisoning.
2. Remove the casualty from the area to a well-ventilated room, or move them outside.
3. Perform CPR if the casualty is unconscious and not breathing.
4. Place them in the recovery position once vital signs have been re-established.

**ABSORBED POISONS**

Common sources include herbicides/pesticides and poisonous plants.

**SYMPTOMS & SIGNS OF ABSORBED POISONS**

- Reddening of the skin, blisters, swelling or burns.

**TREATMENT FOR ABSORBED POISONS**

1. If the person is unconscious, call emergency services immediately.
2. Flush the affected area thoroughly with cool water.
3. Remove clothing that has been in contact with the poison - be careful not to touch it.
4. Wash the area carefully with soap and water.
5. If there is poison in the eye, rinse the eye with cool water for 20 minutes.
6. Keep a sample of the poisonous substance, even if it is an empty container.

**INJECTED POISONS**

Poisons can be injected through a hollow needle or needle-like device such as a snake’s fangs.

**SYMPTOMS & SIGNS OF INJECTED POISONS MAY INCLUDE**

- Irritation around the point of entry.

**TREATMENT FOR INJECTED POISONS**

1. Call emergency services if the person is unconscious, there are signs of poisoning or the person has been bitten by a snake.
2. Keep the casualty as calm as possible. The faster the heart beats, the faster the poison will spread.
3. Delay the spread of the poison to the rest of the body by keeping the affected limb below the heart.
COMMON POISONS

- Antifreeze
- Drain cleaners
- Toilet bowl cleaners
- Insecticides
- Artificial nail removers
- Topical anaesthetics (i.e. products that may be used for sunburn pain)
- MEDICINES (even vitamins)
- Detergents
- Furniture polish
- Perfume & aftershave
- Mouthwash
- Gasoline, kerosene, and lamp oil
- Paint and paint thinner
- Mothballs
- Alcoholic beverages
- Rat and mouse poison
- Beauty products
- Plants

POISON INFORMATION CENTRE

All areas  0800 33 3444

Cape Town Poison Centres

Red Cross Children’s Hospital  021 689 5227  
Tygerberg Poison Information Centre  021 931 6129

Johannesburg

Anti-Poison Centre  011 642 2417 or 011 488 3108
NERVOUS SYSTEM PROBLEMS

SEIZURES

First aid for seizures involves responding in ways that can keep the person safe until the seizure stops by itself. Generalized tonic-clonic (grand mal) seizures are the most common form of seizure.

SIGNS AND SYMPTOMS OF SEIZURES

- Tonic phase. Loss of consciousness occurs, and the muscles suddenly contract and cause the person to fall down. This phase tends to last about 10 to 20 seconds.
- Clonic phase. The muscles go into rhythmic contractions, alternately flexing and relaxing. Convulsions usually last for less than two minutes.

The following signs and symptoms occur in some but not all people with grand mal seizures:

- A sense of unexplained dread, a strange smell or a feeling of numbness
- Some people may cry out at the beginning of a seizure
- Loss of bowel and bladder control
- Unresponsiveness after convulsions
- Confusion.
- Fatigue
- Severe headache

TREATMENT FOR SEIZURES

1. Keep calm and reassure other people who may be nearby.
2. Prevent injury by clearing the area around the person of anything hard or sharp.
3. Time the seizure with your watch. If the seizure continues for longer than five minutes without signs of slowing down or if a person has trouble breathing afterwards, appears to be injured, in pain, or recovery is unusual in some way, call EMS.
4. Do not hold the casualty down or try to stop his/her movements.
5. Do not put anything in the casualty’s mouth. Efforts to hold the tongue down can injure the teeth or jaw.
6. Stay with the person until the seizure ends naturally and he is fully awake.
7. Once the seizure has ended and the casualty is breathing, place them in the recovery position.
8. Do not give them anything to eat or drink.
9. Be friendly and reassuring as consciousness returns.

Consider a seizure an emergency and call EMS if any of the following occurs:

- The seizure lasts longer than five minutes without signs of slowing down or if a person has trouble breathing afterwards, appears to be in pain or recovery is unusual in some way.
- The person has another seizure soon after the first one.
- The person cannot be awakened after the seizure activity has stopped.
- The person became injured during the seizure.
- The person becomes aggressive.
- The seizure occurs in water.
- The person has a health condition like diabetes or heart disease or is pregnant.
STROKE

A stroke occurs when there’s bleeding into the brain or when normal blood flow to the brain is blocked. Within minutes of being deprived of essential nutrients, brain cells start dying — a process that may continue over the next several hours.

Seek immediate medical assistance. A stroke is a true emergency. The sooner treatment is given; the more likely it is that damage can be minimized. Every moment counts.

FAST STROKE IDENTIFICATION

In the event of a possible stroke, use FAST to help remember warning signs.

- **Face.** Does the face droop on one side trying to smile?
- **Arms.** Is one arm lower when trying to raise both arms?
- **Speech.** Can a simple sentence be repeated? Is speech slurred or strange?
- **Time.** During a stroke every minute counts. If you observe any of these signs, call EMS immediately

Other signs and symptoms of a stroke include:

- Weakness or numbness on one side of the body including either leg
- Dimness, blurring or loss of vision, particularly in one eye
- Severe headache — a bolt out of the blue — with no apparent cause
- Unexplained dizziness, unsteadiness or a sudden fall, especially if accompanied by any of the other signs or symptoms

Risk factors for stroke include having high blood pressure, having had a previous stroke, smoking, having diabetes and having heart disease. Your risk of stroke increases as you age.

TREATMENT FOR A STROKE

- Call EMS
- Check CABs
- Lay the patient down with head and shoulders slightly elevated
- Reassure the casualty
- Never give a suspected stroke casualty anything to eat/drink
UNCONSCIOUSNESS

SIGNS & SYMPTOMS OF UNCONSCIOUSNESS

- The casualty is unaware of his/her surroundings and does not respond to sound.
- They make no purposeful movements.
- They do not respond to questions or to touch.
- May or may not be breathing or has no signs of circulation.

TREATMENT FOR UNCONSCIOUSNESS

1. Check for responsiveness
2. Loosen any restrictive clothing and or jewellery.
3. Look for any medical alert information. This could be on a neck chain, bracelet or in a wallet. This information could help to identify the casualty’s condition.
4. Check CAB
5. Call EMS if the patient is unconscious for more than a few seconds, if you suspect a neck or head injury or if there is no breathing or circulation.
6. Check the patient for any other injuries for example, bleeding, burns, broken limb. Give first aid accordingly.
7. If there is no neck or head injury place the casualty into the recovery position.
8. Manage casualty’s core body temperature.
9. Do not give the casualty anything to eat or drink when they regain consciousness.
**RESPIRATORY PROBLEMS**

## DROWNING

Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid. Drowning itself is quick and silent, although it may be preceded by distress which is more visible. A person drowning is unable to shout or call for help, or seek attention, as they cannot obtain enough air.

### TREATMENT FOR DROWNING

1. Call EMS immediately.
2. Open the airway by tilting the head, checking the mouth, and lifting the chin. Check for breathing for up to 10 seconds.
3. If the casualty is breathing, place them into the recovery position.
4. If the casualty is not breathing, provide rescue breathing and full CPR if necessary.
5. When the water starts coming out, turn the casualty’s head to the side and allow the water to flow out before continuing CPR.
6. When vital functions are re-established cover the casualty and bring their body temperature back up to a normal temperature.

## HYPOThERMIA

Hypothermia is the lowering of the body’s core temperature and leads to the breathing and heart rate slowing and eventually stopping. Try to keep the casualty warm, remove wet clothing if you can and quickly replace it with warm, dry clothing or blankets.

## SECONDARY DROWNING (DRY DROWNING / PARKING LOT DROWNING)

Secondary drowning happens after a near drowning incident. The incident leaves a small amount of liquid in the lungs that prevents optimal oxygen intake and can still cause death (in severe cases) up to 24 – 48 hours after the incident.

### SIGNS & SYMPTOMS OF SECONDARY DROWNING

- Coughing, difficulty breathing
- Decreased level of activity, lethargic
- Fast, shallow breathing
- Chest pains
- May appear pale, blue, grayish in colour

### TREATMENT FOR SECONDARY DROWNING

1. Call EMS immediately.
2. If patient becomes unconscious check CAB and start CPR.
3. Place them in the recovery position when vital functions have been re-established.

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**IMPORTANT**

Remember a child can drown in as little as 5 cm of water, always keep an eye on children when in or near any body of water.
WOUNDS AND BLEEDING

BLEEDING

TYPES OF BLEEDING

There are three types of bleeding each named after the type of blood vessel that is damaged: arterial bleeding, venous bleeding and capillary bleeding. The most serious of these is arterial bleeding and must be treated first.

Arterial Bleeding:
Blood in the arteries just came from the heart and is under pressure and therefore it often spurts from the wound as the heart beats. This blood is usually bright red as it is fully oxygenated. Note that blood in the artery leading from the heart to the lungs is not fully oxygenated.

Venous Bleeding:
Venous blood contains less oxygen and therefore is darker red. It will not spurt because it flows at a lower pressure than arterial blood. If a major vein is ruptured it may gush profusely.

Capillary Bleeding:
This is the most common type of bleeding. The capillaries contain both venous and arterial blood. It is present in any wound and it may be the only type in minor wounds where blood oozes from the wound.

DIRECT AND INDIRECT PRESSURE

Direct Pressure:
Direct pressure is the preferred method for controlling bleeding. Pressure should be applied directly onto the bleeding wound.

To control bleeding (main aim is to reduce blood loss from the casualty):

1. Apply firm direct pressure to the wound;
2. Instruct the casualty to place pressure directly on their wound, if they are able;
3. If the casualty is unable to assist, apply pressure using gloved hands or a pad;
4. Elevate the bleeding part (if no fracture or spinal injuries are suspected), restrict movement;
5. Apply a pad over the wound and secure with a bandage.

If the initial pad does not control the bleeding, leave the initial pad in place and apply a second pad and bandage over the first.

**Indirect Pressure:**
If direct pressure is not effective, or a fracture or imbedded object stops you from applying direct pressure, then indirect pressure should be used. Indirect pressure is usually only applied on the limbs by using pressure points. The two most common pressure points are the brachial arteries (for forearm) and the femoral arteries (for lower limbs).

1. **Brachial Pressure Point**
   - Apply pressure over the arterial pressure point to facilitate blood coagulation.
   - Apply for 3 – 5 minutes, check if bleeding has slowed or stopped.
   - Reapply pressure if necessary.
   - If bleeding has stopped, dress the wound.

2. **Femoral Pressure Point**
   - Indirect Pressure:
     - If direct pressure is not affective, or a fracture or imbedded object stops you from applying direct pressure, then indirect pressure should be used. Indirect pressure is usually only applied on the limbs by using pressure points. The two most common pressure points are the brachial arteries (for forearm) and the femoral arteries (for lower limbs).

   1. Apply pressure over the arterial pressure point to facilitate blood coagulation.
   2. Apply for 3 – 5 minutes, check if bleeding has slowed or stopped.
   3. Reapply pressure if necessary.
   4. If bleeding has stopped, dress the wound.

If there is any foreign body in the wound, rinse away any loose bit on the surface with water. Do not try to remove any foreign body which is inserted deep into the wound. Place gauze with a hole in the middle over the wound and apply a ring pad around the foreign body or surround the wound with dressing built up like a dam before finishing up with bandage.

**Tourniquet:**
As a last resort, where other methods of bleeding control have failed, a tourniquet may be applied to a limb to control life-threatening bleeding; for example, traumatic amputation of a limb or major injuries with massive blood loss e.g., shark attack.

1. Apply a wide bandage (at least 5cm) high above the bleeding point. The bandage should be tight enough to stop all circulation to the injured limb and control the bleeding.
2. Note the time of application and relay this information direct to EMS by phone (if possible).
3. Leave the tourniquet uncovered.
4. The bandage/tourniquet can only be removed by a medical specialist.

### IMPORTANT

Use a tourniquet to control severe bleeding **only as a last resort**, and only use on the extremities. Don’t loosen or remove a tourniquet after it has been applied because it may dislodge clots, resulting in continued blood loss, shock, and death.
MAJOR EXTERNAL BLEEDING

You need to treat major bleeding as soon as possible but remember that breathing is more important and needs to be addressed first. You may find that in some cases you can only reduce the bleeding and not stop the flow of blood completely but this might just be enough to preserve the life of the casualty until professional medical help arrives.

SIGNS & SYMPTOMS OF MAJOR EXTERNAL BLEEDING

- Evidence of major external blood loss (clothes soaked with blood, pooling of blood)
- Restlessness and anxiety
- Progress of shock
- Pale, cold and clammy skin
- Rapid pulse becoming weaker
- Faintness and dizziness
- Shallow breathing, yawning, and gasping for air
- Possible unconsciousness

TREATMENT FOR MAJOR EXTERNAL BLEEDING

1. Wear disposable gloves.
2. Expose the wound and check for foreign objects that might be present.
3. Apply direct pressure with your fingers or the palm of your hand to control the bleeding.
4. Squeeze the edges together if the wound is very large.
5. Lay the casualty down. If the wound is on a limb and there is no fracture you should raise and support the limb.
6. If the wound is on a limb you can apply indirect pressure to the main artery that supplies the limb should direct pressure be ineffective. **Indirect pressure should not be applied for longer than 3 – 5 min.**
7. Place an un-medicated and sterile dressing over the wound. Make sure that the dressing is bigger that the wound so that it covers the whole wound.
8. Press down firmly and secure with a bandage. Tie firm enough to control the bleeding but not cut off the circulation. Also immobilise the injured part of the body.
9. Should the bleeding continue, apply more dressing on top of the original ones and bandage firmly.
10. Treat for shock.
11. Take to the hospital immediately.

If suitable dressing is not available you can place a piece of gauze over the wound, place a pad of cotton wool on top and bandage firmly. Any dry, clean and absorbent material can also be used, like a towel, piece of linen, handkerchief or a pad of paper handkerchiefs.

**IMPORTANT**

Don’t put cotton wool, lint, woolly or fibrous material directly onto the wound as the fibres may become embedded in the wound.
INTERNAL BLEEDING

Internal bleeding might occur after a fracture, a crush injury or maybe because of a medical condition such as a stomach ulcer that is bleeding. Blows to the body can damage internal organs like the spleen and liver although there are no external signs.

Internal bleeding is just as serious as external bleeding. Even though the blood is not lost from the body, it is lost from the circulatory system and this causes oxygen starvation of vital organs.

The blood collecting in the body can cause problems when it presses on vital structures. Examples of this include blood collecting in the scull compressing the brain resulting in unconsciousness or bleeding inside the chest preventing the lungs to expand.

The blood resulting from internal injuries can collect in a body cavity and remain concealed; it may flow from one of the body’s openings, such as the rectum or the mouth and may show signs through the appearance of discoloration and bruising.

Always suspect internal bleeding:
- after a violent injury
- if there are signs and symptoms of shock but no visible blood loss
- if there is patterned bruising corresponding to the seams or texture of a person’s clothing

SIGNS & SYMPTOMS OF INTERNAL BLEEDING

The symptoms of internal bleeding depend upon where the bleeding is located, how much bleeding has occurred, and what structures and functions in the body are affected. Blood outside the circulatory system (the heart and blood vessels) is very irritating to tissues, causing inflammation and pain.

- Pain and tenderness around the affected area, feel swelling and tension
- Bruising
- Blood in vomit, bleeding from the rectum or vagina
- Signs and symptoms of shock
- Shallow breathing sometimes accompanied by yawning and sighing
- Restlessness
- Thirst
- Blood appearing from one of the body’s openings
- History of a medical illness that may cause internal bleeding
- History of a violet injury that could cause internal bleeding
TREATMENT FOR INTERNAL BLEEDING

1. Call EMS immediately.
2. Lay the casualty down – head low and to one side to ensure good blood flow to the brain.
3. Advise the casualty not to move.
4. Raise his/her legs to help with the return of blood flow to the vital organs if the injuries allow you to do so.
5. Loosen any tight clothing around the neck, chest and waist.
6. Reassure the casualty.
7. Treat for shock.
8. Monitor breathing, pulse and levels of consciousness at 5 - 10min intervals and record the information for the doctor.
9. Examine the person for other injuries and threat them.
10. If the casualty losses consciousness but is still breathing normally put him/her in the recovery position.
11. Should the casualty stop breathing and the heartbeat stop, start with CPR.
12. Keep the casualty covered and if possible also put a blanket underneath them.
13. Record any specimens passed or vomited by the casualty and if possible send a sample with the casualty to the hospital.
14. Don’t give the casualty anything to drink or eat.
15. Remove to the hospital immediately.
WOUNDS

Wounds are classified either as open wounds or as closed wounds.

Incised, lacerated, puncture, gunshot wounds and grazes are examples of open wounds.

Closed wounds are where blood escape from the blood vessels but not from the body. Bruises and internal bleeding is examples of close wounds.

TYPES OF WOUNDS

Incised wounds:
An incised wound can be caused by a knife or razor and this type of wound may bleed profusely. The reason for this severe bleeding is that clean-cut veins don’t contract easily.

Lacerated wounds:
Lacerated wounds may be caused by machinery, claws of animals and barbed wire. The skin may be torn irregularly, clotting is relatively easy across the jagged edges and the torn veins contract relatively fast and therefore it bleeds less than incised wounds.

Puncture Wounds:
Needles, forks, nails and teeth, which may lead to dangerous internal injuries, can cause puncture wounds. These wounds may cause an infection as dirt and germs might have been carried into the wound by the instrument/tool.

Gunshot Wounds:
Gunshot wounds usually have two wounds namely an entrance wound and an exit wound that might be much larger. Because the bullet passes through the body this can cause serious internal injuries as the bullet rip through body tissue, blood vessels and perhaps even some organs. Apart from the external bleeding there might be internal bleeding as well.

Graze Wounds:
Grazes are where a part of the outer-layer of skin is scraped off, leaving a raw area, because of a sliding fall. These wounds usually have dirt embedded in them because of the nature of the injury and may become infected.
Contused Wounds:
Contused wounds may be caused by a blow with a blunt object or by a fall. The impact causes the skin to split and damaged blood vessels leak blood into the surrounding tissue without the skin being broken. With wounds like these you should be aware of possible fractures under the bruise.

SIGNS & SYMPTOMS OF WOUNDS

- Damaged skin
- Bleeding

Cuts/open wounds are a result of damage to the tissue, which causes slight or severe bleeding depending on the degree of the injury and the rate of blood lost.

TREATMENT FOR WOUNDS

This treatment is for minor wounds:

1. Wash your hands or wear disposable gloves.
2. Press the wound with thumb and fingers (holding cut edges together if necessary) until bleeding stops.
3. Rinse wound under a tap if it’s dirty.
4. Carefully remove any small pieces of glass or gravel from the wound with a clean pair of tweezers.
5. Then, using gauze, gently clean with soap and water. Work from the centre of the wound outwards, using a clean swab for each wipe.
6. Finish with some diluted antiseptic.
7. Pat skin thoroughly dry.
8. For small cuts and grazes, a plaster is enough.
9. Larger injuries need a non-adhesive dressing secured with a gauze bandage, which you tie firmly, but not so tightly that the circulation is restricted.
10. **Never** put fluffy dressings like cotton wool on the wound – it’ll stick to the wound and may cause infection. Only handle the very edges of a dressing.
OTHER COMMON INJURIES/AILMENTS

ALLERGIC REACTIONS

SYMPTOMS FOR ALLERGIC REACTIONS

- Swelling of the face, especially around the mouth, throat and eyes
- Swelling of the affected area if there has been contact with a chemical or venom (e.g. insect sting)
- Redness of the skin or an itchy rash over the chest and back
- Nausea and/or vomiting
- Breathing difficulty similar to an asthma attack
- Dizziness, weakness or collapse
- Diarrhoea

TREATMENT FOR ALLERGIC REACTIONS

1. Call for EMS at the first sign of allergic reaction
2. Monitor CABs
3. Help a responsive casualty use their medications/emergency epinephrine kit (EpiPen)
4. Have casualty lie down, and cover them lightly with a blanket. If shortness of breath occurs, have casualty sit up.

APPENDICITIS

SYMPTOMS OF APPENDICITIS

- Significant abdominal pain, especially around the bellybutton or in the lower right part of the abdomen (perhaps coming and going and then becoming consistent and sharp)
- Low-grade fever
- Loss of appetite
- Nausea and vomiting
- Diarrhoea
- Swollen or bloated abdomen, especially in infants

TREATMENT OF APPENDICITIS

1. Call your doctor/EMS immediately
2. Don’t give your child/casualty any pain medication or anything to eat or drink unless instructed to by the doctor
3. Ice pack may reduce discomfort
4. Reassure your child or the casualty

Appendicitis is treated surgically.

ASTHMA

SYMPTOMS OF ASTHMA

- Difficulty in breathing, with a very prolonged breathing-out phase

There may also be:
- wheezing as the casualty breathes out
- difficulty speaking and whispering
- distress and anxiety
- coughing
- cyanosis (lips or fingernails turning blue).

### TREATMENT FOR ASTHMA

1. You need to keep the casualty calm and reassure them
2. If they have an inhaler encourage them to use it
3. Encourage the casualty to breathe slowly and deeply
4. Encourage the casualty to sit in a position that they find most comfortable, often leaning forward with arms resting on a table or the back of a chair
5. Do not lie the casualty down
6. A mild asthma attack should ease within three minutes but if it doesn’t encourage the casualty to use their inhaler again

If this is the first attack, or if the attack is severe and any one of the following occurs:

1. The inhaler has no effect after five minutes
2. The casualty is becoming worse
3. Breathlessness makes talking difficult
4. The casualty becomes exhausted
5. Dial EMS immediately
6. Encourage the casualty to use their inhaler every five to 10 minutes
7. Monitor and record the breathing and pulse rate every 10 minutes until EMS arrives at the scene.

### BEE STING

#### SYMPTOMS OF A BEE STING

Allergy symptoms they include:

- wheezing or difficulty with breathing
- tightness in the throat or chest
- swelling of the lips, tongue, or face
- dizziness or fainting
- nausea or vomiting

#### TREATMENT FOR A BEE STING

1. Make a quick get away from the bees or more stings may occur
2. Remove the stinger - speed matters not the method

**Anaphylactic reaction** –

1. If a person knows they are allergic to bee stings they will usually carry an epinephrine auto-injector (EpiPen). This needs to be given straight away DO NOT WAIT FOR ALLERGIC SYMPTOMS TO APPEAR.
2. If the person has an anaphylactic reaction call EMS immediately.

**OR for NON-anaphylactic reaction -**
3. If the person experiences a **local allergic reaction or inflammation** at the site of the sting consider giving them an antihistamine tablet and pain relief. It is common to develop some itchiness at the sting site.
4. Apply a **cold compress** to the stung area.

Take the casualty to the emergency department if he/she was stung more than 10 times, or if there are bee stings inside the nose, mouth, or throat. Swelling from these stings can cause shortness of breath, even in non-allergic persons.

**BLEEDING NOSE**

**SYMPTOMS OF A BLEEDING NOSE**

- Bleeding from nose

Causes of nosebleeds:

- Infection
- Trauma, including self-induced by nose picking, especially in children
- Allergic and non-allergic rhinitis
- Hypertension (high blood pressure)
- Use of blood thinning medications
- Alcohol abuse
- Less common causes include tumors and inherited bleeding problems
- Hormonal changes during pregnancy may increase the risk of nosebleeds

**TREATMENT FOR A BLEEDING NOSE**

1. Sit down and lean forward
2. Using your thumb & index finger, squeeze soft part of nose between end of nose and the bridge of nose
3. Breathe through your mouth
4. Continue holding till bleeding stops – approx. 10min
5. If bleeding continues, hold for another 10 minutes
6. If the patient is a child, divert attention by TV/Stories
7. Avoid picking, blowing or rubbing nose for several hours afterwards
8. Place an ice pack on the bridge of nose

Consult a Doctor If:

- The bleeding continues for more than 15 minutes
- The bleeding is caused by an injury
- You get nosebleeds often
CROUP

SYMPTOMS OF CROUP

- Noisy, difficult breathing which usually worsens at night
- Hoarse, barking cough

Other symptoms:

- Stuffy or runny nose
- Fever

TREATMENT FOR CROUP

1. Call your doctor
2. Expose immediately to moist air; use a humidifier in a small room or put patient in the bathroom and turn on the shower to fill the room with steam (keep door and windows closed)
3. Make sure the child rests and takes in plenty of fluids
4. If the symptoms worsen, take your child to the emergency room

DIARRHOEA

SYMPTOMS OF DIARRHOEA

- Your child will have large, runny, frequent or watery stools
- The colour might vary from brown to green
- Diarrhoea might also be associated with tummy cramps or pain
- The most serious problem associated with diarrhoea is the possibility of it leading to dehydration

Contact your doctor immediately if you experience serious symptoms including:

- Blood in the faeces
- Pus in the faeces
- Painful passage of faeces
- Repeated vomiting
- Inability to increase fluid intake
- Reduced or absent urination
- Fever (temperature greater than 38°C)

TREATMENT FOR DIARRHOEA

1. It’s always a good idea to see your doctor if your child has diarrhoea, especially with young children and infants
2. Plenty of fluids to prevent dehydration
3. Oral rehydration drinks to replace lost salts and minerals. These drinks are available from pharmacies. An alternative is one part unsweetened pure fruit juice diluted with four parts of water
4. Intravenous replacement of fluids in severe cases
5. Medications such as antibiotics and anti-nausea drugs
DOG / ANIMAL BITES

SYMPTOMS OF DOG / ANIMAL BITES

- Skin may be punctured or torn
- May show teeth/fang marks
- Bruising
- Bleeding

TREATMENT OF DOG / ANIMAL BITES

1. Control any bleeding.
2. Using a clean washcloth or towel, apply gentle pressure to the wound until it stops.
3. If there’s a lot of blood, elevate the injured area.
4. Wash with mild soap and water, cover with sterile dressing and bandage
5. Do not try to capture or calm the dog down, as this may result in further injury to yourself or others

Call the doctor if:

- You don’t know the dog that bit your child (in which case, a rabies shot may be in order)
- The wound looks very deep or is on your child’s face or neck
- You can’t stop the bleeding after ten minutes of direct pressure

FEVER

SYMPTOMS OF FEVER

- Fever is higher-than-normal body temperature (Normal temperature is 37°C)
- Hot flushed face
- Lack of interest in food
- Nausea
- Vomiting
- Head and body ache
- Constipation
- Diarrhea

High fever maybe associated with:

- Delirium
- Convulsion

Low fever: 37.1°C to 38.2°C
Mild fever: 38.3°C to 39.4°C
High fever: 40°C and above

IMPORTANT

Always seek medical help when bitten by a human. The bacteria and viruses in the human mouth can cause serious infection and complications.
TREATMENT FOR FEVER

1. Monitor temperature using a thermometer
2. Keep the person at a comfortable body temperature
3. Give a sponge bath in lukewarm water
4. Dry the casualty, and dress them in comfortably warm clothing
5. Continue to take casualty's temperature, and repeat these steps if necessary until fever is reduced or the doctor is contacted
6. Give plenty of cool water and other cold or frozen fluids to drink
7. Give prescribed doses of acetaminophen /paracetamol. Don't give aspirin to a person with fever
8. Do not wrap the person in blankets / warm clothing

Consult a Doctor in case of:

- Irregular breathing
- Stiff neck
- Confusion
- Rashes
- Persistent sore throat
- Vomiting
- Diarrhoea
- Painful urination
- Convulsions

HEAT EXHAUSTION

SYMPTOMS OF HEAT EXHAUSTION

- Feeling faint or dizzy
- Nausea
- Heavy sweating
- Rapid, weak heartbeat
- Low blood pressure
- Cool, moist, pale skin
- Low-grade fever (37.1°C – 38.2°C)
- Heat cramps
- Headache
- Fatigue
- Dark-coloured urine

TREATMENT FOR HEAT EXHAUSTION

1. Get the person out of the sun and into a shady or air-conditioned location
2. Lay the person down and elevate the legs and feet slightly
3. Loosen or remove tight clothing
4. Have the person drink cool water or other non-alcoholic beverage without caffeine
5. Cool the person by spraying or sponging with cool water and fanning
6. Monitor the person carefully. Heat exhaustion can quickly become heatstroke
7. Call EMS if the person’s condition deteriorates, especially if fainting, confusion or seizures occur, or if fever of 40°C or greater occurs with other symptoms
HEAT RASH

SYMPTOMS OF HEAT RASH

- Symptoms range from superficial blisters to deep, red lumps
- Clear, fluid-filled blisters and bumps (papules) that break easily
- Red bumps
- Itchy or prickly feeling in the affected area
- Little or no sweating in the affected areas
- Firm, flesh-coloured lesions that resemble goose bumps

Heat rash usually heals on its own and doesn’t require medical care. See your doctor if:

- you or your child has symptoms that last longer than a few days
- the rash seems to be getting worse, or there are signs of infection
- There is increased pain, swelling, redness or warmth around the affected area
- These is pus draining from the lesions
- Your lymph nodes in the armpit, neck or groin are swollen
- You have fever or chills

TREATMENT FOR HEAT RASH

1. The best treatment for any form of heat rash is to reduce sweating by staying in air-conditioned buildings or, when that’s not possible, using fans to circulate the air
2. Wearing lightweight clothing made of fabrics that “breathe”
3. Limiting physical activity
4. Once skin is cool, heat rash tends to clear quickly. Mild heat rash doesn’t require any other treatment.

More-severe forms of heat rash may require topical therapies to relieve discomfort and prevent complications:

- Calamine lotion to soothe itching
- Anhydrous lanolin, which may help prevent duct blockage and stop new lesions from forming
- Topical steroids in the most serious cases
- Avoid using creams and ointments, which can block pores further

HEAT STROKE

SYMPTOMS OF HEAT STROKE

Heatstroke is the most severe of heat-related problems, after heat cramps and heat exhaustion. Heatstroke often results from exercise or heavy work in hot environments combined with inadequate fluid intake.

- Markedly elevated body temperature, generally greater than 40°C
- Changes in mental status ranging from personality changes to confusion and coma
- Skin may be hot and dry although if heatstroke is caused by exertion, the skin may be moist

Other signs and symptoms may include:

- Rapid heartbeat
- Rapid and shallow breathing
- Elevated or lowered blood pressure
Cessation of sweating
- Irritability, confusion or unconsciousness
- Feeling dizzy or lightheaded
- Headache
- Nausea
- Fainting, which may be the first sign in older adults

**TREATMENT FOR HEAT STROKE**

1. Move the person out of the sun and into a shady or air-conditioned space
2. Call EMS
3. Cool the person by covering with damp sheets or by spraying with cool water
4. Direct air onto the person with a fan or newspaper
5. Have the person drink cool water or other non-alcoholic beverage without caffeine, if he or she is able

**SCORPION STING**

**SYMPTOMS OF A SCORPION STING**

- Intense pain/burning at the sting site
- Mild swelling around sting site
- Numbness/tingling in area of sting
- Sensitivity to touch
- Nausea or vomiting
- Excessive salivation

Severe symptoms include:

- Widespread numbness
- Difficulty swallowing
- Difficulty breathing/hyperventilation
- A thick tongue
- Blurred vision / Roving eye movements
- Disorientation
- Muscle spasms / Seizures
- Racing pulse or heartbeat
- Anaphylactic shock

These symptoms constitute a medical emergency. Death may occur.

**TREATMENT FOR A SCORPION STING**

1. Wash the affected area: If possible, get the site of the sting under cold water immediately
2. Medicate topically: Apply a layer of ointment containing an antihistamine, a corticosteroid, and an analgesic
3. Apply ice: Hold a bag of ice over the ointment on the area. The ice will reduce the pain and inflammation
4. Medicate orally: Take one dose of Benadryl (antihistamine) and one dose of a pain killer (acetaminophen)
5. Go to the hospital: Because some scorpion stings can be fatal, if possible, get someone else to drive you
6. Ice as needed: Keep applying ice until pain is tolerable. You may experience pain for any length of time between a few hours to a couple days
SNake Bite

Symptoms of a Snake Bite

Symptoms depend on the type of snake, but may include:

- Fang marks in the skin
- Swelling at the site of the bite
- Bleeding from wound
- Blurred vision
- Burning of the skin
- Convulsions
- Dizziness
- Excessive sweating
- Fainting
- Fever
- Increased thirst
- Loss of muscle coordination
- Nausea and vomiting
- Numbness and tingling
- Rapid pulse
- Tissue death
- Severe pain
- Skin discoloration
- Weakness

Treatment for a Snake Bite

1. Remain calm and keep the casualty calm
2. Phone EMS
3. Remove jewellery or tight clothing at the site of the bite before it starts to swell
4. Position the affected area, if possible, so that the bite is at or below the level of your heart
5. Wipe away any excess venom and cover it with a clean, dry dressing
6. Immobilize the bitten arm or leg, and stay as still as possible to keep the poison from spreading through the body
7. Monitor the person’s vital signs - temperature, pulse, rate of breathing, and blood pressure. If there are signs of shock, lay the person flat, raise the feet and maintain body temperature

Don’t:

- Don’t use a tourniquet or apply ice
- Don’t cut the wound or attempt to suck out the venom
- Don’t drink caffeine or alcohol
- Don’t try to capture the snake, but try to remember its colour and shape so you can describe it, which will help in your treatment
- Do NOT allow the person to become over-exerted. If necessary, carry the person to safety
- Do NOT give the person stimulants or pain medications unless a doctor tells you to do so
- Do NOT give the person anything by mouth
- Do NOT raise the site of the bite above the level of the casualty’s heart
VOMITING & NAUSEA

SYMPTOMS OF VOMITING & NAUSEA

- Uneasiness of the stomach
- Spit up
- Vomiting

Get medical care if the person has any of the following symptoms:

- Can’t keep down liquids or foods for more than 24 hours
- Fever with abdominal pain
- Signs of dehydration (dizziness, decreased urination, fatigue)
- Unable to take medication the person normally takes
- Nausea or vomiting is due to surgery, anticancer drugs, motion sickness, pregnancy, or vertigo

TREATMENT FOR VOMITING & NAUSEA

Self-care for Nausea:

1. Have the person drink small amounts of water, sports drinks, or clear liquids
2. If the person can keep it down, give the person light, bland foods like bread and crackers.

Self-care for Vomiting:

1. Have the person drink small amounts of water, sports drinks, or clear liquids
2. Don’t give the person solid food until vomiting has stopped
3. When the person can tolerate food, try small amounts of the BRAT diet: bananas, rice, applesauce, and toast
MODULE 4:
FIRST AID/LIFESAVING PROCEDURES

MODULE 4 LEARNING OUTCOMES:

- Apply First Aid treatment appropriate to the situation and the prevention of complications.
- Improvise equipment that is not readily available in terms of First Aid procedure required.
- Taking the appropriate universal precautions in terms of preventing infections.
- Apply First Aid in accordance with current practice.
- Perform CPR and AR in accordance with accepted procedures.
- Assist a person that is choking.
- Referral to medical assistance in accordance with the specific needs of the casualty.
**LIFESAVING PROCEDURE**

**ARTIFICIAL RESPIRATION / RESCUE BREATHING**

A person can stop breathing for many reasons: sudden illness, allergy, and a serious accident. When a person is not breathing, but still has a pulse, it is crucial that you perform Rescue Breathing – which in effect is breathing for the unconscious person.

When a person stops breathing, there are only a few minutes that pass before brain damage and death occurs. In a child, this timeframe is even shorter. In fact, it is recommended that you give an unconscious, not breathing child rescue breaths for a minute before you even call EMS.

Only stop giving rescue breaths if:

- the casualty begins to breathe on his or her own;
- the casualty has no pulse - begin CPR immediately;
- more advanced medical personnel takes over;
- you are too exhausted to continue.

Rescue breathing is the act of breathing for a person who is not breathing, yet has a pulse. You should never perform rescue breathing on a stranger unless you have a resuscitation mask, so that you will not catch any contagious disease the casualty may have.

**RESCUE BREATHING FOR ADULTS**

If the casualty is not breathing yet has a pulse, initiate rescue breathing as follows:

1. Use a head tilt and a chin lift to keep the casualty’s airway open.

   ![Chin lift & Head tilt](Chin lift & Head tilt)

2. Pinch the casualty’s nose closed gently, using your thumb and index finger.

3. Then place your mouth over the casualty’s mouth, making a seal.

   ![Mouth-to-mouth ventilation](Mouth-to-mouth ventilation)

**IMPORTANT**

The air we breathe contains 21% oxygen. Exhaled air contains 16% oxygen, this is enough to supply another person with oxygen – and potentially keep him/her alive when it is forced into the lungs during rescue breathing.
4. Breathe slowly, giving full forceful breaths, watching to see the chest rise. Pause in between each breath to let the airflow out.

5. If the casualty’s chest does not rise and fall, re-tilt the head and try again. If the air still does not go in, the casualty may have an obstructed airway, and you must perform “abdominal thrusts”.

6. After giving 2 breaths, check for a pulse. If the casualty has a pulse but still is not breathing, continue rescue breathing.

7. Check for a pulse after about 1 minute of rescue breathing (about 12 breaths). If the casualty has a pulse but still is not breathing, continue rescue breathing and checking the pulse every minute. If the casualty’s pulse stops, begin “CPR”.

8. If the casualty’s vital functions are re-established (breathing & pulse) place him/her in the recovery position.

**RESCUE BREATHING FOR CHILDREN**

If the casualty is not breathing yet has a pulse, initiate rescue breathing as follows:

1. Use a head tilt and a chin lift to keep the casualty’s airway open.

2. Pinch the casualty’s nose closed gently, using your thumb and index finger.

3. Then place your mouth over the casualty’s mouth, making a seal.

4. Breathe slowly, giving full (not forceful) breaths, watching to see the chest rise. Pause in between each breath to let the airflow out.

5. If the casualty’s chest does not rise and fall, re-tilt the head and try again. If the air still does not go in, the casualty may have an obstructed airway, and you must perform “abdominal thrusts”.

6. After giving 2 breaths, check for a pulse. If the casualty has a pulse but still is not breathing, continue rescue breathing.

7. Check for a pulse after about 1 minute of rescue breathing (about 12 breaths). If the casualty has a pulse but still is not breathing, continue rescue breathing and checking the pulse every minute. If the casualty’s pulse stops, begin “CPR”.

8. If the casualty’s vital functions are re-established (breathing & pulse) place him/her in the recovery position.
RESCUE BREATHING FOR INFANTS

If the casualty is not breathing yet has a pulse, initiate rescue breathing as follows:

1. To open the airway of an infant, you do not need to tilt the head as far back as an adult's. A very slight tilt should allow air to go in.

2. Give the infant 1 slow breath (no full forceful breaths) every 3 seconds.

3. On an infant, you must make a seal over both the infant's mouth and nose.

4. After 1 minute of rescue breathing (about 20 breaths), check for a pulse.

5. If the infant has a pulse but is still not breathing, continue rescue breathing and checking the pulse each minute. If breaths do not go in, re-tilt and try again. If breaths still do not go in, you must go immediately to “abdominal thrusts - infant”.

6. If the infant's pulse stops, begin “CPR – Infant”.

7. If the infant’s vital functions are re-established (pulse & breathing) place him/her in a comfortable position.
CARDIO PULMONARY RESUSCITATION (CPR)

This procedure is applied to a person who has stopped breathing and whose heart has stopped beating. CPR is a combination of rescue breathing and artificial circulation created by external chest compressions.

The rescue breathing provides oxygen to the lungs and artificial circulation, which causes blood to flow from the heart to the lungs where it picks up oxygen to be carried to vital organs sustaining life.

CPR motions are modified for use on children and infants - defined as follows:

- Adults – 8 years and older
- Children – 1 to 8 years old
- Infants – less than 1 year old

CPR FOR ADULTS

The chest compression ratio to lung ventilation is **30 chest manoeuvres** to **2 breaths**.

Chest compression is applied by placing hands over one another, locking elbows and letting your body weight apply pressure through the heels of your hands to depress the chest to 4/5 cm or approximately 1/3 of the depth of the chest.

**HOW TO CHECK RESPONSIVENESS**

On discovering a collapsed casualty, you should establish whether s/he is conscious or unconscious. Do this by gently shaking his/her shoulders. Ask “Are you okay?” or give a command such as, “Open your eyes”. Always speak loudly and clearly to the casualty.

**IF THERE IS NO RESPONSE**

1. Shout for help. Leave the casualty in the position in which s/he was found and open the airway.

2. If you are unable to open the airway in the position in which the patient was found, roll him/her on to his/her back and open the airway.

**IMPORTANT**

Agonal Breathing: This type of breathing usually takes the form of short, irregular gasps for breath. It is common in the first few minutes after a cardiac arrest. It should not be mistaken for normal breathing and, if it is present, chest compressions and rescue breaths should be started without hesitation.
HOW TO OPEN THE AIRWAY

1. Place one hand on the forehead. Gently tilt the head back.

2. Place the fingertips of your other hand on the point of the casualty’s chin and lift the chin. Check the breathing.

HOW TO CHECK BREATHING

Keeping the airway open, look, listen and feel for breathing. Look for chest movement; listen for sounds of breathing; and feel for breath on your cheek. Do this for approximately 10 seconds before deciding whether the person is breathing or not.

IF THE CASUALTY IS NOT BREATHING

1. Ask a bystander to call emergency services for help. If you are alone, make the call yourself.

2. Begin CPR

HOW TO GIVE CPR

1. Feel for a pulse, if no pulse is present kneel beside the casualty level with his/her chest. Place the heel of one hand on the centre of the chest.

2. Place the heel of your other hand on top of the first hand, and interlock your fingers.

3. Leaning over the casualty, with your arms straight and elbows locked, press down vertically on the breastbone and depress the chest 5/6 cm. Allow the chest to come back up before giving the next compression.

4. Compress the chest 30 times at a rate of 2 per second. Count 1 and 2 and 3 and 4 to keep time. Recheck for a pulse, if no pulse is present...

5. Move to the casualty’s head and make sure that the airway is still open. Put one hand on his/her forehead and two fingers of the other hand under the tip of the chin. Move the hand
that was on the forehead down to pinch the soft part of the nose closed with forefinger and thumb.

6. Take a breath and place your lips around the casualty’s mouth (or on the mouthpiece of the respiratory valve / face shield), making sure you have a tight seal. Blow into the mouth until the chest rises. If the chest does not rise, open the airway again.

7. Maintaining head tilt and chin lift, take your mouth off the person’s mouth and look to see if the chest falls. Give a second rescue breath.

8. Continue the cycle of 30 chest compressions followed by TWO rescue breaths until either: emergency help arrives and takes over; the casualty shows signs of regaining consciousness, such as coughing, opening the eyes, speaking or moving purposefully, AND starts to breathe normally; or you are too exhausted to continue.

CPR FOR CHILDREN

CPR is different in a child in that ventilation’s are of less volume. Chest compressions are given with heel of 1 hand only and to a lesser depth. Chest compression ratios are 2 breaths to 30 chest compressions of 2.5 / 3.5 cm depth.

HOW TO CHECK RESPONSIVENESS

On discovering a collapsed child, you should establish whether he/she is conscious or unconscious. Do this by gently tapping his/her shoulders. Ask “Are you okay?” or give a command such as, “Open your eyes”. Always speak loudly and clearly to a child.

IF THERE IS NO RESPONSE

1. Shout for help. Leave the child in the position in which he/she were found and open the airway.

2. If you are unable to open the airway in the position in which the child was found, roll him/her on to his/her back and open the airway.

HOW TO OPEN THE AIRWAY

1. Place one hand on the forehead. Gently tilt the head back.

2. Place the fingertips of your other hand on the point of the child’s chin and lift the chin. Do not push on the soft tissues under the chin since this may close the airway. Check the breathing.
HOW TO GIVE CPR

1. Feel for a pulse, if no pulse is present kneel level with the child’s chest. Place ONE HAND on the centre of the chest. This is the point at which you will apply pressure.

2. Lean over the child, with your arm straight, and then press down vertically on the breastbone with the heel of your hand. Depress the chest by at least one-third of its depth. Release the pressure without removing your hand from the chest. Allow the chest to come back up completely before you give the next compression. Compress the chest 30 times and count 1 and 2 and 3 and 4 to keep the correct rhythm. Recheck for a pulse, if no pulse is present...

3. Ensure the airway is still open by keeping one hand on the child’s forehead and two fingers of the other hand on the point of the chin.

4. Pick out any visible obstructions from the mouth. Do not sweep the mouth with your finger to look for obstructions.

5. Pinch the soft part of the child’s nose with the finger and thumb of the hand that was on the forehead. Make sure that his/her nostrils are closed to prevent air from escaping. Allow the mouth to fall open.

6. Take a deep breath in before placing your lips around the child’s mouth, making sure that you form an airtight seal. Blow steadily into the child’s mouth (do not give full forceful breaths); the chest should rise.

7. Maintaining head tilt and chin lift, take your mouth off the child’s mouth and look to see the chest fall. If the chest rises visibly as you lift your mouth, you have given a rescue breath. Each complete rescue breath should take one second. If the chest does not rise you may need to adjust the head.
8. Continue the cycle of 30 chest compressions followed by TWO rescue breaths until either: emergency help arrives and takes over; the casualty shows signs of regaining consciousness, such as coughing, opening the eyes, speaking or moving purposefully, and starts to breathe normally; or you are too exhausted to continue.

**CPR FOR INFANTS**

**HOW TO CHECK RESPONSIVENESS**

Gently tap or flick the sole of the infant’s foot and call his/her name to see if he/she responds. NEVER shake an infant.

**IF THERE IS NO RESPONSE**

Shout for help, and then open the airway.

**HOW TO OPEN THE AIRWAY**

1. Place one hand on the infant’s forehead. Gently tilt the head back.

2. Place one finger of your other hand on the point of the infant’s chin and gently lift the chin. Do not push on the soft tissues under the chin since this may close the airway. Check the breathing, by keeping the airway open and look, listen and feel for normal breathing.

**HOW TO GIVE CPR**

1. Feel for a pulse, if no pulse is present place TWO FINGERTIPS of your lower hand on the centre of the infant’s chest. Press down vertically on the infant’s breastbone and depress the chest by at least one-third of its depth. Release the pressure without removing your fingers from the breastbone. Repeat to give 30 compressions at a rate of two compressions per second. Count 1 and 2 and 3 and 4 to keep rhythm. Recheck for a pulse, if no pulse is present...

2. Make sure that the airway is still open by keeping one hand on the infant’s forehead and one fingertip of the other hand under the tip of the chin.

3. Pick out any visible obstructions from the mouth. Do not sweep the mouth with your finger to look for obstructions.
4. Take a breath. Place your lips around the infant’s MOUTH AND NOSE to form an airtight seal. If you cannot make a seal around the mouth and nose, close the infant’s mouth and make a seal around the nose only. Take a breath and blow steadily into the infant’s mouth for one second; the chest should rise. Do not give full forceful breaths.

5. Maintaining head tilt and chin lift, take your mouth off the infant’s mouth and look to see the chest fall. If the chest rises visibly as you lift your mouth, you have given a rescue breath. Each complete rescue breath should take one second. If the chest does not rise you may need to adjust the head. Give 5 rescue breaths.

6. Continue the cycle of 30 chest compressions followed by TWO rescue breaths until either: emergency help arrives and takes over; the casualty shows signs of regaining consciousness, such as coughing, opening the eyes, crying or moving purposefully, and starts to breathe normally; or you are too exhausted to continue.

**CHOKING / BLOCKED AIRWAYS**

If a person is clutching his or her throat with both hands, he or she is making the universal sign for choking.

If the person can cough or talk, encourage him or her to continue coughing. But once the person can no longer talk or cough, you must clear the obstructed airway.

To clear the obstructed airway that causes choking, you must perform one of the following procedures – Abdominal thrust (Heimlich Manoeuvre) or Back blows:
ABDOMINAL THRUSTS FOR ADULTS

Abdominal thrust (Heimlich Manoeuvre) – Conscious adult:

1. Stand behind the conscious choking adult, wrapping your arms around his or her waist.

2. With one hand, make a fist.

3. Place the thumb side of the fist against the person’s abdomen just above the bellybutton.

4. Be sure your hand is far below the tip of the breastbone.

5. Put your other hand over the fist and give quick inward & upward thrusts into the casualty's abdomen.

6. Give 5 abdominal thrusts, if the object is still obstructing the airway give 5 back slaps, repeat until the object blocking the airway is dislodged and the casualty begins to breathe, or until the casualty becomes unconscious.

Abdominal thrust – Unconscious adult:

1. If, during the primary survey, your breathing is ineffective in an unconscious adult, despite having re-tilted the head and tried again, you must assume the casualty's airway is obstructed. If the casualty is a conscious choking adult who becomes unconscious, you must lower him/her to the floor on his/her back.

2. Perform a head tilt and chin lift to try to open the airway, and attempt to remove the obstruction by sweeping it out of the casualty’s mouth with your finger. This is called a finger sweep. Always use a hooking action, being careful not to lodge the object in further.

3. Perform a head tilt and chin lift and give 2 slow breaths. If the breaths still do not go in, go to abdominal thrusts.

4. Sit to the side of the casualty’s thighs. Place the heel of one hand on the casualty’s abdomen, just above the bellybutton yet far below the tip of the breastbone. Place your other hand on top of the first, interlacing your fingers, and give 5 quick upward thrusts.

5. Then do a finger sweep and give 2 slow breaths.

6. If air still will not go in, continue giving 5 abdominal thrusts, a finger sweep and 2 slow breaths.

7. Continue giving thrusts until the object is dislodged, air goes into the casualty’s lungs, or trained medical personnel takes over.

8. If the casualty is not breathing but has a pulse, you must perform “Rescue Breathing”.

9. If the casualty is not breathing and does not have a pulse, go to “CPR”.

IMPORTANT

NEVER perform abdominal thrusts when a woman is pregnant, use chest thrusts instead.
ABDOMINAL THRUSTS FOR CHILDREN

Abdominal thrust – Conscious child:

1. If the child can cough or talk, encourage him/her to continue coughing.

2. If the child cannot cough/talk, ask if he/she is choking.

3. Perform abdominal thrusts. Stand behind the child, wrap your arms around his/her waist, and make a fist with one hand. Place the thumb side of the fist against the child’s abdomen, above the bellybutton yet far below the tip of the breastbone. Put your other hand over the fist and give quick upward thrusts into the child’s abdomen.

4. Give 5 abdominal thrusts, if the object is still obstructing the airway give 5 back slaps, repeat until the object blocking the airway is dislodged and the casualty begins to breathe, or until the casualty becomes unconscious.

Abdominal thrust – Unconscious child:

1. If the child was a conscious choking casualty who became unconscious, lower the child down onto his/her back. Or, you may have determined during the primary survey that air would not go in, even after you re-tilted and tried again.

2. You must give the child 5 abdominal thrusts, do a finger sweep if you see the object, and open the airway with a head tilt and a chin lift and give 2 slow breaths.

3. If the breaths still will not go in, continue giving abdominal thrusts, a finger sweep and 2 slow breaths until the object is expelled, the child starts to breathe or cough, or EMS takes over.
4. If the child is not breathing but has a pulse, you must perform “Rescue Breathing”. If the child is not breathing and does not have a pulse, go to “CPR - child”.

CHOKING INFANTS

During the primary examination, you may determine that the infant is conscious and cannot breathe, cough or cry. You must:

1. Give 5 back blows and 5 chest thrusts.

2. Place the infant face-up on your forearm. Put your other arm on top of the infant. Use your thumb and fingers to hold the infant's jaw, sandwiching the infant between your forearms. Turn the infant over, face-down on your forearm. Place your arm down on your thigh, being sure that the infant's head is lower than his/her chest. Using the heel of your hand, give 5 back blows between the infant's shoulder blades. Be sure to hold the infant's jaw with your thumb and fingers to stabilize the head.

3. You must turn the infant back over to give 5 chest thrusts. Place your free hand and forearm across the infant, sandwiching it between your forearms and supporting the head. Turn the infant over onto his/her back and place your arm down on your thigh, making sure the infant's head is lower than his/her chest. Imagine a line across the infant's chest between the nipples. Place your ring finger on the infant's breastbone just below the imaginary line. Place the pads of the next two fingers just under the line. Raise your ring finger, and if you can feel the notch at the tip of the infant's breastbone, move your fingers up a little bit. Compress the infant's breastbone 1.5 – 2.5 cm with the pads of your fingers and then let the breastbone return to its normal position. Give 5 compressions.

4. Continue giving back blows and chest thrusts until the infant can breathe or cough.
Abdominal thrust – Unconscious infant:

1. If the infant was a conscious choking casualty who became unconscious, place the infant down on its back. You may have determined during the primary survey, even after re-tilting the head and trying again, that air would not go in.

2. Do a foreign body check: open the infant’s mouth, holding the tongue and lower jaw and lifting them upward, and look for an object; if you do see an object, do a finger sweep to remove it with your little finger.

3. Then give 2 slow breaths. If air still will not go in, continue doing back blows, chest thrusts, foreign body check and 2 slow breaths until the infant starts to breathe or cough or air goes in.

4. If the infant is not breathing but has a pulse, you must perform “Rescue Breathing”. If the infant is not breathing and does not have a pulse, go to “CPR - infant”.
THE RECOVERY POSITION

An unconscious person in a supine position (on the back) may not be able to maintain an open airway as a conscious person would. This can lead to an obstruction of the airway, restricting the flow of air and preventing normal breathing.

HOW TO PLACE SOMEONE IN THE RECOVERY POSITION

1. Kneel on the floor to one side of the person.

2. Place the person’s arm that is nearest you at a right angle to their body, so it is bent at the elbow with the hand pointing upwards. This will keep it out of the way when you roll them over.

3. Gently pick up their other hand with your palm against theirs (palm to palm). Now place the back of their hand onto their opposite cheek (for example, against their left cheek if it is their right hand). Keep your hand there to guide and support their head as you roll them.

4. Now use your other arm to reach across to the person’s knee that is furthest from you, and pull it up so that their leg is bent and their foot is flat on the floor. Gently pull their knee towards you so they roll over onto their side, facing you. Their body weight should help them to roll over quite easily.

5. Move the bent leg that is nearest to you, in front of their body so that it is resting on the floor.

6. Bend their knee so that it is at a right angle to their body. This position will help to balance them.
7. Gently raise their chin to tilt their head back slightly, as this will open up their airway and help them to breathe. Check that nothing is blocking their airway. If there is an obstruction, such as food in their mouth, remove this if you can do so safely. Stay with them, giving reassurance, until they have fully recovered.
FIRST AID KIT

REGULATION 7 KIT: OCCUPATIONAL HEALTH & SAFETY REGULATIONS

- Wound cleaner / antiseptic (100ml)
- Swabs for cleaning wounds
- Cotton wool for padding (100g)
- Sterile gauze (minimum quantity 10)
- 1 pair of forceps (for splinters)
- 1 pair of scissors (minimum size 100mm)
- 1 set of safety pins
- 4 triangular bandages
- 4 roller bandages (75mm x 5m)
- 4 roller bandages (100mm x 5m)
- 1 roll of elastic adhesive (25mm x 3m)
- 1 Non-allergenic adhesive strip (25mm x 3m)
- 1 Packet of adhesive dressing strips (minimum quantity 10 assorted sizes)
- 4 First aid dressing (75mm x 100mm)
- 4 First aid dressings (150mm x 200mm)
- 2 Straight splints
- 2 Pairs large and 2 pairs medium disposable latex gloves
- 2 CPR mouth pieces or similar devices

AT HOME:

- First Aid and Emergency booklet
- List of emergency phone numbers
- Adhesive tape
- Antibiotic ointment
- Antiseptic solution
- CPR breathing mask
- Disposable gloves
- Elastic and adhesive bandages
- Gauze pads
- Ice packs
- Roller bandages
- Rubbing/cleaning wipes
- Safety pins
- Small, sharp scissors
- Splints
- Sterile dressings
- Thermometer
- Triangular bandages
- Tweezers
- An accurate measuring device
- Antihistamine cream & tablets
- Calamine Lotion
- Paracetamol or ibuprofen
- Prescription medications
- Triple-antibiotic ointment
- Relevant medical history on all family members
DON'T HAVE A FIRST AID KIT? NO PROBLEM!

ALTERNATIVEWAYS TO TREAT BURNS

If you don't have water to cool the burn...
…use juice, beer, milk… in fact use any cold liquid, until you have access to cold running water. The aim is to cool the area as quickly as possible, using whatever cold liquid is available. Remember: it should be cooled for at least ten minutes for the treatment to be effective.

If you don’t have cling film to cover the burn...
…use a clean plastic carrier bag, sandwich/freezer bag or similar. These types of items will not stick to the burn and will create a barrier to stop infection. Plastic bags are particularly useful for covering a burned hand or foot.

ALTERNATIVEWAYS TO TREAT A BROKEN BONE

If you don't know what sort of padding to use to support a broken bone...
…use items of clothing, blankets or simply hold the injured part yourself.
ALTERNATIVE WAYS TO TREAT HEAVY BLEEDING

If you don’t have dressing pads to put pressure on the wound...
…use a t-shirt, tea towel or even the person’s own hand. All these items can be used to put pressure on the wound and stop or slow down the flow of blood.

ALTERNATIVE WAYS TO TREAT A DIABETIC EMERGENCY

If you don’t have glucose tablets...
…use orange juice, a few sugar cubes or packets of sugar, chocolate or any regular fizzy drinks (not diet drinks).

ALTERNATIVE WAYS TO TREAT A HEAD INJURY

If you don’t have any ice cubes...
…use a bag of frozen peas wrapped in a tea towel or clothing soaked in cold water and wrung out.