UNIT 5  FIRST AID IN COMMON EMERGENCY CONDITIONS

Structure
5.0  Introduction
5.1  Objectives
5.2  First Aid in Common Emergency Conditions
   5.2.1  High Fever
   5.2.2  Low Blood Sugar
   5.2.3  Minor Injuries
   5.2.4  Fractures
   5.2.5  Fainting
   5.2.6  Bleeding
   5.2.7  Shock
   5.2.8  Stroke
   5.2.9  Bites
   5.2.10 Burns
   5.2.11 Choking
   5.2.12 Seizures (Fits)
   5.2.13 Road Traffic Accidents (RTAs)
   5.2.14 Poisoning
   5.2.15 Drowning
   5.2.16 Foreign Bodies
5.3  Let Us Sum Up
5.4  Model Answers
5.4  Key Words
5.5  References

5.0  INTRODUCTION

In the previous unit, you have gone through the common problems related to
eyes, ENT, its identification and management. In this unit you shall learn the
skills for providing First Aid measures to persons in common emergency
conditions e.g. High fever, hyperglycemic shock (diabetic coma), hypoglycemic
shock (insulin coma), fracture, wound, minor injuries, haemorrhage, shock,
drowning and surgical trauma have been described in depth. In this unit we shall
focus on the First Aid measures for common Emergency Conditions such as:
High fever, low blood sugar, minor injuries, fractures, fainting, bleeding, shock,
stroke, bites, burns, choking, seizures (fits), Road Traffic Conditions (RTAs),
poisoning, drowning and foreign bodies and how to manage the patients with
such conditions.

5.1  OBJECTIVES

After completing this unit, you will be able to:

- list the factors, causes, assessment for common emergency conditions;
• explain First Aid measures for common emergency conditions such as: high fever, low blood sugar, minor injuries, fractures, fainting, bleeding, shock, stroke, bites, burns, choking, seizures (fits), Road Traffic Conditions (RTAs), food poisoning, drowning and foreign body aspiration; and

• manage the persons in need of common emergency conditions such as: High fever, low blood sugar, minor injuries, fractures, fainting, bleeding, shock, stroke, bites, burns, choking, seizures (fits), Road Traffic Conditions (RTAs), poisoning and drowning and foreign body aspiration.

5.2 FIRST AID IN COMMON EMERGENCY CONDITIONS

First Aid(s) are the prompt preventive and therapeutic measures taken to help an accident victim or a person suddenly falling ill with acute emergencies. The measures taken largely depend on the nature of the injury or disease. The early assessment of such emergencies is very important for taking a prompt action and correctly deciding an appropriate management at your level before referral. Therefore, as a public health nurse practitioner, you need to have professionally a sound knowledge in order to identify and manage various common emergencies as mentioned below.

5.2.1 High Fever

High Fever also known as pyrexia is when a person’s temperature in the mouth is over 37.7°C (99.9°F). Temperature can also be measured in the rectum (anus) or in the arm pit. It is usually a common medical sign of an underlying condition, most often an infection.

Factors influencing the body temperature

The person’s normal body temperature may vary by factors such as eating, exercise, sleeping and day and night time. Our body temperature is usually highest at around 6 pm and lowest at about 3 am.

Causes

An elevated body temperature (fever) is one of the ways our immune system attempts to combat an infection. Usually the rise in body temperature helps the individual to resolve an infection. However, sometimes it may rise too high, in which case the fever can be serious and lead to complications. Some of the causes of high fever are:

• An infection - such as streptococcal throat, flu, chickenpox or pneumonia
• Over-exposure of skin to sunlight (sunburn), Heat stroke
• Prolonged strenuous exercise
• Silicosis – a type of lung disease caused by long-term exposure to silica dust
• Amphetamine abuse
• Alcohol withdrawal (Refer for other causes to Practical 4, Block 3)

Signs / symptoms: The patient with high fever may have following common signs and symptoms:

• Feeling cold when nobody else is shivering
• Lack of appetite
• Pallor
• Dehydration
• Headache and body ache, the individual is much more sensitive to pain
• Lethargy and Depression
• Sleepiness
• Sweating, Hot flushed skin
• Irritability, confusion, delirium and convulsions.

Assessment of high fever in patients especially in children is clinically very important to prevent them from developing convulsions. (Refer for details to Practical 4, Block 3)

**Remember:**

- Children with a high temperature may develop a febrile seizure, also known as a febrile fit or febrile convulsion, most of which are not serious and may be the result of an ear infection, gastroenteritis, or a respiratory virus (a cold). Less commonly, febrile seizures may be caused by something more serious, such meningitis, a kidney infection or pneumonia.

- Febrile seizures most commonly occur in children aged 6 months to 6 years and affect boys more often than girls.

- The seizure occurs because the body temperature rises too fast rather than because it has been sustained for a long time.

**First aid management of patient with high fever:** (Refer for details to Practical 4, Block 3)

**Box 5.1: First Aid Measures for Treating the High Fever in Various age Groups**

- **Infants and toddlers:**
  
  **0-3 months** having rectal temperature of 100.4°F (38°C) or higher. Refer to the doctor, even if the child does not have any other signs or symptoms. 3-6 months having rectal temperature up to 102°F (38.9°C). Encourage the child to rest and drink plenty of fluids. Medication is not needed. Refer to the doctor if the child seems unusually irritable, lethargic or uncomfortable.

  **Above 6- months and upto 3 years** having rectal temperature up to 102°F (38.9°C). Give the child acetaminophen. Read the label carefully for proper dosage. Refer to the doctor if the fever does not respond to the medication within one day.

  **Above 3 years and upto 17 years** having temperature up to 102°F (38.9°C) taken rectally for children up to 3 years of age or taken orally for children older than 3. Give the child ibuprofen. Encourage the child to rest and drink plenty of fluids. Refer to the doctor if the fever does not respond to the medication or lasts longer than one day doctor or if the fever is accompanied by a severe headache, stiff neck, shortness of breath, or other unusual signs or symptoms.

  **Do not give aspirin to an infant or toddler.**
• **18 years and above** having oral temperature up to 102°F (38.9°C). Take acetaminophen or ibuprofen or aspirin. Read the label carefully for proper dosage and be careful not to take more than one medication containing acetaminophen, such as some cough and cold medicines. Consult the doctor if the fever does not respond to the medication, is consistently 103°F (39.4°C) or higher, or lasts longer than three days or if the fever is accompanied by a severe headache, stiff neck, shortness of breath, or other unusual signs or symptoms.

**Remember:**

• Fever is commonly caused by bacterial/viral infections. Good hygiene practices help reduce the risk of developing an infection. This includes hand washing before and after meals, and after going to the toilet.

• A person with a fever caused by an infection should have as little contact as possible with other people, to prevent the infection from spreading. Whoever is caring for the patient should regularly wash their hands with warm soap and water.

### 5.2.2 Low Blood Sugar

(For details refer to Practical 4, Block 3).

Low blood sugar known as hypoglycemia is the most common medical emergency which may be associated with either over dose of insulin intake or by inadequate caloric intake.

**Signs and Symptoms**

Patient with low blood sugar level may have following Signs and Symptoms:

• Irritability
• Confusion
• Tremors
• Blurring of vision
• Coma
• Seizures
• Tachycardia
• Hypotension
• Cold and clammy skin
• Diaphoresis

**First Aid treatment**

---

**Note:**

It is difficult to differentiate whether patient has hypoglycemia or hyperglycemia. Therefore it is better and medically advisable to treat the patient initially as a case of hypoglycemia.

Whenever a patient has such problem, treat him/her as follows:
If patient is conscious:
- Give him/her reassurance
- Give liquids containing additional sugar such as tea with increased sugar or 4 to 6 ounces of fruit juice or 5 to 6 hard candies.

If patient is unconscious:
- Place glucose powder under tongue.
- Refer the patient immediately to nearest PHC or hospital. (for further treatment refer to Practical 4, Block 3)

5.2.3 Minor Injuries

Injury can be defined as a trauma to any part of the body. Minor injuries may include: cuts, wounds, sprains, strains, minor fractures and joint dislocations, superficial minor burns, insect stings and animal bites.

First aid measures for taking care of minor injuries:
All minor injuries need to be treated according to the specific conditions as discussed below:

a) First aid measures for taking care of cuts and wound:

If a patient with a minor cut or wound reports to you, proceed with the following steps:

i) Ensure the safety of the patient.

ii) Wash the hands well before touching the injured area of the patient.

iii) If the wound is dirty wash it thoroughly with soap and water, then apply firm pressure for around 5 minutes. This will stop most bleeding.

iv) Elevate the wound, above the level of the heart if possible. When bleeding has reduced clean the area with the antiseptic lotion and keep it dry.

v) Use a sterile dressing to avoid touching the wound directly.

vi) Administer a dose of tetanus toxide injection.

vii) Give an anti inflammatory analgesic such as tablet lyzer D at once to reduce pain and swelling.

viii) Give antibiotic such as Amoxicillin 500 mg 6 hourly for 5 days if needed.

b) First aid measures for taking care of sprains, strains, fractures and joint dislocations:

The patient with these conditions is given immediate care commonly called RICE.

R: Rest the injured part
I: Ice the area
C: Compress with a bandage
E: Elevate the injured part to divert the blood flow away from the area
(Refer for details to Practical 4, Block 3)

c) First aid measures for taking care of burns:

It includes following steps:

i) Run the burnt part under the cold water or apply an ice pack until pain subsides.
ii) Clean and bandage the burned area to avoid the possibility of infection.
   (Refer to Practical 4, Block 3 for further steps)

d) **First aid measures for taking care of patient with insect stings and animal bites:**

   Proceed with the following steps:

   i) Apply pressure with a clean bandage or towel to stop bleeding.
   ii) Clean and scrap the area to remove carefully the wings of the insect.
   iii) Give immediately a dose of tetanus toxide.
   iv) Apply antihistamine ointment to reduce itching, swelling and pain
   v) Treat the sting or bite according to type of insect or animal (as mentioned under bites)

### 5.2.4 Fractures

Fracture is an injury that causes break in the bone. The bone may be crack or split into pieces. The break is usually complete, but in the young the bone can be bent without breaking completely. This is called a greenstick fracture. Correct first aid management of fractures, in both conscious and unconscious casualties, is essential in order to reduce the amount of tissues damage, bleeding, pain and shock.

**Causes** A fracture is caused by:

- **Direct force** - A blow that breaks the bone at the point of impact
- **Indirect force** - When the bone breaks at some distance from the point of impact, e.g. where a fall on an outstretched hand results in a fracture of the collar bone.
- **Abnormal muscular contraction** - A sudden contraction of a muscle may result in a fracture, e.g. an elderly person snapping the knee cap after tripping and trying to prevent a fall.

**Types** The types of fractures are:

i) **Closed** - Skin is unbroken and blood is lost into tissues

ii) **Open** - A wound leads to be fracture, or bone protrudes through the skin. Blood loss may be severe, and infection can result.

iii) **Spiral fractures** are caused by twisting of the bones such as those which may occur in skiing accidents.

iv) **Transverse fractures** are horizontal breaks directly across the bone also called stress fractures caused by repetitive, damaging motion such as running or jumping.

v) **Greenstick fractures** usually the result of sudden force and are characterised by a splintering of the top layer of the bone which resemble like a piece of bark peeled from a tree and are commonly found in children.

vi) **Comminuted fractures** are those in which the bone shatters into fragments. These fractures are caused by severe force such as car accident. As shown in Fig. 5.1 (a) and (b).
Signs and Symptoms: A patient with fracture may present with following possible signs and symptoms:

- The break may have been felt or heard
- Pain at or near the site of the injury
- Difficult or impossible normal movement of the limb
- Deformity, abnormal twist or shortening of limb
- Tenderness at the site of fracture, when gentle pressure is applied
- Swelling over and around the fracture
- Bruising at the site of fracture
- A coarse grating sound if one end of the bone moves against the other. This is called crepitation.

Assessment and First aid treatment of fracture: (Refer to Practical 4, Block 3)

5.2.5 Fainting

Fainting or Syncope is a temporary loss of consciousness caused due to lack of oxygen in the brain characterised by rapid onset, short duration and spontaneous recovery.
Causes:

i) Prolonged standing

ii) Sitting for long periods followed by suddenly standing causes blood to collect in leg veins, depriving the heart of blood to send to brain and thereby causing fainting.

iii) Being in hot and/or crowded places may precipitate an episode.

Signs and Symptoms:

The fainting is usually preceded with:

- Weakness, nausea or dizziness or light headedness followed by unconsciousness.
- Difficulty in speaking or weakness in limbs may occur due to obstructed blood flow through the blood vessels of the neck and brain.
- Irregular heartbeat.
- Flushing of the face

First Aid Treatment:

Whenever you will find a person fainting, immediately proceed as follows:

i) Make the person to lie flat atleast for 15 minutes or to sit if lightheadedness is present.

ii) Open the airway and assess for breathing.

iii) Provided that the person is breathing, raise the person’s legs above the level of his/her heart.

iv) Loosen any restrictive clothing around the neck or the waist of the person.

v) Consciousness is usually quickly regained with these first aid measures.

vi) If the person remains unconscious, check for breathing and heart rate again and look for another cause.

vii) Call an ambulance and refer the person quickly to hospital for immediate assessment and treatment.

<table>
<thead>
<tr>
<th>Check Your Progress 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) List the common signs and symptoms of high fever.</td>
</tr>
<tr>
<td>a) ..........................................................</td>
</tr>
<tr>
<td>b) ..........................................................</td>
</tr>
<tr>
<td>c) ..........................................................</td>
</tr>
<tr>
<td>d) ..........................................................</td>
</tr>
<tr>
<td>e) ..........................................................</td>
</tr>
<tr>
<td>2) Discuss the First Aid measures for treating the high fever in infants and toddlers.</td>
</tr>
<tr>
<td>..........................................................................................</td>
</tr>
<tr>
<td>..........................................................................................</td>
</tr>
</tbody>
</table>
3) List down the immediate steps which you will take for managing a case with low blood sugar level.

4) Fill in the blanks:
   a) The patient with the conditions such as ______________________
      ______________________. is given immediate care commonly called RICE.
   b) The word RICE stands for:
      R: ______________________
      I: ______________________
      C: ______________________
      E: ______________________
   c) ______________________ is a coarse grating sound produced if one end of the bone moves against the other.

5.2.6 Bleeding

It can be defined as loss of blood from blood vessels which may be cut, torn or damaged accidentally or due to disease. The bleeding is visible to the naked eye when it is external accompanying various injuries, such as scrapes, cuts, puncture wounds, open fractures or amputations or if an object is impaled in the skin. This is called EXTERNAL HAEMORRHAGE. But when the bleeding is not visible to the naked eye as the loss of blood from the blood vessels may be taking place into chest or abdominal cavity or inside the skull. Such type of haemorrhage is called INTERNAL HAEMORRHAGE.

Types of bleeding

Whether bleeding is external or internal, it has following three types:

Arterial bleeding

- The blood is bright red in colour
- It spurts at each contraction
- Flow is pulsatile
Venous bleeding

- Blood is dark red in colour
- It does not spurt
- It has steady flow

Capillary bleeding

- Blood is red in colour
- It does not spurt
- It has slow but even flow

Causes of bleeding (refer to Practical 4, Block 3)

- Signs and Symptoms of bleeding (refer to Practical 4, Block 3)
  
  S/S of the patient depends upon the type of bleeding as follows:

  a) External Bleeding:
    
    i) Evidence of major external blood loss
    
    ii) S/S of shock:
        
        i) Patient complains of thirst
        
        ii) Blurring of vision, fainting and giddiness
        
        iii) Face and lips become pale
        
        iv) Skin feels cold and clammy
        
        v) Pulse becomes faster but weaker
        
        vi) Restlessness
        
        vii) Breathing becomes shallower (air hunger)
        
        viii) Unconsciousness may occur

  b) Internal Bleeding:
    
    i) History of sufficient injury to cause internal bleeding
    
    ii) Wounds that have penetrated skull
    
    iii) Wounds that have penetrated chest or abdomen
    
    iv) History of medical condition which may cause internal bleeding (ulcer)
    
    v) Pain and tenderness around the affected area, swelling and tension may be felt
    
    vi) Symptoms and signs of shock
    
    vii) Blood may appear from one of the body orifices, nose, ear, mouth, rectum, urethra and vagina.
    
    viii) Fracture of bones especially long bones of upper arm and thigh.

First-Aid Treatment

First aid for a bleeding victim is crucial. When the bleeding is severe, there may be the symptoms of shock. Therefore it is very important to seek immediate medical attention for:
a) Severe Bleeding, cuts that are more than skin deep
b) Cuts with ragged edges
c) Cuts with deeply embedded dirt, impaled objects
d) Amputation.

What so ever will be the type and cause of bleeding immediately proceed as follows:
i) Control bleeding with direct pressure. (Fig. 5.2)
ii) Cover wound with sterile dressing or clean cloth, diaper, or sanitary napkin. (Fig. 5.3)
iii) Place your gloved hand over dressing.
iv) Press firmly. Continue pressure until bleeding stops.
v) DO NOT remove dressing. If soaked through add more material and continue pressure.
vi) If no broken bone suspected, elevate wound higher than level of heart. DO NOT move limb if you think it is broken.
vii) Elevate area above the heart. If it does not appear broken.

Refer the patient to the hospital:
a) If the patient has symptoms of shock
b) If a cut is longer than about 1/4 inch (¾ centimeter), is on the face, appears deep, or has edges that separate
c) If bleeding does not stop on its own or within several minutes after pressure is applied
d) If there are symptoms of a nerve or tendon injury, such as loss of sensation, loss of movement, or numbness.
e) If a scrape is deep or has dirt and particles that are difficult to remove.
f) If there is a punctured wound, particularly if foreign material is in the wound.

Fig. 5.2: Controlling bleeding by applying direct pressure
5.2.7 Shock

It is a condition of severe depression of body’s vital functions following an injury, haemorrhage, severe pain or emotional.

The degree of shock varies from person to person, depending on one’s temperament and sensitivity to pain. The young, the aged, weak, anemic persons develop shock quickly when suffering from shock producing conditions. (Refer to Practical 4, Block 3 for further details)

Causes

The most important causes of shock are:

i) Abdominal injuries
ii) Profuse bleeding
iii) Severe burns
iv) Fractures (especially when severe and when improperly handled)
v) Severe wounds
vi) Chest injuries
vii) Skull injuries

Types

Shock following injury is of two types:

1) Primary shock which occurs immediately after injury and is caused by excessive stimulation of the nerve endings at the injury site.

2) Secondary shock which develops within half an hours after injury and is caused by loss of blood (haemorrhage), externally or internally.

Signs of Shock

The patient may have the signs according to the type of shock as given in the box 5.3

**Box 5.3: Signs of Shock According to Type**

<table>
<thead>
<tr>
<th>Primary Shock</th>
<th>Secondary Shock</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Pallor of face and lips</td>
<td>i. Pallor of face and lips</td>
</tr>
<tr>
<td>ii. Beads of sweat on the forehead</td>
<td>ii. Beads of sweat on the forehead</td>
</tr>
<tr>
<td>iii. Clamminess of the skin</td>
<td>iii. Clamminess of the skin</td>
</tr>
<tr>
<td>iv. Cold hands and feet</td>
<td>iv. Cold hands and feet</td>
</tr>
<tr>
<td>v. Shallow breathing</td>
<td>v. Shallow breathing</td>
</tr>
<tr>
<td>vi. Rapid and feeble pulse</td>
<td>vi. Rapid and feeble pulse</td>
</tr>
<tr>
<td></td>
<td>vii. Vomiting</td>
</tr>
<tr>
<td></td>
<td>viii. Restlessness</td>
</tr>
<tr>
<td></td>
<td>ix. Vacant expression</td>
</tr>
<tr>
<td></td>
<td>x. Unconsciousness (at a later stage)</td>
</tr>
</tbody>
</table>

First Aid Treatment

**It is Important to Treat Primary Shock if Secondary Shock is to be Avoided**

![Emergency treatment of the patient in shock](Fig. 5.4)
The steps to be followed in order to treat the shock are: (Fig. 5.4)

i) Lay the patient down on a stretcher or a bed. If neither is available lay him/her down on the ground on a sheet or blanket.

ii) Raise the foot of the stretcher or bed about 25 cm of the ground.

iii) Keep the patient warm by covering him/her with the blanket. If available, use a hot water bottle but be careful not to overheat him/her or burn.

iv) Stop any bleeding.

v) Give the patient hot tea with plenty of sugar if conscious.

vi) Splint fractures and cover wounds before sending the patient to primary health centre.

vii) Transfer the patient immediately to primary health centre or hospital.

5.2.8 Stroke

A stroke, sometimes called a “brain attack”, occurs when blood flow to an area in the brain is cut off. The brain cells, deprived of the oxygen and glucose needed to survive, die. If a stroke is not treated early, permanent brain damage or death can result.

Types of Stroke

a) Ischemic Stroke

It is similar to a heart attack, except it occurs in the blood vessels of the brain. About 80% of all strokes are ischemic. Clots can form in the blood vessels in the brain or leading to the brain, or even in blood vessels elsewhere in the body and then travel to the brain. These clots block blood flow to the brain cells. Ischemic stroke can also occur when too much plaque (fatty deposits and cholesterol) clogs the brain’s blood vessels.

b) Haemorrhagic stroke

It occurs when a blood vessel in the brain breaks or ruptures. The result is blood seeping into the brain tissue, causing damage to brain cells. The most common causes of haemorrhagic stroke are high blood pressure and brain aneurysms.

Signs and Symptoms of Stroke

The s/s of stroke depend upon its cause and the part of the brain effected however the major signs and symptoms as reported by a stroke patient as well as found upon examination of a stroke patient include:

a) Common Signs and Symptoms

- A sudden feeling of weakness or numbness of the face, arm, or leg on one side of the body.
- Loss of vision or dimming (like a curtain falling) in one or both eyes.
- Loss of speech, difficulty in talking or understanding what others are saying.
Management of Common Conditions and Emergencies including First Aid

- Sudden, severe headache with no known cause.
- Fainting or unstable walking usually combined with another symptoms like light headedness, dizziness and confusion.
- Sudden loss of long-term or short-term memory.

b) **Signs and Symptoms related to cause**

- In cerebral thrombosis the symptoms occur gradually, sometimes fading and progressing over several days.
- In cerebral embolism the symptoms come on quickly.
- A stroke caused by subarachnoid haemorrhage is signaled by the sudden onset of headache, nausea, vomiting, confusion and seizures.

**First Aid Treatment**

Stroke is an acute medical emergency. Immediate treatment can save the life of victim or increase the chance of recovery by preventing or reducing permanent brain damage. Follow quickly the steps of EMERGENCY TREATMENT as given below:

i) Keep patient lying down on his/her side.
ii) Keep the head high, turned on side to prevent aspiration of vomit.
iii) Keep the patient quiet and cover the patient lightly with blanket.
iv) Observe for signs and symptoms shock and treat it (see shock in Practical 3, Block 3)
v) Shift the patient quickly to hospital.

**Prevention**

Make the public aware about that:

- Up to 50% of all strokes are preventable.
- Many risk factors such as: blood pressure, dyslipidemia, obesity stress, smoking, alcohol etc. can be controlled and prohibited before they cause problems by practicing healthy lifestyle pattern like healthy food, exercise, adequate sleep and rest and recreation.

**5.2.9 Bites**

Bites are the wounds caused by piercing or stinging of the flesh of a person by an animal, insect or by another person.

**Types of Bites:** Let us now go through the types of bites as given below:

1) **Insect Bite**

Insects such as bees, wasps, bed bug, hornet, jelly fish, scorpion and spider cause stings which are very painful. The insect bites can be classified according to s/s and treatment into:

a) **Bee/ wasp/ bed bug, hornet stings, jelly fish:** (Fig. 5.5)
These occur frequently in rural areas, especially if their nests are disturbed.

**Signs and symptoms**

The following are the various important signs and symptoms:

a) Sharp pain at the site of sting.

b) Swelling around the affected area with the central reddened puncture point.

c) Sting may be there in the wound.

d) If the person is prone to allergies, the person may go into shock.

e) Stings in the mouth and throat may cause swelling leading to asphyxia.

**Treatment**

The insects have sting which is left at the site of the puncture and has to be removed to prevent the person from danger. The treatment includes following step:

i) **Removal of sting**

   a) If the sting has been left embedded in the skin hold tweezers as near to the skin as possible grasp the sting and remove it.

   b) Do not squeeze the poison sac because this will force the remaining poison into the skin.

ii) **Local treatment**

   a) Bee venom is acid and it should be neutralised by application of ammonia, soda.

   b) Wasp venom is alkaline and it should be neutralised by application of vinegar, or lemon juice.

   c) For jelly-fish stings, apply calamine lotion.

   d) Apply cold compress and spirit at the site of sting.

   e) Give Ibugesic tablet to relieve pain and swelling.

   f) Give antihistamine (Avil tablet) for allergy.

iii) **Treatment of insect stings inside the mouth or throat**

   a) To reduce swelling, give ice to suck.
b) Rinse the mouth with cold water or solution of water and bicarbonate of soda.

c) If breathing becomes difficult, shift the patient immediately to hospital.

iv) Refer the patient immediately to the hospital, if patient does not recover or shows symptoms of shock.

b) **Scorpion / Spider sting**

In many parts of the India scorpions and spiders are common and their stings are likely to occur in dark places as they are often found lurking in such places. Their stings are very dangerous and can be poisonous, their stings cause severe pain and in children signs of shock may be present. (Fig. 5.6)

![Fig. 5.6: Spider](image)

**Signs and Symptoms**

The patient with history of scorpion or spider will have following signs and symptoms:

a) Itching and swelling at the effected site (such as eye may be closed due to swelling).

b) Burning pain and increased sensation or numbness near the site of bite.

c) Restlessness, lacrimation, salivation.

d) Nausea, vomiting.

e) Profuse sweating, 4–6 hours after bite.

**Treatment**

Whenever a patient with a scorpion or spider sting reports to you, proceed with the following steps:
• Examine the site of sting.
• If the sting is on the extremity, apply a tourniquet proximal to the site of sting and release it every 5 to 10 minutes for a few seconds to prevent gangrene formation.
• Apply ice packs on the region to slow down the absorption of poison.
• Apply cold compress or fresh potassium permanganate solution on the wound. It stops the pain immediately.
• Give Ibugesic tablet to relieve pain and swelling.
• Give antihistamine (avil tablet) for allergy.
• Look for the signs of shock, particularly in children.
• Refer the patient immediately to the hospital, if patient does not recover or shows symptoms of shock.

2) **Snake Bite**

All snake bites are not fatal. Only a small quantity of venom may be fatal. Most people die from fear and venom is not the point of consideration.

**Signs and Symptoms**

While asking the history, patient will tell that he/she has been bitten by a snake and will have following signs and symptoms

• The punctured wound produced by the fangs of the snake will be clearly visible.

• Local Signs and Symptoms such as:
  - Bleeding, numbness at the site of bite.
  - Swelling and burning pain at the site of bite. (Fig 5.7)

• Signs of poisoning such as:
  - Drowsiness.
  - Dimness of vision.
  - Difficulty in breathing and speech.
  - Area becomes bluish purple after bite in twelve hours.
  - Dribbling of saliva, paralysis.
  - Convulsions, coma.

![Fig. 5.7: Swelling of hand and tissue death on first finger due to Snake bite](image)

**Assessment**

• Site may show one or more punctures, a small abrasion and perhaps a linear laceration.
In non poisonous snakes bite semi-circular row of teeth marks may be seen.

Local swelling appearing within few minutes after bite is a sign of poisonous snake bite.

Respiratory symptoms.

Paralysis.

**Treatment**

Snake bites are punctured wounds, caused by fangs of snakes. As far as treatment is concerned, these are treated as minor wounds. However you should always assume it as poisonous and proceed with the treatment of the patient as follows:

- Lay the patient down.
- Give him complete rest.
- Calm and reassure him.
- Do not make him to walk.
- Tie immediately a piece of cloth or a tourniquet, tightly above the bite to prevent the venous blood return. It should be loosened for a few seconds at a regular interval of about 10 minutes.
- If the case is seen within one hour of the bite:
  - Take a scalpel or a clean razor blade and make four to six cuts 1 cm deep over the area of bite.
  - Squeeze the part hard so that the blood flows out of the cuts.
  - Wash cuts gently with normal saline or antiseptic lotion if available otherwise with soapy water. (Fig. 5.8)

![Wash affected area](image)

**Fig. 5.8:** Wash the site of bite gently with soapy water

- Apply a clean dressing.
- Immobilise the affected limb.
- Apply Ice packs on the wound.
- Treat shock.
- Shift the patient to hospital immediately.
- Take the killed snake, if available for identification. This will help the doctors for proper management.
Remember:
- Excision of the bitten area is a doubtful practice, particularly if the area is on the limb.
- Sucking the poison from the site is controversial practice.

3) Dog Bite

In India where rabies is endemic, if a person is bitten by a dog, it should be taken seriously. Wounds following a dog bite are potentially infected because dirt and germs are introduced into wound from the teeth of the dog.

Remember:
- Dog bite may cause fatal medical condition i.e. fear of water called hydrophobia.
- The dog should be watched for 10 days.
- If the dog is healthy after this period then there is no danger of rabies.

The patient will report the following complaints:
1) History of bite.
2) Discomfort, pain at the site of bite.

Signs and Symptoms of Rabies
- Headache, nausea and vomiting.
- Agitation, confusion and hallucination.
- Difficulty in swallowing.
- Foaming at mouth.
- Respiratory paralysis.
- Patient will have difficulty in drinking water.

Treatment
Whenever the patient with dog bite reports to you, proceed with following steps:

a) If the dog is known to the patient and behaves normally:
   - Wash the wound well with soap and flush with running water by syringe.
   - Apply antiseptic lotion such as betadine.
   - Bandage the wound with sterile dressing.
   - Give a dose of tetanus toxide.
   - Give anti inflammatory analgesic tablet such as lyzer D for pain.
   - Give antibiotic such as capsule amoxicillin 500 mg 8 hourly for five days.
   - Tell the patient to watch the dog for 10 days for the abnormal behaviour as follows:
     - If the dog no longer eats
• If the dog no longer barks
• Shivers, becomes aggressive, barks at those it knows
• Has convulsions and saliva dribble from it’s mouth
• If the dog has died or was killed, send the carcass to the nearest veterinary dispensary for investigation.

b) If the dog is not known to the patient:
• Give the patient above treatment and
• Refer the patient to doctor immediately for anti-rabies vaccine.

**Remember:**
• The SAME TREATMENT applies to the bites or scratches of OTHER ANIMALS.
• Even a minute dog bite from a strange dog can give rise to RABIES, therefore always REFER the patient in such case.

### 5.2.10 Burns

Burns are the leading cause of accidental death. Burns are caused by flame, hot liquids, hot surfaces, chemicals, radiations or electric current. (Refer to practical 4, Block 3 for further details)

**Types of burns**

i) **Thermal Burns**

Thermal burns are most common, typical causes includes fire in the home, auto accidents, playing with matches, poorly stored gasoline, faulty electric systems, space heaters, fire crackers and kitchen accidents. (Fig 5.9)
ii) Chemical Burns

Chemical burns are caused by contract, ingestion, inhalation injection or acids or alkalis.

iii) Electric Burns

Electric burns may arise from contact with malfunctioning electric wiring, flash electrical arcs from high voltage power line or machines or even from lightning.

How to Determine Burns Severity?

Severity of burns is determined by many factors such as:

a) Depth of burn
b) Percentage of body surface area (size of burns)
c) Location
d) Age
e) Medical history
f) Cause of burn

Depth of burn

Depth of burn is typically divided into three major categories:

1) A superficial burn or first degree, where the skin is partially destroyed. After a burn, the skin becomes red, extremely sensitive to the touch, wet and swollen.

2) A partial thickness burn or second degree burn is deeper. Blisters form and are filled with a clear, thick liquid. The area is painfully sensitive to touch and is swollen.

3) A full thickness burn or third degree is still deeper where structures beneath the skin such as muscles, bones, nerve endings etc. are severely affected. It is often difficult to determine the depth of a burn until several days after the injury. The box 5.4 and Fig. 5.10 shows percentage of Burnt Skin Surface.

Box 5.4: Rule of Nine Method for Calculating Percentage of Burnt Skin Surface

<table>
<thead>
<tr>
<th>Body Part</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head and neck:</td>
<td>9%</td>
</tr>
<tr>
<td>Right upper extremity:</td>
<td>9%</td>
</tr>
<tr>
<td>Left upper extremity:</td>
<td>9%</td>
</tr>
<tr>
<td>Anterior trunk:</td>
<td>18%</td>
</tr>
<tr>
<td>Posterior trunk:</td>
<td>18%</td>
</tr>
<tr>
<td>Right lower extremity:</td>
<td>18%</td>
</tr>
<tr>
<td>Left lower extremity:</td>
<td>18%</td>
</tr>
<tr>
<td>Perineum:</td>
<td>1%</td>
</tr>
</tbody>
</table>

First Aid Management of Burns

Major goals of first aid are:

- Stop the burning.
- Assess airway, breathing and circulation.
Management of Common Conditions and Emergencies including First Aid

Fig. 5.11: Distribution of skin surface by percentage

- Begin cardiopulmonary resuscitation, if necessary.
- Conserve body heat.
- Minimise wound contamination.
- Transport patient to nearby hospital.

For thermal burns
i) Remove the person from the source and extinguish burning.
ii) Drop the person to the ground
iii) Log roll the person to extinguish the flames and cool the wound quickly.
iv) Douse the burnt area with cool water within 10 minutes of injury. This may halt burn process in the tissues which may minimise burn depth and reduce pain considerably. (Fig. 5.11)

Drink plenty of water and donot run (Fig. 12 and Fig. 5.13)

Fig. 5.11: Pour cold water over burnt area
v) Remove jewellery from the burned area as metal retains heat and may continue burning, it may be constricting when edema develops.

vi) Do not attempt to remove adherent clothing.

**Fig. 5.12: Drink plenty of fluids**

**Fig. 5.13: Do not run**

**In chemical burns**

- Brush off dry chemical and immediately rinse with a lot of clean cold water for 15–20 minutes.
- Prolong contact with chemicals increase the burn severity.
For electric burns

- Turn off the source of electricity immediately. If it is not possible,
- Separate the person from electric current by using non-conductive equipments e.g. dry wool, rope.
- If underground or overhead electric wires are involved in the accident. Contact the electric utility company for assistance.
- When the person is disconnected from the source of electricity, quickly assess cardiopulmonary function and start CPR immediately if necessary.
- Do not apply ointment or cream to a burn at this time.
- Transport the patient to the hospital immediately. (Fig. 5.14)

Fig. 5.14: Shift the patient to the hospital immediately

Box 5.5: Formulas for Calculating Fluid in Burn

1) Evan Formula
   First 24 hours
   - Colloids -1mg/kg/% TBSA (Total body surface area)
   - Physiologic saline solution – 1mg/kg/% TBSA
   - Non electrolytes – 2000 ml of 5% dextrose in water or correspondingly less in children.
   Second 24 hours:
   - 1/2 of amounts of colloids and electrolytes administered in first 24 hours.

2) Brooke Formula
   First 24 hours
   - Colloids (blood, dextrane or plasma) - 0.5 ml/kg/% TBSA
   - Ringer’s lactate - 1.5 ml/kg/% TBSA
   - Water replacement (Dextrose in water) 200 ml for adults and in children less
   Second 24 hours:
   Colloids and Ringer’s lactate—½ of amount given in first 24 hours.
   Administer:
   - ½ of 24 hour total fluid in first 8 hours.
   - ¼ of 24 hour total fluid in second 8 hours.
   - ¼ of 24 hour total fluid in third 8 hours.
5.2.11 Choking

Choking also called asphyxia (a lack of oxygen or an excess of carbon dioxide in the body) which occurs due to obstruction in windpipe.

Causes

- It is most common in children; a piece of marble, a weed, a coin or a button may get struck in the air passage.
- In adults food may go down in the wrong way and lead to choking.

First aid treatment

The aim of the first aid is to remove the foreign body or obstruction.

a) First aid in adult

i) When victim is standing
   - The first aider should stand behind the victim and wrap his arms around the waist,
   - And then grasp the fist with your other hand and
   - Place the thumb of the fist against the abdomen (belly) slightly above the navel and below the rib cage,
   - Press your fist into victim’s abdomen with a quick upward thrust.
   - Repeat several times till the foreign body is expelled out of the windpipe.

ii) When victim is sitting
   - The first aider should stand behind the chair and performs the same manoeuvre as mentioned above.

iii) When victim is lying
   - Turn him supine,
   - Facing the victim, kneel astride the victim’s legs,
   - With your hands one on the top of another, place the heel of your bottom hand over the abdomen between the naval and rib cage,
   - Press in the victims abdomen with a quick upward thrust,
   - Repeat several times,
   - Before the patient vomits, place him on his side,
   - And wipe to prevent asphyxia,
   - Following expulsion of foreign body give him artificial respiration if needed.

b) First aid in infant

- Hold the infant upside down by legs and slap his back hard three or four times.
- If not successful, lay the infant prone with his head hanging downwards over the knee and give sharp slaps between shoulders.
- If still not successful, induce vomiting by passing two fingers right to the back of the throat.

c) Refer immediately to hospital if above measures fail.
Check Your Progress 2

1) List the 3 features of arterial bleeding are:
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................

2) List the signs of primary shock.
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................
   d) ........................................................................................................
   e) ........................................................................................................
   f) ........................................................................................................

3) List the steps of First Aid treatment that you will follow for taking care of a patient with snake bite at your level:
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................
   d) ........................................................................................................
   e) ........................................................................................................
   f) ........................................................................................................
   g) ........................................................................................................
   h) ........................................................................................................

4) Fill in the blanks:
   a) A sudden feeling of weakness or numbness of the face, arm or leg on one side of the body is the common symptom of ..................
   b) Tie immediately a piece of cloth or a tourniquet, tightly .................. site of the bite to prevent ............................. . It should be loosened for a few seconds at a regular interval of ....................... to prevent the risk of ...............
   c) List the factors which determine the severity of burn:
      i) ..............................................................
      ii) ..............................................................
      iii) ..............................................................
      iv) ..............................................................
      v) ..............................................................
   d) Chocking is .................................................. which occurs due to ..................... in windpipe.
5.2.12 Seizures (Fits)

Seizures are intermittent episodes of brief and nearly undetectable to long periods of vigorous shaking of the muscles affecting the part or whole of the body usually accompanied by loss of consciousness.

**Remember:**
- Fits can be distinguished from the spasms, which are muscle contractions and do not particularly affect all muscles of the body as in a fit.
- In both the patient has no control in starting or stopping the fit or spasm

**Types of fits**

The common 2 types of the seizures which you will likely see and which present with the fits include:

a) **Convulsive seizures**

These occur in infants and in young children which is an **ALARMING SIGN** for onset of any fever or illnesses such as whooping cough, viral respiratory tract infection etc.

b) **Epileptic seizures**

The epilepsy is the disorder of brain which may be result of injury or infection stroke, brain tumours or birth defects. Epileptic seizures are the result of excessive and abnormal nerve cell activity in the cortex of the brain.

The difference between convulsive and epileptic seizures is that:
- In comparison to convulsive seizures epilepsy usually occurs in older children and adults.
- The fits in epilepsy come on long intervals and the patient is either known to be an epileptic or his relatives will tell you that the patient has had similar fits before.
- Signs of injury, caused by previous uncontrolled epileptic fit may be seen on the body.

**Signs and Symptoms**

The signs and symptoms of a patient having an episode of epileptic seizure depend upon the type of seizure which is discussed below:

c) **Generalised seizures**

In this type of seizure all the areas of the brain (the cortex) are involved therefore referred to as grand mal seizures. Such patients have following signs and symptoms:
- The patient suddenly utters a loud cry out and falls down,
- The whole body becomes stiff for several seconds to a minute followed by rhythmic jerky movements of the arms and legs which slow before stopping.
- The eye balls are rolled upwards.
- The patient froths at the mouth and clenches his/her teeth.
- The patient goes to a deep sleep.
• The patient may appear to not be breathing and turn blue. This may be followed by a period of deep, noisy breathes.
• The patient may pass urine or stool without knowing it.
• On awakening he is not aware of what happened to him during the attack.
• The person will frequently be confused after a generalised seizure for quite some time (minutes to hours).

d) Partial or focal seizures
In this type of seizure only part of the brain is involved, so only part of the body is affected. Depending on the part of the brain affected, symptoms may vary such as:
• The hand of the patient may show rhythmic or jerky movements.
• Small repetitive movements such as picking at one’s clothes or smacking of the lips.
• Sometime the patient appears dazed or confused.

e) Absence or petit mal seizures
• These are most common in childhood.
• Impairment of consciousness is present with the person often staring blankly.
• Repetitive blinking or other small movements may be present.
• Typically, these seizures are brief, lasting only seconds. Some patients may have many of these in a day.

First aid treatment

i) Convulsive seizures
If the child has fits or convulsions proceed as follows:
• Take history to find out how the fits started and progressed.
• Check temperature for high fever, if present:
  • Give him cold sponging with a wet towel.
  • Place a cold compress on the head.
• Keep the child on his side to prevent him/her from aspirating the vomit.
• Prevent the child from injuring himself.
• Place a rolled cloth between the teeth to prevent him from biting the tongue.
• Look the child for teething symptoms.
• Look the child for signs of infection and neck stiffness if present.
• Refer the child immediately to hospital for investigation and treatment.

ii) Epileptic seizures
If a patient has an epileptic fit, proceed as follows:
• Make sure that the patient is safe and protect him/her from danger due to fall, fire, roadside accident or drowning. Remove any nearby dangerous and sharp object.
• Lie the patient down while turning his/her face on one side. Place a cushion under his/her head.
• Clear the people from around the patient to give him/her sufficient fresh air.
• Place a rolled cloth between the teeth to prevent him/her from biting the tongue.
• DO NOT try to restrain the patient during the fit.
• DO NOT give him water or anything by mouth during fit.
• When the seizure has stopped, clean the secretions from the mouth. Check for breathing and make patient comfortable.
• Look for any card indicating a history of epilepsy and prescription.
• Give the prescribed medicine and let the patient rest for a while. Keep monitoring the person until the patient is fully recovered.
• After the patient regains consciousness, give him a hot tea with sugar.

**Remember:**

Patient should be admitted to hospital as an emergency in case of the following if:

• It is a first seizure
• More than three seizures occur in an hour
• If a seizure lasts for more than five minutes
• If there is not prompt response to treatment
• If there is response to treatment but seizures were prolonged or recurrent before treatment was given.
• If there is difficulty monitoring the patient

**5.2.13 Road Traffic Accidents (RTAs)**

According to the World Health Organizations (WHO) Global Safety Report on Road Safety 2013, road accidents and injuries is the 8th leading cause of death globally and by 2030 it is predicted to become the 5th leading cause of death, unless any action is being taken. Here are some other facts on road accidents relevant to India:

• More than 2, 31,000 people die due to road traffic accidents in India every year.
• About half the number of deaths accounts motorcyclists, cyclists and pedestrians.
• As per the National Crime Records Bureau (NCRB) report 2012, Maharashtra had the highest number of deaths, 15.7% of the total accidental deaths in the country, followed by Uttar Pradesh and Madhya Pradesh.

Therefore the only chance of survival for the accident victims remains emergency care and treatment they receive within the first hour of the tragedy (called the golden hour) by a competent health care professional.
Guidelines for handling road traffic accidents

- In road, traffic accidents casualties may have to be moved in order to save lives.
- They should be moved immediately if:
  - Casualty is unconscious
  - Risk of spinal injury
  - Severe internal bleeding
  - Danger of further injury from fire
  - Breathing and heart beat have stopped
- If the above situations are not present then carry out full examination and determine the extent of injuries before moving them.

Immediate Action

- Look for any indication of dangerous substances being present.
- Send somebody to telephone the emergency services immediately.
- Do not pull casualties from the vehicle. This may cause further injuries.
- Minimise the risk of fire by switching off the engines and if possible, disconnect the battery because fires often begin in the wiring under the dashboard.
- Do not allow anyone to smoke near the vehicle.
- Instruct the bystanders to setup warning triangles atleast 200 meters away from the accident site. If the triangles are available ask them to direct traffic.
- Immobilise the car. Apply hard brake; put the car in the gear or place blocks under the wheels. If the car is on its side, and there are passengers inside, do not try to right it, just make sure that it will not roll over.
- Look inside the vehicle for any small children who may have fallen out of site or be hidden under blankets or luggage. Check the area immediately surrounding the vehicle for any passengers who may have been thrown out of vehicle or who may be wandering about. Determine the number of persons in the vehicle before the accident.

Moving a Casualty

- Casualty should be moved very carefully.
- Immobilise the casualty.
- Make sure that there are enough persons to support all parts of body.
- Each person should be aware of this role.
- Removal should be carried out in one continuous movement.

Removal of trapped casualty

- If the casualty is trapped under a vehicle and it has to be removed because of danger of fire, then try to move the vehicle away from the casualty first. If this is not possible then immobilise the vehicle as described above and move the casualty as gently as possible.
• Mark the exact position of the casualty or vehicle before moving either because the police man needs this information.

• Accident victims may be trapped in the vehicle by an impacted steering wheel. Such persons should be watched carefully for unconsciousness. If this occurs then the casualties had should be placed in the open airway position. It should be watched carefully till the arrival of the skilled help.

5.2.14 Poisoning

Poisons are the harmful substances and when sufficient doses are consumed either accidentally (by mistake or by ignorance) or for suicidal purpose, it may prove very dangerous or may kill a person.

Routes of taking poisons

1) Eating or drinking poisonous substances by mouth.

2) Inhalation household or industrial gases, chemical vapours or fumes from fire and exhaust by lungs.

3) By injection into the skin as a results of bites from some animals, insects, snakes or by hypodermic syringes.

4) Absorption through the skin by contact with poisonous sprays such as pesticides and insecticides.

Mechanism of Action of Poison

1) Swallowed (ingested) poisons act directly on the food passages resulting in vomiting, pain and diarrhoea.

2) Corrosive poisons may severely burn the lips, mouth, gullet and stomach thus causing intense pain.

3) Fumes and gases cause choking which may result in difficulty of breathing and unconsciousness.

4) Some poison work in the blood stream, central nervous system and prevent breathing, heart action, and other vital life process.

5) Some poisons act by displacing the oxygen in the blood and preventing its distribution to the tissues.

Assessment of the patient with poisoning

The assessment of the patient with poisoning varies, often depending on the nature of the poison and the method of entry into the body. It includes following:

1) General information from patient or witness suggesting contact with a poison.

2) Checking of the container having poison or poisonous plant.

3) Observing the patient for the following signs and symptoms:
   i) The patient may be delirious having convulsions without previous history of such condition.
   ii) Signs and symptoms of asphyxia such as:
     • Fast and shorter breaths
     • Fast and feeble pulse
Management of Common Conditions and Emergencies including First Aid

- Cyanosis on face, lips, fingers and nails
- Consciousness is lost partially or totally
- Froth may appear at the mouth and nostrils
- Fits may occur

iii) Vomiting
iv) Diarrhoea

v) Burns on lips, mouth after contact with corrosive poisons.

First aid management of patient with poisoning

General steps to be followed in treatment of the patient with poisoning include:

1) First of all inform the police.
2) Collect information from the patient or persons accompanying the patient.
3) Preserve any suspecting material like a bottle containing pills or liquid for information to the treating doctor.
4) If the patient has vomited, preserve the vomited material also which can give some clues about the type of poison ingested.
5) If the patient is conscious and there are:
   - No burns on lips or mouth then induce vomiting by giving plenty of fluids or milk and by touching the fauces (inside the mouth). Preserve the vomited material for analysis.
   - If the lips or mouth show signs of burning, cool them by giving water or milk to drink. Do not induce vomiting.
6) If the patient is unconscious but breathing normally, treat as for the shock (see Practical 4, Block 3).
7) If breathing and heart beat stop begin resuscitation immediately (as described in drowning: Practical 4, Block 3).
8) If convulsions are present (treat as described in management of seizures).
9) Shift to immediately to hospital.

Remember:
- Do not contaminate yourself with any poison that may be around the casualty’s mouth.
- Any strong acid or alkali often causes burns of face, mouth, and throat such as: ammonia, turpentine, bleachers, toilet cleaners, corn and wart removes, any petroleum product like petrol, paint thinner, turpentine, polish etc.

Types of poisoning and their first aid treatment

The various common types of poisoning and their first aid treatment are mentioned below in the Box 5.6.
### Box 5.6: Common Types of Poisoning

<table>
<thead>
<tr>
<th>Type and Meaning</th>
<th>Signs and Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Food Poisoning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- It occurs by consumption of food, which is contaminated by bacteria and is stored or cooked incorrectly.</td>
<td>a) <strong>Staphylococcal Poisoning</strong>&lt;br&gt;The following s/s appear within two to six hours of eating the contaminated food:</td>
<td>- Keep the patient at rest.</td>
</tr>
<tr>
<td></td>
<td>- Nausea and vomiting.</td>
<td>- Give plenty of fluids to drink.</td>
</tr>
<tr>
<td></td>
<td>- Headache.</td>
<td>- Induce vomiting.</td>
</tr>
<tr>
<td></td>
<td>- Abdominal pain.</td>
<td>- Shift the patient to hospital.</td>
</tr>
<tr>
<td></td>
<td>- Diarrhoea.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Symptoms and signs of shock.</td>
<td></td>
</tr>
<tr>
<td>a) <strong>Staphylococci</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- They multiply in food and produce a poisonous substance toxin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) <strong>Salmonellae</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- They multiply in bowel and cause dysentery like illness. Salmonella is infectious and can spread through poor personal and kitchen hygiene.</td>
<td>b) <strong>Salmonella Poisoning</strong>&lt;br&gt;They appear within few hours of eating the food or are delayed for a day or two.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Fever</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Nausea and vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Diarrhoea</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Abdominal pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Signs and symptoms of shock</td>
<td></td>
</tr>
<tr>
<td><strong>II. Acid Poisoning</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- It can be suicidal or homicidal or accidental.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- The various common acids used are nitric, sulphuric, hydrochloric, carbolic, oxalic and acetic acids.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) <strong>General</strong> Same as in general management of poisoning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) <strong>Specific</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Do not induce vomiting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Give half litre of water or milk to which milk of magnesia (50 grams) has been added.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- If milk or water is not available then olive oil, butter, white of an egg and barley water can be given.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Shift the casualty immediately to hospital.</td>
</tr>
<tr>
<td>Type and Meaning</td>
<td>Signs and Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| **III. Alkali Poisoning**  
- It can be also suicidal or accidental.  
- Alkalies commonly used are ammonia, potassium hydroxide and sodium hydroxide, bleachers, detergents washing soda. | - Membrane of the mouth may be white and swollen.  
- There may be soapy appearance in the mouth.  
- Abdominal pain.  
- Vomiting may contain blood and mucous. | 1) **General**: Same.  
2) **Specific**:  
- Do not induce vomiting.  
- Give plenty of fluids: vinegar and citric acid, lemon or orange juice or barley water.  
- Shift the patient immediately to hospital. |
| **IV. Common Indian Plant Poisoning**  
- **a) Castor Oil Plant**  
  - Poisoning is common among children.  | - Pain in throat and abdomen.  
- Nausea  
- Vomiting  
- Diarrhoea |  
- Give plenty of water  
- Induce vomiting  
- Shift to hospital |
|  
- **b) Jamal Gota**  
  - Burning pain in mouth, throat and abdomen.  
- Salivation, vomiting and gripping pain.  
- Diarrhoea |  |  
- Same as above |
|  
- **c) Cannabis Sativa**  
  - Bhang, ganja, hashish are used as intoxicants.  
- In large amount it causes intoxication.  | - Excitement  
- Visual hallucination  
- Euphoria, laughter  
- Marked increase in appetite  
- Homicidal tendencies  
- Giddiness, tingling and numbness  
- Narcosis  
- Dilated pupil and deep sleep  
- In large dose respiratory failure and death may occur. |  
- Same as above |
|  
- **d) Dhatura (Safed dhatura and kala dhatura)**  
  - Dried leaves and dried seeds are used as poisoning.  | - Bitter taste, dry mouth and throat  
- Burning pain in the stomach  
- Difficulty in swallowing and talking  
- Giddiness, ataxia, intoxication  
- Dry hot skin, rise in temperature  
- Delirium tries to run |  
- Same as above |
<table>
<thead>
<tr>
<th>Type and Meaning</th>
<th>Signs and Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
</table>
| e) Aconite: *(Mitha Zahar, Dudhia Vish)* | - Severe burning and tingling of lips, mouth, tongue and throat  
- Dysphagia  
- Salivation  
- Vomiting  
- Abdominal colic  
- Vertigo  
- Muscle spasm and twitching  
- Impairment of vision | Same as above |
| f) Cocaine | - Restlessness, talkativeness  
- Dry mouth and throat  
- Reflexes are increased  
- Tingling and numbness in hands, feet and tongue  
- Giddiness, nausea and vomiting  
- Cyanosis, dilated pupils, fast pulse  
- Profuse perspiration  
- Delirium, hallucination and convulsions. | Same as above |
| g) Mushroom | - Burning of throat and stomach.  
- Pain in abdomen  
- Vomiting and diarrhoea  
- Urine may contain blood  
- Cyanosis, rapid pulse, convulsions  
- Headache, giddiness, cramps, visual disturbances  
- Coma | - Give castor oil to drink  
- Induce vomiting.  
- Shift patient to hospital |

**Fig. 5.15: Mushroom**
<table>
<thead>
<tr>
<th>Type and Meaning</th>
<th>Signs and Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tobacco</strong></td>
<td>Burning, acid</td>
<td>• Give plenty of fluids orally</td>
</tr>
<tr>
<td>h) Tobacco</td>
<td>sensation, in mouth,</td>
<td>• Induce vomiting</td>
</tr>
<tr>
<td></td>
<td>throat, oesophagus</td>
<td>• Shift patient to hospital</td>
</tr>
<tr>
<td></td>
<td>and stomach</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increased salivation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nausea, vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>headache, giddiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Numbness, tremors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Profuse perspiration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visual and auditory</td>
<td></td>
</tr>
<tr>
<td></td>
<td>disturbances</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rapid pulse and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>respiration</td>
<td></td>
</tr>
<tr>
<td><strong>Opium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Opium</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• It is also called afim.</td>
<td></td>
</tr>
<tr>
<td><strong>Stage of euphoria</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1)</td>
<td>Increased sense of</td>
<td>• Plenty of fluids</td>
</tr>
<tr>
<td></td>
<td>well-being.</td>
<td>orally</td>
</tr>
<tr>
<td></td>
<td>Talkativeness</td>
<td>• Induce vomiting</td>
</tr>
<tr>
<td></td>
<td>Fast pulse</td>
<td>• Shift to hospital</td>
</tr>
<tr>
<td></td>
<td>Convulsions in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>children</td>
<td></td>
</tr>
<tr>
<td><strong>Stage of stupor</strong></td>
<td>2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headache</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Giddiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desire to sleep</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cyanosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Itching: Itching all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>over the body</td>
<td></td>
</tr>
<tr>
<td><strong>Stage of narcosis</strong></td>
<td>3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pinpoint pupil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty in respiration</td>
<td></td>
</tr>
<tr>
<td><strong>Drugs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V: Drugs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Phenobarbitone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>overdose</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Euphoria</td>
<td>• Plenty of fluids</td>
</tr>
<tr>
<td></td>
<td></td>
<td>orally</td>
</tr>
<tr>
<td></td>
<td>Talkativeness</td>
<td>• Induce vomiting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Headache</td>
<td>• Give hot coffee or tea</td>
</tr>
<tr>
<td></td>
<td>Giddiness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desire to sleep</td>
<td></td>
</tr>
<tr>
<td>b) Aspirin Overdose</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Abdominal pain</td>
<td>• General treatment of</td>
</tr>
<tr>
<td></td>
<td>Vomiting</td>
<td>poisoning</td>
</tr>
<tr>
<td></td>
<td>Drowsy</td>
<td>• Shift to hospital</td>
</tr>
<tr>
<td></td>
<td>Ringing in the ears</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difficulty in breathing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Profuse sweating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fast pulse</td>
<td></td>
</tr>
<tr>
<td>Type and Meaning</td>
<td>Signs and Symptoms</td>
<td>Treatment</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------</td>
<td>-----------</td>
</tr>
</tbody>
</table>
| VI: Metal Poisoning | • Metallic taste in mouth  
• Nausea and abdominal pain  
• Vomiting  
• Stools may be bloody dark in colour  
• Headache, drowsiness, cramps, convulsions, numbness  
• In chronic poisoning, a blue line is seen on gums | • Give plenty of warm water  
• Milk, white of egg, barley water can be given  
• Induce vomiting  
• Shift to hospital |
| a) Lead |  |  |
| b) Mercury | • Metallic taste in mouth  
• Burning pain in mouth and stomach  
• Tongue and throat is corroded with grey white coating  
• Nausea and vomiting  
• Stools may be bloody dark in colour  
• Headache, convulsions, numbness | • Same treatment as in lead poisoning |
| VII: Organic Chemical Poisoning | • Nausea, vomiting, vertigo, tremors  
• Convulsions  
• Coma  
• Respiratory failure | • Give plenty of tap water  
• Induce vomiting  
• Shift to hospital  
• Give plenty of fluids orally  
• Induce vomiting  
• Shift the patient immediately to hospital |
| a) DDT |  |  |
| b) Insecticides | • Pain in abdomen  
• Vomiting  
• Tremors  
• Ataxia  
• Convulsions |  |
| VIII. a) Organophosphorus Compounds | • Characteristic smell  
• Nausea and vomiting  
• Pain in abdomen, diarrhoea  
• Lacrimation, sweating and bronchial secretions  
• Blurring of vision  
• Pin-pointed pupil  
• Cramps | • Remove contaminated clothing  
• Wash the skin with soap and water  
• Give plenty of water  
• Artificial respiration |
<p>| | | |
|  |  |  |</p>
<table>
<thead>
<tr>
<th><strong>Type and Meaning</strong></th>
<th><strong>Signs and Symptoms</strong></th>
<th><strong>Treatment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Confusion, convulsions, coma</td>
<td>Resuscitation&lt;br&gt;Shift the patient immediately to hospital</td>
</tr>
<tr>
<td>b) Cyanide</td>
<td>Headache, dizziness&lt;br&gt;Nausea, hypotension&lt;br&gt;Dyspnoea, drowsiness&lt;br&gt;Convulsions, Cyanosis&lt;br&gt;Unconsciousness&lt;br&gt;Foam in the mouth&lt;br&gt;Respiratory failure&lt;br&gt;Characteristic smell of bitter almonds</td>
<td>Start resuscitation immediately&lt;br&gt;Shift the patient to hospital immediately</td>
</tr>
<tr>
<td>IX. Alcohol Poisoning</td>
<td>Smell of alcohol&lt;br&gt;Vomiting, Convulsions&lt;br&gt;Slurred speech&lt;br&gt;Inco ordination&lt;br&gt;Double vision&lt;br&gt;Visual impairment&lt;br&gt;Flushing of face&lt;br&gt;Rapid pulse&lt;br&gt;Dilated pupils&lt;br&gt;Shallow breathing</td>
<td>Give water, milk or white of egg&lt;br&gt;Induce vomiting&lt;br&gt;Shift the patient to hospital</td>
</tr>
</tbody>
</table>

### 5.2.15 Drowning

Drowning is the second leading cause of unintentional injury death after road traffic injuries. Both India and China have high mortality rates and contribute to 43% of all drowning deaths worldwide. (Refer to Practical 4, Block 3 for further details).

It is the result of complete immersion of the nose and mouth in water or any other liquid. The water enters the windpipe and lungs, clogging the lungs completely which can lead to death due to suffocation and lack of oxygen (hypoxia).

**Near drowning** is an event in which a drowning victim can be resuscitated back to life.

### Causes

- Drowning is the second-leading cause of death in children between 14 years of age and under because they are curious and attracted to water but are not yet able to understand how dangerous it is.

- In adults more than two third of all drowning accidents in United States involve alcohol consumption. As alcohol intake impairs both judgment and physical coordination, thereby greatly increasing the likelihood of a drowning death.

- Suicidal attempt is another cause of drowning.
5.2.16 Foreign Bodies

A foreign body is a substance that can enter in the skin, eye, ear, nose, throat, esophagus or stomach and if not removed in time, can lead to complication or even cause death of the victim. The First Aid management of common foreign bodies is described below:

1) Foreign Body under the Skin

Causes

Skin may be pierced by thorns, glass, iron pieces, needles etc.

First Aid Management

If the patient with the foreign body under skin reports to you treat him/her as follows:

1) If the piercing object is large and embedded in the skin and difficult to deal with, do not interfere.
   a) Dress the wound gently.
   b) Immobilise the part with splint.
   c) Give a dose of tetanus toxide.
   d) Give a dose of anti inflammatory analgesic such as injection voveran stat.
   e) Refer the patient immediately to the hospital.
2) If the wound is small and you can deal with it at the sub-centre, proceed as follows:
   a) Sit or lay the patient down.
   b) Handle the injured part gently.
   c) Clean the wound with boiled water. Always clean away from, not towards the wound.
   d) Remove the foreign matter gently with sterile forcep.
   e) Stop the bleeding using direct pressure.
   f) Apply antiseptic ointment/ lotion and cover with a clean dry dressing.
   g) Give a dose of tetanus toxide.
   h) Give anti inflammatory analgesic such as tablet lyzer D for pain.
   i) Give cap amoxicillin 500 mg 8 hourly for five days.

2) Foreign Body in the Eye

Causes

- Wings of insects, dust and coal, metal particles from lathes, wood particles and loose eyelashes are common objects that get lodged in the eye. They cause pain and later redness if they are not removed soon.

- Sometimes splinters that get lodged in the cornea may cause severe trouble and penetrating foreign bodies are a danger to the eye itself.

Signs and Symptoms

A foreign body that enters the eye can cause:

- Irritation or eye discomfort
- Tearing (Fig 5.17)
- Blurred vision, light sensitivity
- Uncontrolled eyelid contractions
- Redness of conjunctiva (white of the eye)
- Swelling of the eyelid
- The object may even cause the scratch in eyeball’s transparent tissue (cornea) and eye may become infected with bacteria.

Fig. 5.17: Lacrimation of eye due to foreign body
First Aid Management

If the patient has foreign body in the eye, proceed as follows:

i) Restrict the patient from rubbing the eye. In the case of a child, tie his hands together at the back.

ii) Seat the patient so that light falls on the eye.

iii) Pull the lower lid down. If the foreign body is floating and not embedded remove it with a narrow moist swab. The corner of a handkerchief twisted to a fine point will also do. Sometimes the eye’s own tears may wash out the object.

iv) If the foreign body is not visible, it may be under the upper eyelid. Hold the head of patient to one side with eyelids open. Flush the eye(s) with clear water or saline solution for fifteen minutes.

v) Ask the patient to keep the eye(s) open as blinking repeatedly may scratch the cornea.

vi) If unsuccessful, pull the upper lid forwards, push the lower lid upwards and let go of both the lids. The lashes of the lower lid usually dislodge the foreign body. Try this two or three time.

vii) If the foreign body is embedded in the eye, particularly in the cornea (the black of the eye), do not touch it. OR

viii) If the foreign bodies are penetrating causing pain and bleeding, ask the patient not to rub his eye. Just apply a soft and sterile pad and light bandage, and refer him quickly to the hospital.

ix) When injury with corrosive acid, alkali or juices from plants are suspected, blinking eyelids under water a number of times or flushing with a large quantity of water is the best thing to do. Then apply a soft pad and light bandage. Refer the patient to the hospital at once. (Refer to Practical 6, Block 2 for details).

Remember:
Never Attempt to Remove an Object that is Embedded in the Eye or on the Cornea

3) Foreign Body in the Ear

Causes of the foreign body in the ear include:

- Solid objects (round or irregular such as: pea, beans)
- Insects such as: mosquito, fly etc.
- Wax excessive wax formation can block the air passage

Signs and Symptoms

Any foreign body that enters the ear passage can cause:

- Disturbance in hearing or dizziness
- Ear irritation or itching and ear ache
- wriggling sensation in the ear due to presence of insect
- Swollen, red and hot ear

First Aid Management

If the patient has foreign body in the ear passage, proceed as follows:

i) First of all ask the patient whether he knows that something has gone into his/her ear.
ii) Assess the patient for above signs and symptoms.
iii) Enquire whether patient has had trouble with ear wax before.
iv) If the foreign body is an insect, fill the ear with glycerine or coconut or mustard oil or warm salt water. The insect will float up and can be removed easily.
v) If there is nothing floating up, leave it alone, do not meddle at all.
vi) Refer the patient to the hospital as soon as possible.

4) **Foreign Body in the Nose**

**First Aid Management**

If the patient with a foreign body in the nose reports to you, carry on with the following steps:

a) Make the patient breathe through the mouth.
b) Do not try to remove the foreign body.
c) If the patient is a child, tie his hands behind his back.
d) Refer the patient immediately to hospital.

5) **Foreign Body in the Throat**

**First Aid Management**

The patient with a foreign body in the throat should be treated as follows:

a) If some large, irregular objects have got stuck in the throat and if visible, these may be taken out by using the fingers.
b) In a child, hold the child’s head downward and tap on the back of the neck and the foreign body may fall out.
c) In the case of fish bones or thorn these may get lodged by piercing some part of the throat. In these cases, keep the patient calm and refer him/her to the hospital.

6) **Foreign Body in the Oesophagus**

If a person swallows a foreign object, it will usually pass through the digestive system uneventfully. But some objects can lodge in the throat or oesophagus.

**First Aid Management**

Whenever a patient with a foreign body in the oesophagus reports to you, proceed with the following instructions:

1) If an object such as button battery of a tiny watch or calculator or coin or fish bone or thorn or a piece of bone gets stuck in the oesophagus, it should be removed as quickly as possible to avoid further injury to the oesophageal lining.

2) If a person who has swallowed an object is coughing forcefully, encourage him or her to continue coughing and do not interfere. If a swallowed object blocks the airway and the person’s condition worsens i.e. the cough becomes silent or breathing becomes more difficult.

3) Then follow the **steps of First Aid** recommended by **American Red Cross** as follows:

   a) **Give 5 back blows.** First, deliver five back blows between the person’s shoulder blades with the heel of your hand.
b) **Give 5 abdominal thrusts.** Perform five abdominal thrusts (also known as the **Heimlich manoeuvre**). Abdominal thrusts may injure infants. Use chest compressions instead.

c) **Alternate between 5 back blows and 5 abdominal thrusts** until the blockage is dislodged.

d) If you are the only rescuer, perform back blows and abdominal blows.

e) If another person is available, have that person call for help while you perform first aid.

f) If the person becomes unconscious, help him or her to the ground and begin CPR.

g) After attempted rescue breaths, check the mouth for an object and if visible remove it.

h) Do not perform a blind finger sweep because this could push an object farther into the airway.

**Steps to perform the Heimlich manoeuvre on someone else**

a) **Stand behind the person.** Wrap your arms around the waist. Tip the person forward slightly.

b) **Make a fist with one hand.** Position it slightly above the person’s navel. (Fig. 5.19)

c) **Grasp the fist with the other hand.** Press hard into the abdomen with a quick, upward thrust, as if trying to lift the person up.

d) **Perform a total of 5 abdominal thrusts,** if needed. If the blockage still is not dislodged, repeat the five-and-five cycle.

[Fig. 5.18: Step: 2 Heimlich manoeuvre on yourself]
Remember:
A modified version of the technique is sometimes taught for use with pregnant or obese people. The rescuer places his or her hand in the center of the chest to compress rather than in the abdomen.

- **Steps to perform the Heimlich manoeuver on yourself**

If you are choking and alone, call your local emergency number immediately. You cannot perform back blows on yourself. But you can perform abdominal thrusts. Proceed with following steps:

  a) **Place a fist** slightly above your navel.

  b) **Grasp your fist** with the other hand and bend over a hard surface – a counter top or chair will do. (Fig. 5.19)

  c) **Push your fist** inward and upward. (Fig. 5.20)

![Fig. 5.19: Step 1: Heimlich manoeuver on yourself](image1)

![Fig. 5.20: Step 2: Heimlich manoeuver on yourself](image2)
1) **Foreign Body in the Stomach**

**First Aid Management**

a) Smooth objects like coins, buttons and safety pins may be swallowed. The stomach and the intestines most often adjust themselves in such a way as to expel them. There is most often no need to panic.

b) Do not give laxatives or bananas routinely.

c) Refer the patient to the hospital.

---

**Check Your Progress 3**

1) List signs and symptoms of Generalised seizures:
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................
   d) ........................................................................................................
   e) ........................................................................................................
   f) ........................................................................................................
   g) ........................................................................................................
   h) ........................................................................................................

2) Mention the steps of first aid treatment to be followed, if a patient has an epileptic fit.
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................
   d) ........................................................................................................
   e) ........................................................................................................
   f) ........................................................................................................
   g) ........................................................................................................
   h) ........................................................................................................
   i) ........................................................................................................
   j) ........................................................................................................

3) List the s/s of asphyxia:
   a) ........................................................................................................
   b) ........................................................................................................
   c) ........................................................................................................
### Management of Common Conditions and Emergencies including First Aid

**1.** Mention the steps to perform the Heimlich maneuver if someone else has aspirated a foreign body which is blocked in his/her throat or oesophagus:

- (a) .................................................................
- (b) .................................................................
- (c) .................................................................
- (d) .................................................................
- (e) .................................................................
- (f) .................................................................
- (g) .................................................................
- (h) .................................................................
- (i) .................................................................

**5.** Fill in the blanks:

- **a)** ............................................. Seizure is an alarming sign for onset of any fever or illness in.............................. and in ———— children.
- **b)** While removing foreign body from the eye, never attempt to remove an object that is embedded in the .................. or on ..................
- **c)** List down the most common 2 types of bacteria causing food poisoning:
  - (i) ........................................................................
  - (ii) ........................................................................

---

### 5.3 LET US SUM UP

In this unit we have discussed the meaning, causes and signs and symptoms and First Aid measures of various Common Emergencies including: high fever, low blood sugar, minor injuries, fractures, fainting, bleeding, shock, stroke, bites, burns, choking, seizures (fits), road traffic accidents (RTAs) poisoning including food poisoning, drowning and foreign body aspiration.

Certain new terms are clarified in Key Words. You may use a medical dictionary for further clarifications of terms. However, further reading is solicited to keep you updated for which certain references are given.
5.4 MODEL ANSWERS

Check Your Progress 1

1) Common signs and symptoms of high fever
   a) Feeling cold when nobody else is shivering
   b) Lack of appetite
   c) Dehydration
   d) Headache and body ache, the individual is much more sensitive to pain
   e) Lethargy and Depression
   f) Sleepiness
   g) Sweating
   h) Irritability, confusion, delirium and convulsions.

2) First Aid measures for treating the high fever in infants and toddlers are
   i) 0-3 months having rectal temperature of 100.4°F (38°C) or higher.
      • Refer to the doctor, even if the child does not have any other signs or symptoms.
   ii) 3-6 months having rectal temperature up to 102°F (38.9°C).
      • Encourage the child to rest and drink plenty of fluids.
      • Medication is not needed.
      • Refer to the doctor if the child seems unusually irritable, lethargic or uncomfortable.
   iii) Above 6-months and upto 3 years having rectal temperature up to 102°F (38.9°C).
      • Give the child acetaminophen.
      • Read the label carefully for proper dosage.
      • Refer to the doctor if the fever does not respond to the medication within one day.

3) The immediate steps for managing a patient with low blood sugar level
   a) If patient is conscious:
      • Give him/her reassurance
      • Give liquids containing additional sugar such as tea with increased sugar or 4 to 6 ounces of fruit juice or 5 to 6 hard candies.
   b) If patient is unconscious:
      • Place glucose powder under tongue.
      • Refer the patient immediately to nearest PHC or hospital.

4) a) sprains, strains, fractures and joint dislocations
   b) The word RICE stands for
      R: Rest the injured part
      I: Ice the area
C: Compress with a bandage
E: Elevate the injured part to divert the blood flow away from the area.
c) Crepitation

Check Your Progress 2

1) Three features of arterial bleeding are:
   a) The blood is bright red in colour
   b) It spurts at each contraction
   c) Flow is pulsatile

2) Signs of primary shock are:
   a) Pallor of face and lips
   b) Beads of sweat on the forehead
   c) Clamminess of the skin
   d) Cold hands and feet
   e) Shallow breathing
   f) Rapid and feeble pulse

3) Steps of first aid treatment to be taken immediately for a patient with snake bite include:
   a) Lay the patient down.
   b) Give him complete rest.
   c) Calm and reassure him.
   d) Do not make him to walk.
   e) Tie immediately a piece of cloth or a tourniquet, tightly above the bite to prevent the venous blood return.
   f) If the case is seen within one hour of the bite:
      • Take a scalpel or a clean razor blade and make four to six cuts 1cm deep over the area of bite.
      • Squeeze the part hard so that the blood flows out of the cuts.
      • Wash cuts gently with normal saline or antiseptic lotion if available otherwise with soapy water.
      • Apply a clean dressing.
      • Immobilise the affected limb.
      • Apply Ice packs on the wound.
   g) Treat shock.
   h) Shift the patient to hospital immediately.

4) Fill in the blanks:
   a) stroke
   b) venous blood return, 10 minutes, ischemia
c) Factors determining severity of burn are:
   i) Depth of burn
   ii) Percentage of body surface area (size of burn)
   iii) Location
   iv) Cause of burn
   v) Age

d) A lack of oxygen or an excess of carbon dioxide in the body, obstruction

Check Your Progress 3

1) Signs and symptoms of generalised seizures are:
   a) The patient suddenly utters a loud cry out and falls down.
   b) The whole body becomes stiff for several seconds to a minute followed by rhythmic jerky movements of the arms and legs which slow before stopping.
   c) The eye balls are rolled upwards.
   d) The patient froths at the mouth and clenches his/her teeth
   e) The patient goes to a deep sleep.
   f) The patient may appear to not be breathing and turn blue. This may be followed by a period of deep, noisy breathes.
   g) The patient may pass urine or stool without knowing it.
   h) On awakening he is not aware of what happened to him during the attack.

2) First aid treatment for an epileptic fit patient:
   a) Make sure that the patient is safe and protect him/her from danger due to fall, fire, roadside accident or drowning. Remove any nearby dangerous and sharp object.
   b) Lie the patient down while turning his/her face on one side. Place a cushion under his/her head.
   c) Clear the people from around the patient to give him/her sufficient fresh air.
   d) Place a rolled cloth between the teeth to prevent him/her from biting the tongue.
   e) DO NOT try to restrain the patient during the fit.
   f) DO NOT give him water or anything by mouth during fit.
   g) When the seizure has stopped, clean the secretions from the mouth. Check for breathing and make patient comfortable.
   h) Look for any card indicating a history of epilepsy and prescription.
   i) Give the prescribed medicine and let the patient rest for a while. Keep monitoring the person until the patient is fully recovered.
   j) After the patient regains consciousness, give him a hot tea with sugar.
3) Signs and symptoms of asphyxia are:
   a) Fast and shorter breaths
   b) Fast and feeble pulse
   c) Cyanosis on face, lips, fingers and nails
   d) Consciousness is lost partially or totally
   e) Froth may appear at the mouth and nostrils
   f) Fits may occur

4) Steps of performing the Heimlich manoeuvrer
   a) Stand behind the person.
   b) Wrap your arms around the waist.
   c) Tip the person forward slightly.
   d) Make a fist with one hand.
   e) Position it slightly above the person’s navel.
   f) Grasp the fist with the other hand.
   g) Press hard into abdomen with a quick upward thrust, as if trying to lift
      the person up.
   h) Perform a total of 5 abdominal thrusts, if needed.
   i) If the blockage still is not dislodged, repeat the five-and-five cycle.

5) a) Convulsive seizures, infants, young children
    b) Eye, cornea
    c) i) Staphylococcus
       ii) Salmonella

5.5 KEY WORDS

Aneurysm : A weakness or thinning in the wall of a blood vessel.
Ataxia : Lack of coordination of movements.
Coma : A state of profound unconsciousness.
Dizziness : Laziness.
Dysphagia : Difficulty in swallowing.
Dyslipidemia : Abnormal blood lipid levels.
Embolism : Presence of dislodged blood clot called embolus in a blood
           vessel.
Euphoria : Feeling a state of mood elation or excitement.
Hallucination : Sensory perception that does not result from an external
                stimulus e.g. hearing of unknown voices.
Insecticide : A chemical agent that kills insects.
Narcosis : A state of mental clouding or deep sleep.
S/S : Signs and Symptoms
SOS : If necessary
Stat : At once
Thrombosis : Formation of blood clot (thrombus) within the blood vessel.
Thrust : Push
Tremor : Shaking movements resulting from alternate contraction and relaxation of muscles

5.6 REFERENCES


