

Basics of First Aids

First Aids is a very important skill which must be understood by every one because it is the icon that save the life of the others. For this reason, I introduced this simple work to be available on the hands of all people. Besides, I found an urgent need for this book in the libraries of Colleges of Medicine in Iraq and thereby it will be a good guide for the medical students. The book included many common cases which need the urgent first aids interventions in daily life like choking, injury, shocks, heart attack, bleeding, poisoning, fractures, burn and others. The information in this book came in a simple and applicable form to be easy during practical manipulations. Finally, I hope this work is useful to save life of people all over the world. Dr.Wissam Sajid Hashim Al-Uboody, The author.



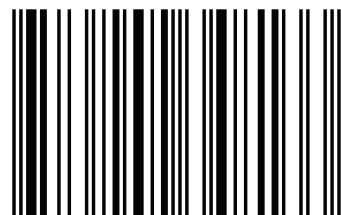
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BASICS OF FIRST AIDS

The purpose of preparing and publishing this handbook was to enrich the Iraqi medical libraries with a suitable reference about the first aids in order to make the medical students fluent with the scientific knowledge which enables them to react properly with the emergencies that they might face throughout life. Beside, this handbook is also useful to be used as a home guide for the proper interactions in case of causalities and injuries.

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The authors

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FIRST AIDS

First Aid is the emergency care and treatment of a sick or injured person before more advanced medical assistance arrives, in the form of the emergency medical services (EMS).

Basic First Aid

At work, injuries and illnesses kill more than two million people in the world each year. That's one death every fifteen seconds... or six thousand people a day. Safe practices and healthy choices at work, home, and play can prevent many injuries, illnesses, diseases, and deaths. However, once injury or sudden illness has occurred, providing effective first aid can make the difference between life and death; rapid versus prolonged recovery; and temporary versus permanent disability. This program focuses on what you must know and do in order to provide confident, effective first aid care.

► Emotional Aspects of Providing First Aid

Both the first aid provider and the victim may suffer emotional distress during and/or following a traumatic incident. The seriousness or horror of the incident will be a factor in determining the amount of emotional distress. It may be worse in human-made events; for example, a terrorist attack or mass shooting. Providing first aid care for a seriously injured or

ill child is generally more emotionally difficult than caring for an adult. Symptoms of a traumatic stress reaction include a pounding heartbeat and fast breathing which may begin during or within minutes of the traumatic event. Feelings of guilt for not having done more, worrying about the safety of loved ones, nightmares, and thinking about the event repeatedly may follow the incident. Stress reactions are a normal, human response to a traumatic event and are usually temporary. With the help of family and friends, most people gradually feel better as time goes by. If you feel you need extra help coping after a traumatic event, call your doctor or ask friends if they can recommend a mental-health professional. The organization you work for may have an Employee Assistance Program available to assist you.

► **Responsibilities of a first aider:**

1. **Preserve** life and provide initial emergency care and treatment to sick or injured people.
2. **Protect** the unconscious.
3. **Prevent** a casualty's condition from becoming worse.
4. **Promote** the recovery of the casualty.

► **Philosophy of First Aid:**

In the pre-hospital setting, the key contributors to survival and recovery from illness and injury are prompt and effective maintenance of the body's primary functions:

1. Airway
2. Breathing
3. Circulation
4. Bleeding control (life threatening)

NOTE: First aiders may be exposed to biological substances such as blood-borne pathogens and communicable diseases, whilst dealing with a first aid incident. These may result from dealing with:

- ❖ Trauma related injuries
- ❖ Resuscitation

There are many different blood-borne pathogens that can be transmitted from a penetrating injury or mucous exposure, in particular, Hepatitis B Virus, Hepatitis C Virus and Human Immune deficiency Virus (HIV). Other diseases not found in human blood may be carried in fluids such as Saliva (e.g. Hepatitis A and the organism that causes meningitis) or animal blood and fluid.

► **Universal Precautions:**

First aiders should equip themselves with and use, personal protection equipment. This equipment is used to minimize infection from disease.

Universal precautions include:

1. Wearing appropriate protective equipment for the task.
2. Treating all persons as if infectious.
3. Washing following completion of task.

4. Appropriate disposal of disposable protective items and/or equipment.
5. Maintaining good hygiene practices before, during and after tasks involving contamination risk.

Note: Universal Precautions are the most effective approach to protecting emergency first aiders in a biological substance exposure situation. If these guidelines are followed, the risk of infection can be significantly minimized.

Exposure sources:

The following are common sources of exposure:

- ❖ All human body fluids and secretions, especially any fluid with visible blood.
- ❖ Any other human material.

Exposure routes:

The following are typical means of exposure:

- a. Punctures or cuts from sharp objects contaminated with blood / fluid.
- b. A spill of blood / fluid onto mucous membranes of the eyes, mouth and/or nose.
- c. A spill of blood / fluid onto skin that may or may not be intact.
- d. A laceration and contamination with blood/fluid from a bite.

► Personal Protective Equipment

Personal protective equipment provides a barrier between you and a victim's blood or body fluid. Disposable gloves are the most recognized barrier and should always be worn whenever blood or body fluids are or may become present.

*Disposable Gloves

When using gloves always quickly inspect them before putting them on. If a glove is damaged, don't use it! When taking contaminated gloves off, do it carefully. Don't snap them. This may cause blood to splatter. Never wash or reuse disposable gloves. If you find yourself in a first aid situation and you don't have any gloves handy, improvise. Use a towel, plastic bag, or some other barrier to help avoid direct contact. Make sure there is always a fresh supply of gloves in your first aid kit.

*Eye Protection

Anytime there is a risk of splatter, goggles or safety glasses with side protection should also be used to help protect your eyes.

*Prevention

To reduce the risk of infection, you should:

- Always wear personal protective equipment in first aid situations.
- Carefully remove gloves, clothing, and any other contaminated material. Place them in appropriately labeled bags or containers.

After providing first aid, wash your hands and other exposed skin thoroughly with an antibacterial soap and warm water. If soap and water are not available, use an alcohol-based hand rub.

► **Immediate action at scene following exposure:**

I. For an open wound

- a. Encourage the wound to bleed, thoroughly wash with water for 15 minutes and dress.
- b. Do not attempt to use a caustic solution to clean the wound.
- c. Seek medical advice as soon as possible.

II. For a splash to a mucous membrane

- a. Flush splashes to nose, mouth or eyes thoroughly with water for 15 minutes.
- b. If the splash is in the mouth, spit out and thoroughly rinse out with water for 15 minutes.
- c. If the splash is in the eyes, irrigate with the eyes open for 15 minutes.
- d. Seek medical advice as soon as possible.

III. For a splash to the skin

- a. At the scene, wash thoroughly with soap and water.
- b. Seek medical advice as soon as possible if the exposure is medium / high risk.

► Primary assessment

The **primary assessment** is a systematic checklist designed to maximize safety and identify / treat immediate life-threatening problems.

The steps to be followed for an adult, child and Infant casualty are remembered by the letters:

DRS ABCD (Rules of First Aids):

D = Danger

R = Response

S = Send for help

A = Airways

B = Breathing

C = Cardiopulmonary Resuscitation + Control major bleeding

D = Defibrillation

Note: *CPR is continued until responsiveness or normal breathing returns.*

***Unresponsive victim (FOLLOW EMERGENT ACTIONS BELOW)**

Perform these steps quickly — in a minute or less!

Emergency Action steps:

- Assess Scene. If the scene is not safe or at any time becomes unsafe, **GET OUT!**

- Assess Victim. Victim is responsive? Identify yourself; ask if it's okay to help. If the victim appears weak, seriously ill, injured, or is unresponsive...
- Alert EMS (Emergency Medical Service). Call emergency, activate Emergency Action Plan.
- Attend to the ABCs. Ensure an open airway, normal breathing, and control bleeding.

► Emergency and First Aid Orientation Youth Camps.

*Preplanning

1. Familiarize yourself with the emergency action plan and building layout for your camp area so you will know what to do in the event of any emergency.
2. Be alert for potential severe weather and know proper emergency procedures.
3. Have a stocked first aid kit readily available and have appropriate first aid training.

***Building Evacuation Maps**

1. Look for Evacuation Maps for building(s) you will be in.
2. Maps show exit routes from building, severe weather shelter areas and locations of fire extinguishers, pull stations, and other emergency equipment.

***Calling Emergencies**

1. Calls to Emergency from a cell phone will reach off-campus emergency dispatch. Inform them your emergency is at Iowa State University.
2. Be prepared to tell them: your exact location, including building name, and room number, your name and phone number you are calling from, and details of your emergency and what happened.

***Reporting Crimes**

***ALL crimes or suspected cases of child abuse or molestation must be reported to specialized policies.**

***Violence, threats or implied threats of violence, and intimidation (verbal or physical acts intended to frighten or coerce) impede the goal of providing a safe environment and will not be tolerated.**

In addition, abuse of children or dependent adults, or any other vulnerable population is specifically prohibited by law.

All students, employees, and visitors are covered by this policy.

****Fire**

1. Assess the situation.
2. Activate the nearest fire alarm.
3. Call Fire station.
4. Evacuate the building in a calm and orderly manner.
5. Use a fire extinguisher –if you have been trained and if you can do so without risk to yourself.
6. Account for all building occupants after evacuation.

***Severe Weather**

1. Be familiar with the building's notification plan.
2. Know where the shelter areas are and how to get to them quickly.
3. Know the terms: Tornado watch– conditions favorable.
4. Tornado warning – tornado sighted, move to shelter.
5. If outside & sirens go off, seek shelter indoors.
6. Remain in shelter until warning expires or danger is past.

► **Essentials you have to know:**

1. **Push hard, push fast:** forceful, fast compressions provide better circulation of blood and oxygen. Fast means at least 100 compressions/minute to a depth of 5 cm/2 in.
2. **Allow for full chest recoil after each compression:** relaxing the pressure on the chest between compressions allows the heart to refill and pump more blood.
3. **Minimize interruption in chest compressions:** blood flow stops if compressions stop.
4. **Early defibrillation:** victims have a better chance of surviving when CPR is performed in combination with early defibrillation.

► **New CPR sequence for cardiac arrest victims:** rescuers start with chest compressions after checking responsiveness, opening the airway and assessing for normal breathing using visual cues such as chest rise.

Why? Cardiac arrest victims need immediate chest compressions. “Look, Listen, Feel for 10 seconds” has been removed from the CPR sequence so chest compressions can begin as soon as possible.

► **No change in CPR sequence for drowning:** after assessing for breathing, rescuers deliver two initial rescue breaths followed by 30 chest compressions.

Why? Drowning victims need urgent replenishment of oxygen starting with rescue breaths as a result of severe asphyxia. Drowning victims may respond after a few initial rescue breaths.

► Compression-only CPR: all trained rescuers should perform CPR with chest compressions and rescue breaths using a mask and gloves. If an untrained rescuer is unwilling or unable, compression-only CPR may be performed.

Why? Studies have shown a combination of chest compressions and breaths is most effective especially for children and infants who experience cardiac arrest as a result of hypoxia, or severe lack of oxygen. In addition, other underlying causes of cardiac arrest such as a drowning, trauma, drug overdose and other non-cardiac causes will benefit from breaths and compressions.

► Minimum depth of chest compression: compression depth for adults is a minimum of 5 cm/2 in. Compression depth for a child is at least $\frac{1}{3}$ the depth of the chest size, or 5 cm for a child and 4 cm for an infant.

Why? There is a wide range of victim sizes for infants and children. Depths measured in centimeters/inches may not reflect the actual victim size for proper depth of compressions. The descriptive term “5 cm/2 in. or $\frac{1}{3}$ the depth of the chest” is more appropriate.

► Choking procedures: conscious adults and children with a severe obstruction receive alternating (5) back blows followed by (5)

abdominal thrusts until the obstruction is dislodged or the victim becomes unconscious. To apply back blows, bend the victim over near-parallel to the ground and support with one arm across chest diagonally. Use your other hand to apply back blows aiming between the shoulder blades. For pregnant, obese and infant victims use a combination of back blows and chest thrusts.

Why? Evidence supports the use of chest thrusts, abdominal thrusts and back blows as effective and feasible means of relieving an obstruction. In some cases more than one technique may be required for severe-choking victims.

► **AED for children between 1 to 8 years of age:** if available the rescuer should use child pads. Some AED units may have a child key or switch on the AED. If the child is very small, you may need to put one pad on the centre of the chest and the other on the child's back to avoid having them touch. Use adult pads if child pads are not available.

Why? Child pads lower the amount of energy delivered compared to adult pads. If no child pads are available, adult pads may be used since providing a shock is better than no shock.

► **EMS activation:** most emergencies occur with several rescuers present who respond as a team. This means activation of EMS may occur alongside assessment for responsiveness and/or breathing. If the rescuer is alone and the victim is a child or infant, activate EMS after

providing five cycles of CPR. If a lone rescuer is with an unresponsive adult he/she may check breathing before activating EMS (if not already done).

Why? CPR has traditionally been presented as a sequence of distinct steps to help a single rescuer prioritize actions. However, many workplaces involve teams of rescuers performing several actions simultaneously (e.g., one rescuer activates EMS while another begins CPR).

► **Jaw thrust:** for spinal-injured victims NLS lifeguards attempt a jaw thrust to open the airway. Grasp the jaw on both sides of the face where it forms an angle close to the ears. Using both hands, move the jaw forward (upward) without tilting the head back. If unsuccessful, lifeguards should immediately use the head-tilt/chin-lift method.

Why? The jaw thrust technique may minimize movement of the cervical spine and is appropriate for NLS lifeguards who have received additional training beyond lifesavers.

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Applying First Aids

I. Burns and Scalds

Seek medical aid urgently if:

1. The burn is deep, even if the patient does not feel any pain.
2. A superficial burn is larger than a 20 cent piece.
3. The burn involves airway, face, hands or genitals.
4. You are unsure of the severity of the burn.

Do not:

1. Apply lotions, ointment or fat to burns.
2. Touch injured areas or burst any blisters.
3. Remove anything sticking to the burn.
4. Use ice.

► First aider intervention:

1. Apply the Rules of first aids.
2. Extinguish burning clothing:
 - a. STOP the patient from moving around.
 - b. DROP/pull the patient to the ground with blanket or similar.
 - c. ROLL the patient along ground until flames extinguished.

3. As soon as possible, hold the burnt area under cool running water for 20 minutes, for thermal, scalds, chemical, bitumen and electrical burns.
4. Remove jewelry and clothing from the burnt area unless stuck to the burn.
5. Prevent infection by covering the burn wound with a loose and light non-stick dressing, preferably clean, dry, lint free (non-fluffy) material e.g. plastic cling film.
6. Manage for shock.
7. Seek medical attention.

*Hydrogel

Hydrogels are a group of interactive dressings which have a high water content (up to 80% for amorphous gels, 90% for sheet gels). These products have the unique ability to provide additional moisture to the wound which both rehydrates necrotic and sloughy tissue to effect debridement and to absorb certain amounts of wound fluid into themselves. If cool running water is not available, hydrogel may be used. Hydrogel, if exposed to air and left in place for long periods, can be associated with the development of hypothermia (extreme cold), especially in the elderly or young children.

II. Severe Bleeding

*For severe external bleeding:

1. Wear gloves, if possible, to prevent infection.
2. Do not apply a tourniquet.
3. If an object is embedded in or protruding from a wound apply pressure either side of the wound and place pads around it before bandaging.
4. Give nothing by mouth.

▶ First aider intervention:

▶ Unconscious casualty

1. Apply the Rules of first aids.

▶ Conscious casualty

1. Apply the Rules of first aids.
2. Lie the casualty down and remove or cut their clothing to expose the wound.
3. Apply direct pressure over the wound using a pad or your hands (use gloves if available). Instruct the casualty to do this if possible.
4. Squeeze the wound edges together if possible.
5. Raise and support the injured part above the level of the heart. Handle gently if you suspect a fracture.

6. Apply a pad over the wound if not already in place and secure by bandaging over the padded wound.
7. If bleeding is still not controlled, leave initial pad in place and apply a second pad and secure with a bandage.
8. Check circulation below wound.
9. Ensure an ambulance has been called.

III. Epistaxis

What is a nosebleed?

Nosebleeds (also called epistaxis) are very common. They can occur at any age but are twice as common in children. Most nosebleeds are harmless and do not require treatment. Nosebleeds usually happen when a small blood vessel inside the nose lining bursts and bleeds. The lining of the nose has lots of tiny blood vessels, which warm the air as it enters the nose. This lining is very fragile and may break easily, causing bleeding.

What causes a nosebleed?

A range of factors can cause a nosebleed. The common ones include:

- Fragile blood vessels that bleed easily, mostly in warm to hot, dry weather.
- An infection of the lining of the nostrils, sinuses or adenoids.
- Colds, flu, allergy or hay fever.
- Bumps or falls.
- An object pushed up the nostril.
- Nose-picking.
- Constipation causing straining.
- Medications such as warfarin, aspirin, clopidogrel (also known as 'blood thinners') and anti-inflammatory tablets.
- A bleeding or clotting disorder. This is rare.

First aider intervention:

You can stop nearly all nosebleeds yourself at home. Follow these simple first aid steps.

1. Stay calm. If a child has a nosebleed then reassure them. Crying will make the bleeding worse.
2. Sit upright and bend forward slightly. Use the thumb and forefinger to pinch the nose. Squeeze firmly over the soft part of the nose just above the nostrils.
3. Hold for 10 minutes and then release the grip slowly. You may have to repeat this step until the bleeding stops.
4. Do not keep checking whether the bleeding has stopped because the blood needs time to clot.
5. Do not blow your nose once the bleeding has stopped otherwise it may bleed again.
6. Breathe through your mouth while the nostrils are pinched.
6. Spit out any blood that comes into your mouth. Do not swallow the blood.
7. It may help to put a cold pack or cold cloth over your forehead or the bridge of the nose.

IV. Fractures

It can be difficult for a first aider to tell whether the injury is a fracture, dislocation, sprain or strain. If in doubt, always treat as a fracture.

DO NOT attempt to force a fracture back into place as this could cause further injuries.

If collarbone is fractured, support arm on injured side in a St John sling.

Signs & symptoms

1. Pain at or near the site of the injury
2. Difficult or impossible normal movement
3. Loss of power
4. Deformity or abnormal mobility
5. Tenderness
6. Swelling
7. Discoloration and bruising.

First aider intervention:

1. Apply the Rules of first aids.
 2. Control any bleeding and cover any wounds.
 3. Check for fractures: open, closed or complicated.
 4. Ask the patient to remain as still as possible.
 5. Immobilize the fracture: use broad bandages (where possible) to prevent movement at joints above and below the fracture.
- * Support the limb, carefully passing bandages under the natural hollows of the body.

- * Place a padded splint along the injured limb.
 - * Place padding between the splint and the natural contours of the body and secure firmly.
 - *For leg fracture, immobilize foot and ankle apply figure of eight bandaging.
6. Check that bandages are not too tight (or too loose) every 15 minutes and watch for signs of loss of circulation to hands or feet.
 7. Ensure an ambulance has been called.

V. Heart Attack

Signs & symptoms

The warning signs of heart attack vary and usually last for at least 10 minutes. The patient may get more than one of these symptoms.

1. Discomfort or pain in the centre of the chest. It may come suddenly or start slowly over minutes. It may be described as tightness, heaviness, fullness, squeezing.
2. Severe, moderate or mild pain. Pain may spread to the neck, throat or jaw, shoulders, the back, and either or both arms.

Other signs and symptoms

1. Shortness of breath.
2. Sweating.
3. Nausea / vomiting.
4. Dizziness.

Do not drive the patient to a hospital in case of a further attack. The ambulance is the safest and fastest way to get to the hospital.

First aider intervention:

1. Apply the Rules of first aids.
2. Advise the patient to immediately stop what they are doing and to rest.

3. If any symptoms are severe, get worse quickly, or last for 10 minutes, ensure an ambulance has been called. Do not hang up.
4. Loosen tight clothing.
5. If patient has been prescribed medication such as a tablet or oral spray for angina, get it and help the patient in taking it as they have been directed.
6. Give the conscious patient 1 aspirin tablet with water. Do not give aspirin to those allergic to it or if their doctor has warned them against taking aspirin.
7. Stay with the patient and regularly check their response and breathing.
8. Be prepared to give CPR.

VI. Diabetes

Signs and symptoms

**Low blood sugar*

1. Pale
2. Hungry
3. Sweating
4. Weak
5. Confused
6. Aggressive.

**High blood sugar*

1. Thirsty
2. Needs to urinate
3. Hot dry skin
4. Smell of acetone on breath.

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.
2. Give nothing by mouth.

Conscious patient

If you are not sure which form of diabetic emergency the patient has, give a sweet drink. This will not do any harm.

****Low blood sugar***

1. Give sugar, glucose or a sweet drink such as a soft drink or cordial (NOT 'diet' or sugar free drinks).
2. Continue giving sugar every 15 minutes until the patient recovers.
3. Follow up with a sandwich or other food.
4. If no improvement, call for an ambulance.

****High blood sugar***

1. Seek medical attention if required.
2. Give patient sugar-free fluids if help is delayed.

VII. Fainting

Signs & symptoms

1. Weak, rapid pulse
2. Cold, clammy skin
3. Rapid breathing
4. Faintness/dizziness
5. Nausea
6. Pale face, fingernails, lips.

Immediately after injury, there may be little evidence of shock. Signs and symptoms may gradually develop depending on the:

1. Severity of the injury
2. Continuation of fluid loss
3. Effectiveness of management.

First aider intervention:

1. Apply the Rules of first aids and manage injuries such as severe bleeding.
2. Reassure the patient.
3. Raise the patient's legs (unless fractured or a snake bite) above the level of the heart, with head flat on the floor.
4. Treat any other wounds or burns, and immobilize fractures.
5. Loosen tight clothing around neck, chest and waist.
6. Maintain the patient's body warmth with a blanket or similar. DO NOT use any source of direct heat.

7. Give small, frequent amounts of water to the conscious patient who does not have abdominal trauma and who is unlikely to require an operation in the immediate future.

8. Monitor and record breathing, pulse and skin colour at regular intervals.

9. Place the patient in the recovery position:

- *if there is difficulty breathing

- *if patient becomes unconscious

- *if patient is likely to vomit.

VIII. Electric Shock

Signs & symptoms

1. Unconsciousness.
2. Difficulties in breathing or no breathing at all.
3. A weak, erratic pulse or no pulse at all.
4. Burns, particularly entrance and exit burns (where the electricity entered and left the body).
5. Sudden onset of cardiac arrest.

First aider intervention:

1. Check for danger to yourself and bystanders. Do not approach the patient.
2. Switch off power before trying to help the patient.
3. Remove the patient from the electrical supply without directly touching them, using a non-conductive, dry material, e.g. dry wooden broom handle.
4. Apply DRSABCD to the patient.
5. Wash and cool the burnt area under running water for 20 minutes.
6. Prevent infection by covering the burn wound with a loose and light non-stick dressing, preferably clean, dry, lint free (non-fluffy) material e.g. plastic cling film.
7. Seek medical attention for potential for cardiac arrhythmias.

Downed powerlines

1. Remain at least 6 meters from any cables.

Basics of First Aids

2. Do not attempt to remove cables.
3. Do not go near a vehicle or try to remove a person from a vehicle being touched by a high voltage cable.
4. Advise the patient not to move.

IX. Choking Infant (Under 1 year)

Signs & symptoms

1. Coughing, wheezing, gagging
2. Difficulty breathing
3. Making a whistling or 'crowing' noise or no sound at all
4. Face, neck lips, ears, fingernails turning blue.

First aider intervention:

1. Call for an ambulance.
2. Place the infant on your forearm with the head downward and
3. supported by your hand.
4. With other hand, give up to 5 back blows with the heel of one hand to the infant's back between the shoulders.
5. Check if the object is relieved after each back blow by turning infant onto the back, open mouth and remove any loose foreign material with your little finger.
6. If unsuccessful after 5 back blows, place the infant on their back on a firm surface, place 2 fingers in the CPR compression position and give up to 5 chest thrusts, slower but sharper than compressions.
7. Check if the object is relieved after each chest thrust.
8. If unsuccessful, continue giving back blows and chest thrusts until medical aid arrives.
9. Be prepared to give CPR if the infant becomes unconscious.

X. Asthma

Warning

Anyone having a SEVERE asthma attack needs URGENT medical treatment. Call for an ambulance.

Signs & symptoms

Asthma attack

1. Increasing wheeze.
2. Cough.
3. Chest tightness.
4. Shortness of breath.

Asthma emergency

1. Symptoms get worse very quickly
2. Severe shortness of breath
3. Can't speak comfortably
4. Lips may turn blue
5. Little or no relief from reliever inhaler.

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.

Conscious patient

1. Help the patient into a comfortable sitting position. Be calm and reassuring. Don't leave the person alone. Help them to follow their action plan.
2. Give 4 puffs of a blue/grey reliever. Use a spacer if available. Shake the reliever inhaler before each puff.
3. Give 1 puff at a time with 4 breaths after each puff.
4. Wait 4 minutes. If no improvement, give 4 more puffs.
5. If the person still cannot breathe normally call for an ambulance and say that someone is having an asthma attack.
6. Keep giving 4 puffs every 4 minutes (as above) until the ambulance arrives.

XI. Severe Allergic Reaction (Anaphylaxis)

Warning

Anaphylaxis is a severe allergic reaction and potentially life-threatening—always treat as a medical emergency.

Signs & symptoms

Watch for any one of the following for anaphylaxis:

1. Difficulty and/or noisy breathing
2. Swelling of the tongue
3. Swelling/tightness of the throat
4. Difficulty talking and/or hoarse voice
5. Wheezing and/or coughing
6. Persistent dizziness or collapse
7. Young children may be pale and floppy.

Mild to moderate allergic reaction (may precede anaphylaxis):

1. Swelling of the lips, face, eyes
2. Hives or welts
3. Tingling mouth
4. Abdominal pain and vomiting.

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.
2. Immediately administer the adrenaline auto-injector, if available.

Conscious patient

1. Apply the Rules of first aids.
2. Help patient to sit or lie in a position that assists breathing.
3. If the patient is carrying an auto-injector, it should be used at once. 4. Let the patient administer the auto-injector themselves, or ask if they require assistance.
5. Keep the patient in a lying or sitting position. Observe and record pulse and breathing.
6. If no response after 5 minutes, further adrenaline may be given.

XII. Epilepsy

Signs & symptoms

There are different types of seizures, and signs and symptoms may include the following:

1. Suddenly cry out
2. Fall to the ground
3. Stiffen and lie rigid for a few seconds
4. Have jerky, spasmodic muscular movements
5. look very pale and have blue tinged lips
6. Have excessive saliva coming out of the mouth
7. Sometimes bite the tongue or cheek
8. Lose control of bladder and bowels
9. Be extremely tired, confused or agitated afterwards.

What to do

During the seizure??

1. Do not try to restrain the person.
2. Do not put anything in their mouth.
3. Do not move the person unless in danger.
4. Protect the person from injury by placing something soft under head and shoulders.
5. Record the duration of the seizure.

After the seizure

1. Apply the Rules of first aids. Check the person's breathing and response.
2. Place the person in the recovery position as soon as jerking stops, or immediately if they have vomited or have food or fluid in their mouth.
3. Manage any injuries resulting from the seizure.
4. If the person falls asleep do not disturb them (this is normal) but do continue to check their breathing and response.

Call for an ambulance if:

1. The seizure continues for more than 5 minutes
2. Another seizure quickly follows
3. The person has been injured
4. The person is diabetic or is pregnant.

XIII. Poisoning

Warning

1. DO NOT induce vomiting unless advised to do so by Poisons Information Centre.
2. DO NOT give anything by mouth.
3. Wash substances off mouth and face with water.

Signs & symptoms

Signs and symptoms depend on the nature of the poisons which may be ingested, inhaled, absorbed or injected into the body. They may include:

1. Abdominal pain
2. Drowsiness
3. Burning pains from mouth to stomach
4. Difficulty breathing
5. Tight chest
6. Blurred vision
7. Odours on breath
8. Change of skin colour with blueness around the lips.
9. Sudden collapse.

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.
2. Ensure the call for an ambulance has been made.
3. Call the fire brigade if the atmosphere is contaminated with smoke or gas.

Conscious patient

1. Apply the Rules of first aids.
2. Listen to the patient. Give reassurance but not advice.
3. Try to determine from the patient, the type of poison taken.
4. Call for Poisons Information Centre.
5. Send any vomit, containers and/or suicide notes with the patient to hospital.

XIV. Snake bites

Warning

1. DO NOT wash venom off the skin.
2. DO NOT cut the bitten area.
3. DO NOT try to suck venom out of wound.
4. DO NOT use a tourniquet.
5. DO NOT try to catch the snake.

***Signs** are not always visible but may be a puncture marks, bleeding or scratches.

- Symptoms developing within an hour may include headache, impaired vision, nausea, vomiting, diarrhea, breathing difficulties, drowsiness, faintness, and problems speaking or swallowing.

First aider intervention:

1. Apply the Rules of first aids.
2. Reassure the patient and ask them not to move.
3. Apply a broad crepe bandage over the bite site as soon as possible.
4. Apply a pressure bandage (heavy crepe or elasticized roller bandage) starting just above the fingers or toes of the bitten limb, and move

upwards on the limb as far as can be reached (include the snake bite).

Apply firmly without stopping blood supply to the limb.

5. Immobilize the bandaged limb with splints.

6. Ensure the patient does not move.

7. Write down the time of the bite and when the bandage was applied.

Stay with the patient.

8. Regularly check circulation in fingers or toes.

9. Manage for shock.

10. Ensure an ambulance has been called.

XV. Spider bites

Signs & symptoms

General symptoms

1. Sharp pain at bite site
2. Profuse sweating
2. Nausea, vomiting and abdominal pain.

Additional symptoms of a Funnel-Web spider bite

1. Copious secretion of saliva
2. Muscular twitching and breathing difficulty
3. Small hairs stand on end
4. Numbness around mouth
5. Copious tears
6. Disorientation
7. Fast pulse
8. Markedly increased blood pressure
9. Confusion leading to unconsciousness.

Additional symptoms of a red-back spider bite

1. Intense local pain which increases and spreads
2. Small hairs stand on end

3. Patchy sweating
4. Headache
5. Muscle weakness or spasms.

Possible signs and symptoms of other spider bites

1. Burning sensation
2. Swelling
3. Blistering.

What to do

1. Apply the Rules of first aids.
2. Lie the patient down.
3. Calm and reassure the patient.

Apply management for:

Funnel-web / Mouse spider

1. If on a limb, apply a broad crepe bandage over the bite site as soon as possible.

apply a heavy crepe or elasticized roller bandage starting just above the fingers or toes of the bitten limb, and move upwards on the limb as far as can be reached (include the bite). Apply firmly without stopping blood supply to the limb.

Immobilize the injured limb with splints and ensure the patient does not move.

Ensure an ambulance has been called.

Red-back spider

1. Apply an icepack (cold compress) to the bitten area to lessen pain
2. Seek medical attention if patient develops severe symptoms.

Other spider bites

1. Wash with soap and water
2. Apply icepack (cold compress) to relieve the pain
3. Seek medical attention if patient develops severe symptoms.

XVI. Spinal injury

Warning

*Take extreme care at all times to maintain alignment of the head, neck and spine.

*If the patient is unconscious as a result of a head injury, always suspect a spinal injury.

Signs & symptoms

1. Pain at or below site of injury.
2. Loss of sensation, or abnormal sensation such as tingling in hands or feet.
3. Loss of movement or impaired movement below site of injury.

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.
2. Place unconscious patient in recovery position supporting neck and spine in a neutral position at all times to prevent twisting or bending movements.
3. Maintain a clear and open airway.
4. If ambulance is delayed, apply a cervical collar (only if trained to do so), to minimize neck movement.
5. Ensure an ambulance has been called.

Conscious patient

1. Apply the Rules of first aids.

2. Calm the patient and loosen tight clothing.
3. Do not move the patient unless in danger.
4. Support head, neck and spine in a neutral position at all times to prevent twisting or bending movements.
5. If ambulance is delayed, apply a cervical collar (only if trained to do so), to minimize neck movement.
6. Ensure an ambulance has been called.

XVII. Sport Injury

**It can be difficult to tell whether the injury is a fracture, dislocation, sprain or strain. If in doubt, always treat as a fracture.*

***Signs & symptoms**

((Sprain))

1. Intense pain
2. Restricted mobility
3. Rapid development of swelling and bruising.

((Strain))

1. Sharp, sudden pain in region of the injury.
2. Loss of power.
3. Muscle tenderness.

First aider intervention:

1. Apply the Rules of first aids.
2. Follow the RICE management plan: REST the patient and the
- 3.injured part.
4. Apply ICEPACK (cold compress) wrapped in a wet cloth to the injury for 15 minutes every 2 hours for 24 hours, then for 15 minutes every 4 hours for 24 hours.
5. Apply COMPRESSION elastic bandage firmly to extend well beyond the injury.

7. ELEVATE the injured part.
8. Seek medical attention if no improvement.

XVIII. Eye injury

Do not:

1. Touch the eye or contact lens.
2. Allow patient to rub eye.
3. Try to remove any object that is embedded in or penetrating from the eye.
4. Persist in examining the eye if the injury is severe apply pressure when bandaging the eye.

Signs and symptoms

1. Pain and 'watering'
2. Whites of the eye may become red unable to open the eye.
3. Spasm or twitching swelling.

First aider intervention:

A-Burns

1. Act with extreme urgency (within seconds) if a heat or chemical burn.
2. Apply the Rules of first aids.
3. Support the patient's head to keep as still as possible and ask patient to try not to move their eyes.
4. Open eyelids gently and wash eye with cool flowing water for 20 minutes.

Basics of First Aids

5. Place eye pad or a light clean dressing over the injured eye only.
6. Ensure an ambulance has been called.

B-Penetrating or embedded wounds

1. Apply the Rules of first aids.
2. Lie patient in comfortable position on back.
3. Cover the injured eye only by placing thick pads above and below the eye or cover with a paper cup.
4. Bandage pads in place making sure there is no pressure on eyelids.
5. Ensure an ambulance has been called.

C-Smoke

1. Ask the patient not to rub their eyes.
2. Wash the eyes with sterile saline or cold tap water.

XIX. Head Injury

Symptoms may include:

1. Any loss of consciousness
2. Dizziness and nausea
3. Blurred vision
4. Vomiting within a few hours after a head injury
5. Persistent significant headache
6. Onset of seizures.

The patient may:

1. Be dazed and confused
2. Have a loss of memory
3. Show altered or abnormal responses to commands
4. Have poor balance
5. Drowsiness
6. Have wounds to the scalp or face.

Any individual who has suffered unconsciousness or an altered state of consciousness (persisting for more than 1–2 minutes) should be seen by a first aider or paramedic and kept in a position of rest.

Such victims, particularly in respect to the sporting context, should not return to the field of play on that day. The individual who has had a sports concussion should be checked by a qualified health professional to determine a plan for returning to the sport.

If there is any worsening of symptoms or no improvement within 10 minutes, then seek immediate medical attention.

First aider intervention:

Conscious patient

1. Apply the Rules of first aids.
2. If the patient shows any of the signs of concussion, advise them to seek medical attention.

Unconscious patient

1. Place in recovery position.
2. Clear and open airway.
3. Monitor breathing.
4. Support the patient's head and neck in neutral alignment with spine during movement; avoid twisting movements (patient could have spinal injury).
5. Keep the patient's airway open with a chin lift if the face is badly injured (do not force).
6. Control any bleeding but do not apply direct pressure to the skull if you suspect a depressed fracture.
If blood or fluid comes from the ear, cover with a sterile dressing.
8. Ensure an ambulance has been called, noting the patient's condition so that you can report it to the paramedics.

XX. Stroke

Signs & symptoms

1. Sudden decrease in level of consciousness
2. Weakness or paralysis, especially on one side of the body
3. Feeling of numbness in face, arms or legs
4. Difficulty speaking or understanding
5. Unexplained dizziness
6. Disturbed vision
7. Loss of balance
8. Confusion.

*****If you recognize the signs of STROKE act FAST***

- *Facial weakness
- *Arm weakness
- *Speech difficulty
- *Time to act fast

First aider intervention:

Unconscious patient

1. Apply the Rules of first aids.

2. Place in the recovery position.
3. Ensure an ambulance has been called.

Conscious patient

1. Apply the Rules of first aids.
2. Calm and reassure the patient.
3. Support head and shoulders on pillows.
4. Loosen tight clothing.
5. Maintain body temperature.
6. Wipe away secretions from mouth.
7. Ensure an ambulance has been called.

XXI. Febrile Convulsions

Warning !!

DO NOT cool the child by sponging or bathing, but remove excess clothing.

Convulsions in infants and children may be due to fever, infection, epilepsy or other conditions. Febrile convulsions are usually brief, lasting no more than 5 minutes.

Signs & symptoms

1. Fever
2. Muscle stiffening
3. Twitching or jerking of face and limbs
4. Eyes rolling upwards
5. Blue face and lips
6. Unconsciousness.

First aider intervention:

During the convulsion:

1. Place the child on the floor for safety
2. Turn the child on their side
3. DO NOT restrain the child.

After the convulsion:

1. Apply the Rules of first aids
2. Remove excess clothing or wrappings
3. Seek medical attention if necessary.

XXII. Heat Stroke & Exhaustion

Signs and symptoms

Heatstroke: a medical emergency

1. High body temperature of 40°C or more
2. Flushed and dry skin
3. Pounding rapid pulse
4. Headache, nausea and/or vomiting
5. Dizziness and visual disturbances
6. Irritability and mental confusion which may progress to seizure and unconsciousness.

What to do — Heatstroke??

1. Apply the Rules of first aids.
2. Apply cold packs or wrapped ice to the patient's neck, groin and armpits.
3. Cover the patient with a wet sheet.
4. Ensure an ambulance has been called.
5. Give water to the patient if they are fully conscious and able to swallow.
6. Seek urgent medical attention if the patient has a seizure or becomes unconscious.

Heat exhaustion

1. Feeling hot, exhausted, weak and fatigued

2. Persistent headache
3. Thirst and nausea
4. Giddiness and faintness
5. Rapid breathing and shortness of breath
6. Pale, cool, clammy skin
7. Rapid, weak pulse.

What to do — Heat exhaustion??

1. Move the patient to lie down in a cool place with circulating air.
2. Loosen tight clothing and/or remove unnecessary garments.
3. Sponge the patient with cool water.
4. Give the conscious patient fluids to drink.
5. Seek medical attention if the patient vomits or does not recover quickly.

XXIII. Hypothermia (Cold-induced emergency)

Signs & symptoms

Early warning signs may include:

1. Feeling cold
2. Shivering
3. Clumsiness and slurred speech
4. Apathy and irrational behaviour.

As body temperature drops:

1. Shivering usually ceases
2. Pulse may be difficult to find
3. Heart rate may slow
4. Level of consciousness continues to decline.

At around 30°C body temperature:

1. Unconsciousness is likely
2. Heart rhythm is likely to change.
3. As the body temperature falls further the heart may arrest, resulting in death.

First aider intervention:

1. Apply the Rules of first aids.
2. Remove the patient to a warm, dry place.

3. Protect the patient and yourself from wind, rain, sleet, cold, wet ground.
4. Lie the patient down and handle as gently as possible and avoid excess activity or movement.
5. Remove wet clothing and warm the patient by placing between blankets, in a sleeping bag, or wrap in a thermal/space blanket or similar, and cover the head to maintain body heat.
6. Provide warmth to the patient aiming to stabilize core temperature rather than attempt rapid rewarming.
7. Hot water bottles, heat packs may be applied to the patient's neck, armpits and groin.
8. Give the patient warm drinks if conscious; no alcohol.
9. DO NOT use radiant heat such as fire or electric heater.
10. DO NOT rub affected areas.

XXIV. Tongue Swallowing

First aid on this injury can get complicated because if it is from the result of a head or neck injury.

1. Don't roll them over as you may do further damage to their spine.
2. Keep them flat on their back and in-line, keeping their neck straight with your hands to prevent further twisting and contorting of the spine.
3. If it is from something else, best thing to do is get gravity on your side and roll them to their side, keeping their tongue out of their airway.
4. If they actually SWALLOW it and are choking on it, do the Heimlich maneuver (stomach pump), wrapping your arms around them from behind, making a fist with your right hand and cupping it with your left, and press up suddenly and strongly; try and knock the wind out of them. This will force the object out.
5. Never try to pry it out with your fingers or an object; it may result in the tongue going further down into the airway opening (glottis), causing a potentially fatal complete airway blockage. Leave the removal of it to the emergency units.

XXV. Drowning (Sinking in river)

1. Call emergency and get help
2. Move the Person
3. Check for Breathing
4. If the Person is Not Breathing, Check Pulse
5. If There is No Pulse, Start CPR
6. Repeat if Person Is Still Not Breathing.

*****If a person is drowning:**

1. Get Help
 - Notify a lifeguard, if one is close. If not, ask someone to call emergency.
 - If you are alone, follow the steps below.
 2. Move the Person
 - Take the person out of the water.
 3. Check for Breathing
 - Place your ear next to the person's mouth and nose. Do you feel air on your cheek?
 - Look to see if the person's chest is moving.
 4. If the Person is Not Breathing, Check Pulse
 - Check the person's pulse for 10 seconds.
 5. If There is No Pulse, Start CPR
- Carefully place person on back.

- For an adult or child, place the heel of one hand on the center of the chest at the nipple line. You can also push with one hand on top of the other. For an infant, place two fingers on the breastbone.
- For an adult or child, press down about 2 inches. Make sure not to press on ribs. For an infant, press down about 1 and 1/2 inches. Make sure not to press on the end of the breastbone.
- Do 30 chest compressions, at the rate of 100 per minute or more. Let the chest rise completely between pushes.
- Check to see if the person has started breathing.

Note that these instructions are not meant to replace CPR training.

6. Repeat if Person Is Still Not Breathing

- If you've been trained in CPR, you can now open the airway by tilting the head back and lifting the chin.
- Pinch the nose of the victim closed. Take a normal breath, cover the victim's mouth with yours to create an airtight seal, and then give 2 one-second breaths as you watch for the chest to rise.
- Give 2 breaths followed by 30 chest compressions.
- Continue this cycle of 30 compressions and 2 breaths until the person starts breathing or emergency help arrives.

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