1. FIRST AID

Definition and general aspects.

First aid is the set of immediate actions carried out in case of accident or sudden illness, until the intervention of specialized personnel.

Its main objectives are as follows:

- Monitor vital signs.
- Not to aggravate the general condition of the victim.
- Avoid secondary injuries.

We should never:

- Aggravate the injured person's condition.
- Move the injured person, since we do not know the actual injuries he/she may present.
- Give the injured person something to drink, since when head, neck, thorax and abdominal injuries occur, fluid may follow unnatural routes.

We must:

- Use common sense.
- Eliminate elements that may aggravate the situation.
- Check vital signs.
- Immediately notify emergency services.

In order to achieve these objectives, it is essential that in the event of an accident we have perfectly structured and prepared how and when to act. For this we have a method called **P.A.S.** [Proteger (Protect), Avisar (Warn), Socorrer (Aid)] that will indicate the most appropriate order of action.

- **PROTEGER (PROTECT)**: To examine whether the causes of the accident persist in order to prevent the situation from worsening.
- **AVISAR (WARN):** Call the emergency services: **112 and 061**. It is important to report the exact location of the incident, number of people involved, and symptoms, and ensure that the information has been received correctly.
- **SOCORRER (AID):** The first thing to do while waiting is to reassure the victim that help is on the way.

2. PRIMARY EVALUATION

Once the victim has been protected and the emergency services have been notified, we must assess the victim's overall condition in order to take the necessary measures to maintain his or her life. This assessment will be based mainly on:

Assess the state of **consciousness.** Assess **respiratory** function. Assess **cardiac** function**.**

Stimulation voice, touch. Note respiratory sounds and movements. Check the pulse.

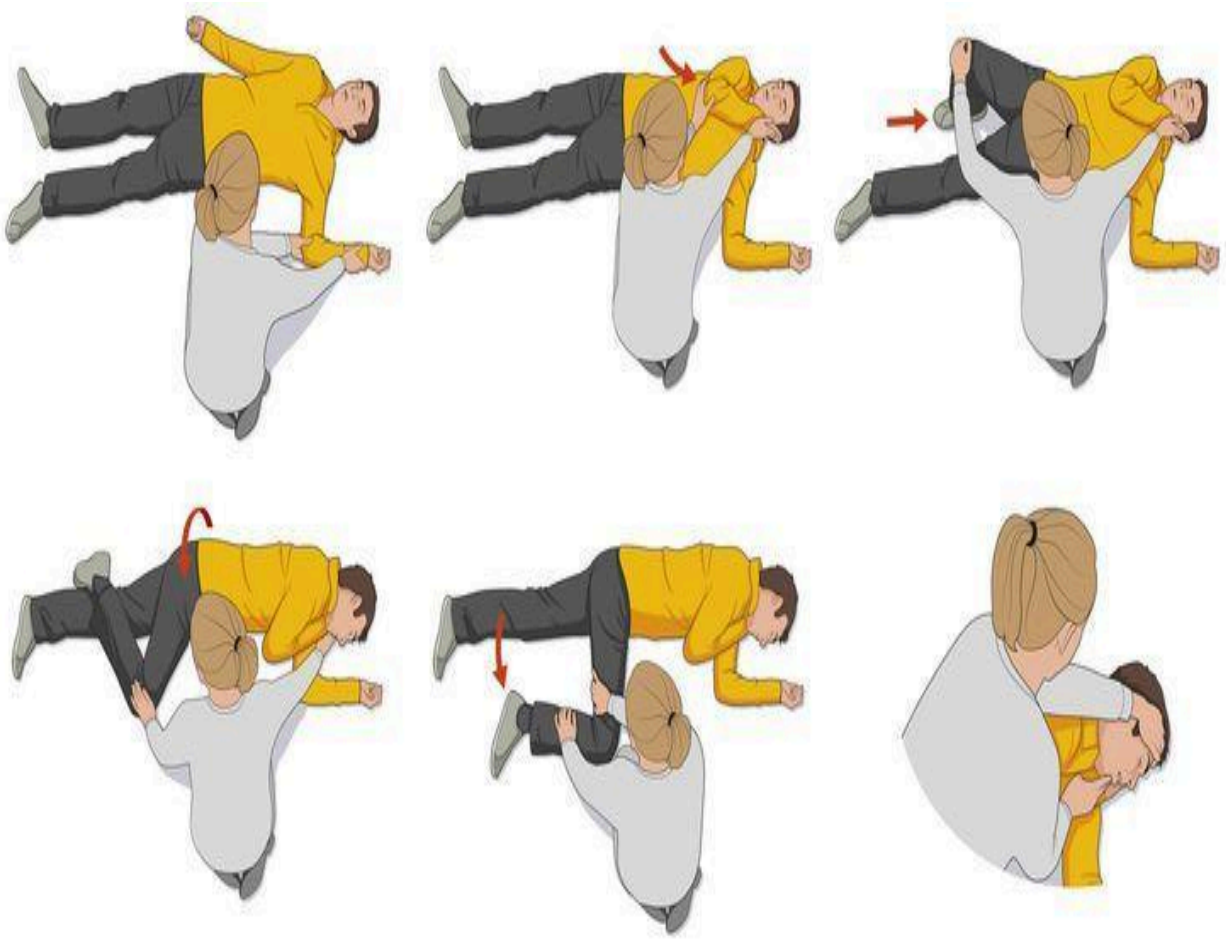
Assessment of the state of consciousness:

- **The person is conscious,** talking, nodding.... This is when we ask questions that are easy to answer and important to those in emergency services. If the patient is able to communicate with us, we need to check their types of injuries: fractures, wounds, burns, etc. The conscious victim is the last to be treated, as the other cases listed below are more serious. When you attend to a conscious victim, you will begin a second evaluation after confirming they are conscious.

- If **the person is not** conscious, we will move on to check breathing.

Assessment of respiratory function:

- If he does not speak, we must make sure that the thorax and abdomen are moving. If they move, it means that **he is breathing**, so we only need to **place him in the SAFE POSITION as** follows:

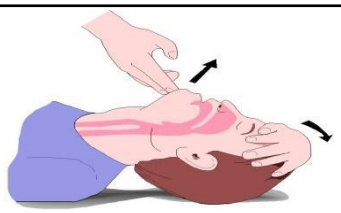


- If the victim **doesn´t breath** but **has pulse**, we will proceed with the **pulmonar reanimation**:

POSITION

VICTIM: In a supine position (lying face-up) on a flat and hard surface.

FIRST AID PRACTITIONER: They will move their body near the head of the patient and will lean over the patient's head while on their knees.



PROCEDURE

- CHECK FOR FOREIGN OBJECTS
- MOUTH TO MOUTH
- RHYTHM
- CHECK

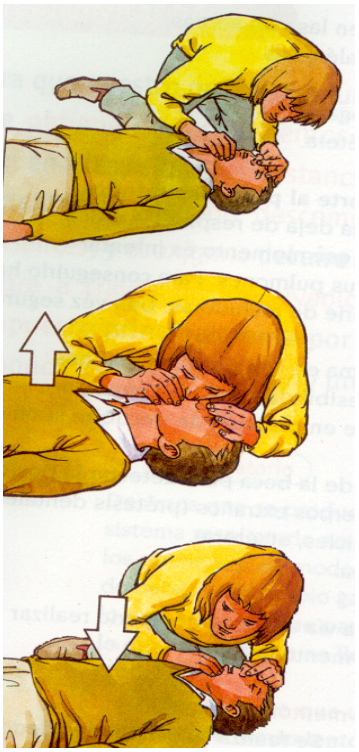
Check for the presence of foreign objects and if there are any present, remove them. Open the airway with the **forehead-chin maneuver**, which consists of placing the head backwards with one hand on the forehead and the other on the chin, thus preventing the tongue from obstructing the passage of air.

Pinch the nose with the index finger and thumb.

Inhale, seal your lips with the victim's lips, and **breathe air in** to the victim's mouth for **1 to 2 seconds.**

Check that the **thorax swells during insufflations** and let the air out.

Repeat the process every 4-5 seconds.

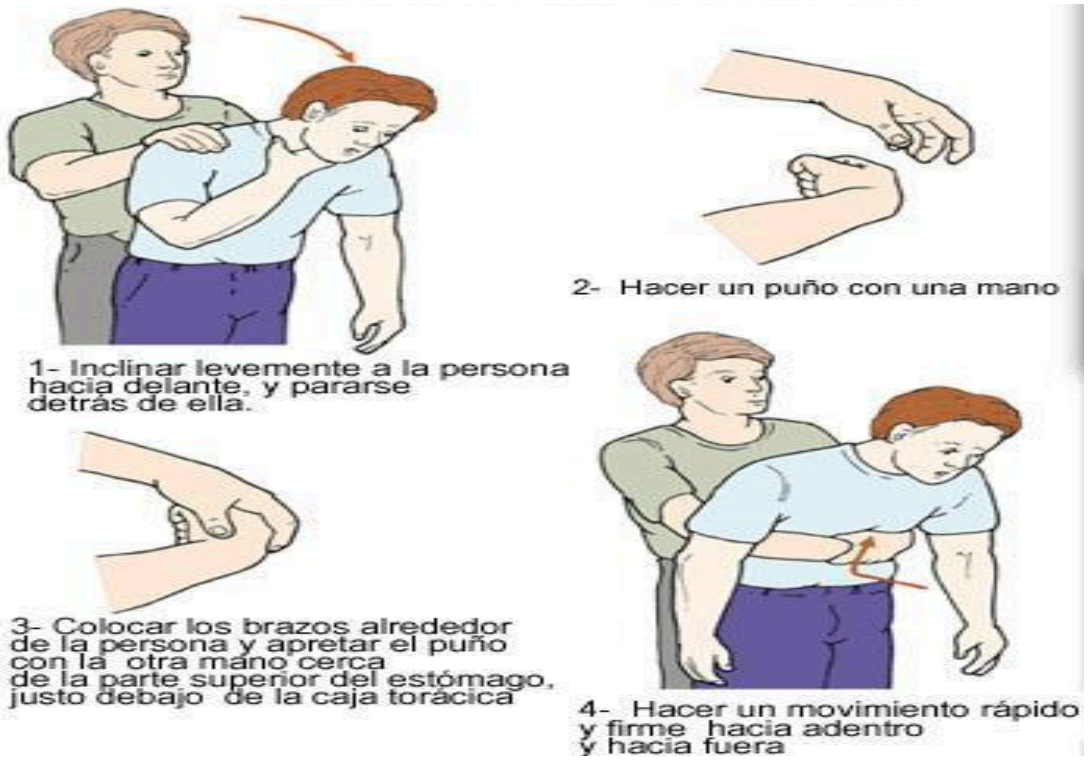


- If the patient experiences shortness of breath due to partial **choking**, we will let the patient **cough** without hitting their back. On the contrary, if the patient is experiencing a **total block** of their airways (they cannot cough or speak), we will perform the **Heimlich Maneuver**.

The **HEIMLICH MANEUVER** is **a first aid procedure to unblock the respiratory tract**, normally blocked by a piece of food or any other object.

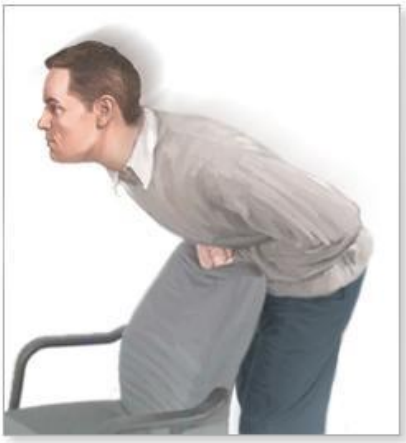
HEIMLICH MANEUVER **IN ADULTS:**

To perform the Heimlich Maneuver in adults, **wrap your arms around the patient at the waist from the back** with both arms while they are standing. In this position, press with one hand closed and the other covering the first one. **Rest the fist with the thumb on the abdomen and press towards the center of the stomach and upwards**, just above the navel and under the ribs of the patient.



* In point 4 of the image, when it says outward, it means upward, to ensure the exit of the object.

In the event that the **choking person is alone, he/she** should take a **chair** with a backrest or any object that is similar to it and do the following:



Colocar el puño sobre el ombligo mientras se sostiene el puño con la otra mano. Inclinarse sobre una silla o encimera y llevar el puño hacia sí con fuerza y presionando hacia arriba

A.D.A.M.

HEIMLICH MANEUVER **IN BABIES:**

Cardiac Assesment:

We must check if the victim has a pulse in

the neck (carotid artery) or wrist (radial artery). If there is no pulse, we must begin cardiopulmonary resuscitation (CPR).

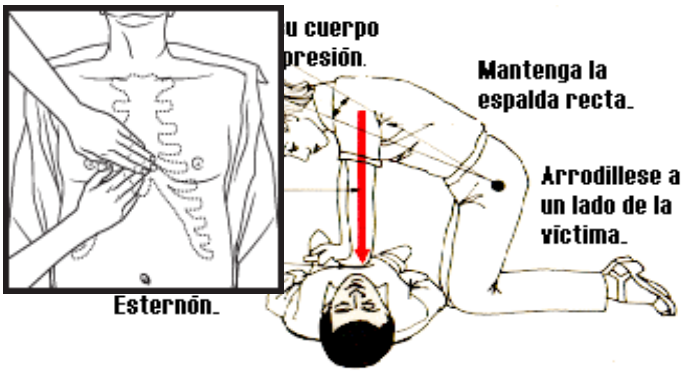
CARDIO PULMONARY RESUSCITATION(CPR) combines mouth-to-mouth breathing and cardiac compressions. Mouth-to- mouth breathing supplies oxygen to the person's lungs and cardiac compressions keep the blood circulating**.**

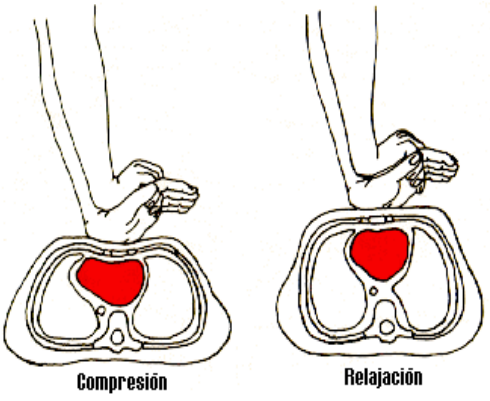
Permanent brain damage or death can occur within minutes if blood flow stops; therefore, it is very important that the maneuver not be stopped until medical help arrives.

CPR techniques vary slightly depending on the age or size of the patient. **Newer techniques emphasize compressions over mouth-to-mouth resuscitation**, reversing prior guidance.

CARDIO PULMONARY REANIMATION **IN ADULTS** is performed in the following steps:

- We kneel next to the victim.
- We look for the end **of the breastbone and two finger lengths above it, we place the heel of one ha**nd and put the other hand on top, interlacing our fingers.
- With **the arms straight** and the shoulders on the midline of the injured person's body, we press with the weight of our bodies on this point in a vertical direction.
- We must achieve a **breastbone depression** of about **3 to 5 cm** and must press at a rate of **100 per minute**, faster than once per second.
- Regular compressions must be performed, **allowing the chest to recover its initial shape** between one compression and the next to allow the venous blood to return, which is essential for good circulation.
- **Number of compressions and insufflations to be** followed in cardiopulmonary resuscitation is: **30 compressions and 2 insufflations (breaths).**

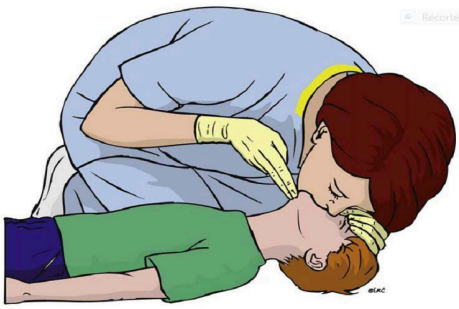


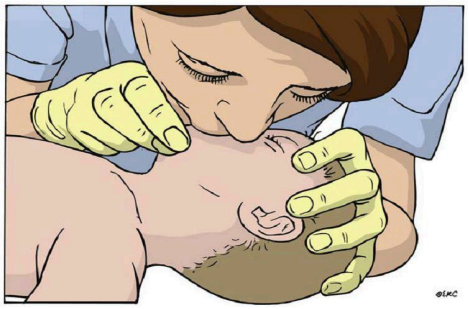


CARDIO PULMONARY RESUSCITATION **IN BABIES:**

We will follow the same indications as in adults except that the **compressions** will be made **with two fingers** of the hand and in the **insufflations**

(breaths), our mouth should cover their **nose and mouth.**





3.- SECONDARY EVALUATION

Once the existence and maintenance of vital signs have been verified, the following should be checked and treated:

- **3.1 HEMORRHAGE** "An escape of blood from its normal conduit". They can be:
  - **External:** The blood comes out through a wound. Depending on the vessel ruptured they can be:
    - **Arterial:** Output by impulse (heart) due to blood pressure, it is the most severe, the color of the blood will be bright red.
    - **Venous:** Outflow continuously and without pressure. Dark red blood.
    - **Capillary:** Exit through many points and without pressure. They are the least dangerous.

    Action**:** Compress with gauze, if it is in an extremity, elevate the wound above the heart and do not create tourniquets.

  - **Internal:** Produced inside the person but not leaving it. The blood leaves the vessels and remains inside the body.

    Action: Elevate legs, loosen clothing from the wound and cover the victim.

  - Externalized: produced inside the organism, but with exit to the outside through a natural orifice. Example: Nasal bleeding.

  Action: Compression with the fingers of the soft portion of the nose for 10 minutes. Tilt the head forward and breathe through the mouth.

- **3.2 SOFT TISSUE INJURIES (WOUNDS)** "are those injuries with skin or mucous membrane rupture". Depending on the severity, they are classified as follows:
  - **Minor injuries** (small cuts and scrapes).

Action: wash hands and clean the wound with soap and water. Do not use absorbent cotton, only sterile gauze and antiseptics.

- **Serious injuries**.
  Action: Do not remove foreign bodies. Control bleeding by compressing the affected area with sterile dressings larger than the wound, if these are soaked with blood, increase the number of dressings and continue compressing. Immediate transfer to hospital.

- **3.3 TRAUMATIC INJURIES:**

o FRACTURES

The complete fracture is the interruption of the continuity of the bone produced by a trauma. The incomplete fracture (fissure) is the one in which the bone is not broken in its totality. In no case should we transport a fractured person without first immobilizing the damaged limb. Fractures can be open and closed.

- **Open Fractures:** There is a wound in the skin and the bone comes out.
  Action:
  - Place a bandage over the wound.
  - Do not touch exposed bone ends.
  - Stop the hemorrhage (refer to the hemorrhage section).
  - Immobilize the fractured area.
  - Quickly transport the victim to the hospital.

- **Closed Fractures:** These are fractures in which there is no open wound.
  Action:
  - Immobilize the area preventing movement of the nearest joints.
  - Never place a bandage on a closed fractrure.

- **SPRAINS**

It is the stretching or rupture of ligaments after a forced movement. It occurs very frequently and occurs mainly in the ligaments of the ankles, knees, wrists and finger joints.

Action:

- The injured joint should not bear any weight.
- Do not apply dry or moist heat or thermo-stimulating ointments as they cause dilation of the blood vessels (increasing swelling and effusion).
- Elevate the affected area to reduce swelling.
- Apply cold, thus relieving pain and reducing swelling.
- Apply compressive bandages to reduce swelling.
- Transport the victim to the health center.

o DISLOCATIONS

Momentary exit of a joint. It is identified by intense pain and inflammation of the area, manifest deformity and total functional impotence (the victim is not able to move that joint). We must immobilize the joint, without attempting to move it in any direction.

- **3.4 ALTERATIONS OF CONSCIOUSNESS: Fainting, heat stroke, hypoglycemia and epileptic seizures.**

- **FAINTING:**

It is a transient syndrome of loss of consciousness due to an insufficient irrigation in the central nervous system, caused by an unequal distribution of blood in the different parts of the individual. It usually occurs in people who are not well train or fit and try to do a high intensity physical exercise.

Symptoms:

- Cold sweat and paleness of face.
- The victim may lose balance without losing consciousness.
- Nausea and vomiting may occur.
- Their vision is blurred.

Action:

- Lay the victim on his back and raise his legs.
- Loosen clothing that compresses circulation, especially in the neck and abdomen.
- Splash chest and face with cold water or place a cold compress on the forehead.

- **HEAT STROKE:**

It is the increase in body temperature due to prolonged exposure to the sun or exercise in hot or poorly ventilated environments, to the point that the body loses water and salts essential for its proper functioning.

Symptoms:

- Headache.
- Dizziness.
- Nausea and even vomiting.
- In the next stage, other symptoms arise, such as cramps, elevated body temperature, convulsions, altered consciousness or disorientation.

Action:

- Take the affected person to a shady place as cool as possible.
- Place them in a semi-seated position.
- To reduce body temperature, remove some clothing, give them air (fan or ventilator), and use cold water compresses on the forehead, back of the neck and neck.
- The patient should also drink fresh water to rehydrate themselves, but they should do so in small sips and not all at once, as this will worsen their condition.

- **HYPOGLYCEMIA (LOW SUGAR LEVELS):**

Symptoms**:**

- Hunger.
- Headache and abdominal pain.
- Cold sweats and tremors.

Action:

Consume simple carbohydrates (sugars) and wait 10-15 minutes. If it has not normalized, the same type of carbohydrates should be consumed again.

- **EPILEPTIC SEIZURES:**

The affected person may suffer a series of seizures or repetitive uncontrolled body movements.

Action:

To ensure that the convulsions do not cause damage to the victim, place something soft (a jacket, sweatshirt, etc.) between their head and the floor and place them in the lateral safety position (PLS). Do not introduce any object in their mouth and never immobilize the victim.

4.- GENERAL RULES OF PREVENTION IN THE PRACTICE OF PHYSICAL ACTIVITY.

Knowledge of first aid is a basic necessity to minimize the consequences of accidents, even to avoid death, but it is much better to avoid risky situations or behaviors. Below we will detail some recommended rules to avoid accidents in sports practice:

- As a general rule, a warm-up is necessary.
- In nature, the risk of accidents is much higher and some prevention rules must be known for protection:
    - We should never carry out activities in nature alone.
    - In adventurous and risky sports we must start with specialists.
    - It is necessary to know the weather forecast in order to decide on the appropriate equipment.
    - The body's adaptations to the altitude, sun, temperature, etc. must be taken into account .....
    - Before starting the activity, we must make sure that the equipment to be used is working properly.
    - Respect the signs that warn us of possible dangers (flags on beaches, colors on ski slopes, signs on trails).
    - You should advise of your departure, your expected arrival and the approximate route. The possible need for assistance (cell phone, location of services, etc.) should be foreseen and personal documentation should always be well protected.
    - Do not drink water from rivers, wells or puddles. Carry drinking water and drink regularly to avoid dehydration.
    - Carry a first aid kit to be able to deal with small accidents.
    - COLLECT WASTE GENERATED DURING THE ACTIVITY (your waste may cause fires or accidents) AND RESPECT THE NATURAL ENVIRONMENT (do not make fires in forests,).