First aid cha - DRAFT

community health nursing (Kenya Medical Training College)

MODULE 4: COMMUNITY FIRST AID

Code: FIA 104
Hours: 40
Credit: 4

11.1 Module competence

This module is designed to enable the learner provide first aid services at community level.

11.2 Module Outcomes

By the end of this module, the learner should;

1. **Apply concepts and principles in first aid**
2. **Perform Cardiopulmonary resuscitation (CPR) to an unresponsive adult, child and infant**
3. **Manage casualties Apply first aid skills in relieving choking, *drowning victim***
4. **Identify and use the contents in First aid kit**
5. **Manage persons with major illness**
6. **Apply first aid principles in moving and handling casualties**

11.3 Module Units

Unit Name	Hours Theory	Practical
1. Introduction to Community first aid	*05*	00
2. Cardiopulmonary Resuscitation (CPR)	02	04
3. Managing emergency situations	04	04
4. First Aid Kit	02	*03*
5. Major illnesses	06	04
6. Moving and handling Casualties	02	04

11.3 Module Content

Community First Aid; Introduction, definitions of terms: First aid: First Aider: Emergency First Aid, Cardiopulmonary resustation Triage,

,Historical back ground of First Aid, Symbols used in first Aid, Scope of first Aid, objectives of first aid, responsibilities of a first aider, eight qualities of a first aider, basic principles and rules of first Aid. Casualty assessment Primary survey, Recovery position Secondary assessment. Infection prevention Incident management: AMEGA principles (assessing the area, managing the incident, emergency aid, get help, deal with aftermath), prioritizing the incident, chain of survival road traffic accidents Cardiopulmonary Resuscitation; Scene assessment, checking for responsiveness, activating the EMS, CPR (hands only) one and two rescuers. Choking; infant, adult, drowning First Aid Checklist; Content and supplies checklist. Management of various emergency conditions - Medical emergencies conditions: hypoglycemia, hyperglycemia, allergy, fever, meningitis, headache, ear ache and tooth ache, abdomen pain, vomiting and diarrhea, bites and stings, foreign bodies, Emergency child birth: Stages of labor, signs and symptoms of labor stroke, heart attack, acute asthma attack, convulsions, poisoning, bleeding, burns. Management of body injuries: fractures, dislocations, wounds, sprains, strains, head injuries, crush injuries, burns and scalds, extremes of temperatures, eye injuries, Moving and handling; positioning an ill or injured person, transfer of an injured patient.

Teaching and Learning Resources
Black board, chalk, white board, markers, print materials, power point, videos recorders, video tapes, radio, television, lap top, desktop computer, mobile phones, ipads, print handouts.

Teaching/Learning Strategies
Modified/interactive lectures, small group discussions, demonstrations, group work, individualized work, self-directed learning, group assignments/presentations, individualized assignments/presentations.

Assessment Strategies
1. *Formative*: CATs, RATs, Assignments, tests, ESE

2. ***Summative*: practicum reports, FQE.**

Objectives

- **Introduction to first aid**
- **Terms definitions**
- **First aid organizations and various symbols used**
- **Scope of First Aid**
- **The role of a first aider**
- **Casualty Assessment**

INTRODUCTION TO FIRST AID

Terms definitions

First Aid: is the immediate and temporary care given to an injured or sick person until the services of a qualified doctor are obtained with such material as may be available. The first aid is not an end by itself. It indicates that the person is in need of a secondary aid

Medical Aid: refers to treatment by a doctor either on the sport at home or in the hospital

Emergency first Aid—the first response to a life-threatening (or limb-threatening) medical emergency, either an illness or an injury. It's often called *first responder aid.* More advanced medical care will happen after first aid in this case. This type of first aid includes; CPR, clearing an airway obstruction, responding to anaphylactic shock, splinting a broken bone, and severe bleeding control.

Cardiopulmonary resustation: procedure to restore breathing and circulation

The Primary Survey - a quick way for you to find out if someone has any injuries or conditions which are life-threatening. The five elements of primary survey include checking for, danger, Response, Airway, breathing, and circulation

Triage: A process of determining the priority of patients treatment by severity of their condition or

likelihood of recovery

First aider:

The person who renders emergency service on the spot until the medical aid is obtained.

A sound knowledge based on first aid enables a fist aider to give skilled services during accidents and sudden illness to preserve life promote recovery and prevent injury or illness being aggravated until the medical aid has been obtained.

HISTORICAL BACKGROUND

First aid was being practical from ancient times. It was the famous surgeon who was the first to conceive the idea of first aid. He was General Esmarch (1823-1908).

In 1877 St John Ambulance Association of England was formed.

In 1920, The Red Cross society of India was established with more than 400 branches all over India.

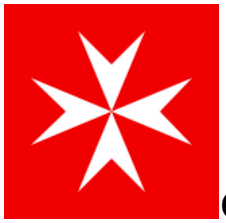
SYMBOLS USED IN FIRST AID

The internationally accepted symbol first aid is the *white cross on a green background shown below.*

ISO SYMBOL

Some organizations may make use of the Star of Life, although this is usually reserved for use by ambulance services, or may use symbols such as the Maltese Cross, like the Order of Malta Ambulance Corps and St John Ambulance. Other symbols may also be used.

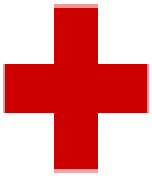
ST ANDREWS FIRST AID BADGE



CROSS OF THE ORDER OF ST JOHN

MALTESE OR AMALFI CROSS

STAR OF LIFE



THE RED CROSS

The Red Crescent used in Islamic countries and hold similar disciplineas Red Cross

TH E RED CROSS EMBLEM

In 1859 Jean-Henri Dunant witnessed the aftermath of the Battle of Solferino, and his work led to the formation of the Red Cross, with a key stated aim of "aid to sick and wounded soldiers in the field".[1] The Red Cross and Red Crescent are still the largest provider of first aid worldwide.

St John Ambulance historical back ground

While ST John's Ambulance is registered in 42 countries, Eleven priories of St john ambulance currently exist:

- **England and The Islands**
- **Scotland**
- **Australia**
- **CanadaNew Zealand**
- **South Africa**
- **United States of America**

- **Wales**
- **St John Kenya**
- **St John Singapore**
- **Hong Kong**

St John Ambulance is a trade name used by a number of affiliated organizations in different countries, counties, states or provinces dedicated to the teaching and practice of medical first aid and the provision of ambulance and community volunteer services, all of which derive their origins from the St John Ambulance Association founded in 1877 in the United Kingdom.

St John and the Industrial revolution

Britain was one of the first countries to become industrial and in the 19th century there were many dangerous workplaces. Conditions and machinery were hazardous and workers were exhausted by the long hours. Accidents were frequent but workers rarely saw a doctor in time. Death or disability from untreated injuries was common.

Members of the British Order wanted to find a way to help. They decided to train ordinary people in first aid so accident victims could be treated quickly and on the spot, and in 1877 they set up St John Ambulance to do this. Classes were set up across the country, particularly in workplaces and areas of heavy industry, but also in villages, seaside towns and middle class suburbs.

During The 20th century, when the National Health Service was founded, there were far fewer doctors and hospital beds than today, St John nurses looked after the sick and injured in their own homes.

The St John Ambulance Association and The St John Ambulance Brigade were amalgamated in 1974 to form the present St John Ambulance Foundation.

OBJECTIVES OF FIRST AID

- **To save life**
- **To control adverse effects of injury.**

- **To ease the Pain-to reduce Pain.**
- **To avoid further injury.**
- **Prepare for medical treatment**
- **To assist the doctor.**

SCOPE OF FIRST AID-*3PS*

One set of goals of first aid is called the "*Three P's*":

- **Preserve life**
- **Promote recovery**
- **Prevent the condition from worsening**

PRESERVE LIFE

- **Help to stop ble3ding**
- **Treat injuries in the right order-(triage)**
- **Maintain airway open and clear**
- **Perform CPR (when there is no breathing and no pulse)**

PREVENT FURTHER INJURY

- **Dress wound to prevent infection**
- **Provide comfort to casualty**
- **Place casualty in a comfortable position and stop the person from being injured even more.**
- **Stop the condition worsening e.g. a fracture. If possible, an injured person should not be moved.**
  ***First aid include how to safely move injured people -- or move them anyway with less harm if there is no choice*.**

PROMOTE RECCOVERY

- **Relieve casualty from anxiety**
- **Relieve pain and discomfort**
- **Handle casualty gently**
- **Protect casualty from cold and wet conditions**
- **Reassure casualty**

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THE ROLE OF A FIRST AIDER

The person who renders emergency service on the spot until the medical aid is obtained.

A sound knowledge based on first aid enables a rescuer to give skilled services during accidents and sudden illness to;

- **preserve life**
- **promote recovery**
- **Prevent injury or illness being aggravated until the medical aid has been obtained.**

The role of a first aider is to give someone help, while making sure that they and anyone else involved are safe and that they don't make the situation worse.

These are the seven Roles one need to fulfill as a first aider during an emergency:

1. Assess the situation quickly and calmly:

- **Safety:**
- **Are you or they in any danger?**
- **Is it safe for you to go up to them?**
- **Scene: What caused the accident or situation?**
- **How many casualties are there?**

• ***Situation*: What's happened?**

- **How many people are involved and how old are they?**
- **What do you think the main injuries could be?**

2. Protect yourself, casualty and bystanders from any danger:

- **Always protect yourself first - never put yourself at risk**
- **Only move them to safety if leaving them would cause them more harm.eg removing a casualty from the road**
- **If you can't make an area safe, call 999/112 for emergency help**

3. Prevent infection between you and casualty:

- Wash your hands or use alcohol gel
- Wear disposable gloves
- Don't touch an open wound without gloves on
- Don't breathe, cough or sneeze over a wound or a casualty-use a face mask

4. Comfort and reassure:

- Stay calm and take charge of the situation
- Introduce yourself to them to help gain their trust
- Explain what's happening and why
- Say what you're going to do, before you do it-.obtain consent from casualty

5. Assess the casualty:

- If there's more than one casualty, help those with life-threatening conditions first.! –ABC approach
- Start with the Primary Survey and deal with any life-threatening conditions
- Then, if you've dealt with these successfully, move on to the Secondary Survey

6. Give first aid treatment:

- Prioritize the most life threatening conditions-
  - Then move on to less serious ones
  - Get help from others if possible

The 5 Bs go along with the ABCs to help you prioritize care. If there are several people injured, the 5Bs can help you to decide who to treat first:

- Breathing
- bleeding

- **burns**
- **bones**
- **bites s**

7. Arrange for the right kind of help:

- **Call helpline or for an ambulance if you think it's serious**
- **Take or send them to hospital if it's a serious condition but is unlikely to get worse**
- **For a less serious condition call for medical advice.**
- **Suggest they see their doctor if they're concerned about a less serious condition**
- **Advise them to go home to rest, but to seek help if they feel worse**
- **Stay with them until you can leave them in the right care.**

MULTIPLE CASUALTIES

Be sure to asses all casualties.

SAFETY FIRST!

- **Those making noise are likely to survive. THEY ARE BREATHING**
- **Look for those who are SILENT**
- **NOT BREATHING**
- **SHOCK**

GOLDEN RULES

- ***Be calm,***
- ***Quick***
- ***Methodical and find out all major injuries*.**

1. **Stoppage of breathing-, start artificial respiration.**
2. **Try to stop bleeding.**

3. **Prevent shock if present and shift to nearby hospital. Do not allow a patient with shock to go home alone**
4. **Keep the patient warm. And avoid shock**
5. **Do not move unnecessarily**
6. **Do only what is necessary.**
7. **Reassure the casualty**
8. **Avoid crowed**
9. **Allow fresh air**
10. **Be careful removing his clothes, do not hurt the casualty**
11. **Quickest means of transport at emergency.**
12. **For serious accidents inform police.**

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BASIC PRINCIPLES AND RULES OF FIRST AID

1. **Obtain a correct detailed history of the incident or accident**
2. **Observe and examine thoroughly and note every symptom.**
3. **Treat the casualty as per the diagnosis until the doctor arrives or patient is shifted to the nearby hospital.**
4. **IF the accident is at home- call neighbor, if the accident is at the public place call police**
5. **Keep phone numbers of doctor, police control room.**

RESPONSIBILITIES: WHAT A FIRST AIDER SHOULD DO IN AN EMERGENCY

- **Assess the situation QUICKLY – *Scene safe, get help and protect yourself, others, and casualty from danger***
- **Make a diagnosis**
- **Provide treatment**
- **Arrange for removal to hospital**
- **Prevent cross infection in so far as possible**
- **Make report for the Emergency Services**

Emergency Services call

1. **Phone number you are calling from, CALL HELPLINE**
2. **Location**
3. **Incident/Accident**
4. **Other Services**

5. Number of casualties
6. Extent of the injury or illness

PRIMARY SURVEY or PATIENT ASSESSMENT: .

Rescue breath purpose: ***to find out if air way is clear and to send oxygen to the lungs***

The Primary Survey is a quick way for you to find out if someone has any injuries or conditions which are life-threatening. If you follow each step methodically, you can identify each life-threatening condition and deal with it in order of priority.

DRS ABC used to remember the steps:

- **Danger**
  - **To yourself**
  - **Others**
  - **casualty**
- **Response**
- **Send for help**
- **Airway**
- **Breathing**
- **Circulation.**

You'll need to go through the Primary Survey every time you help someone, and make sure you don't get distracted by anything else. Only move onto the Secondary Survey, if you've already done the Primary Survey and succeeded in dealing with any life-threatening conditions

- **Danger:**
  - **If someone needs help, before you go up to them check – is it safe?**

- **No: If you can see or hear any danger nearby, for you or them, like broken glass or oncoming traffic, then make the situation safe before you get any closer**
- **Yes: If you can't see or hear any danger then it is safe to go up to them.**
- **Send for help; Incase of accidents; call help line for serious medical emergencies**

Are there any dangers to casualty-remove the danger e.g. switch off any electric cable

- **R=response. Levels of response**
- **A = Airway – is the air way open?,clear,blocked?**
- **B = Breathing – Is the patient breathing? Look, Listen, Feel**
- **C = Circulation – Signs of circulation or severe bleeding?**

Response levels

- **A = Alert ,aware,**
- **V = Voice, verbal response**
- **P = Pain ,response to pain**
- **U = Unresponsive casualty, unconscious**

Unconsciousness or an altered conscious state be caused by

- **Direct injury or illness affecting the brain**
- **Lack of oxygen to the brain**
- **Poisons and toxic products in the blood**

THE AIRWAY

How to clear and or open the airways

- **Tilt head backwards**
- **Turn mouth slightly downwards to allow drainage of foreign material**
- **Clear foreign material with your fingers, if required. Only remove dentures if they are loose or broken**
- **With infant in the recovery position, clear mouth of foreign material with little finger.**

WHAT TO DO IF SOMEONE IS UNRESPONSIVE AND NOT BREATHING NORMALLY.

- **Open their airway**
- **Tilt head**
- **Check for normal breathing for up to 10 seconds**
- **If they're breathing normally: Put them in the recovery position**
- **Then call for emergency helpline**
- **If they're not breathing call for emergency helpline Start CPR.**
- **find an AED**
- **Give two rescue breaths.**
- **Pump Give 30 Chest compressions at a rate of 100– 120 per minute Continue to pump and give *rescue breaths* until help arrives.**

SECONDARY SURVEY VITAL SIGNS:

Breathing – Rhythm, Rate: Adult 12 – 20 per min, Child 15 – 30 per min, Infant 25 – 50 per min

Pulse – Rhythm, Rate: Adult 60 – 80 per min, Child 70 – 150 per min, Infant 100 – 160 per min

Skin – Color, Temperature, Moisture

History of Casualty:

- **S = Signs and Symptoms**
- **A = Allergies**
- **M = Medications, medical bracelet ,medical ID jewellery**
- **P = Pertinent past history**
- **L = Last oral intake**
- **E = Events leading to injury or illness**

HEAD TO TOE EXAM: DOTS

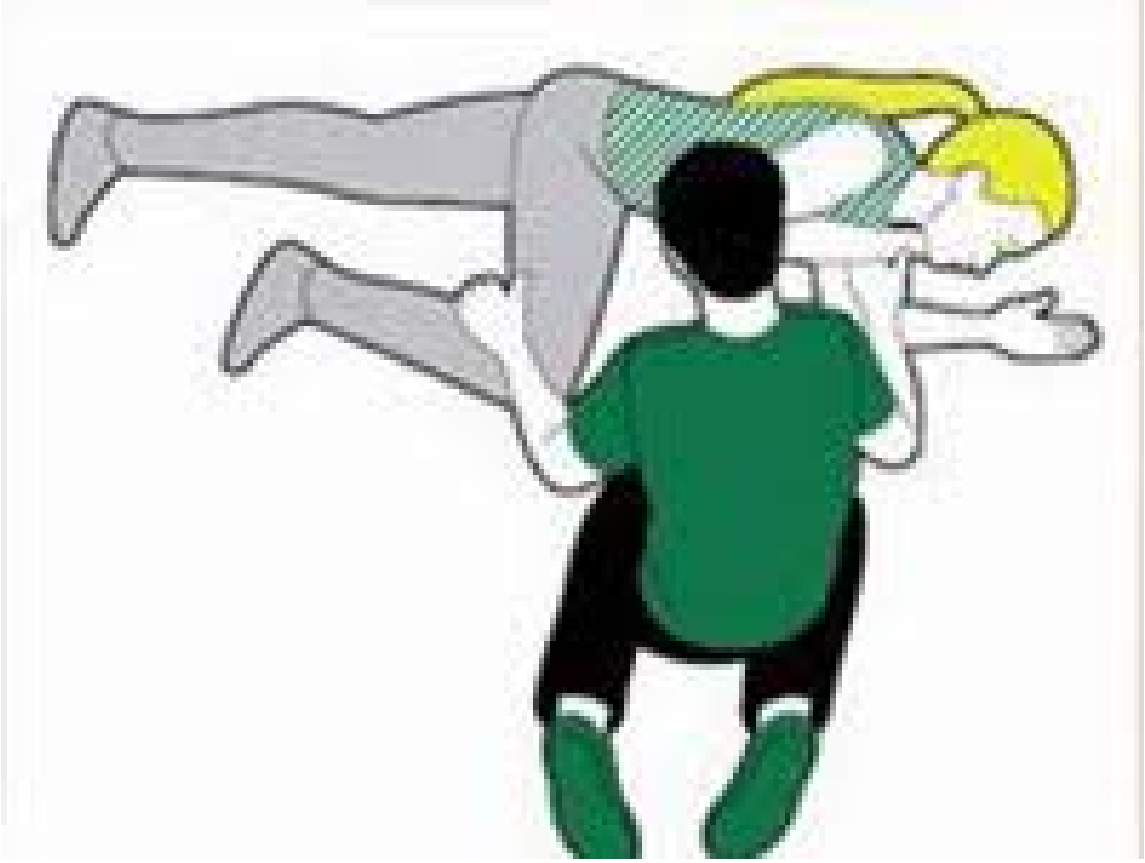
Always start at the head and work to the toes using dots method

- **D.DEFORMITY**
- **O; OPEN WOUNDS**
- **T; TENDERNESS**
- **S; SEWLLING**

1. **Head = DOTS,**
2. **Eyes – Pupils Equal Round, unequal pupils**
3. **Mouth – odd breath odours, teeth,**
4. **Neck = DOTS of spine area,**
5. **Chest = DOTS, equal expansion of chest and use of accessory muscles**
6. **Abdomen = DOTS**
7. **Lower back = DOTS of lumber's spine area**
8. **Pelvis = DOTS, bodily fluids**
9. **Legs & feet = DOTS, pulses,**
10. **Arms & hands = DOTS, pulses,**
11. **Medical ID bracelet, needle marks, insulin pens, inhalers etc**

<u>RECOVERY POSITION</u>:

1. **Kneel beside the casualty, remove spectacles and bulky objects from the pockets**
2. **Position nearest arm right angles to body**
3. **Raise furthest leg and pull it up until foot is flat on the floor**
4. **Bring the back of furthest hand against cheek nearest you**
5. **Pull on far leg, roll him towards you, onto his side and adjust leg – knee is bent at right angles**
6. **Tilt head back to ensure that the airway remains open**



Recovery position

DEALING WITH AN ALERT CASUALTY

Always communicate with the casualty in a calm, clear and reassuring manner that matches the casualty's level of consciousness.

It is safest to approach a casualty from the feet up to the shoulders to get a response.

- **Check response by touching the casualty on the shoulders and asking, "Hello, are you okay can you hear me?"**
- **Avoid shaking, especially children and infants. In every instance where first aid is to be provided, the casualty's consent is required.**
- **It should be obtained from every conscious, adult deemed competent. The consent may be either oral or written.**

Permission to render first aid to an unconscious casualty or a casualty deemed incompetent is implied and a first aider should not hesitate to treat an unconscious casualty.

- **build trust in the casualty**
- **in case of diversity and communication-language barrier…look for one who understands the local language**
- **talk first to the parent-get their permission in case of children**
- **children-use shorter phrases**
- **listen carefully**
- **eye contact**
- **calm confident voice**
- **do not speak fast**
- **be concise and,concrite**
- **keep instructions clear and simple, use short sentences and simple words**
- **check that casualty understands what you mean**
- **use hand gestures if necessary**
- **do not interrupt casualty**

SUMMARY

Causes of unconsciousness are the *life threatening emergencies acronymed as:*

1.'F.I.S.H'

2.'S.H.A.P.P.ED'

- **Fainting**
- **Infantile convulsions**
- **Shock**
- **Head injury**
- **2.**
- **Stroke**
- **Heart attack**
- **A asphyxia**
- **Poison**
- **Epileptic fits**
- **Diabetes**

CHAIN OF SURVIVAL:

- **Early Access = getting help; an ambulance and AED**
- **Early CPR = this supplies blood to heart & brain**
- **Early Defibrillation = a shock may restore the heartbeat**
- **Early Advanced care = specialized life support treatment**

INFECTION PREVENTION

When giving first aid to a sick or injured person you should try to minimize the risks to yourself, the patient, and any helpers or bystanders.

Ten basic rules for first aid

1. **When possible, wash your hands with soap and water and apply disposable latex gloves before touching a wound, blood or other body fluids.**
2. **In the case of serious bleeding, where there is no time to obtain or apply gloves, it is still possible to control the blood loss without having any direct contact with blood. Place your hands in plastic bags, and use the patient's hands to apply pressure.**
3. **If you have any cuts or wounds on your hands, ensure that they are fully covered by a waterproof dressing.**
4. **Cover your mouth/nose during any treatment of a patient with a potentially serious infection (e.g. tuberculosis) to avoid inhaling infected droplets.**
5. **If you are 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.**
6. **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.**
7. **Safely dispose of any used dressings, bandages and disposable gloves by placing into a plastic or paper bag, and sealing well before putting it into a rubbish bin or burning.**

8. **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 correctly and incinerated.**
9. **Used instruments, such as scissors or splinter forceps, should be cleaned thoroughly under running water. Serrated edges should be scrubbed with a fine nailbrush under running water. The articles should then be disinfected, preferably by immersion in a 1:80 bleach solution.**

10. After removing disposable gloves always wash your hands thoroughly with soap and water. Dry your hands well to avoid cracking of the skin.

Rules for wound care

Wash your hands thoroughly and always apply disposable gloves.

A wound containing dirt or other contaminants should be cleaned with either an antiseptic solution or soap and water. Check the expiry date of any solution you wish to use and DO NOT use if past the expiry date.

- **The wound should be dried thoroughly before the dressing is applied.**
- **Avoid direct finger or hand contact with the wound or the central part of the sterile dressing.**
- **Apply a light dressing to the wound and secure it with a bandage or tape.**
- **If the dressing is accidentally dropped or slips off the wound, apply a fresh one at once.**
- **If the wound has any obvious discharge present, use an absorbent dressing on top of the first sterile dressing and bandage it in place firmly.**
- **After securing the wound dressing, remove your gloves and wrap them with any soiled dressings and put them in a plastic or paper**

bag. The bag should be placed in a covered disposal bin or in a Hazardous Waste container.

NB.

If contamination with blood occurs, the hands—including the area under the fingernails—should be washed vigorously with soap and water or a mild solution of bleach (about 1 tablespoon of bleach per quart of water, or about 15 milliliters of bleach per liter of water) as soon as possible. If neither is readily available, an alcohol-based hand sanitizer can be used.

Contact with saliva and urine should also be avoided, although these fluids are much less likely to result in disease transmission than is contact with blood

INCIDENT MANAGEMENT FOR FIRST AIDERS

Incident management refers to the skills required to manage the scene of an emergency. First aiders may be 'first on scene' at an incident so need to know basic principles of incident management.

The main principle of incident management is that you are the most important person and your safety comes first!

Your first actions when coming across the scene of an incident should be:

- **Check for any dangers to yourself or bystanders**
- **Manage any dangers found (if safe to do so)**
- **Ensure continuing safety of yourself and bystanders**

Imagine you came across an incident think about the following questions

- **What would your *first* action be**
- **What dangers could there be in this situation**
- **How would you manage these dangers?**
- **Which other emergency?**
- **Services would be required?**

In some situations it may be too dangerous for you approach the scene. In this situation you should remember that you are the most important person – stay back and call for professional assistance.

Calling for emergency help

In many first aid situations, help from the emergency services may be required.
Ensure you know which number to call!.
Give clear, precise information about

- **The location of the incident**
- **The number of casualties / people involved**
- **The nature of their injuries**
- **In some cases, their age,sex**
- **Any hazards at the incident (e.g: spilt fuel, fire, electricity)**

ACTION PLAN

A.M.E.G.A

- **ASSES**
- **MAKE SAFE**
- **EMERGENCY AID**
- **GET HELP**
- **AFTER CARE**

ASSES

- stopp only fools rush in
- look (use your eyes ears and nose to smell)
- think.(what happened who is involved when did it happen,why did it happen what resources do you have)

MAKE SAFE

- TURN OFF FIRE ENGINES,ELECTRIC,GAS ,WATER ETC
- INCASE SOMEONE IS ON FIRE,STOP,DROP, AND ROLL
- FOR DROWNING, REACH OUT FOR A FLOATER AND THROW TO CASUALTY
- ELECTRIC SHOCK- DISCONNECT AT FUSE BOARD

EMERGENCY AID

- given by someone who is qualified this may
- include CPR of AR or Hemlich manouver

GETTING HELP

- DECIDE WHO TO CALL :AMBULANCE POLICE,FIRE GUARD ,MINE RESCUE , ELECTRIC BO.ARD GAS BOARD, AND WATER
- GET HELP FROM PUBLIC EG,PUBLIC,TO CONROL TRAFFIC

AFTER CARE

- ANY TREAMENT GIVEN
- OBSERVATION ON BREATCHING PULSE ,LEVEL OF
- RESPOSE
- MINOR CASESARRANGE FOR A LIFT HOME

METHANE

The Emergency services widely use the METHANE acronym to build a report for alerting others about a major incident.

METHANE stands for:

- **Major Incident Declared**
- **Exact location**
- **Type of incident**
- **Hazards**
- **Access**
- **Number and type of casualties**
- **Emergency services present and required**

METHANE is now the recognized model for passing incident information between services and their control rooms information is shared in a consistent way, quickly and easily between emergency service providers

PRORITIZING THE INCIDENT

- **5BS FOR PRORITIZING THE INCIDENT**
- **BREATHING**
- **BLEEDING**
- **BURNS**
- **BONES**
- **BITES**

ACCIDENTS

An accident is an event, which happens unexpectedly. The extent of the injury depends on various factors. The accidents, which are most likely to come across, are as follows.

- **Wounds**
- **Sprains and dislocations**
- **Fractures (broken bones)**
- **Burns and scalds.**

Sometimes there may be a history given that the patient has received an injury to the head or some other part of the body but there is no visible injury.

However in these cases the patient may be unconscious, may show signs of shock or may complain of pain. In all such cases you transfer the patient to the Health Center immediately.

As you are a first aider and the aim of your assistance is as follows-

- **Prevent immediate danger of death.**
- **Give artificial respiration, if required**
- **Guard against shock or treat for shock.**
- **Do not remove clothing unnecessarily.**
- **Reassure the patient and relieve pain.**

- **Arrange for removal of the patient to the nearest HOSPITAL**

TRAFFIC ACCIDENTS-CLAPP

C – Control the situation
L – Look for hazards
A – Assess the situation
P – Protect
P- Prioritize

The first aid acronym CLAPP is a way to think about initial accident scene management.

Control the situation -Stop take a breath and take charge of people and traffic

Look for hazards – Look for anything that might cause harm to children or bystanders in the immediate area. Don't forget yourself!

Assess the situation – Gather as much information as possible about what has occurred from bystanders and try to make a diagnosis (history, signs and symptoms)

Protect and prioritise – Ensure protection is worn (gloves) and the casualties are prioritised using a Triage system. Try to gain assistance from a bystander and contact the emergency services. Give emergency services by prioritizing!

PRIMARY SERVEY-D R S A B CD

Before attempting first aid you should always:

- **D.....check that you are safe, any danger to you or casualty**
- **R.....check for a response**
- **A.....open the casualty's airway if necessary**
  B.....check to see if the casualty is breathing
- **C.....If breathing, check to see if the casualty is bleeding.**

Summarized as' "DRSABC D"

- **Danger**
- **Response**
- **Airway**
- **Breathing**
- **C....Circulation Check for severe BLEEDING, Carotid or radius pulse**

ABC OF LIFE - THREATS TO ABC LIFE NEEDS..

- **To live we need oxygen to reach the vital organs and especially the BRAIN**
- **The brain must not be without O2 for longer than 3 minutes**
- **Therefore:**
- **A ~ Airway – *open air way if blocked by foreign matter***
- **B ~ breathing-• *Visual breathing? •Regular? •Strong? •Wheezing?, gasping?***
- **C ~ Circulation..*check for bleeding***

CIRCULATION? check for pulse…carotid pulse, radius pulse

HOW IS IT?

- **Regular?**
- **Strong?**
- **Fast?**
- **Shallow?**
  - **LEAKING?- WHERE IS IT? -TRY TO STOP BLEEDING**

• Lack of circulation (Cyanosis)

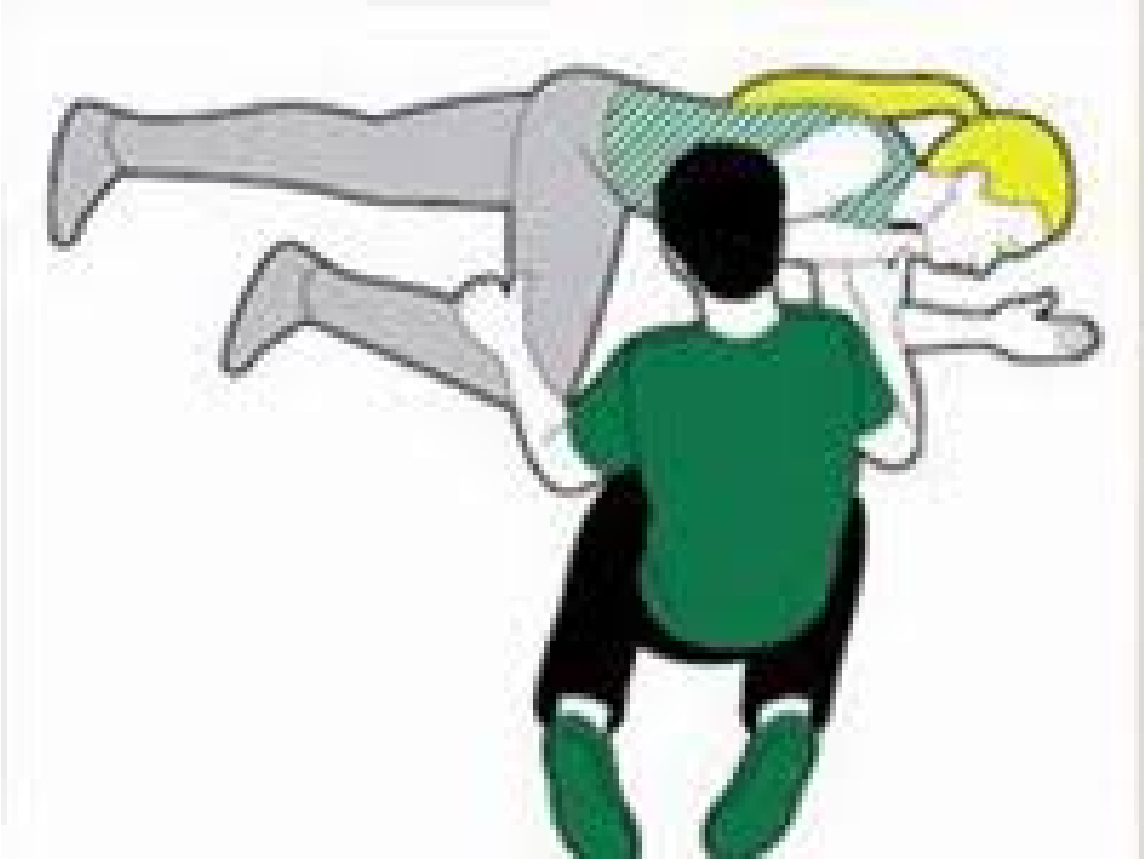
Primary survey

<u>UNCONSCIOUS BUT BREATHING-*put in'Recovery position*</u>.'

- **Empty pockets**
- **Arm to 90 degrees**
- **Hand to cheek**
- **Use the knee to lift and roll**
- **Check airway**
- **Monitor breathing and pulse**
- **Arm to 90°..**
- **Hand to face**
- **Use leverage (knee) and roll**
- **Ensure airway open and monitor**
- **Then call 999/112 for emergency help**

UNRESPONSIVE CASUALTY

- **If they're not breathing for emergency help**
- ✓ **Start CPR. 1. -give 5 initial rescue breaths(rescue breathing)**
- **Find an AED 3.**
- **do chest compressions 30 only**
- **Pump Give 30 Chest compressions at a rate of 100– 120 per minute Continue to pump and give 2 rescue breaths until help arrives**
- **Sequence 30; 2.**



ACCIDENTS

An accident is an event, which happens unexpectedly. The extent of the injury depends on various factors. The accidents, which are most likely to come across, are as follows.

- **Wounds**
- **Sprains and dislocations**
- **Fractures (broken bones)**
- **Burns and scalds.**

Sometimes there may be a history given that the patient has received an injury to the head or some other part of the body but there is no visible injury.

However in these cases the patient may be unconscious, may show signs of shock or may complain of pain. In all such cases you transfer the patient to the Health Center immediately.

As you are a first aider and the aim of your assistance is as follows-

- **Prevent immediate danger of death.**
- **Give artificial respiration, if required**
- **Guard against shock or treat for shock.**
- **Do not remove clothing unnecessarily.**
- **Reassure the patient and relieve pain.**
- **Arrange for removal of the patient to the nearest HOSPITAL**

TRAFFIC ACCIDENTS-CLAPP

C – Control the situation
L – Look for hazards
A – Assess the situation
P – Protect
P- Prioritize

The first aid acronym CLAPP is a way to think about initial accident scene management.

Control the situation -Stop take a breath and take charge of people and traffic
Look for hazards – Look for anything that might cause harm to children or bystanders in the immediate area. Don't forget yourself!
Assess the situation – Gather as much information as possible about what has occurred from bystanders and try to make a diagnosis (history, signs and symptoms)
Protect and prioritise – Ensure protection is worn (gloves) and the casualties are prioritised using a Triage system. Try to gain assistance from a bystander and contact the emergency services. Give emergency services by prioritizing!

UNIT 2; CADIOPULMONARY RESUSTATION

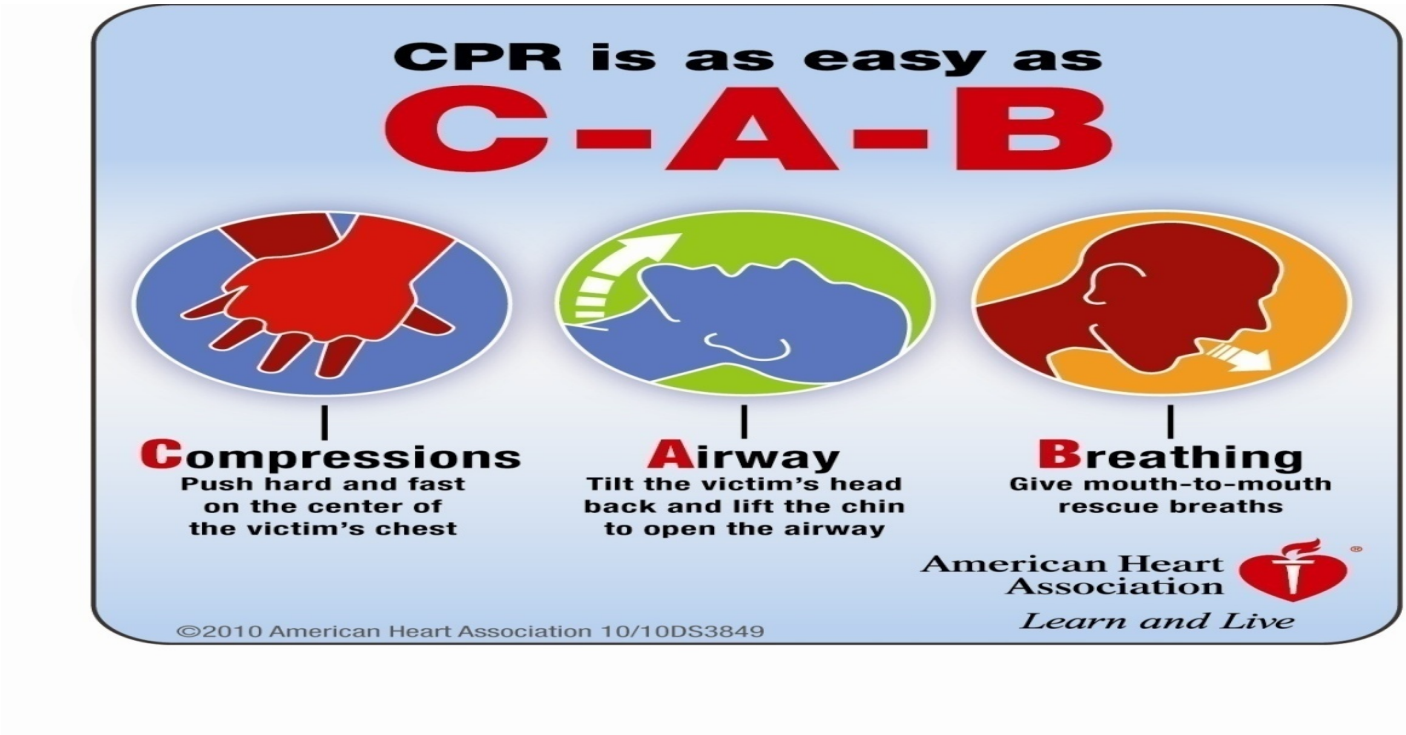
OBJECTIVES

- **Perform CPR to an adult, child and infant**
- **Perform CPR to a drowning victim**

CADIOPULMONARLY RESUSTATION

Another set of goals for keeping a badly hurt person alive is sometimes called "C-A-B" -DRCAB

- **'keep blood inside the body and the heart beating'**



. IF SOMEONE IS UNCONSCIOUS AND BREATHING

• If a person is unconscious but is breathing and has no other life-threatening conditions, they should be placed in the recovery position until help arrives

IF SOMEONE IS UNCONSCIOUS AND NOT BREATHING

• If a person is not breathing normally after an incident, call for an ambulance and start CPR straight away. Mouth to Mouth respiration rate at 16/min

A "cardiac arrest" is when your heart stops beating. This is not the same as a "heart attack", although a heart attack may lead to a cardiac arrest. There are numerous causes of cardiac arrests, including:

- A disturbance in the heart rhythm
- Drugs/poisoning
- Heart disease / a heart attack
- Traumatic injury/blood loss
- **Anaphylaxis**

If a cardiac arrest occurs, blood will stop circulating around the body. Breathing will also cease as well though it may not stop completely for several minutes.

Without a supply of oxygen, brain cells in the start to die in about 3 – 5 minutes leading to brain damage and death.

The purpose of CPR is to keep oxygenated blood flowing around the body to keep the vital organs alive. CPR itself will not restart someone's heart; it just keeps them alive until a defibrillator arrives. ***A defibrillator is a device which delivers an electrical shock to the heart to restart it.***

How help someone who has collapsed

DRS ABC to remember what to do:

- **D**anger: Check for any dangers to yourself. **R**esponse: Check for a response from the casualty.
- **Send for help**
- **A**irway: open their airway
- **B**reathing: Check for normal breathing (regular breaths) for up to 10 seconds **C**ompressions: If the casualty is **not breathing**, you should call an ambulance and start chest compressions.

- **Once you've found someone isn't breathing, and there is no ciculation you should start CPR straight by administering 30 chest compressions**.,.

  - Send for **AED.** **(Automated external defibrillator): An AED is reliable, safe, computerized device that delivers electric shocks to a casualty in cardiac arrest when the ECG rhythm is one that is likely to respond to a shock. Simplicity of operation is a key feature: controls are kept to a minimum, 'voice and visual prompts' guide rescuers.**

After 30 chest compressions, you should give 2 rescue breaths. You should aim for a rate of 100 – 120 chest compressions a minute.

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In order for the heart to be restarted, it may require an **electrical shock** from a defibrillator or drugs given by a paramedic/doctor. However, good quality chest compressions will significantly increases the chance of the defibrillator being able to **restart the heart.**

You should only stop doing CPR if:

- A defibrillator arrives and is about to be used
- The casualty shows signs of life: coughing, breathing etc.
- You are asked to stop by a healthcare professional (ambulance crew etc.)

'Ideally, you should only carry out CPR for a couple of minutes before swapping with someone else. This is to ensure that the chest compressions remain of good quality.

SUMMMARY

INFANT CPR— *rescue breathing'*

- **: use 2 fingers for;30compressions**
- **PUBERTY CHILD**
- ***rescue breathing'***
- **3o compressions; use one palm hand heel**
- **2 rescue breaths**
- **30;2**
    - **remember pocket breathing mask/face shield for protection**
    - **never use AED on infants under one year**

For Cardiac arrest use DRCAB procedure. This is because the heart has stopped and there is no circulation

UNIT3; EMERGENCY SITUATIONS
OBJECTIVES

- ❖ **Conditions that require first aid emergencies priorities**
- ❖ **Manage casualties and apply first aid skill So relieve choking**

- ❖ **Management of various medical emergencies condition**

CONDITIONS THAT REQUIRE FIRST AID EMERGENCIES PRIORITIES

INTRODUCTION

The first priority is to save lives. A person who is unconscious and unresponsive may be close to death, and rescuers must assess the situation and begin treatment as needed, to maintain the ABCs: a person's airway (A), breathing (B), and circulation (C). A problem in any of these areas may be fatal if not corrected quickly.

The airway, which is the passage through which air travels to the lungs, can become blocked (for example, by choking on or inhaling a piece of food). Many disorders, such as emphysema and asthma, can make breathing difficult.

Circulation of blood, which depends on a pumping and beating heart muscle, can stop during cardiac arrest, in which case cardiopulmonary resuscitation (CPR) is necessary.

The next priority is to get medical assistance by calling for emergency medical care, except when people experience:

- **Cardiac arrest**
- **Choking**

When a person's heart stops or a person is choking, treatment should be started *before* calling for help. The caller should not hang up until told to do so. If several lay people (rescuers) are present, one should call for help while another begins assessment and first aid.

Before calling for medical assistance, rescuers should provide:

- Cardiopulmonary resuscitation (CPR)
- Maneuvers to relieve choking (for example, abdominal thrusts, also called the Heimlich maneuver)

If many people are injured, the most seriously injured person should be treated first. Assessment should take less than 1 minute per injured person. In each case, the rescuer should consider whether the situation is:

- Life threatening
- Urgent but not life threatening
- Not urgent

Determining who is in most urgent need of treatment may be difficult, but someone screaming in pain may be less seriously injured than someone who cannot breathe or who is in a coma and, therefore, quiet. Difficulty breathing and massive bleeding are life threatening, but a broken hand or foot can almost always wait for treatment, no matter how painful.

When there are many people with serious injuries and resources are limited, rescuers may need to provide treatment only to those people who rescuers believe have a chance of surviving.

When injured people are unable to convey medical information because they are confused or unconscious or because of the severity of their condition, the information should be obtained in other ways. For example, if an unconscious person is found near an empty bottle of pills, the bottle should be given to the emergency medical personnel. A description of how a person became injured and other information from bystanders, family members, or rescuers can be essential to the person's treatment. After these steps have been taken, reassurance and simple measures, such as supplying a blanket and keeping the person calm and warm, can provide comfort.

LIST OF CONDITIONS THAT OFTEN REQUIRE FIRST AID EMERGENCY

- **Cardiac Arrest, which will lead to death unless CPR preferably combined with an AED is started within minutes. There is often no time to wait for the emergency services to arrive as 92 percent of people suffering a sudden cardiac arrest die before reaching hospital according to the American Heart Association.**

- **Choking, blockage of the airway which can quickly result in death due to lack of oxygen if the patient's trachea is not cleared, for example by the Heimlich Maneuver.**
- **Childbirth.**
- **Altitude sickness, which can begin in susceptible people at altitudes as low as 5,000 feet, can cause potentially fatal swelling of the brain or lungs.**
- **Anaphylaxis, a life-threatening condition in which the airway can become constricted and the patient may go into shock. The reaction can be caused by a systemic allergic reaction to allergens such as insect bites or peanuts. Anaphylaxis is initially treated with injection of epinephrine.**
- **Battlefield first aid—This protocol refers to treating , gunshot wounds, burns, bone fractures, etc. as seen either in the 'traditional' battlefield setting or in an area subject to damage by large-scale weaponry, such as a bomb blast.**

- **Bone fracture, a break in a bone initially treated by stabilizing the fracture with a splint.**

- **Burns, which can result in damage to tissues and loss of body fluids through the burn site.**

- **Diving disorders, drowning or asphyxiation..**

- **Heart attack, or inadequate blood flow to the blood vessels supplying the heart muscle.**

- **Heat stroke, also known as sunstroke or hyperthermia, which tends to occur during heavy exercise in high humidity, or with inadequate water, though it may occur spontaneously in some chronically ill persons. Sunstroke, especially when the victim has been unconscious, often causes major damage to body systems such as brain, kidney, liver, gastric tract. Unconsciousness for more than two hours usually leads to permanent disability. Emergency treatment involves rapid cooling of the patient.**
- **Heavy bleeding, treated by applying pressure (manually and later with a pressure bandage) to the wound site and elevating the limb if possible.**
- **Hyperglycemia (diabetic coma) and Hypoglycemia (insulin shock).**
- **Hypothermia, or Exposure, occurs when a person's core body temperature falls below 33.7 °C (92.6 °F). First aid for a mildly hypothermic patient includes *rewarming,* which can be achieved by wrapping the affected person in a blanket, and providing warm drinks, such as soup, and high energy food, such as chocolate. However, rewarming a severely hypothermic person could result in a fatal arrhythmia, an irregular heart rhythm.**
- **Insect and animal bites and stings.**
- **Joint dislocation.**
- **Poisoning, which can occur by injection, inhalation, absorption, or ingestion.**
- **Seizures, or a malfunction in the electrical activity in the brain. Three types of seizures include a grand mal (which usually features convulsions as well as temporary respiratory abnormalities, change in skin complexion, etc.) and petit mal (which usually features twitching, rapid blinking, and/or fidgeting as well as altered consciousness and temporary respiratory abnormalities).**
- **Muscle strains and Sprains, a temporary dislocation of a joint that immediately reduces automatically but may result in ligament damage.**

- **Stroke, a temporary loss of blood supply to the brain.**
- **Toothache, which can result in severe pain and loss of the tooth but is rarely life-threatening, unless over time the infection spreads into the bone of the jaw and starts osteomyelitis.**
- **Wounds and bleeding,**
  including lacerations, incisions and abrasions, Gastrointestinal bleeding, NDITIONSavulsions and Sucking chest wounds, treated with
- **an occlusive dressing to let air out but not IN**

MANAGEMENT OF SPECIFIC MEDICAL EMERGENCIES

1. CHOKING

A foreign object that is stuck in the throat may block it and cause laryngeal spasm. If blockage of the airway is mild, the casualty should be able to clear it; if it is severe, she will be unable to speak, cough, or breathe, and will eventually lose consciousness. If she loses consciousness, the throat muscles may relax and the airway may open enough to do rescue breathing. Be prepared to begin chest compressions and rescue breaths.

a. CHOCKING ADULT

RECOGNITION

Ask the casualty: "Are you choking?"

Mild obstruction:
■ Difficulty in speaking, coughing and breathing
Severe obstruction:
■ Inability to speak, cough, or breathe
■ Eventual unconsciousness

WHAT TO DO

I. **If the casualty is breathing, encourage her to continue coughing. If she is not coughing and not able to breathe, she is choking. Go to step 2 .give five slanting back slaps.if no succes**
II. **proceed to do the abdomen thrust termed as Heimlich maneuver.**
III. **Stand hind the casualty with one leg back and the other between the casualty's legs, and put both arms around the upper part of her abdomen. Clench your fist with your thumb on top of your index finger and place it between the navel and the bottom of her breastbone. Grasp your fist firmly with your other hand. Thrust sharply inward and upward until the object is dislodged or the casualty becomes unconscious.**
IV. **If the casualty loses consciousness, carefully support her to the floor, immediately call 911 for emergency help or send someone to do so, then begin CPR with chest compressions. Each time the airway is opened during CPR, look for an object in the casualty's mouth and, if seen, remove it.**
V. **If the obstruction still has not cleared, continue CPR until help arrives**

C. CHOKING INFANT UNDER ONE YEAR

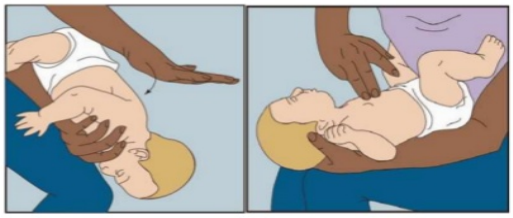
RECOGNITION

Mild obstruction:
■ **Able to cough but difficulty in breathing or making any noise**
Severe obstruction:
■ **Inability to cough, make any noise, or breathe**
■ **Eventual unconsciousness**

What to do

1. **GIVE UP TO FIVE BACK BLOWS**
   If the infant is unable to cough or breathe, lay him face down along your forearm (head low), and support his body and head. Give up to five back blows between the shoulder blades with the heel of your hand.

2. **CHECK INFANT'S MOUTH Turn the infant face up along your other forearm, supporting his back and head. Check the mouth. Pick out any obvious obstructions. If choking persists, proceed to step 3**
3. **Perform up to five chest compressions. The aim is to relieve the obstruction with each chest compression rather than necessarily doing all five.**
4. **Check the infants mouth remove any obvious obstructions with fingertips. Do not sweep the mouth with your finger because this may push the object farther down the throat. Repeat steps 1-4 until the object clears or the infant loses consciousness.**
5. **If the obstruction has not cleared and he becomes unconscious call for emergency help, then start CPR with chest compressions. Continue until helps arrives.**



DROWNING

Drowning is the result of complete immersion of the nose and mouth in water (or any other liquid). Water enters the windpipe and lungs, clogging the lungs completely.

Management

- **The aim of first aid is to drain out water (or other matter) from lungs and to give artificial respiration.**
- **Act quickly. Remove seaweeds and mud from the nose and throat. Start artificial ventilation immediately. This is possible even when the casualty is in water.**
- **Turn the victim face down with head to one side and arms stretched beyond his head. Infants or children could be help upside down for a short period.**
- **Raise the middle part of the body with your hands round the belly. This is to cause water to drain out of the lungs.**
- **Remove wet clothing.**
- **Keep the body warm, cover with blankets.**
- **When victim becomes conscious, give hot drink, coffee or tea**
- **Do not allow him to sit up**
- **After doing the above, remove quickly to hospital as a stretcher case.**

CARDIAC ARREST

A “cardiac arrest” is when your heart stops beating. This is not the same as a “heart attack”, although a heart attack may lead to a cardiac arrest. There are numerous causes of cardiac arrests, including:

- **A disturbance in the heart rhythm**
- **Drugs/poisoning**
- **Heart disease / a heart attack**
- **Traumatic injury/blood loss**

- **Anaphylaxis**

If a cardiac arrest occurs, blood will stop circulating around the body. Breathing will also cease as well though it may not stop completely for several minutes.

***Without a supply of oxygen, brain cells in the start to die in about 3 – 5 minutes leading to brain damage and death*.**

The purpose of CPR is to keep oxygenated blood flowing around the body to keep the vital organs alive. CPR itself will not restart someone's heart; it just keeps them alive until a defibrillator arrives. *A defibrillator is a device which delivers an electrical shock to the HEART*

SEND FOR AED. (Automated external defibrillator):

An AED is reliable, safe, computerized device that delivers electric shocks to a casualty in cardiac arrest when the ECG rhythm is one that is likely to respond to a shock. Simplicity of operation is a key feature: controls are kept to a minimum, 'voice and visual prompts' guide rescuers.

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In order for the heart to be restarted, it may require an **electrical shock** from a defibrillator or drugs given by a paramedic/doctor. However, good quality chest compressions will significantly increases the chance of the defibrillator being able to **restart the heart.**

You should only stop doing CPR if:

- A defibrillator arrives and is about to be used
- The casualty shows signs of life: coughing, breathing etc.
- You are asked to stop by a healthcare professional (ambulance crew etc.)

'Ideally, you should only carry out CPR for a couple of minutes before swapping with someone else. This is to ensure that the chest compressions remain of good quality.

HEART ATTACK

A heart attack is most commonly caused by a sudden obstruction of the blood supply to part of the heart muscle— for example, because of a clot in a coronary artery (coronary thrombosis). It can also be called a myocardial infarction. The main risk is that the heart will stop beating. The effects of a heart attack depend largely on how much of the heart muscle is affected; many causalities recover completely. Aspirin can be used to try to restrict the size of the clot.

AIMS

- **To ease the strain on the casualty's heart by ensuring that he rests**
- **To call for urgent medical help without delay**

RECOGNITION

- **Persistent, vicelike central chest pain, which may spread to the jaw and down one or both arms. Unlike angina (opposite), the pain does not ease when the casualty rests.**
- **Breathlessness**
- **Discomfort occurring high in the abdomen, which may feel similar to severe indigestion**
- **Collapse, often without any warning**
- **Sudden faintness or dizziness**
- **Casualty feels a sense of impending doom**
- **"Ashen" skin and blueness at the lips**
- **A rapid, weak, or irregular pulse**
- **Profuse sweating**
- **Extreme gasping for air ("air hunger")**

CAUTION

- **If the casualty becomes unconscious and is not breathing normally, begin CPR with chest compressions**
- **Ask the casualty, if conscious, about possible aspirin allergy.**

What to do

I. **Call 911 for emergency help. Tell the ambulance control that you suspect a heart attack. If the casualty asks you to do so, call his own doctor too.**

II. **Make the casualty as comfortable as possible to ease the strain on his heart. A half sitting position, with his head and shoulders supported and his knees bent, is often best. Place cushions behind him and under his knees.**

III. **Assist the casualty to take up to one full-dose adult aspirin tablet (300mg) or four baby aspirin (81 mg each). Advise him to chew it slowly.**

IV. **If the casualty has angina medication, such as tablets or a pump-action or aerosol spray, let him administer it; help him if necessary. Encourage him to rest.**

V. **Monitor and record vital signs—level of response, breathing, and pulse —while waiting for help. Stay calm to avoid undue stress.**

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- **If the casualty becomes unconscious and is not breathing normally, begin CPR with chest compressions**
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What to do

VI. **Call 911 for emergency help. Tell the ambulance control that you suspect a heart attack. If the casualty asks you to do so, call his own doctor too.**

VII. **Make the casualty as comfortable as possible to ease the strain on his heart. A half sitting position, with his head and shoulders supported and his knees bent, is often best. Place cushions behind him and under his knees.**

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X. **Monitor and record vital signs—level of response, breathing, and pulse —while waiting for help. Stay calm to avoid undue stress.**

MENINGITIS

This is a condition in which the linings that surround the brain and the spinal cord become inflamed. It can be caused by bacteria or a virus and can affect any age group.
Meningitis may be a very serious illness and the casualty may deteriorate very quickly. If you suspect
Meningitis, you must seek urgent medical assistance because prompt treatment in the hospital is vital. For this reason it is important that you can recognize the symptoms of meningitis, which may include a high
Temperature, headache, and a distinctive rash. With early diagnosis and treatment, full recovery is possible.

RECOGNITION

The symptoms and signs are usually not all present at the same time. They include:
■ Flulike illness with a high temperature
■ Cold hands and feet
■ Joint and limb pain
■ Mottled or very pale skin.
As the infection develops:
■ Severe headache
■ Neck stiffness (the casualty will not be able to touch her chest with her chin)

■ **Vomiting**
■ **Eyes become very sensitive to any light—daylight, electric light, or even the television**
■ **Drowsiness**
■ **In infants, there may also be high-pitched moaning or a whimpering cry, floppiness, and a tense or bulging fontanelle (soft part of the skull)**
Later:
■ **A distinctive rash of red or purple Spots that do not fade when pressed**

WHAT TO DO

1. **Seek urgent medical advice if you notice any of the signs of meningitis; for example, shielding eyes from the light. Do not wait for all the symptoms and signs to appear because they may not all develop. Treat the fever.**

2. **Check the casualty for signs of a rash. On dark skin, check on lighter parts of the body; for example, the inner eyelids or fingertips. If you see any signs, call 911 for emergency help.**

3. **While waiting for help to arrive, reassure the casualty and keep her cool.**
4. **Monitor and record vital signs—level of response, breathing, and pulse**

FAINTING

Fainting is a brief loss of consciousness caused by a temporary reduction of the blood flow to the brain. It may be a reaction to pain, exhaustion, lack of food, or emotional stress. It is also common after long periods of physical inactivity, such as standing or sitting still, especially in a warm atmosphere. This

Inactivity causes blood to pool in the legs, reducing the amount of blood reaching the brain. When a person faints, the pulse rate becomes very slow. However, the rate soon picks up and returns to normal. A casualty who has fainted usually makes a rapid and complete recovery. Do not advise a person who feels faint to sit on a chair with his head between his knees because if he faints he may fall and injure himself. If the casualty is a woman in the late stages of pregnancy, help her lie down so that she is leaning toward her left side to prevent the pregnant uterus from restricting blood flow back to her heart.

RECOGNITION

Brief loss of consciousness that causes the casualty to fall to the ground

- **A slow pulse**
- **Pale, cold skin and sweating**

WHAT TO DO

1. **When a casualty feels faint, advise him to lie down. Kneel down, raise his legs, supporting his ankles on your shoulders to improve blood flow to the brain. Watch his face for signs of recovery.**

2. **Make sure that the casualty has plenty of fresh air; ask someone to open a window if you are indoors. In addition, ask any bystanders to stand clear. He may be more comfortable if his knees are bent.**

3. **As the casualty recovers, reassure him and help him sit up gradually. If he starts to feel faint again, advise him to lie down once again, and raise and support his legs until he recovers fully.**

FEVER

The normal body temperature varies, but it is approximately 98.6ºF (37ºC). Fever is generally defined as a temperature over 100.4ºF (38ºC). It is usually caused by a bacterial or viral infection, and may be associated with earache, sore throat, measles, chickenpox, meningitis (p.220) or local infection, such as an abscess. The infection may have been acquired during overseas travel.
In young children, fever can be a symptom of or a precursor to serious illnesses. See list at right, and if you are in any doubt about a casualty's condition, seek medical advice.

RECOGNITION

Raised body temperature above 100.4ºF (38ºC)
■ Pallor; casualty may feel cold with goose pimples, shivering, and chattering teeth
Later:
■ Hot, flushed skin and sweating
■ Headache
■ Generalized aches and pains

AIMS

To bring down the fever
To obtain medical aid if necessary, for:
■ an infant less than 3 months of age with a rectal temperature of 100.4ºF (38ºC) or higher
■ A child 3 months – 3 years old with a rectal temperature of 100.4ºF (38ºC) or higher for more than three days or who appears ill or fussy
■ A child 3 months – 3 years old with a rectal temperature of 102ºF (38.9ºC) or higher
■ A child of any age with a temperature of 104ºF (40ºC) or higher
■ A child of any age who has a febrile seizure
■ A child of any age who has a chronic medical problem

■ **an infant or child of any age who has a fever as well as a new skin rash**

WHAT TO DO

1. **Keep casualty cool and comfortable—preferably in bed with a light covering.**

2. **Give her plenty of cool drinks to replace body fluids lost through sweating.**

3. **If the child appears distressed or ill, she may have the recommended dose of paracetamol syrup (not aspirin).An adult may take the recommended dose of paracetamolS or ibuprofen, or his own pain relievers.**

4. **Monitor and record a casualty's vital signs—level of response, breathing, pulse, and temperature until she recovers.**

HYPOGLYCEMIA

This condition occurs when the blood sugar levels fall below normal.

It is characterized by a rapidly deteriorating level of response. Hypoglycemia develops if the insulin sugar balance is incorrect; for example, when a person with diabetes misses a meal or takes too much exercise. It is common to a person with newly diagnosed diabetes while he is learning to balance sugar levels. More rarely hypoglycemia may develop following an epileptic seizure or after an episode of binge drinking. People with diabetes normally carry their own blood testing kit to check their blood sugar levels as well as their insulin medication and sugary food for use in emergency. For e.g. a person may have sugar lumps or a tube of glucose gel.

If the hypoglycemia episodes is at advanced stage his level of response maybe affected and you must call for emergency help.

CAUTION

1. **If the person is not fully alert, do not give him anything to eat or drink.**
2. **If the casualty becomes unresponsive, open the airway and check breathing**

RECOGNITION

There may be:

- **A history of diabetes- the casualty himself may recognize the onset of a hypoglycemia episode.**
- **Weakness, faintness or hunger**
- **Confusion and irrational behavior**
- **Sweating with cold, clammy skin**
- **Rapid pulse**
- **Palpitations and muscle tremors**
- **Deteriorating level of response**
- **Medical warning bracelet or necklace and glucose gel or sweets**
- **Medications such as insulin pen or tablets and a glucose testing kit**

AIMS

- **To raise the sugar content of the blood as quickly as possible**
- **To obtain appropriate medical help.**

WHAT TO DO

1. **Help the casualty to sit down. If an emergency sugar supply such as glucose gel, help him to take it. If not give him an equivalent of 15-20g of glucose- for example, a 150ml glass of fruit juice or 3 teaspoons of sugar or 3sweets**
2. **If the casualty responds quickly give him more sugary food or drink and let him rest until he feels better. Help him find his glucose testing kit so that he can check his glucose level. Monitor him until he has completely recovered.**
3. **If casualty condition does not improve, look for other possible causes. Call for emergency help and monitor and record vital signs-breathing, pulse and level of response-while waiting for response to arrive.**

HYPERGLYCEMIA

High blood sugar may develop slowly over a period of hours or days. If its not treated, hyperglycemia will result in the person becoming unresponsive (diabetic coma) andso require urgent treatment in hospital. Those who suffer from hyperglycemia may wear medical warning bracelets, cards or medallions alerting a first aider to the condition.

CAUTION

If the casualty becomes unresponsive, open the airway and check breathing.

RECOGNITION

1. **Warm dry skin**
2. **Rapid pulse and breathing**
3. **Fruity sweet breath and excessive thirst**
4. **Possible warning bracelet**

5. **Drowsiness, leading to unresponsiveness if untreated.**

AIM

- **To arrange urgent removal to hospital**

WHAT TO DO

1. **Call for emergency help; tell ambulance control that you suspect hyperglycemia.**
2. **Monitor and record vital signs- breathing, pulse and level of response while waiting for help to arrive.**

ALLERGY

An allergy is an abnormal reaction of the body's defense system (immune response) to a normally harmless "trigger" substance (or allergen). An allergy can present itself as a mild itching, swelling, wheezing, or digestive condition, or can progress to full-blown anaphylaxis, or anaphylactic shock (opposite), which can occur within seconds or minutes of exposure to an offending allergen. Common allergy triggers include pollen, dust, nuts, shellfish, eggs, wasp and bee stings, latex, and certain medications. Skin changes can be subtle, absent, or variable in some cases.

RECOGNITION

Features of mild allergy vary depending on the trigger and the person. There may be:

I. **Red, itchy rash or raised areas of skin**
II. **Red, itchy eyes**

III. **Wheezing and/or difficulty breathing**

IV. **Swelling of hands, feet, and/or face**

V. **Abdominal pain, vomiting, and diarrhea**

AIMS

- **To assess the severity of the allergic reaction**
- **To seek medical advice if necessary**

WHAT TO DO

- **Assess the casualty's signs and symptoms. Ask if she has any known allergy.**
- **Remove the trigger if possible, or move the casualty from the trigger.**
- **Treat any symptoms. Allow the casualty to take her own medication for a known allergy.**

CAUTION

Call 911 for emergency help if the casualty does not improve, she has difficulty breathing, or is becoming distressed. Monitor and record vital signs while waiting for help.

HEADACHE

A headache may accompany any illness, particularly a feverish ailment such as flu. It may develop for no reason, but can often be traced to fatigue, tension, stress, or undue heat or cold. Mild "poisoning" caused by a stuffy or fume-filled atmosphere, or by excess alcohol or any other drug, can also induce a headache. However, a headache may also be the most prominent symptom of meningitis or a stroke.

AIM

- **To relieve the pain.**
- **To obtain medical advice if necessary**

WHAT TO DO

1. **Help the casualty sit or lie down in a quiet place. Give him a cold compress to hold against his head.**
2. **An adult may take the recommended dose of paracetamol tablets or his own pain relievers. A child may have the recommended dose of paracetamol syrup (not apirin)**

CAUTION

- **Do not give aspirin to anyone under 16 years of age.**

Seek urgent medical advice if the pain:

- **Develops very suddenly**
- **Is severe and incapacitating.**
- **Is accompanied by fever or vomiting.**
- **Is recurrent or persistent.**
- **Is accompanied by loss of strength or sensation, or by impaired consciousness.**
- **Is accompanied by a stiff neck and sensitivity to light.**
- **Follows a head injury.**

MIGRAINE HEADACHE

Migraine attacks are severe, "sickening" headaches and can be triggered by a variety of causes, such as allergy, stress, or fatigue. Other triggers include lack of sleep, missed meals, alcohol, and

some foods—for example, cheese or chocolate. Migraine sufferers usually know how to recognize and deal with attacks and may carry their own medication.

RECOGNITION

- **Before the attack there may be disturbance of vision in the form of flickering lights or an aura**
- **Intense throbbing headache, which is sometimes on just one side of the head**
- **Abdominal pain, nausea, and vomiting**
- **Inability to tolerate bright light or loud noise.**

AIMS

- **To relieve the pain**
- **To obtain medical aid if necessary**

WHAT TO DO

1. **Help the casualty take any medication that he may have for migraine attacks.**
2. **Advise the casualty to lie down or sleep for a few hours in a quiet, dark room. Provide him with some towels and a container in case he vomits**
3. **If this is the first attack, advise the casualty to seek medical advice**

EAR ACHE AND TOOTH ACHE

Earache can result from inflammation of the outer, middle, or inner ear, often caused by an infection associated with a cold, tonsillitis, or flu. It can also be caused by a boil, an object stuck in the ear canal, or transmitted pain from a tooth abscess. There may also be temporary hearing loss. Earache often occurs when flying as a result of the changes in air pressure during ascent and descent. Infection can

cause pus to collect in the middle ear; the eardrum may rupture, allowing the pus to drain, which temporarily eases the pain.

Toothache can develop when pulp inside a tooth becomes inflamed due to dental decay. If untreated, the pulp becomes infected, leading to an abscess, which causes a throbbing pain. Infection may cause swelling around the tooth or jaw.

AIM

- **To relieve the pain**
- **To obtain medical or dental advice if necessary**

WHAT TO DO

1. **An adult may take the recommended dose of paracetamol or ibuprofen tablets or her own pain relievers. A child may have the recommended dose of paracetamol syrup(do not give aspirin).**
2. **Give her a source of heat, such as a hot water bottle wrapped in a towel, to hold against the affected side of her face.**
3. **In addition for toothache you can soak a plug of cotton wool in oil of cloves to hold against the affected tooth.**
4. **Advise a casualty to seek medical advice if you are concerned, particularly if the casualty is a child. If a casualty has toothache, advise her to see her dentist**

CAUTION

- **Do not give aspirin to anyone under 16 years of age or who you know is allergic to it.**
- **If there is a discharge from an ear, fever, or hearing loss, obtain medical help**

ABDOMINAL PAIN

Pain in the abdomen often has a relatively minor cause, such as food poisoning. The pain of a stitch usually occurs during exercise and is sharp. Distension (widening) or obstruction of the intestine causes colic—pain that comes and goes in waves— which often makes the casualty double up in agony and may be accompanied by vomiting. Occasionally abdominal pain is a sign of a serious disorder affecting the organs and other structures in the abdomen. If the appendix bursts, or the intestine is damaged, the contents of the intestine can leak into the abdominal cavity, causing inflammation of the cavity lining. This life-threatening condition, called peritonitis, causes intense pain, which is made worse by movement or pressure on the abdomen, and will lead to shock . An inflamed appendix (appendicitis) is especially common in children. Symptoms include pain (often starting in the center of the abdomen and moving to the lower right-hand side), loss of appetite, nausea, vomiting, bad breath, and fever. If the appendix bursts, peritonitis will develop. The treatment is urgent surgical removal of the appendix.

AIMS

- **To relieve pain and discomfort**
- **To obtain medical help if necessary**

WHAT TO DO

1. **Reassure the casualty and make her comfortable. Prop her up if she finds breathing difficult. Give her a container to use if she is vomiting**
2. **Give the casualty a hot-water bottle wrapped in a towel to hold against her abdomen. If in doubt about her condition, seek medical advice.**

Caution

If the pain is severe, or occurs with fever and vomiting, call 911 for emergency help. Treat the casualty for shock . Do not give her

medicine or allow her to eat or drink, because an anesthetic may be needed.

SPECIAL CASE:STITCH

This common condition is a form of cramp, usually associated with exercise, which occurs in the trunk or the sides of the chest. The most likely cause is a buildup in the muscles of chemical waste products, such as lactic acid, during physical exertion. Help the casualty sit down and reassure him. The pain will usually ease quickly. If the pain does not disappear within a few minutes, or if you are concerned about the casualty's condition, seek medical advice.

VOMITING AND DIARRHEA

These problems are usually due to irritation of the digestive system. Diarrhea and vomiting can be caused by a number of different organisms, including viruses, bacteria, and parasites. They usually result from consuming contaminated food or water, but infection can be passed from person to person. Good hygiene helps prevent infectious diarrhea.

Vomiting and diarrhea may occur either separately or together. Both conditions can cause the body to lose vital fluids and salts, resulting in dehydration. When they occur together, the risk of dehydration is increased and can be serious, especially in infants, young children, and elderly people.

The aim of treatment is to prevent dehydration by giving frequent sips of water or unsweetened fruit juice, even if the casualty is vomiting. rehydration products, whether added to water provide the correct balance of water and salt to replace those lost through the vomiting and diarrhea and can be purchased at a pharmacy.

AIMS

- **To reassure the casualty**
- **To restore lost fluids and salts**

RECOGNITION

There may be:

- **Nausea**
- **Vomiting and later diarrhea**
- **Stomach pains**
- **Fever**

WHAT TO DO

1. **Reassure the casualty if she is vomiting and give her a warm damp cloth to wipe her face.**
2. **Help her sit down and when the vomiting stops give her water or unsweetened fruit juice to sip slowly and often.**
3. **When the casualty is hungry again, advise her to eat easily digested foods such as pasta, bread, or potatoes for the first 24 hours.**
4. **If the vomiting and/or diarrhea are severe, or the casualty develops chest pain, difficulty breathing, or severe abdominal pain, take or arrange to send her to the hospital. If the casualty becomes lightheaded or dizzy, treat for fainting .**

BITES AND STINGS

ANIMAL AND HUMAN BITES

Bites from sharp, pointed teeth cause deep puncture wounds that can damage tissues and introduce germs. Bites also crush the tissue. Any

bite that breaks the skin needs prompt first aid because there is a high risk of infection. A serious risk is rabies, a potentially fatal viral infection of the nervous system. The virus is carried in the saliva of infected animals. If bitten in an area where there is a risk of rabies, seek medical advice because the casualty must be given antirabies injections. Try to identify the animal but do not attempt to approach or trap it. Tetanus is also a potential risk following any animal bite. Human bites carry only a small risk of transmitting the hepatis or HIV/AIDS viruses. However, medical advice should be sought right away

AIM

a. **To control bleeding**
b. **To minimize the risk of infection**
c. **To obtain medical help if necessary**

WHAT TO DO

a. **Wash the bite wound thoroughly with soap and warm water in order to minimize the risk of infection.**
b. **Raise and support the wound and pat dry with clean gauze swabs. Then cover with a sterile wound dressing.**
c. **Arrange to take or send the casualty to the hospital if the bite breaks the skin; many will require antibiotics**

INSECT STING

Usually, a sting from a bee, wasp, or hornet is painful rather than dangerous. An initial sharp pain is followed by mild swelling, redness, and soreness. However, multiple insect stings can produce a serious reaction. A sting in the mouth or throat is potentially dangerous because swelling can obstruct the airway. With any bite or sting, it is

important to watch for signs of an allergic reaction, which can lead to anaphylactic shock .

AIM

- **To relieve swelling and pain**
- **To arrange removal to the hospital if necessary**

RECOGNITION

a. **Pain at the site of the sting**
b. **Redness and swelling around the site of the sting**

WHAT TO DO

1. **Reassure the casualty. If the sting is visible, brush or scrape it off sideways with the edge of a credit card or your fingernail. Do not use tweezers because you could squeeze the stinger and inject more poison into the casualty.**
2. **Raise the affected part if possible, and apply a cold compress such as an ice pack to minimize swelling. Advise the casualty to keep the compress in place for at least ten minutes. Tell her to seek medical advice if the pain and swelling persist.**
3. **Monitor vital signs—level of response, breathing, and pulse . Watch for signs of an allergic reaction, such as wheezing and/or reddened, swollen, itchy skin**

SNAKE BITE

While a snake bite is usually not serious, it is safer to assume that a snake is venomous if a person has been bitten. A venomous bite is often painless. Depending on the snake, venom may cause local tissue destruction; it may block nerve impulses, causing breathing and the heart to stop; or, cause blood clotting (coagulation) and then internal bleeding.

RECOGNITION

There may be:

- **A pair of puncture marks—the bite may be painless**
- **Severe pain, redness, and swelling at the bite**
- **Nausea and vomiting**
- **Disturbed vision**
- **Increased salivation and sweating**
- **Labored breathing; it may be stopped all together**

AIMS

- **To prevent venom from spreading**
- **To arrange urgent removal to the hospital**

WHAT TO DO

1. **Help the casualty lie down, with head and shoulders raised. Reassure the casualty and advise her not to move the bitten limb to prevent venom from spreading. Call 911 for emergency help.**
2. **If you have been properly trained, consider wrapping a pressure bandage around the entire length of the limb that was bitten. The bandage should be comfortably snug but loose enough to allow a finger to be slipped under it**
3. **Whether or not it is wrapped, the bitten limb should be immobilized with a splint to prevent the casualty from bending it. Keep the limb below the level of the heart.**
4. **Monitor and record vital signs while waiting for emergency help. The casualty must remain still, and should be taken to the hospital as soon as possible.**

FOREIGN BODIES

Swallowed foreign objects

Children may put small items in their mouths when playing. An adult may swallow a bone by mistake or ingest unlikely objects on purpose. Most objects will pass through the digestive system, but some can cause a blockage or perforation.

CAUTION

Do not let the casualty make himself vomit because the object could damage the esophagus.

AIM

- **To obtain medical advice as soon as possible**

WHAT TO DO

a. **Reassure the casualty and find out what he swallowed.**

b. **Seek medical advice**

FOREIGN OBJECT IN THE EYE

Foreign objects such as grit, a loose eyelash, or a contact lens that are floating on the surface of the eye can be easily rinsed out. However, you must not attempt to remove anything that sticks to the eye or penetrates the eyeball because this may damage the eye. Instead, make sure that the casualty receives urgent medical attention.

RECOGNITION

There may be:

- **Blurred vision**
- **Pain or discomfort**
- **Redness and watering of the eye**

- **Eyelids held tight in spasm**

AIM

To prevent injury to the eye

WHAT TO DO

1. **Advise the casualty not to rub her eye. Ask her to sit down facing a light**
2. **Stand besides, or just behind, the casualty. Gently separate her eyelids with your thumbs or finger and thumb. Ask her to look right, left, up, and down. Examine every part of her eye as she does this.**
3. **If you can see a foreign object on the white of the eye, wash it out by pouring clean water from a glass or pitcher, or by using a sterile eyewash if you have one. Put a towel around the casualty's shoulders. Hold her eye open and pour the water from the inner corner so that it drains onto the towel.**
4. **If this is unsuccessful, try lifting the object off with a moist swab or the damp corner of a clean handkerchief or tissue. If you still cannot remove the object, seek medical help**

FOREIGN OBJECT IN THE EAR

If a foreign object becomes lodged in the ear, it may cause temporary loss of hearing by blocking the ear canal. In some cases, a foreign object may damage the eardrum. Young children frequently push objects into their ears. The tips of cotton swabs are often left in the ear. Insects can fly or crawl into the ear and may cause distress

AIMS

- **To prevent injury to the ear**
- **To remove a trapped insect**

- **To arrange transportation to the hospital if a foreign object is lodged in the ear**

WHAT TO DO

1. **Arrange to take or send the casualty to the hospital. Do not try to remove a lodged foreign object yourself.**
2. **Reassure the casualty during the journey or until medical help arrives**

SPECIAL CASE INSECT INSIDE THE EAR

Reassure the casualty and ask him to sit down. Support his head, with the affected ear uppermost. Gently flood the ear with tepid water; the insect should float out. If this flooding does not remove the insect, seek medical help

FOREIGN OBJECT IN THE NOSE

Young children may push small objects up their noses. Objects can block the nose and cause infection. If the object is sharp it can damage the tissues, and "button" batteries can cause burns and bleeding. Do not try to remove a foreign object; you may cause injury or push it farther into the airway

RECOGNITION

There may be:

- **Difficult or noisy breathing through the nose**
- **Swelling of the nose**
- **Smelly or blood-stained discharge, indicating that an object may have been lodged for some time**

AIM

To arrange transportation to the hospital

WHAT TO DO

1. **Try to keep the casualty quiet and calm. Tell him to breathe through his mouth at a normal rate. Advise him not to poke inside his nose to try to remove the object himself. Reassure the casualty during the journey or until medical help arrives.**
2. **Arrange to take or send the casualty to the hospital, so that it can be safely removed by medical staff**

CHILD BIRTH

Childbirth is a natural and often lengthy process that normally occurs at about the 40th week of pregnancy. There is usually plenty of time to get a woman to the hospital, or get help to her, before the baby arrives. Most pregnant women are aware of what happens during childbirth, but a woman who goes into labor unexpectedly or early may be very anxious. You will need to reassure her and make her comfortable. Miscarriage, however, is potentially serious because there is a risk of severe bleeding. A woman who is miscarrying needs urgent medical help (p.128). There are three distinct stages to childbirth. In the first stage, the baby gets into position for the birth. The baby is born in the second stage, and in the third stage, the afterbirth (placenta and umbilical cord) is delivered.

AIMS

1. **To obtain medical help or arrange for the woman to be taken to the hospital**
2. **To ensure privacy, reassure the woman and make her comfortable**
3. **To prevent infection in the mother, baby, and yourself**
4. **To care for the baby during and after deliver**

STAGES OF LABOR

First stage

In this stage, a woman's body begins to experience contractions, which, together with the pressure of the baby's head, cause the cervix (neck of the uterus/womb) to open. The contractions become stronger and more frequent until the cervix is fully dilated (open)—about 4 in (10 cm)—and ready for the baby to be born. During this first stage, the mucous plug that protects the uterus from infection is expelled and the amniotic fluid surrounding the baby leaks out from the vagina. This stage can take several hours for a first baby but is normally shorter in any subsequent pregnancies.

Second stage

Once the cervix is fully dilated, the baby's head will press down on the mother's pelvic floor, triggering a strong urge to push. The birth canal (vagina) stretches as the baby travels through it. The baby's head normally emerges first, and the body is delivered soon afterward. This stage of labor normally lasts about an hour

Third stage

About 10–30 minutes after the baby is born, the placenta (the organ that nourishes the unborn baby) and the umbilical cord will be expelled from the uterus. The uterus begins to contract again, pushing the placenta out, then it closes down the area where it was attached; this reduces the bleeding.

EMERGENCY CHILDBIRTH

In the rare event of a baby arriving quickly, you should not try to "deliver" the baby; the birth will happen naturally without intervention. Your role is to comfort and listen to the wishes of the mother and care for her and her baby.

Caution

I. **Do not give the mother anything to eat because there is a risk that she may vomit. If she is thirsty give her sips of water.**

II. **Do not pull on the baby's head or shoulders during delivery.**

III. **If the umbilical cord is wrapped around the baby's neck as he is born, check that it is loose, and then very carefully ease it over the baby's head to prevent strangulation.**

IV. **If a newborn baby does not cry, open the airway and check breathing (Unconscious infant pp. 80–83). Do not slap the baby.**

V. **Do not pull or cut the umbilical cord, even when the placenta has been delivered.**

WHAT TO DO

I. **Call 911 for emergency help. Give the ambulance control details of the stage the mother has reached, the length of each contraction and the intervals between them. Call the mother's midwife too if she request it.**

II. **During the first stage, help her sit or kneel on the floor in a comfortable position. Support her with cushions or let her move around. Stay calm, and encourage her to breathe deeply during her contractions.**

III. **Massage her lower back gently using the heel of your hand. She may find having her face and hands wiped soothing, or you can spray her face with cool water and give her ice cubes to suck**

IV. **When the second stage starts, the mother will want to push. Make sure the surroundings are as clean as possible to reduce the risk of infection. The mother should remove any items of**

clothing that could interfere with the birth. Put clean sheets or towels under the woman; she may also want to be covered. Encourage her to stay as upright as possible.

V. **As the baby is born, handle him carefully— newborns are very slippery. Make sure he is breathing, wrap him in a clean cloth, towel, or blanket, and place him between his mother's legs so he is on the same level as the afterbirth.**

VI. **As the third stage begins, reassure the mother. Support her as she delivers the afterbirth; do not cut the cord. Keep the placenta and the umbilical cord intact because the doctor or ambulance crew need to check that it is complete. If bleeding or pain is severe, treat for shock. Help the mother lie down and raise her legs.**

CONVULSIONS

A seizure—also called a convulsion—consists of involuntary contractions of many of the muscles in the body. The condition is due to a disturbance in the electrical activity of the brain. Seizures usually result in loss or impairment of consciousness. The most common cause is epilepsy. Other causes include head injury, some brain-damaging diseases, shortage of oxygen or glucose in the brain, and the intake of certain poisons, including alcohol or drugs.

Epileptic seizures result from recurrent, major disturbances of brain activity. These seizures can be sudden and dramatic. Just before a seizure, a casualty may have a brief warning period (aura) with, for example, a strange feeling or a particular smell or taste.

No matter what the cause of the seizure, care must always include maintaining an open, clear airway and a monitoring of the casualty's

vital signs—level of response, breathing, and pulse. You will also need to protect the casualty from further harm during a seizure and arrange appropriate aftercare once he has recovered.

SPECIAL CASE; ABSENCE SEIZURES

Some people experience a mild form of epilepsy known as absence seizures, during which they appear distant and unaware of their surroundings. These seizures tend to affect children more than adults, and a more severe seizure with convulsions may follow. A casualty may suddenly "switch off" and stare blankly ahaed. You may notice slight or localized twitching or jerking of the lips, eyelids, head, or limbs and/ or odd "automatic" movements, such as lip-smacking or making noises. If a casualty has an absence seizure:

- **Help him sit down in a quiet place**
- **Remove any potentially dangerous items such as hot drinks and sharp objects**
- **Talk to him in a calm and reassuring way and stay with him until he has fully recovered**
- **Advise him to seek medical advice if he is unaware of his condition or does not fully recover.**

AIMS

- **To protect the casualty from injury during the seizure**
- **To care for the casualty when consciousness is regained and arrange removal to the hospital if necessary**

RECOGNITION

In epilepsy, the following sequence is common:

I. **Sudden loss of consciousness**
II. **Casualty becomes rigid and arches his back**
III. **Breathing may be noisy and become difficult—the lips may show a grayblue tinge (cyanosis)**

IV. **Convulsive movements begin**
V. **Saliva may appear at the mouth and may be bloodstained if the lips or tongue have been bitten**
VI. **Possible loss of bladder or bowel control**
VII. **Muscles relax and breathing becomes normal; the casualty recovers consciousness, usually within a few minutes. He may feel dazed, or act strangely. He may be unaware of his actions**
VIII. **After a seizure, the casualty may feel tired and fall into a deep sleep**

CAUTION

- **Do not move the casualty unless he is in immediate danger or is vomiting.**
- **Do not put anything in his mouth or attempt to restrain him during a seizure.**

Call 911 for emergency help if:

- **The casualty is having repeated seizures or having his first seizure.**
- **The casualty is not aware of any reason for the seizure.**
- **The seizure continues for more than five minutes.**
- **The casualty is unconscious for more than ten minutes.**
- **The casualty has sustained an injury to another part of the body.**

What to do

1. **Make space around the casualty, and ask bystanders to move away. Remove potentially dangerous items, such as hot drinks and sharp objects. Note the time that the seizure started.**
2. **Protect the casualty's head from objects nearby; place soft padding such as rolled towels underneath or around his neck if possible. Loosen tight clothing around his neck if necessary**
3. **when the convulsive movements have ceased, open the casualty's airway and check breathing. If he is breathing, place him in the recovery position. Monitor and record his vital signs**

—level of response, breathing, and pulse until he recovers. Make a note of how long the seizure lasted.

4. **Monitor and record his vital signs—level of response, breathing, and pulse until he recovers. Make a note of how long the seizure lasted.**

SEIZURES IN CHILDREN

In young children, seizures—sometimes called convulsions—are most often the result of a raised body temperature associated with a throat or ear infection or other infections. This type of seizure, also known as a febrile seizure, occurs because the electrical systems in the brain are not mature enough to deal with the body's high temperature.

Although seizures can be alarming, they are rarely dangerous if properly dealt with. However, you should always seek medical advice for the child to rule out any serious underlying condition.

RECOGNITION

- **Loss of impaired response**
- **Vigorous shaking, with clenched fists and an arched back.**

There may also be:

- **Obvious signs of fever: hot, flushed skin and perhaps sweating**
- **Twitching of the face and squinting, fixed or upturned eyes**
- **Breath-holding, with red, "puffy" face and neck and drooling**
- **Possible vomiting**
- **Loss of bowel or bladder control**
- **Loss of or impaired consciousness**

AIMS

- **To protect the child from injury during the seizure**

- ❖ **To cool the child**
- ❖ **To reassure the parents**
- ❖ **To arrange removal to the hospital**

Caution

Do not over- or under-dress a child with fever; do not sponge a child to cool her because there is a risk of overcooling.

What to do

1. **Place pillows or soft padding around the child so that even violent movement will not result in injury. Do not restrain the child in any way.**
2. **If the child's seizure was caused by a fever, cool him by removing any bedding and clothes, for example T-shirt or pajama top; you may have to wait until the seizure stops. Ensure a good supply of fresh air (but do not overcool the child).**
3. **Once the seizures have stopped, maintain an open airway by placing the casualty in the recovery position. Call 911 for emergency help**
4. **Reassure the child as well as the parents or caregiver. Monitor and record vital signs—level of response, breathing, and pulse until emergency help arrives**

POISONING

A poison (toxin) is a substance that, if taken into or absorbed into the body in sufficient quantity, can cause either temporary or permanent damage. Poisons can be swallowed, absorbed through the skin, inhaled, splashed into the eyes, or injected. Once in the body, they may enter the bloodstream and be carried swiftly to all organs and tissues. Signs and symptoms of poisoning vary with the poison. They may develop quickly or over a number of days. Vomiting is common, especially when the poison has been ingested. Inhaled poisons often cause breathing difficulties.

Types of poison

Some poisons are man-made—for example, chemicals and drugs—and these are found in the home as well as in industry.

Other poisons occur in nature: for example, plants produce poisons that may irritate the skin or cause more serious symptoms if ingested, and various insects and creatures produce venom in their bites and stings. Contamination of food by bacteria may result in food poisoning—one of the most common forms of poisoning

ROUTE OF ENTRY INTO THE BODY	Poison	Possible effects	Action
Swallowed	Drugs and alcohol Cleaning products Home improvement and gardening products Plant poisons Bacterial food poisons Viral food poisons	Nausea and vomiting Abdominal pain Seizures Irregular, or fast or slow, heartbeat Impaired level of consciousness	Monitor casualty Call emergency help Start CPR if necessary Use a face mask to protect yourself if you need to give rescue breaths
Absorbed through the skin	■ Cleaning products ■ Home improvement and gardening products ■ Industrial poisons ■ Plant poisons	■ Pain ■ Swelling ■ Rash ■ Redness ■ Itching	■ Remove contaminated clothing ■ Wash with cold water for 20 minutes ■ Seek medical help ■ Start CPR if necessary
Inhaled	■ Fumes of	■ Difficulty	■ Help casualty

	cleaning and construction products ■ Industrial poisons ■ Fumes from fires	breathing ■ Hypoxia ■ Gray-blue skin (cyanosis) ■ Cherry red lips	into fresh air ■ Call emergency help ■ Start CPR if necessary
Splash in the eye	■ Cleaning products ■ Home improvement and gardening products ■ Industrial poisons ■ Plant poisons	■ Pain and watering of the eye ■ Blurred vision	■ Irrigate the eye for ten minutes (p.180) ■ Call emergency help ■ Start CPR if necessary
Injected through the skin	■ Venom from stings and bites ■ Drugs	■ Pain, redness, and swelling at injection site ■ Blurred vision ■ Nausea and vomiting ■ Difficulty breathing ■ Seizures ■ Impaired consciousness ■ Anaphylactic shock	For sting/venom: ■ Remove sting, if possible ■ Call emergency help ■ Start CPR if necessary For injected drugs: ■ Call emergency help ■ Start CPR if necessary

SWALLOWED POISON

Chemicals that are swallowed may harm the digestive tract, or cause more widespread damage if they enter the bloodstream and are transported to other parts of the body. Hazardous chemicals include household substances such as bleach and paint stripper, which are poisonous or corrosive if swallowed.

Drugs, both prescribed or those bought over the counter, can also be harmful if an overdose is taken. Some plants and their berries can also be poisonous.

CAUTION

■ Never attempt to induce vomiting.

■ If a casualty is contaminated with chemicals, wear protective gloves, and goggles or a mask.

■ If the casualty is unconscious and is not breathing (or just gasping), begin CPR with chest compressions .

■ If there are any chemicals on the casualty's mouth, use a face shield or pocket mask (adult rescue breaths.

RECOGNITION

■ History of ingestion/exposure

Depending on what has been swallowed, there may be:

■ Vomiting, sometimes bloodstained, later diarrhea

■ Cramping abdominal pains

■ Pain or a burning sensation

■ Empty containers in the vicinity

■ Impaired consciousness

■ Seizures

AIMS

- **To maintain an open airway, breathing, and circulation**
- **To remove any contaminated clothing**
- **To identify the poison**
- **To arrange urgent removal to the hospital**

WHAT TO DO

1. **If the casualty is conscious, ask her what she has swallowed, and if possible how much and when. Look for clues—for example, poisonous plants, berries or empty containers. Try to reassure her.**

2. **call 911 for emergency help. Give the ambulance control as much information as possible about the poison. This information**

will help the medical team treat the casualty.

3. **Monitor and record the casualty's vital signs while waiting for help to arrive. Keep samples of any vomited material.**

Give these samples, containers, and any others clues to the emergency services.

SPECIAL CASE IF LIPS ARE BURNED

If the casualty's lips are burned by corrosive substances, give him frequent sips of cold milk or water while waiting for help to arrive.

DRUG POISONING

Poisoning can result from an overdose of prescribed drugs, or drugs that are bought over the counter. It can also be caused by drug abuse or drug interaction. The effects vary depending on the type of drug and how it is taken (below). When you call the emergency services, give as much information as possible. While waiting for help to arrive, look for containers that might help you identify the drug.

CAUTION

Do not induce vomiting.

If the casualty loses consciousness and is not breathing (or is just gasping), begin CPR with chest compressions .

AIMS

■ **To maintain breathing and circulation**

■ **To arrange removal to the hospital**

WHAT TO DO

1. **If the casualty is responding help him into a comfortable position and ask him what he has taken.**

Reassure him while you talk to him.

2. **Call 911 for emergency help. Tell the Ambulance control you suspect drugpoisoning. Monitor**

and record vital signs—level of response, breathing and pulse while waiting.

3. **Keep samples of any vomited material. Look for evidence that might help identify the drug, such as empty containers. Give**

these samples and containers to the ambulance personnel.

Category	Drug	Effects of poisoning
Painkillers	Aspirin (swallowed)	■ Upper abdominal pain, nausea and vomiting ■ Ringing in the ears ■ "Sighing" when breathing ■ Confusion and delirium ■ Dizziness
	Paracetamol (swallowed)	■ Little effect at first, but abdominal pain, nausea, and vomiting may develop ■ Irreversible liver damage may occur within three days (alcohol and malnourishment increase the risk)
Nervous system depressants	Barbiturates and benzodiazepines	■ Lethargy and sleepiness, leading to unconsciousness ■

and traquilisers	(swallowed)	Shallow breathing ■ Weak, irregular or abnormally slow or fast pulse
Stimulants and hallucinogens	Amphetamines (including ecstasy) and LSD (Swallowed) Cocaine (inhaled or injected) Legal highs	■ Excitable, hyperactive behavior, agitation ■ Sweating ■ Tremor of the hands ■ Hallucinations, in which the casualty may claim to "hear voices" or "see things" ■ Dilated pupils
Narcotics	Morphine, heroine (commonly injected)	■ Small pupils ■ Sluggishness and confusion, possibly leading to unconsciousness ■ Slow, shallow breathing, which may stop altogether ■ Needle marks, which may be infected
Solvents	Glue, lighter fuel (inhaled)	■ Nausea and vomiting ■ Headaches ■ Hallucinations ■ Possibly, unconsciousness ■ Rarely, cardiac arrest
Anaesthetic	Ketamine	■ Drowsiness ■ Shallow breathing ■ Hallucinations

ALCOHOL POISONING

Alcohol is a drug that depresses the activity of the central nervous system—in particular, the brain. Prolonged or excessive intake of alcohol can severely impair all physical and mental functions, and the person may sink into deep unconsciousness.

There are other risks to a casualty from alcohol poisoning. For example: an unconscious casualty may inhale and choke on vomit; alcohol widens (dilates) the blood vessels so the body loses heat, and hypothermia may develop. A casualty who smells of alcohol may be misdiagnosed and not receive appropriate treatment for an underlying

cause of unconsciousness, such as a head injury, stroke, heart attack, or hypoglycemia

RECOGNITION

There may be:

- **A strong smell of alcohol**
- **Empty bottles or cans**
- **Impaired consciousness: the casualty may respond if roused, but will quickly relapse**
- **Flushed and moist face**
- **Deep, noisy breathing**
- **Full, bounding pulse**

In the later stages :

- **Shallow breathing**
- **Weak, rapid pulse**
- **Dilated pupils that react poorly**
- **No response**

AIM

- ❖ **To maintain an open airway**
- ❖ **To assess for other conditions**
- ❖ **To seek medical help if necessary**

WHAT TO DO

1. **Cover the casualty with a coat or blanket to protect him from the cold and reassure him.**

2. **Assess the casualty for any injuries, especially head injuries, or other medical conditions.**

3. **Monitor and record vital signs—level of response, pulse, and breathing until the casualty recovers or is placed in the care of a responsible person. If you are in any doubt about the casualty's condition, call for emergency help**

CAUTION

- **Do not induce vomiting.**
- **If the casualty loses consciousness, open the airway. If breathing stops, begin CPR with chest compressions.**

BURNS

Types of burns

- ***Dry burn***
- ***Scald***
- ***Electrical burn***
- ***Cold injury***
- ***Chemical burn***
- ***Radiation burn***

Classification of burns

1.According to surface area

Uses a simple formula, the rule of nines

2.According to depth of burns

Adult

Anterior head	**9%**
Posterior head	**9%**
Anterior torso	**18%**
Posterior torso	**18%**
Anterior leg each	**9%**
Posterior leg each	**9%**
Anterior arm each	**4.5%**
Posterior arm each	**4.5%**
Genitalia/perineum	**1%**

According to depth of burns

1.Superficial burn

Involves only the outermost layer of the skin'Characterized by redness, swelling and tenderness

Heals well if first aid is given promptly.

2.Partial-thickness burn

any one percent burn affecting layers of the epidermis giving rise to rawness and blisters.

Can heal well but if but if they affect very large areas(over 60%),can be fatal

3.Full-thickness burns

All the three layers of the skin are burnt. Damage to nerves, fat tissue and muscles present

The skin looks waxy, pale or charred . Urgent medical aid is essential

Management of minor burns and scalds

Aims

- **To stop the burning**
- **To relieve pain and swelling**
- **To minimize the risk of infection**

What to do

- **Flood the injured part with cold water for at least ten minutes to stop the burning and relieve pain. If water is not available any cold harmless liquid such as milk or canned drinks will do**

- ❖ **Remove any jewellery,watches,belts or constricting clothing from the injured area before it begins to swell**
- ❖ **Cover the area with a sterile dressing, or any clean, non-fluffy material and bandage loosely in place. A plastic bag or some kitchen film make good temporary covering**
- ❖ **Do not break blisters**
- ❖ **Do not apply adhesive dressings or adhesive tape to the skin: the burn may be more extensive**
- ❖ **Do not apply lotions, ointments or fats to the injury. They further damage the tissue and increase the risk of infection**

Severe burns and scalds

Aims of treatment

- ➢ **To stop the burning and relieve pain**
- ➢ **To maintain an open airway**
- ➢ **To treat associated injuries**
- ➢ **To minimize the risk of infection**
- ➢ **To arrange removal to hospital**
- ➢ **To gather relevant information for the emergency services**

Management

1. **Lay the casualty down. Protect the burned area from contact with the ground**
2. **Douse the burn with plenty of cold liquid. Thorough cooling may take at least ten minutes.**

3. **While cooling the burn, watch for signs of DIB and be ready to resuscitate if necessary**
4. **Remove any rings, watches, belts, shoes or shouldering clothing from the injured area before it begins to swell**

5. **Cover the injury with a sterile dressing to protect it from infection. If the burn is on the face, don't cover it. Keep cooling a facial injury with water to relieve pain until help arrives**
6. **Gather and record details of the casualty's injury, circumstances and potential hazards such as gas**
7. **While waiting for help, reassure the casualty and treat for shock**

Burns to the Airway

Signs and symptoms

- **Soot around the nose and mouth**
- **Singeing of the nasal hairs**
- **Redness, swelling or actual burning of the tongue**
- ***Damaged skin around the mouth***
- ***Hoarseness of the voice***
- ***Breathing difficulties***

Aims and treatment

- **To obtain specialist medical aid as quickly as possible**
- **To maintain an open airway**
- **Call for help**
- **Loosen tight clothing around his neck, give oxygen if available**
- **Reassure the casualty for him/her to stay calm**

Electrical burns

Causes

- **Lightning strike**
- **Low or *high* voltage current**

Aims of treatment

- **To treat the burn and the shock**

- **To arrange removal of the casualty to hospital**

Treatment

- **Make sure that contact with the electrical source is broken**
- **If unconscious, resuscitate if necessary**
- **Flood the sites of injury with plenty of cold water to cool the burns and cut away any burnt clothing if necessary**
- **Place a sterile dressing, a clean folded triangular bandage or some clean non-fluffy material over the burns**
- **Call for help**
- **Reassure the casualty and treat for shock**

Chemical burns

If possible note the name or brand name of the substance

Sign and symptoms

- **Evidence of chemicals in the vicinity**
- **Intense stinging pain**
- **Later, discoloration, blistering, peeling and swelling of the affected area**

Aims

1. **To disperse the harmful chemical**
2. **To arrange transport to hospital**
3. **To make the area safe and inform relevant Authority**

What to do

- **Make the area safe. Ventilate the area, seal the chemical container. Remove the casualty from the area if necessary**
- **Flood the affected area with water to disperse the chemical and to stop the burning. Do this for at least 20 minutes**
- **Gently remove contaminated clothing while flooding the injury**

- **Take or send casualty to hospital. Note and pass any information about the chemical to the medical personell.If at work place notify the local safety officer or emergency services**

Chemical burns to the eye

Chemicals result in scarring and even blindness

Signs and symptoms

- **intense pain in the eye**
- **Inability to open the injured eye**
- **Redness and swelling round the eye**
- **Copious watering of the eye**
- **Evidence of chemical substances or containers in the immediate *area***

What to do

- **Put on protective gloves. Hold the casualty's affected eye under gently running cold water for at least ten minutes. Irrigate the eyelid thoroughly both inside and out; if the casualty's eye is shut in a spasm of pain, gently, but firmly, try to pull the eyelid open**

- **Make sure that contaminated water does not splash the uninjured eye. You may find it easier to pour the water over the eye using an eye irrigator or a glass**

- **Ask the casualty to hold a sterile eye pad over the injured eye. If some time elapse elapses before the casualty receives medical attention, bandage the pad loosely in position**
- **Arrange casualty's removal to hospital**

Sunburn

Aims

- **To move the casualty out of the sun**
- **To relieve discomfort and pain**

What to do

1. **Cover the casualty's skin with light clothing or towel. Help her into the shade or preferably indoors**

2. **Cool her skin by sponging with cold water or by soaking the affected area in a cold water bath for ten minutes. If there is extensive blistering or other skin damage, seek medical advice**

3. **Give her frequent sips of cold water. If the burns are mild, calamine or an after-sun preparation may sooth them**

HYPOTHERMIA

This condition develops when the body temperature falls below 95°F (35°C). T. Hypothermia can be caused by prolonged exposure to cold. Hypothermia may also develop indoors in poorly heated houses. Elderly people, infants, homeless people, and those who are thin and frail are particularly vulnerable. Lack of activity, chronic illness and fatigue all increase the risk; alcohol and drugs can exacerbate the condition

RECOGNITION

As hypothermia develops, there may be:

- **Shivering, and cold, pale, dry skin**
- **Apathy, disorientation, or irrational behavior**
- **Lethargy or impaired consciousness**
- **Slow and shallow breathing**
- **Slow and weakening pulse. In extreme cases, the heart may stop**

AIMS

- **To prevent the casualty from losing more body heat**
- **To rewarm the casualty quickly**
- **To obtain emergency help if necessary**

What to do

1. **Take the casualty to a sheltered place as quickly as possible. Shield the casualty from the wind.**
2. **Remove and replace any wet clothing if possible; do not give him your clothes. Make sure his head is covered.**
3. **Protect the casualty from the ground. Lay him on a thick layer of dry insulating material, such as pine branches. Put him in a dry sleeping bag and/or cover him with blankets or newspapers. Wrap him in a plastic or foil survival bag, if available. You can shelter and warm him with your body.**

4. **Call 911 or send for emergency help. Ideally, two people should go for help and stay together if you are in a remote area. It is important that you do not leave the casualty by himself; someone must remain with him at all times.**
5. **To help rewarm a casualty who is conscious, give him warm drinks and high-energy foods such as chocolate, if available.**
6. **Monitor and record the casualty's vital signs—level of response, breathing, pulse, and temperature —while waiting for help to arrive**

FROSTBITE

With this condition, the tissues of the extremities—usually the fingers and toes—freeze due to low temperatures. In severe cases, this freezing can lead to permanent loss of sensation and, eventually,

tissue death and gangrene as the blood vessels and soft tissues become permanently damaged. Frostbite usually occurs in freezing or cold and windy conditions. People who cannot move around to increase their circulation are particularly susceptible. In many cases, frostbite is accompanied by hypothermia , and this should be treated accordingly.

RECOGNITION

There may be:

1. **At first, "pins-and-needles"**
2. **Paleness (pallor) followed by numbness**
3. **Hardening and stiffening of the skin**
4. **A color change of the skin of the affected area: first white, then mottled and blue. On recovery, the skin may be red, hot, painful, and blistered. Where gangrene occurs, the tissue may become black due to loss of blood supply**

AIMS

- **To warm the affected area slowly to prevent further tissue damage**
- **To arrange transportation to the hospital**

What to do

1. **Advise the casualty to put his hands, if affected, in his armpits. Move the casualty into warmth before you thaw the affected part further.**
2. **Once inside, gently remove gloves, rings, and any other constrictions, such as boots. Warm the affected part with your hands, in your lap, or continue to warm them in the casualty's armpits. Avoid rubbing the affected area because this can damage skin and other tissues.**
3. **Place the affected parts in tepid water, or lower than 104°F riesbandage**

4. **Raise the affected limb to reduce swelling. An adult may take the recommended dose of acetaminophen, or her own pain medicine, and a child, the recommended dose of acetaminophen syrup (not aspirin). Take or send the casualty to the hospital**

MANAGEMENT OF BODY INJURIES

FRACTURES

A break or crack in a bone is called a fracture. Considerable force is needed to break a bone, unless it is diseased or old. However, bones that are still growing are supple and may split, bend, or crack like a twig. A bone may break at the point where a heavy blow is received. Fractures may also result from a twist or a wrench (indirect force).

RECOGNITION

There may be:

- **Deformity, swelling, and bruising at the fracture site**
- **Pain and/or difficulty in moving the area**
- **Shortening, bending, or twisting of a limb**
- **Coarse grating (crepitus) of the bone ends that can be heard or felt (by casualty). Do not try to seek this. Signs of shock, especially if the thighbone or pelvis are fractured**
- **Difficulty in moving a limb normally or at all (for example, inability to walk)**
- **A wound, possibly with bone ends protruding (Treating an open fracture,**

AIMS

- **To prevent movement at the injury site**
- **To arrange transportation to the hospital, with comfortable support during transit**

MANAGEMENT

Remember

- **Keep RICE in mind, as a first aid treatment for all fractures, sprains and dislocations. RICE stands for Rest, Ice, Compression and Elevation.**
- **Rest**
  Give plenty of rest to the immobilsed limb. Move it as little as possible so that there is no strain.
- **Ice**
  Apply ice to the injured area. No heat treatment or massage should be given. Use an ice pack or wrap up some ice cubes in a damp towel and apply it to the injured area. You could also use anything frozen such as a packet of frozen peas.

Do not massage the injured area, and don't apply any ointments like Iodex.

- **Compression**
  Wrap up the injured area with a crepe bandage if possible, or use any clean, fresh cloth available. Wrap it as tight as is comfortable. However, ask the doctor before bandaging the area. This will relieve the pain somewhat.
- **Elevation**
  The injured limb should preferably be raised above the level of the heart. This could be done with the help of a pillow while sleeping.

OPEN AND CLOSED FRACTURES

In an open fracture, one of the broken bone ends may pierce the skin surface, or there may be a wound at the fracture site. An open fracture carries a high risk of becoming infected. In a closed fracture, the skin above the fracture is intact. However, bones may be displaced

(unstable), causing internal bleeding and the casualty may develop shock .

STABLE AND UNSTABLE FRACTURES

A stable fracture occurs when the broken bone ends do not move because they are not completely broken or they are impacted. Such injuries are common at the wrist, shoulder, ankle, and hip. Usually, these fractures can be gently handled without further damage.

In an unstable fracture, the broken bone ends can easily move. There is a risk that they may damage blood vessels, nerves, and organs around the injury. Unstable injuries can occur if the bone is broken or the ligaments are torn (ruptured). They should be handled carefully to prevent further damage.

Closed fracture The skin is not broken, although the bone ends may damage nearby tissues and blood vessels. Internal bleeding is a risk.

Open fracture Bone is exposed at the surface where it breaks the skin. The casualty may suffer bleeding and shock. Infection is a risk.

Stable fracture although the bone is fractured, the ends of the injury remain in place. The risk of bleeding or further damage is minimal.

Unstable fracture In this type of fracture, the broken bone ends can easily be displaced by movement or muscle contraction.

WHAT TO DO FOR A CLOSED FRACTURE

1. **Advise the casualty to keep still. Support the joints above and below the injury with your hands until it is immobilized with a sling or bandages, in the position in which it is found.**
2. **Place padding around the injury for extra support. Take or send the casualty to the hospital; a casualty with an arm injury may be transported by car; call 911 for emergency help for a leg injury.**
3. **For firmer support and/or if removal to the hospital is likely to be delayed, secure the injured part to an unaffected part of the**

body. For upper limb fractures, immobilize the arm with a sling . For lower limb fractures, move the uninjured leg to the injured one and secure with broad-fold bandages. Always tie knots on the uninjured side.

4. **Treat for shock if necessary. Do not raise an injured leg. Elevate an uninjured limb if shock is present. Monitor and record vital signs while waiting for help. Check the circulation beyond a sling or bandage (p.243) every ten minutes. If the circulation is impaired, loosen the bandages.**

OPEN WOUND FRACTURE

AIMS

- **To prevent blood loss, movement, and infection at the site of injury**
- **To arrange removal to the hospital, with comfortable support**

WHAT TO DO FOR AN OPEN FRACTURE

1. **Cover the wound with a sterile dressing or large, clean, gauze pad. Apply pressure around the injury to control bleeding; be careful not to press on a protruding bone.**
2. **Carefully place a sterile wound dressing or more clean padding over and around the dressing.**
3. **Secure the dressing and padding with a bandage. Bandage firmly, but not so tightly that it impairs the circulation beyond the bandage.**
4. **Immobilize the injured part as for a closed fracture , and arrange to transport the casualty to the hospital**
5. **Treat the casualty for shock if necessary. Do not raise the injured leg. Monitor and record vital signs—level of response, breathing, and pulse—while waiting for help to arrive. Check the circulation beyond the bandage every ten minutes. If the circulation is impaired, loosen the bandages.**

SPECIALCASE: PROTRUDING BONE

If a bone end is protruding, build up pads of clean, soft, nonfluffy material around the bone, until you can bandage over it without pressing on the injury

DISLOCATED JOINT

This is a joint injury in which the bones are partially or completely pulled out of their normal position. Dislocation can be caused by a strong force wrenching the bone into an abnormal position, or by violent muscle contraction. This very painful injury most often affects the shoulder, knee, jaw, or joints in the thumbs or fingers. Dislocations may be associated with torn ligaments, or with damage to the synovial membrane that lines the joint capsule. Joint dislocation can have serious consequences. If vertebrae are dislocated, the spinal cord can be damaged. Dislocation of the shoulder or hip may damage the large nerves that supply the limbs and result in partial paralysis. A dislocation of any joint may also fracture the bones involved. It is difficult to distinguish a dislocation from a closed fracture. If you are in any doubt, treat the injury as a fracture.

RECOGNITION

There may be:

I. **“Sickening,” severe pain**
II. **Inability to move the joint**
III. **Swelling and bruising around the affected joint**
IV. **Shortening, bending or deformity of the area**

YOUR AIMS

- **To prevent movement at the injury site.**
- **To arrange removal to the hospital, with comfortable support.**

WHAT TO DO

I. **If, for example, the casualty has a dislocated shoulder, advise the casualty to keep still. Help him support the injured arm in the position he finds most comfortable.**
II. **Immobilize the injured arm with a sling.**
III. **For extra support for an injured arm, secure the limb to the chest by tying a broad-fold bandage around the chest and the sling.**
IV. **Arrange to take or send the casualty to the hospital. Treat for shock if necessary. Monitor and record vital signs—level of response, breathing, and pulse— while waiting for help.**
V. **Check the circulation beyond the bandages every ten minutes**

CAUTION

- **Do not try to replace a dislocated bone into its socket because this may cause further injury.**
- **Do not move the casualty until the injured part is secured and supported, unless she is in immediate danger.**
- **For a hand or arm injury remove bracelets, rings, and watches in case of swelling.**
- **Do not allow the casualty to eat or drink because an anesthetic may be needed.**

HEAD INJURY

Head injuries are common. They are potentially serious because they can lead to damage to the brain. There may also be injuries to the spine in the neck, scalp wounds and/or a skull fracture. If a casualty has sustained a minor injury such as a bruise or scalp wound, he is likely to be fully conscious. If he has suffered a more serious blow to

the head, such as in a sporting impact, consciousness may be temporarily impaired. The brain lies inside the skull, cushioned by fluid and can therefore be shaken by a blow to the head. This is called concussion and it often produces a temporary loss of consciousness. Complications from concussion may affect thinking, language, or emotions, and may lead to problems with communication and memory, and cause personality changes, depression, and early-onset dementia. If a casualty has suffered a severe blow to his head, this may cause bleeding or swelling inside the skull that can press on the brain (compression). This is a serious condition. The pressure can rise immediately after the impact or it may develop a few hours or even days later. The severity of the head injury is related to the mechanism of injury and its impact on the head. A serious head injury is likely after a high speed motor collision or a fall from a height.

CAUTION

Seek medical advice if you notice signs of a worsening head injury such as:

- **Increasing drowsiness**
- **Persistent headache**
- **Confusion, dizziness, balance problems, and/or memory loss**
- **Difficulty speaking**
- **Difficulty walking**
- **Vomiting episodes after the injury**
- **Double vision**
- **aSeizure**

Causes of head injury

The brain can be literally “shaken” inside the skull with concussion . Injury that results in bleeding can cause pressure to build up inside the skull and damage the tissues of the brain.

ASSESSING THE LEVEL OF CONSCIOUSNESS

Assess a casualty's level of consciousness using the AVPU scale. Check the casualty at regular intervals. Make a note of your findings at each assessment, paying particular attention to any change—the casualty's condition may improve or deteriorate while you are looking after him.

A—Is the casualty Alert? Are his eyes open and does he respond to questions?

V—Does the casualty respond to Voice? Can he answer simple questions and obey commands?

P—Does the casualty respond to Pain? Does he move or open his eyes if pinched?

U—Is he Unresponsive to any stimulus?

RECOGNITION

There may be:

- **Brief period of impaired consciousness**
- **Scalp wound**
- **Dizziness or nausea**
- **Loss of memory of events at the time of, or immediately preceding the injury**
- **Mild generalized headache**
- **Confusion**

For severe head injury there may also be:

- **History of a severe blow to the head**
- **Deteriorating level of response**
- **Loss of consciousness**

- **Leakage of blood or blood-stained watery fluid from the ears or nose**
- **Unequal pupil size**

WHAT TO DO

1. **Sit the casualty down and give him a cold compress to hold against the injury. Carry out an assessment of the casualty's level of consciousness using the AVPU scale (opposite). Treat any scalp wounds by applying direct pressure to the wound.**
2. **Regular monitor and record vital signs- breathing, pulse and level of response. Watch especially for changes in his level of response**
3. **When the casualty has recovered, ask a responsible person to look after him.**
4. **If a casualty's injury is the result of a sporting accident, do not allow him to return to the sport until he has been fully assessed by a medical practitioner.**
5. **Advise the casualty to seek medical help or arrange transportation to a hospital if he develops signs and symptoms of a worsening head injury, or if ANY of the following apply:**

He is over 65 years of age
He has had previous brain surgery
He is taking anticoagulant (anticlotting) medication
The head injury is accompanied by drug or alcohol intoxication
There is no responsible person to look after him

SPECIAL CASE SEVERE HEAD INJURY

Call 911 for emergency help—tell the dispatcher that you suspect head injury. Maintain an open and clear airway. Do this in the position the casualty was found—try not to move him because of the additional risk of spinal injury . If this is not possible, use the jaw thrust method to open the airway . Regularly monitor and record vital signs—breathing, pulse, and level of response —while waiting for help to arrive. Watch especially for changes in his level of response

CRUSH INJURY

Traffic accidents and building site collapses are the most common causes of crush injuries. Other possible causes include explosions, earthquakes, and train crashes. A crush injury may include a fracture, swelling, and internal bleeding. The crushing force may cause impaired circulation, resulting in numbness at or below the site of injury. You may not detect a pulse in a crushed limb.

CAUTION

- **Do not release a casualty who has been crushed for more than 15 minutes.**
- **Do not lift heavy objects.**
- **Do not allow the casualty to eat or drink because an anesthetic may be needed.**

AIM

To obtain specialist medical aid urgently, taking any steps possible to treat the casualty

DANGERS OF PROLONGED CRUSHING

If the casualty is trapped for any length of time, two serious complications may result. First, prolonged crushing may cause extensive damage to body tissues, especially to muscles. Once the pressure is removed, shock may develop rapidly as tissue fluid leaks into the injured area. More dangerous, toxic substances build up in damaged muscle tissue around a crush injury. If released suddenly into the circulation, these toxins may cause the heart to experience a life-threatening rhythm disturbance first or kidney failure later. This process, called "crush syndrome," is extremely serious and can be fatal.

WHAT TO DO

1. **If you know the casualty has been crushed for less than 15 minutes and you can release him, do this as quickly as possible. Control external bleeding and steady and support any suspected fracture . Treat the casualty for shock but do not raise his legs.**
2. **If the casualty has been crushed for more than 15 minutes, or you cannot move the cause of injury, leave him in the position found and comfort and reassure him.**
3. **Call 911 for emergency help, giving clear details of the incident to the dispatcher.**
4. **Monitor and record vital signs—level of response, breathing, and pulse— while waiting for help to arrive.**

EYE WOUND

The eye can be bruised or cut by direct blows or by sharp, chipped fragments of metal, grit, and glass. All eye injuries are potentially serious because of the risk to the casualty's vision. Even superficial abrasions to the surface (cornea) of the eye can lead to scarring or infection, with the possibility of permanent deterioration of vision

RECOGNITION

1. **Pain in the eye or eyelids**
2. **Visible wound and/or bloodshot appearance**
3. **Partial or total loss of vision**
4. **Leakage of blood or clear fluid from a wound**

AIM

- **To prevent further damage**
- **To arrange transportation to the hospital**

CAUTION

- **Do not touch or attempt to remove anything that is sticking to, or embedded in, the eyeball or on the colored part (iris) of the**

eye. Instead, place a paper cup over the affected eye and bandage it in place

WHAT TO DO

1. **Help the casualty into a half-sitting position or onto on his back, and hold his head to keep it as still as possible. Tell him to keep both eyes still because movement of the "good" eye will cause movement of the injured one, which may damage it further.**
2. **Give the casualty a sterile dressing or a clean, nonfluffy pad to hold over the affected eye. If it will take some time to obtain medical help, secure the pad in place with a bandage. Do not apply pressure to the injured eye.**
3. **Arrange to take or send the casualty to the hospital**

Spinal Injuries:

Definition: • An injury to the muscles, bones, or nerves associated with the spine. The higher up on the spine it is the more serious the injury will be.

Causes:

- Very common in vehicle accidents
- Diving in shallow water
- Cycling accidents
- Any impact, direct or indirect, to these body parts.
- Sport accidents such as hockey and football, etc.

Spinal injury

Management:

- Make sure the person doesn't move then get help.
- Hold them still. You need to and explain to them that they may have a serious injury and should not move.
- If they are unconscious do the CPR steps. Airway and breathing take priority.
- Notes: Any time there is a spinal injury you should also suspect a concussion, and visa versa.

Spinal injury

Signs/symptoms:

- Mechanism of injury (how it occurred).
- Pain, numbness, or paralysis.
- Bleeding, swelling, or bruising around the head, ears, or nose.
- Unconsciousness.

Prevention:

- Wear safety equipment and wear it properly.
- Know the safety rules of sports played.
- Use seat belts and car seats.

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Prevention:

- Wear safety equipment and wear it properly.
- Know the safety rules of sports played.
- Use seat belts and car seats.
- Avoid alcohol intake when doing physical activity as it impairs sound judgment.

Concussion

Definition: An injury to the head or the brain. Literally bleeding in the brain or the area around the brain.

Causes:

- Any impact, direct or indirect, to the head.
- May be associated with a spinal injury.

Signs/Symptoms:

- Mechanism of injury.
- Pain or numbness.
- Bleeding, swelling, or bruising.
- Confused.
- Loss of memory.
- Dizzy.
- Ringing in the ears.
- Nausea or vomiting.
- Unconsciousness.

Concussion

Prevention:

- Wear safety equipment and wear it properly.
- Know the safety rules of sports played.
- Use seat belts and car seats.
- Avoid alcohol intake when doing physical activity as it impairs sound judgment.

Management:

- Make sure the person doesn't move.
- Hold them still and explain to them that they should not move.
- Activate the ambulance right away.
- If they are unconscious do the CPR steps but open the airway with a modified jaw thrusts, as opposed to a head tilt.

Bandaging:

- Bandaging is something you would do to control severe bleeding. Ideally you want to use sterile dressings but they may not be readily available so use whatever you have (e.g. towels, clothing). The idea is to put constant pressure over the cut to control bleeding. You want to tie with enough pressure to control the bleeding but not so much so that blood does not get through to the remainder of the limb. If you restrict blood flow that area may die and may require amputation, so be very careful. Once you've tied the dressing you need to check to make sure you did not make it too tight, and check this every couple of minutes. For example, if you've bandaged a forearm here's how you check for circulation:
- Compare both hands to make sure they are similar in temperature and color.
- Check the hand to make sure it is not swelling or turning blue.

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- Compare both hands to make sure they are similar in temperature and color.
- Check the hand to make sure it is not swelling or turning blue.
- Ask the person if the hand feels numb or tingly.
- If they lose sensation then it's too tight. Do not remove the bandage but loosen it a bit.
- If the first dressing becomes soaked with blood then simply put another one on top. Do not remove the original one as you will be reopening the wound.
- **Notes**:
- Always use caution when dealing with bodily fluids. Wear gloves and wash your hands immediately after.
- Keep in mind that the injured person may go into shock.

Purposes of bandage:

(1) To secure dressing in position.,

(2) To form slings for support.

(3) To secure pads

- Roller Bandages: These bandages are made of cotton, gauze crepe, elastic fabric or linen are wrapped around the injured in spiral turns, figure of eight. To improvise, material may be torn into strips of the required length and width.
- Width required for finger 2.5 cm
- For head and arm 6 cm
- For the leg, about 9 cm
- For the body 15 cm
- The bandages should be tightly and evenly rolled.

BANDAGING

Includes

- **Elbow and knee bandaging**
- **Hand and foot bandaging**
- **Tubular bandaging**

- **Triangular bandaging (scalp bandaging and arm sling)**

Objective

To be able to apply bandages in various locations of the body as indicated

INDICATIONS

- **To secure dressings**
- **To control bleeding**
- **Give support and immobilization**
- **Reduce swellings in injured parts**

REQUIREMENTS

A clean tray containing the following:

1. **Small hand towel**
2. **Pair of gloves**
3. **Protective mackintosh and draw sheet**
4. **Bandaging materials**
    a. **Crepe bandage, gauze bandage, gauze roll, firm bandages or other clear improvised material**
    b. **Roller bandages, tubular bandages and triangular**
5. **Applicator for tubular bandages**
6. **Pair of straight scissors**
7. **Securing materials: strapping (or alternatives if strapping not available: safety pins bandage clips)**

TYPES OF BANDAGES

1. **Roller bandages for securing dressings and support injured limbs**

2. **Tubular bandages for holding dressings on finger or toes or support injured joints**
3. **Triangular bandages used as large dressings, as sling, to secure dressings or immobilize limbs**
4. **If bandage not available use improvised materials e.g fabrics like headscarf**

GENERAL BANDAGE APPLICATION/ RULES FOR APPLYING A BANDAGE

1. **Explain the procedure to the patient while reassuring**
2. **Make the patient comfortable, in a suitable sitting position or when lying down**
3. **Place the tray beside the patient appropriately**
4. **Wash hands and dry them with clean towel**
5. **Ask the assistant to position patient appropriately and in case of a wound or bleeding, fix mackintosh under the injured/part to be bandaged**
6. **In case of a wound or bleeding, put on gloves**
7. **Ask patient or assistant to continue supporting the injured**
8. **Work at the front of the patient and from the injured side where possible**
9. **If patient is lying down, pass the bandages under the bodys natural hollows/contours at the ankles, knees, waist and neck, then slide the bandages into position by easing them back and forth under the body.**
10. **Apply bandages firmly but not so tightly to avoid interference with circulation in the distal parts**
11. **Leave the fingers or toes on a bandaged limb exposed, if possible, so that you can check the circulation afterwards.**
12. **Use strapping or other securing material to secure the bandage material in position**

13. **Where you need to tie, use reef knots to the bandages. Ensure that the knots do not cause discomfort nor pass over a body prominence**

METHOD: Elbow and knee bandaging

1. **Let the patient sit or lie down in a comfortable position**
2. **Support the injured limb with the joint partially flexed if possible**
3. **Place the tail of the bandage on the inner side of the joint**
4. **Pass the bandage over and round to the outside of the joint**
5. **Make one and a half turns round the joint so that the end of the bandage is fixed and the joint is covered**
6. **Pass the bandage to the inner side of the limb just above the joint. Make a turn round the limb covering the upper half of the bandage from the first turn**
7. **Pass bandage from inner side of the limb to just below the joint. Make one diagonal turn below the joint to cover the lower half of the bandage from the first straight turn.**
8. **Continue to bandage diagonally above and below the joint in a figure of eight ensuring that the bandaged area covers two thirds of previous turn each time.**
9. **Secure the end of the bandage with strapping or alternatives**
10. **Check the circulation distal of beyond the bandage as soon as you have finished. if the bandage is too tight, unroll it and reapply it more loosely.**

TRIANGULAR BANDAGING

Triangular bandages are used in securing hand, foot or scalp dressing or to form slings to support an injured upper limb

Tying a reef knot:

1) **Pass the left end (grey) over and under the right end (white)**

2) **Lift both ends of the bandage above the rest of the material**
3) **Pass the right end (grey) over and under the left end (white)**
4) **Pull ends to tighten the knot**

Untying a reef knot

1) **Pull one end and one piece of bandage firmly so that it straightens**
2) **Hold the knot and pull the straightened end through it**

Scalp bandaging

1) **Let the patient sit or lie down in a comfortable position**
2) **Fold a hem along the base of the bandage and place the bandage on the patients head with the hem underneath and the centre of the base just above his/her eye brows. Allow the bandage to fall back over the top of the head.**
3) **Wrap the ends of the bandage securely around the patient's head, tucking the hem just above his/her ears**
4) **Cross the above two free ends over the point (tail) and tie them in a single turn (half of a knot) at the nape of the patients neck**
5) **Bring the free ends around to the forehead and tie a complete square knot (reel knot)**
6) **Truck the hanging tail over and into the half knot behind the head or secure it above the half knot with a safety pin**

HAND AND FOOT BANDAGING

1. **Let the patient sit or lie down in a comfortable position**
2. **Support the injured limb in the functional position**
3. **Place the tail of the bandage on the inner side of the wrist at the base of the thumb/ankle**
4. **Make two straight turns around the wrist/ankle**

5. **Loop the bandage diagonally to the little finger/ little toe and make one and a half complete turns around the fingers/toes**
6. **Continue figure of 8 or spiral pattern leaving the patient's thumb/heel from bandage**
7. **Secure bandage at ankle/wrist with strapping or other material**
8. **Check the circulation distal to the bandage**

TUBULAR BANDAGING

1. **Let the patient sit or lie down in a comfortable position**
2. **Cut a piece of tubular gauze about two and a half times the length of the injured finger/toe**
3. **Slide the whole length of tubular gauze onto the applicator, than gently slide the applicator over the patient's finger**
4. **Holding the end of the gauze on the finger, pull the applicator slightly beyond the finger top to leave a gauze layer on the finger. Twist the applicator twice to seal the bandage over the end of finger.**
5. **Gently push the applicator back over the finger to apply the second layer of gauze. Once all of it has been applied, remove the applicator from the finger**
6. **Secure the gauze at the base of the finger with adhesive tape/ strapping**
7. **NOTE; where tubular bandages are not available, we can use rolled gauze to do finger/toe bandaging. On the last turn around the finger, gauze is pulled over the top of the hand/ foot(dorsum) to extend over the wrist/ankle joints split into two and tied to secure the bandage**
8. **Check circulation distal to the bandaged area.**

ARM-SLING APPLICATION

1. **An arm sling provides support for an injured upper arm, wrist or fore arm or a single rib fracture**

2. **Let the patient sit in the most comfortable position**
3. **Assist the injured arm across the chest with elbows flexed**
4. **Place the triangular bandage with the hemmed base parallel with the patient's body, in level with the little fingernail and the tail/point towards the elbow of injured side.**
5. **Pass the upper end under the injured arm and pull it around the neck to the opposite shoulder**
6. **Fold the lower end of the bandage up over the fore arm and bring it to meet the upper end at the shoulder**
7. **Tie a reef knot on the injured side at the hollow just above clavicle. Tuck both free ends of the bandage under the knot to pad it.**
8. **Fold the point and tuck it in behind the elbow and secure with a safety pin.**

UNIT4; FIRST AID KIT

OBJECTIVE

1. Identify and use contents in the first the first aid kit

FIRST AID KITS

First aid kits may be kept in cloth bags or plastic or metal boxes. They are often labeled with a symbol such as those on the upper right. A first aid kit may contain many items, but basic items that can help with first aid include:

- **Gloves for the helper's hands made of vinyl, latex or nitrile to protect the helper's hands from blood**
- **Dressings of cloth that can be put on wounds to stop bleeding, much like gauze pads or sanitary napkins**
- **Bandages of gauze or cloth which hold dressings tightly over wounds; sometimes these are in rolls**
- **Rolls of tape to hold on dressings and bandages**
- **Scissors that can be used to cut tape, to open clothing and to make more bandages and dressings**

- **CPR masks or barriers to make it sanitary for a helper to breathe into someone's mouth, which is one part of CPR**
- **Blanket made of cloth or Mylar ("space blanket") to cover a sick or hurt person to keep them warm**
- **A small first aid book which shows how to do first aid and reminds people who have been trained**
- **Adhesive strips (a small piece of tape with a bit of cloth in the center), special dressings such as moleskin for blisters, and antiseptic creams for small wounds**
- **Tweezers to remove stingers, and tongs**
- **first-aid manual different sizes**
- **adhesive tape**
- **adhesive bandages in severe sizes**
- **elastic bandage**
- **a splint**
- **antiseptic wipes**
- **soap**
- **antibiotic ointment**
- **antiseptic solution (like hydrogen peroxide or saline)**
- **Hydrocortisone cream (1%)**
- **acetaminophen and ibuprofen**
- **extra prescription medications (if the family is going on vacation)**
- **sharp scissors**
- **safety pins**
- **disposable instant cold packs**
- **calamine lotion**
- **thermometer**
- **tooth preservation kit**
- **flashlight and extra batteries**
- **thermal shock blanket**
- **mouthpiece for administering CPR**
- **blanket (stored nearby)**
-

UNIT 6' MOVING AND HANDLING CASUALTIES

POSITIONING AND MOVING THE VICTIM

This chapter outlines the techniques and procedures that underpin first aid, including moving a casualty. Usually, a first aider is not expected to move an injured person, but in some circumstances—such as when a casualty is in immediate danger—it may be necessary. The key principles for moving casualties are described here. Information is also given on making an assessment of the risks involved in moving a casualty or assisting a casualty to safety. A guide to the equipment and materials commonly found in a first aid kit is given, with information on how and when to use them.

OBJECTIVES

- **To assess the casualty's condition.**
- **To comfort and reassure the casualty.**
- **To maintain a casualty's privacy and dignity.**
- **To use a first aid technique relevant to the injury.**
- **To apply good handling techniques if moving a casualty.**
- **To obtain appropriate help: call 911 for emergency help if you suspect serious injury or illness**

REMOVING CLOTHING

To make a thorough examination of a casualty, obtain an accurate diagnosis, or give treatment, you may have to remove some of his clothing. This should be done with the minimum of disturbance to the casualty and with his agreement if possible. Remove as little clothing as possible and do not damage clothing unless it is necessary. If you need to cut a garment, try to cut along the seams, keeping the clothing clear of the casualty's injury. Maintain the casualty's privacy and prevent exposure to cold. Stop if removing clothing increases the casualty's discomfort or pain.

REMOVING CLOTHING IN LOWER BODY INJURIES

Shoes

Untie any laces, support the ankle, and carefully pull the shoe off by the heel. To remove long boots, you may need to cut them down the back seat.

Socks

Remove socks by pulling them off gently. If this is not possible, lift each sock away from the leg and cut the fabric with a pair of scissors.

Trousers

Gently pull up the pant leg to expose the calf and knee or pull down from the waist. If you need to cut clothing, lift it clear of the casualty's injury.

REMOVING CLOTHING IN UPPER BODY INJURIESS

Jackets

Support the injured arm. Undo any fastenings on the jacket and gently pull the garment off the casualty's shoulders. Remove the arm on the uninjured side from its sleeve. Pull the garment around to the injured side of the body and ease it off the injured arm.

Sweaters and sweatshirts

With clothing that cannot be unfastened, begin by easing the arm on the uninjured side out of its sleeve. Next, roll up the garment and stretch it over the casualty's head. Finally, slip off the other sleeve of the garment, taking care not to disturb her arm on the injured side.

REMOVING HEADGEAR

Protective headgear, such as a a horseback rider's, bicyclist's, or motorcyclist's helmet, is best left on; it should be removed only if absolutely necessary, for example, if you cannot maintain an open airway. If the item does need to be removed, the casualty should do this herself if possible; otherwise, you and a helper should remove it. Support the head and neck at all times and keep the head aligned with the spine.

REMOVING AN OPEN-FACE OR RIDING HELMET

1. **Undo or cut through the chinstrap. Support the casualty's head and neck, keeping them aligned with the spine. Hold the lower jaw with one hand and support the neck with the other hand.**
2. **Ask a helper to grip the sides of the helmet and pull them apart to take pressure off the head, then lift the helmet upward and backward.**

REMOVING A FULL-FACE HELMET

1. **Undo or cut the straps. Working from the base of the helmet, ease your fingers underneath the rim. Support the back of the neck with one hand and hold the lower jaw firmly. Ask a helper to hold the helmet with both hands.**
2. **Continue to support the casualty's neck and lower jaw. Ask your helper, working from above, to tilt the helmet backward (without moving the head) and gently lift the front of the helmet clear of the casuaSlty's chin.**
3. **Maintain support on the head and neck. Ask your helper to tilt the helmet forward slightly so that it will pass over the base of the casualty's skull, and then to lift it straight off the casualty's head.**

CASUALTY HANDLING

Caution

1. **Do not approach a casualty if doing so puts your own life in danger.**
2. **Do not move a casualty unless there is an emergency situation that demands you take immediate action.**

When giving first aid you should leave a casualty in the position in which you find him until medical help arrives. Only move him if he is in imminent danger, and even then only if it is safe for you to approach and you have the training and equipment to carry out the move. A casualty should be moved quickly if he is in imminent danger from:

- **Drowning;**
- **Fire or he is in an area that is filling with smoke;**
- **Explosion or gunfire;**
- **A collapsing building or other structure.**

ASSESSING THE RISK OF MOVING A CASUALTY

If it is necessary to move a casualty, consider the following before you start.

- **Is the task necessary? Usually, the casualty can be assessed and treated in the position in which you find him.**
- **What are his injuries or conditions, and will a move make them worse?**
- **Can the casualty move himself? Ask the casualty if he feels able to move.**
- **The weight and size of the casualty.**
- **Can anyone help? If so, are you and any helpers trained and physically fit?**
- **Will you need protective equipment to enter the area, and do you have it?**

- **Is there any equipment available to assist with moving the casualty and are you trained to use it? Is there enough space around the casualty to move him safely?**
- **What sort of ground will you be crossing?**

ASSISTING A CASUALTY SAFELY

If you need to move a casualty, take the following steps to ensure safety.

1. **Select a method relevant to the situation, the casualty's condition, and the help and equipment that is available.**
2. **Use a team. Appoint one person to coordinate the move and make sure that the team understands exactly what to do.**
3. **Plan your move carefully and make sure that everyone is prepared.**
4. **Prepare any equipment and make sure that the team and equipment are in position.**
5. **Use the correct technique to avoid injuring the casualty, yourself, or any helpers.**
6. **Ensure the safety and comfort of the casualty, yourself, and any helpers.**
7. **Always explain to the casualty what is happening, and encourage him to cooperate as much as possible.**
8. **Position yourself as close as possible to the casualty's body.**
9. **Adopt a stable base, with your feet shoulder width apart, so that you remain well balanced and maintain good posture at all times during the procedure.**
10. **Use the strongest muscles in your legs and arms to power the move. Bend your knees.**

BURNS AND SCALDS ELECTCICAL WOUNDS

BURNS AND SCALDS

- **Burns are injuries that can be caused by contact with heat, electricity, or chemicals**
- **Heat burns can be caused by contact with fire, a hot surface, a hot liquid, or steam**
- **If someone with a burn gets too cold, they can get hypothermia**

BURNS TYPES:

Dry Burns – hot surfaces, fire, friction
Scalds – hot liquids, hot fat or oil, steam
Cold Injury – freezing temperatures, refrigerants
Radiation Burns – sunburn, ultraviolet lamps
Chemical Burns – Acids, alkalis, cleaning products
Electrical Burns – Low voltage, Lightning, High voltage

BURNS CLASSIFICATION

- **Superficial – Redness, Mild swelling, Tenderness,**
- **Partial-Thickness – Blisters, Swelling, Weeping fluids, Pain**
- **Full-thickness – Leathery, waxy pearly grey, charred skin**

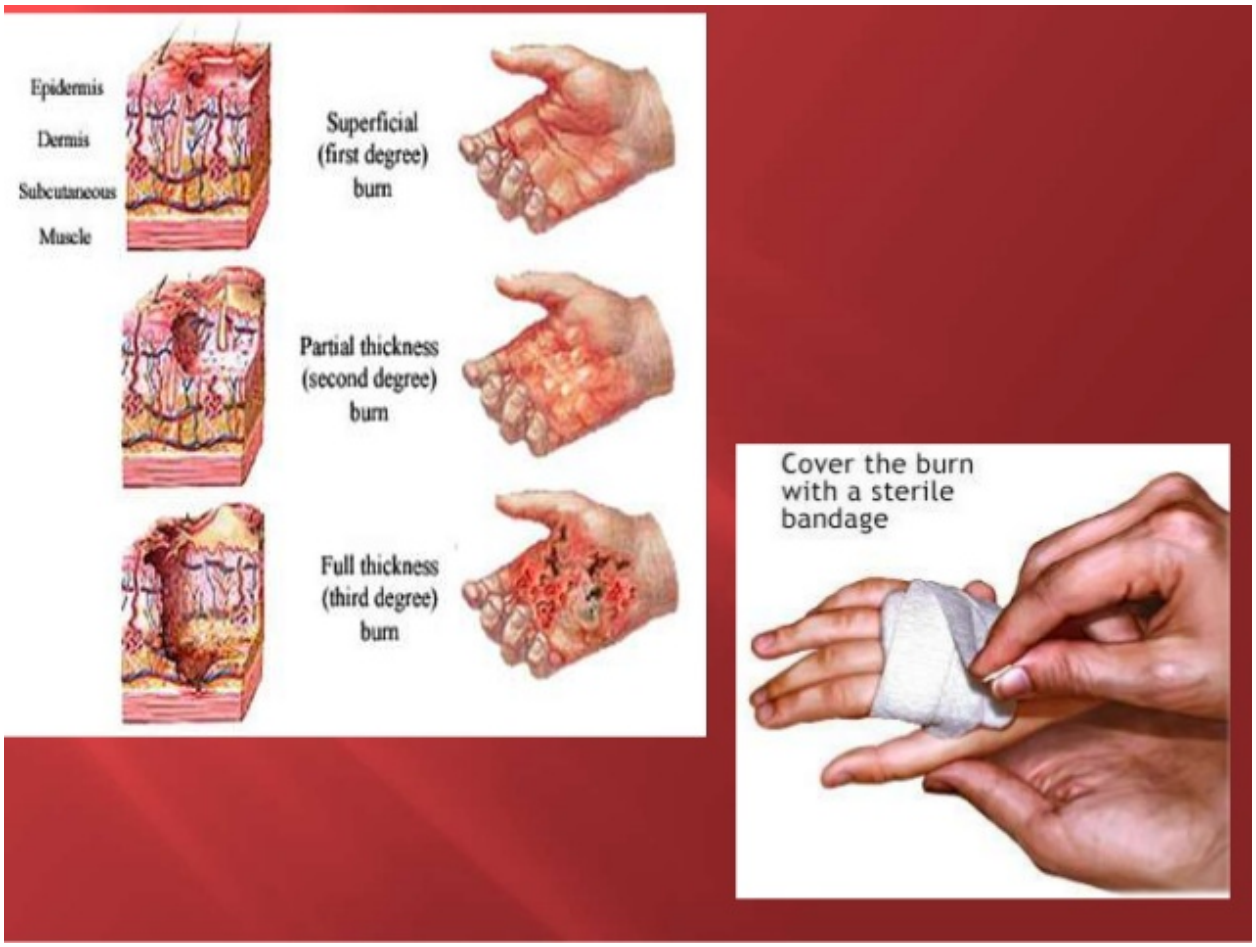
The severity of a burn is dependent upon five factors.

- **Extent of the burn (surface area damage)**
- **Part (s) of the hot body burnt, especially airway damage**
- **Depth of the burnt area.**
- **Age and physical condition of casualty.**
- **Associated injuries sustained (i.e. head injuries, blast, damage to lungs, fractures)**

General principles for managing burns

- **Follow DRSABC**
- **cool the bunt area with sterile water**

- ❖ Cover burn either with a non-adherent burn, dressing, plastic wrap, clean dressing or loosely applied aluminum foil
- ❖ Prevent infection by covering the burn wound
- ❖ Minimize shock by reassurance



Burns classification

Do not's for burns

- ➢ Do Not: Burst blisters or touch the burnt area
- ➢ Apply any creams or ointments
- ➢ Remove clothing that is stuck to the skin
- ➢ Apply adhesive dressings

SUPERFICIAL BURNS TREATMENT:

- ➢ Wear disposable gloves
- ➢ Cool burn with cold water for 10 minutes

- **Remove clothing or jewellery**

PARTIAL-THICKNESS BURNS TREATMENT:

1. **Wear disposable gloves**
2. **Remove clothing or jewellery**
3. **Cool burn with water for 10 minutes**
4. **Cover burn with dry, non-adhesive, sterile dressing**
5. **Treat for Shock**

FULL-THICKNESS BURNS TREATMENT:

1. **Call 9-9-9/112 for an ambulance**
2. **Wear disposable gloves**
3. **Remove clothing or jewellery**
4. **Cover burn with dry, non-stick, sterile dressing**
5. **Monitor airway and breathing, provide care as needed**
6. **Treat for shock**

CHEMICAL BURNS:

Results from caustic or corrosive substance: Acids, Alkalis, Organic compounds

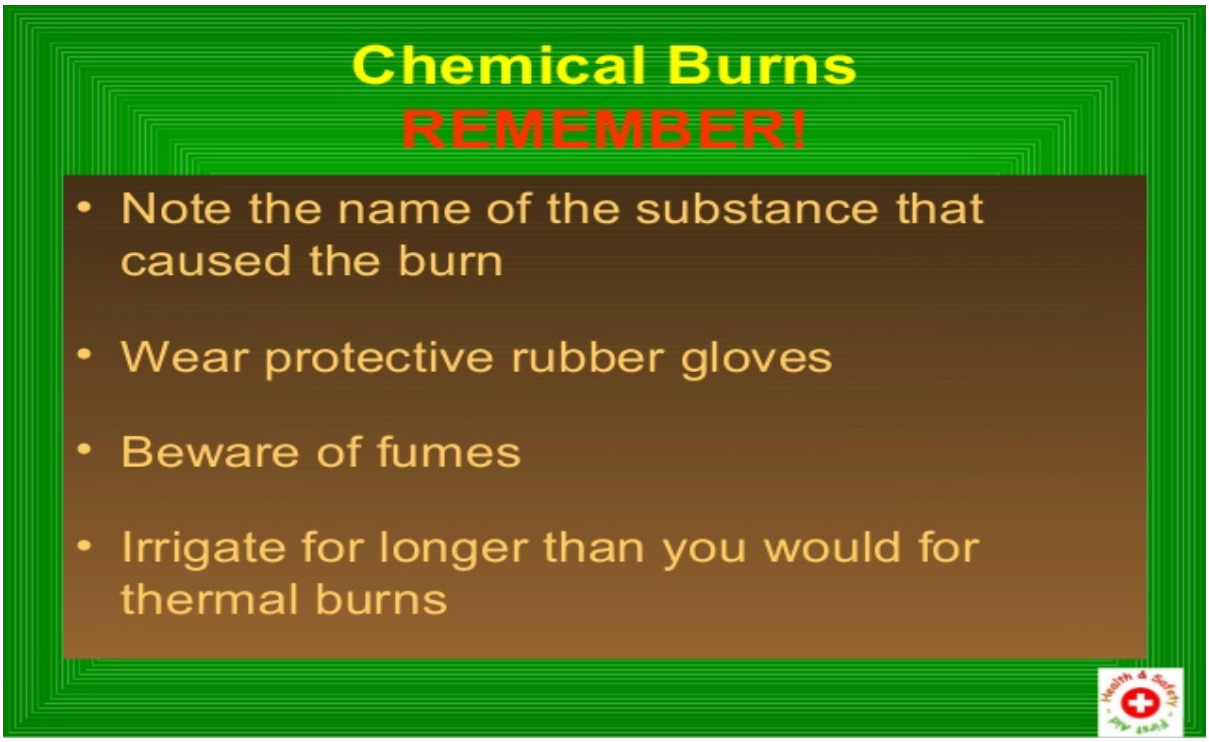
Treatment:

1. **. Dry Chemical – Brush chemical off skin**
2. **Wet Chemical**

- **Flush skin with water for 20 minutes**
- **Remove contaminated clothing and jewellery – Gloves on**
- **Cover the burn with a dry, sterile or clean dressing**
- **Seek medical care**

CHEMICALS IN THE EYE TREATMENT:

1. **Flush with warm sterile water for 20 minutes**
2. **Position head appropriately**
3. **Loosely bandage both eye**
4. **Seek immediate medical care**



ELECTRIC INJURIES

- **Electricity can burn the body on the inside and outside**
- **Electricity can stop breathing or cause a deadly abnormal heart rhythm**
- **Electricity may leave only small marks on the body**

ELECTRICAL BURNS: Thermal burn (flame) Arc burn (flash) and True electrical (contact)

Treatment:

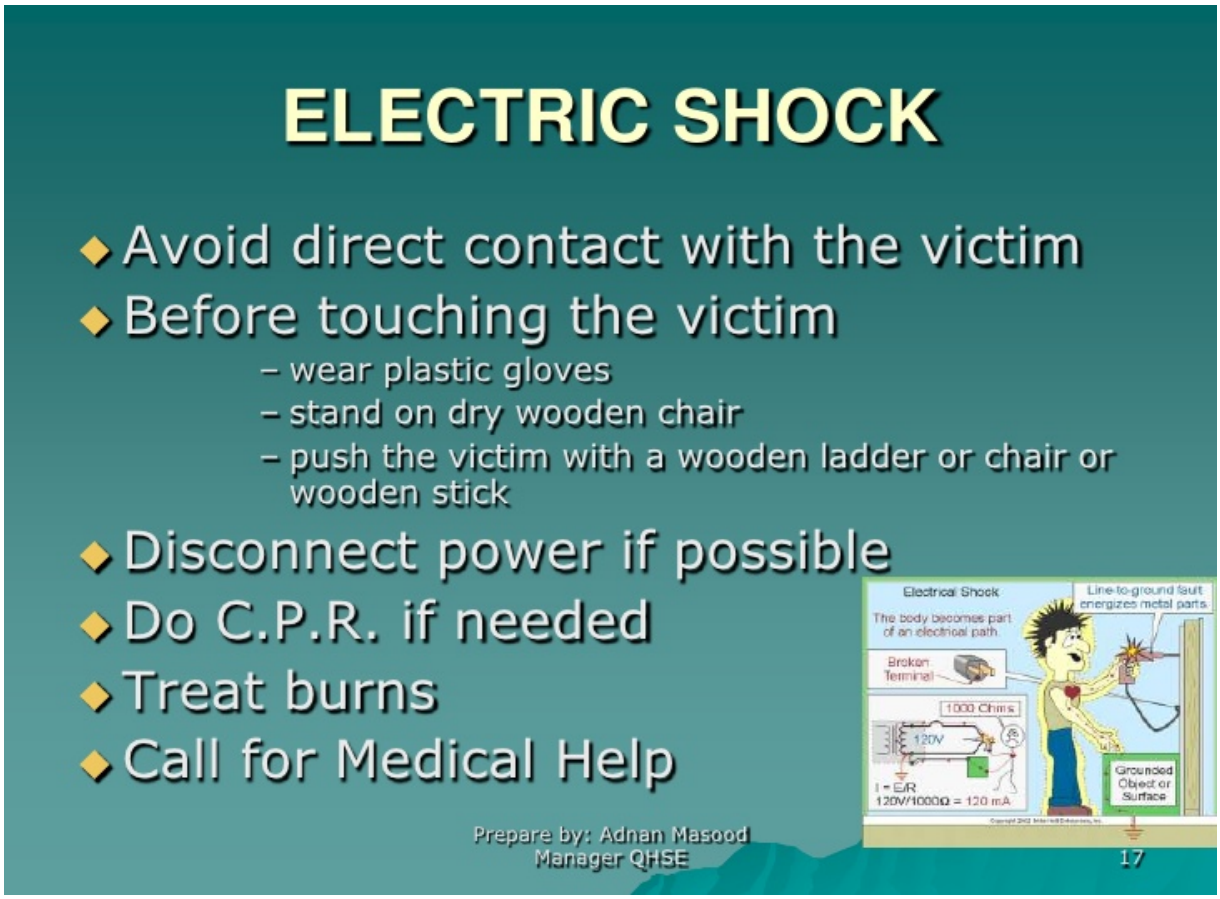
1. Make the scene safe – disconnect the power at fuse box or circuit breaker

2. Check ABC and Check for spinal injuries

4. Cover burns and wounds

5. Treat for shock

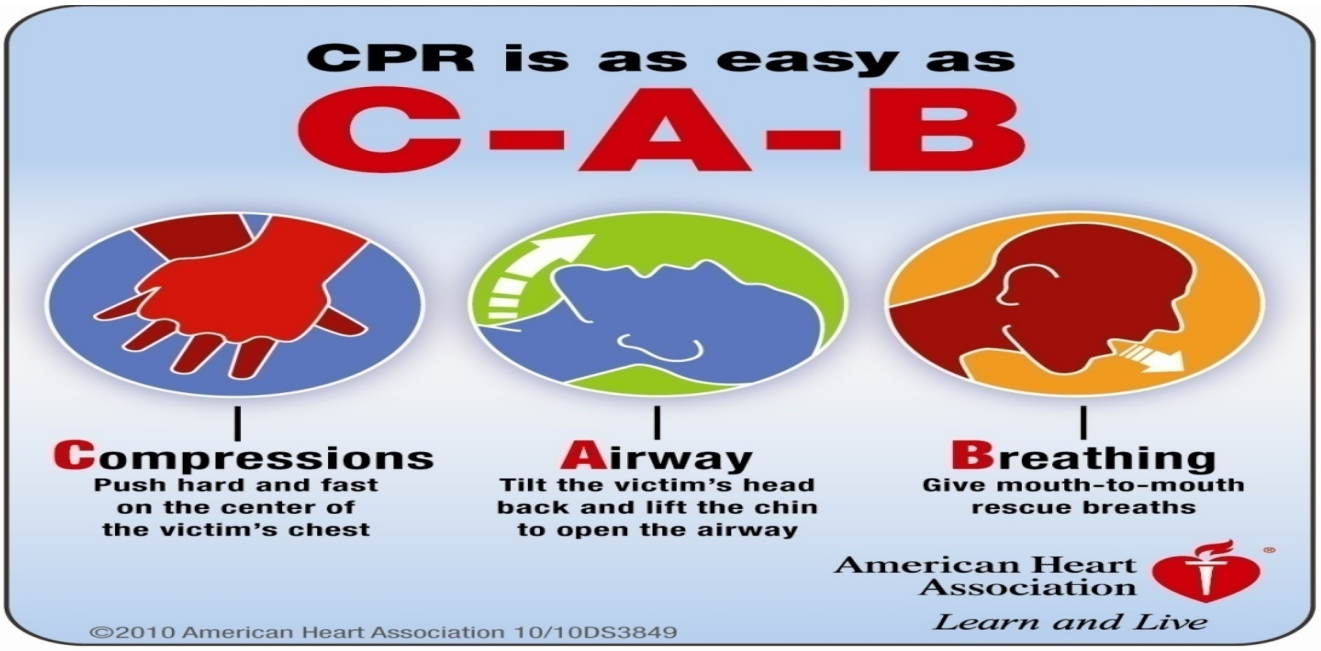
6. Call 9-9-9/112 for an ambulance



CADIOPULMONARLY RESUSTATION

Another set of goals for keeping a badly hurt person alive is sometimes called "C-A-B" -DRCAB

- **'keep blood inside the body and the heart beating'**



. IF SOMEONE IS UNCONSCIOUS AND BREATHING

• If a person is unconscious but is breathing and has no other life-threatening conditions, they should be placed in the recovery position until help arrives

IF SOMEONE IS UNCONSCIOUS AND NOT BREATHING

• If a person is not breathing normally after an incident, call for an ambulance and start CPR straight away. Mouth to Mouth respiration rate at 16/min

A "cardiac arrest" is when your heart stops beating. This is not the same as a "heart attack", although a heart attack may lead to a cardiac arrest. There are numerous causes of cardiac arrests, including:

- A disturbance in the heart rhythm
- Drugs/poisoning
- Heart disease / a heart attack
- Traumatic injury/blood loss
- Anaphylaxis

If a cardiac arrest occurs, blood will stop circulating around the body. Breathing will also cease as well though it may not stop completely for several minutes.

Without a supply of oxygen, brain cells in the start to die in about 3 – 5 minutes leading to brain damage and death.

The purpose of CPR is to keep oxygenated blood flowing around the body to keep the vital organs alive. CPR itself will not restart someone's heart; it just keeps them alive until a defibrillator arrives. ***A defibrillator is a device which delivers an electrical shock to the heart to restart it.***

How help someone who has collapsed

DRS ABC to remember what to do:

- **D**anger: Check for any dangers to yourself. **R**esponse: Check for a response from the casualty.
- **A**irway: open their airway
- **B**reathing: Check for normal breathing (regular breaths) for up to 10 seconds **C**ompressions: If the casualty is **not breathing**, you should call an ambulance and start chest compressions.

- **Once you've found someone isn't breathing, and there is no ciculation you should start CPR straight by administering 30 chest compressions**.,.

- Send for **AED.** **(Automated external defibrillator): An AED is reliable, safe, computerized device that delivers electric shocks to a casualty in cardiac arrest when the ECG rhythm is one that is likely to respond to a shock. Simplicity of operation is a key feature: controls are kept to a minimum, 'voice and visual prompts' guide rescuers.**

After 30 chest compressions, you should give 2 rescue breaths. You should aim for a rate of 100 – 120 chest compressions a minute.

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In order for the heart to be restarted, it may require an electrical shock from a defibrillator or drugs given by a paramedic/doctor. However, good quality chest compressions will significantly increases the chance of the defibrillator being able to restart the heart.

You should only stop doing CPR if:

- **A defibrillator arrives and is about to be used**
- **The casualty shows signs of life: coughing, breathing etc.**
- **You are asked to stop by a healthcare professional (ambulance crew etc.)**

'Ideally, you should only carry out CPR for a couple of minutes before swapping with someone else. This is to ensure that the chest compressions remain of good quality.

SUMMMARY

INFANT CPR— *rescue breathing'*

- **: use 2 fingers for;30compressions**
- **PUBERTY CHILD**
- ***rescue breathing'***
- **3o compressions; use one palm hand heel**
- **2 rescue breaths**
- **30;2**
    - **remember pocket breathing mask/face shield for protection**
    - **never use AED on infants under one year**

For Cardiac arrest use DRCAB procedure. This is because the heart has stopped and there is no circulation

POISONING

Poisoning

Poisoning is any substance that causes injury, illness or death when introduced into the body. There are different types of poisoning:

- *Ingested poisons* are introduced through the mouth by eating or drinking poisonous substances.
- *Inhaled poisons* are introduced through the lungs by inhaling industrial gases, fumes from fire, chemical vapors and petrol and engine exhaust.
- *Absorbed poisons* are absorbed through the skin via contact with poisonous sprays such as pesticides and insecticides.

Do's :

- *Check the danger, response, airway, breathing and the blood circulation of the victim*
- *Give milk or water to dilute down the poison*
- *Monitor vital signs and prevent shock*
- *Observe the amount and color of vomitus*
- *Check for foreign matter in his or her mouth and remove it so that he/she can breath freely*
- *Place the patient in the recovery position and wait for medical assistance.*
- *Send to hospital*

Don'ts :

- *Don't induce vomiting.*

Dog Bites

The aim of First Aid in case of dog bite is to prevent rabies, to reduce the risk of infection and to get medical aid as soon as possible.

Do's :

★ Wipe the saliva away from the wound using a clean cloth or handkerchief.

★ Do not come in contact with the saliva that gets wiped away.

★ Wash the wound thoroughly with plenty of soap and water.

★ Cover the wound with a dry, sterile dressing.

★ Get medical aid or send the patient to the hospital as soon as possible.

SNAKE BITE

STEP 1

Lay the victim down and provide reassurance. CALL HELPLINE. Do not move the victim unless further danger is present.

STEP 2

With a broad (minimum 7.5cm wide) elastic bandage such as setopress, start at the toes (or hand if bitten on the arm) and wrap the bandage very firmly up the entire limb. If the bandage does not cover the entire limb, start with a new bandage at the point the last bandaged finished until the entire limb is covered. The compression bandage should be firm enough to reduce lymphatic movement but not constrict blood flow. Ensure you leave the tips of the toes/fingers out to monitor circulation.

The compression bandage should be firm enough to reduce lymphatic movement but not constrict blood flow. Ensure you leave the tips of the toes/fingers out to monitor circulation.

STEP 3

Once the entire limb has been covered, mark the bite site with a pen or some dirt from the ground. This is helpful for emergency services personnel.

1. **STEP 4**
2. **Splint the limb (including joints) to prevent movement. For bites to the leg, this can be achieved by strapping the legs together using slings or other suitable material.**
3. **Bites to the arm can be supported in a sling or splinted. Do not remove the bandage once applied.**
4. **Make the victim comfortable and continue to provide reassurance until the arrival of emergency services.**

- **<u>DO NOTS</u>**
- **DO NOT wash the bite site**
- **DO NOT attempt to cut the venom out of the limb**
- **DO NOT attempt to suck the venom out of the limb**
- **DO NOT apply a tourniquet to the limb**
- **DO NOT move the person unless in immediate danger**

11.7 References/Further Reading

1. **MOH (2011), Household Community Integrated Management Of Childhood Illness Strategy**
2. **MOH (2009), Home Case Management: Care Seeking and Compliance**

3. **MOPHS Divisions of Malaria and Child and Adolescent Health Home-Based Care Materials**
4. **WHO (2009), Manual for Community Health Worker: Caring for the Sick child in the Community**
5. **WHO (2009), Facilitators Notes: Caring for the Sick Child in the Community.**
6. **USAID, CORE GROUP, Save the Children, MCHIP (2009), Community Case Management Essentials: Treatment of Common Childhood Illnesses, A Guide for Health Program Managers**
7. **WHO (2004). Emergency Triage Assessment and Treatment. Facilitator Guide**
8. **WHO (2004). Emergency Triage Assessment and Treatment. Facilitator manual**
9. **Caring for Life, St. Andrews Ambulance association, British Red Cross (2002).**
10. **Clinical guidelines for management and Referral of Common Conditions, Vol.1**
11. **St. John Ambulance : First Aid on The Scene: Student References Guide**