

## Let us overcome challenges confronted in life

We confront various challenges in our daily life. Due to the changes that take place during adolescence we face many challenges such as strong emotions, conflicts caused by interpersonal relationships, diseases, accidents, natural disasters, sexual abuse and delinquency. Having a proper understanding about these challenges help us to identify them early, respond effectively and take measures to overcome them. We have discussed some of these challenges in the previous grades.

We have learnt about certain challenges like diseases, changes taking place in adolescence and social challenges which we naturally face in day-to-day life.

In this chapter we will learn about accidents related to sports and day-to-day activities, natural disasters and sexual abuse. We will also learn about the measures that should be taken to prevent such incidents and first aid that can be given to a victim at such times.

### Sports related injuries

Injuries caused by sports can be divided into two, namely, external injuries and internal injuries. Although injuries are divided into two, in reality they can occur simultaneously. This classification can be applied to other injuries, too.

table 10.1

External injuries	Internal injuries
Bruises	Injury to bones
Lacerations	Injury to joints
Cuts	Injury to muscles
Piercings	Injury to ligaments
Blisters	Injury to nerves and other internal organs

Sports injuries can happen due to personal factors and external factors.

## Personal factors

- Level of physical fitness not adequate for the sport
- Participating in sports without warm up exercises
- Lack of proper training
- Not taking adequate time to recover after a sport
- Overtraining
- Adopting wrong training methods and techniques
- Taking part in activities that are not age appropriate

## Poor physical health

- Not taking adequate amounts of water and food.

## External factors

- Not wearing safety gear recommended for the sport
- Use of improper sports equipment
- Lack of standard playgrounds
- Not observing the rules of the game
- Environmental factors (e.g: extreme weather conditions)



## Activity

Design a poster / leaflet giving instructions to pupils in order to raise awareness on ways of minimizing sports injuries during the annual sports meet of your school.

## External injuries

### 1. Bruises

Damage caused to the external surface of the skin is a bruise. A bruise can be caused when the skin brushes against a rough surface like the ground, a sharp object like the edge of a cable or a thorny bush. A bruise does not cause heavy bleeding. Keeping the affected area clean with some simple treatment would heal the wound.

### 2. Lacerations

An irregular tear of the skin (including the full thickness of the skin) is called a laceration. A laceration most often happens with a contusion of the skin that lies just over a bone.

When treating a laceration, the injured area can be bandaged with a clean strip of cloth in order to stop bleeding. Sometimes it may need suturing.

### 3. Cuts

A cut is caused by a sharp object. A cut can be either superficial or deep; a deep cut may damage the internal organs. If the cut is deep the affected area should be immobilized using a support to stop the bleeding.

### 4. Piercing

Piercing could be caused by a sharp tool or a pointed object. While the surface wound caused by piercing may be small in area, the wound can go deep into the body.

When the body is pierced, internal haemorrhage (internal bleeding) is most likely to occur rather than external bleeding. Therefore it is very important that the patient seeks medical treatment immediately. If the pointed object is still present in the body, **do not** attempt to remove it . Seek immediate medical help from a hospital.

### 5. Contusions

In the case of a contusion, a greater damage could have happened to the organs in the inner part of the affected area than what is seen superficially on the skin. Swelling and reddening of the skin of the affected area could be noticed. A contusion could cause severe pain. Fractures and internal bleeding are also possible.

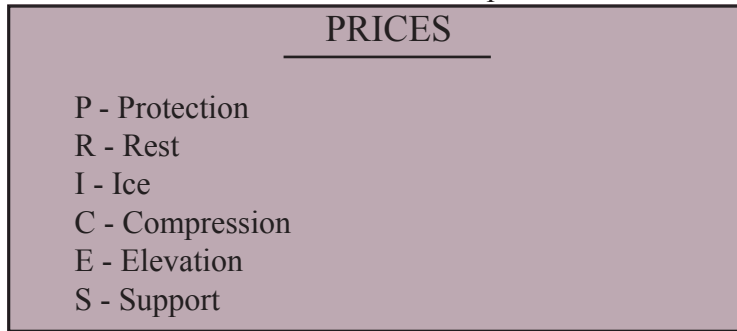
A contusion can be caused by a fall or when hit with a blunt tool. PRICES protocol (a method of immediate treatment for injury) can be used to minimize the effects of a contusion.

### 6. Blisters

A blister is a painful red swelling on the skin that contains liquid usually formed by burning or friction (e.g: by a new shoe or sports equipment or burn). Usually a blister will heal on its own. However, if it is broken, it can get infected. Blisters should not be covered tightly. Formation of blisters can be prevented by wearing properly designed sportswear and using the same equipment both at practice and the actual events.

Immediately after a burn injury, the affected area should be washed with flowing water. It helps minimize the formation of blisters.

- RICE treatment is a commonly used method of giving first aid for internal injuries. PRICES treatment is a further development of the RICE method.



## Internal Injuries

### 1. Fractures

A fracture is the most common type of injury caused to bones. Bones of the limbs and even the skull can get fractured. A fracture may be open to the outside. When a fracture is suspected, the affected area should be kept immobilized and the patient taken to hospital immediately.



Figure 10.1

### 2. Joint injuries

The most serious injury that can be caused to a joint is for it to get dislocated, i.e., the bones forming a joint suddenly get dislodged from their correct positions. When a joint gets dislocated, the bones may fracture and ligaments may get damaged. In the case of a dislocation, keep the affected joint immobilized and do not try to put the bones back into place on your own. Take the patient immediately immobilized to hospital for treatment by a professional.

### 3. Ligament injuries

Ligaments are strong strips of tissue in the body that connect bones together. Ligaments can get damaged in an accident and consequent swelling, pain and lack of proper functioning of the joint can be experienced. In the case of ligament damage, the affected area should be kept immobilized, bandaged and in an elevated position (PRICES treatment).

### 4. Muscle injuries

Piercing, contusions, cut injuries or fractures can cause injury to muscles. Muscles

may even tear as a result of muscle strain.

There are many occasions where athletes / players suffer muscle injury in this manner. It is very important to get proper training and do warm up exercises in order to prevent muscle injuries. Keeping ice on the affected area and resting the affected muscles are the primary treatment for muscle injury.

## 5. Injuries to nerves and other internal organs

The most important organ in our body is the brain. Participants in sports like rugby, football, boxing and types of martial arts face a high risk of injury to brain. Concussion, is temporary brain damage caused by a fall or hard knock on the head by another player or an object.

Liver, spleen, and kidneys are among other internal organs which commonly face risk of injury by accidents. Other internal organs may be damaged in sports accidents and consequent internal bleeding may make the patient look pale or even faint. In such situations, the patient should be taken to hospital immediately.

## 6. Accidents due to the increase of body heat

Sports is usually done outdoors and often during daytime. In such situations, the body temperature of participants may increase as a result of intense heat and increased physical activity. The following could result when a person's body temperature increases uncontrollably during sports:

- cramps
- heat strokes
- dehydration.



Figure 10.2

These conditions can be prevented by taking proper care when planning competitions at suitable times, providing facilities, training and wearing appropriate clothing. eg: in organizing a cross-country running or a marathon, it is best to start the race in the morning when the sun is not strong. It is also important to ensure the availability of water by the roadside (feeding points) for the runners to drink and to cool the body.

In the case of a participant falling ill due to the increase of body heat, immediate action should be taken to bring down the body temperature to normal level. This can be done by giving ice, cold water to drink and by applying ice and water on the body.



## Activity

1. Divide the class into two groups. Ask one group to make a list of internal injuries and the other a list of external injuries.
2. Then ask them to explain the causes of such injuries and to propose precautionary measures that can be taken to prevent such injuries.

## Accidents faced in day-to-day activities

1. Domestic accidents
2. Accidents that happen in the garden
3. Road accidents
4. Natural disasters
5. Agro-chemical accidents and food poisoning
6. Animal attacks
7. War related accidents
8. Accidents due to social unrest
9. Work related accidents

### Domestic accidents

Most domestic accidents result due to ignorance, carelessness and mistakes. Therefore such accidents can be prevented by acting with awareness and taking proper care. Following are ways of minimising such accidents:

- Being cautious when using sharp tools.
- Preventing small children from handling such tools.
- Refraining from using unsafe kerosene lamps.
- Storing pesticides, acids and drugs safely.
- Maintaining electric wires and plug bases with proper covering.
- Constructing safety walls or fences around dangerous places like wells.
- Keeping the surroundings of wells and taps clean.
- Checking the ingredients, date of manufacture and expiry when buying food items.
- Consuming food of proper standard.
- Making sure small children are supervised and not kept alone.
- Following safety instructions while using equipment like gas cookers and electric appliances.



Figure 10.3

- Doing warming up activities before engaging in physical exercise.
- Adopting the correct posture when lifting weights.
- Taking safety measures when lighting fireworks.

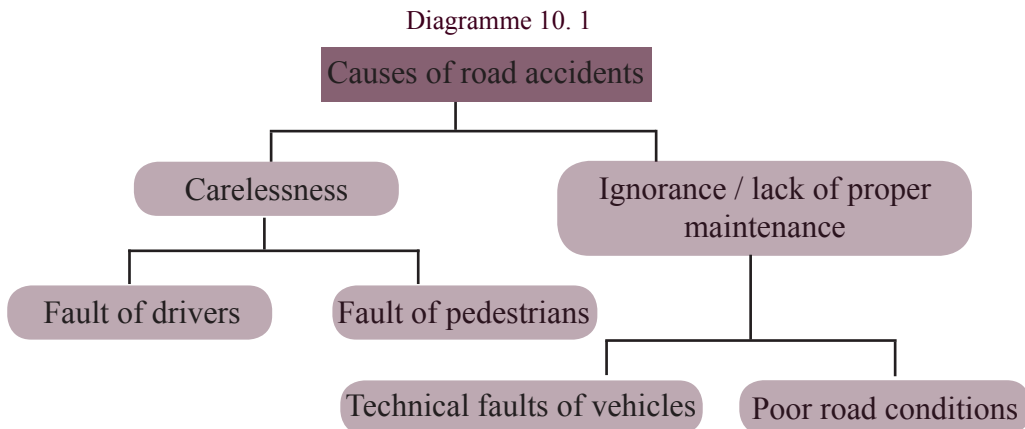
## Road accidents



Figure 10.4

You may have witnessed road traffic accidents or heard about them from the media. Road traffic accidents not only endanger the lives of the pedestrians and those travelling in vehicles, but cause great damage to property too. A careful study of the causes for road accidents makes it evident that most of such accidents happen due to negligence, ignorance or mistakes of all road users.

Causes of road accidents are varied and can be categorized as follows:



### Faults committed by the drivers

- Not observing road rules
- Driving too fast
- Driving under the influence of alcohol
- Driving when tired
- Driving under stress
- Parking vehicles obstructing traffic
- Not wearing seat belts / safety helmets



## Faults committed by pedestrians

- Not following road signs
- Walking in the dark or wearing dark coloured clothes when walking in the dark.
- Walking on the road in groups
- Walking on the left hand side of the road
- Throwing waste matter onto the road

## Technical faults of vehicles

- Brake failure
- Defunct lamps (head lights or tail lights)
- Tyres of poor condition

## Poor road conditions

- Lack of properly displayed road signs and traffic signals
- Dilapidated roads
- Open uncovered drains on the edge of the road
- Unsafely placed structures on roads (e.g: electricity / telephone poles, water supply systems, buildings, etc.)
- Lack of / defunct street lamps.



Figure 10.5

## Remedial measures that can be taken to prevent road accidents

- Raising awareness among motorists on the importance of driving etiquette and obeying road rules.
- Raising awareness among pedestrians on the importance of road etiquette and obeying road rules
- Pedestrians and drivers to refrain from taking alcohol and illicit drugs
- Motorists to wear seat belts.





- Motorcyclists including children to wear safety helmets.
- Taking measures to prevent overloaded vehicles from running on roads.
- Avoid driving when drowsy or tired.
- Avoid driving under severe stress.
- Preventing passengers from travelling on the footboard of public vehicles.
- Preventing passengers from getting on or off, moving vehicles.
- Pedestrians to cross the road at pedestrian crossings and being alert when crossing the road at other places.
- Preventing pedestrians from crossing the road at places where a clear view of the road cannot be obtained (e.g: at bends).
- Preventing pedestrians from crossing the road in front of or behind stationary vehicles.
- Raising awareness among pedestrians on the importance of carrying a torch / being clad in light coloured clothes or clothes made of material that can be seen in the dark when walking on roads at night.
- Preventing people from throwing waste matter on to roads e.g. banana skins.



Figure 10.6

## Injuries caused by animal attacks

In Sri Lanka most of the injuries that are reported due to animal attacks are results of snake bites, scratches or bites of animals like dogs, cats, and monkeys etc. Insect stings by bees and wasps, are commonly reported accidents. Most often, small children and those engaged in farming are victims of animal attacks. Animal bites and insect stings are harmful and cause great pain, infection, shock and sometimes even death.

### Precautionary measures that can be taken to prevent animal attacks

- Wearing safety boots
- Using a stick when walking outdoors
- Carrying a torch when walking in the dark
- Walking with heavy steps
- Refraining from inserting hands and legs into likely habitats of snakes e.g: anthills, tree trunks, logs, bushes and heaps of rubbish
- Refraining from touching a snake even if it appears dead
- Keeping the home environment clean
- Positioning ventilation holes high in the walls so that snakes cannot slide through them
- Checking the pillows, mattresses and bed sheets before using them

## Agrochemical accidents



Figure 10.7

Most often, those engaged in farming face agrochemical accidents. The cause for such accidents is the improper use of agrochemicals. It is of vital importance to note that there are instances where agrochemicals enter a person's body without his/her knowledge. They also enter the human body by mixing with air and water and through fruits and vegetables on which they have been used.

### Instances of improper use of agrochemicals

- Not following safety precautions (e.g. wearing gloves, masks etc)
- Exceeding the recommended dosage
- Spraying agrochemicals just before the harvesting days
- Spraying agrochemicals against the wind direction

### Safety and health in the use of agrochemicals

- Wearing safety clothing like gloves, masks, helmets and footwear.
- Using the correct dosage of agrochemicals and at the correct time.
- Refraining from taking any food while using agrochemicals.
- Using only agrochemicals which have approved composition and standards.
- Safe washing of the equipment used for spraying agrochemicals (they should not be washed in waterways and at public wells).
- Washing the body well after spraying agrochemicals.
- Storing agrochemicals under lock and key

### Work related accidents

People face various accidents while they are engaged in their vocations. The nature of the work of those who are engaged in agricultural activities, in mines or operate machinery in factories involve a high risk of accidents. Some of the commonly reported accidents include:

## **i. Poisoning**

Most often those who are engaged in agricultural activities and those working in mines face accidents of poisoning. Poisons can enter the body in a number of ways:

- through the skin
- orally
- through the respiratory system

Most accidents happen due to ignorance and lack of knowledge.

## **ii. Accidents related to the use of machinery**

In industries that involve the use of machinery, accidents happen due to workers' carelessness, ignorance, lack of knowledge and lack of proper maintenance of machinery. Injuries due to such accidents include cuts, bruises and occasionally death.

## **iii. Electrocutation**

People whose job involves the use of electricity as well as others using electricity domestically may face accidents due to electrocution.

**Some of the precautionary measures that can be adopted to minimise work related accidents are as follows:**

- Follow safety instructions while using chemicals.
- Provide facilities to workers and take measures in terms of the provisions of the Occupational Health and Safety Act.
- Take proper care when using machinery.
- Use machinery of good quality and in good condition.
- Provide sufficient training to workers on using machinery.
- Proper maintenance of machinery.
- Raise awareness among workers on how electrical systems work, how to respond to a hazardous situation and the persons who should be informed during an emergency situation.
- Take measures to prevent workers from engaging in work when they are intoxicated.

## Sexual abuse

Sexual abuse are widely reported in the society. People of all age groups ranging from small children to adults can be subjected to sexual abuse. Such acts may be committed by strangers or a close family member. Some examples of sexual abuse and other forms of abuse that a person may be subjected to are given below:

### Sexual abuse

- undue touching of the body
- undue kissing and hugging
- rape of women
- child sexual harassment

### Other forms of abuse

- employing children as servants
- depriving of opportunities for education of children
- causing shame
- intimidation
- physical harassment
- tempting persons to use obscene material

### Ways to avoid sexual abuse

- Never let anybody touch your body.
- Be assertive .
- Express your dislike looking directly at the abuser's face bravely and decisively saying "No, I don't like it."
- Go to a safe place or a person who can save you as soon as possible.
- If not, shout for help immediately.
- If you are alone at home, do not let others know that you are alone.
- Try not to stay alone; if you are alone at home, do not invite any stranger into the house.
- Do not go to any place on invitation by somebody without the knowledge of your parents.
- Be careful when keeping company with people.
- Refuse any gifts, food or money offered by strangers. Be careful even when you are offered some gift by somebody who is closely related. Keep parents and teachers aware of such moves.
- Keep your parents / guardian / teachers informed of all your associations and of all forms of harassment caused to you.
- Discuss the unpleasant incidents in society with your friends, teachers and parents and identify ways of keeping safe from such incidents.
- Avoid going to desolate spots or unknown places alone and avoid going out alone at night.

# Natural disasters

Natural hazards, which we have to face in day-to-day life, have presently drawn more attention of all parties. The effects of such hazards which result from sudden and longstanding changes in the environment have been aggravated due to human activities

- Storms
- Earthquakes
- Tsunami
- Floods
- Landslides
- Bushfires
- Lightning
- Droughts

The areas affected by such disasters, the time of the year in which disasters occur and the frequency of their occurrence vary. It is very difficult to prevent the occurrence of natural disasters. Therefore to mitigate the harmful effects of such disasters, it is very important to have adequate understanding on how they occur, the times and the areas in which they occur. In addition, it is also important to be mindful of the early warnings issued through media and other warning systems.

## 1. Precautions that can be adopted to mitigate the effects of cyclones

- Construct houses with strong roofs.
- Remove dangerous trees which are close to houses and buildings.
- Move to a safe place when a warning has been received.
- Cut branches of large trees which lean towards houses/buildings.
- Lie on the ground or move to a place under a concrete roof.
- Refrain from making contact with broken down electric cables.

## 2. Precautions that can be taken to mitigate the effects of floods

- Facilitating good drainage of rain water.
- Refrain from constructing buildings in low lying lands, river basins or in areas close to the beach.
- Take measures to minimize soil erosion.
- Identify high lands which can be used for shelter during floods.
- Be alert on the water level of the reservoirs and the condition of the river banks and dams of reservoirs.
- Be mindful of early warnings (e.g: the times of opening sluice gates).

### 3. Mitigating the effects of landslides

- When early signs of a landslide are noticed, immediately move away from that locality. Such early signs may include:
  - ➔ a new crack in the surface of the slope.
  - ➔ new cracks in buildings and widening of the existing cracks.
  - ➔ subsidence of the floor of a building.
  - ➔ tilting of a tree to a side.
  - ➔ sudden appearance of muddy water on mountain slopes.
  - ➔ unusual behaviour of animals.

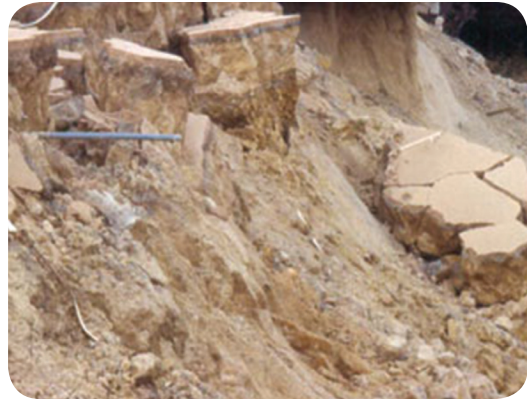


Figure 10.8

- identifying and minimising the human activities which cause landslides. (e.g: improper cultivations, cutting down of trees, digging up of soil).
- reforestation
- constructing retention walls / gabion walls.
- constructing drainage systems.
- identifying landslide prone environmental conditions (e.g: cracks in walls of buildings)
- moving away from relevant areas after identifying early signs of landslides.
- constructing buildings that are suited to the conditions of the land.

### 4. Mitigating the effects of earthquakes

- moving to an open area where there are no buildings
- refraining from using elevators / lifts
- disconnecting electricity and gas supplies
- if travelling in a vehicle, stopping the vehicle and getting out of it.

### 5. Mitigating effects of Tsunami

A tsunami is generated by the displacement of a large volume of water in the ocean due to an earthquake or some other seismic activity in the seabed. The water thus displaced travels in the form of waves into the shallow water near the coast. In the deep ocean, a tsunami has a small amplitude (about 1 m), but it grows in height as it reaches the coast (up to about 20 m).

- using early warning systems
- moving to safe, high land away from the sea coast.
- if a strong, tall building is available, climbing up to an upper floor.
- if in a low lying area, climbing up a tree.
- if travelling in a vehicle, getting out of it immediately and moving to a safe place.
- if on a boat in the sea, staying a few hours further in the sea without sailing towards the land.
- implementing tsunami disaster management programmes in advance.
- being sensitive to behaviours of animals.
- if an unusual rise or receding of sea is noticed, moving away from the coast into the inner land.



Figure 10.9

## 6. Mitigating effects of lightning

Lightning could occur in any part of Sri Lanka. Lightning becomes a common phenomenon specially during rainy seasons and inter-monsoonal rains in March, April, October and November.

Intense heat is created by lightning. Therefore, lightning can cause severe burn injuries. Lightning may even cause death due to such burn injuries and shock.

When there is lightning;

- Always stay inside a building. Do not stay in open areas like playgrounds, paddy fields and the beach.
- Do not stay close to electricity and telephone poles.
- Do not engage in activities like flying kites, catching fish with a fish rod, climbing trees or plucking fruits with a crook etc.
- Refrain from using metal tools like axes, knives and mamotees.
- Refrain from swimming and sailing.
- Do not use electric equipment and telephones (remove plugs).
- If the electric circuit breaker is switched off due to lightning, do not switch it on until the danger has passed.

Beside;

- Check functioning of the circuit breakers regularly.
- Install lightning conductors for tall buildings and towers.



## Precautions that can be taken to mitigate the effects of natural disasters

- Always identify possible disasters well in advance.
- Always select safe places for living.
- Always keep additional dry rations, drinking water, medicine and first aid for use in an emergency.
- Be informed of the ways of obtaining services of public institutes like hospitals, divisional secretariats, depots of the Electricity Board, Disaster Management Centre, and Offices of the Department of Irrigation and Water Supply and Drainage Board.
- Be sensitive to the changes of the environment (be alert to the changes of the behaviour of animals and birds).
- Be organized as groups in order to respond to emergencies.



Figure 10.10

You will have to face various physical, psychological and social challenges when affected by natural disasters like those mentioned above. When people face natural disasters, they may suffer external injuries like bruises, cuts, piercing, tears and blisters as well as internal injuries in the nature of muscle tear, muscle strain, twists, sprains, dislocation of joints, bone cracks and fractures. Apart from that the victims may also faint and suffer burn injuries. In such situations, it is essential that the patients are given first aid.



### Activity

Design a card with important telephone numbers to be displayed near the home telephone.

1	Police emergency service	119
2	Hospital	
3	Police	
4	Ambulance	
5	Disaster Management Unit	
6	Fire Brigade	
7	Emergency Breakdown Unit (Water /Electricity)	
8	Telephone numbers of a few neighbouring houses.	1.
		2.
		3.
		4.

## **First Aid**

When a person is hurt in an accident or suddenly becomes ill, the primary medical treatment that is given to him /her as soon as possible according to accepted principles by people with proper training and understanding before that person is taken to hospital or a professional for treatment, is called first aid. Giving first aid helps preventing complications and even saving the life of the patient.

- Giving first aid without proper knowledge or training could aggravate the condition of the patient.

### **Importance of giving first aid**

1. Possibility of saving the life of the patient.
2. Preventing deterioration of the condition of the patient.
3. Sometimes the patient can be cured completely through first aid.

### **Qualities that a first-aider should possess**

- Proper knowledge, training and competence in giving first aid.
- Does not get easily ruffled.
- Patience.
- Has the skill of acting as the leader or a member of a group.
- Has presence of mind.
- Assertiveness.
- Vigilance.
- Works with perseverance.
- Is empathetic.
- Does not feel loathing.
- Does not feel ashamed.
- Clarity of speech.
- Is concerned about self-protection.
- Treats everybody alike.

Whenever first aid has to be given, the first-aider should always wash his / her hands before and after.

## First aid kit

It is very important you have a first aid kit in the classroom, sports room, work place and home. A first aid kit can either be a box or a bag which is labelled so that it can be identified easily from a distance and it should be easy to open.

### A first aid kit contains:

- sterile gauze
- ordinary gauze
- bandage
- crepe bandage
- plaster
- soap
- disinfectants (properly diluted Dettol, Savlon, 70% alcohol)
- gloves
- a pair of scissors
- a candle and a box of matches
- a pen
- sheets of paper
- a few packets of Jeevani
- paracetamol tablets



Figure 10.11



Figure 10.12

## Giving first aid

A first-aider should first find out the nature of the accident that the patient has faced and identify the patient's condition. The first-aider should then identify the types of injuries that have happened to the patient. The following method of basic life support (A,B,C,D,E) can be adopted for that.

## **Basic Life support (BLS)**

### **A-Airway**

The first- aider should first check whether the patient's airway has been affected. If something is stuck or if the tongue is blocking the airway, the obstacle should be removed first to facilitate breathing. The patient's posture can be changed for this. If the neck seems to be injured, a hard collar should be put on around the neck. This may help prevent the possibility of an injury to the spinal cord.

### **B-Breathing**

The first-aider should check whether the patient's involuntary breathing takes place as normal. If not, action should be taken to give artificial respiration.

### **C-Circulation**

By feeling the patient's pulse at the wrist area or at the foot, the first-aider should check whether the patient's blood circulation is taking place properly.

### **D-Deformity**

The first-aider should check whether the patient's limbs cannot be moved properly due to some injury to nerves or bones. If any such damage is noticed, particular attention should be paid to it and the affected area should be supported with splints so that the damaged parts are immobilized. A piece of cardboard or strips of wood can be used for this purpose. If there has been any damage to the spinal cord, use either a spinal board or a long wooden plank to support the back.

### **E-Exposure / Environment**

The whole body of the patient should be checked. This may require full exposure of the patient's body.

If the environmental conditions are unfavourable for the patient, he / she should be taken to a safe place. In the case of any injury to the spinal cord he / she should be moved in the manner that a log is rolled. A safer method is for four people to lift the patient with in one command.

## In server condition

1. Make sure the victim, any bystanders at the scene and you are safe.
2. Check the victim for a response.

If he responds:

- Leave him in the position in which you find him provided there is no further danger.
- Try to find out what is wrong with him and get help if needed.
- Reassess him regularly.



Figure 10.13

If he does not respond:

- Shout for help.

Make the victim lie flat on his back and then open the airway using head tilt and chin lift:

- Place your hand on his forehead and gently tilt his head back.
- With your fingertips under the point of the victim's chin, lift the chin to open the airway.



Figure 10.14

4. Keeping the airway open, look, listen, and feel for normal breathing.

- Look for chest movement.
- Listen close to the victim's mouth for breath sounds.
- Feel for air on your cheek.



Figure 10.15



Figure 10.16

5. If he is breathing normally:
- Turn him into the recovery position (step 1,2,3) and get help from the ambulance service.
  - Continue to assess that breathing remains normal.

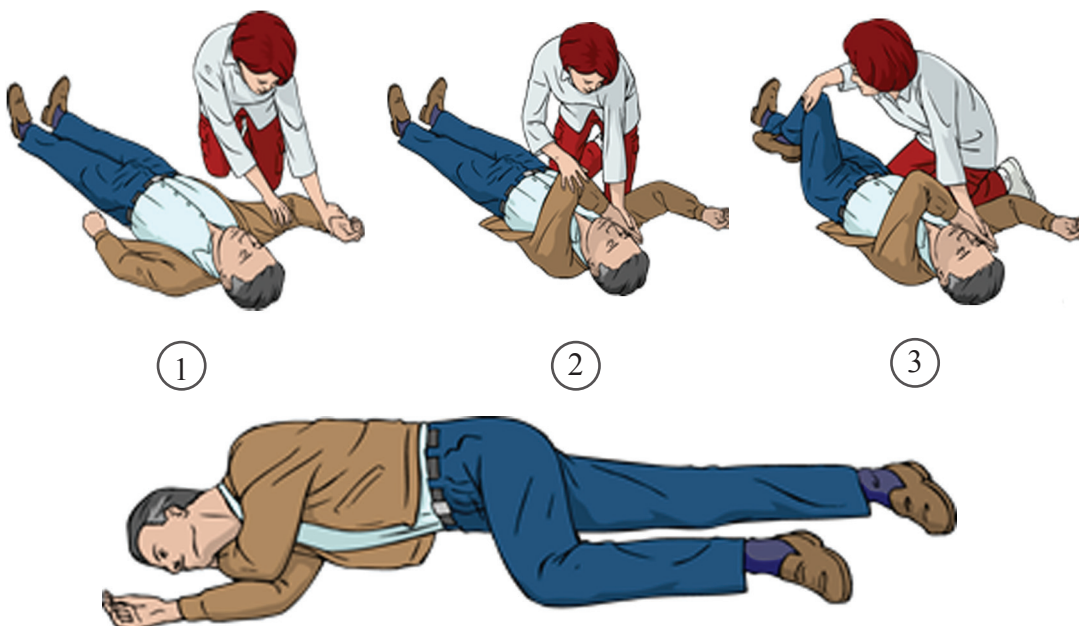


Figure 10.17 - recovery position

6. If he is not breathing normally
- Start chest compression as follows:
- Place the heel of one hand at the centre of the chest
  - Place other hand on top of it
  - Interlock fingers
  - Compress the chest
    - Rate about 100 per minute
    - Depth 5-6 cm
    - Equal compression and relaxation
  - When possible change CPR (Cardiopulmonary resuscitation) operator every 2 minute

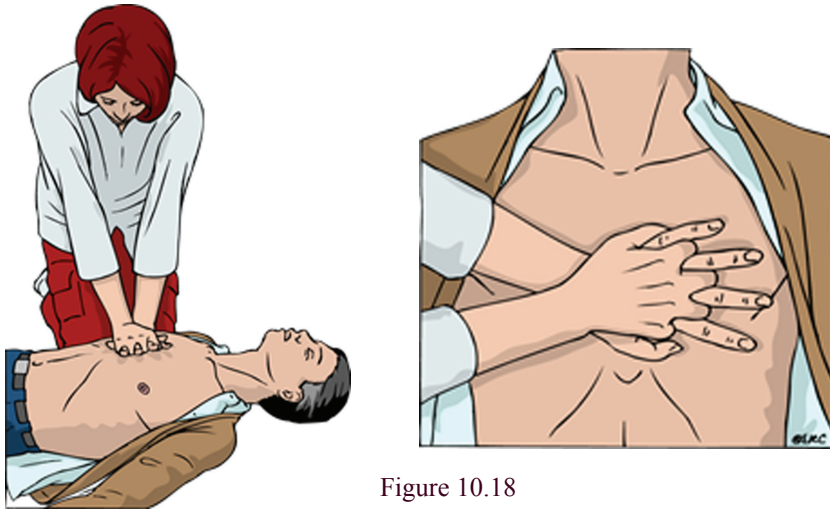


Figure 10.18

7. Combine chest compression with rescue breaths:
  - After 30 compressions.

Pinch the nose, Take a normal breath, Place lips over mouth, blow until the chest rises, take about one second, and allow chest to fall.



Figure 10.19

8. Continue with chest compressions and rescue breaths in a ratio of 30:2.
9. Stop to recheck the victim, only if he starts to show signs of regaining consciousness, such as coughing, opening his eyes, speaking, or moving purposefully and starts to breathe normally; otherwise do not interrupt resuscitation.

**What we have described up to here is the ABC in Basic Life Support**



**Giving first aid depends on patient's condition. Here are some such important situations.**

**1. When a person has fainted**

Lay the person flat on his or her back (on the floor or on some suitable place). Elevate the person's legs to restore blood flow to the brain. Loosen the clothes. Provide adequate ventilation. Check whether the patient has any injury.

**2. When a person has high fever**

If the patient is wearing warm clothing, remove them and put on light clothing. Take the patient to a place with good ventilation. Sponge the armpit and groin areas with lukewarm water. Cold water or hot water should not be used for sponging. The patient should drink plenty of fluids to stay hydrated.

**3. When a person is bleeding**

Put a piece of clean cloth on the wound and apply pressure on it or bandage up the area in order to stop bleeding. The injured parts should be kept in an elevated position (higher than the level of the heart). Keep the injured parts immobilized and take the patient to hospital for medical treatment.

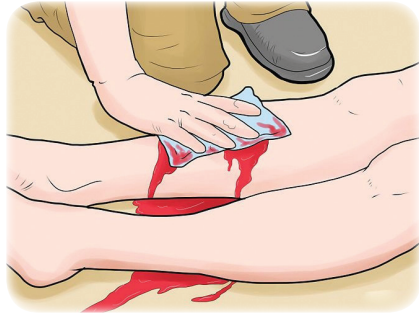


Figure 10.20

**4. When a person gets a fit**

The greatest danger that a person who has gone into convulsion is faced is of losing life due to falling, drowning or blocking of airway. When treating a patient with a convulsive (fit), he / she should be made to lie on the left side of his / her body (recovery position) so that the airway does not get blocked with phlegm and vomit. Do not insert anything into the patient's mouth. Keep any object that could cause danger away from the patient.

**5. When a person suffers a concussion**

Follow the A,B,C,D,E method described above and take the patient immediately for medical treatment keeping him/her in a posture that is not risky. If the patient is unconscious, he/she should not be given anything to eat or drink.

**6. When a person fractures a bone**

If a fracture has occurred or is suspected, support that part to keep it immobilized to

reduce the pain (e.g: with splints, sling, collar, etc.).

### **7. When a person dislocates a joint**

A person without proper training should never try to correct a dislocated joint. A dislocation occurring for the first time should never be corrected except by a trained professional. Keep the affected area immobilized using splints or a sling, and seek immediate medical treatment as dislocations are very painful.



Figure 10.21

### **8. When a person chokes on some object**

A person may choke on small objects like parts of a toy or pieces of food. This can obstruct the patient's breathing and may even cause death. Immediate action should be taken to remove the object that is blocking the airway. The method of doing this varies depending on the age of the patient.

In the case of a small child, make the child face downward by keeping the upper part of the stomach on the bent knees and give a few blows on the back with the hand.



Figure 10.22

In the case of an adult, stand behind the person, put your arms around the waist and tip the person slightly forward. Press hard into the abdomen with a quick, upward thrust as if trying to lift the person up. Repeat thrusts until the block is dislodged. This method is called the Heimlich manoeuvre.



Figure 10.23 - Heimlich manoeuvre

### 9. When a person has got an object stuck in the nose

Tickle the nose (e.g. with a coconut fibre) and make the patient sneeze. The object is most likely to come out. If you fail to get it out do not try to take it out using any equipment. Take the patient immediately to a hospital.

### 10. Snake bites / animal bites

An animal bite or a snake bite may cause pain, infection, shock or even death.

- Take measures to allay the patient's fear.
- Keep the affected area immobilized. (Do not let the patient walk.)
- Wash the area with soap and flowing water.
- Give paracetamol tablets to ease pain. Refrain from giving any other medicine.
- Refrain from giving food items like fruit juice, king coconut or young coconut water which contains high potassium.
- Take the patient immediately to a hospital.

#### What should not be done when giving first aid for animal / snake bites:

- Using the mouth to suck out the venom.
- Applying tourniquets.



### 11. Losing consciousness due to electrocution

A person may get electrocuted if struck by lightning, touching an exposed electric cable or making contact with damaged electric wires in houses or by some other means. It could result in losing consciousness.

- Before giving first aid check if the person has contact with the electricity supply.
- Disconnect the electricity supply by removing the plug or by turning off the main switch.
- If the electricity supply cannot be disconnected, remove the affected person using a dry object (e.g: a dry stick, a dry broom shank etc.).
- Allay the fear of the patient.
- If there are burn injuries, treat them.
- The hands and the legs of the first aider should not be wet.



Figure 10.24

## 12. Burn injuries

As a result of severe burn injuries, rapid loss of body fluids, infection and shock can occur. This may even lead to death.

- Immediately take the victim away from the danger.
- Take immediate measures to cool down the burnt area. Keep the burnt area in water or hold area under flowing water or pour water onto the burnt area. Do this for about 10 minutes or until the pain stops.
- Remove any tight clothing or other objects like a wrist watch before the burnt areas start to swell.
- Carefully cut the clothes that have been soaked in boiling liquids or chemicals.
- Cover the burnt areas with clean cloth.
- Lay the patient on a stretcher.
- Take the patient immediately to hospital.

### What should not be done when attending to burn injuries

- Do not remove any material that has been stuck on the burnt areas.
- Do not apply oil or fats on the burnt parts.
- Do not use any sticky substance (plaster) to hold the dressing.
- Do not put cotton wool on the wounds.
- If blisters have been formed, do not break them.



### 13. Poisoning

Certain poisons enter the body very fast while others do so very slowly.

In the case of some poisons like acids or bases, which could cause burns, entering the body:

- Give some sips of hot water.
- Take the patient immediately to hospital.

If a highly volatile substance like acids, detergents, kerosene or petrol has entered the body, do not make the patient vomit. It may cause the mouth, larynx and the stomach to burn.

When some poison that does not cause any burn (e.g: poisonous seeds, roots, mushrooms etc.) has entered the body:

- Make the patient vomit.
- After the patient has vomited, give more liquids to drink.
- Take the patient to hospital.

#### When poisoning is suspected

- Remove any clothing which has come in to contact with the poison. If any poison has come into contact with the body, wash the affected parts well with soap.
- Make the patient feel comfortable; allay any fear.
- If the patient is unconscious or confused, turn the patient so that he/she lies on the left side of his/her body and keep him/her in a position so that the head lies at a slightly lower level. Do not give anything to drink.
- Take the patient immediately to hospital.
- If possible take the poisonous substance to the hospital for the doctor to see.



#### Activity

1. Make separate cards stating each type of injury that a person may suffer due to an accident and the first aid given in each situation. Distribute the cards among the pupils in the class. Ask one pupil to stand up and read the type of injury or the first aid that has been written on his/her card. Ask the pupil who has got the card stating the relevant first aid / injury to stand up and read it.
2. Ask the pupils to demonstrate first aid being given to a person with a particular injury.

## Transporting a patient

Transporting a patient who suffers injuries as aforesaid should be done very carefully. Lifting the patient or carrying the patient to some other place should be done in a way that the patient does not feel pain or the condition of the patient does not aggravate.

- **When lifting or carrying a person who has had an accident, there is possibility of the spinal cord getting damaged. To prevent this when the patient is being taken to hospital, make him/her lie on a flat surface (e.g: a plank of wood) so that the back and the neck of the patient is not bent.**

The following are some of the ways which can be adopted in transporting patients. These methods can be adopted when carrying a person who suffers injury to a safer place (e.g: out of a fire, out of a pool of water). However, these methods should not be followed when the vertebral column or the neck of the patient has been damaged.

### How a patient should be carried if you are alone

1. Bend down and hold the patient by the shoulders with both your hands.

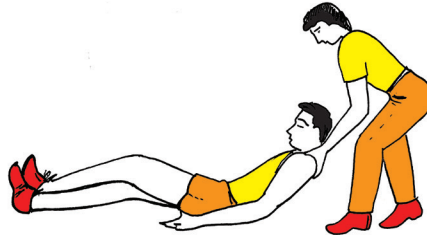


Figure 10.25

2. Raise him/her up with a single, gentle lift and put him in a sitting position.



Figure 10.26

3. When the patient is in this posture, support him with your knees.



Figure 10.27

4. Put your arm under his armpit and hold him by the upper arms with both your hands. Now lift him and bring him to a safe place.



Figure 10.28

### **How to support a patient who is able to walk or limp**

1. Stand by the side of the patient's wound.
2. Put the patient's arm over your shoulders and hold the patient's wrist with your hand.
3. Put your other arm across the patient's back and under his/her free arm.
4. Hold the patient's upper arm and support him to walk.

### **How to carry a patient who is conscious with the support of another**

1. Hold each other's arms as shown in the picture and form a chair for the patient to sit. The chair is formed with three hands and the free hand is used as a support to the patient's back.



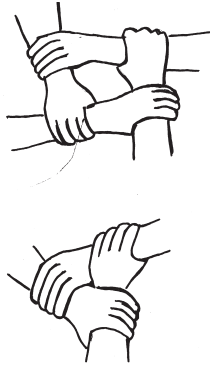


Figure 10.29

2. Make the patient sit on your arms holding onto your shoulders with both hands.

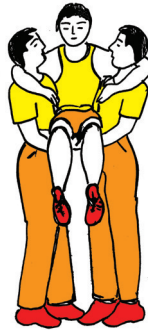


Figure 10.30

### **How to carry an injured person seated on a chair**

This method can be used to lift or carry an injured person who is in critical condition (e.g: when carrying up or down a narrow corridor).

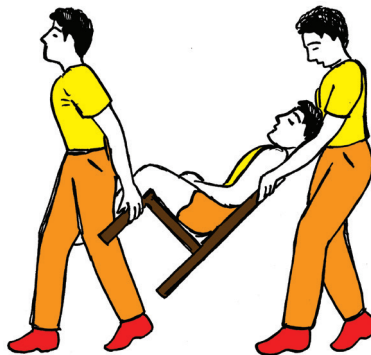


Figure 10.31

If the first aider is unable to support the injured person single-handedly, tie the person's chest area onto the back of the chair with a towel or a blanket. Tie the person's legs with another onto the front legs of the chair.

## How to use a blanket as a stretcher

There should be 4 to 6 supporters in order to use a blanket as a stretcher.

1. Lay the patient on the blanket

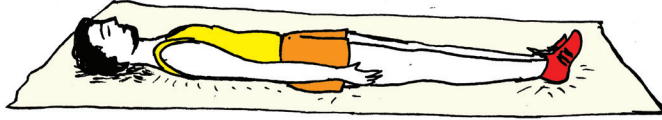


Figure 10.32

2. Roll the edges of the blanket.

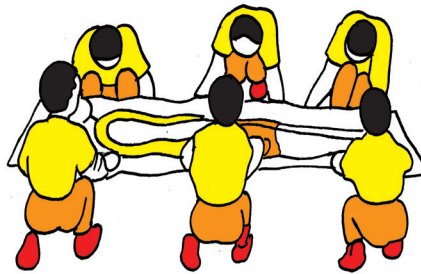


Figure 1.33

3. Kneel down face to face with the person in the opposite side and hold the rolled edge of the blanket firmly. Every person should stand up lifting the patient at a single command.

## How to carry a patient with three people

1. Every person should follow the same command. Use clear commands for every move.
2. Decide on the place the patient is going to be carried to.
3. All three people should kneel on one knee in identical manner on one side of the patient as shown in figure 10.34.



Figure 10.34

4. Put the hands under and across the patient's body. The patient's neck should be supported with one hand. Gently and slowly lift the patient onto your knees at a single command. Now turn the patient towards your body.



Figure 10.35

5. Now all three persons should stand up at the same time lifting the patient. Carry the patient to the relevant place and put the patient down in the same manner.

## Summary

It is very important for us to gain knowledge about the challenges we face like accidents, abuse and natural disasters which happen in day-to-day life.

An accident may happen at home, playground, garden, road or workplace. Accidents also happen due to various causes like animal attacks, use of agrochemicals and certain working environments. Internal or external injuries may result from accidents.

After an accident the injured should be given first aid before taking them to hospital. Giving first aid helps prevent complications and may save the patient from death. However, the first-aider should possess a sound knowledge and proper training on giving first aid. Knowing how to give BLS, can help save a life. Further, transporting persons who have suffered injuries should be done very carefully.



## **Exercises;**

1. List the types of natural disasters that you may have to face in life.
2. Describe how you would respond to a flood in your area.
3. Describe how you would attend to a person who is electrocuted.
4. Name three sports related external injuries.
5. Name five sports related internal injuries.
6. List five reasons for sports related injuries.