TRAINING MANUAL FOR FIRST AID TEAMS

GOI-UNDP DISASTER RISK MANAGEMENT PROGRAMME

GOVERNMENT OF TRIPURA

FIRST AID

Chapter – 1 Action Plan

This Action Plan is a vital aid to the first aider in assessing whether the casualty has any life-threatening conditions and if any immediate first aid is necessary.

D - Check for **DANGER**
- To you
- To others
- To casualty

R - Check **RESPONSE**
- Is casualty conscious?
- Is casualty unconscious?

A - Check **AIRWAY**
- Is airway clear of objects?
- Is airway open?

B - Check for **BREATHING**
- Is chest rising and falling?
- Can you hear casualty's breathing?
- Can you feel the breath on your cheek?

C - Check for **CIRCULATION**
- Can you feel a pulse?
- Can you see any obvious signs of life?

Chapter – 2 Expired Air Resuscitation (EAR) or Mouth to Mouth resuscitation

EXPIRED AIR RESUSCITATION (EAR) ADULT

1. Clear airway:

   - Place casualty in recovery position
   - Lift chin and open mouth
   - Use finger to remove any obvious obstruction
   - Tilt head back gently
   - Check breathing for up to 10 seconds.

If not breathing:

2. Open airway:

   - Turn casualty onto back
   - Gently tilt head back
   - Pinch nose closed (use thumb and index finger)
   - Open mouth and maintain chin lift.

3. Give Expired Air Resuscitation (EAR) or mouth-to-mouth resuscitation:

   - Take a full breath and place lips on casualty 's mouth (ensure good seal)
   - Blow steadily into mouth for 1.5 –2 seconds
   - Watch for chest to rise
   - Take mouth away and watch for chest to fall
   - Take another breath and repeat sequence, to give two effective breaths

4. Check for pulse:

   - Check pulse at neck or wrist
   - If pulse absent, commence CPR
   - If pulse present, continue EAR at 15 breaths per minute
   - Recheck pulse and look for other signs of recovery about every minute.

5. Place in recovery position when breathing returns.

Chapter –3 CARDIOPULMONARY RESUSCITATION (CPR)

ADULT

1. Position hands for CPR:

- Place casualty on back
- Find groove at neck between collarbones
- Find lower end of breastbone by running finger along last rib to centre of body
- Extend thumb of each hand equal distances to meet in middle of breastbone
- Keep thumb of left hand in position and place heel of right hand below it
- Place heel of left hand on top of the right and interlock fingers of both hands.

2. Commence chest compressions:

- Position yourself vertically above casualty's chest
- With your arms straight, press down on breastbone to depress it about 4–5 cms.
- Release pressure

3. Continue CPR:

- Complete 15 compressions
- Give two effective breaths
- Continue compressions and breaths in ratio of 15:2 at a rate of 4 cycles per minute
- Check pulse about every minute.

NOTE:
CPR combines chest compressions with expired air resuscitation (EAR) or mouth to mouth resuscitation.
CPR is given when casualty is not breathing and has no pulse.

Cardiopulmonary Resuscitation Child (aged 1–8)

- Use heel of one hand over lower half of breastbone to give chest compressions
- Compress chest approximately 1/3 depth of chest
- Give 5 chest compressions in 3 seconds
- Give 1 effective breath
- Continue compressions and breaths in ratio of 5:1 at a rate of 12 cycles per minute
- Check pulse about every minute

***NOTE*: For newborn baby, chest compressions should not be attempted by anyone untrained in neonatal resuscitation.**

INFANT (under 1 year)

- Place tips of 2 fingers (index and middle) on lower half of breastbone
- Compress chest approximately 1/3 depth of chest
- Give 5 chest compressions in 3 seconds
- Give 1 effective breath
- Continue compressions and breaths in ratio of 5:1 at a rate of 12 cycles per minute
- Check pulse about every minute

Chapter - 4 Recovery Position

Adult/Child (From Age 1)

1. Position casualty's legs:

- Kneel beside casualty
- Straighten casualty 's limbs

- Lift nearer leg at knee so it is fully bent upwards.

2. Position arms:

- Place casualty 's nearer arm across chest
- Place farther arm at right angles to body

3. Roll casualty into position:

- Roll casualty away from you onto side
- Keep leg at right angles, with knee touching ground to prevent casualty rolling onto face

4. Make casualty steady:

- Make any adjustments necessary to ensure casualty does not roll

5. Ensure airway is open

Infant (under 1)

- Lay infant face down on an adult 's forearm
- Support head with hand
- Check infant does not choke on tongue or inhale vomit

Chapter – 5 BLEEDING

1. Apply pressure to the wound:

- Remove or cut casualty's clothing to expose wound
- Apply direct pressure over wound
- Cover wound with sterile dressing
- Apply a pad.

2. Raise and support injured part:

- Lie casualty down
- Raise injured part above level of heart
- Handle gently if you suspect a fracture

3. Bandage wound:

- Bandage firmly in place

- Apply another dressing or pad if bleeding continues.

4. Check circulation below the wound.

5. Call for an ambulance or shift the patient to a hospital if severe bleeding persists.

6. Treat for shock:

WARNING

Do not apply a tourniquet.
If bleeding from a limb does not stop, apply pressure with hand to pressure point.
If embedded object in wound, apply pressure either side of wound and place pad around it before bandaging.
Wear gloves, if possible, to guard against infection.
If casualty becomes unconscious, follow DRABC.

Chapter – 6

SHOCK

SIGNS AND SYMPTOMS OF SHOCK

- Weak, rapid pulse
- Cold, clammy skin
- Rapid breathing
- Faintness/dizziness
- Nausea
- Pale face, finger-nails, lips

1. Lie casualty down:

- Protect casualty from cold ground
- Calm casualty.

2. Assess casuality:

- Follow DRABC

3. Call for an ambulance or shift patient to the hospital.

4. Manage any injuries:

- Control any bleeding
- Raise legs (unless fractured) above heart level
- Dress any wounds or burns
- Immobilize fractures

5. Ensure comfort:

- Loosen any tight clothing around neck, chest or waist
- Maintain body warmth (do not heat)
- If thirsty, moisten lips (but nothing to drink or eat)

6. Monitor breathing and pulse:
   - Maintain a clear and open airway
7. Place casualty in recovery position:
   - Place in recovery position if casualty has difficulty in breathing, is likely to vomit or becomes unconscious

Chapter – 7 HEAD INJURY

Signs & Symptoms of Head Injury

- Altered or abnormal responses to commands and touch
- Wounds to the scalp or face
- Blood or clear fluid escaping from nose or ears
- Pupils becoming unequal in size
- Blurred vision
- Loss of memory

1. Monitor breathing and pulse:
   - If casualty is unconscious, follow DRABC
   - Keep casualty's airway open with fingers (if face badly injured)
2. Support head and neck:
   - Support casualty's head and neck during movement in case the spine is injured
3. Control bleeding:
   - Place sterile pad or dressing over wound
   - Apply direct pressure to wound unless you suspect a skull fracture
   - If blood or fluid comes from ear, secure a sterile dressing lightly in place and allow to drain.
4. Lie casualty down:
   - Place casualty in comfortable position with head and shoulders slightly raised
   - Be prepared to turn casualty onto side if they vomit
   - Clear the airway quickly after vomiting.

Chapter – 8 SPINAL INJURY

1. Swift immobilization is highest priority**:**
   - Do not move casualty unless in danger.
2. Check breathing and pulse:
   - If casualty unconscious, follow DRABC

WARNING

If casualty unconscious, place in recovery position

If casualty conscious, do not move,

3. Support casualty's head and neck at all times:
   - Place hands on side of head until other support arranged
   - Apply a cervical or improvised collar to minimize neck movement.
4. Give reassurance:
   - Calm casualty.



Chapter –9 FRACTURES, DISLOCATIONS AND SPRAINS

SIGNS & SYMPTOMS

Fracture and dislocation

- **Pain at or near the site of the injury**
- **Difficult or impossible normal movement**
- **Deformity or abnormal mobility**
- **Tenderness**
- **Swelling**
- **Discolouration and bruising**

NOTE

If dislocation of a joint is suspected, rest, elevate and apply ice to joint.

It can be difficult for a first aider to tell whether the injury is a fracture, dislocation, sprain or strain.

If in doubt, always treat as a fracture.

FRACTURES AND DISLOCATIONS

1. Follow DRABC
2. Control any bleeding and cover any wounds.
3. Check for fractures:
   - Open, closed or complicated.
4. Ask casualty not to move injured part.
5. Immobilize fracture:
   - Use broad bandages (where possible) to prevent movement at joints above and below the fracture
   - Support the limb, carefully passing bandages under the natural hollows of the body
   - Place a padded splint along the injured limb (under leg for fractured kneecap)
   - Place padding between the splint and the natural contours of the body and secure tightly
   - Check that bandages are not too tight (or too loose) every 15 minutes.
6. For leg fracture, immobilize foot and ankle:
   - Use figure of eight bandage.
7. Watch for signs of loss of circulation to foot or hand.

SPRAINS

1. Follow DRABC
2. Follow RICE management plan:

R – Rest
I – Ice
C – Compression
E – Elevation

3. Seek medical aid.

Chapter – 10 CHOKING AND OBSTRUCTED AIRWAY

Diagnosis and treatment

Before you do anything to assist a person you think is choking, ask the victim to talk. If talk is possible, the airway is not completely obstructed and it is best to leave the victim If the victim cannot talk, the airway is completely obstructed and you should assist in dislodging the obstruction

ADULT Partial blockage:

- Encourage casualty to relax and breathe deeply
- Ask casualty to cough
- If unsuccessful, bend casualty well forward and give 4 sharp blows between shoulder blades
- If still unsuccessful, place the casualty on the side on floor call an ambulance or shift to a hospital

Total blockage:

- Lie casualty on side on floor
- Give 4 sharp blows between shoulder blades
- If unsuccessful, give 4 quick downward lateral chest thrusts (place your hands on side of chest, below casualty 's armpit)
- Repeat steps until help arrives or blockage clears

CHILD (1 –8 years) Partial blockage:

- Ask child to try to cough up obstruction
- If unsuccessful, place child with head low and face down
- Give 4 sharp blows between the shoulder blades

Total blockage:

- Place child face down on the floor or across your lap

- Give 4 sharp blows between shoulder blades
- If not breathing, give up to 4 quick, squeezing lateral chest thrusts on both sides simultaneously (place your hands below child 's armpits)
- Repeat above steps until help arrives or blockage clears
- If not breathing, follow DRABC

Chapter – 11 BURNS

W A R N I N G

- **Do not apply lotions, ointment or fat to burn.**
- **Do not touch the injured areas or burst any blisters.**
- **Do not remove any-thing sticking to the burn.**
- **If burn is large or deep, manage casualty for shock**.

1. Remove casualty from danger:

   - Follow DRABC
   - If clothing on fire: STOP, DROP AND ROLL
   - Pull casualty to ground • wrap in a blanket or similar material
   - Roll casualty along ground until flames extinguished

2. Cool the burnt area:

   - Hold burnt area under cold running water - at least 10 minutes
   - If a chemical burn, run cold water over burnt area - at least 20 minutes
   - If burn is to eye, flush eye with water for 20 minutes.

3. Remove any constrictions:
   - Remove clothing and jewellery from burnt area (unless sticking to the burn).
4. Cover burn:
   - Place sterile, non-stick dressing over burn
5. Calm casualty

Electric Shock

Take care when rescuing someone who has been electrocuted so you do not become a victim as well.

- Switch off the current, if possible, by removing the fuse or switching off
- Do not touch the person who is in contact with electricity
- Separate the person from the source of electric current using a dry broom handle wooden stick or other type of non-conducting material such as wood or rubber.

- Make sure your hands and feet are dry and you are standing on a dry surface.
- If it is safe for you to touch the victim, check for heartbeat and breathing. Feel for a pulse along the neck, or on the wrist. Watch the rise and fall of the chest to see if the person is breathing.
- If there is no heartbeat and no breathing, do CPR If there is a heartbeat, but no breathing, immediately start rescue breathing.

If a person has been struck by lightening

- Check immediately to see if the person is breathing and has a heartbeat.
- (Note: You will not get an electric shock from someone who has been struck by lightning.)
- If the person has no heartbeat and is not breathing, do CPR & Get Medical help

Chapter – 12 DROWNING

Get the victim out of the water safely.

Note:

Saving a drowning person carries risk. Before swimming out to someone in trouble, be sure you can handle the situation. Many people drown in the brave effort of trying to save someone else because they are not well trained and have not properly thought throu h the risks of the situati

- Follow DRABC
- If the victim is breathing and has a pulse, put him or her in the **recovery position**
- Take cold, wet clothes off the victim and cover him or her with something warm to prevent hypothermia.

Chapter –13 HEAT INDUCED CONDITIONS

HEAT EXHAUSTION

1. Lie casualty down:
   - Move casualty to a cool place with circulating air.

2. Loosen tight clothing:
   - Remove unnecessary garments
3. Sponge with cold water.
4. Give fluids to drink
5. Seek medical aid:
   - If casualty vomits
   - If casualty does not recover promptly

HEATSTROKE

1. Follow DRABC
2. Apply cold packs or ice:
   - Apply to neck, groin and armpits.
3. Cover with wet sheet.
4. If conscious, give fluids.

Chapter – 14

POISONING AND SNAKE BITE

POISONING

- Check first for vital signs—breathing and pulse—and, if they are absent follow DRABC and transport the victim to the nearest emergency service.
- Diluting the poison by administering water or milk is advised for most substances. Water is recommended for acid and alkali ingestion if the person can swallow.
- Induce vomiting if the substance was swallowed within an hour
- Aid vomiting by making the person drink salt water (2 tablespoons of common salt in one tumbler of water)
- Take the poisoning victim, along with the bottle or container of whatever was swallowed, to the nearest hospital for further treatment

Do not induce vomiting if:

1. **The nature of the substance is unknown.**
2. **A corrosive substance (acid or alkali product) is suspected.**
3. **A petroleum product is suspected.**
4. **The person is having seizures, is unconscious or appears to be losing consciousness.**
5. **The victim is less than 1 year of age.**

SNAKE BITE

Check breathing and pulse:

- If casualty unconscious, follow DRABC
- Calm casualty, Reassure the person and keep him supine and as quiet as possible.
- Remove any rings or constricting items
- Create a loose splint to help restrict movement of the area
- Keep the stricken limb below the heart
- Allow bite to bleed freely for 15-30 seconds.
- Wash the wound with soap and water and rapidly disinfect the area with an antiseptic lotion.

WARNING

Do not cut bitten area or try to suck venom out of wound.

Do not use a constrictive bandage

Do not try to catch the snake.

- If possible, ensure casualty does not move.
- Take the victim to the nearest hospital or emergency service as soon as possible

Chapter – 15 CONVULSIONS / EPILEPTIC SEIZURES

1. Check breathing and pulse:

   - Follow DRABC.

2. Protect casualty

   - Protect from injury
   - Do not restrict movement
   - Do not place anything in mouth.

3. Manage injuries:

   - Place on side as soon as possible
   - Manage injuries resulting from seizure
   - Do not disturb if casualty falls asleep
   - Continue to check airway, breathing and pulse.

4. Seek medical aid if:

   - The seizure continues for more than 5 minutes
   - Another seizure quickly follows
   - The person has been injured.

SIGNS & SYMPTOMS - seizures

Casualty may:

- Suddenly cry out
- Fall to ground
- Have a congested and blue face and neck
- Have jerky, movements
- Froth at the mouth
- Bite the tongue
- Lose control of bladder and bowel

Section 2 Health Tips

Unit 1: Safe drinking water and better sanitation

Safe drinking water means water which is free from disease causing organisms, and harmful chemicals. Diseases caused by unclean water and bad sanitation include diarrhoea, cholera, typhoid, dysentery and Jaundice (Infective Hepatitis). Mosquitoes which breed in puddles, borrow pits, open drains, slow moving streams, and ponds cause malaria, dengue fever, and other diseases.

Golden rules for safe water

1. **No one should defecate or urinate near or in a source of drinking or bathing water.**
2. **Keep animals away from water collection areas.**
3. **Water for drinking must always be boiled or chlorinated, and covered against flies and dust.** Germs causing diarrhoea will be killed or inactivated when water begins boiling rapidly, or when it is chlorinated. If the water is very cloudy it should be filtered before chlorination.
4. **Keep drinking water in a clean container.** Be sure hands do not touch the water inside. Cover the container to keep water free from insects and dust. Clean the container and change the water regularly.
5. **Always wash hands with water and soap or ash** before preparing food, eating or feeding little children, and after defecating or handling the waste of children or people who are sick.

Disaster Management Teams need to undertake the following measures to ensure safe water use in their community

1. Remove mud and rubbish from around the well
2. Check to see that water easily drains away from the pump into drain pits or gardens
3. Check the fences around the well/ponds to keep animals away
4. Keep children from playing around wells
5. Check to see that the tube wells are working
6. Replace worn-out parts
7. Educate community in ways of making and keeping water safe. They can motivate people to keep the community water supply safe and make their environment a nicer place to live.

Ways to make drinking water safer

"Boiling and chlorination are the best way to make water safe"

Boiling

- Germs which cause diarrhoea and other diseases are killed or inactivated by boiling the water strongly for one minute.
- After boiling, store water in clean, covered containers, away from dirt and germs.
- Dirty hands make boiled water dirty again. Use a dipper to take water from the container

Chlorination

Chlorination is the mixing of chemical called chlorine with water, in order to disinfect the water. Health workers usually chlorinate drinking water sources. But it is essential for people whose water is not safe to chlorinate the water they need. Products for chlorinating water are available in nearly every area with the Health Department. It may be in the form of tablets (halogen) or as a powder (bleaching powder). Whatever kind of product you use, be careful to follow instructions on how to use it.

Steps for disinfecting wells

- Use 2 match box level (20 gms) of bleaching powder for every 3 feet of water (depth and diameter)
- For large wells measure the depth of the water column by lowering a stone tied to a dry rope in the well. The length of rope in meters which gets wet will give the depth of the well. Measure the diameter of well in meters. The volume of water in the well is calculated by using the formula given below:

  $$\text{Volume in liters} = \frac{\mathbf{3.14} \times \mathbf{d^2} \times \mathbf{h}}{\mathbf{4}} \times \mathbf{1000}$$

  d = diameter of well and h = depth of water in meters

- Roughly 2.5 gms of good quality bleaching powder are required to disinfect 1000 liters of water.
- The required quantity of bleaching powder is placed in a bucket with not more than 100 gms in one bucket. If the volume of water is more, use two or more buckets.
- Make a paste by adding one litre of water in it. More water is added till the bucket is nearly three-fourths full. Then stir the contents with a rod or wooden stick and allow to sediment for 15 minutes when lime settles down. The supernatant solution which is chlorine solution is transferred to another bucket and the sediment is discarded. This sediment should not be poured into the well as it will increase the hardness of the well water.
- Wait for 1 hour before using the water from the well. It is best to disinfect the well at night and use the water next morning
- Disinfect the well twice a week. In case of outbreak of diarrhoea chlorinate/disinfect the well everyday

If you are not getting water from disinfected well or other safe source, use 1 halogen tablet (4mg) to purify 1 liter of water. Wait for 30 minutes before using the water

Latrines

In rural areas and urban slums were latrines are not used people defecate in open areas and many a times close to water sources (rivers, ponds etc.). Children defecate all over the place! Flies feast on faeces and then land on our food. We have to build latrines and use them properly to keep flies away from human faeces. Use of Latrine brings down considerably water contamination. This will protect drinking and bathing water from faeces causing diarrhoea, dysentery, worms, cholera and typhoid bilharzia.

Latrines are the best place for defecation

- Using latrines keeps the village clean and safe from many diseases.
- Latrines must be at-least fifty feet away from any water source, latrine too close to wells or water sources will pollute them.
- Always remember to wash hands with soap and water or ash after defecation.
- When properly used, latrines provide privacy and many health advantages.
- Keep soap, ash and clean water near the latrine to wash hands after use
- Young children often do not use latrine. Clean them well after defecation and drop their faeces down the latrine. Teach them how to use the latrine.
- While working in the fields or away from home when it is not always possible to use a latrine, bury the faeces with soil to keep flies and animals away.

Unit 2: Coping with some common health problems

Diarrhoea

Diarrhoea is loose watery faeces. Someone who has three or more loose faeces in a day has diarrhoea. Diarrhoea is caused by germs from faeces entering the mouth. These germs can be spread by dirty fingers, flies, food and feaces. Dirty utensils and babies' bottles increase the risk of getting diarrhoea.

Why diarrhoea is so dangerous

Diarrhoea is dangerous to both children and adults, but it is especially dangerous for children. Many children in our country die from diarrhoea because they lose too much liquid from their bodies. When a child loses water with diarrhoea, the child begins to dry up, like a plant does when it has no water. This drying up happens especially quickly in young children who have diarrhoea.

The second reason why diarrhoea can be very dangerous is that some people believe that we should stop feeding, and particularly stop breast-feeding, children with diarrhoea.

Reducing the risk of diarrhoea

Four important ways of avoiding diarrhoea:

1. **Keep food and water clean**

Use the cleanest water possible for drinking. It is very important to keep food and water clean, covered and away from flies. Always wash hands before preparing or eating food. If possible food should be thoroughly cooked, and prepared just before eating.

2. Use latrines and keep them clean

Children and adults should use latrines, and should quickly clear up the faeces of young children and put them in a latrine.

3. Breast-feed

Breast-feeding can reduce the risk of children getting diarrhoea and other illnesses. Give only breast-milk for the first four to six months of life and continue to breastfeed for at least two years.

4. Immunize children against measles

There is no vaccine to prevent ordinary diarrhoea, but because measles often leads to serious diarrhoea, it is very important to immunize children against measles and other common childhood diseases.

What to do when a child has diarrhoea

There are **three important rules** to remember when looking after a child with diarrhoea

Rule 1: Give a child with diarrhoea plenty of liquids to drink

Rule 1 is to give the child more fluids than usual. Diarrhoea can cause death by draining liquid from a person's body. You must replace the fluids and energy washed out of your child by diarrhoea.

Give any of the following fluids:

- Breast milk (you must continue breast-feeding when your baby has diarrhoea)
- Oral Rehydration Salts
- Cooked cereal
- Plain water, preferably boiled and cooled
- Food-based drinks, such as soup, rice water and yoghurt
- Fresh fruit juice
- Coconut water (from a young coconut)

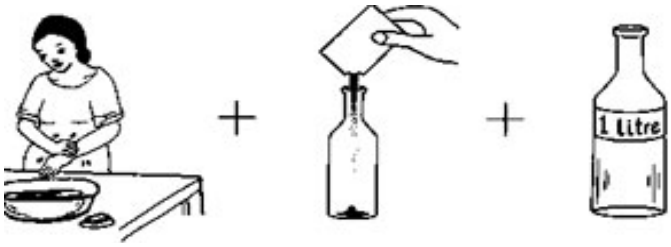
Do not give soft drinks and sweetened fruit drinks. If milk made with powder or animal milk has to be used, give it to the child from a cup instead of a bottle. Always use the cleanest water available. "Water from open wells, springs and rivers should be brought to a boil or chlorinated and preferably filtered and covered before use.

Oral Rehydration Salts (ORS)

These are available at the Anganwadi, Subcenters or PHCs

Method for mixing oral rehydration salts (ORS):

- Wash your hands.
- Measure 1 litre, of clean drinking water (boiled and cooled if possible) into a clean container.
- Pour all the powder from one packet into the water and mix well until the powder has completely dissolved. Give to the child to drink.



After each loose stool give the following amount of ORS:

- A child of less than 24 months - Half a cup
- A child of between 2 and 10 years - One cup
- A child of 10 years or more - As much as wanted

These drinks should be given until the diarrhoea has stopped. This usually takes from three to five days.

If the child vomits, wait for ten minutes and then begin again, giving the liquid to the child, in small sips at a time.

Do not mix the ORS with liquids such as milk, soup, fruit juice or soft drinks - only mix them with clean water.

Rule 2: A child with diarrhoea needs food

While the child is sick

It is important to feed a sick child. Some mothers think that a child with diarrhoea needs to stop eating. This is not true. A sick child should be encouraged to drink clean water and other liquids and to eat nutritious food.

Continue to breast-feed frequently. If children are already taking solid or semi-solid food make sure that they get all the different kinds of food that they need.

These children need soft well-mashed mixtures of the staple food and, if possible, pulses, vegetables, and meat or fish. Remember always to add some fat or oil. Fresh fruit juice or mashed banana provides potassium. Offer food at least six times a day.

Rule 3: Trained help is needed if the diarrhoea is more serious than usual

"Rule 3 is that we should take children to the health worker if they do not get better or if they show:

- Marked thirst
- Many watery stools

- Blood in the stools
- Fever
- Eating or drinking poorly
- Repeated vomiting

Unit 4: Health risks related to stagnant water and mosquito breeding

Pools of standing or slow-flowing water provide a breeding ground for many insects, including mosquitoes that can transmit diseases. Different types of mosquitoes transmit different diseases, and they will also breed in different types of water collections. Some of the mosquitoe borne diseases are malaria, Filaria, dengue and Japanese encephalitis

Puddles and rubbish near houses, old containers lying around fill up with water and provide breeding sites for mosquitoes

Filling in puddles, unblocking drains, and cleaning up rubbish and old containers, will help in getting rid of most of the mosquitos, cutting grass around houses will also reduce mosquitoes as they rest on tall grasses. Rats and snakes also hide in the grass, so it is a good idea to keep it cut short.

Important measures for prevention of mosquito bites:

- Personal protection measures like use of insecticide impregnated nets
- Use of mosquito repellents to re-inforce personal protection using
- spraying of DDT, fumigation of houses with neem leaves
- Do not let water collect near houses
- Seek Medical care if you have a high fever and think you may have malaria.
- Treatment is with Chloroquine tablets, injections are not better than tablets for malaria. They do not work more quickly."

In areas where malaria is a big problem, young children (under five years old) should be treated with an anti-malaria drug within 12-24 hours of first having a fever. All pregnant women should take chloroquine tablets regularly. one tablet weekly from the third month of pregnancy till four weeks after delivery.

Unit 3: HIV and AIDS

HIV stands for Human Immunodeficiency Virus. This is the virus which causes people to get AIDS.

AIDS stands for Acquired Immunodeficiency Syndrome

What is HIV?

HIV is a very small germ called a virus. HIV makes the body go weak and less able to fight sickness. People with HIV in their body go on to become sick with AIDS.

How HIV is spread

HIV is found in the blood and in the sexual fluids (semen in men and vaginal secretions in women)

This means that HIV is spread in three main ways:

1. Sex

Most people get HIV from having sex with someone who already has HIV.

2. From infected blood

People get HIV when HIV infected blood enters their blood. This infected blood can come from a blood transfusion. It can also come from a needle or a blade that has been used on a person with HIV and not sterilized afterwards.

3. Mothers to babies

Women with HIV can pass it on to their babies. The baby becomes infected while in the mother's womb or as it is being born. There is also some risk of transmission through breast milk. But breast-feeding is recommended even if the mother has HIV, unless your health worker gives you special reasons not to do so. Breast milk is almost always the best food for babies.

HIV is not spread by

- Sharing food, touching, hugging, shaking hands, crying, sitting close to other people or holding other people in normal ways
- You cannot give or get HIV by sharing combs, sheets, towels or clothes.
- Sharing toilets or latrines is also safe.
- HIV also does not spread by the bite of mosquitoes, bedbugs or any other insect or animal

How HIV infection can be prevented

Three most important ways for prevention of HIV transmission

1. Do not have sex until you get married and then stay faithful to that partner.
2. If you know that you are uninfected and are already sexually active, have sex only with a mutually faithful partner who you know to be uninfected.
3. In all other situations use a condom during sex.

Other ways of keeping safe are:

4. Women with HIV should seek advice before getting pregnant because they may pass the HIV to the baby.
5. In case of a need for blood transfusion, insist on having blood which has been tested for HIV
6. When you cannot avoid skin-piercing instruments like blades, needles and syringes, insist on having sterilized instruments.
7. Do not share razor blades, because they might come into contact with cut skin.

How can you know if we have contracted the virus?
Most people with HIV feel healthy at first, for months or even years.
They do not know that they have HIV. If you are healthy the only way to know whether you have HIV is to have a special blood test.
It is important for someone to explain about the test before you take it and to make sure someone is there to talk to after the test.

Caring for people with AIDS
People with HIV or AIDS need support from family members, friends and neighbors. Take some simple precautions like covering any cuts or wounds you or the HIV positive person may have with waterproof plasters. Keep the home very clean. Be careful with any bloodstained clothes or sheets or other articles. Wash them with plenty of soap and water and hang them to dry. The HIV germ cannot survive exposure to sunshine or dryness. Make sure that they get medical help, that they have plenty of nutritious food and drink, and that they get enough rest and relaxation.

Unit 5: Heat Stroke
Heat stroke is the most severe form of heat illness and is a life-threatening emergency. It is the result of long, extreme exposure to the sun, in which a person does not sweat enough to lower body temperature. Most susceptible are the elderly, infants, persons who work outdoors and those suffering from Diabetes, heart problems and anybody with poor general health are .

What causes heat stroke?
Our bodies produce a tremendous amount of internal heat and we normally cool ourselves by sweating and radiating heat through the skin. However, in certain circumstances, such as extreme heat, high humidity or vigorous activity in the hot sun, this cooling system may begin to fail, allowing heat to build up to dangerous levels.

If a person becomes dehydrated and can not sweat enough to cool their body, their internal temperature may rise to dangerously high levels, causing heat stroke.

How can heat stroke be prevented?
There are precautions that can help protect you against the adverse effects of heat stroke. These include:

- Drink plenty of fluids during outdoor activities, especially on hot days. avoid tea, coffee, soda and alcohol as these can lead to dehydration.
- Wear lightweight, loose-fitting clothing in light colors.
- Schedule vigorous activity and sports for cooler times of the day (morning and evening).

- Protect yourself from the sun by wearing a hat, sunglasses and using an umbrella.
- During outdoor activities, take frequent drink breaks.
- Try to spend as much time indoors as possible on very hot and humid days.

Unit 6: 10 golden rules for safe food preparation and handling

1. **Cook food thoroughly**
2. ***Eat cooked food as soon as possible*** Cook food thoroughly to reduce the risk of germs and eat it straight away - germs can invade food very quickly.
3. ***Keep containers and work areas clean*** Wash equipment and dishes before making meals. Protect them from flies, insects and dust.
4. **Avoid contact between raw foods and cooked foods.** Safely cooked food can become contaminated through even the slightest contact with raw food.
5. **Store cooked foods carefully** If you must prepare foods in advance or want to keep leftovers, be sure to store them under either hot or cool (refrigerator) conditions. ***Foods for infants should preferably not be stored at all.***
6. **Reheat cooked foods thoroughly,** This is your best protection against microbes that may have developed during storage (proper storage slows down microbial growth but does not kill the organisms). Once again, thorough reheating means that all parts of the food must reach at least 70 °C.
7. **Wash hands repeatedly,** Wash hands thoroughly before you start preparing food and after every interruption - especially if you have to change the baby or have been to the toilet. After preparing raw foods such as fish, meat, or poultry, wash again before you start handling other foods. And if you have an infection on your hand, be sure to bandage or cover it before preparing food. Remember, too, that household pets - dogs, cats and birds - often harbour dangerous pathogens that can pass from your hands into food.
8. **Protect foods from insects, rodents, and other animals-**Animals frequently carry pathogenic microorganisms which cause food-borne disease. Storing foods in closed containers is your best protection.
9. **Use safe water-**Safe water is just as important for food preparation as for drinking. If you have any doubts about the water supply, boil water before adding it to food. Be especially careful with any water used to prepare an infant's meal.
10. **Choose foods processed for safety** While many foods, such as fruits and vegetables, are best in their natural state, others simply are not safe unless they have been processed. For example, always buy pasteurized as opposed to raw milk.