

# First Aid Handbook



**EUinAid**

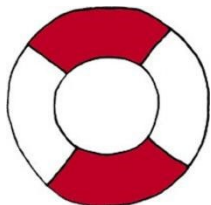
YOUTH IN FIRST AID



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## Content

<b>1. What's important in First Aid</b>	<b>3</b>
Safety and how to act in an emergency	3
Reporting an emergency on site	3
Help on site (measures on the person and support)	4
<b>2. Person does not wake up</b>	<b>5</b>
Recovery position	5
Specialities with Seizures	6
<b>3. No Breathing</b>	<b>6</b>
Cardiopulmonary Resuscitation (CPR)	7
Specialities with Drowning and Voltage accidents	8
<b>4. Problems in the chest</b>	<b>9</b>
Heart Attack	9
Asthma	9
Insect bite in the throat area	10
Airways blocked by an object	10
<b>5. Injuries</b>	<b>11</b>
Treatment	11
Reacting to open wounds, broken bones, burns, nosebleed, object in eye	12
<b>6. Problems at the head</b>	<b>13</b>
Stroke	13
Heatstroke	14
<b>7. Problems in the abdomen</b>	<b>14</b>
Hypoglycemia (low blood sugar)	14
Poisoning	15
<b>8. Preventing emergencies and ensuring your own safety</b>	<b>16</b>



## 1. What's important in First Aid

### Safety and how to act in an emergency

To remain calm is most important when helping in an emergency. This way, the suffering person is less likely to be (even more) nervous and scared.

Try to gain an overview and examine the location of the emergency to find out the cause and number of people involved and how they behave.

The second priority is to mind your own safety, especially in high voltage and gas accidents you should immediately make an emergency call to make sure not to risk your own life.

Once you gained an overview, you should look for these **dangers**:

- Release of gas or other dangerous substances
- Contact poisons
- Fire
- High voltage
- Heavy traffic
- Risk of infection
- Risk of drowning in high current waters or break into ice

First aid means initial measures to avert or mitigate dangers or health problems until professional help (doctor, ambulance) arrives. These include life-saving emergency measures, securing the accident site, call for help and caring for the injured.

### Reporting an emergency on site

Important numbers to call for help:

**Ambulance: 100 or 112**

**Police: 101 or 112**

**Firefighters: 101 or 112**

**Euro Emergency Call: 112**



### How to report

If the incident is severe, you have to:

- Assess for danger and make the area safe if possible
- Call 112 for emergency assistance

When telling the emergency service about an incident, give your name and phone number. Give all the information briefly and clearly. You need to say these details:

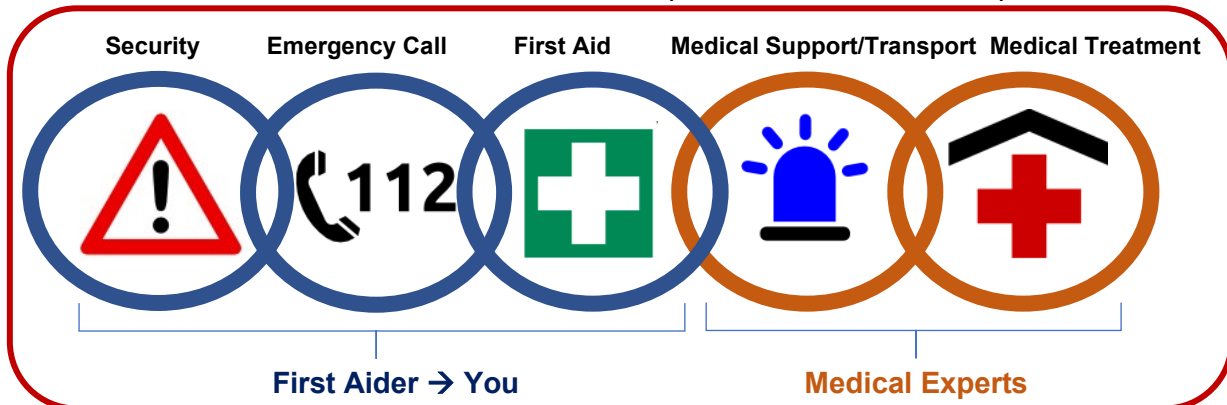
- **Situation** (what has happened)
- **Location** (precisely where and how to reach it)
- **Injured number** (of victims)
- **Dangers present** (real and potential)
- **Emergency services required**

Then, the service operators can still have questions or instructions for you, so do not hang up too quickly.

## Help on site (measures on the person and support)

Fast medical help is especially needed when people are injured or acutely ill, unconscious or without breathing and circulation. The emergency call should be made as quickly as possible.

The **Chain of Survival** shows the individual steps to ensure the best aid possible:

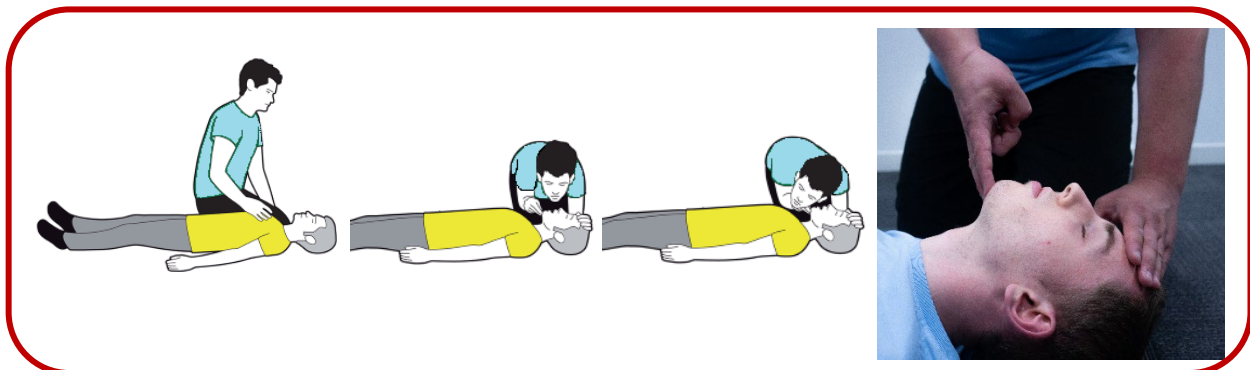


## Basic measures

Before you can help a person in an accident, you should perform an emergency check.

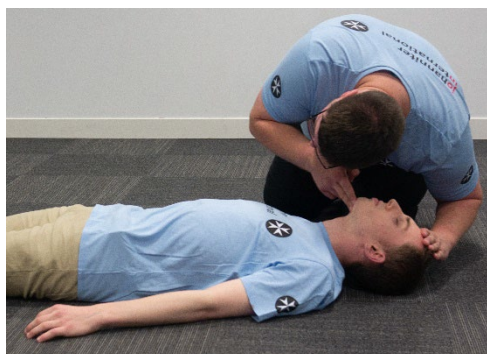
**Check if the person is conscious:** Talk loudly to them and check the reactions.

**Clear the airways:** stretch the head to the back with one hand on their forehead and one under the chin. When overstretching the head to the back, pull the chin upwards that the relaxed tongue cannot block the airways and the person can breathe.



## Control breathing

To check the breathing, you have to hear, see and feel. Hold the head in the overstretched position to the back and put your head above theirs. Look at the chest and hold your head close to theirs, so your cheek is some centimetres above their nose. That way, you can hear the breathing, feel it on your cheek and see it in the chest movement.



## Emergency call

If the person does not seem conscious and cannot be woken up, you should immediately make an emergency call.



**These 4 measures always work:** control the vital signs (pulse and breathing), call for help, take care the body-temperature remains normal and provide psychological support with comforting words.



## 2. Person does not wake up

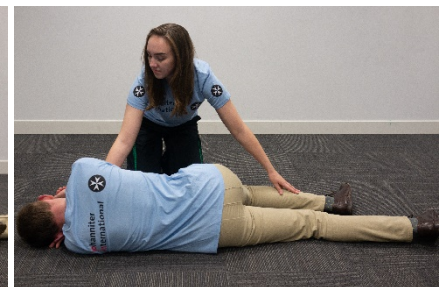
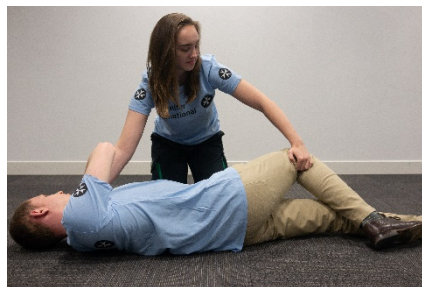
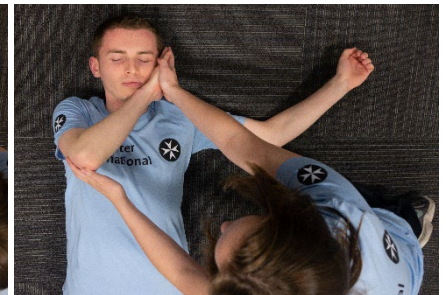
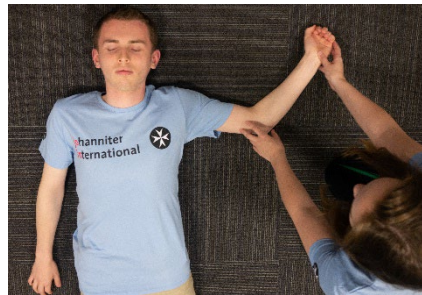
To be able to think, feel and perceive our environment, we need an intact consciousness. When unconscious, a person does not react, and many natural reflexes fail.

**Signs:** the person does not wake up, breathes but does not respond

**Measures:** Emergency check, put the person in the recovery position

### Recovery position

- With the person lying on the back, kneel on the floor at their side.
- Extend the arm nearest to you to the side and put the arm on the other side under their chin
- Take the leg on the side far from you and bend it
- Carefully roll the person onto their side by pulling on the bent knee.
- Their extended arm should be supporting the head, and their bent knee will stop you rolling them too far.
- Tilt their head back and open the mouth slightly. Check if the mouth is laying low
- Make an emergency call or ask someone to do it. Take care the person stays warm. Check the breathing until help arrives



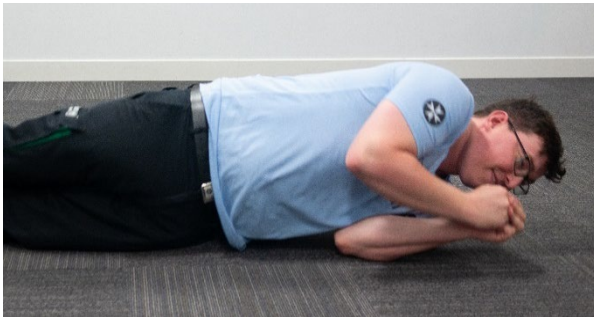
## Specialities with Seizures

Seizures are a result of abnormal brain activity that can cause involuntary muscle contractions. Seizures can occur as a result of head injury, diseases of the brain, shortage of oxygen or glucose or through abuse of drugs or alcohol.

An epilepsy illness can also cause seizures.

### Signs

- Person suddenly falls to the ground
- The person may bite their tongue
- Foam around the mouth may occur (bloody if the person bites the tongue)
- Their body may go stiff and rigid
- Twitching or violent jerking movements may occur



After that, it takes a while for the person to regain consciousness. After a seizure has resolved, the patient may be confused and drowsy.

### That's how you can help during the seizure phase:

- Remove dangerous objects from the surrounding area and place a soft padding or a pillow under the head of the person
- Let them twitch and do not try to hold them in place

### That's how you can help afterwards when the person cannot be woken up:

- Put the person in the recovery position and check the vital signs



## 3. No Breathing

When there is no breathing, the brain is no longer sufficiently supplied with oxygen. This leads to severe damage to the brain and subsequently to death. That's why every minute counts. If resuscitation is done from the first minute, people have the best chance of survival. The most common cause of respiratory arrest is a heart attack. But someone can also stop breathing because of external circumstances, such as accidents (electrical accident, massive blood loss), hypothermia (very low body temperature), poisoning or an allergic shock.

**Signs:** the person does not wake up, no normal breathing

**Measures:** Emergency check, Emergency call, cardiopulmonary resuscitation (CPR)

## Cardiopulmonary Resuscitation (CPR)

If you notice no or unnormal breathing during the emergency check, CPR is required immediately.

Kneel beside the person over their upper body.

Place your palm in the middle of the rib cage.  
Put the second hand over the first hand.

Now push vertically with extended arms 30 x on the breastbone  
(about 5 cm deep, 100 x per minute)

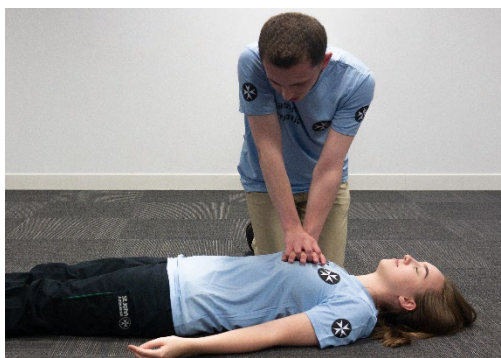
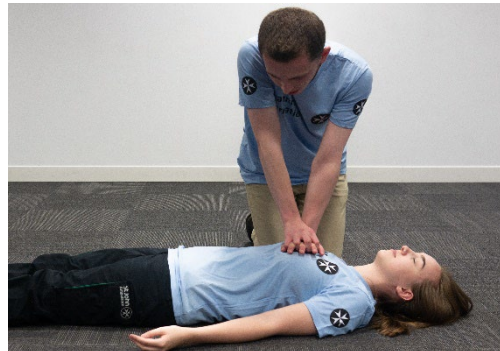
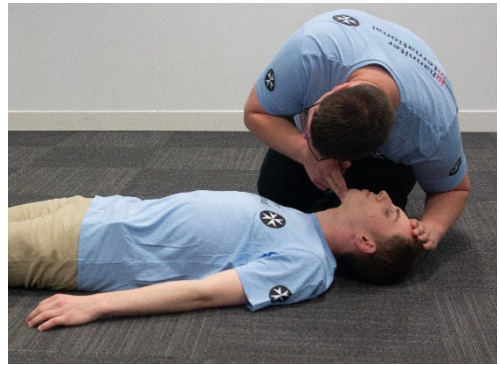
Then give mouth-to-mouth resuscitation two times: To do this, close the nose of the affected person with your thumb and forefinger.

Carefully extend the head backwards and pull the lower jaw upwards.

Wrap your mouth around the person's mouth and breathe (through the breathing cloth) for about 1 second.

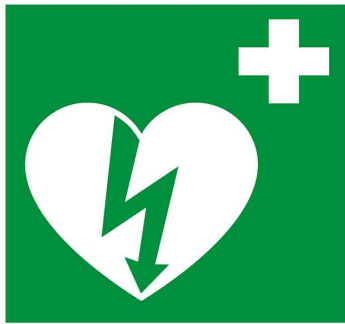
Repeat that for a second time.

Then continue the chest compressions.





**If a Defibrillator is near you, use it for the reanimation.**



The international sign for an Automated External Defibrillator (AED)

Place the device next to the person and turn on the device. Follow the voice instructions. Attach the electrodes, the position is shown in the drawings on the adhesive electrode

The device analyses the heart rhythm and checks whether a surge is necessary. No one should touch the person.

Caution: Avoid conductive surfaces, explosive environments and contact with water.

To trigger a shock, press the flashing button after the voice guidance.

Then start the cardiac compressions immediately then do the mouth-to-mouth resuscitation

Perform CPR until the person breathes again or help arrives. If a second person is present, one can continue the compression and the other glues the electrodes to the chest of the suffering person.



No reaction → Clear airways → No normal breathing →

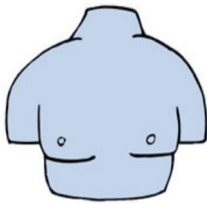
Emergency call → get a defibrillator → 30 CPR and 2x mouth-to-mouth resuscitations

## Specialities with Drowning and Voltage accidents

When you want to help people that are drowning, you should first notify a lifeguard or make the emergency call. Never attempt a direct rescue of a conscious drowning person without proper training. Remember always: REACH or THROW a floating object, but only GO with training and equipment. If you can draw the person, make sure the body temperature remains stable and control the vital functions. In case of cardiac or respiratory arrest you need to perform CPR (see page 7).



In the event of a power failure, it is important first to disconnect the power supply for your own safety. Then, if the person does not breathe, CPR should be done.



#### 4. Problems in the chest

Chest pain can indicate a failure of important organs: most times, the heart and lungs. These can be damaged by injuries as well as by chronic or acute illnesses such as Angina Pectoris or a heart attack.

**Signs:** Shortness of breath, chest pain, fear and panic, nausea, vomiting

**Measures:** help the person to lift their upper body, loosen restrictive clothing (shirt button, tie, belt, etc.). Provide fresh air supply, open the windows, calm the person and call for help

#### Heart Attack

In the case of a heart attack, there is a permanent closure of an artery around the heart. The area of the heart cut off from the blood flow does not receive any oxygen anymore and dies eventually. Arteries can have deposits of fat and limescale sticking to the walls of the vessel and making it constricted: When then blood clot comes to the artery, it can fully close. A heart attack can lead to cardiac arrest at any time. Some heart attacks cause no or only minor symptoms and are hard to notice.

**Measures:**

1. Position the person with an upright upper body to help to breathe and take off pressure from the heart
2. Open tight clothing
3. Ensure fresh air (open windows)
4. The four measures that are always work: control of vital signs, make the emergency call, ensure the body-temperature remains normal and provide psychological support  
Also give breathing instructions that the person breathes slowly and deeply

#### Asthma

Asthma is a bronchial illness. When the person inhales substances that cause allergies (like pollen) they have an allergic reaction.

It can be triggered by exhaustion, cold air, pollen, high ozone-levels, but also by psychological factors like stress.

In the body of someone with Asthma, three reactions come together at the same time:

1. The bronchial muscles contracts and this minimizes the size of the airways
2. The bronchial mucosa swells and becomes bigger; this also gives less space to the airways
3. Mucus is released and hinders air to flow through the airways. Especially breathing out is difficult

People who suffer make striking noises while breathing sometimes dark humming or growling and high whistling sounds

#### Measures:

- ask the person to breathe in a special way called “Pursed-lip breathing (PLB)”. This is a breathing technique that consists of exhaling through tightly pressed (pursed) lips (as if whistling) and inhaling through the nose with the mouth closed. This technique makes the exhaling longer and easier because the regular pressure of the exhaled air can pass the mucus more easily
- if the person owns an Asthma-Spray you should hand it to them if they want

#### Insect bite in the throat area

An insect bite in this area can cause swelling of the local mucosa which can lead to critical constriction of the airways (especially in children) or in extreme cases cause an allergic shock.

#### Measures:

- cool the area from the inside and outside! If the person is conscious and seems normal, you can give them ice cubes or cold water to leave in their mouth. A cold cloth or tissue can be used for outside cooling. If you have a cooling pad, put it in a cloth or tissue and cool the area. If the person is unconscious, only cool the bite from the outside.

#### Airways blocked by an object

Airways can be blocked by an object mostly during eating when a piece of food gets into the airway. Small children are also likely to inhale small objects while playing. These can travel into the bronchial area and have no further signs after the coughing has finished. You should see a doctor in these cases immediately.

#### Measures:

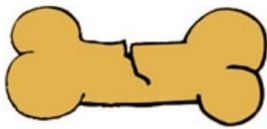
Ask the person to cough

**if nothing happens:** 5 hits on the back between the shoulder blades. Hit with the flat hand repeatedly on the area between the shoulder blades while the suffering person leans the upper body forward.

**if nothing happens:** 5 upper Abdominal thrusts (Heimlich-maneuver)

- Position yourself behind the person.
- Place your arms around their waist.
- Make a fist and place it just above the navel, thumb side in.
- Grab the fist with your other hand and push it inward and upward at the same time. Perform five of these abdominal thrusts.
- Give 5 hits on the back with the flat hand again
- Repeat the abdominal thrusts and hits until the object is expelled and the person can breathe or cough.





## 5. Injuries

### Treatment

The first question with injuries is: **Are there wounds?** They are accompanied by three dangers: pain, blood loss and infections.

Important for wounds: Wear gloves to protect yourself. Then apply a bandage of germ-free, suitable material.

In severely bleeding wounds, the injured arm or injured leg is held up, and the supplying artery is squeezed as far as possible. Then put on a pressure bandage.

Does the affected person have pale, cold skin, dizziness, nausea and a slow or very fast pulse? They may be in shock. If there are no problems in the chest and no serious other injuries, the person should be kept flat and the legs raised slightly.

Foreign objects in wounds should - if possible - be carefully removed with tweezers. For larger and more tightly packed foreign objects, the bandage may be placed over it so that the padding reduces the pressure on the object.

The second important question with injuries is: **Does the person have swelling and pain in muscles, bones or joints?** If so, these body parts must be kept as still as possible and cooled with an ice pack.

Repeatedly check the vital signs, do not forget the emergency call, check the body temperature and give psychological support with comforting words.

There are 3 Types of wounds: mechanical, thermal and chemical wounds. The mechanical injuries include abrasions, bites, cuts, puncture, bone and joint injuries. Thermal wounds are burns and frostbites. Chemical wounds (or chemical burns) are caused by acids or alkalis.

## Reacting to open wounds, broken bones, burns, nosebleed, object in eye

### Signs

### Measures

<b>Open Wound:</b> <ul style="list-style-type: none"> <li>- Bleeding or secretion</li> <li>- Skin injury</li> </ul>	<ul style="list-style-type: none"> <li>- Put on bandages</li> </ul>
<b>Broken bone</b> <ul style="list-style-type: none"> <li>- Pain</li> <li>- Swelling</li> </ul>	<ul style="list-style-type: none"> <li>- Secure it and make sure it is not moved</li> <li>- Remove restrictive accessories like jewellery</li> </ul>
<b>Thermal burn</b> <ul style="list-style-type: none"> <li>- Redness</li> <li>- Blistering</li> <li>- Numbness, hard and pale skin (freezing injuries/ frostbites)</li> </ul>	<ul style="list-style-type: none"> <li>- Cool/ warm for frostbites</li> <li>- put a bandage over the area to keep it germ-free</li> <li>- run water over the area</li> </ul>
<b>Chemical burn</b> <ul style="list-style-type: none"> <li>- swelling of the upper layers of the skin and possibly an inflammatory reddening (Alkaloid burns)</li> <li>- sloughing of skin (Acid burns)</li> </ul>	<ul style="list-style-type: none"> <li>- call the poison information centre or make the emergency call</li> </ul> <p>Poison information centre Belgium: 070/ 245 245</p>

### Nosebleed:

- ask the person to tilt the head forward
- close both nostrils by pressing them firmly together for 5-10 minutes
- cool the forehead and the neck with damp tissues or wrapped cool pads

### Object in eye:

- you can remove small objects like insects or dust and sand yourself
- let other objects be removed by an eye doctor

### Object in the lower lid:

- ask the person to look upwards
- pull the lid down carefully so you see the inside
- with a compressor a damp tissue you can dab the inside of the lid from the outer corner towards the nose

### Object in the upper lid:

- ask the person to blink hard and often
- gently pull the upper lid down over the lower lid so that the object can be wiped into the lower lid





## 6. Problems at the head

Often, problems in the head can be seen through external injuries in this area. Suffering people also complain about headaches, have difficulties in controlling their body, have memory loss or even a half-sided paralysis.

The most important steps to help are: keep their head up and control the vital signs, make the emergency call, keep the body-temperature normal and care for them with comforting words.

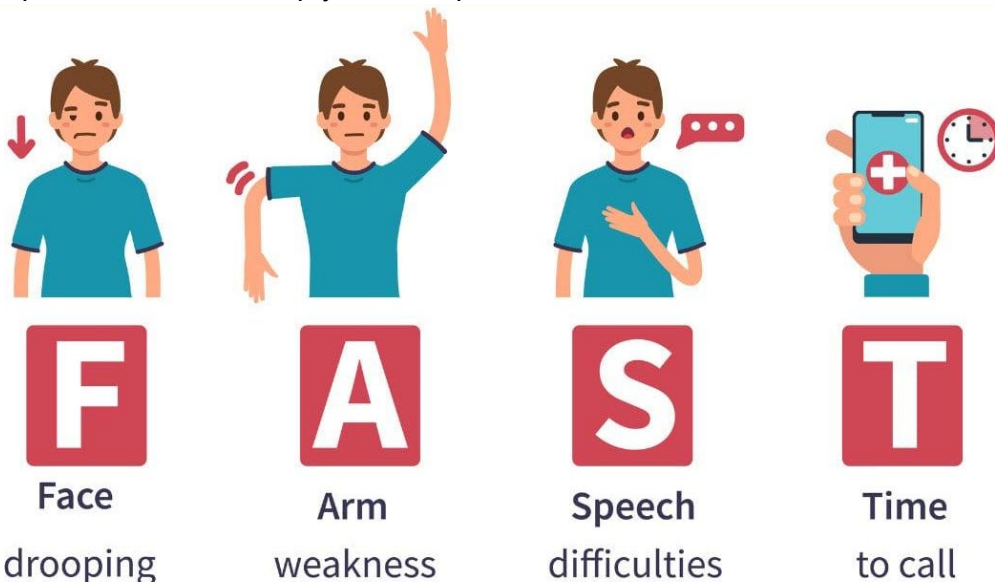
### Stroke

A stroke causes in 80-90 % of all cases a closure of the brain artery. In the other cases a brain artery bleeds into the brain.

Chronic high blood pressure or arteries with limescale are the main risk factors.

Sometimes the **signs** of a stroke can be felt before the actual stroke. Main warning risks factors are dizziness, nosebleed indicating high blood pressure and rarely also intense headache.

The phrase *FAST* can help you to suspect a stroke:



*Face:* Ask the person to smile and show their teeth

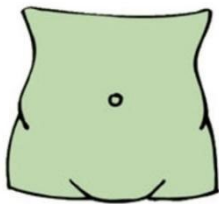
*Arms:* Ask the person to stretch their arms forward with their palms facing up.

*Speech:* Let the person repeat a sentence, paying attention to a fuzzy pronunciation.

*Time:* In a stroke, every minute counts. Dial the emergency line. Do not wait for it to get better by itself

## Heatstroke

<p><b>Signs</b> of heat exhaustion are:</p> <ul style="list-style-type: none"><li>• Muscle cramps</li><li>• Heavy sweating</li><li>• Pale or cold skin</li><li>• Weakness and/or confusion</li><li>• Dizziness, nausea or vomiting</li><li>• Headache</li><li>• Fast heartbeat</li></ul> <p>In addition to these symptoms, warning signs of heatstroke also include:</p> <ul style="list-style-type: none"><li>• Fever</li><li>• Flushed or red skin</li><li>• Lack of sweating</li><li>• Trouble breathing</li><li>• Fainting</li><li>• Seizures</li></ul>	<p><b>Measures:</b></p> <ul style="list-style-type: none"><li>• Get the person out of the heat quickly and into a cool place, or at least shade.</li><li>• Take off any tight or extra clothing.</li><li>• Apply cool towels to the head or take a cool bath. This will help regulate and lower your internal body temperature.</li><li>• Give the person fluids to drink, such as water or a sports drink. Do not guzzle them but take sips. Do not drink fluids with caffeine or alcohol.</li></ul>
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## 7. Problems in the abdomen

In case of pain or injury to the abdomen, provide the person with a knee or neck roll to relieve the pain. Placing a padding in under the neck or knees helps with cramps. Even if it takes a lot - sometimes it is best for the person to vomit. If the person has to vomit, you can help by providing privacy and fresh water.

For open abdominal injuries, the wound must be supplied, for this please see chapter 5, page 11.

Remember the four measures that always work: control of vital signs, make the emergency call, take care of the temperature and provide comfort.

There are two special situations to consider: Hypoglycemia and Poisoning

## Hypoglycemia (low blood sugar)

### Signs:

- Confusion, agitation and irritability
- Weakness
- Cold, clammy skin
- Aggression
- Drowsiness which may lead to loss of responsiveness if the condition is untreated

### Measures:

When you suspect low blood sugar, provide the person concerned with glucose, sweetened beverages or sugary foods, if they still react normally. If the person is not clearly conscious, put them in the recovery position and make the emergency call.

## Poisoning

Poisons that entered the body through the mouth and release in the digestive tract show in

### Signs:

stomach pain, nausea and vomiting, change in behaviour and disturbed consciousness.

Parallel to the emergency call, you can also contact the poison information centre (regionally different number).

### Measures:

- Protect yourself and others: put on one-way gloves
- Secure any leftovers of the remaining poisonous substance, and hand it over to the rescue service
- Parallel to the emergency call, you can also contact the poison information centre (regionally different number).
- React to any disturbance of the person's vital signs while you wait (change of consciousness) see chapter 2 "person does not wake up" for this



## 8. Preventing emergencies and ensuring your own safety

By taking preventative measures, most emergencies can be prevented. A healthy lifestyle, security equipment and careful planning help to avoid extreme situations.



### **Person does not wake up**

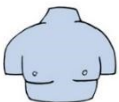
Unconsciousness can be prevented in most cases if you prevent the causes.

- Prevent injuries at the head by wearing a helmet
- Prevent heatstroke by wearing a hat or cap and drink enough, eat enough salt and wear clothes that allow air circulation
- Prevent swimming accidents by not jumping head-first into unknown water and not swimming with a full stomach
- Prevent triggers of epilepsy like fast bright flashes of lights and alcohol.



### **No breathing**

Also, here it is best to avoid the causes like extreme psychological or physical exhaustion or burdens if a heart circulation disease has been diagnosed.



### **Problems in the chest**

- Avoid the chance of objects in the airways. Simple as that: either eat or speak
- To avoid insect bites in the throat only drink from glasses so you can see what is in it, cover your glass when not drinking, control the bites when putting food to your mouth

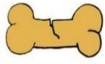
Avoid Asthma bronchiale:

- Do not smoke or stay in rooms full of smoke,
- Avoid hard physical work during high ozone levels and humid cold air
- Carry the prescribed medication and an emergency set with you

Avoid a heart attack and other disruptions of the cardio-circulatory system:

- Eliminate risk factors like stress, smoking and overweight
- Work out and do endurance training





## Injuries

Avoid sports injuries:

- Do a warm-up before starting the actual activity
- Take pain seriously as a warning sign
- Don't train while ill with an infection
- Wear suitable protective and not too tight clothing

Avoid frostbites:

- When cold, remove wet soaked clothes
- Don't wear too tight clothes that leave room for air
- Especially protect nose, feet and fingers from the cold



## Problems in the head

- Avoid head injuries by wearing a fitting helmet
- Avoid a stroke by taking seriously the early warning signals: dizziness, nosebleed indicating high blood pressure, rarely also intensive headache
- Because high blood pressure is the main risk, it needs to be avoided. Avoid salt and caffeine



## Problems in the abdomen

- Avoid low blood sugar when diabetes was diagnosed
- Distribute your meals to 5 times a day
- Always carry glucose/dextrose with you for emergencies



## Own safety

That's how you avoid risks for yourself and other first aiders:

- Always remember to gain an overview of the emergency scene, secure it and make an emergency call
- With contact-poisons: use one-way gloves and resuscitate the person using tools
- When helping at a bathing accident: if you want to make a rescue attempt before the rescue team arrives mind the current, don't jump head-first into unknown water
- When gases or dangerous substances are released: stay away from sparks and fire. If you smell gas in a house so not ring the bell but warn the inhabitants through shouting instead
- In cases of suspected carbon dioxide like in wine cellars, silos and cesspits the rescue can only happen with protective mask and should be left to professionals