Level 1 Course Index

Carol Smith +27833746116 carol@firstaidpriority.co.za

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Welcome to the first aid training

First Aid is a set of life-saving skills that you are about to learn. Like any skills, the more you practice the better you become. A certain amount of practice is expected of you in class, however to master the skills you need to take them back into your home or workplace and continue to practice them. We hope you find the training useful and interesting. Please also teach others first aid skills and encourage them to do the course. Remember the more you put in the more you will get out of this and any other training.

There are just a few things before we get started:

1. Contact details

Contact Details Nationwide:
Cell: +27 83 374 6116
Fax: +27 86 541 7113
e-mail: carol@firstaidpriority.co.za
Website: www.firstaidpriority.co.za

This training is provided using the prescribed unit standards as registered with the South African Qualifications Authority (SAQA)

2. Instructions to learner

- Please make sure that you have completed all the relevant documentation, you provide a certified copy of your identity document and sign the attendance register
- You are required to attend the full training session
- You are expected to actively participate in the training
- You will be required to complete and be found competent in a formative and summative assessment to obtain the certificate
- You are required to bring your own stationery to class
- You will be issued with a Learner Guide which you will take with you and you are encouraged to read it on a regular basis to keep up your competency
- Cell phones are to be switched off (on silent) during training
- Please keep questions during the sessions 'on topic', off topic questions can be addressed with your facilitator at an allotted time
- Keep disruptions in the class to a minimum

3. The Unit Standard: Perform basic life support and first aid procedures SAQA US ID 119567

Below is the unit standard registered with the South African Qualifications Authority (SAQA)

SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED UNIT STANDARD:

Perform basic life support and first aid procedures

SAQA US ID	**UNIT STANDARD TITLE**			
119567	Perform basic life support and first aid procedures			
ORIGINATOR				
SGB Ancillary Health Care				
PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY				
-				
FIELD			**SUBFIELD**	
Field 09 - Health Sciences and Social Services			Curative Health	
ABET BAND	**UNIT STANDARD TYPE**	**PRE-2009 NQF LEVEL**	**NQF LEVEL**	**CREDITS**
Undefined	Regular	Level 1	NQF Level 01	5
REGISTRATION STATUS		**REGISTRATION START DATE**	**REGISTRATION END DATE**	**SAQA DECISION NUMBER**
Reregistered		2018-07-01	2023-06-30	SAQA 06120/18
LAST DATE FOR ENROLMENT		**LAST DATE FOR ACHIEVEMENT**		
2024-06-30		2027-06-30		

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.

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 haemorrage, 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 patient.

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 patient.

ASSESSMENT CRITERION 5

Follow-up care is provided in accordance with the specific needs of the patient.

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 patient and other referral services, emergency services including Fire and Ambulance and disaster services.

UNIT STANDARD CCFO ORGANISING

Organise and manage oneself and ones 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 patient 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.

UNIT STANDARD ASSESSOR CRITERIA

N/A

REREGISTRATION HISTORY

As per the SAQA Board decision/s at that time, this unit standard was Reregistered in 2012; 2015.

UNIT STANDARD NOTES

- This unit standard replaces unit standard 116509, "Apply primary emergency life support", Level 1, 2 credits.
- This unit standard replaces unit standard 9823, "Perform basic life support and first aid procedures", Level 1, 5 credits.
- This unit standard replaces unit standard 116511, " Carry out basic first aid treatment in the workplace", Level 1, 1 credit.

Supplementary information:
Specified requirements:
Legal:

- Work within the guidelines of the scope of practise of the ancillary health worker

Site specific:
By utilising their acquired skills the critical stages of treatment, e.g. 4-6 minutes for AR and CPR, immediate response for haemorrhage and the golden 6 hours for emergency treatment will be fully maximised, thus preventing further complications of emergencies and injuries.

Credit justification:

Carol Smith +27833746116 carol@firstaidpriority.co.za

Total hours required by the learner to achieve the required outcomes:
Activity: Hours
Classroom learning: 20
On-the-job learning: 15
Self directed learning: 5
Coaching required: 5
Other: 5
Total: 50

Credits achived: 5

4. Learner support

Please remember that as the programme is outcomes based – this implies the following:

- You are responsible for your own learning – make sure you manage your study, practical, workplace and portfolio time responsibly.
- Learning activities are learner driven – make sure you use the Learner Guide and Portfolio Guide in the manner intended, and are familiar with the Portfolio requirements.
- The Facilitator is there to reasonably assist you during contact, practical and workplace time of this programme – make sure that you have his/her contact details.

5. Assessment procedure
   5.1 Formative assessment

You will be issued with a Formative Assessment questionnaire. Please make sure that you complete ALL the activities, whether it was done during the contact session, or not! Make sure that your name is on each page and you sign each page before handing it in with your Summative Assessment.

5.2 Summative assessment

There will be a Summative Assessment at the end of the training. This assessment will assess theoretical knowledge and practical skills appropriate to the workplace.

6. Learner administration
   6.1 Attendance register
   You are required to sign the Attendance Register every day of attendance. Please make sure you sign daily!

   6.2 Learner registration form
   Pease fill in the Learner Registration Form in full and very clearly. Submit it to your Facilitator before the end of the contact session with a **copy of your ID document.**

   6.3 Programme evaluation form

At the end of the Learning Guide is a Learning programme Evaluation Form. Please complete the form before the end of the contact sessions, as this will assist us in improving our service and programme material. Your assistance is highly appreciated!

MODULE 1 **FIRST AID LEVEL 1**

INTRODUCTION TO FIRST AID

SAFETY

US 119567; SO 1; AC 1

Each workplace has its own risks and hazards and these should be examined by the safety officer. You can help in this regard by keeping a watchful eye on anything that you feel is not safe and reporting it immediately to the safety officer or another responsible person.

Unsafe Act - Performance of a task or other activity that is conducted in a manner that may threaten the health and/or safety of workers.

For example:

Lack of training for the task performed
Lack of or improper use of PPE (personal protective equipment)
Failure to tagout/lockout
Operating equipment at unsafe speed
Failure to warn people in the area of work activity
Bypass or removal of safety devices
Using defective equipment
Use of tools for other than their intended purpose.
Working in hazardous locations without adequate protection or warning
Improper repair of equipment
Horseplay

Unsafe Condition - A condition in the work place that is likely to cause property damage or injury

For example:

Defective tools, equipment, or supplies
Inadequate supports or guards
Inadequate warning systems
Fire and explosion hazards
Poor housekeeping
Uneven walking surfaces
Excessive noise
Poor ventilation
Overcrowding
Blocked fire escapes

Carol Smith +27833746116 carol@firstaidpriority.co.za

Safety with specific reference to children

- Kettle and iron cords hanging down
- Cleaning materials and poisons on low shelves
- Medication on low shelves
- Pot handles facing outwards
- ALWAYS place children into a car chair when travelling in a vehicle. It is the law
- ALWAYS watch children

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Dead heroes can't save lives and injured heroes are a nuisance.

US 119567; SO 1; AC 1
US 119567; SO4; AC 3
US 119567; SO5; AC 2

Firstly, protect yourself

Universal principles for dealing with infectious diseases

- If possible wash hands effectively before touching a patient
- If there is no water available antiseptic wipes can be used
- Cover your own cuts or sores with waterproof plasters if time permits
- Put on gloves (see page 14)
- If it is severe bleeding ask the patient to hold his hand over the wound while you put gloves on

- Be careful not to prick yourself with a needle or cut yourself with any glass near the patient
- Put on safety googles to protect your eyes from blood splashes
- Put on a medical disposable mask

- If you have been splashed with blood or other body fluids, wash the area thoroughly with soap and water as soon as possible. Then contact your doctor for specific medical advice.
- If any of your clothing has been contaminated by body fluids, remove it promptly and immerse it in a container of household bleach, mixed according to and following the instructions on the label
- Safely dispose of any used dressings, bandages and disposable gloves by placing into a plastic bag, and sealing well before putting it into a rubbish bin
- If there is a hospital or medical clinic nearby, the dressings can be disposed of in a medical Hazardous Waste bin where they will be collected and incinerated
- Used instruments, such as scissors or splinter forceps, should be cleaned thoroughly under running water. Serrated edges should be scrubbed with a fine nailbrush. The articles should then be disinfected, preferably by immersion in bleach

- After removing disposable gloves always wash your hands thoroughly with soap and water.

Improvisation if safety equipment is not available

US 119567; SO 4; AC 2

- If you don't have gloves cover your hands with plastic bag
- If you don't have a mask improvise with any cloth
- If you don't have safety goggles sunglasses or normal glasses can be used to protect your eyes

How to don and doff disposable gloves

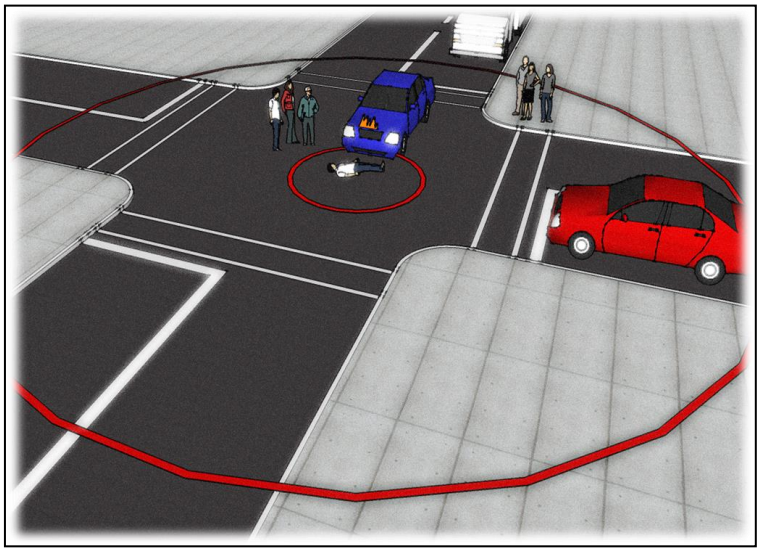
https://blog.ammex.com/best-practices-for-donning-a-glove/#.YGwiOVUzbIU

How to wash hands effectively

https://optimummedical.co.uk/products/how-to-properly-your-wash-hands/

Scene safety – The outer circle

US 119567; SO 1; AC 2



- The outer circle refers to the 360-degree area around the vehicle or scene. The area can be 7 to more than 30 metres in diameter, depending on your scene.
- Scene evaluation in this manner protects the first aider and the patients.
- Begin scene evaluation upon your arrival, scanning the entire area from the outside in.
- Check for all possible hazards: fire, utilities, loads/cargo, fuel leakage, hazardous material, debris, crowds, weather and downed power lines, to name a few.
- Ask yourself, “What do I need to deal with first?”
- You must remain aware of tunnel vision. As first responders, we have a tendency to rush to the patient(s) without sizing up the entire scene. Slow down and look around so you don’t discover additional hazards after it’s too late.
- Carefully analyzing the outer circle will give you an overview of the scene and help you determine a proper action plan.
- *Note:* This should take no more than 30 seconds.

Scene safety – The inner circle

- Once you have assessed the outer circle proceed to the inner circle. This is the area directly around the patient(s).
- Look for the same hazards as in the outer circle before going to the patient.
- Check both under and inside vehicles
- Look for additional information that might indicate other patients that have been flung or climbed out the vehicle

Methods of safeguarding the patient(s)

US 119567; SO 1; AC 3

If the scene is safe for you to approach your patient, then it is also safe for the patient.

Other methods of safeguarding your patient is by wearing the correct PPE. In an emergency situation there is not always time to wash your hands therefore by wearing gloves you are

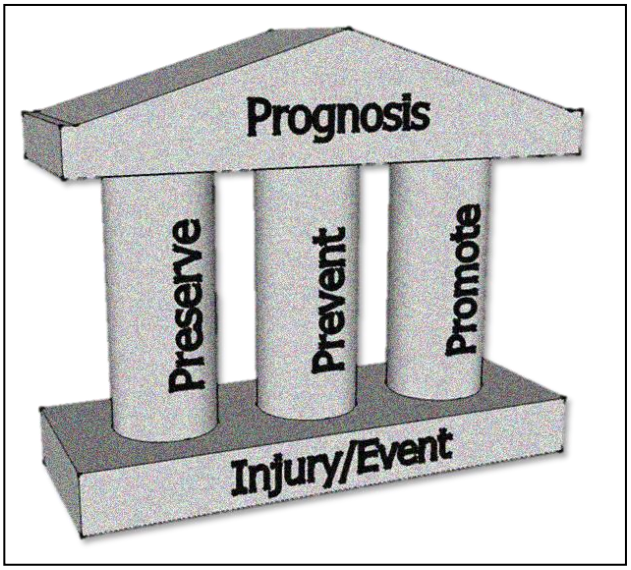
protecting the patient form any dirt or germs that are on your hands. By wearing a mask you are protecting the patient from any respiratory diseases you may have.

If the patient is confused or unconscious then you also need to safeguard the patient from aspirating any vomitus by placing them in the recovery position and take care of their belongings.

What is first aid?

Help during the first critical minutes of an injury can be crucial. First aid is the skilled application of accepted principles of treatment when an injury or sudden illness occurs, using whatever materials are available at the time.

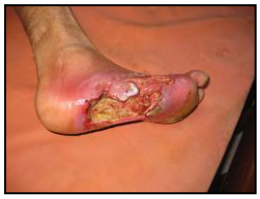
Why first aid is administered



First aid is given:

- ☺ To preserve life
- ☺ To prevent the condition worsening
- ☺ To promote recovery

When someone is stricken by respiratory- or cardiac arrest, brain damage will occur after 4 – 6 minutes if CPR is not started. Severe bleeding may also be life threatening and must be remedied immediately.



Medico-legal implications of administering first aid

Consent

US 119567; SO 1; AC 4

Every patient who is conscious and competent has the right to refuse care and forcing care on a patient may result in an assault charge being laid against you. In order for consent to be valid it must be informed. This means that you must explain to the patient what you are going to do and why.

Verbal consent may be valid although written consent is preferable.

If the patient is unconscious we take it that were the patient conscious he/she would have wanted treatment, hence we take it as implied consent.

Negligence

In order for a court to determine whether you were negligent or not, it must be determined whether you had a “duty to act”, and whether your actions met the accepted “standards of

Carol Smith +27833746116 carol@firstaidpriority.co.za

care". To do this the court would apply the so-called "Reasonable Man Act" or test and the question would be asked, how would a reasonable person with similar training and equipment have acted under similar circumstances? If it were found that you were clumsy or acted wrongfully in the application of normal procedures it would be considered negligence.

You would also be found negligent if you provided out-dated care or if you provided care beyond your level of training.

Responsibilities of a first aider

REMEMBER just because you have done a first aid course you are not compelled to help anyone. If the situation is unsafe DO NOT GO IN.

Your responsibilities as a first aider include: -

- 🕮 Making sure the situation is safe for you to approach
- 🕮 Attaining consent to treat the patient
- 🕮 Only treating within your scope of practice (what you have been taught on this course)
- 🕮 While busy with the emergency trying to make notes on injuries sustained and vital signs of all the patients for whom you are responsible
- 🕮 Handing over all this information to the emergency personnel on their arrival
- 🕮 Not leaving the patient unattended and waiting for help to arrive
- 🕮 Taking care of the patient's belongings and handing them over to the emergency personnel
- 🕮 Making more permanent records as soon as you can and keeping them in a safe place in case you are needed to give a statement to police, etc. at a later time
- 🕮 Not divulging any information about the patient or his/her condition to anyone asking for it. You should only give information to the ambulance personnel, police, or if it is at work, your employer.

Prescribing and administering of drugs

In terms of the Health Act no one except a doctor, dentist or veterinary surgeon may prescribe and administer drugs. It is a criminal offence to prescribe or administer drugs and may render you legally liable for prosecution in terms of possession, abuse, crimen injuria, assault or even murder.

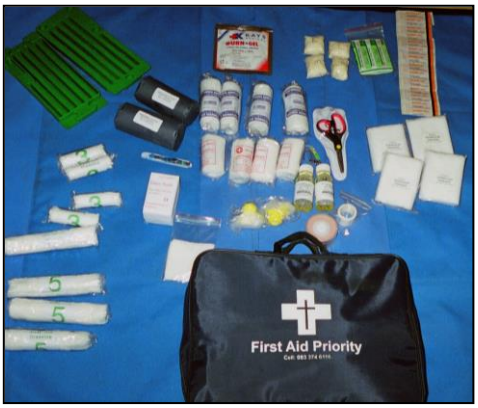
Ambulance personnel, pharmacists and nursing personnel who have received special training and who are registered with the specific councils may administer drugs under certain circumstances and under the direction of a medical practitioner.

This means that you are **not allowed to give any medication to anyone**. There must not be any tablets or other medication in your first aid box.

The reason for this is that the person may be allergic to the medication that you give them or they may be on other medication that has a bad reaction with the medication that you give the person.

What you need to do is to try find out the cause of the problem that the person is suffering from and rather treat the cause. Let us take an example of a headache. What could the possible causes of a headache be? It could be that the person is stressed, or eye strain, or hunger, or dehydration, or lack of sleep, and then it could be something very serious like a tumour on the brain or high blood pressure. The pain killer that the person takes only helps the symptom (the feeling of pain in the head), it doesn't help the cause of the problem. Rather find out the cause and treat accordingly.

Contents of a first aid kit



These are the contents of a Regulation 3 Factory first aid kit. This is the kit that is required by law for any factory where more than 10 people are working.

You will be learning how to use all these items during the course.

Regulation 3 First Aid Kit

QTY	DESCRIPTION
4	Bandage First Aid Dressing # 3
4	Bandage First Aid Dressing # 5
1	Packet of Gauze Swabs 100
1	Gauze Swabs 5's
4	75 mm Roller Bandage
4	100 mm Roller Bandages
4	Triangular Bandage
2	Cottonwool 50g
2	CPR Device
2	Antiseptic Solution 50ml

2	Pairs Medium Gloves
2	Pairs Large Gloves
1	Plaster Roll
1	Plaster Anti-allergy
1	Plaster Strips 24's
1	Safety Pins 12's
1	Pair of Scissors
1	Pair of Tweezers
2	Splints

The Department of Labour is now insisting on workplaces having the new updated Regulation 7 First Aid kit. This kit has the exact same contents as above plus a blood spill kit for cleaning up blood spills after treating the patient.

Reporting

Reporting can be done on different levels. This will depend on your company structure and the severity of the injury

Internal reporting:

1. Designated first aider
2. First aid coordinator
3. SHE Representative
4. Safety Officer / Manager
5. Minor injury report
6. Incident report

External reporting

1. Emergency services

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2. Doctor / hospital
3. Law enforcement
4. Department of Labour

Make notes for yourself as well as this can facilitate when further investigations are conducted later on.

Incident report form

If it is an injury on duty then a WCL2 form needs to be filled out according to COIDA (Compensation for Occupational Injuries and Diseases Act). The top copy of this form plus a certified copy of the patient's ID must go with the patient to the hospital.

If it is a small injury that does not require a doctor or hospital then the company could fill out an internal incident report form or log the injury in an incident report book. If your company does not have such a form here is a basic guide to help you develop one for the company.

Minimum information needed on the form:

Date
Time of incident
Full name of the person involved
Employee number
Description of what happened, in as much detail as possible
Names of anyone who saw the accident happen
Their employee numbers
Description of the injuries sustained, in as much detail as possible
Who the incident was reported to, name and employee number
Time the ambulance was contacted
Name of the person who contacted the ambulance
Name of ambulance service contacted
Full details of all first aid measures rendered
Name and employee number of the person who rendered the first aid treatment
How long the ambulance took to arrive
Any additional information

If you assist a person other than a family member it is always a good idea to write down all the details of the incident as soon as possible after attending to the patient. These might be needed if there is a court case for an assault or a road accident. Record all of the above as for the company form.

Activity
Find out about your work place's reporting system if they have one. Speak to your employer about implementing a system if they do not have one. Find out if your work place has an incident report form or book. Speak to your employer about implementing a report form if they do not have one.

Carol Smith +27833746116 carol@firstaidpriority.co.za

Psychological help

When people are involved in an accident or illness strikes suddenly, many questions and fears run through their minds. Their reaction to this fear may take the form of confusion, panic, screaming, crying, anger, restlessness, anguish, despair or apathy.

It is very important to give psychological first aid as well as physically treating their wounds or illness. Fear will decrease the patient's pain tolerance levels and can make the situation a lot worse.

Some useful tips are:

- ✓ Ask the patient his/her name and address him/her by name.
- ✓ Tell the patient your name.
- ✓ Tell the person what you are doing.
- ✓ Stay close and provide compassion and a sense of security.
- ✓ Speak calmly to him/her.
- ✓ Find out if there is anyone you can contact for them.
- ✓ Do not leave them unless you have to help someone else or to call an ambulance.
- ✓ Sometimes holding a victim's hand and re-assuring him/her is an effective painkiller.

Sources of help

All emergency situations are extremely stressful and it helps to summon help as soon as possible. Possible sources of help are:

- ✓ Bystanders – allocate people to do tasks that will make the emergency run smoothly. Tasks that can be allocated include calling the emergency services, crowd control, holding the head still of a suspected spinal injury patient. The list is endless.
- ✓ Authorities – Included here are Metro Police, SAP.
- ✓ Emergency Services – Ambulance, Fire, Rescue.

Calling the emergency services

US 119567; SO 4; AC 6

Call an ambulance and/or other services which are needed as soon as you can and the situation permits. If there are several first aiders, one can call for the emergency services while the others provide life-saving aid.

Telephone numbers

Cell phone
112

Telkom phone
10177

The control centre will need the following information from you:

- ☎ Your telephone number from which you are calling
- ☎ Your name
- ☎ The location of the accident scene including house number, street name, suburb, cross street, and any landmarks (petrol station, shops, etc.) They may need directions.
- ☎ Details of what has happened and the type of accident/illness
- ☎ Number of patients involved
- ☎ The condition of the patients, if known
- ☎ Whether any other assistance is needed

- ☎ Ask the control centre operator to repeat the address to you.
- ☎ Always wait for the control centre to replace the receiver first.
- ☎ Return to the scene with the information from the control centre.

By giving the correct information, the appropriate help can arrive quickly.

- If someone is trapped in a motor vehicle, the rescue unit is needed.
- If there is a fire, the fire engine is needed.
- If there are downed electrical cables, the electricity department is needed.
- If a boat has capsized on a dam, a water rescue unit is needed.

Take a careful look at the scene and then give the control centre as much information as you can. This will aid them in dispatching the necessary personnel straight away without delays.

It may seem like a long time before your call gets answered, even if it is only a few seconds. Do not replace the receiver as your call is in a cueing system and by redialling you will be placed at the back of the queue.

Discussion and Activity
Find out at least one private ambulance service number.
Why does the ambulance service need your name and telephone number?

Carol Smith +27833746116 carol@firstaidpriority.co.za

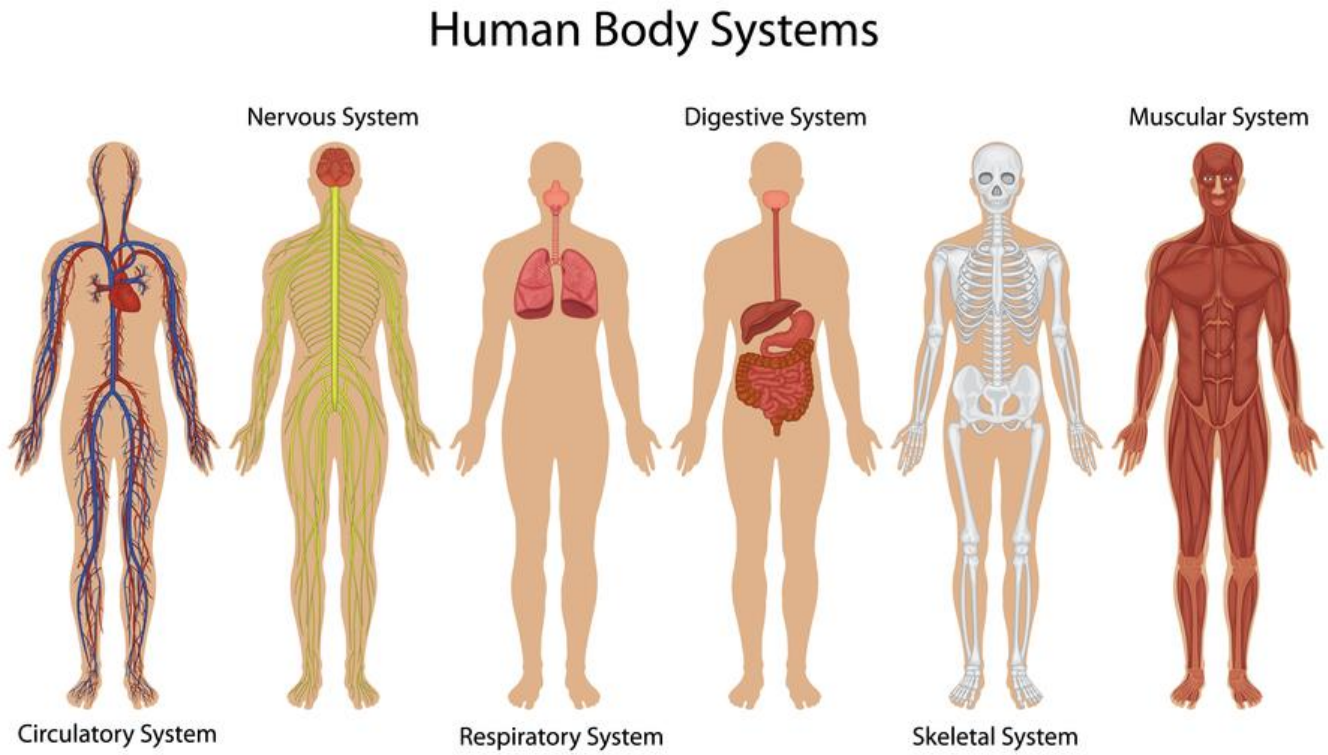
MODULE 2

US 119567; SO 2; AC 1, 2, 3

ELEMENTARY ANATOMY AND PHYSIOLOGY

As a first aider, you need to have a basic knowledge of the different systems in the human body and how they work together as a unit. We will discuss the most important systems in regards to the types of injuries and illnesses you will be faced with as a first aider. We will also look at their basic functions to help you to make the right decisions when using first aid techniques on an injured or ill patient.

Anatomy is the study of the structure of the body and Physiology is the study of the function of the body



Human system	Basic functions (Physiology)	Body parts involved (Anatomy)
Circulatory System or Cardio-vascular System	Transports blood through the body Distributes oxygen and nutrients to the entire body	Heart Blood Blood Vessels
Respiratory system	Filters oxygen into your blood	Airway – Nose, Trachea, Bronchi Lungs Diaphragm

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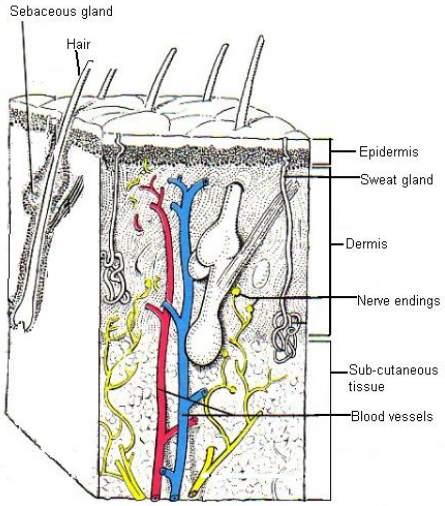
Nervous system	Thought process The reaction of the body to any internal and external changes	Brain Spinal cord Nerves
Musculo-skeletal System	Provides support and structure to the body Allows for movement Protects underlying organs	Bones Muscles Ligaments and Tendons
Integumentary System	Protective layer (cling wrap) Helps maintain body temperature Reduces water loss Excretes waste	Skin 

Relation between systems

Every system in the body has a specific part to play to keep the body functioning as a complete unit. If anything goes wrong in any of these systems, it can cause the body to malfunction.

Let us take a practical look at how the systems function together. We need oxygen to live. We breath in using the Respiratory System, the oxygen then moves from the lungs into capillaries of the Cardio-vascular system. From there the heart pumps the blood carrying oxygen round the body to provide oxygen for every cell. Let us just take one area that the heart pumps to, the Nervous System. The oxygen in the blood vessels moves into the brain so that the brain can function for thought processes and all communication with the body. The used carbon dioxide then moves into the blood vessels, back to the heart, back to the lungs and we breath it out.

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MODULE 3

US 119567; SO 3; AC 1

MULTIPLE PATIENT MANAGEMENT – Triage principles

In any case where there are more patients than first aiders it is termed a disaster scene. In this instance you have to assess the patients quickly and effectively to determine which patients need the most urgent treatment. We classify patients according to Priority 1,2,3 or 4.

Priority 1

A priority 1 patient is a patient who has a problem with the Primary Survey; in other words he has a problem with his airway, breathing, circulation or excessive bleeding. This patient requires the most urgent attention. However if you are the only first aider there, then a person who is not breathing would be a priority 4.

Priority 2

A priority 2 patient is a patient who needs medical attention and needs to go to hospital or a doctor but does not have a life-threatening injury. Examples of these injuries could be a closed fracture of the arm, or smallish lacerations that are not bleeding excessively.

Priority 3

A priority 3 patient is termed the walking wounded. They have minor injuries that could be taken care of by their doctor or sometimes it is not even necessary to go to a doctor.

Priority 4

A priority 4 patient is dead or dying. This is the patient that you would have administered CPR on if he/she had been the only patient there. Unfortunately in a disaster situation all you would do is turn them into recovery position and move to the next patient.

Once you have assessed all the patients and treated all the priority 1 patients you can then come back to the priority 4 patients and begin on them. The reality is that it will take a lot of effort to treat a priority 4 patient and the chance of him/her surviving is minimal.

A disaster situation is always difficult to handle. There are a lot of patient's with different injuries lying all over the place. It is your job as the first aider to try prioritise the patients and then treat the one's with the most severe injuries first.

You can use the priority 3 patients to help you treat the priority 1 patients. Also make use of bystanders to help you treat patients and manage the scene.

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Causes and contributing factors

US 119567; SO 3; AC 2

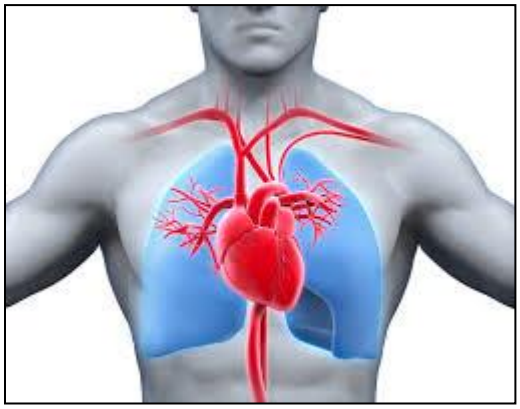
If we look at the cause of the emergency and can identify it we can often 'predict' what type of injuries we will find. Have a look at the following pictures and try determine the cause of the of the emergency and what the main contributing factors to the injuries are. Discuss this in class with the facilitator

MODULE 4

US 119567; SO 4; AC 1

ADULT BASIC CARDIO-PULMONARY RESUSCITATION

Introduction



CPR or Cardio-Pulmonary Resuscitation is the immediate treatment we give to someone who is not breathing and their heart has stopped beating.

- 🕮 Cardio means heart.
- 🕮 Pulmonary means lungs.
- 🕮 Resuscitation means to revive from unconsciousness or apparent death.

While doing CPR we are taking over the heart's function and the lung's function. We are keeping the person alive.

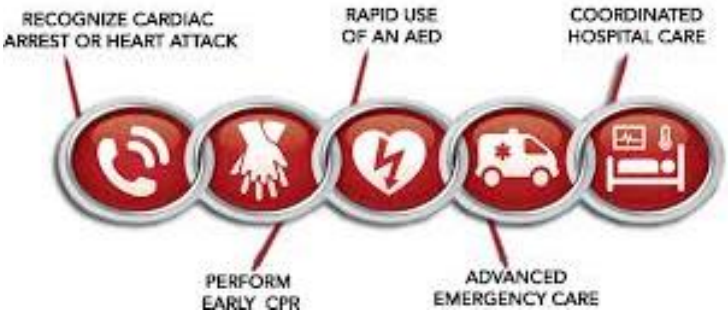
Classification of respiratory emergencies

- 🗣 Depletion of oxygen supply e.g. gassing
- 🗣 Obstructed airway
- 🗣 Heart and lung dysfunction e.g. heart attack

Permanent brain damage starts to occur within 4 minutes of the brain being deprived of oxygen.

The chain of survival

The chain of survival refers to a series of actions that, if done quickly and effectively, reduce the death rate associated with cardiac arrest.



The five interdependent links in the chain of survival are:

early awareness and access,
early CPR,
early defibrillation,
early advanced cardiac life support
early hospital care in a CCU (Cardiac Care Unit).

Initial Assessment

US 119567; SO 4; AC 3

Hazards

- Ask yourself the question, 'Is it safe for me to approach and work on this patient?' (Review the inner and outer circle on page 15)
- Hazards could include smoke, gas, electrical cables, traffic, etc.
- Any hazards need to be identified and if possible eliminated or reduced to an acceptable limit
- Remember your personal safety as well, wear gloves and other necessary PPE.

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Hello

The next step is to assess the patient's responsiveness by tapping the patient on the shoulder and asking, 'Are you okay?' The patient may have fainted or may just be sleeping. If the patient is able to respond, look for and treat any injuries or illness, which may be present.

Help

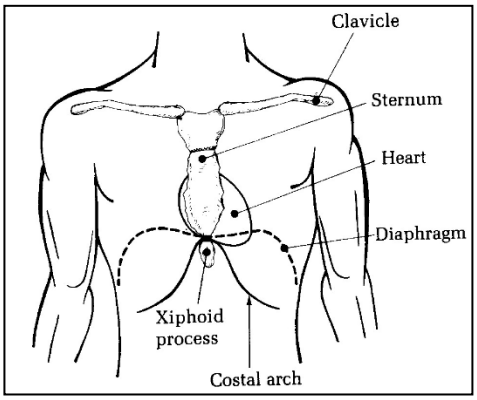
If the patient is unresponsive and you are alone, shout loudly and repeatedly for someone to come to help you. You need to alert bystanders to the emergency situation. Once they are there they will need to assist you with various tasks. Send a bystander to contact the ambulance.

Assess breathing

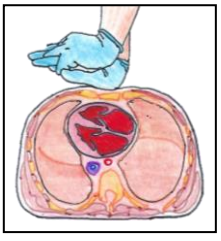
Determine whether the patient is breathing by looking over the body for any sign of breathing for about 5 seconds. If not movement is visible:

Start chest compressions

- Make sure the patient is on a hard flat surface on his/her back.
- Expose the chest so you can locate the landmark.
- Place your one hand on the lower half of the breastbone.
- Use an imaginary line drawn between the nipples as a guide to hand placement; your middle finger should be over the nipple with the heel of your hand on the breastbone.
- Place your other hand on top of the first hand.
- Interlink your fingers and do not let them lie on the ribs.
- Keep your arms straight and elbows locked.
- Keep your shoulders vertically above your hands, thereby using the weight of your upper body to compress the sternum (breast bone).
- Compress the sternum to a depth of 4 – 5 cm at a rate of approximately 100 compressions per minute.
- Continue until help arrives.

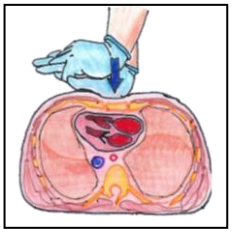


Activity
Practice CPR.



The heart if filled with blood from the venous system. About 70ml in the left ventricle.

About 30% (20ml) of the blood in the heart is forced into the arterial system due to the valves in the heart.



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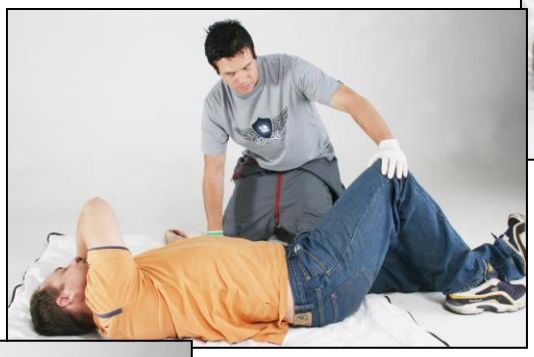
If the patient vomits

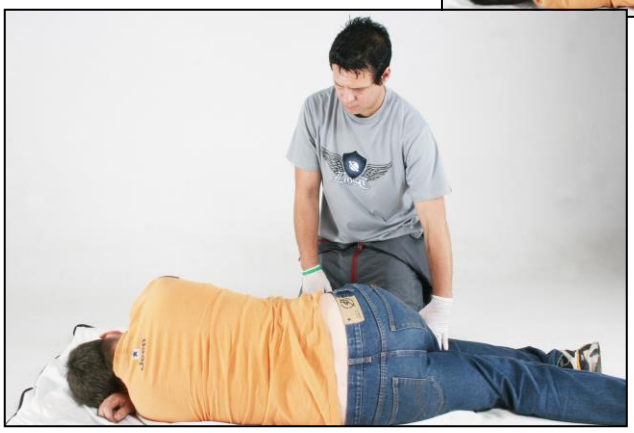
If fluid or vomit is present in the mouth turn the whole patient onto his/her side and then wipe it out the mouth.

If a foreign body is visible in the patient's mouth, this should be removed. Do this by opening the mouth by grasping the tongue and lower jaw and pulling it forward. With the finger of the other hand sweep the object out. Be careful not to push the object further down.
Immediately start your CPR procedure once more.

Recovery position

If the patient is breathing adequately (2 breaths in 10 seconds) and you do not suspect a spinal injury then you can place him/her into the recovery position. This is done by turning the patient toward you and leaving them to lie on their side.





Activity
Practice placing a few people into recovery position

When do you stop CPR?

☺ S – Spontaneous breathing and pulse returns.

This does not mean that the patient is conscious (awake) they may still be unconscious but they are breathing on their own.

🚑 T – Trained healthcare professionals arrive and take over.

Please do not stop doing CPR when you hear the sirens. Carry on until the ambulance personnel tell you they are ready to take over. Do not resume your normal activities until you have given a report to the ambulance personnel of what happened and what you have done.

🗣 O – Out of breath, physically exhausted and unable to continue.

You will need to try to continue doing CPR until someone else can take over from you, but if you are alone with this person who has collapsed and you start administering CPR (eg, just the two of you on a hike in the mountains) there will come a time when you are unable to continue.

Ω P – Physician or professional healthcare provider certifies that the patient has irreversible brain death and declares him/her dead.

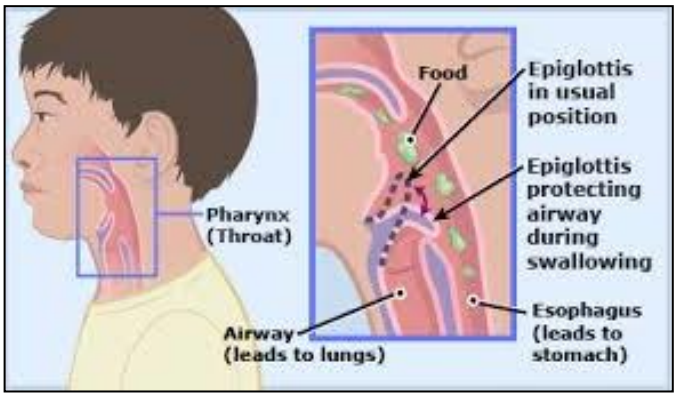
The physician must be prepared to write out that he/she declares the patient brain dead and sign the document with all his/her details. If he/she is not prepared to do this, carry on with CPR until the ambulance personnel arrive.

Discussion
Discuss the reasons for stopping CPR with the facilitator and other learners.

MODULE 5

US 119567; SO 4; AC 1

CHOKING



Any object that blocks the airway may cause respiratory distress and/or death. Rapid removal or displacement of the obstruction may prevent tragic consequences.

Children often put objects in their mouths and these can be drawn down into the windpipe. In adults, the cause of choking is usually a piece of food that has lodged in the windpipe.

Partial airway obstruction

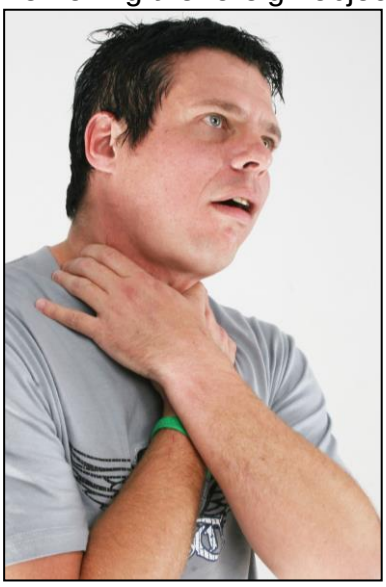
US 119567; SO 3; AC 3
US 119567; SO 4; AC 1

This is where a foreign body is partially blocking the airway.
- ✓ The patient will be distressed.
- ✓ He/she may be making unusual breathing sounds.

Carol Smith +27833746116 carol@firstaidpriority.co.za

✓ He/she will be using the neck and stomach muscles to try help him/her breathe.

As long as the person can breathe, he/she can usually cough as well. This is the best way of removing the foreign object. The first aider must encourage them to cough if possible. The patient may be making small shallow coughs that are ineffective. The first aider must ask the patient to take a deeper slow breath and then give a forceful cough, which will remove the obstruction.



Complete airway obstruction

This is where a foreign body is completely blocking the airway.

- ✓ The patient will be extremely distressed.
- ✓ He/she will not be able to talk, cough or breathe.
- ✓ He/she will be using the neck and stomach muscles to try breath.
- ✓ He/she may be grabbing at his/her neck (universal sign of choking).

If you see a person displaying these signs:

- ♦ Ask the patient, 'Are you choking?' The patient might be clutching his/her chest from the pain of a heart attack.

- ♦ Send someone to phone the emergency services.
- ♦ If the person is choking, tell him/her you are going behind him/her.
- ♦ Place your arms around his/her waist at the area of the belly button.
- ♦ Form a fist with one hand; place the flat thumb side of the fist against the abdomen and place your other hand over your fist.
- ♦ Make sure you are well below the ribs.
- ♦ Pull inwards and upwards to do the abdominal thrust.
- ♦ Repeat to try to dislodge the obstruction.
- ♦ If the obstruction is not dislodged repeat until the obstruction is dislodged or the patient becomes unconscious.

Attempt backslaps as well if the object does not come out with abdominal thrusts. Make sure the person is leaning forward and hit him/her on the back between the shoulder blades. Slapping the back of an upright patient may cause the chest to move forwards producing a backward tilt of the head. This could result in the airway opening with the object slipping further down or being sucked down as the victim attempts to inhale, aggravating the situation.

Activity
Practice the abdominal thrust on each other. Do not really press into the abdomen, as it is extremely painful

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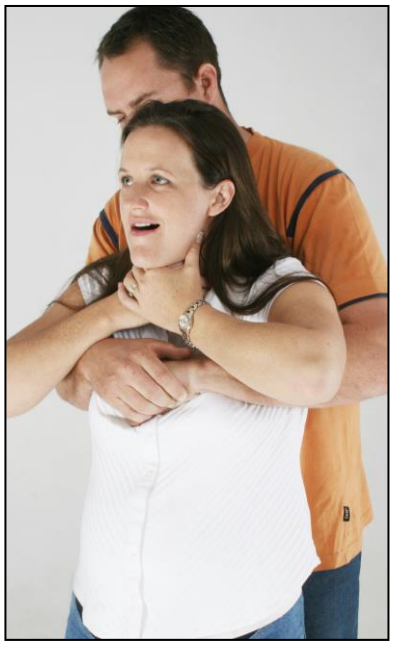
If you are alone and choking



- You are the patient and you are alone.
- Place your fist in the same position and do the abdominal thrusts on yourself.
- Or throw yourself against a firm edge such as the back of a chair or side of a table, so that the firm edge strikes your abdomen just above the navel.

Circumstances when chest thrusts are used

- On a pregnant patient
- On an obese patient

For chest thrusts

- Ask the patient, 'Are you choking?'
- If the person is choking, get behind the patient.
- Place your arms around her chest under her arms.
- This is the same position that you would use for CPR.
- Form a fist with one hand; place the flat thumb side of the fist against the chest and place your other hand over your first.
- Pull straight back.
- Repeat until you dislodge the obstruction or the patient becomes unconscious.

Should you use the chest trusts you will need to monitor the patient's heart rate, rhythm and strength constantly after administration. The patient must go to a doctor or hospital for further assessment.

Unconscious choking patient

If the person who is choking becomes unconscious, the situation has just got a lot worse. Send another person to phone the ambulance. Give them the number if they do not know it.

If a foreign body is visible in the patient's mouth, this should be removed. Do this by opening the mouth by grasping the tongue and lower jaw and pulling it forward. With the finger of the other hand sweep the object out. Be careful not to push the object further down.
Immediately start your CPR procedure

Emergency telephone numbers

10177	**Telkom**
112	**Cell phone**

MODULE 6

PATIENT ASSESSMENT

US 119567; SO 4; AC 4

Sign

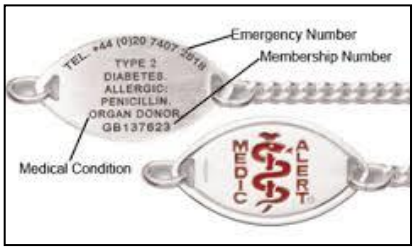
A sign is something you can see. Vomiting would be an example of a sign.

Symptom

A symptom is something the patient tells you. Nausea or pain would be examples of a symptom.

Medic Alert

A medic alert is a bracelet or necklace that is worn by a person and contains their medical details on the back. The medic alert can talk for the patient when he/she cannot. It contains information such as blood group, allergies, medical problems, etc. Always look for a medic alert on an unconscious patient.



PRIMARY SURVEY

US 119567; SO 4; AC 1
US 119567; SO 3; AC 4

The primary survey deals with life threatening emergencies. The four components of the primary survey are:

AIRWAY
BREATHING
CIRCULATION
CONTROL EXCESSIVE BLEEDING

With a conscious patient who is talking to you, you automatically know that his/her airway is open, he/she is breathing and he/she does have blood flow (pulse). The next vital step is to assess for any bleeding.

Any problem that exists with the primary survey must be seen to first and in the order in which they appear here. It is pointless to stop bleeding if the patient is not breathing. Start CPR immediately and get help from a bystander to stop the bleeding.

SECONDARY SURVEY

The secondary survey is a systematic survey of the patient in order for the first aider to find and treat any injuries that the patient might have.

The three components of the secondary survey are:

VITAL SIGNS
HEAD-TO-TOE
HISTORY/MECHANISM OF INJURY

Discussion and Activity
Re-cap on the primary and secondary surveys.

Vital Signs

The vital signs you will learn in level 1 are as follows:

1. LEVEL OF CONSCIOUSNESS
2. PULSE
3. BREATHING
4. SKIN TEMPERATURE
5. SKIN COLOUR
6. SKIN CONDITION
7. CAPILLARY REFILL

1. Level of consciousness

US 119567; SO 3; AC 3

Normally a person is alert and orientated and responds to vocal and physical stimuli. Any changes from that state are indicative of illness or injury. Recording such a change is extremely important in our care of the patient.

The patient's level of consciousness is probably the single most reliable sign in assessing the state of the central nervous system.

2. Pulse

The pulse is the wave of pressure that is felt as the heart contracts and propels blood through the arteries. It is a useful indication of the condition of the heart, the blood vessels and the amount of circulating blood.

You can take/measure the pulse by feeling an artery at a pulse point. This is where an artery lies close to the surface of the skin and where there is a bone lying underneath the artery. You need to count how many times you feel the heart beating in 30 seconds and then multiply that number by two to get beats per minute.

The most common places to feel a pulse are:
CAROTID PULSE – IN THE NECK
RADIAL PULSE – ON THE THUMB SIDE OF THE WRIST.

The average adult pulse rate is 60 – 80 beats per minute.

The following three points should be noted when feeling the pulse.
1. Rate – How fast or slow is the heart beating?
2. Rhythm – Is the heart beating regularly or irregularly?
3. Strength – How strong or weak is the pulse?

Children's pulse rate is faster than adults. Also remember that things like caffeine, energy drinks, exercise or excitement will increase the pulse.

3. Breathing

Normal breathing occurs easily, without pain, noise or effort. The average adult breathes about 12 – 20 times per minute.

When we assess a patient's breathing we are looking at:
1. Rate – How fast or slow they are breathing?
2. Depth – How shallow or deep they are breathing?
3. Effort – Is there great effort for them to breathe, or are they breathing easily.

4. Skin temperature

The average body core temperature is 37 degrees Celsius. The skin is largely responsible for regulation of body temperature. Changes in the skin temperature may indicate a problem.

Cold skin temperature can indicate lowered body temperature (hypothermia) due to exposure to cold temperatures, or it can indicate shock.
Hot skin temperature may indicate a fever or heat stroke.

5. Skin colour

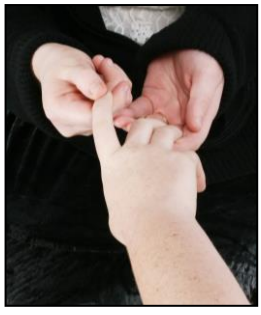
Changes in a patient's skin colour gives us a good indication of what is going on inside their body. Skin colour is best checked on the nail bed, in the mucosa of the eye and mouth, or by asking the patient to stick out his/her tongue.

Pale skin colour is indicative of insufficient circulation and is seen in patients who are in shock, certain stages of fright or suffering from cold exposure. In these circumstances there is literally not enough blood circulating in the skin.

Bluish skin colour indicates that the circulating blood is not receiving an adequate supply of oxygen.

6. Skin condition

Skin condition basically refers to whether the skin is clammy (sweating) or dry. Here we are looking for the abnormal. If a patient has dry, red skin when he/she is exercising in hot conditions, it would be abnormal, and possibly indicate heat stroke.



7. Capillary refill

This is checked on the fingernail or toenail by gently pressing down and releasing. The nail should return to its original pink colour within 2 seconds. It is an indicator of the blood flow through to that area.

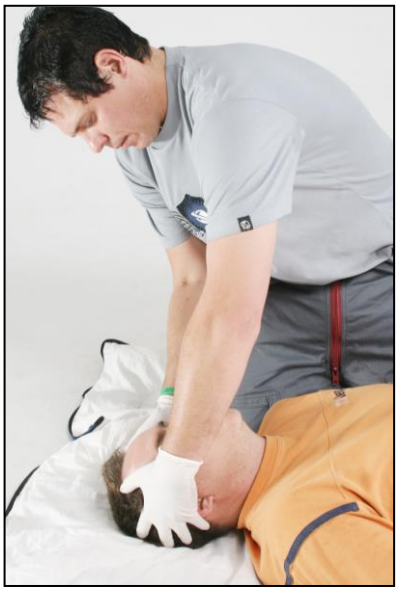
Carol Smith +27833746116 carol@firstaidpriority.co.za

REPEAT ALL THE VITAL SIGNS AT REGULAR INTERVALS (5 - 10 MINUTE INTERVALS)

Discussion and Activity
Why is it important to repeat all the vital signs at regular intervals?
Why is it important to record these?
Practice taking the vital signs on other learners

Interesting facts
In one year an average adult's heart would beat approximately 36 792 000 times.
In one year an average infant's heart would beat approximately 57 816 000 times.
If you are really bored you could work out how many times your heart has beaten so far (from birth to present).
What would happen if your heart decided to take a day's sick leave???
In one year an average adult would breath approximately 6 307 200 times.

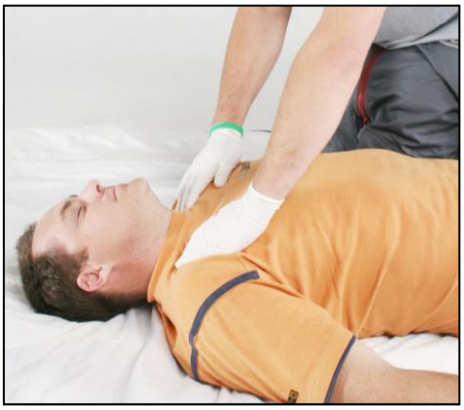
Head- to-toe survey



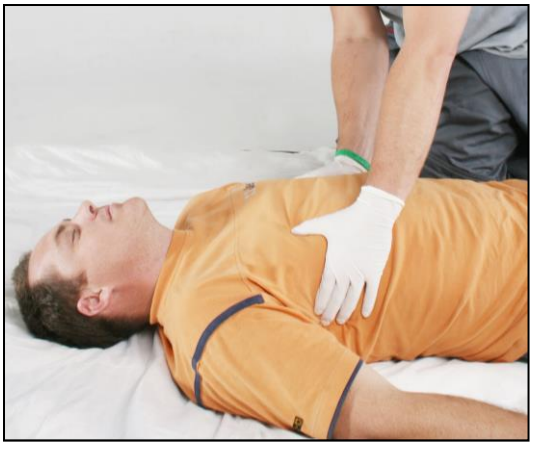
This is a systematic assessment of a patient to discover what is wrong. It is carried out on all unconscious patients.

Follow this procedure:

- ✓ Keep the head and neck still throughout.
- ✓ Examine the scalp for injury.
- ✓ Check for injury to the facial bones.
- ✓ Check the neck for wounds and deformity.



- ✓ Check the chest for wounds and deformity.



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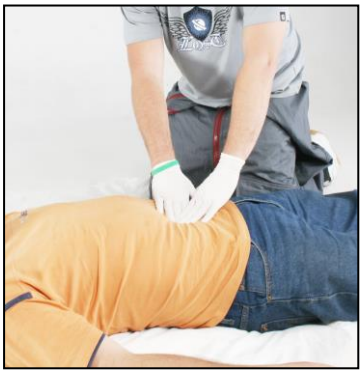
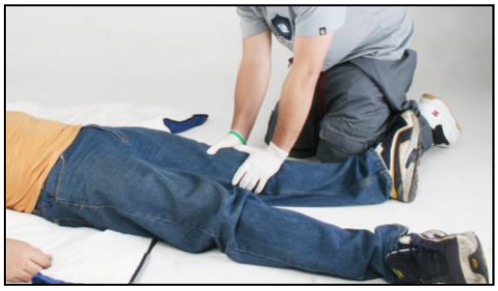
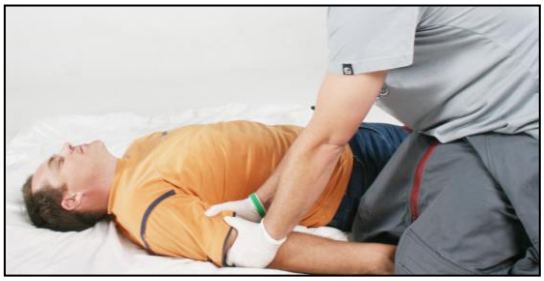


- ✓ Check the abdomen for wounds or rigidity.
- ✓ Check the pelvis for wounds and stability.



- ✓ Check all the extremities for injury.
- ✓ Check all the extremities for pulses.
- ✓ Check for medical identification.



If anything is found while doing the head-to- toe survey, expose the area to see what the problem is. Treat immediately if it is serious. If it is a small wound or not serious make a mental or written note of it and carry on with the survey. When you have completed the survey and treated all life threatening conditions, go back to the smaller wounds and treat them.

Activity
Practice the head-to-toe survey on each other and then turn the patient into the recovery position.

REPEAT THE HEAD- TO-TOE SURVEY IF THERE ARE ANY CHANGES IN THE VITAL SIGNS AS THIS COULD MEAN YOU MISSED AN INJURY.

History/Mechanism of injury

US 119567; SO 3; AC 2
US 119567; SO 4; AC 1

In order to fully know what is going on with the patient we need to know:

- What happened,
- When it happened,
- How it happened,
- Where it happened, and
- Who was involved.

This is termed a history.

You will also have to find out a medical history. We can use the acrostic SAMPLE to find out the history.

- S – Signs and symptoms that the patient presents with.
- A – Allergies. Is the patient allergic to anything?
- M – Medication. Is the patient on any medication? Ask what the medication is for.
- P – Past medical history. Does the patient suffer from any medical problem, e.g. high blood pressure?
- L – Last meal. When and what did they last eat? It may be food poisoning or diabetes (low blood sugar if they have not eaten).
- E – Events leading up to the injury or illness. When did the problem start and how did it start? For example, they may tell you they have had flu like symptoms for a few days and now they are violently ill. This may indicate a number of different infections.

Reassure and calm the patient before asking all these questions. Make sure the patient knows that you are only going to use the information to his/her benefit.

If the patient is unable to tell you the history you can ask bystanders who saw what happened or people who know the patient.

If no one is around then you need to be a detective and look for any clues that can tell you what went wrong.

A Medic Alert bracelet can often give you information.

Discussion
What other questions could you ask to find out the history?

Handing the patient over to the ambulance staff / emergency personnel

US 119567; SO 4; AC 6
US 119567; SO 5;AC 4, 5

REMEMBER once you have started treating a patient you need to stay with that person until you have handed them over to the emergency personnel.
Always give as much information as you can to the ambulance staff, including:

- Vital signs
- Injuries observed
- History
- Treatment given
- How long you have been working on the patient
- Any changes in the patient's condition since you started working on him/her
- Any other details that you feel are important or they ask you for.

Carol Smith +27833746116 carol@firstaidpriority.co.za

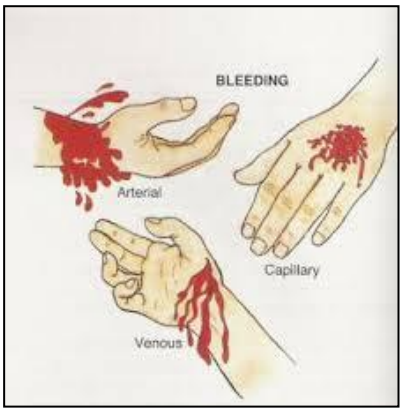
MODULE 7

US 119567; SO 4; AC 1

INJURIES AND BLEEDING

Types of bleeding

Different types of bleeding pose different problems for your patient.



Arterial bleeding comes directly from the heart; the blood is under the pressure of the heart and is rich in oxygen. If an artery is cut the blood gushes out in spurts (similar to a fountain) and is bright red. This is the most serious type of bleeding and a patient with arterial bleeding would be a high priority. You need to stop the bleeding fast.

Venous bleeding is bleeding from the veins. The blood in the veins is returning to the heart and is not under as much pressure as arterial blood. The blood flows out at a steady rate (opening a tap) and is darker red. Bleeding from a vein is usually easier to control than arterial bleeding.

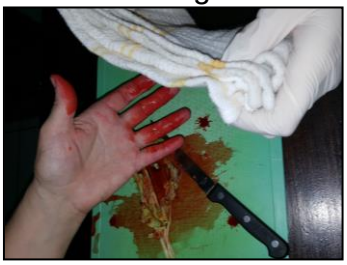
Capillary bleeding is bleeding from our smallest blood vessels, the capillaries. Capillaries form a vast network in the body, as every cell needs the oxygen they carry. An example of capillary bleeding is a graze. The bleeding itself is slow and not serious, but infection can get in as the skin has been scraped off.

Arterial bleed	Venous bleed	Capillary bleed
May spurt	Flows at a constant rate	Oozes slowly
Bright red	Darker red	Watery

Characteristics of dressings, bandages and slings

Dressings

- Plasters – These are adhesive strips that come in different shapes and sizes. They are suitable for small cuts and grazes. If elasoplast is used ask the patient if he/she is allergic to it, many people are.
- First aid dressings – These are dressings with a bandage attached. They come in various sizes and are used for larger wounds. They are packed and sterilized, so when you unroll the bandage make sure you do not touch the sterile dressing area.



- IMPROVISE

US 119567; SO 4; AC 2
US 119567; SO 5; AC 3

- If you do not have dressings any soft cloth will do, such as a T-shirt, dishcloth, etc. DO NOT USE cotton wool or soft paper such as toilet paper or tissues as they break up and leave tiny bits in the wound.

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Bandages

A bandage is a long strip of suitable material that is wrapped around the affected area to hold a dressing or splint, etc. in place.

- Crepe Bandages – These bandages have the most stretch. They are mainly used when a constrictive bandage is needed, e.g. snake bites.
- Conforming Bandages – These bandages have less stretch than crepe bandages and are cheaper. They work well for control of bleeding.
- Gauze Bandages – These bandages have no stretch and are not suitable for wound applications. They are being replaced by conforming bandages but may be found in old first aid kits.

US 119567; SO 4; AC 2
US 119567; SO 5; AC 3

- IMPROVISE

- If you do not have bandages you can use strips torn form clothing or sheets, etc. to wrap around the wound to control the bleeding.

Slings

A sling is usually made from a triangular bandage.

US 119567; SO 4; AC 2
US 119567; SO 5; AC 3

- IMPROVISE

- Any large piece of material such as a scarf, sheet, towel, tie or trouser leg can be used as a sling.

Universal principles for dealing with infectious diseases

US 119567; SO 4; AC 3
US 119567; SO 5; AC 2

- If possible wash hands effectively before touching a patient
- If there is no water available antiseptic wipes can be used
- Cover your own cuts or sores with waterproof plasters if time permits
- Put on gloves (see page 14)
- Put on safety googles to protect your eyes from blood splashes
- Put on a medical disposable mask

- If you have been splashed with blood or other body fluids, wash the area thoroughly with soap and water as soon as possible. Then contact your doctor for specific medical advice.
- If any of your clothing has been contaminated by body fluids, remove it promptly and wash thoughly
- Safely dispose of any used dressings, bandages and disposable gloves by placing into a plastic bag, and sealing well before putting it into a rubbish bin
- Dressings must be disposed of in a medical Hazardous Waste bin or red plastic bag
- Used instruments must be cleaned thoroughly under running water. Serrated edges should be scrubbed with a fine nailbrush. The articles should then be disinfected.
- After removing disposable gloves always wash your hands thoroughly with soap and water.

Carol Smith +27833746116 carol@firstaidpriority.co.za

Basic treatment of external bleeding

US 119567; SO 4; AC 1

Safety first – Gloves and eye protection.
Eliminate any hazards around the area before attempting to help the patient.
Call for help from bystanders and ask them to phone the emergency services.

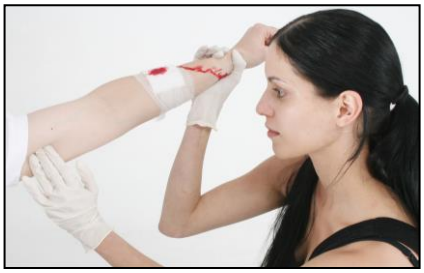
If the patient is conscious

Reassure the patient and establish how the injury occurred.

Check the wound for foreign objects.

Ways to Control bleeding:

- Holding a gloved hand over the wound
- Holding gauze over the wound



- Bandaging with a first aid dressing, gauze and bandage or anything with which you can improvise.

Never remove a dressing once it is in place. If the wound is bleeding through, place another bandage over the first.

- Elevation – Hold the limb above the level of the heart to slow blood flow down to the area.
- Pressure points – Anywhere that you can feel a pulse is a pressure point; push hard onto the artery above the injury to block it off. The pressure should be maintained for at least five minutes. This is used as last resort.

US 119567; SO 4; AC 3

Cleaning to prevent infection

Superficial wounds may be cleaned with antiseptic solution to prevent infection
Dilute all antiseptics as instructed on the container.
REMEMBER to wear gloves.
Swab with gauze from the center of the wound outwards.
Use each piece of gauze once.
Water can be used to clean wounds; this can be either under a tap or in a basin.

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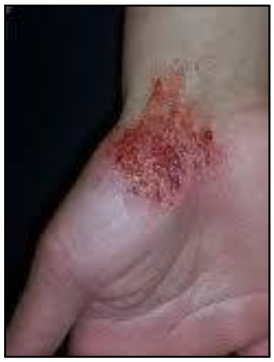
Types of wounds



Abrasion

→ Scrapes, scratches, grazes and grass burns
→ Outer layer of skin damaged
→ Little bleeding
→ Problem with infection

Treatment

✓ Your safety – wear gloves
✓ Clean the wound if it is a smallish area, as for cleaning above
✓ It is best, if possible, to leave the wound open
✓ If it is bleeding or there is a chance of infection entering the wound cover it using a plaster or first aid dressing.

Incision

→ Smooth, clean cut from a sharp object
→ Bleeding can be profuse depending on the depth

Laceration

→ Jagged cut
→ Skin torn
→ Bleeding can be profuse depending on the depth

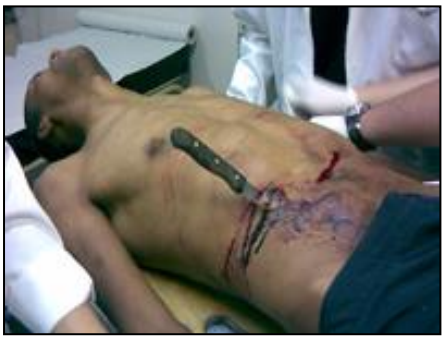
US 119567; SO 3; AC 3

Treatment of incisions and lacerations

✓ Your safety – wear gloves and eye protection.
✓ DO NOT SPEND TIME CLEANING THE WOUND IF IT IS BLEEDING A LOT.
✓ Place direct pressure over the area
✓ Bandage or dress the area as appropriate
✓ Apply additional bandages or pressure if bleeding continues
✓ Treat for shock.
✓ Hand the patient over to the ambulance staff with the necessary information.

First aid dressings work very well for wounds on the extremities, and come in various sizes.
Holding gauze over wounds on the head, face, ear, chest or back is effective.

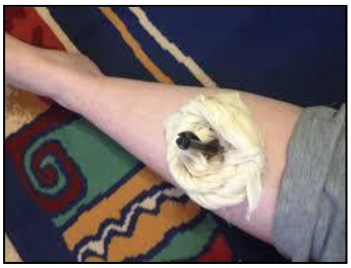
Puncture wound (Impaled object)



→ An object passes through skin.
→ Makes an entrance wound and can have an exit wound as well.
→ Damages all the tissue in its path.
→ Can damage organs depending on the depth of the wound.

Treatment

- ✓ Your safety – wear gloves and eye protection.
- ✓ Do not remove an impaled object.
- ✓ Place a sterile dressing over the object if possible without moving the object.



- ✓ Stabilize object with a ring bandage.
- ✓ Secure properly so no movement can take place with a roller bandage or holding the ring bandage in place.
- ✓ Treat for shock.
- ✓ Hand the patient over to the ambulance staff with the necessary information.

Bullet wound

→ Usually an entrance and exit wound
→ A lot of tissue damage
→ Dirty wounds
→ Bullets can ricochet off bones and so they are not always where you would expect them to be.

Treatment

- ✓ Your safety – is the shooter still around?
- ✓ Your safety – wear gloves and eye protection
- ✓ Keep the patient still as there might be a spinal injury
- ✓ DO NOT SPEND TIME CLEANING THE WOUND IF IT IS BLEEDING A LOT
- ✓ Place pressure over the area, and treat as for bleeding above
- ✓ Elevation can also be used
- ✓ Treat for shock.
- ✓ Hand the patient over to the ambulance staff with the necessary information.

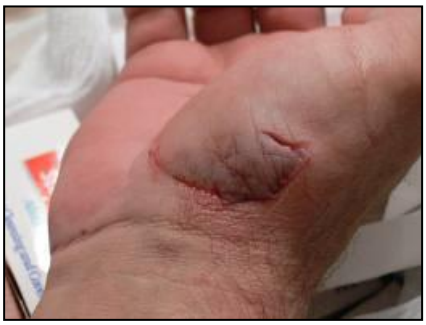
Carol Smith +27833746116 carol@firstaidpriority.co.za

Avulsion

→ Skin is pulled back – peeled

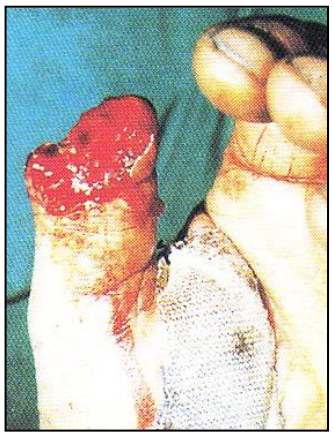
Treatment

- ✓ Your safety – wear gloves and eye protection.
- ✓ Do not pull off the piece of skin and flesh.



- ✓ Rinse avulsed area with water if small.
- ✓ Flap skin back to its normal position.
- ✓ Place pressure over the area.
- ✓ Elevation can also be used.
- ✓ Treat for shock.
- ✓ Hand the patient over to the ambulance staff with the necessary information.

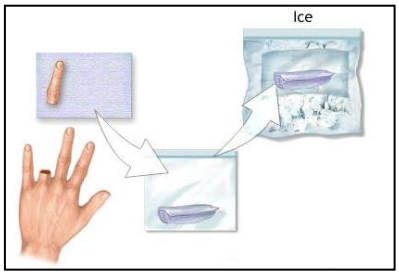
Amputation



→ Extremity or digit cut or pulled off

Treatment

- ✓ Your safety – wear gloves and eye protection.
- ✓ Place a sterile dressing and bandage around the limb, making sure that it stops the bleeding.
- ✓ Pressure points may be used to control bleeding, as bleeding may be severe.
- ✓ Wrap the severed part in sterile gauze or a sterile dressing.
- ✓ Place this in a plastic bag and seal it.
- ✓ Place the bag into a larger bag or cooler box containing ice or cold water.



- ✓ Treat for shock.
- ✓ Make sure the patient and the amputated part go together to the same hospital.
- ✓ Hand the patient over to the ambulance staff with the necessary information.

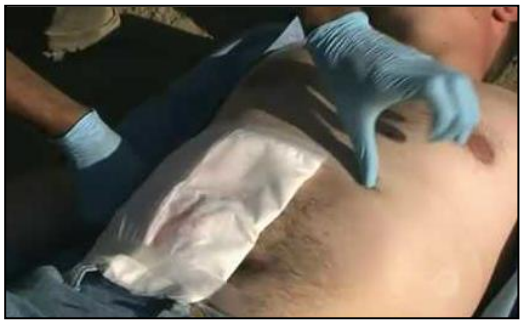
Evisceration

→ Abdomen cut open
→ Intestines and/or other abdominal organs protruding

Treatment

- ✓ Your safety – wear gloves and eye protection.

- ✓ NEVER replace or attempt to replace protruding intestines.
- ✓ Place patient in a semi-seated position with their knees bent, so that there is minimum tension on the abdomen.
- ✓ Cover the area with sterile, moist dressing.
- ✓ Cover the dressing lightly with a rescue blanket or plastic bag, etc. to keep it moist.
- ✓ Do not let the patient move around.
- ✓ If the patient needs to cough or vomit hold onto the abdomen to prevent more contents escaping.
- ✓ Treat for shock.
- ✓ If the patient becomes unconscious, secure the dressing with plaster and lie the patient down in the recovery position with both knees slightly bend.



- ✓ Hand the patient over to the ambulance staff with the necessary information.

Nose bleed

Blood coming from the nose, either dripping or it could be a strong flow.

Causes:

A change in temperature
Blowing the nose often with a cold or hay fever
Being hit on the nose, etc

BUT
It could be indicative of a more serious medical problem, e.g. high blood pressure.
It could be indicative of a more serious traumatic problem, e.g. a fractured base of skull.

Treatment

- ✓ Position patient with his/her head well forward and pinch and the bridge of the nose.
- ✓ Let the nose bleed into a container so that you can assess blood loss.
- ✓ Do not let the patient put his/her head back as the blood then runs down the back of the throat into the stomach and makes the patient nauseas.
- ✓ Reassure.
- ✓ Monitor vital signs.
- ✓ Do not blow the nose for at least an hour after it has stopped bleeding.
- ✓ Get the patient to a doctor or hospital if the nosebleed is preceded by a severe headache or if an adult patient has lost more than half a litre of blood.

Scalp wounds

- → Any wound on the head will bleed a lot and because of the head shape and position, the bleeding is difficult to control.
- → When dealing with a scalp wound be very careful not to apply pressure if you suspect a fracture, as this will push bone fragments into the brain.
- → Cover the wound with gauze and hold in place.
- → DO NOT wrap a bandage under the chin or around the neck.

Carol Smith +27833746116 carol@firstaidpriority.co.za

→ Hand the patient over to the ambulance staff with the necessary information

Ear wounds

- If the patient is bleeding from the ear, try to establish if it is just from the external section of the ear or if the bleeding is from internally.
- If you suspect it is from deep within the ear be alert for signs and symptoms of a head injury
- Place a first aid dressing over the whole ear and bandage round the head or gauze can be held in position over the injury
- The patient can be positioned lying on the injured side.
- Hand the patient over to the ambulance staff with the necessary information.

Eye Injuries

- If dust, etc. is in the eye, rinse the eye out using an eyeglass or fill a basin with water and let the patient place their face into the water and open their eyes.
- If it is a chemical substance the same procedure can be followed but change the water often, running water can be used and works very effectively BUT it must not be too strong and you will need to help the patient open their eye under the running water.

- Only cover the injured eye.
- Reassure the patient.
- Do not put pressure on the eye.
- Do not remove contact lenses.
- Get the patient to a doctor or hospital to have the eye examined except in trivial cases.

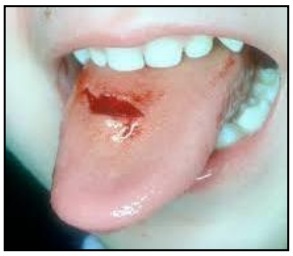
Treatment for a foreign body that is impaled into the eye

- Your safety – wear gloves and eye protection.
- Do not remove an impaled object.
- Place a sterile dressing over the object if possible without moving the object.
- Stabilize object with a ring bandage.
- Secure properly so no movement can take place.
- Treat for shock.
- Hand the patient over to the ambulance staff with the necessary information.

Tooth injury

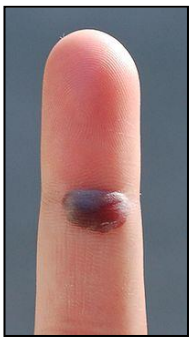
- For a knocked out tooth place a piece of gauze into the hole left by the tooth and ask the patient to bite down onto it

- Tell the patient to spit out any blood
- Place the tooth into a plastic bag with some of the patient's saliva or milk
- Tell the patient to go to a dentist immediately as they may be able to save the tooth



Tongue wound

- Ask the patient to hold gauze over the cut
- Sit with their head forward so that blood can drain

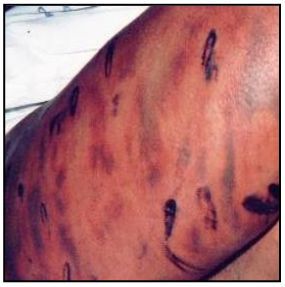


CLOSED SKIN WOUNDS

Blood blister

- Usually occurs where the skin has been pinched.
- It is an accumulation of blood just under the surface of the skin.
- It can occur under the nail.
- No real treatment is necessary, it will subside in a few days.

Contusion - Bruise



- No breaking of the skin but bleeding under the skin in a thin layer.
- Apply ice pack to reduce swelling.

Haematoma

- There is no breaking of the skin but bleeding occurs within the tissues and swelling results.
- The accumulation of blood sometimes needs to be drained.
- Apply ice pack to reduce swelling.

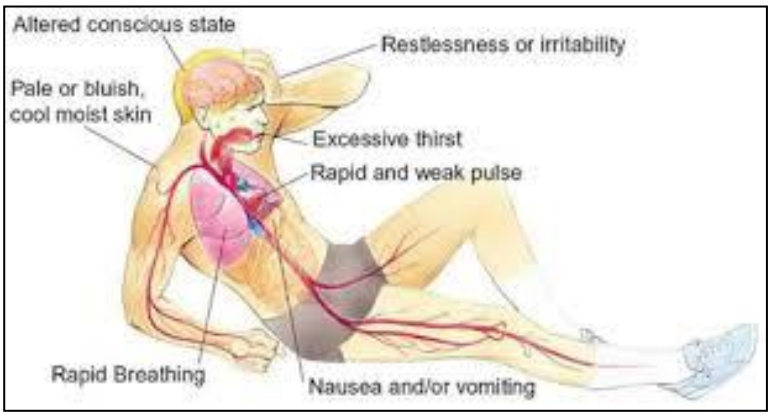
Carol Smith +27833746116 carol@firstaidpriority.co.za

SHOCK – FROM EXTERNAL OR INTERNAL BLEEDING

Shock can be defined as inadequate tissue perfusion (not enough blood and oxygen getting to the tissues in the body), or a general body weakness resulting from some form of injury, which has reduced the volume of blood or fluid from the body.

Signs and symptoms of shock

1. Level of consciousness will decrease; the patient will become confused, restless or even unconscious.
2. The pulse becomes fast and weak
3. The breathing becomes fast and shallow
4. The skin becomes cold
5. The skin becomes pale
6. The skin condition will be clammy
7. The capillary refill will be delayed
8. The patient may be nauseas and may vomit
9. The patient may be thirsty



Treatment of shock

1. Ensure safety
2. If the patient is unconscious – Check Breathing and turn them into recovery position
3. Treat the cause (stop bleeding, etc.)
4. Do a full secondary survey
5. Lie the patient down
6. Reassure
7. Loosen tight clothing
8. Maintain body temperature
9. Elevate the legs
10. Monitor vital signs
11. Have the patient removed to hospital
12. Hand the patient over to the ambulance staff with the necessary information

N.B. DO NOT GIVE THE PATIENT ANYTHING TO EAT OR DRINK.
THIS CAN DELAY ADMINISTRATION OF ANAESTHETIC IN HOSPITAL AND THE PATIENT IS ALREADY NAUSEAS, SO IT INCREASES THE RISK OF VOMITING.

INTERNAL BLEEDING

Although not usually visible, internal bleeding can be very serious and the patient with severe internal bleeding may develop shock before you realise the extent of the blood loss.

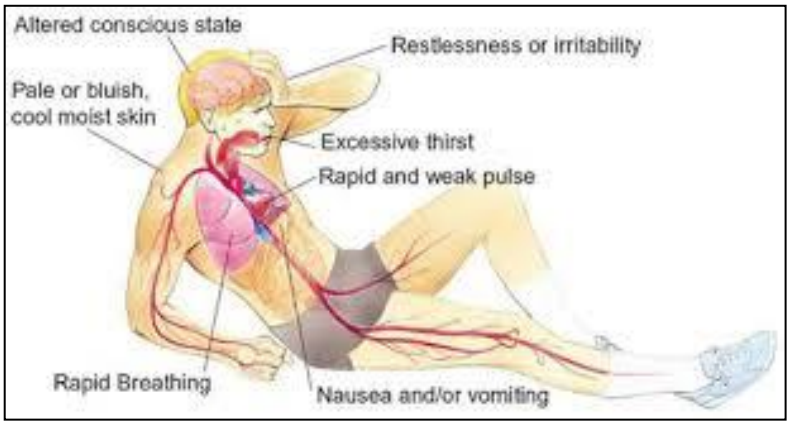
Carol Smith +27833746116 carol@firstaidpriority.co.za

Signs that may point to internal bleeding and that are not evident at the body surface are those indicating the development of Hypovolaemic shock (shock due to loss of fluid).

Internal bleeding, especially into the abdominal cavity may not cause any pain.

Signs and symptoms of internal bleeding

1. Level of consciousness will decrease; the patient will become weak, confused, restless or even unconscious
2. The pulse becomes fast and weak
3. The breathing becomes fast and shallow
4. The skin becomes cold
5. The skin becomes pale
6. The skin condition will be clammy
7. The capillary refill will be delayed
8. The patient may be nauseas and may vomit
9. The patient may be thirsty



Up to 3 litres of blood can be lost into the abdominal cavity and up to 1½ litres into the femur (thigh) area.

Treatment of internal bleeding

There is nothing the first aider or advanced help can do to control internal bleeding in the field. The patient needs **URGENT transportation to a hospital** where surgery can be done.

1. Ensure safety
2. If the patient is unconscious – Check Breathing and turn them into recovery position
3. Treat any external bleeding
4. Do a full secondary survey
5. Lie the patient down
6. Reassure
7. Loosen tight clothing
8. Maintain body temperature
9. Elevate the legs
10. Monitor vital signs
11. Have the patient removed to hospital URGENTLY
12. Hand the patient over to the ambulance staff with the necessary information

N.B. DO NOT GIVE THE PATIENT ANYTHING TO EAT OR DRINK.
THIS CAN DELAY ADMINISTRATION OF ANAESTHETIC IN HOSPITAL AND THE PATIENT IS ALREADY NAUSEAS, SO IT INCREASES THE RISK OF VOMITING.

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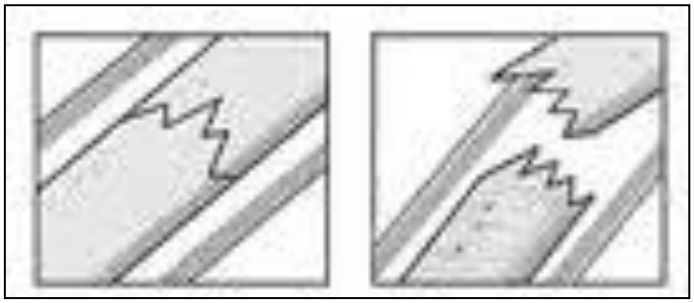
MODULE 8

US 119567; SO 3; AC 3

BONE, JOINT AND MUSCLE INJURIES



A fracture is a break in the continuity of a bone.

Closed fractures are when the bone is broken but the skin is still intact.

Open fractures are when the bone is broken and has pierced through the skin, or in any situation where there is a wound associated with a fracture.

Signs and symptoms of a fracture

- Pain
- Swelling
- Bruising
- Exposed bone
- Deformity
- May have heard the bone break
- Crepitus (sound when bones rub against each other) may be experienced
- Possible loss of function
- Possible loss of distal pulse (pulse below the fracture)

Principles of splinting

- Fractures are seldom life threatening.
- Assess the airway, breathing and circulation on an unconscious patient first.
- Treat any bleeding before treating fractures.
- **Modern treatment is moving away from splinting. As long as the body part that is broken is kept still that is all that is needed. Only splint if the patient cannot keep the area still on his/her own.**
- Visualize the injured area.
- Record status of pulses, sensation, movement and capillary refill before and after splinting.
- Dress wounds before splinting.
- Do not push bone ends back beneath the skin.
- Immobilize the joints above and below the injury to stabilize the entire limb.
- Elevate the injured extremity if possible after splinting.
- Take and record the vital signs every 5 minutes to be able to recognize signs and symptoms of shock developing; treat as for shock.

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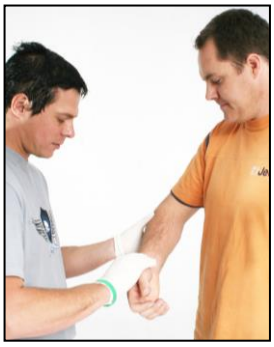
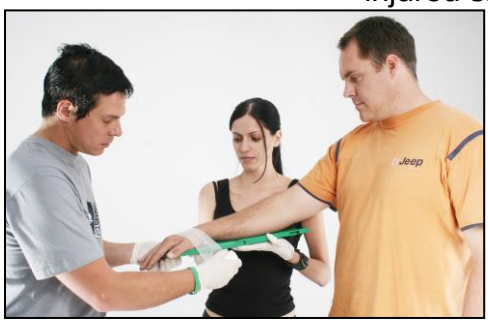
Lower Arm Fracture



- If the patient is unconscious assess the primary survey.
- If the patient is breathing continue with the steps below.

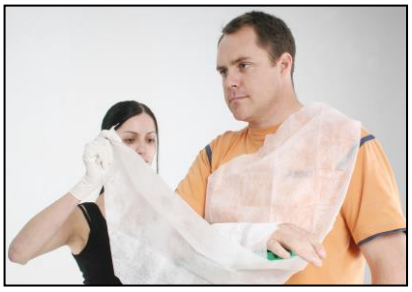
If the patient is conscious

- Control any bleeding.
- Do a full secondary survey.
- Expose the injured area.
- Check the pulse, capillary refill, movement and sensation on the injured side, using the uninjured side as a reference.



- Place a splint under the arm.
- Pad any gaps between the splint and the arm.
- Secure the splint using triangular bandages or a roller bandage.

- If possible do not bandage over the broken area, it will be painful for the patient and that area is going to swell.
- Check the pulse, capillary refill, movement and sensation after splinting.



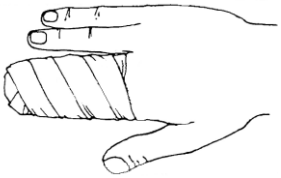
- Place the arm into a sling and secure to the body with a body bandage.
- Place a cold pack over the area to reduce swelling.

Upper arm fracture

- Expose the injured area.
- Check the pulse, capillary refill, movement and sensation on the injured side, using the uninjured side as a reference.
- Place the arm into a sling and secure to the body with a body bandage.
- Place a cold pack over the area to reduce swelling.

Finger or toe fractures

- Place a bandage round the fractured finger or toe and secure it to the finger or toe next to it. This is called a buddy splint.



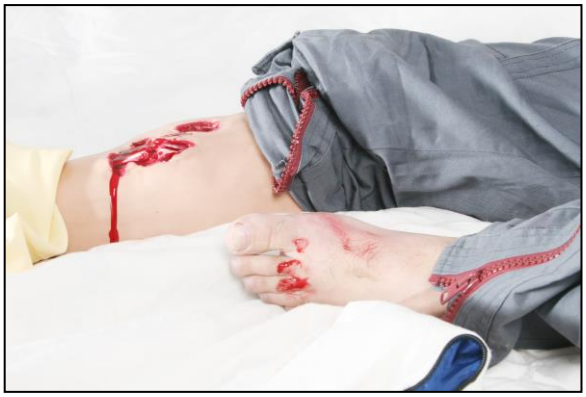
Rib fractures

Fractured ribs may be accompanied by complications such as internal organ damage.
Breathing may be painful and difficult.
The patient may go into shock.

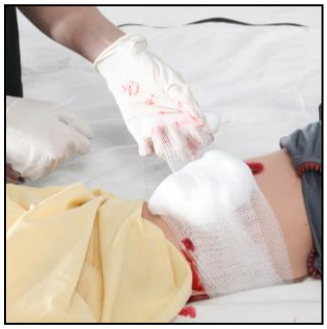
- Place patient in a seated position if conscious.
- Loosen any tight clothing.
- Encourage the patient to breathe normally.
- The arm can be placed in a sling to make the patient more comfortable or stabilize with a pillow or item of clothing that can be held against the chest.

Skull fracture

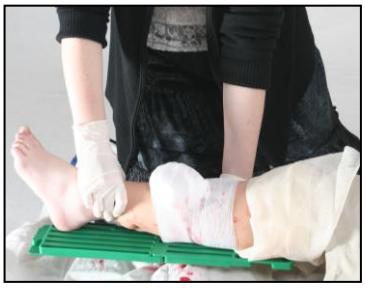
- Treat a skull fracture as a spinal injury
- DO NOT MOVE the patient!
- DO NOT APPLY PRESSURE TO THE WOUND



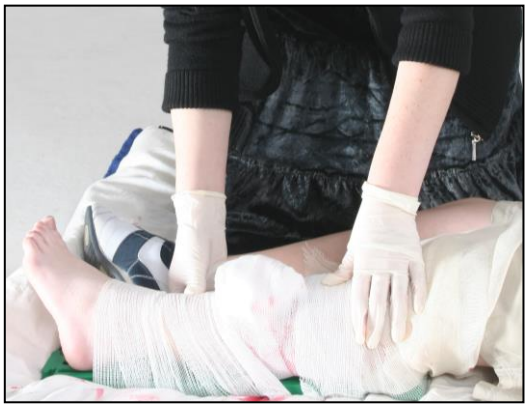
Lower leg fractures



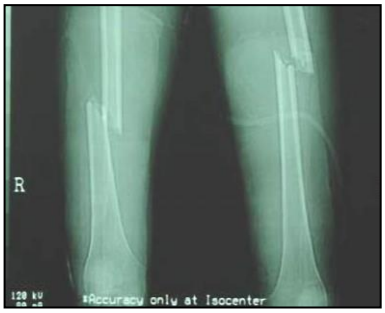
- Expose the injured area.
- Control any bleeding.
- Use a ring bandage or doughnut if the bone is protruding.
- Cover with a first aid dressing or bandage.
- Check the pulse, capillary refill, movement and sensation on the injured side, using the uninjured side as a reference.



- If you have a long enough splint, place the splint underneath the leg and secure with a bandage.



- Use a buddy splint if you do not have a long enough splint.
- Place a cold pack over the area to reduce swelling if it is a closed fracture.



Upper leg fractures

- Expose the injury.
- Check the wound for foreign objects.
- Control any bleeding.
- Check the pulse, capillary refill, movement and sensation on the injured side, using the uninjured side as a reference.
- **KEEP THE LEG AND THE PERSON IN THE POSITION FOUND.**
- **DO NOT ATTEMPT SPLINTING.**

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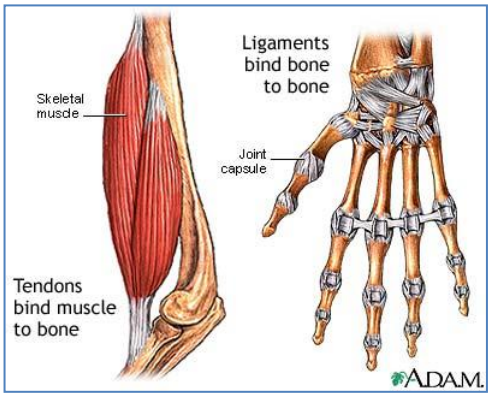
JOINT AND MUSCLE INJURIES

US 119567; SO 3; AC 3



Sprain

This is an injury that occurs at a joint when the ligaments and tissues around that particular joint are suddenly torn or pulled.

Strain

This is sometimes called a muscle pull; it is a stretching or a tearing of a muscle. Unlike a sprain no ligament or joint damage occurs.

When injury causes damage to muscle, tendon, ligament or joint, the process of healing commences immediately.
Due to tissue injury, and as an initial response to it, blood and tissue fluid occur in the area of the injury. Superficial bleeding will be seen as a bruise. The build up of tissue fluid may also produce swelling. At the site of injury a blood clot will form.

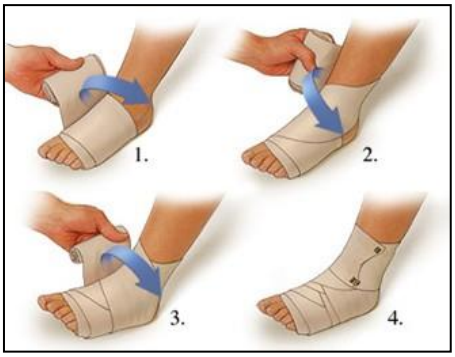
Signs and symptoms

- Redness
- Heat
- Swelling
- Pain
- Loss of function

Treatment

Remove the shoe or boot and socks.

R – Rest
- Do not let the person go back to the sport.
- Rest and elevation of the injured part will improve recovery time.
- Activity and massage will make it worse.



I – Ice
- Place an ice pack over the area and leave in place for up to 30 minutes.
- A wet towel, etc should be placed over the area and then the ice pack over that.
- Ice should be applied every 2 hours for up to 72 hours.

C – Compression
- Bandage the area with a crepe bandage after removal of the ice pack.

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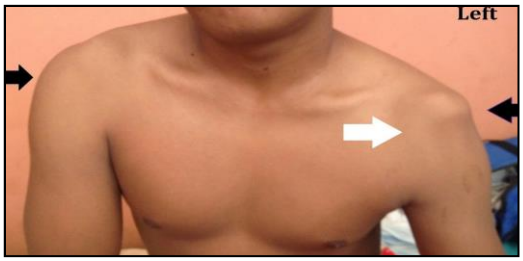
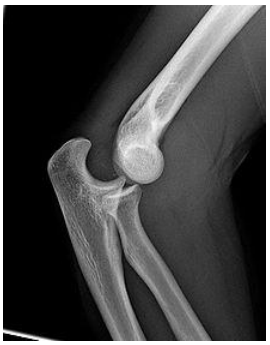
- Check pulse, capillary refill and sensation after bandaging and every few minutes.
- If the bandage gets too tight – remove and reapply.
- Reapply the ice pack after bandaging

E – Elevation
- Position the injured area in such a way as to elevate it above the heart level

DISLOCATION

This is where a joint has come out of place. There will be pain, deformity and loss of movement.



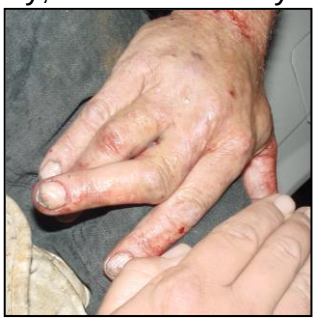


Treatment

- If the patient is unconscious assess breathing and place in recovery position
- Control any bleeding
- Do a full secondary survey
- Expose the dislocation area
- Splint/support in position found
- In a conscious patient with a dislocated shoulder the most comfortable position is often sitting forward and just letting the arm hang
- Never attempt to replace or reposition a dislocated joint

HAND AND WRIST INJURIES

Our hands are extremely important to us in everything we do every day, so therefore any injury to the hand or wrist must receive special care.



- Wounds

Cuts on the hand and wrist could damage underlying nerves, tendons or blood vessels. All of these need medical attention.

- Burns

Even small areas of burns on the hands need to be treated seriously as scar tissue can cause reduction of movement.

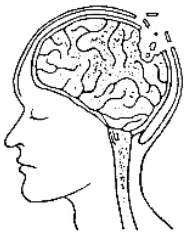
MODULE 9

US 119567; SO 3; AC 3

HEAD INJURIES

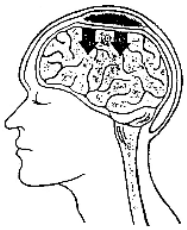
In any event where a patient has sustained a bad blow to the head, you need to watch out for signs and symptoms of a brain injury.

The mechanism of injury can sometimes give you an indication that there may be a head injury, for example a 'star burst' on a car's windscreen.



Head injuries can be open or closed.

In open head injuries the pressure does not build up but the brain matter itself can leak out of the wound.



In closed head injuries there can be a problem with pressure. The skull is a closed vault with only one opening through which the spinal cord passes. That means that if there is an injury or bleeding and pressure starts to build up there is no way to release that pressure.

Head injuries are very serious. Where you have a head injury you should also suspect a spinal injury and treat as such.

Signs and symptoms of a closed head injury

- Changes in the level of consciousness
  - Confusion
  - Disorientation
  - Concussion
  - Convulsions
- Projectile vomiting
- Headache
- Double vision or other visual disturbances
- Bleeding from the ears or nose

Treatment of a head injury

- Make sure the area is safe to approach.
- Call bystanders to help you and send one to phone the ambulance.
- If the patient is combative then ensure your personal safety by keeping a safe distance.
- Keep the patients head and neck still, if possible.

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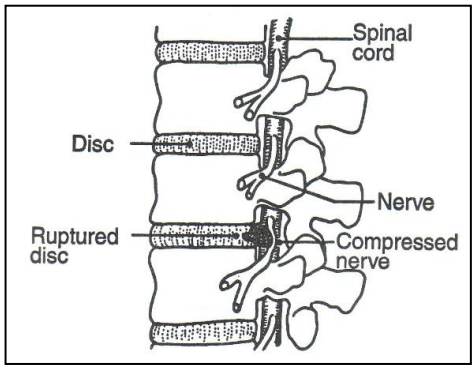
- If the patient is unconscious assess the airway, breathing and circulation. Be prepared to do CPR if necessary.
- Control bleeding. If the bleeding is on the skull, DO NOT apply pressure as you may be pushing the bone fragments into the brain.
- Do a full secondary survey.
- Treat any other injuries found.
- Reassure and do not become agitated if the patient asks the same question over and over.
- Arrange removal to hospital.
- Try to keep the person awake until you can get them to a medical facility or until the ambulance personnel can take care of the patient.
- Hand the patient over to the ambulance personnel giving them as much information as possible.

MODULE 10

US 119567; SO 3; AC 3

SPINAL INJURIES



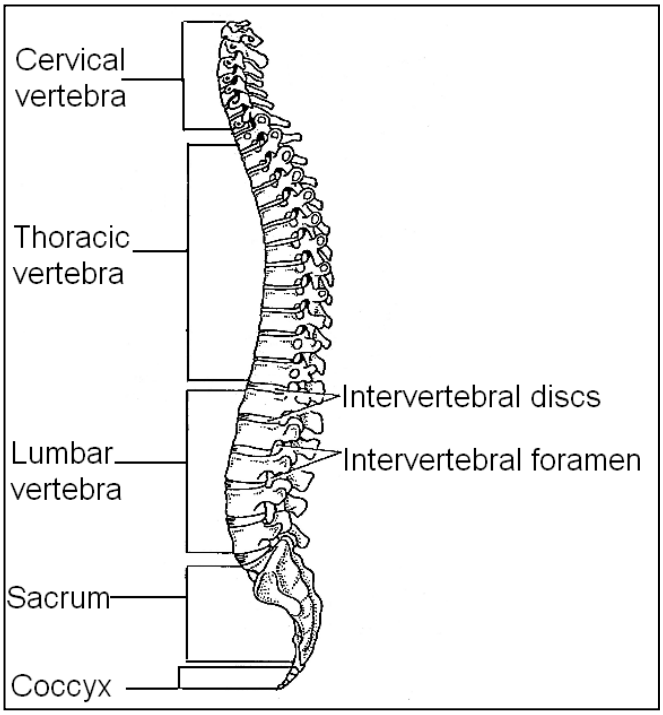
The initial care of a patient with a spinal injury is crucial in determining the future capabilities of the patient.

DO NOT MOVE THE PATIENT – this could result in permanent disability

The higher the spinal injury the more dangerous it is.

<u>Signs and symptoms of a spinal injury</u>

- Paralysis
- Loss of sensation
- Weakness
- Numbness
- Pins and needles sensation
- Tingling
- Limited ability to move
- Difficulty breathing
- Bruising or bleeding from the wounds on the scalp, neck or back
- Pain over the spinal area



<u>Treatment of a spinal injury</u>

- Do not move the patient – hold the head in the position found.

- Call bystanders to help you and send one to phone the ambulance.
- If the patient is unconscious check for breathing
- If the patient is not breathing administer CPR as normal (life over limb)
- Control any bleeding
- Monitor vital signs
- Treat for shock
- Reassure
- Maintain body temperature

ONLY MOVE THE PATIENT IF THE SITUATION IS UNSAFE FOR THE PATIENT AND YOU, THE FIRST AIDER

- If you are alone you will have to move the patient as best you can by holding onto the shoulders with your arms supporting the neck and head
- Drag the patient to safety

When the ambulance staff get there they will log roll the patient onto a spinal board. This is turning the patient onto their side with no or as little movement to the neck and spine as humanly possible. You might be asked to help place the board underneath the patient while they do the log roll. The person at the head of the patient is always in charge so follow his/her instructions.

MODULE 11

BURNS

US 119567; SO 3; AC 3

Burns are classified according to the severity of damage done to the skin.

Superficial burns

- Epidermis (top layer of the skin) is injured.
- Skin is red but has no blisters.
- It is painful at the burn site.

Partial thickness burns

- It is burnt through to the second layer of skin (dermis).
- Intense pain is experienced.
- There is reddening of the skin.
- Swelling and blisters occur.
- Plasma and tissue fluids are released and rise

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to the top layer of skin.

Full thickness burns

- There is damage through the dermis and into and beyond the subcutaneous fat.
- Area is dry, leathery and charred black.
- Clotted blood vessels and subcutaneous fat maybe visible.
- Nerve endings are destroyed so there minimal pain but surrounding areas maybe painful.

If your clothes are on fire

Stop
Do not run as that will fan the fire.

Drop
Drop to the ground just where you are.

Roll
Cover your face with your hands and roll to smother the fire.

Treatment for a burn caused by heat – dry or wet

- Check your safety.
- Call bystanders to help you and send one to phone the ambulance, send one for the first aid box.
- If the patient is unconscious – check the airway, breathing and circulation.
- Control any bleeding.
- Stop the burning process by placing the burnt area in cold water for at least 30 minutes.
- Assess the patient's vital signs.
- If the patient is burnt on the chest or face suspect internal burns of the respiratory tract and be prepared for any breathing difficulty.
- If the respiratory tract is injured it may be necessary to perform CPR on the patient.
- Remove jewelry in the vicinity of the burn.
- Remove any clothing necessary to evaluate the burn (don't remove if stuck on the skin).
- Do NOT break any blisters.
- Cover the burnt area with a wet sterile dressing if you need to transport the patient. If possible leave the burnt area in water until help arrives.
- Never use any ointments, gels or antiseptics.
- Treat for shock.
- If the patient's eyes are burnt, cover the eyelids with sterile, moist pads.
- Use sterile or clean (lint free) pads to separate fingers or toes before dressing.

Treatment of sunburn

- Same as any other burn caused by dry heat, see above.
- Get the patient into a cool area to treat him/her.

- Watch out for signs of heat stroke – dry, hot, red skin, rising temperature and level of consciousness decreasing.
- If signs of heat stroke occur call the emergency services and start cooling the patient down immediately.

Treatment of an electrical burn

- Safety – turn the electricity off at the mains.
- Check the airway, breathing, circulation and control bleeding if present.
- Administer CPR if necessary.
- The patient will have two burnt areas, an entrance and an exit wound.
- Place wet sterile dressings over both wounds. The area can be placed into cold water as for any other burn.
- Treat as for burns with dry heat, above.

Treatment of a chemical burn – dry or wet

- Check your safety – the chemical on the patient's skin is burning him/her; if it gets onto your skin it will burn you.
- If the patient is unconscious – check the airway, breathing and circulation.
- If it is a dry chemical try to brush off as much as possible.
- Try removing the clothing as quickly as possible.
- Find out if there is a specific antidote for the chemical, some chemicals react with water and that will make the situation worse.
- Place the patient under running water (shower or hose pipe) until help arrives.
- Assess the patient's vital signs.
- Do NOT break any blisters.
- Treat for shock.
- If the patient's eyes are burnt, rinse the eyes with running water then cover the eyelids with sterile, moist pads.

Complications resulting from a burn

Infection

Our skin acts as a protective barrier against infection. If that barrier is removed infection can easily set in. Many patients who could have survived the burn have died from infection.

Shock

This is due to fluid loss. In a burn the cells are damaged and leak fluid. Watch the patient for signs and symptoms of shock and treat accordingly.

Any burn to the hands, face, neck or genital area needs to be evaluated by a doctor. Even relatively small and insignificant burns in these areas can cause major complications later on.

Carol Smith +27833746116 carol@firstaidpriority.co.za

MODULE 12

US 119567; SO 3; AC 3

UNCONSCIOUSNESS

Some of the causes of unconsciousness are listed and explained briefly below:

♥ Fainting

This is a brief loss of consciousness due to a temporary reduction in blood flow to the brain. The medical term for fainting is syncope.

Signs and symptoms of an impending faint

- ✓ Light headed
- ✓ Nauseas
- ✓ Dizzy
- ✓ Hot or cold flushes
- ✓ Visual disturbances such as hazy or darkening of the room

Treatment

- ✓ If someone feels these symptoms coming on, immediately lie the person down.
- ✓ If they become unconscious place them in the recovery position. They should regain consciousness quickly.
- ✓ Keep them lying down for a while then let them sit up slowly before standing up.
- ✓ Do a full primary and secondary survey and treat any causes found.
- ✓ Treat any injuries sustained during the fainting episode.
- ✓ See general treatment of unconsciousness.

♥ Diabetic emergencies

Diabetes, or sugar sickness, is a disease where the pancreas cannot produce insulin. Insulin is needed to transport the sugar into the cells throughout the whole body.
The diabetic emergency that you are most likely to see is termed 'hypoglycaemia' or low blood sugar. This occurs when the patient has taken his/her insulin and forgotten to eat or not eaten enough for the dose of insulin taken. Insulin shock develops rapidly.

Signs and symptoms

- There is a rapidly decreasing level of consciousness with dizziness, confusion, disorientation, weakness then unconsciousness.
- Patient often appears drunk – drooling, staggering with hostile or bizarre behaviour.
- Patient may have a headache.
- Convulsions can occur.
- Skin will be pale, cold and clammy.
- Pulse will be rapid and weak.

Treatment

- If the patient is unconscious check breathing and place in recovery position
- Treat for unconsciousness as below.

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- If the patient is conscious.
- Let the patient sit or lie down.
- Reassure.
- Arrange transport to hospital.
- If you know the patient is a diabetic and he/she is conscious you can ask two questions:

1. Have you had your insulin today?
2. Have you eaten today?

If the patient has had his/her insulin but not eaten, he/she is possibly in hypoglycaemia because the blood sugar will be too low. This person needs to eat something

- Give the patient a small sweet or half a glass of cool drink (not a diet drink). This will push the blood sugar up slightly. Do not give them too much as this will make the condition swing to the other extreme.

If the patient has eaten and not taken his/her insulin, they possibly need insulin. You are not allowed to administer insulin to the patient but your question could remind him/her to give him-/herself the injection.

♥ Fits/Seizures/Convulsions/Epilepsy

This occurs when there is an 'electrical imbalance' in the brain, causing all the body's muscles to contract violently.

Signs and symptoms

- The whole body may "shake" violently.
- It may be just one arm, etc that is "shaking".

Treatment

- If the patient tells you he/she is about to have a fit, lie him/her down as quickly as possible.
- Loosen tight clothing.
- Move furniture away from him/her so he/she will not hurt him-/herself.
- Do not hold him/her during the fit as stimulation can lengthen the duration of the fit.
- DO NOT PUT ANYTHING IN HIS/HER MOUTH.
- After the fit has ended he/she may be very confused, agitated or even combative. Try to get the patient to a safe place where he/she can sleep off the effects of the fit.
- Treat as for general unconsciousness below

Once the fit is over the patient should go to hospital or see a doctor as the cause of the fit needs to be investigated.

♥ Febrile fits

This is a fit due to a rise in body temperature. It is most commonly seen in children between the ages of 3 months and 5 years.

Signs and symptoms

The child's temperature is elevated.
The child feels very hot.
The child may have been 'niggling' for a while.

Together with the treatment for fits stated above, remove the child's clothing and gently wipe him/her with a damp, lukewarm cloth to reduce his/her temperature.

♥ Alcohol

Alcohol depresses the central nervous system, thereby causing unconsciousness.

➧ Heat stroke

This is a condition where the body's normal temperature regulation system has failed and instead of excess body heat being dissipated into the air, it builds up within the body. The body temperature will then increase to above 40 degrees Celsius.

Signs and symptoms

- Pulse is weak and may be rapid (it may reach 160 – 180 beats per minute).
- Breathing is rapid and shallow.
- Disorientation may briefly precede unconsciousness.
- Convulsions may occur.
- Skin is hot and flushed.
- Sweating is decreased so the skin is dry.

Treatment

N.B. THE PATIENT NEEDS TO BE COOLED DOWN AS QUICKLY AS POSSIBLE!

- Move the patient to a cool place.
- Remove excess clothing.
- The patient can be covered in wet cloths, sheets, etc and fanned vigorously.
- Alternately if he/she is not convulsing place him/her in cold water (even ice water).
- If he/she starts to shiver, the cooling process should be slowed down as shivering increases the temperature.
- Monitor the vital signs including the temperature at 2 – 3 minute intervals.
- Arrange removal to hospital as quickly as possible.

THE LONGER THE PATIENT'S TEMPERATURE REMAINS HIGH, THE LESS CHANCE OF RECOVERY.

➧ Drowning

What generally happens in drowning is that the person has been swimming and gets into difficulty due to a cramp or exhaustion. He/she then starts to panic. In this state the person thrushes about in the water and swallows a lot of air and water. When a small amount of water touches the larynx

(voice box) it causes the muscles to go into spasm (laryngospasm), which totally blocks off the airway. The person then becomes unconscious due to lack of oxygen to the brain.

Treatment

- Safety.
- Once the patient is out the water, assess airway, breathing and circulation.
- Start CPR if necessary.
- Start CPR even if you are unsure how long the patient has been in the water.
- Be prepared for vomiting and turn the patient onto his/her side if vomiting occurs.
- If breathing and pulse return, place the patient into recovery position.
- The patient must still go to hospital, even if they regain consciousness.

Whatever the cause of unconsciousness the patient is at great risk

- ☹ He/she cannot protect his/her own airway.
- ☹ He/she cannot protect him-/herself from further injury.
- ☹ He/she is at the mercy of the first people who come across him/her.
- ☹ He/she cannot speak and let the first aider know what is wrong.

General treatment for unconsciousness

- ☺ Check your safety.
- ☺ Check the breathing and place in recovery position if breathing
- ☺ Check for and control bleeding.
- ☺ Do a full secondary survey; vital signs, head-to-toe and mechanism of injury.
- ☺ Treat whatever injuries you find.
- ☺ Maintain body temperature.
- ☺ Loosen tight clothing.
- ☺ You need to be a 'detective' and look for clues that will tell you what has caused the unconsciousness.
- ☺ A history could be taken from bystanders.
- ☺ Arrange removal to hospital or hand over to the ambulance staff with the necessary information.
- ☺ If the patient regains consciousness, he/she may be very disorientated, confused, scared or he may even be combative. Reassure him/her and keep him/her in a safe place until further help arrives.

MODULE 12

US 119567; SO 3; AC 3

POISONING

There are millions of different chemical substances and any of these could cause a person to be poisoned if they enter the body. Almost anything in your home or garden could potentially be a poison, from old tinned food in the cupboard, to household cleaners, to plants in the garden.

Poisons can enter the body by one of four routes:

- Mouth – Such as an accidental poisoning when a child drinks paraffin out of a coke bottle, or intentionally when a person tries to commit suicide by taking an overdose of tablets.
- Nose – Smoke inhalation from a burning building, LPG, carbon monoxide.
- Absorption through the skin – Organophosphate poisons.
- Injection – Bites and stings (snakes, bees) or intentional drug abuse.

The signs and symptoms the patient will present with will depend on the type of poisoning and also how the poison got into the person's body.

- All the first aider can do is to treat the signs and symptoms the patient presents with and look for the evidence of the poisoning, e.g. empty bottles, eaten bits of plants, etc.
- All containers or suspicious items must be taken with the patient to the hospital for tests.
- If the patient vomits, some of the vomit must be taken with them as well.
- If you are far from the hospital or in a remote area where getting to the hospital is going to take a long time, you can phone the poison center on 082 911 and they will give you advice.
- Generally it is best not to try make the patient vomit or to give them anything to drink unless otherwise advised.

Poison centre telephone number

082 911

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Carol Smith +27833746116 carol@firstaidpriority.co.za