



هيئة الصحة - أبوظبي
HEALTH AUTHORITY - ABU DHABI



Pediatric Emergencies and First Aid Management (1&2)



Objectives

At the end of the session participants should recognize an emergency and should be able to intervene and provide care.



Definition

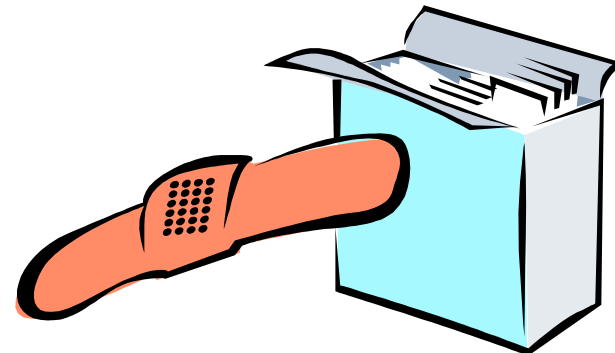
First Aid is the immediate care that you give to someone who is sick or injured before trained help arrives and takes over.

*American Heart
Association (AHA)*



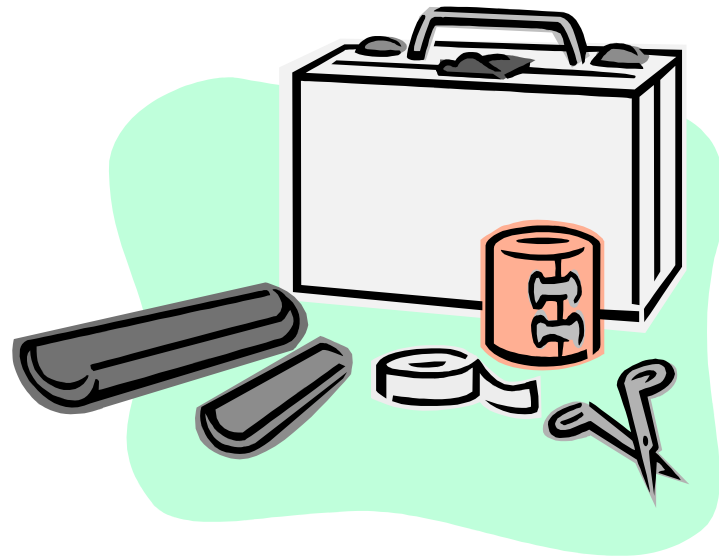
Aims of First Aid

- Preserve life
- Prevent further injury
- Protect the unconscious
- Promote recovery
- Procure medical aid



Responsibilities of the First Aid Provider

- Ensure personal health and safety
- Maintain a caring attitude
- Maintain composure
- Maintain up to date knowledge and skills.



Recommended First Aid Kit Contents (1/4)

- Bandages (including adhesive and elastic, of various types and sizes)
- Gauze pads (prefer non-stick) of various sizes
- Tape of various widths, hypoallergenic
- Antiseptic swab
- Cold packs (instant or gel)
- Cotton tipped applicators



Source: <http://www.americanheart.org/presenter.jhtml>

Continuation...

- Cotton balls
- CPR masks (paediatric and adult)/Face Shield
- Disinfectant for surfaces and body fluid spills
- Vinyl or latex gloves (powdered or powder free)
- Disposable gowns
- Eye irrigating bottle
- Eye pads
- Masks



Recommended First Aid Kit Contents (2/4)

- Plastic bags (large and small, resealable)
- Safety pins
- Scissors
- Record forms (emergency cards, logs, medication, sheets, accident reports, etc.)
- Slings and/or triangular bandages



Source: <http://www.americanheart.org/presenter.jhtml>

Continuation...

- Roller bandages
- Burn dressing
- Burn treatment
- Assorted splints
- Tissues
- Tweezers
- Goggles



Additional Equipment for School Health Nurses

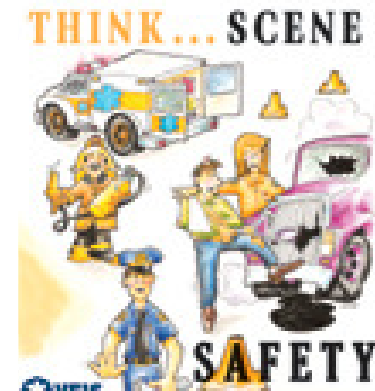
- Tongue blades
- Bandage shears
- Stethoscope
- Blood pressure cuff (adult and paediatric)
- Penlight or flashlight
- Biohazard waste bags and receptacles
- Sharps container
- Pen/pencil
- Clip board
- School approved emergency guidelines



Scene Safety

First ensure both you and the victim are in a safe location.

- Assess for dangerous people
- Assess for dangerous environment
- Unstable surrounding
- Downed power lines
- Assess for danger in the accident



If the scene is dangerous, move the child to a safer location



Universal Precautions

- Use Personal Protective Equipment (PPE)
 - Glove
 - Masks
 - Gown
 - Goggles
- All disposable items touched body fluids in a biohazard waste bag
- Hand Washing



CPR

CPR stands for **cardiopulmonary resuscitation**.

- It is an emergency lifesaving procedure that is performed when a person's own breathing or heartbeat have stopped, such as in cases of electric shock, heart attack, or drowning.
- CPR combines **chest compressions** and **rescue breathing** .
 - Rescue breathing provides oxygen to the person's lungs.
 - Chest compressions keep oxygen-rich blood circulating until an effective heartbeat and breathing can be restored.



CPR and AED

- Adult CPR
- Child CPR
- Using AEDs
- Change from A-B-C to C-A -B

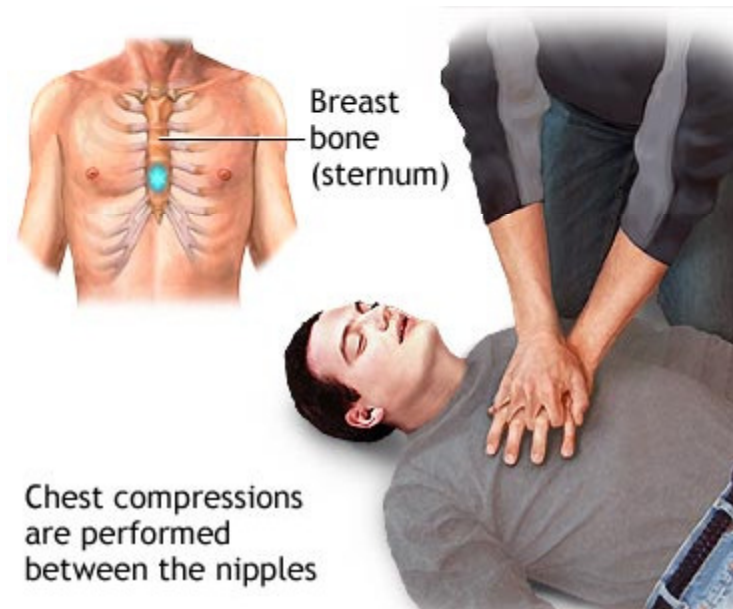


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Adult CPR

- C A B
- Compression
- Airway
- Breathing

Demonstration of Adult CPR



Source: <http://health.allrefer.com/health/cpr-adult-cpr-adult-series-4.html>



Child CPR

- C A B
- Compression
- Airway
- Breathing

Demonstration of Child CPR



Source::<http://health.allrefer.com/health/cpr-child-cpr-child-1-to-8-years-old-series.html>

Checking for injuries and illnesses

Step	Action
1	Check the scene to make sure it is safe
2	Tap the child and shout, "Are you OK?"
3	Airway
4	Breathing (look, listen, feel)
5	Look for obvious signs of injury such as bleeding, broken bones, burns or bites
6	Look for medical information jewelry



Automated External Defibrillator (AED)

Automated External Defibrillators are an essential tool in the diagnosis and treatment of cardiac episodes.

Indications

- Unresponsive
- No Pulse

Steps

- Turn the AED on
- Attach pads
- Analysing the rhythm

➤ Push the shock button if the AED tells you to do so.



Medical Emergencies

- Asthma
- Foreign Body Airway Obstruction-Choking
- Anaphylaxis
- Fainting
- Diabetes and Low Blood Sugar
- Seizures
- Shock



Asthma

Asthma is an allergic reaction resulting in the narrowing of the smaller airways especially bronchioles.



Asthma: Recognition

Mild

- Dry, irritating, persistent cough, often at night or morning and with exercise or activity
- Chest tightness
- Shortness of Breath
- Wheeze/ Gasping for breath



Continuation...

Severe

- Chest tightness
- Inability to speak more than one or two words per breath
- Feeling distressed and anxious
- Little or no improvement after using “reliever” medication.
- Blueness around lips and tongue
- Pale and sweaty



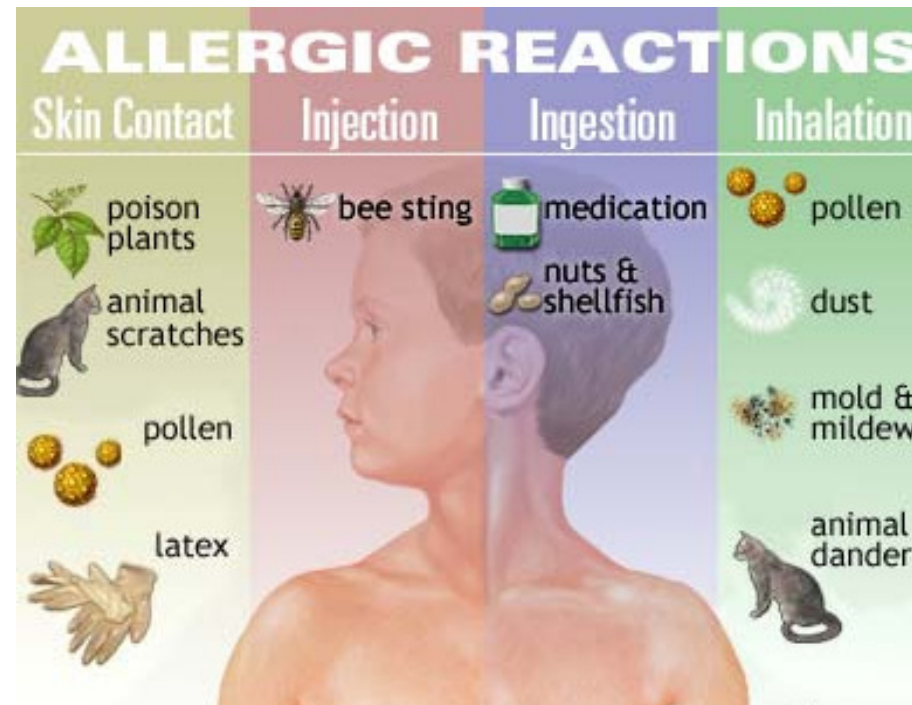
Asthma: Management

- If Responsive
 - In a severe attack call an ambulance immediately
 - Sit the person upright and reassure them.
 - Give 4 separate puffs of a “reliever” medication.
 - Wait 4 minutes, if no improvement repeat it
 - Still no improvement call ambulance
- If Unresponsive
 - Seek urgent medical assistance
 - If needed start CPR



Anaphylaxis

- Anaphylaxis is the most severe form of allergic reaction. It is potentially life-threatening and must be treated as a medical emergency.



Source: <http://health.allrefer.com/health/allergic-reactions-allergic-reactions>

Anaphylaxis: Recognition

- Difficult / noisy breathing
- Wheeze or persistent cough
- Swelling of face and tongue
- Swelling / tightness in throat
- Difficulty talking and / or hoarse voice
- Abdominal pain and vomiting
- Hives, welts and body redness
- Pale and floppy
- Altered responsiveness
- Collapse



Anaphylaxis: Management

Step	Action
1	Make sure the scene is safe
2	Send someone to phone the emergency response number and get the first aid kit
3	If the child is showing signs of a bad allergic reaction use the epinephrine pen/ ask the child to use it
4	If the child stops responding, start the steps of CPR
5	If possible, save a sample of what caused the reaction. This may be helpful if this is the child's first allergic reaction



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Anaphylaxis: Management - EpiPen

Step	Action
1	Get the epinephrine pen
2	Take off the safety cap. Follow the instructions printed on the package
3	Hold the epinephrine pen with your fist without touching either end because the needle comes out the one end
4	Place the tip of the pen hard against the child's thigh between the hip and knee. You can give the epinephrine pen directly to the skin or through clothing



Continuation...

Step	Action
5	Hold the epinephrine pen in place for several seconds. Some of the medicine will remain in the pen after you use it.
6	Rub the injection spot for several seconds
7	After using the epinephrine pen , give it to the ambulance for proper disposal
8	Write down the time of the injection.
9	Stay with the child until trained help arrives and takes over



EpiPen



Demonstration : How to use
Epi-Pen



Choking: Mild vs. Severe

If the child	Then the block in the airway is	Then you should
<ul style="list-style-type: none"> • Can make sounds • Can cough loudly 	Mild	<ul style="list-style-type: none"> • Stand by and let the child cough • If you are worried about the child's breathing, phone your emergency number



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Continuation...

If the child	Then the block in the airway is	Then you should
<ul style="list-style-type: none"> • Cannot breathe • Cannot talk or make a sound • Cannot cry • Has high pitched, noisy breathing • Has a cough that is very quiet or has no sound • Has bluish lips or skin • Makes a choking sound 	<p>Severe</p>	<ul style="list-style-type: none"> • Act quickly • Follow the steps on the next page

Choking: Assisting a child

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Step	Action
1	Ask “Are you choking?”. Tell her you are going to help.
2	Kneel or stand firmly behind her and wrap your arms around her so that your hands are in front.
3	Make a fist with one hand
4	Place the thumb of your fist slightly above the belly button and well below the breastbone



Continuation...

Step	Action
5	Grab the fist with your other hand and give quick upwards thrusts into her belly
6	Give thrusts until the object is forced out and she can breath, cough or speak, or until she stops responding

Note:

- For infants, give - 5 back blow and 5 chest thrust
- If unconscious – call ambulance 999 start CPR



Fainting: Recognition

Fainting is a sudden, brief loss of consciousness caused by a temporary reduction in blood flow to the brain.

Recognition

- Dizziness, lightheadedness, nausea
- Pale, cold, clammy skin
- Numbness or tingling in extremities
- Brief period of unresponsiveness



Fainting: Management

- Lay victim down promptly
- Elevate legs above the heart level if there is no leg or back injury.
- Conduct vital signs and cover the victim to prevent hypothermia.
- Reassure victim when responsive
- Seek medical aid if required

Source: <http://health.allrefer.com/health/shock-info.html>



Seizures: Recognition

During some types of seizures the child may

- Lose muscle control
- Fall to the ground
- Have jerking movements of the arms and legs and sometimes other parts of the body
- Stop responding



Seizures: Management

Step	Action
1	<p>Protect the person from harm by</p> <ul style="list-style-type: none"> • Moving furniture or other objects out of the child's way • Placing a pad or towel under the child's head
2	<p>Look for an epilepsy identity card or identity jewellery Phone or send someone to phone the emergency response number if:</p> <ul style="list-style-type: none"> • This is the child's first seizure • Your action plan for this child says to do so



Continuation...

Step	Action
3	After the seizure, check to see if the child is breathing. If the child does not respond, start the steps of CPR.
4	If you do not think that the child had a head, neck or spine injury, roll the child to his side.
5	Stay with the child until he starts responding or the emergency assistance takes over

Recurrent seizures call 999.



Shock: Recognition

Shock is a condition resulting from inadequate oxygen supply to the major body organs

Recognition

- Tachycardia
- Cool, clammy, pale skin
- Rapid pulse that may become weak or slow
- Rapid, shallow breathing
- Thirst
- Dizziness, nausea, vomiting
- Altered responsiveness
- Weakness, collapse



Shock: Management

- Position the victim in a position of comfort, ideally lying down with the legs elevated slightly
- Treat the cause, if possible (e.g. control severe bleeding)
- Monitor the victims vital signs
- Comfort and reassure
- Provide supplementary oxygen if able
- Maintain body temperature
- Record victims vital signs regularly
- Seek medical assistance



Injury Emergencies

- Internal and External Bleeding
- Wounds
- Head , Neck and Spine Injury
- Fracture and Sprains
- Burns and Electrocution



Bleeding

Bleeding refers to the loss of blood. Bleeding can happen inside the body (internally) or outside the body (externally).



External Bleeding: Management

- Check that the scene is safe
- Wear PPE
- Put pressure directly on an outer wound with a gauze pad or clean cloth. If nothing else is available, use your gloved hand.
- Direct pressure is best for outside bleeding, except for an eye injury.
- Maintain pressure until the bleeding stops.
- If bleeding continues and seeps through the material being held on the wound, do not remove it. Simply place another cloth over the first one.
- If the bleeding is severe, get medical help and take steps to prevent shock.

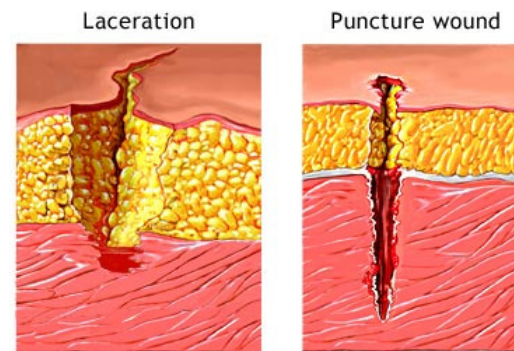


Bleeding: Laceration and Puncture Wound

A cut or laceration is an injury that results in a break or opening in the skin.

- It may be near the surface or deep, smooth or jagged.
- It may injure deep tissues, such as tendons, muscles, ligaments, nerves, blood vessels, or bone.

A puncture is a wound made by a pointed object (like a nail, knife, or sharp tooth).



Bleeding: Minor Cuts

- Check that the Scene is safe
- Wear PPE
- Wash the cut thoroughly with mild soap and water.
- Use direct pressure to stop the bleeding.
- Apply bandage to the wound.



Source:
<http://health.allrefer.com/health/bleeding-info.html>



Management of the Severed part

- Rinse the amputated part
- Wrap it with a clean dressing
- Place body part in a sealed plastic bag or container
- Place that bag in another container of ice/icy water
- Do not allow the body part to come into direct contact with ice or water
- Seek urgent medical assistance



<http://healthguide.howstuffworks.com/replantation-of-digits-picture.htm>



Nosebleeds: Management

- Get the person to sit down and ask them to tilt their head forward to allow the blood to drain from their nostrils.
- Ask the person to pinch the soft part of their nose and continue to breath through their mouth.
- After 10 minutes or when the bleeding stops, release the pressure on the nose.
- If the bleeding has not stopped reapply the pressure for another two periods of 10 minutes.
- If the bleeding is severe or still has not stopped after 30 minutes call for medical help.



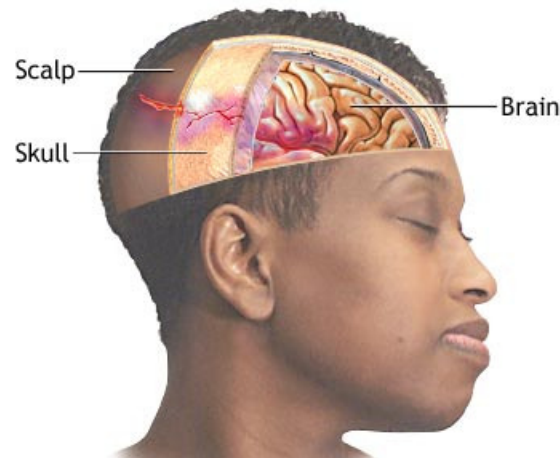
<http://www.thehealthage.com/curing-nose-bleeding-%E2%80>



Head Injury

Head injury is a trauma that leads to the head (injury of the scalp, skull, or brain).

These cases are really needed quick action to perform basic life support and save the victim's life.



<http://health.allrefer.com/health/head-injury-info.html>



Recognition: Head, Neck, and Spine Injury

You should suspect that a victim has a head injury if after an injury the victim

- Does not respond or only moves or moans or groans
- Is sleepy or confused
- Abnormal breathing
- Bleeding or clear fluid from the nose, ear, or mouth
- Vomits
- Complains of headache
- Has trouble seeing
- Has trouble walking or moving any part of the body
- Has a seizure



Management

Step	Action
1	Make sure the scene is safe for both you and the child
2	Phone or send someone to phone the emergency response number and get the first aid kit
3	Hold the head and neck so that the head and neck do not move, bend or twist (i.e. maintain a C-Spine stabilisation)



Continuation...

Step	Action
4	Only turn and move the victim if <ul style="list-style-type: none">•The victim is in danger•You need to do so to check breathing or open the child's airway•The child is vomiting
5	If the child does not respond, start the steps of CPR.
6	If you must turn the child, be sure to roll the child while you support the child's head, neck , and body in a straight line so that you do not twist, bend, or turn in any direction. You will need 2 people to do this
7	If the child responds and is vomiting, roll the child onto his side

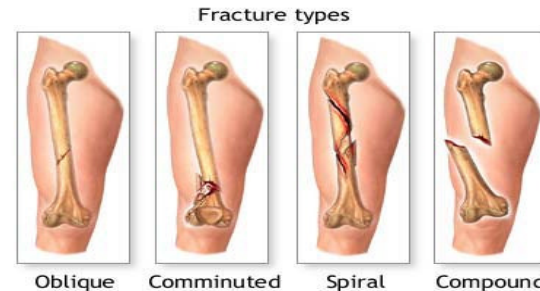


Fracture

A break or a crack in a bone is known as a fracture. Fractures can affect any bone in the body.

Types of Fracture

- Closed (Simple) fracture:
 - complete break, chip, or crack in a bone in which the skin is not broken)
- Open (Compound) fracture
 - complete break, crack, or chip in a bone in which the skin is broken. There is the risk of infection and severe bleeding with open fractures)



Recognition: Fractures Signs and Symptoms

- Pain and swelling,
- Bruising or discoloured skin around the bone or joint,
- The limb or part of the body being bent at an unusual angle (angulation),
- Inability to move or put weight on the injured limb or part,
- A grinding or grating sensation or sound in the bone or joint (crepitus), and bleeding, if it is an open fracture



Management: Fractures

Step	Action
1	Make sure the scene is safe for you and the child
2	Call 999
3	Control any bleeding
4	Care for shock if there are signs of shock
6	Splint the affected area to prevent further movement (immobilisation)
7	Place cold packs on the injured area reduce pain and swelling.
8	If the victim is unresponsive Begin CPR (if there is no pulse)



Recognition: Sprains and Strains

Sprains and strains are a very common type of injury that affect the muscles and ligaments.

Symptoms of sprains and strains include:

- Pain
- Swelling and inflammation
- Loss of movement in the affected body part



Management: Sprains and Strains

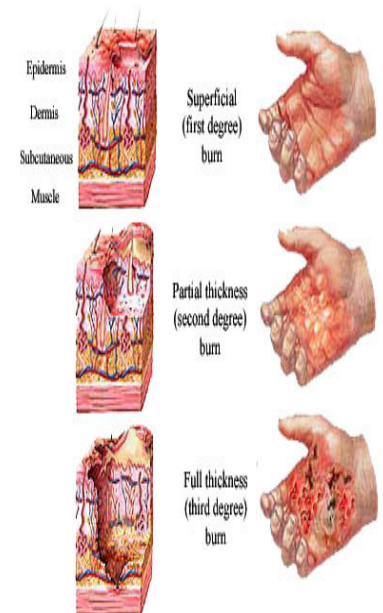
R	Rest
I	Ice - apply ice wrapped in a damp towel to the injured area for 15 to 20 minutes every two to three hours during the day. Do not allow the ice to touch your skin directly because it could cause a cold burn.
C	Compression - compress or bandage the injured area to limit any swelling and movement that could damage it further. It should be wrapped snugly around the affected area but it should not be too tight.
E	Elevation - keep the injured area raised and supported on a pillow to help reduce the swelling.

Recognition: Minor Burns

Burns are injuries that can be caused by contact with heat, electricity, or chemicals.

Minor Burns

- Scene safety
- Take immediate action to stop the burning process
- Cool the burn with cool or lukewarm water for 10 to 30 minutes. Do not use ice, iced water or any creams or greasy substances, such as butter.
- Cover the burn with a dry sterile/clean dressing
- Make sure that the person keeps warm



Recognition: Major Burns

Major Burns

- Scene Safety
- Call 999
- If someone is on fire, tell the person to “ STOP, DROP, and ROLL”
- Cover the victim with blanket
- Remove any clothing or jewellery that is near the burnt area of skin but do not remove anything that is stuck to the burnt skin.
- Victim is not responding ,no pulse start CPR

Run cool water
over area of
burn



Management: Electrical Shock

- Turn off the power
- Call for help 999
- No pulse - start CPR
- Treat for shock.



Environmental Emergencies

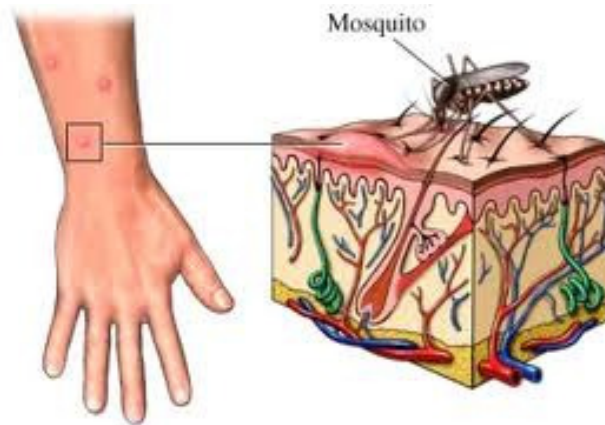
- Bites and Stings
- Snakebites
- Heat stroke
- Poison Emergencies



Recognition: Bite Wound

Bite wound cause by human, animal and insect may can make an infection.

- washing the bite with soap and water
- cold compress over the affected area to reduce swelling for 20 minutes



<http://health.allrefer.com/pictures-images/insect-bites-and-stings.html>

Management: Snakebites

Snake bites are rarely serious and very rarely fatal.

- Scene Safety
- Call 999
- Remain calm and do not panic.
- Gently wash the bite area with running water.
- Immobilisation - secure the bitten body part with a sling
- Remove any jewellery and watches from the bitten limb because they could cut into your skin if the limb swells.



Management: Snakebites – “Do Not”

- Do not suck the venom out of the bite.
- Do not apply cold /ice
- Do not rub anything into the wound.
- Do not apply any tight bandage around the bitten limb to stop the spread of venom, such as a tourniquet or ligature.
- Do not try to catch or kill the snake



Recognition: Heat stroke

Heat stroke is a life-threatening medical condition. The person's cooling system, which is controlled by the brain, stops working and the internal body temperature rises to the point where brain damage or damage to other internal organs may result.

Signs and Symptoms

- Unconscious
- Flushed, hot, and dry skin
- May be hyperventilating
- Rectal temperature of 105°F or more



Management: Heat stroke

- Call 999 immediately
- Move the person to a cooler environment
- Alternatively, moisten the skin with lukewarm water and use a fan to blow cool air across the skin.
- Unresponsive , no pulse start CPR



Poison Emergencies

Poisoning is caused by swallowing, injecting, breathing in, or otherwise being exposed to a harmful substance. Most poisonings occur by accident.

Management:

- Call for help
- Unresponsive ,no pulse start CPR
- Try to make sure that the person has indeed been poisoned. If possible, identify the poison.



Continuation...

- Keep the person comfortable. The person should be rolled onto the left side, and remain there while getting or waiting for medical help.
- If the poison has spilled on the person's clothes, remove the clothing and flush the skin with water.
- Call poison control center.



Heart Attack

A heart attack occurs when a coronary artery has critically blocked. A clot develops on the lining of the coronary artery, preventing blood flow beyond the clot.

Recognition

- Chest discomfort (uncomfortable chest pressure, squeezing, fullness, or pain)
- Pain radiate to neck, jaw, shoulders/arms
- Shortness of breath
- Sweating, nausea, light-headedness
- Pale ,cold and sweaty skin



Stroke

A sudden change in neurologic function caused by a change in cerebral blood flow

Signs and Symptoms

- Sudden numbness or weakness in the face, arm or leg, especially on one side.
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing
- Sudden trouble walking or dizziness
- Sudden severe headache



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Continuation...

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