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BASIC HEALTH WORKER TRAINING MANUAL
(TEXT) (ENGLISH)

# BASIC HEALTH WORKER

# TRAINING MANUAL (TEXT)

## ( ENGLISH )

B

Islamic State of Afghanistan

## Institute of Public Health (IPH)

Department of Primary Health Education

# BASIC HEALTH WORKERS (BHWs) MANUAL

Published by: IPH Publication Department

Translated by: Noorullah Aminzada

January 1994

**About the Translation:**

I was asked by Mr. Richard Johnson, MSH Training Advisor, and Dr. Mubarak Shah, Deputy Training Advisor, to translate the BHW manual from Dari into English. It was a great pleasure for me to be involved in translating this manual which is interesting and essential for BHWs training in Afghanistan.

As a member of health team and a student of the medical faculty of the University of Dawa and Jehad, I would like to say that the professionals who developed and designed this Manual have done a very good job. The manual is simple and appropriate to the health need of Afghan society and very relevant to the educational level of the candidates of this program. Community health workers or Basic Health Workers are the main group of health workers who form the base of the health pyramid in a primary health care delivery system. A strong base results in a sustainable health service delivery system in a country. It has to be mentioned that this manual is similar to the Community Health Workers manual published by World Health Organization (WHO) in 1987.

The good thing in this manual is its simplicity. This manual is written in very simple words used commonly by Afghans. The names of diseases are well known in Afghan community and this helps BHWs to understand the material and be able to communicate with the community members in their own language. Therefore, I tried to keep the nature of this manual as it is in the original Dari version.

| Fig P.2 |
|---|

Symbols as above indicate pictures relevant to the topic but are not copied in the English version. By referring to the mentioned page of the original Dari copy one can easily find the desired picture.

I thank Mr. Johnson, Dr. Mubarak and Karim Rahimi who helped me editing the manual.

Dr. Noorullah Aminzada
Student of Medical College University of Dawa and Jehad,
Translator of BHW Manual
January 1994

## PREFACE

**In the name of Almighty Allah**

Dear Participant of BHW's Training Program Assala-u-Alaikum!

Invasion of russian troops and establishment of the communist regime destroyed our country Afghanistan reducing it into a ruin. Communists either from Afghanistan or outside competed in killing and torturing of the Muslim Afghan nation. During the last 12 years of the war more than 5 million were forced to leave the country and more than one million were martyred. All of the above factors resulted in complete destruction of the social, economical, cultural and health system in Afghanistan.

Trusting on Allah Almighty and firm resolution, we began Jehad (Holy war) against atheists. Building and reconstruction of all destructions crumbling all over the country is a very difficult challenge before us, we try to reactivate social, cultural and health affairs a new in the country.

Ministry of Public Health (MOPH) delivered health services to the majority of the population living in the liberated (under Mujahideen Control) areas in Afghanistan. MOPH expanded the system of the delivery of health services in Afghanistan and by the grace of God we hope that MOPH will be able to provide health services to all the needy population of Afghanistan.

Training of Basic Health Worker, which is one the main objectives of MOPH, has a key and essential rule in improving of the health status of the people and provision of health services in Afghanistan. It is a must for MOPH to train all those wishing to work in the health sector and help the provision of health services in Afghanistan. We believe that they will be rewarded now in this world and in the world hereafter.

All BHW's are expected to nurse and take care of all patients and injured in and nice manner. BHW's are should not only to treat the injuries of Mujahideen but also deal with the causalities and by showing deep sympathy enhance their morales and reduce the anxiety. BHW's could effectively perform their duties and tasks if they learn all the needed skills and core topics included in 3 months BHW's Training Program.

According to the existing health problems in Afghanistan and based on the BHW's type of Training the following topics are included in the BHW initial training program:

1. Basic information about the structure of human body and the functions of it's different organs.
2. Way of spreading of microorganisms.
3. Information about the safe usage of drugs included in BHW's kit.
4. First Aid.

5. Basic nursing skills.
6. MCH.
7. Common clinical problems.
8. E. P. I.
9. Personnel and Family hygiene.
10. Environmental health.
11. Health Education.
12. Community development.

By full participation in BHW's training program the graduates will be able to assist in solving of the community health problems and play their rule to improve the health services as and active member of health team.

Let us all pray that Allah help us in carrying out our responsibilities in order to be able to achieve our goals and objectives towards delivery of health services to the poor people of Afghanistan.

Regard

Dr. Sayed Mohammad Amin Fatimie
Director General IPH
June 1991

ACKNOWLEDGMENT

I thank Dr. Sayed Shukrollah Wahidie, Dr. Mubarak Shah, Dr. Mohammad Qasim Murad, Dr. Abdul Hadi and Dr. Mohammad Rahim Yunus who have actively participated in designing , developing and editing of this manual. I wish all my these colleagues all the best and further success.

Also I thank Mr. Hayatullah Popal , Mr. Abdul Haleem Safi, Mr. Akhtar Mohammad Zahid, Mr. Mohd Masood, Mr. Agha Sherin, Mr. Hadi, and Mr. Meer Mohammad Osman Nalan who helped in Calligraphy, typing, drawing, printing and binding of this manuals.

Regards,

Dr. Fatimie
Director General
Institute of Public Health
June 1991

## CHAPTER I

**Who is basic health worker:**

Basic health worker is a Muslim man who is selected by the local people. He is educated and is trained in one of the BHW's programs, in order to have the ability of solving the people's health problems and work in his community as a responsible of health post, which is the first health facility in the community level providing health services to the people.

**Conditions of Work:**

BHW is responsible to commanders of jihad, local community authorities and his supervisor.

- BHW is expected to follow his supervisor's guidance and should work with him in a health team. Local people will help him providing a room or a shelter that he can use for the progress of health activities.
- Salary will be given to him according to his work.

**Quality of BHWs training:**

Quality and method of "BHWs" training relates to the following points:

1- Duties that will be given to them.
2- Health problems that should be solved.
3- Grade of the country or region's development where they work.
4- Qualification (Grade of education)
5- The average period of BHW's training in developing countries is about 8 weeks, but this period is extended in our country according to the Jihad conditions, which is accepted 12 weeks as an average. Arrangement of refresher courses is very necessary for the observation (evaluation) of the methods already taught as well as the new methods, that will be taught. This will be carried out with a regular schedule.

**Duties of BHWs (What BHWs do):**

Duties and responsibilities of BHWs cover both health care and community development, but whatever they carry out should be restricted to what they have learned in BHW's training program. They must recognize their work limitation and work within it. They can not be expected to solve all the problems they meet, but they should be able to deal with those that are the most common and urgent. BHWs should always keep in mind that they are not to work alone. Rather, they function within a health system and should be guided and supported by skilled supervisors. BHWs should encourage local authorities to take part in improvement of people's living conditions and should be creative. They should always consider what

can be done locally with the community's own resources, and at the least possible cost. They should always remember that health can not be the responsibility of the health sector alone, and that important contributions to people's health are made by many other sectors such as education, agriculture, public works, and communications.

According to the health problems in our country Afghanistan we can summarize the duties of BHWs as follow.

**I. Progress of community health activities:**

1- To gain information about society. (recognition of society, community and individuals).
2- Providing a complete map of the place of work.
3- Recognition of those who are helpful for BHWs while making decisions.
4- Getting information about presence of health services in the region.
5- Assistance by RHO and MCHO with conducting surveys in villages.

**II. Looking after the patient:**

1- Care of the patient.
2- Control vital signs.
3- Advice proper medication.
4- Prevent from infections (washing of hands).
5- Personal hygiene and proper diet.

**III. Control and manage of health post (place of work):**

1- Getting medical equipments and medicine.
2- Registration of events and regular reports.
3- Protection and proper use of medicine.
4- Sterilization of instruments and other items.
5- To place and proper use of instruments and materials.
6- Safe placement of fluid and other contaminated materials.

**IV. First Aids:**

1- Urgent opening of respiratory airways, control bleeding and prevent shock in an accident.
2- The damaged part should be controlled and fixed.
3- Taking care of frostbite and sunstruck events.
4- Burns
5- Attending to dog bite, snake bite and poisoning events.
6- Carrying of emergency cases to the health care center.

**V. Supervision of general Clinical problems: (Diagnose, Treatment and Prevention) like:**

1- Method of examining the patient.
2- Signs of dangerous disease.
3- Fever
4- Diseases of respiratory tract.
5- Tuberculosis
6- Gastro Intestinal tract.
7- Acute abdomen.
8- Urinary tract infections (U.T.I).
9- Impetigo
10- Abscess
11- Scabies
12- Louse
13- Skin Itching.
14- Acute conjunctivitis and Trachoma.
15- Foreign bodies removal from eye ear and nose.
16- Malaria
17- Typhoid
18- Jaundice (hepatitis)

**VI. Taking care of children health:**

1- Immunization-promotion to all children.
2- Promotion of health education programs about:
   a- (well nutrition).
   b- Distinguishing of malnourished children by using UACMT.
3- Health education to parents regarding accident prevention at home.
4- Assisting and advising mothers to take care of their sick child at home.
5- Control of common disease of children like:
   a- Diarrhea and dehydration
   b- Acute respiratory infections
   c- Six preventable diseases of children (TB. Measles, whooping cough, diphtheria, tetanus, and polymylitis.
   d- Chickenpox
   e- Mumps
   f- diseases of malnutrition (Marasmus and Kwashiorkor)
   g- Finding of malnourished children by using UACMT.
   i- Acute otitis media

**VII. Health care of mothers and women: Function:**

1- Health education to mothers about the importance of pre-natal care.
2- Health education to mothers about dangerous signs of pregnancy.

3- Recognition of the women who are facing dangers of pregnancy and assist in carrying of such patients to the health centers.
4- Training of Traditional birth attendance (Dai):-
   a- Microbe and hand washing.
   b- Cutting of umbilical cord and preventing from tetanus.
   c- Diarrhea and dehydration.
5- Health education to mothers regarding postnatal care:-
6- Taking care of new born and importance of breast feeding.
7- Control of common infection disease of the females.
8- Encouragement of pregnant and breast feeding mothers for proper nutrition.
9- Anemia prevention and provision of Ferrous sulphate to the pregnant mothers.

**VIII. Development of health services in the community:**

1- Health education.
   a- Prime messages.
2- Promotion and using clean water.
3- Safe disposal of human fecal matter.
4- Encouragement of the families for safe disposal of contaminated water and other waste products.
5- Encouraging community participation to reduce the spread of diseases and their causes.
6- Health education to families regarding food protection.
7- Promotion of personal and family hygiene.
8- Encourage the people for building bright and ventilated houses.

## CHAPTER 2

### Promotion of Social Health Activities

**Recognition of Community, environment, and people:**

It is necessary for a BHW to have complete recognition and knowledge about the structure, tradition and customs of his community and environment, in order to help the people to better utilize the available health resources.

Therefore, it is a must for each BHW to find the rules and regulations of the locality and do practice accordingly.

As an individual of the community, you have some information about your environment and its surrounding but in order to improve health services you add up on your skill and knowledge. General information about the population of a community can easily be earned from the statistics which is reviewed every decade (ten years) but it is still sometimes it necessary for you to know about the population of your working location, therefore, people should be categorized as households.

Collecting information about population of your working environment, will help you carry out your given work. For example it is necessary for you to know the number of children under five years living in your area, how many are suffering from diarrhea and cough, and how much is the mortality and morbidity rate. This piece of information will provide opportunities for a BHW and other members of health team to estimate number of 5 year old children and rate of those children who are less than 5 years suffering from different kinds of diseases, this is one of the advantages of collecting information about the community.

To know the population of the community helps you to organize your duties and give reports to your supervisor.

Also understanding social condition of the individuals in society and their recognition is important. Such as the leaders, who are really important for example religious leaders or political leaders, It is usually the leaders who are really important in making decisions. Also they can take role in encouraging people, specially in accepting or rejecting a program. Therefore it is the responsibility of you (BHW's) to keep in touch with them, honor their valuable suggestions, and ask for their cooperation for improving health services.

It is necessary for a BHW to introduce himself to the local community authcrities that they should facilitate in implementation of the program objectives. A BHW needs to establish a very close relationship with the local community authorities, and with their

assistance he could play a good role in promotion and developing of the community. By other words it is a must for a BHW to inform the people about his duties.

**Mapping:**

For the purpose of being effective and useful a BHW should have a map of the place where he works. You can make the map with **cooperation** of RHO, MCHO, or school instructors.
Location of the houses, mosques, schools, water resources, farms, streets, rivers, pools, springs, puddle, and health centers should be shown in the map.

Maps help us in explanation of health problems to others. We can show needs of health developments to the community authorities through, the map to know where some changes should occur.

**Home Visiting:**

Since you have gotten some information about your society and community, it is important to start keeping in touch with the people, through home visiting. Therefore, home visiting is one of the main duties of BHW. The needed information of a BHW can usually be obtained from families through home visiting. Usually it is the only way to guide families on how to take care of their patients and handicapped with available resources and it causes the good conditions of health in families.
Home visiting should be done regularly according to the provided map. Fix location of the homes on the map, and estimate their distance form health center. Also identify name and address of the health worker such as midwives or other BHW's and try to be in touch with them.

Fig P.16

**HOME Visiting Objectives:**

1. Explain to community leaders and families the main rules of home visiting.

2. Plan your home visiting day and take only what you need to make your visits successful.

3. Record what you have done, what you have seen, and what was decided.

**Main Rules of Home Visiting:**

1. First of all a BHW should introduce himself to the related family.(name, occupation, place of work, aim of visiting).

2. You are a visitor. Therefore, obey the customary rules for visiting any house even if you know the household very well never go inside until have been invited.

3. You are there to help the family to identify or solve their health problems, or to check up their past health activities.

4. They may have a lot of work to do: You should not waste their time with unnecessary talking.
5. Many households you visit may have very few of their basic needs (water, food, soap, etc.). Use them carefully.

**Principles for BHW Behaviors:**

BHW is member of a health team who helps people solving their problems. Therefore, we expect a BHW as member of a health team to have special character & sense of humor while performing his duties and responsibilities.

1- Understanding his responsibilities & functional limitations and providing all services he has gotten training for.

2- Establishing good relationship with the other members of the team and cooperate with them.

3- Obeying rules and regulations of the health team.

4- Expressing sympathy, deal politely, honor local people's traditions, faiths and customs.

5- Practicing on the methods which teach people about health and being an example for the people in the community.

6- Being honest.

7- Avoiding criticizing local people.

8- Being self confident, interested in his work and keep himself clean and in good condition.

9- Good manner against people's reactions regarding health programs.

10- Shouldn't mind from lot of questions about some health concepts and not accepting of a new health service by community.

11- Observing people's reactions against health activities and take care how to show reaction towards them.

12- Being loyal for the source of employment and carrying out the duties according to the given rules.

13- Regular visits & sittings with related supervisor for giving reports, discussing of activities and asking for help.

**ATTITUDE OF A Basic Health Worker:**

After getting information about the population, leaders, and sources of community it is necessary to talk and discuss with the local people. Keep in mind that the way of talking which you select will definitely have an effect on the success or failure of your progress. Bad attitudes will hurt people's feelings and may cause rejecting your work for example "I don't have time" can be said as follows:-

- Are you blind, I'm busy.
- Go out don't disturb me.
- Sorry I can't go with you now I am busy doing an important work, is it possible to come evening.

3rd sentence will be said to those who are in the same level or above the level of BHW.

First and second sentences that show an anger condition are some times used by those who are in low position in society, but BHWs should avoid using such sentences. They are unpolite sentences and cause the people not to cooperate with you, and damage the health programs. IF your not admired in community, people will not trust you and will never call you again. As a BHW try to remember for ever that you are trained to work for the people, and solve their problems. Therefor, try hard to have sense of humor and live a good image for the people of the community. Be polite with everyone regardless of knowledge, wealth, position, age, and relationships. Make them sure that you have come for their service. Also before giving suggestions try to hear from people and try to know their needs. Through this you can attract trust of people which is the basic condition of your success.

**KIT OF A BHW:**

It is a bag made of denim cloth given as a kit to each BHW, to keep safe their papers and other necessaries in it.

1- Liquid should be placed straightforward in the pockets of kits.

2- Things that are not used a lot should be kept at the bottom.

3- Things are used a lot should be placed above.

**Method of using kit to Guarantee cleaning.**

While performing activities the kit might be carried somewhere that might not be clean. In order to keep safe the contains of kit the following conditions should be regarded:

1- Equipment that is not used for dressing and injection should be kept in the outer pockets of the kit.

2- Kit's belts should be gotten loose before washing hands and open the kit after hand washing.

3- Only necessary equipment should be taken out, and put on a clean surface for using.

4- Keep it somewhere that should be easily available.

5- While performing an action be careful that children and animals shouldn't touch the kit.

6- Before touching inside the kit wash your hands.

7- While travelling in motor car or bus put your kit on your knees.

8- Never put it near your foot, micro organism from your shoes might spread into it.

9- When the kit bag gets dirty, or at least once a month it should be washed with water and soap, and should be dried in the sun rays.

## CHAPTER 3

### Management of Health Post

In order to carry out a useful health service, better organizing of the working place is necessary.

If the number of visitors and patients are more and you BHWs work as a group it is better that every one should have specific assignments in order to see and help many patients at the same time to prevent waiting of patients. If you don't have a proper waiting place with cooperation of local people make a shelter in front of the place of your work that they should stay there while waiting; In general for organizing of the place of work you should follow these conditions:

**1- Organizing of medicine and medical equipments:**

Medicines should be kept in cool and dry place in order to be safe from sun rays. Write clearly name of the medicines on their cans and bottles, and the medicines that are used a lot should be marked. If you have a great number of patients it is necessary to provide a proper amount of medicine in small pockets in advance. The equipments should be washed and placed in a proper place after using, and before reusing then they should be sterilized.

**2- Hour, of work and daily functional schedule:**

Each BHW should have a proper schedule in order to carry out his duties in good and proper way. For reaching to emergency cases it is necessary for a BHW to be present 24 hrs in his place of work and should always visit(see) patients from 8:00-12:P.M. And afternoon he should work for organizing and cleaning health center, providing regular reports of that day, consumption and organizing of medicine and other equipments for the next day.

In addition, to work in the center, each BHW should try to see patients in their homes, provide health education and health services.

**3- Protection of this place of Work:**

It's necessary for each BHW to protect the center and is responsible to take care of medicine, equipments and related documents. The center should be provided with medicine and other technical and nontechnical equipment neither in very less amount nor a big amount that should be thrown out . Medicines have to be kept in a dark, dry and cold room away from sun rays as well as other materials like paper, soap etc. Try to label the

bottles or cans of medicines by their name. The one which uses daily as in a big amount should be separated and marked .

Fig. P. 27

P.S. Medicines which are going to be used first, should be kept in the upper shelves of cabinate.

**4- Disposal of extra materials and waste:**

Each BHW should place extra materials such as waste papers, used syringes and gauze etc in a proper place. As if they are flammable, burn them otherwise they should be burried. So he can have a clean and organized place for his work.

**5- Providing necessary equipments:**

A BHW needs some necessary equipment in order to perform his duties. With these equipments the following duties will be carried out in a good way:-

- Exam families and local people.
- Treat the patients.
- Register and note activities, events of diseases, deaths, births etc.
- The main part of the equipment will be provided by supervisors, but for progress of your work you can ask the people for cooperation that they should provide some necessary equipment. The needed equipment should be kept very well.

**A- Providing nontechnical equipment:**

**The necessary items are as follow:**

- A covered area or a room with a board (Health center)
- A table with two chairs
- One or two cabinet.
- If possible one bed or table for examination.
- One or two benches.
- One lock
- One or two basins
- Soap, towel and basket.
- One or two container to save water.
- One broom, bowl, cup and a glass.
- One stove and oil
- Scissor, knife and spoon.

- Few note books, pencil, pen, eraser, pencil sharpener, paper sheet, ruler, and few files.
- If possible a lamp and matches.

**a- Bicycle:**

Having bicycle is not the basic matter, but if the place of work is remote area it will help you, and you can visit your supervisor more of often.

A clean and open waiting area will help you with organizing your work and the patients will also feel comfortable. You should always have a proper light. Try to have clean drinking water and toilet near your center.

**B- Providing technical equipment:**

You should always have a complete list of equipment which is confirmed by your supervisors. This list will contain the followings:-

- Few Pieces of thermometer.
- Equipment for dressing.
- Bandages, leukoplast, splints and cotton.
- Medicine (special list for local BHW's program)
- Syringe and needles
- One or two pieces stretcher.
- Forms for reports and suggestions for medicine.

Nontechnical equipment should be provided by the local people while technical materials will be provided by supervisors If you need materials submit your application either to local supervisor or health director. Application should be in writing.

Pattern of an application for needed material:

Date 5-1-1370

Name of the health director or local supervisor.
Please send the following materials I need:-

-Soap 10 pieces
-Pencil 2 pieces
-Savolone 1 bottle
-Cotton & Gauzes 6 packs

They are needed for next 3 months
Regards

Name, Code No and address of local BHW

**RECORDING:**

Health recording is a written information about the health problems of the people.

**Health record contains:**

Rate of birth, death, number of patients, injured people, Rate of vaccination, event and conditions of hygiene, which is noted down by local BHW in his place of work. Every day you should write either on your note book, register book or on card or forms, what you have done? What has happened? And what did you consider about the health of the people in your community. The information you have recorded in your health center will help you in carrying out your duty. It helps health directors and local community supervisor in making decisions and development of health programs as well. Registers and recording files should be kept in a safe palace in your health center.

**Why should you carry out record of events:**

You cannot always keep the detailed information in your mind. For example: How many children have been vaccinated or who has already suffered from measles. Such information shouldn't be lost. Therefor, such information should be recorded. Recording of health events will help you in giving reports either to health director or local community supervisor and will be helpful for them as well in making decisions about the good condition of health and taking action.

Recorded information will help you in the following cases:

- To know and remember the children, mothers & other patients whom you have already met, or they were under your observation, what did you advise and what changes occurred in health conditions of the patients.
- In making decision by health director or local community supervisor in improving the health condition.
- To remember and present the health problems of the people to health director and local community supervisor and discus about them.
- To prepare health reports and to order the drugs you need in proper time.
- To remember the important events in your community specially birth & death.

**WHICH INFORMATION SHOULD BE RECORDED:**

- Information about the local people (population, map, health needs, name of the staff of community committee, planned activities about local development).
- Important events relates to births & deaths.
- Activities done for promotion of health like vaccination, health education etc.
- The disease most of the people are suffered from. Which treatment and which observations are done for ?
- Medicine you have received, stored or distributed.

**HOW RECORD IS DONE.**

Methods of recording health information from one country to another country is different. In some countries a special card is provided for each individual (person) from date of birth up to the end of life that all the events of health are recorded in mentioned card. But in some counties such cards are provided only for children so, date of birth, weight, date of vaccination, dangerous skin diseases, or other health problems of child will be written in their cards by the health workers.

In a health center usually a special book is used called registration book.

A simple record will be written as follow:

| Events | Date |
|---|---|
| 1- Ahmad's wrist joint fracture | 1369.6.5 |
| 2- Kaka Gul's son is born named Farid | 1369.6.7 |
| 3- Health director visited local community & health center | 1369.6.8 |

Information about births will recorded in registration book as follow:-

| Date | Name of Child | Sex | Name & address of parents | Name of person who help during labour | Is the future live? | Weigh during the labour |
|---|---|---|---|---|---|---|
| | | male/ female | | | Yes / NO | |

Deaths may be recorded with information written in columns in a register or notebook as follows:

| Date of Death | Name of dead Person | SEX M/F | Age | Probable cause of death | Name of person reporting death |
|---|---|---|---|---|---|
| | | | | | |

Information about illness and treatment of them must be recorded on illness register or better on a separate card or page for each person.

From the illness register you will know what kind of illness there are in the community, and which people need special attention.

The information my be written in a notebook or register as follows:

| Date | Name and address of Patient | Age | SEX ------- M / F | Complaint | CHW's Finding | Action taken | Notes |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

It is very useful to make notes every day about what you have done. You will need a diary in which you should note daily information on:-

- Health education and advice given.
- Action taken to improve sanitation and cleanliness in the homes and village.
- Meetings held with local authorities.
- Meetings of village committee.

**A Page of your diary may look like this:**

Monday 1 November

Visited water resources
Met with committee chairman talked about immunization .

Tuesday & Wednesday.

Talked with the local people about good nutrition.
Report of health activities submitted to chairman of the committee.

**Preparing and writing reports.**

Your reports are the information you write and send to your community committee to show what important things you have seen, what you have done about the health of the community and what you have recorded in your notebooks.

You should discuss your reports with community committee and with your supervisor.

You must send your reports on time and you must keep a copy of each report in a safe place at the health post.

You should prepare 2 reports at the end of each month.

1- A health report containing the following information:

- Number of birth
- Number of deaths.
- Kinds and number of illnesses or injuries.
- Your other health activities.
- Your Comments
- Comments of the community committee.

You should write in your report the probable causes and the circumstances of the deaths which happened in your community.

2- Drugs & supplies reports:

- Name of the items (medicine soap, cotton wool, etc)
- Amount in stock on the first day of the month.
- Amount received during the month.
- Amount used during the month.
- Amount remaining.
- Amount needed for the next supply.

HEALTH REPORT FOR THE COMMUNITY OF _____

YEAR _____ MONTH _____ NAME OF CHW _____

1. Number of births (during the month):

| | |
|---|---|
| _____ | males born alive |
| _____ | females born alive |
| _____ | born dead |
| _____ | TOTAL BIRTHS |

2. Number of deaths (during the mohth):

| | |
|---|---|
| _____ | undder 5 years old |
| _____ | 5 years old and over |
| _____ | TOTAL DEATHS |

3. Number of patients seen (during the month):

| | |
|---|---|
| _____ | under 5 years old |
| _____ | 5 years old and over |
| _____ | TOTAL PATIENTS SEEN |

4. Number of patients sent to the health center or hospital:

_____

5. Number of complaints (during the month):

| | | | |
|---|---|---|---|
| _____ | fever | _____ | burns |
| _____ | diarrhoea | _____ | malnutrition |
| _____ | wounds | _____ | others |

6. Other CHW health activities: _____

_____

7. CHW comments: _____

_____

_____

_____

_____

Signature _____

* * * * * * *

Community Committee comments: _____

Supervisor comments: _____

## CHAPTER 4

**Structure of the human body:**

Human body is built up of millions of cells that are specially adopted to carry out particular functions. Similar cells get together to form tissues. Tissue Fuse together and form organs like heart and lung. When few organs work together and carry out similar function then it is called system i.e mouth, tooth, esophagus stomach and instine, that each of them is an organ when gets together & form gastro intestinal tract.

In this chapter we give only basic information about all systems.

1- Bone and skeletal system.
2- Respiratory system.
3- Circulortory system.
4- Digestive system.
5- Central Nervous system.
6- Reproductive system.
7- Urinary tract.

Fig P.42

**Classification of bone:**

Bones are divided into three groups according to their shape:

1- Long bones like humerus and Femur.
2- Short bones like bones of sole & plam.
3- Flat bones like skull, scapula and hip bone.

**Human Skeleton:**

Human skeleton is studied in 2 categories:

1- Axial part which supports different parts of the body on the original axis of the body (Vertebrae)
2- Related or enclosed part which support extremities of the body.

**1- The axial part contains:**
   a- Skull which has 8 bones
   b- Face 14 bones
   c- Base of the tongue 1 bone
   d- Inside the ear 6 bones (3 bone in each ear)

e- The spinal Vertebrae are comprised of 33 Vertebrae.
f- Chest 3 bones
g- Ribs 12 pairs of bones 24 pieces of bones

**Chest Cavity:**

12 pairs of ribs are joint in front side with chest bones and in posterior with 12 bones of Vertebrae and form the chest cavity. The chest cavity protect heart, Lungs, trachea, esophagus & big vessels.

Fig P.44

**2- Related part of human skeleton:**

1- Upper limbs (shoulders) is formed of the following bones
   a- Scapulas 2 bones.
   b- Clavical 2 bones
      - Humerus 1 bone
      - Wrist joint 8 bones
      - Palm 5 bones
      - Hand Fingers 14 bones

2- Lower Limb is composed of 2 hip bones
   - Thigh one bone
   - Knee joint 1 bone
   - Ankle joint 7 bones
   - Sole 5 bones
   - Fingers 14 bones

**Joints**

Definition:- Where 2 or more bones fused together is called joint.

Joint according to their movements are divided into three groups.

1- Moveable joint like = Shoulder joint, elbow, knee
2- Semi-moveable joint like = Vertebrae joint .
3- Non moveable Joints like and skull joints

Fig P.46

**Muscles:**

Muscle is part of the body constitution of flesh which forms shape of the body. Muscles adhere on the two (extremities) of bone & their contractions cause movement. According their functions they are divided into two groups:-

1- Voluntary or Skeletal
2- Involuntary muscles

**Voluntary or Skeletal Muscles:**

They contract by control and perform actions:
Skeletal muscles control the movement of the arms, legs, spine and head.

**Involuntary Muscles:**

Contraction & Function of such muscles are not in our control like heart muscles (myocardium), stomach muscles, Intestine etc.

Fig P.47

Circulatory system.

It is composed of:

1- Heart
2- Vessels
3- Blood

**1- Heart:**

Heart is a muscle organ which pumps blood to the vessels and to the cells all over the body. Heart is located in the chest cavity in between two lungs at the back of sternum slightly to the left side.

Fig P.48

**2- Vessels:**

a- Arteries:
They are the vessels which carries blood from heart to tissues and cells and has puls.

b- Veins:
They are the vessels which return blood to the heart and does not have puls.

c- Capillaries:
They are small vessels that connect arteries to veins.

**3- Blood:**

Blood supplies nutrients and Oxygen of the cell, and carry Carbon dioxide and other waste materials to the Related organs (kidney) for excretion. Volume of blood is 4-5 liter in an adult.

## Respiratory Tract

The cells of the body need a constant supply of oxygen to live and grow. As the cells use oxygen, they produce a harmful waste product called carbon dioxide. The respiratory system obtains oxygen from the outside air. It brings oxygen to the blood and rides the blood of carbon dioxide.

The organs that form respiratory system are as follow nose, mouth, trachea. Laryax, brancheses, branchiols alveols and Lungs, Obtaining O2 from air and releasing Co2 from lungs is called respiration. The normal respiration rate in an adult is 12-20/minute. Respiration is an unvoluntory action which is controlled by brain automatically.

Fig P.50

## Digestive system

The digestive system has three main functions.

**Digestion**

The cells of the body need food to live and grow. But the cells cannot use the food until it is broken down into substances called nutrients. The breaking down of food is called digestion. The digestive system changes food into substances the cells can use.

**Absorption**

The digestive system moves digested food from the digestive tract to the blood. This is called absorption.

**Elimination**

The digestive system rids the body of undigested food. This is called elimination.

**Gastro Intestinal Tract is composed of:**

Mouth, tooth, esophagus, stomach, small intestine large intestine (Including Appendix) and anus, Liver, gall bladder, pancreas and spleen are also part of G I T system which helps digestion.

Fig P.51

## Nervous System

Nervous System is made up of the following parts:

a- **Brain:**
Brain is located inside the skull and is controller center of all over the body.

b- **Spinal Cord:**
Spinal Cord is located inside vertebrae.

c- **Nerve (neurons):**
Neurons come out of the brain and spinal cord messages from the body to brain and carry order from brain to all over the body. Brain is like a switch board of wide branch of telephone. Spinal card, looks like bundles of cables which

take wires to different part of the city, Neurons function like separate wires of individual telephones Damage in any part of this system can cause lost of senses and paralysis of the related part of the body. Which is supplied by the damaged neurons.

**Human generally has five senses:**

1- Sense of sight.
2- Sense of hear.
3- Sense of Smell.
4- Sense of test.
5- Sense of feel. (by all our body)

**Sense of Hear (ear):**

It is composed of three parts:

1- External part (Tent of the ear).
2- Middle part (Vestibular, diaphragm/eardrum)
3- Internal Part contain the three tiny bones attached to the ear drum.

Fig P.53

**Reproductive System**

**Female Reproductive System:**

Ovaries, Fallopian tubes, uterus and vagina are the organs that formes female Reproductive organs.

Fig P. 54

**Male Reproductive System:**

Male Reproductive System contains testes, urethra and penis .

Fig. P.54

## Urinary System

This system is composed of the kidneys , ureter urinary bladder, and urethra. Its function is to make and excreate urine.

Fig. P. 55

## Microorganisms the main causes of disease:

All living things are called organism. Human, Animals, insects and plants are organisms because they have life. They have different bodies some big and some very small for example, Elephant, camel, tiger and sheep are bigger than chicken, fly, cat, Fleas and lice. There are some other animals which are really small, and cannot be seen by eyes they are called micro-organism or microbes. They can be seen only by microscope micro means small, organism means living things,micro organism meas small living thing.

Some of them are proved useful for human, but most of then are dangerous similarly some plants and some animals are useful. However, some of then are dangerous and harmful.

Micro Organisms are available every where such as hands, mouth skin, Injuries, Syringe, equipments of kitchen and home, air, water, stool etc.

When a harmful organism enters the body or come in touch with ulcer or injured part then the part is called infected. When the organism, increased and caused disease it is called that the patient is suffered from infectious disease.

The organism which usually causes different disease are divided into four group:

1- Parasites
2- Fungus
3- Bacteria
4- Virus

Fig P. 58

**Ways of spreading infectious disease, and how to prevent them:**

Harmful organism spread from one person to another through different ways. as following:

1- From stool(fecal) to mouth.
2- From stool(fecal) to skin.
3- Through droplets.
4- By insects.
5- Through syringe.

**1- Way of spreading from stool(fecal) to mouth:-**

Harmful organism (causative of diarrhea and dysentery, Typhoid, polio, different worm) that lives in intestine and spread through stool. These organisms enter in to our body by contaminated hands. Therefore stood is very dangerous. This can be prevented by the following methods so, spread of the disease should be prevented.

1- Washing hand with soap and water after each defecation and before meal.
2- Use of latrine for passing stool.
3- Prevent contamination of water and food by waste products (stool).

**2- Way of spreading Organism from stool to Skin.**

Eggs of some warms come out along with stool then it is change to Larva in soil and through the bear foot enters in the body.

Hook worm which cause severe anemia in children spread through the mentioned way. To prevent spreading through this way the following points are important.

1- Do not pass stool everywhere try to use latrines.
2- You should always put on your shoes.

Fig P.61

**3- Transmission of Organism by droplets:**

When a person is suffered from the disease of respiratory tract, he will spread the organism in the air by coughing or sneezing, if such contaminated air is inspired by the other and may cause illness. Disease such as measles, cold, TB, pneumonia, etc are spreading by droplets. To prevent such

spread is a little difficult, but we can prevent if follow these instructions:

1. Ask him to cover his mouth when coughing or having cold.
2. Avoid spitting & throwing sputum on the floor.
3. Patient should not contact with the others while suffering from disease.

**4- Transmission by Contact:**

Harmful organisms which locate on skin are transmitted by contact, e.g., alopecia, impetigo, children alopecia, and other skin infections spread by contact. To prevent such spreading of organism we should follow the under mentioned points:-

1- Cleanliness of the skin and cloth.
2- Towel of patient shouldn't be used by others.
3- Equipments used in injuries should be cleaned enough and strelized.

**5- Spreading through insects:-**

Insects suck blood of the patient and transmite the organism to others. Malaria spread through the mentioned way.

Leishmanisis transmite by sandflies (female phlebotomines).

To prevent such pread the following points should be fllowed:

1- Help with malaria program in spreading powder.
2- Prevent yourself from insect bite.
3- Take special care for cleanliness of body and cloth.

**6- Spread through syringe and needle:**

In case if needle and syringe is not cleaned and strelized the harmful organisms enter the body through needle, for example; Abscess, and a kind of Joundice is caused by contaminated needle. To prevent such spreading a special attention should be paid for the following points:

1- Equepments use for injection should be well strelized.

In addtion to the above mentioned preventive measures vaccination of children against T.B, polio, tetanus diphtheria, whooping cough, and measles.

Good and complete nutrition, Personal and samily hygien are effective to decrease entering of microorganism into the body and prevent illness.

## CHAPTER 5

### How to take care of a sick Person

Sickness weakens the body. To gain strength and get well quickly, special care is needed. Medicines are often not necessary. But good care is always important. The followings are the basis of good care.

1- The comfort of the sick person
2- Liquids
3- Personal cleanliness
4- Good food.
5- Control of vital signs.

**1. The comfort of the sick person:**

A person who is sick should rest in a quiet comfortable place with plenty of fresh air and light.

He should be prevented from getting too hot and cold.

Fig P.66

If the air is cold or the person is child, cover him with a sheet or blanket.

Fig P.66

If the weather is hot or the person has a fever do not cover him at all.

Fig P.66

**2- Liquids:**

In nearly every sickness, especially when there is fever or diarrhea, the person should drink plenty of liquids. Water, tea, juices, broths etc.

Fig P.67

**3- Personal cleanliness:**

It is important to keep the sick person clean. He should be bathed every day. If he is too sick to get out of bed, wash him with a sponge or clothes and lukewarm water, sheets, and covers must also be kept clean. Take care to keep crumbs and bits of food out of the bed. If he is too sick and cannot move, his position should be changed many times in bed . It keeps him from getting bed ulceration.

Fig P.67

**4- Good food:**

If the sick person feels like eating, let him. Most sicknesses do not require special diets. A sick person should drink plenty of liquids and eat a lot of nourishing food. If the person is very weak, give as much nourishing food as he can eat, many times a day. If necessary, mash the foods, or make them into soups or juices.

Energy foods are also important for example, porridge of rice, wheat, Oatmeal or potato. Adding a little sugar and vegetable oil will increase the energy. Also encourage the sick person to drink plenty of sweetened drinks, especially if he will not eat much.

Fig P.69

**5- Vital signs:**

Vital signs are as follow:-

pulse, temperature, respiration.

1- **Pulse:-** It is reflex of the heart pumps and its feeling on arteries. To take the person's pulse, put your fingers on the wrist as shown, (Do not use your thumb to feel for the pulse).

Fig P.70

If you can not find the pulse in the wrist, feel for it in the neck beside the voicebox (Larynx).

Fig P.70

Or-put your ear directly or the chest and listen for the heart beat.

Fig P.70

Pay attention to the strength, the rate, and the regularity of the pulse. If you have a watch or timer, count the pulse per minute.

Normal Pulse For People at Rest.

| | | |
|---|---|---|
| adult | ---------- | 60 to 80 per minute |
| children | ---------- | 80 to 100 per minute |
| babies | ---------- | 100 to 140 per minute |

If you don't have watch, you can compare pulse of the patient with yours. Try to have a rest for a while then compare your pulse with pulse of patient as your pulse might be fast because of exercise. The pulse increases with exercise, fever, nervousness and fear.
As a general rule, the pulse increases 20 beats per minute for each degree ($C^0$) rise in fever.
Always note down pulse, temperature and respiration rate of the patient and compare them.

2- **Respiration:**

Taking of **oxygen** from air and releasing of **Carbon dioxide** is called breathing or respiration.
Normal respiration rate is as follow:-

| | | |
|---|---|---|
| 1- adults | ---------- | from 12-20 times per minute |
| 2- children | ---------- | 20-30 |
| 3- babies | ---------- | 30-40 |

**Temperature:**

It is often wise to take a sick person's temperature, even if he does not seem to have a fever. If the person is very sick, take the temperature at least 4 times each day. and write it down. If there is no thermometer, you can find an idea of the temperature by putting the back of years hand on the sick person's forehead and the other on your own or that of another healthy person. If the sick person has a fever, you should feel the difference.

Fig P.73

**How to use a thermometer:**

1- Clean the thermometer well with soap and water or alcohol.
2- Just after taking up from water or alcohol, it should be dried either by a piece of cloth or cotton.
3- After cleaning shake it hard, with a snap of the wrist, until it reads less than 36 degrees.

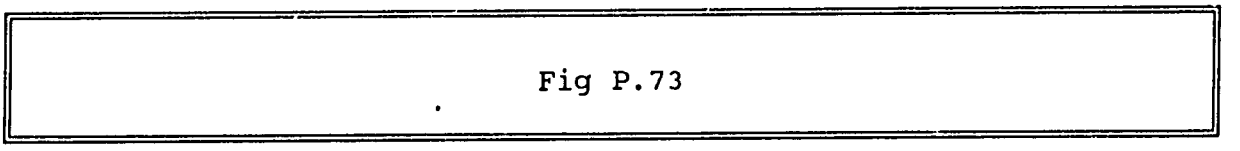


Fig P.73

4- Put in armpit or anus if the patient is in shock or chid.
5- Leave it either in mouth, armpit or anus for 3 or 4 minutes.

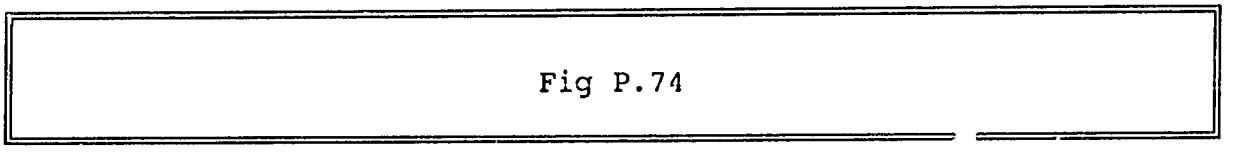


Fig P.74

6- Read it (be careful that normally temperature in the mouth is $37C^0$, in armpit 36,5 $C^0$ and in anus 37.5 $C^0$.)
7- Wash the thermometer well with soap and water.

## Prevention

**Sterilization:**

It is a complete abolishment of microorganism from equipments, which happens by the following methods:-

1- By moist heat
2- By dry heat
3- By chemical substances

**I- By moist heat:**

a- By pressure cooker:
Syringes, needle, gauze pad, will be sterilized in 15 minutes.

b- Method of boiling water:
Through this method forceps, scissor, Syringe, needle and other metal equipments will be sterilized.
Pour a sufficient amount of water in a covered container, to cover all of the equipments; after getting boiled it should be boiled for 15 minutes more.

Equipments sterilized by the mentioned methods, should be used soon.

**II- By dry heat:**

This method is used for sterilization of glass and metal equipment which may not get damaged by dry heat. Put the equipment in a container on the heat source. In order to heat all parts of the equipment container, the position of the items should be changed.

**III- By chemical material:**

This methods is used for sterilization of metal equipments. In emergency cases, pour a sufficient amount of Savlon in a container and put equipments inside then you can use them. Sterilization by the diluted solution of savlon take twenty four hours.

Hand Washing:- (Refer to the practical manual).

**Dressing:**

It is covering, protecting and supporting of the wounded part of the body.

**Advantages of dressing:**

1- Controls bleeding
2- Absorbs blood and secretion of the injured part.
3- Prevents more contamination of the wound.
4- Decreases pain.
5- A clean and well applied dressing causes quick healing of a wound.

**Kinds of dressing:**

It has two kinds:

1- Dressing of clean and dirty wounds
2- Warm and moist dressing

**Dressing of clean and dirty wounds:**

Generally in such injuries first of all clean surroundings of the wound with a piece of gauze soaked in antiseptics clean the center of the wound with another clean cloth. The surroundings of the wound should be cleaned once again.

**Warm and moist dressing:**

This dressing is made with warm water or solution of water and salt. Such dressing helps in draining of abscess.

**Equipments used for dressing:**

Before applying a dressing it is better to provide all needed equipments. The needed equipment are:

| Item | No. |
|---|---|
| Forceps | two. |
| Scissor | one |
| bowl | one |
| thumb forceps | one |
| sterile gauze | |
| Antiseptic solution. | |

## INJECTIONS

Injections are not needed often. Most sicknesses that require medical treatment can be treated better with medicines taken by mouth.

Injections are performed in 4 ways:

1- Subcutaneous
2- Intradermal
3- Intra muscle
4- Intra vascular: It is not included in BHW's training program because intra vascular injections are sometimes harmful or more fatal than oral medications.

## When not to inject

1- Never give injections if you can get medical help quickly.
2- Never give an injection for a sickness that is not serious.
3- Never give injections for cold or the flu
4- Never inject a medicine that is not recommended for the illness you want to treat.
5- Never inject a medicine unless you know and take all the recommended precaution.

## Risks and Precautions

**The risks of injecting any medicine are:**

1- To lower the chance of infection when injecting, take great care that the syringe and needle are sterile. It is very important to boil the needle and syringe before injecting.

After boiling do not touch the needle with your fingers or with anything else. Never use the same needle and syringe to inject more than one person without first boiling it again.

2- Allergic reactions caused by medicine: it is very important to know what reactions a medicine can produce and take the recommended precautions before injecting. If any of the signs of allergic reaction appear, never give the same or similar medicine again. The allergic signs are:-
hives or a rash with itching, swelling anywhere, difficulty breathing, signs of shock, dizzy spells with nausea, problem with vision, ringing in the ears or deafness, severe back pain difficulty urinating.

Fig P.81

## Syringe (Injection)

Injection is performed with syringe. It is made of three parts.

Fig P.82

1- barrel
2- plunger
3- needle

**How to prepare a syringe for injection:**

Before preparing syringe wash hands with soap and water.

1- Take the syringe apart and boil it and the needle for 15 minutes.

Fig P.82

2- pour out the boiled water without touching the syringe or the needle.
3- Put the needle and the syringe together, touching only the

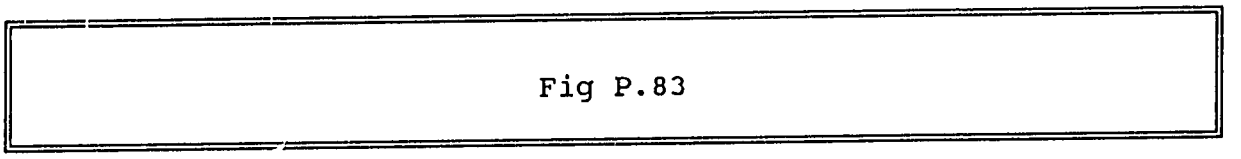
Fig P.82

base of the needle and the button of the plunger.

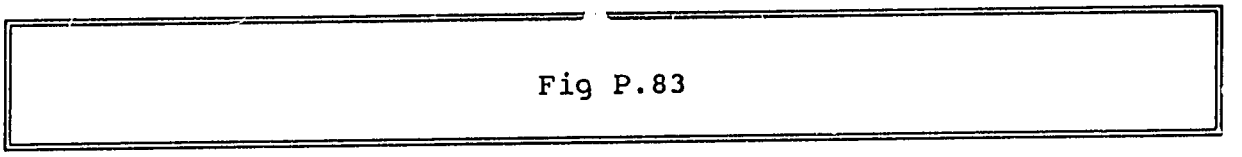
4- clean the ampule of distilled water well, then break off the top.

Fig P.83

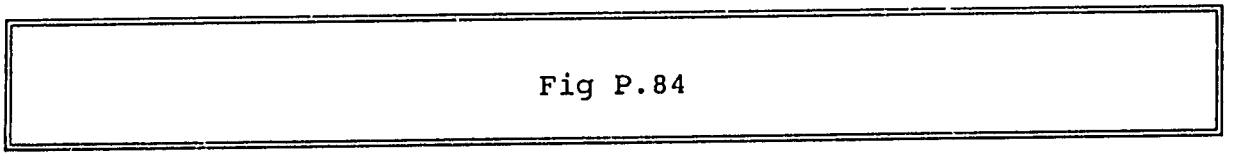
5- Fill the syringe(Be careful that the needle does not touch the outside of the ampule).



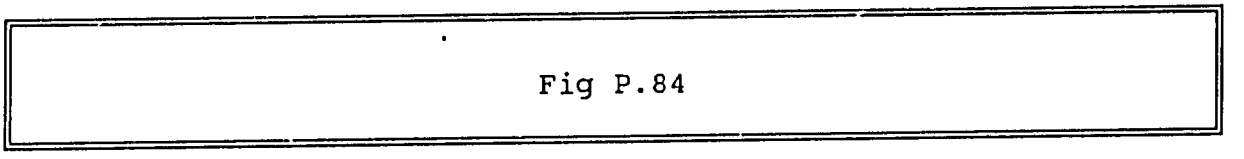

6- Rub the rubber of the bottle with clean cloth wet with alcohol or boiled water.




7- Inject the distilled water into the bottle with the powdered medicine.



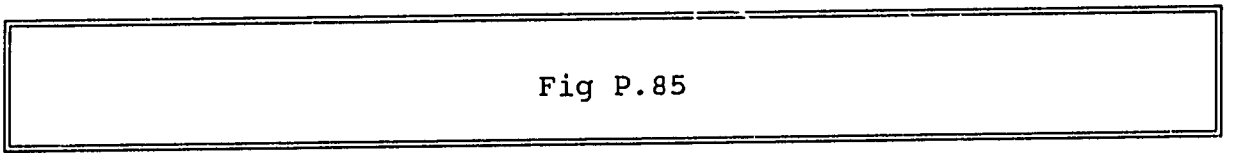

8- Shake until the medicine dissolves.
9- Fill the syringe again.
10- Remove all air from the syringe.



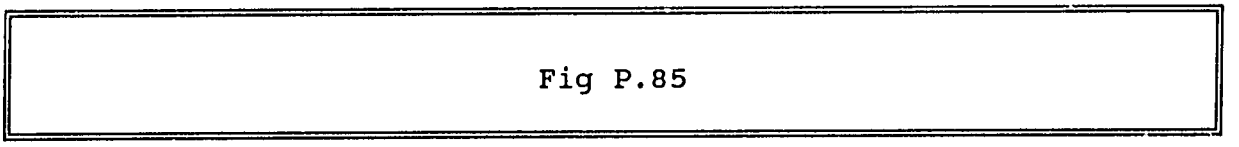

Be very careful not to touch needle with anything not even the cotton with alcohol. If by chance the needle touches your finger or something else, boil it again.

**Where to give an Injection**

It is preferable to inject in the muscle of the buttocks, always in the upper outer quarter.

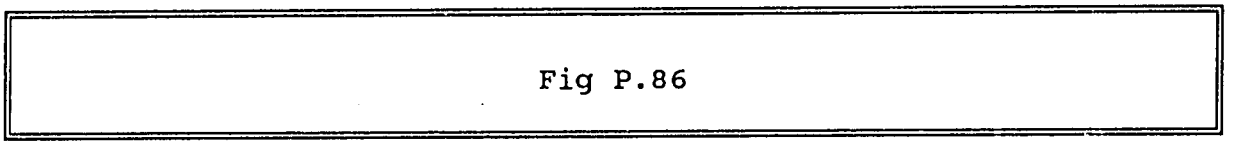



Do not inject infants and small children in the buttock. Inject them in the upper outer part of the thigh.

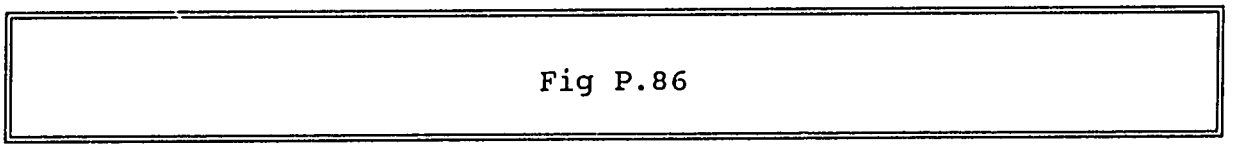



**How to Inject**

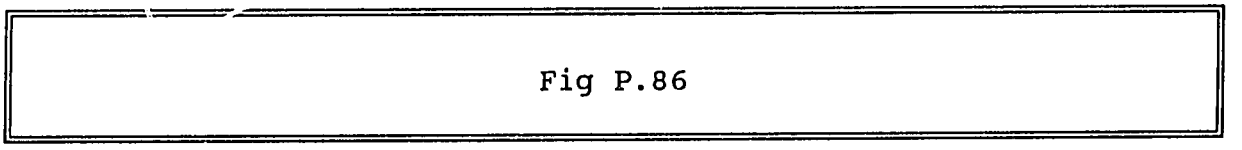
1- Clean the skin with soapy water (or alcohol-but to prevent severe pain be sure the alcohol is dry before injecting).



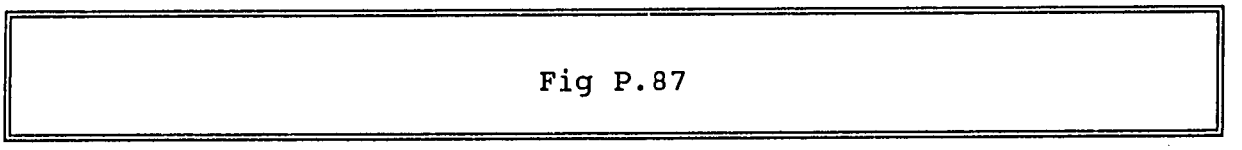

2- Put the needle straight in all the way.(if it is done with one quick movement, it hurts less).



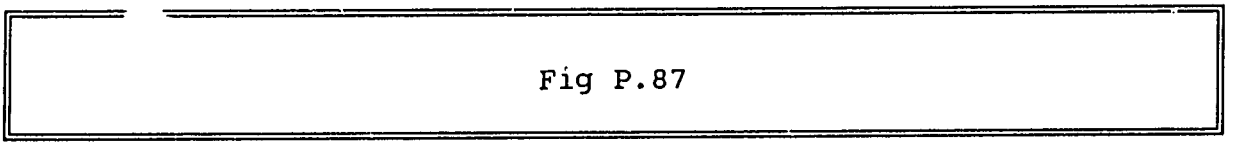

3- Before injecting, pull back on the plunger.(if blood enters the syringe, take the needle out and put it in elsewhere).




4- If no blood enters, inject the medicine slowly.




5- Remove the needle and clean the skin again.




After injecting rinse the syringe and needle at once. Squirt Water through the needle and then take the syringe apart and wash it. Boil before using again.

## How to Measure and Give Medicine

Since drugs are made in forms of tablets and capsules they are prescribed in proper amount according to the needs and seriousness of the illness. Tablets are prescribed in different measures:
1- Tablet = one whole tablet.
1/2 Tablet = half of a tablet.
1-1/2 Tablet one and one-half tablets
1/4 Tablet= one quarter or one fourth of a tablet
1/8 Tablet =one-eighth of a tablet.

For small children the proper amount or the tablet is mixed with sugar or honey and would be used in form of syrup.

**Measuring;**

Medicine is usually weighed in grams, milligrams and milliliter (ml) 1 gr = 1000 milligram.
1 mg = 0.001 gr.
1000 ml = 1 liter (1 ml = 1 cc)
1 tablet of paracetamol contains 500 mg. effective ingredients prescribe according to the age of the patient as follow:-
Adults: 1-2 tablet (500-1000) mg.
children 8-12 years old: 1 tablet (500 mg)
children 3-7 years 1/2 tablet (25 mg)
Baby of 6 months -2 years old: 1/4 tablet (62 mg)
most of the drugs especially antibiotic are prepared in different amounts. For example: Ampicillin is available in two different amounts, in form of capsules.

Fig P.90

Be careful to give medicines only in the recommended amounts. It is very important to check how many grams or milligrams, the medicine contains. For example: if the prescription says: take ampicillin, 1 capsule of 500 mg 4 times a day, but you have only 250mg capsules, yon should take two 250mg capsules 4 times a day.

**Measuring Penicillin.**

Penicillin is often measured in units.
Unit 1,600,000U= 1gm or 1000 mg.
Many forms of Penicillin (pills and injections) come in vials of 400,000 U. 400,000 U.= 250 mg.

**Medicine in Liquid form.**

Syrups, suspensions, tonics and other liquid medicines are measured in milliliters (ml) 1000 ml = 1 liter. Often liquid medicines are prescribed in tablespoons or teaspoons:
1 teaspoon = 5ml 1 tablespoon = 15ml.

Fig P.91

When using a teaspoon to give medicine, it is important that it measures 5ml- No more. No less especially when drug is prescribed to children is very important.

**How to make sure that the teaspoon used for medicine Measures 5ml.**

For giving the proper amount of medicine to children, use a 5ml measuring spoon if such spoon is not available, fill any small spoon that you have at home with 5ml of water, using a syringe or something else to measure, and make a mark on the spoon at the level of the liquid.

Fig P.92

**How to give medicines to small children.**

Many medicines that come as pills or capsules also come in syrup or suspension, for children. If you compare the amount of medicine you get, the syrups, are usually more expensive than pills or capsules. You can save money by making your own syrup in the following way:

Fig P.92

When making syrups for children from pills or capsules, be very careful not to give too much medicine.

## How much medicine should be given to children

Generally, the smaller the child, the less medicine he needs. Giving more than needed can be dangerous. If you have information about the doses for children, follow it carefully. If you do not know the dose, figure it out by using the weight or age of the child. Children should generally be given the following portions of the adult dose. For infants less than one year old, we can prescribe the same dose used for one year old. It is better to consult with doctor if possible.

children 1-2 years old 1/8 amount of adults.

Fig P.93

children 4-7 years old 1/4 amount of adults.

Fig P.93

children 8-12 years old 1/2 amount of adults.

Fig P.93

-After 14 years old a complete dose is prescribed.

Fig P.93

## How to take Medicine

It is important to take medicine more or less at the time recommended, some medicines should be taken only once a day, but others must be taken more often If you do not have a clock, it does not matter. If the directions say 1 pill every 6 hours" take 4 a day: One in the morning, one in the afternoon, one in the evening and one at right. If they say" 1 pill ever 4 hours" take 6 a day, allowing more or less the same time between pills.

**Instructions for medicines including BHW's programs**

**Methods for application medicines:**

1- Through mouth:

Medicine provided in form of tablet, capsule or syrup should be taken by mouth. Tablets can be broken in to pieces, in order to be taken in the proper amount, but not capsules.

2- Through Injection:

In injected medicines vials are in bottles in form of powder that they should be solved in distilled water and then should be injected. Ampules do not need solutiors. Injected medicines are used only when the patient is not able to take by mouth.

For example : In sever diarrhea, shock and in severe microbial disease. Keep in mind that injections are not good or better, than other form of medicine.

3- Topically

Ointments solutions, and drops are usually used topically. Ointment and drops prepared for eye can be used in ear too. Solutions are usually toxic and irritable and harmful for intra ocular membrane, nose and genetal tract. It is wise to prepare solutions according to instructions of this book otherwise if a solution is made more concentrated it would be toxic if it is over diluted it won't be much useful.

**Guidelines for the use of all antibiotics.**

1- If you do not know exactly how to use the antibiotics and what infections it can be used for, do not use it.
2- Use only an antibiotic that is recommended for the infection you wish to treat.
3- Know the risks in using the antibiotic and take all the recommended precautions.
4- Use the antibiotic only in the recommended dose no more, no less. The dose depends on the illness and the age or weight of the sick person.
5- Never use injections of antibiotics if the antibiotic can be taken by mouth and likely to work as well . Inject only when it is absolutely necessary.

6- Keep using the antibiotics until the illness is completely cured, or for at least 2 days after the fever and other signs of infection have gone,(some illnesses like tuberculosis, need to be treated for many months years after the person feels better.
7- If the antibiotic causes a skin rash, itching, difficult breathing, or any serious reactions, the person must stop using it and never use it again When antibiotics are used too much they begin not to work as well.
8- Only use antibiotic when the need is great.

## Antibiotics

**1- Ampicillin:**

Mechanism of action: It is an antibacterial antibiotic.

Indication: Respiratory tract infection+fever, example: (pneumonia, Bronchitis (inflammation of lung's bronchuses) tonsillitis, urinary tract infection, war injuries, enteric fever and diarrhea accompanied by fever.

Contra Indication:

In all conditions the patient is allergic to Penicillin and other drugs of this family. (Penicillin type allergy).

Preparation:

Capsules are provided in amount of 250 mg-500 mg.

Dosage:

Capsules of 250 mg four times daily one hour before meal It should be advised in following amount

- Adults 2 Capsules 250 mg (500 mg) 4 times a day for 5-7 days according to severeness of diseases.

**2- Penidure (Benzathin Penicillin):**

Mechanism of action: Antibacterial (prolonged action
Indication: Throat infection, war injuries and prevention of wounds from infection,

Contraindication:

1- Penicillin type allergy
2- Simultaneous use of other antibiotics except metronidazole

Preparations:

In from of 600000 I.U/Vial and 1200000 I.U/Vial

Duration:

Streptococcal infection of throat and war injuries on injection /day.
Rheumatic fever-1 injection/month for 4 months

| | |
|---|---|
| Adults: | 1,200,000 I.U |
| Children age 8-12 years: | 600,000 I.U. |
| Children age 3-8 years: | 300,000 I.U. |
| Under 3 years: | 150,000 I.U. |

- can be used in Pregnancy lactation

**3- Procaine Penicillin:**

Mechanism of action: Antibacteria
Indication: Throat infections, Bronchitis, Pneumonia urinary tract infections, impetigo, and infected wounds.

Contraindication:

1- Penicillin type allergy
2- Simultaneous use of other antibiotics except Metronidazole

Preparation:

In form of 400000 IU/vial, 1000000 IU/vail and 2000000 IU. vial.

Dosage:

Give 1 injection I.M. a day for one week.

| | |
|---|---|
| Adults: | 6000,000 to 1,200,000 U. |
| Children age 8 to 12: | 600,000 U. |
| Children age 3 to 7: | 300,000 U. |
| Children age 3: | 150,000 U. |
| New born babies: | Do not unless no other penicillin or ampicillin is available. |

- Can be used in prgnancy Lactation.

**4- Cotrimoxazole:**

Mechanism of action: Antibacterial.
Indication: UTI, Respiratory tract infection + fever (Bronchitis, Pneumonia, Tonsillitis) diarrhea+fever, Typhoid fever, minor wound infection, and trachoma.

Contraindication:

1- Hepatitis
2- Children < 1 month
3- Sulpha (Cotrimoxazole) type allergy.

Preparation:

| | | | |
|---|---|---|---|
| Cotrimoxazole = | sulphamethoxazol | + | Trimethoprim |
| Tablets | 400 mg | + | 80 mg |
| Syrup | (200 mg | + | 40 mg) / 5ml |

Duration:

For 5 days.

| | |
|---|---|
| Adults: | 2 tablets morning 2 tablet evening |
| Children age 5-15: | 1 tablet morning 1 tablet evening or two teaspoons morning 2 teaspoons evening. |
| Children age 1-5: | 1/2 tab morning and 1/2 tab evening or 1 teaspoon morning 1 teaspoon evening. |
| Children 1-12 month: | 1/2 tab morning 1/4 tab evening. or 1/2 teaspoon morning and 1/2 teaspoon evening. |

Can be used in Pregnancy lactation.

**5- Tetracycline Eye ointment:**

| | |
|---|---|
| Mechanism of action: | Antibacterial |
| Indication: | Conjunctivitis and Trachoma |
| Contraindication: | Tetracycline type allergy. |
| Preparation: | Ointment 1% in 5g tubes |
| Dosage & Duration: | In conjunctivitis 4 times daily in each eye for 5 days. |

For trachoma in addition to Tetracycline ointment it's better to use Cotrimoxazole tablets.
Can be used in pregnancy and Lactation.

**6- (Neomycin + Bacitracin Cream):**

| | |
|---|---|
| Mechanism of action: | Antibacterial |
| Indication: | Impetigo, Infected wounds, and burn. |
| Contraindication: | Neomycin + Bacitracin type allergy |
| Preparation: | Ointment in 15 gr tubes usage: 2-3 times daily. |

## Analgesic and Antipyretic

**1- Paracetamol:**

| | |
|---|---|
| Mechanism of action: | Analgesic Antipyretic |
| Indication: | Headache, tooth pain, Fever (especially children) Alternative to aspirin if patent has Aspirin type allergy or gastro-intestinal disorders (Gastritis or gastric ulcer) |
| Contraindication: | Active hepatitis, gastrointestinal and renal pain (colic pain) |
| Preparation: | tablets 500 mg |
| dosage: | Four time daily for 3-5 days |

| | |
|---|---|
| Adult: | 1-2 tablets (500-1000 mg) |
| children age 8-12: | 1 tab (500 mg) |
| children age 3-7: | 1/2 tab (250 mg) |
| children 6 month - 2 years: | 1/4 tab (125 mg) |
| babies under 6 month: | 1/8 tab (62.5 mg) |

**2- Penthazocin or Sosegan:**

| | |
|---|---|
| Mechanism of action: | Analgesic. |
| Indication: | Sever pain due to dangerous wounds if paracetamol is not useful. |
| Contraindication: | Child under 12 years and head injuries. |
| Preparation: | Ampule 1 ml which contains (30 mg) soregon. |
| Dosage: | Adult: 1 ampule (30 mg) children age 12-15 1/2 ampule (15 mg) only I/M |

<u>Remember:</u> If pain is not relieved with first injection use second one after 4 hours. Do not use a lot. Consult a Physician if possible.

Contraindication: Pregnancy and Lactation.

**3- (Triprolidine + Pseudoephedrine = Colden):**

| | |
|---|---|
| Mechanism of action: | Anti cold, flue Antipyretic and Analgesic. |
| Indication: | Cold, Flue, pain , Fever. |
| Contraindication: | Children under 6 years. |
| Preparation: | The following amount for 3 days. |
| Adults: | 1-2 tab three times daily. |
| children age 6-12: | 1 tab three times daily. |
| Contraindication: | Pregnancy and Lactation. |

## Antiallergics

**1- Chlorpheneramin:**

| | |
|---|---|
| Mechanism of action: | Antiallergic, Sedative. |
| Indication: | Allergic reactions to drugs, food, insect bites and Generalized itching. |
| Contraindication: | Asthma branchial and history of difficulties to urinate. |
| Preparation: | Tablets 4 mg |
| dosage: | The following amount should be prescribed for 3-5 days. |
| Adult: | 1 tab daily 3 times |
| children under 12 years: | 1/2 tab 3 times daily. |
| babies: | 1/4 tab 3 times a day. |

Not used in pregnancy and Lactation.

## Antacid

**Aluminum hydroxide + magnesium hydroxide = Antiacid.**

| | |
|---|---|
| Mechanism of action: | Neutralization of gastric acid |
| Indication:- | Indigestion, heart burns, gastric ulcer. |

Contraindication:

1- children under 12 years
2- Simultaneously with ferrous sulphate and vitamins(a,b)

| | |
|---|---|
| Preparation: | Tablet form |
| Dosage: | The best time is one hour before meal or 2 hour after meal. |
| children above age 12 & adults: | 4 tab a day, for 5 days should not take more than 7 tabs a day. |

For peptic ulcer it can be used for 14 days, or more. It can be used in pregnancy and lactation.

## Anti-diarrhea

**Oral Rehydration Salt. (O.R.S.):**

| | |
|---|---|
| Mechanism of action: | Recover loss of water and salt of the body. |
| Indication: | Diarrhea, dehydration and to prevent dehydration. |
| Contraindication: | Shock and coma. |
| Preparation: | Packets contains 27.5 qr powder. |

Dosage:

1- Wash your hands with soap and water.
2- Measure cold water after boiling.
3- Pour all of the powder in the water and stir well.
4- To end the patient's thirst the proper amount of O.R.S. should be given after each defication. For children under 2 years 1/2 glass, for young children 1 glass and for adult 2 glasses. should be given.
5- Prepare fresh everyday( Mixture keeps only 24 hours). If O.R.S is not available, solution of sugar and salt should be used.

Duration: As necessary.

It can be used in pregnancy Lactation.

## Antiparasitics

**1- Metronidazole:**

| | |
|---|---|
| Mechanism of action: | Antiparasitic and Antibacterial. |
| Indication: | Amebiasis. |
| Contraindication: | In first trimester of pregnancy. |
| Dosage: | Tablets 200 mg and 400 mg |
| Adult: | 3 tablets (600 mg) three times a day(1800 mg) for 5 days. |

children age 8-12 2 tablets(400mg) three times a day (1200 mg) for 5 days.

| | |
|---|---|
| children age 4-7: | 1/2 tablets (300 mg) three times a day (900 mg) for 5 days. |
| children age 2-3: | 1 tablets (200 mg) three times a day(600mg)for 5 days |
| children under 2 years: | 1/2 tablets(100mg) three times a day(300mg) for 5 days |
| Pregnancy Lactation: | Yes, but not in first trimester. |

## 2-Vermox-Mebendazole

| | |
|---|---|
| Mechanism of action: | Anthelmintic |
| Indication: | Ascariasis (roundworm)<br>Ankylostomiasis (hookworm) |
| Contraindication | children under 2 years |
| Preparation: | Tablets 100 mg |
| Dosage: | Same for adults and children (above 2 years) 2 tablets daily one morning one evening for 3 days. If necessary repeat it after 3 weeks. |
| Pregnancy: | No. |
| Lactation: | Yes. |

## 3-Chloroquine

| | |
|---|---|
| Mechanism of Action: | Antimalarial |
| Indication: | Malaria |
| Contraindication: | chloroquine type allergy. |
| Preparation: | Tablets 250 mg. |
| Dosage: | once every day for 3 days as follows: |
| Adults: | 4 tablets (1000 mg) |
| children 10-15 years: | 3 tablets (750 mg) |
| children 6-9 years: | 2 tablets (500 mg) |
| children 3-5 years: | 1 tablets (250 mg) |
| children 1-2 years: | 1/2 tablets (125) |
| babies under one year: | 1/4 tablets (63 mg) |
| Pregnancy and Lactation: | Yes |

## Benzyl Benzoate

| | |
|---|---|
| Mechanism of Action: | Antiparasitic |
| Indication: | Scabies |
| Preparation: | 25% solution |
| Dosage: | Since it is toxic, it shouldn't be eaten. Also not used in internal membrane (in the nose, eye, and genital area). |
| First day: | Whole body should be washed and dried. Then use the medicine below the neck all over the body including foot fingers (in child under 1 year medicine should be used in head too). Wash all cloths and bedding of the patient. |
| Second day: | Wash whole body again and wear clean clothes. |

Family members: All members of the family should be treated, Otherwise it will spread again. Cut fingernails (esp in children) Seriously attention should be paid in personal and environmental hygein. If the disease progress, inflammation by bacteria is possible. If it is sever inflammation antibiotics should be used. Otherwise washing of the infected area with soap and water is enough. However another period of treatment with soap and water may be needed.

## Vitamins

### 1- Multi Vitamin

Mechanism of action: Improve the body against disease
Indication: Chronic malnourishment, hepatitis, T.B. Recurrent skin infections, Rheumatism.
Contraindication: Extra use will cause toxicity.
Preparation: Tablets compound.
Dosage: For 1-2 months:
Adults: 3 tablets daily.
children 5-15, years: 2 tablets daily.
children 1-5 years: 1 tablets daily.
Pregnancy and Lactation: Yes.

## Antianemic drugs

### 1- Ferrous Sulfate + Folic Acid:

Mechanism Of Action: Antianemic
Indication: Anemia

Contraindication:

1- Do not drink, eat or drink (esp milk and tea) 1 hour before and after intake of tablets.
2- For children under one year.

Dosage: Not used in children under one year, because its large amount may cause death in children instead advice to Lactating mothers.
It should be advised at least for 2 months as follow:
adults 1 tablet daily.
children 5-15 years: 1/2 tablets daily.
1-5 years: 1/4 tablets daily.

Pregnancy, Lactation: Yes

## Antiseptics

### 1- Gentian violet:

| | |
|---|---|
| Mechanism Of Action: | Antimycotic and Antibacterial. |
| Indication: | Skin candidiasis( Infections occur in moist warm parts, of the body like in the axillae, intergluteal fold, groins, intramammary folds), Diaper rash, napkin dermatitis. Oral moniliasis skinlesions impetigo, infected wounds and war injuries. |
| Contraindication: | None. |
| Preparation: | Powder and Solution. |
| Prepare Solution: | Mix 1 teaspoon of Gentian Violet, powder with a liter of water. And should be used trice daily. |

Note: Dyed gention violet will never remove from cloth but in few days it will be disappeared from mouth.

### 2- Povidone + Iodine 10% = Savlin

| | |
|---|---|
| Mechanism of Action:- | Antiseptic |
| Indication: | Emergency sterilization (use concentrate), disinfection of wounds, burn, (dilute) and disinfection of objects (dilute). |

Contraindication:

1- Allergy
2- Do not apply to mucous membranes,

Preparation: Container, 1 liter concentrated solutions.

Note: Dilute before use (except for emergency sterilization)

**Method of making dilute:**

1- Take empty bottle 500 ml
2- Add 490 ml boiled water
3- Mix with 10 ml Savlon (concentrate).

## Dettol

| | |
|---|---|
| Mechanism of Action: | Antiseptic |
| Indication: | To clean injuries (wounds) |
| Contraindication: | babies under 9 month without consult of physician. |
| Preparation: | Concentrated solution is 50-100 ml bottles. |

Use: Pour 1 tablespoon (15 ml) of Dettol in 1 glass of water and use it. In emergency cases concentrated solution can be used, but shouldn't be used in sensitive and fragil skin.

### 4- Chlorhexidinel, 5 + Cetrinide = Betadine)

| | |
|---|---|
| Mechanism Of Action: | Antiseptic |
| Indication: | 1% solution: Emergency instrumental sterilization and disinfection of minor wounds. |
| Contraindication: | Betadine allergy. |
| Preparation: | Bottles 500 ml 10% solution |

Dilute to 1% solution:

1- Take empty 500 ml bottle
2- Fill with 450 ml boiled water
3- Mix with 50 ml Betadine 10% solution.
4- apply.

Bottles should:
- always be closed
- be lalbled 1%
- be stored cool.

| | |
|---|---|
| Pregnancy, Lactation: | Only if other preparations are not available. |

## CHAPTER 6

**First Aid**

**1- Definition of first aid:**

The administration of emergency assistance to individuals who have been injured or otherwise disabled, prior to the arrival of a doctor or transportation to a hospital or doctor's office. First aid should never be the substitution for definitive medical care.

One who gives first aid should know:
- What is he observing.
- What to do and what not to do.
- How to perform the duty that has to be carried out.
- First aid program for BHWs is based on:

■ Learning of skills through demonstration, providing first aid by using the available resources, and continuous practice.

The first aid training will enable the BHWs in the following:
- Necessary performances should be carried out in proper time.
- We should help for the patient's life as often as possible.
- To prevent more accidents.
- If possible we should provide assessment of an expert person.
- Self confidence in emergency cases and performing first aid.

**2- To control site of the event:**

- look among the people at the site of event whether is there an expert person or not? If yes ask him to help.
- Bring peace and control at the site of the event and attract attention of the others by giving clear commands.

Fig P.128

- If necessary ask an expert or doctor.
- In order to prevent disturbance and more damage, also to provide quiet and calm atmosphere for helper, the audiences should stay far from the site of the event.

**3- Care of Casualty:**

- Through observing the sursounding of the event the possible dangers like (mine, electric line, burn, etc) that may damage the casualty should be identified and removed. To take away casualty from the site of event, or bounding of the guards might be necessary to control the site of the event, or a temporary shelter might be needed.
- Lay down the casualty until completion of his examination, and don't change the position of the casualty without any certain cause.
- Reassure the casualty.
- If he vomits put him in recovery position in order to keep open his air way. If he is in unconsciousness perform first aids.
- To obtain body temperature and prevent coldness cover him with a quilt or blanket.
- If damage causes by a force keep in mined occurance of internal wound.
- In case there is wound preform first aid for that.
- In severe cases ask an expert doctor to assist.

**4-Examination of Casualty:**

In order to unit kind of help first of all we should make it known that which damaged (problem) he suffered from, therefore the should be examined urgently.

**(Priorities):**

1- Is the casualty conscious or not?
2- Is the casualty breathing or not?
3- Is the casualty bleeding or not?
4- Is the person poisoned or not?
Serious attention should be paid in the emergency conditions and prevention of shock. Proper first aid should be given to the casualty.
5- Observe external condition of the person and prevent further damages.
6- Seek for other wounds.
7- Request on expert to help.
The best first aid can not cover the function of a expert doctor therefore it is very important for an aider to provide medical help by a doctor as soon as possible.
8- Reduce the pain and remove discomfort of the casualty. The aider should know that all injuries and sudden illnesses will cause very important changes in the life of casualty. Because he will suddenly face with such a problem. He is not ready previously, therefore he can't control it.
His condition will be changed so, can not resist against

these illnesses. Sometimes he may lose his conscious.
In all above conditions casualty needs help.
Well performance and wisely decision making of the first aider, well assure the casualty aid bring confidence.
This is in great importance because distress may considerably may damage the general condition of the casualty.

**Summary:**

First aider should always practice first aid that in an emergency case he could decide immediately (as soon as he can). He should be able to organize the surrounding people in any way he wants and request doctor or other expert whenever is needed and provide equipments to give first aid. Then he should pay attention to casualty and carry out all the procedure very fast to save his life.

- stop breathing
- bleeding
- toxicity
- unconsciousness

Then the helper can exam the patient systematically and make himself sure that he will not damage the casualty while moving or carrying. He has to know what to do and what not to do, he can fi he has self confidence. Aider should have proper function, judgement and logic. An expert aider will never follow bad procedure request by the people. A good aider should known about his limitation. And he should know that his help is only temporary way of solving problem. With as immediate attention safe life of the casualty in stop breathing, severe bleeding, toxicity and anconsiousness position.

**Loss of consciousness and artificial breathing:**

For continuation of life, existence of enough Oxygen in the lungs is necessary. In case if amount or quality of this weather is changed danger of asphyxia will come out . Some parts of the body after cutting of Oxygen will recover, but brain can not tolerate decrease of Oxygen more than few minutes. Irreversable changes will occur in brain, and may cause death.

Respiration relates to the following points:

1- Enough amount of Oxygen.
2- Opening of airways in the mouth throat, Larynx and bronchuses.

3- Regular activation of chest muscle and diaphragm to enter air in the hungs.

4- Enough circulation of blood to carry Oxygen from lungs to brain and other important organs and returning of this blood to lungs. The following figures shows the importance of urgent guarantee of enough amount of air.

Period of Stopped breath and chance of live.

| | | |
|---|---|---|
| 1 | minute | 98% |
| 5 | - | 25% |
| 10 | - | 1% |
| 11 | - | 1/1000% |
| 12 | - | 1/1000% |

**Etiology (causes of stopped breath):**

1- Obstruction of airways by:

a- Foreign body (Solid or liquid).
b- Falling into water
c- To be slaughtered
d- Smoke inspiration.

2- Contamination of air with toxic gazes (mainly of cars, machines, cpmcemtrated smoke, and military gazes).

3- Defect in function of respiratory center.

a- Electric Shock
b- Toxicity
c- Disease

**Important Rules:**

1- If necessary take away cause from the person or person form the cause.

2- Open respiratory air ways.

3- Urgently open artificial inspiration.
4- If respiratory tract airways are not open, observe mouth and throat. If there is foreign body remove it, in case removal is not possible, state the patient's head to on side so, passing of the air might start from the obstructed region.

5- Send someone to call expert or doctor.

6- Loose the cloth specially where creates problem

7- Pay attention for opening of the airways and continue artificial respiration until medical aid is provided.

8- Where respiration started again, the casualty should sill be laid down.

9- Carefully control the patient respiration it may stop again.

10- Take the patient to home for medical caring in lay dow position.

11- Don't allow the patient to stand or move.

**Summary:**

Oxygen is of vital importance for brain.

Whenever respiration or blood circulation stops, lake of Oxygen to the brain will cause unconsciousness and his life will be threatened.
(Apply first aid in Respiratory tract obstruction should be studied in practical manual).

Fig P.137

**Sign symptoms of Unconscious person:**

When a person doesn't show reflex in
- Asking Question
- Touching
- Pain

He is Unconscious. The main danger of Unconscious is stopping of respiration. Therefore, the helper should check carefully, the breath. In order to keep continuously respiration the patient should be put in lateral position.

**To Control Bleeding:**

When blood arcuation decrease due to bleeding life of the wounded person will be threatened. Continuously loss of blood will cause shock, and resulting death. Bleeding should be stopped as soon as possible. Most of the bleedings will be hidden from the vision of the patient due to cloth or side of the wound for example if wound locate at the back of the patient) Therefore each casualty should be observed carefully for bleeding.

**Remember:**

If a big vessel is cut, bleeding in a very short period of time will cause death. Don't wait lay down the patient, raise the injured part and stop bleeding by all the available sources. We can stop bleeding through the following 5 methods:-

1- Direct Pressure.
2- To raise the injured part (keep the wounded part as high as possible).
3- Bandage with pressure.
4- Points of pressure.
5- Tourniquet.

## Prevention of Shock

Circulatory system, which is composed of heart & blood vessels contains a huge amount of blood. Blood through this system is divided all over our body. Important function of blood is to transmit Oxygen to brain. Any defect which decrease the amount of Oxygen in brain will cause death.

**Causes of Shock:**

Shock is a life-threating condition that can result from a large burn, losing a lot of blood, injuries, bone fractures, sever pains, dehydration (esp, diarrhea, Vomiting ) sever allergic reaction (allergy to medicine, snak bits, insect bite,) toxicity sunken in water falling down e.t.c.

Shock is a state of circulatory failure characterized by inadequate tissue perfusion, blood flow is in sufficient to provide the nutritional requirements of cells and remove the waste products.

**II Physiology of Shock:**

To know the mater better we think body of humans as a bottle. Imagine that the empty bottle shows the total volume of circulatory system.

Fig P.140

Total amount of human blood is shown by the next bottle.

Fig P.140

In normal conditions amount of fluid fill the or volume of container as the volume of blood confirm with the circulatory system of human.

Fig P.140

If external bleeding or internal bleeding occurs. Volume of circulatory system remains, but the amount of circulatory blood decrease. As a result it damages the amount of blood in brain and the patient goes to shock. Reflex of the human body again fear, pain and toxicity will cause vasodilatation. Volume of circulatory system increase, but the amount of blood remains normal, so, defect of blood in brain cause shock.

Fig P.143

To Place the person in horizontal position changes distribution of blood in the body as a result the proper amount of blood & 02 will reach to brain

Fig P.143

Signs of Shock.

- Weak.
- Nausea.
- Cold and damp skin.
- Sweating even in cold weather.
- Sever thirst.
- Pale.
- Rapid pulse.
- For method of shock prevention please refer to practical manual.

## BURN

A burn is always painful. It may dangerous & cause death when a large area of the skin is burned. Burn due to its causes (for example fire flame and boiling water. is not important for the helper because first aids for all burns are the same. so we can say that If the burning area is more than the person's sole then first aid and proper medical treatment should be given to that person.

**Basic plan of first aid about burn.**

In first aid and treatment of burn three points are considerable important.

1- Relief of pain.
2- To prevent shock.
3- To prevent germs get into the burn.

In burn excepts clean water or very clean towel use of other things or not allowed.

1- Method of relieving pain:

For rapid relieving of pain the burned area should be put in the clean water, or should be put in water until the pain relived compeletely, and then cover with a clean piece of cloth. In case the burned part can't be put in water, wet cloth can be used . If the burned point is large,

- Skin is destroyed
- or the burned point is not possible to be put in water or blisters are broken.

The burned point should be gently cleaned and covered with a clean cloth.

2- To prevent from shock.
(see the shock section).

3- To prevent from infection:

In each burn if there is blister or skin destruction chances of infection is high. Therefor such burns should be covered with the cleanest cloth & triangular bandages. Give the patient plenty of water to drink esp when fells thirst. Mix one teaspoonful of salt with water & give to the patient avoid giving water if he is in conscious position, it may cause death.

**Chemical burn of the skin**

Burning of the skin will occur when chemical materials come in touch with the skin. In such events try to perform the following instructions:

1- Remove the contaminated cloth with burn material.
2- Avoid touching of your skin with the chemical material & mention cloth.
3- Wash the chemical material with an enough amount of water for 5 minutes as soon as possible.
4- Carry out first aid for burn.

Remember these points while giving first aid to a burned person:

- Never broken the blisters.
- Never put broken blister in the water.

but:

Keep the patient far from the cause of burn or keep the cause for from the patient.

- Gently cover all the burns with a clean water.
- Take proper plans to prevent shock.
- Help the patient putting in a proper medical treatment.
- It is important for persons who are badly burned to eat foods rich in prótein. No type of foods needs to be avoided.

**WOUNDS**

A wound is a cut or a tear in the skin, which usually cases by an accident. Wounds not caused by accident is pathological need medical treatment.
All wounds bleed, are painful & can easily become infected. TO prevent or decrease all the mentioned dangers cover the wound compeletely with a clean piece of cloth. Fasten the cloth with sticking pins. Avoid touching the wound as often as possible, except if you want to stop bleeding. If wound is contaminated it should be washed with soap & water If possible with soap & cool boiled water. Foreign bodies in the wound shouldn't be removed, in these cases advanced medical aid is needed. If the wounded part is red & swollen, or has bad smelling and oozes out only expert person should treat such patient. all major wound should become immobile.

Covering of all wounds will carry out similarly:

- Covering of the wound with the cleanest piece of cloth.
- Covering of the wound with the cleanest piece of cloth.
- Fasten of this cloth with some thing suitable.
- Fix the wounded part.

Kinds of bandages and how to use them should be studied in practical manual.

**INFECTED WOUNDS:**

- It has redness, swelling, temperature & pain.
- Pus
- Bad smell

If infection spread to different part of body. It will cause such sign symptoms.

- Fever
- Flare above the wound.
- Lymphadenopathy.

Lymph node function as well as traps against microbes and when infection enters the body, they will form small swellings in different parts of the body under the skin.

- Enlargement of periauricular lymph nodes is a sign of infection in skull, which usually cause by head injuries or lice born disease.

  The enlarged lymph nodes of face and neck are signs of infection of ear, face, head or tuberclusis.

- Enlarged lymph nodes of submandibular is sign of infection in tooth or throat,

- Enlarged lymph nodes of axilla is sign of infection is area, hear, or chest.

- Enlarged lymphnodes in groin area is sign of infection of genetal system and anus.

Fig P.

**Treatment of infected wounds:**

- Put hot compresses over the wound for 20 minutes 4 times a day. Hold the infected part in a bucket of hot water which contains soap or diluted dettol solution,
- Keep the infected part at rest and elevated (raised above the level of the heart.)
- Keep the infected part at rest elevated (raised above the level of the heart.)

Note:

If the wound has a bad smell, if brown or gray liquid oozes out, or if the skin around it turns black forms air bubbles or blisters consult a doctor

**Brain Wounds**

- Temporary Unconscious.
- Weak pulse superficial respiration.
- Dizziness vomiting.
- Patient may not remember last events.
- Patient may have headache and is sleepy.
- Redness of the face (due to high temperature)

Patients suffer from head injuries may have wound in their other parts as well. Therefore different parts of the body should be examined.

**First aid in head injuries:**

1- Artificial respiration if necessary.
2- First aid should be carried out for unconscious.
3- When the patient RECOVER he should rest, & avoid doing daily works until examined by the doctor.

**INJURIES TO THE EYE**

All injuries to the eyeball must be considered for they may cause blindness. Even small cuts on the cornea may get infected and harm the vision if not cared for correctly.

If wound to the eyeball is so deep that it reaches the black layer beneath the outer white layer, this is especially dangerous.

If a blunt injury (as with a first) causes the eyeball to fill blood the eye is in danger. Danger is especially great if pain suddenly gets much worse after a few days and may cause other eye diseases.

Fig P.153

**Treatment:**

- If the person still sees well with injured eye, put an antibiotic eye ointment (tetracycline) in the eye and cover it with a soft thick bandage, If the eye is not better in a day or two, get medical help.
- If the person cannot see well with injured eye, if the wound is deep or if there is blood inside the eye behind the cornea cover the eye with a clean bandage and go for medical help at once. Do not press on the eye.

## FRACTURE IMMOBILIZATION & JOINT'S TRAUMA

**Fractures:**

**Definition:** When a bone is broken it is called fracture.

**Causes:**

It causes by direct trauma, indirect trauma (falling down from a high attitude.) & traction of muscles.

There are usually two kinds of fracture:

a- Close fracture: It occurs when the skin is not cut, (no wound) the area is not exposed to the air.

b- Open fracture: Occurs when skin is cut & bone is broken, and because of being exposed to air chance of infection is higher in Such Fractures.

Fig P.155

Try to fix all doubtful events & trauma of the joints. In each event if the natural movement is limited to one side it shows the probability of fracture.

Movement of an extremity for its fixation should be performed very slowly and carefully. Fixation should be done very carefully with the assessment of a co-worker.
In order to make the bone motionless, the near Joint (upper & lower joint) of the fractured bone should be fixed by bandages and splint. Method of fructure immobilization:
see practical manual

**Joint dislocation:**

**Definition:**

Bone that have come out of its place at a Joint is called Joint dislocation.

Three important points of treatment:

- Try to put the bone back into place. The sooner the better !
- Keep it bandaged firmly in place so it does not slip out again (within a month).

- Avoid forceful use of the limb long enough for the joint to heal completely (2 or 3 months).

Fig P.157

**Strain & Sprains:**

In most of trama cases to the extrinites it is difficult to know whether a hand or foot is bruised, sprained, or broken. It helps to have an X-ray taken.

But usually, breaks & sprains are treated more or less the same. Keep the joint motionless. Wrap it with some thing that gives firm support. Serious sprains need at least 3 or 4 weeks to heal. Broken bones take longer. You can keep the twisted joint in the correct position for healing by using a home made cast or an elastic bandage.

Fig P.158

**Caution:**

If foot seems very loose or 'floppy' or if the person has trouble moving his toes, look for medical help. surgery may be needed.

To relieve pain and swelling, keep the sprained part raised high. During the first 24 hours, put ice wrapped in cloth or plastic, or cold, wet cloths over the swollen joint. This helps reduce swelling and pain. After 24 hours soak the sprain in hot water several times a day.

Never rub or massage a sprain or broken bone. It does no good and can do more harm. It usually occurs in wrist or Ankle joint.

Fig P.159

In the first 24 hours put sprained foot in the cool water.

Fig P.159

In the second 24 hours put the sprained in hot water.

Method of fastening bandages in sprains should be studied in practical manual.

## CHOKING

**Causes:**

A- In children
Foreign bodies such as grain (seed) coin bite of food in

B- Adults: Piece of meat or something else will cause choking.

In case airways are completely obstructed signs are as follow:

1- Casualty can not talk (speak)
2- He worries immediately and hold his throat.
3- He tries to cough.

If it is closed partially he has these signs:

- casualty always coughs
- produce wheezing sounds, (voice)
- casualty is fearful and worry.

Any way in both cases he cannot inspired enough amount of air his face become dark, his nails and outer surface of his lips become bluish, and he goes to unconsciousness fast.

**DROWNING**

A person who has stopped breathing has only 4 minutes to live! You must **act fast!**

**Start mouth-to-mouth breathing at once** if possible, even before the drowning person is out of the water, as soon as it is shallow enough to stand.

If you cannot blow air into his lungs, when you reach the shore, quickly put him on his side with his head lower than his feet and push his belly as described above. then continue mouth-to mouth breathing at once.

**ALWAYS START MOUTH-TO-MOUTH**

**BREATHING AT ONCE before tying to get water out of the drowning person's chest.**

Fig P.161

**Foreign Bodies:**

1- To remove Foreign body from the eye:

You can remove Foreign body from the eye by pouring clean water on the eye, point of wet cloth handkerchief and cotton.

Fig P.162

If it locates under the upper lid over turn the lid and remove it

Fig P.162

If you cannot take it out easily use antibiotic eye ointment, cover with the eye bandage and send the patient to the hospital.

2- Foreign bodies in the ear:

Sometimes children put bean and other grains inside their ears. Sometimes insects also enter the ear. In such conditions follow these instructions:
- Foreign body shouldn't force to move further.
- If insect enters the ear, pour a little warm water in the ear, and bend his head to one side it may come out.

If the mentioned instructions failed send the patient to health center immediately.

3- Foreign body in the nose:

Children sometimes put beans and peas in the nose. In such conditions, follow these instructions:
- Don't enter the Foreign body furthermore.

- Don't push the nose.
- Sneezing may be helpful.
  (To produce sneeze put small piece of paper or feather into the other nostril carefully).
- Advice him to breath by mouth .
- If the Foreign body is not removed send the patient to the hospital (health center).

Note:

Be very careful not to try a lot when Foreign body is in the eye, ear or nose, it may creates more problems. In case its removal is failed send the patient to hospital (health Center).

## Bites

**Rabies:**

Rabies comes from the bite of a rabid or 'mad' animal. usually a rabid dog, cat, fox, wolf, skunk, or jackal.
Bats and other animals may also spread rabies.

**Signs of rabies:**

In the animal:
- Acts strangely-sometimes sad, restless, or irritable.
- Foaming at the month, cannot eat or drink.
- Sometimes the animals goes wild (mad) and may bite anyone or anything nearby.
- The animals dies within 5 to 7 days.

**Signs in poople:**

- Pain & tingling in the area of the bite.
- Irregular breathing, as if the person has just been crying.
- Pain and difficulty swallowing. A lot of thick sticky saliva.
- The person is alert, but very nervous or excitable. Anixious ress anger can occur between the two exitable slogs.
- As death nears, fits (convulsions) and paralysis.

Fig P.166

If you have any reason to believe an animal that has bitten someone has rabies do as follow:

- Tie or cage the animal for a week.

- Clean the bite well with soap, water, & hydrogen peroxide. Do not close the wound; leave it open.
- If the animal dies before a week is up (or if it was killed or cannot be caught ), take the bitten person at once to a health center where he can be given a series of anti-rabies injection.

The first symptoms of rabies appear from 10 days up to 2 years after the bite (usually within 3 to 7 weeks).

Treatment must begins, earlier before symptom began treatment known to medical science can save the person's life.

Fig P.167

**Prevention:**

- Kill & bury (or cage for one week ) any animal suspected of having rabies.
- Cooperate with programs to vaccinate dogs.
- Keep children far away from any animal that seems sick or acts strangely.

2- **Scorpion Sting:**

Some scorpions are more poisonous than others. Scorpion stings are rarely dangerous. Take paracetamol for pain.

Fig P.168

If possible put ice on the sting.

Fig P.168

For the numbness & pain that sometimes last weeks or months, hot compresses may be helpful.

Fig P.169

To children under 5 years old, scorpion stings can be dangerous, especially if the sting is on the head or body. Give paracetamol for the pain, if the child stops breathing, use month-to-month breathing. If the child who was stung is very young or has been stung on the main part of the body, or if you know the scorpion was of a deadly type seek medical help soon.

**Snakebite**

When someone has been biten by a snake, try to find out if the snake was poisonous or harmless. their bite marks are different

Fig P.170

The bite of most poisonous snakes leaves marks of the 2 fangs (and sometimes, little marks made by the other teeth). The bite of snake that is not poisonous leaves only 2 rows of teeth marks, but no fang marks.

Fig P.170

Unfortunately most of snake bites occur by poisonous snake therefore, snake bites should be treated as a dangerous and emergency event. After biting usually 2 points will be left in stung area, pain, swelling, redness or dark blue.

Sink bites usually cause photophobia. dizziness, nausia, vomiting sweating, headache & pain in the chest or stomach. And due to fear the shock may become sever.

**First Aids for snake bite:**

The main point in snake bite's aid is to decrease absorption of poison and prevention of shock.

1. Stay quiet, Do not move the bitten part. The more it is moved, the fast the poison will spread through the body. If the bite is on the foot, the person should not walk at all. Send for medical help.

2. Wrap the bitten area with a wide elastic bandage or clean cloth to slow the spread of poison. It should be too tight and each minutes loosen the bandage a little.

3. Cut each fang mark 1cm wide and 1/2 cm deep by clean knife or razor.

4. Suck the poison for 5-10 minutes and thrown away, one who sucks should not have mouth ulceration.

5. Open the piece of cloth which was put above the bitten part and dress the wound .

Note:- Do not cut or suck the bitten part after 30 minute of the event.

Fig P.172

6. If microbial signs are present, advice antibiotic. Bite of poisonous snake is dangerous so, the mentioned points should be performed urgently and consult the doctor.

**Poisoning**

Mostly children go to death due to eating poisonous materials. To prevent your children follow these points:

- Avoid using of common containers, such as popular soft-drink bottle, for storing poisonous liquids such as kerosene, because children will drink them.

Fig P.173

- Keep dangerous substances out of reach of children.

Some common poisons are:

Rat poison, D.D.T. powder, insecticides, poisonous berries, and medicine especially iron tablets (Ferrous Sulfate) Tenture Iodin.

Fig P.174

- Materials used for removing colors, cloth powder, soap, etc.
- Cigarettes
- Alcohol
- Colors (dyes)
- Top of matches stick
- Patrol

**Treatment:**

If you think of poisoning, try to carry the following points urgently:

1- Try at once to make the patient vomit. Touch or ask him to touch, the back of his throat with a finger or force him to drink soap water or water salt.
2- Force the patient to eat scrambled egg, milk, & flour mixed, in order to cause vomiting.

Cautions:

Don't make the patient vomit, who has taken kerosene, petrol, or other strong acidic material. If feels, cold cover him, but avoid excessive heating.

Fig P.175

If it is sever ask for medical help.

## Emergencies caused by Heat

**A - Heat cramps:**

In hot weather people who work hard & sweat a lot sometimes get painful cramps in their legs, arms, or stomach. These occur because the body lack salt.

Treatment: Put a teaspoon of salt in a liter of boiled water & drink it.

**B - Heat Exhaustion:**

Signs: A person who works & sweats a lot in hot weather may become very pale, weak, and nauseous and perhaps feel faint. The skin is cool & moist. The puls is rapid & weak. The temperature of the body is usually normal.

Treatment: Have the person lie down in a cool palace, raise his feet, and rub his legs. Give salt water to drink 1. teaspoon of salt in a liter of water (Give nothing while the person is unconscious.)

**C - Heat stroke:**

Heat stroke is not common, but is very dangerous. it occurs especially in older people during hot weather.

Signs: The skin is red very hot, and dry. Not even the armpits are moist . The person has a very high fever, sometimes more than 42°C, often he is unconscious.

Treatment: The body temperature must be lowered immediately. put the person in the shade. Soak him with cold water (ice water if possible) and fan him. continue until the fever drops. Seek medical help. For prevention of such emergency cases drink plenty of salted water in hot weather.

**Fig P.177**

**How to stop nosebleeds:**

1- Sit quietly
2- Pinch the nose firmly for 10 minutes or until the bleeding has stopped. If this does not control the bleeding pack the nostril with a wad of cotton, leaving part of it outside the nose. If possible, first wet the cotton with Vaseline. Leave the cotton in place for a few hours after the bleeding stops, then take out very carefully. Don't enter your finger to remove the clotted blood it may cause bleeding again. If some one more often has nose-bleeding, should rab Vaseline inside the nose two times daily eating oranges, tomatoes and other fruits may help to strengthen the veins so that the nose bleeds less. In older persons especially, bleeding may come from the back part of the nose and cannot be stopped by pinching it. In this case have the person hold a cork, corn cob, or other similar object between his teeth and, leaning forward, sit quietly and try not to swallow until the bleeding stops. ( The cork helps keep him from swallowing, and that gives the blood a chance to cloth).

**Emergency caused by Cold:**

Those who are sent to cold and rainy places, will suffer from the followings due to face with cold weather.

- Decrease mental and physical activities of the body.
- Abnormal behavior.
- A low or unclear speech & problems of vision.
- Uncontrolled shivering.

Decrease of body activities is very dangerous and increase rapidly.

**First Aid:**

1- Keep the patient from getting cold and advice him to rest.
2- Avoid losing any more temperature & wrap him in a dry blanket as soon as possible, quickly get the persons to a dry place protected from the wind. Do all you can to keep the person warm.
3- Give him sweet liquids to drink like tea or milk.
In such case preferable the first aid of emergency caused be cold should be applied before frostbit treatment.
4- The patient should be seriously controlled and resocitation should be applied.
5- Consult with rescue groups after covering the patient, and should be carried to health center.
6- Get medical help soon.

## Frozen skin (Frostbite)

In freezing weather, if a person is not dressed warmly enough, her hands, feet, ears, and sometime, face may begin to freeze. It has two types:

- Superficial frostbite (mild)
- Deep frostbite (sever)

In superficial type only skin is damaged while in it's deep form in addition to skin, tissues are also damaged, In early stages, the difference between two type is hardly identified, In addition to the frostbite part of the body or the whole body may exposed to the cold.

**Sign & Symptoms:**

The following sings is seen in both types. Patient cannot move the damaged part & complain from numbness and often sharp pain, then the part gets more frozen. the part get pale in color and feels hard when touched.

Treatment of mild frostbite: If the skin still feels soft when touched, the person probably has 'milk frostbite' Wrap the part with dry cloth and warm it against another part of the person's own body or someone else's. Try to keep moving and get out of the cold as fast as possible.

Treatment of severe frostbite: CAUTION: Do not start treatment for severe frostbite until you are in a place where the person's whole body can be kept warm during and after treatment. It is better to let a hand or foot stay frozen for several hours than to let it get warm and then freeze again. When you get to a warm, protected place:

- Fill a large container with warm water (not hot) the feels comfortable when you hold your hand in it.
- Soak the person's frozen part in the water until it gets warm.
- If the water cools, add more warm water. But take out the person's hand or foot while you do this. Remember, she cannot feel how hot the water is and you can easily burn her.
- As it gets warm, the frozen part will become very painful. Give Asprain or codeine.
- When it is not longer frozen, the person must stay warm and est.
- Be very gentle with the part that was frozen. Treat as severe wound or burn. Seek medical help.
  Sometimes dead parts of the body must be removed through surgery.

CHAPTER 7

COMMON CLINICAL PROBLEMS

(DIAGNOSE, TREATMENT, PREVENTION)

**How to examine a sick person**

To find out the needs of a sick person, first you must ask important questions, and then examine him carefully. You should look for signs and symptoms that help you tell how ill the person is and what kind of sickness he may have.

Always examine the person where there is good light, preferably in the sunlight never in a dark room. there are certain basic things to ask and to look for in anyone who is sick. these include things the sick person feels or reports (symptoms), as well as things you notice on examining him (signs). These signs can be especially important in babies and persons unable to talk.

When you examine a sick person, write down your findings and keep them for the health worker in case he is needed.

**Questions:**

Start by asking the person about her sickness. Be sure to ask the following:

What bothers you most right now?
What makes you feel better or worse?
How and when did your sickness begin?
Have you had this same trouble before, or has anyone else in your family or neighborhood had it?

Fig P.186

Continue with other questions in order to learn the details of the illness. For example, if the sick person has a pain, ask her: where does it hurt? (Ask her to point to the exact place with one finger.)

Does it hurt all the time, or off and on?
What is the pain like? (Sharp? dull? burning?)
Can you sleep with the pain?

If the sick person is a baby who still does not talk, look for signs of pain. Notice his movements and how he cries. (for example, a child with an earache sometimes rubs the side of his head or pulls at his ear.)

**General condition of health:**

Before touching the sick person, look at him carefully. observe how ill or weak he looks, the way he moves, how he breaths, and how clear his mind seems, Look for sign of dehydration and of shock. Notice whether the person looks well nourished or poorly nourished. Has he been losing weight? when a person has lost weight slowly over a long period of time, he may have a chronic illness (one that lasts a long time). Also note the color of the skin and eyes.

- Paleness, especially of the lips and inside the eyelids, is a sign of anemia.
- Bluish skin especially blueness or darkness of the lips and fingernails, may mean serious problem with breathing.
- Yellow color (jaundice of the skin and eyes may result from disease in the liver (hepatitis, amoeba abscess).

**Temperature:**

It is often wise to take a sick person's temperature, even if he does not seem to have a fever. If the person is very sick, take the temperature at least 4 times each day & write it down.

**Breathing (Respiration):**

Pay special attention to the way the sick person breath- the dept (deep or shallow), rate (how often breaths are taken), and difficulty. Notice if both sides of the chest move equally when she breath . Count the number of breath per minute. People with a high fever or serious respiratory illness(like pneumonia) breath more quickly than normal.

**Pulse:**

Count pulse of the patient and when the patient has seriously illness count pulse 4 times daily and note it down.

Fig P.190

## Mouth (tong & throat)

Exam the mouth, tongue and throat carefully. Sore of the lip's angles indicates the lack of vitamin. See tongues color and condition examine the throat under enough light.

- If it is pale and smooth (anemia)
- If it looks bluish (breathlessness)
- Dry tongue is due to dehydration.
- While patches over the tongue is sign of fungal infections.

Use a teaspoon to press the tongue, in-order to see the inner part of throat. When the tonsils got infections it's called tonsillitis. Tonsils get bigger and child have fever. Tonsillitis, is the common cause of fever in children. White or gray plaques on the tonsils may be because of Dephteria.

## Skin

It is important to examine the sick person's whole body, no matter how mild the sickness may be. Babies and children should be undressed completely. Look carefully for anything that is not normal, including:

- Sore wounds
- Rashes or welts
- Spots, patche,
- Tearing due to bone fracture.
- Inflammation (signs of infection with redness, heat, pain & swelling)
- Swollen Lymph nodes (little lumps in the neck, the armpit or the groin)
- Abnormal lumps or masses.
- Swelling or puffiness.

Fig P.191

Always examine little children between the buttocks in the genital area, between the fingers, toes behind the ears and hair (for lice, scabies rashes & sores).

<u>The belly (Abdomen)</u>

If a person has pain in the belly, try to find out exactly where it hurts. Learn whether the pain is steady or whether it suddenly comes and goes like cramps, or colic.

When you examine the belly, first look at it for any unusual swelling or lumps.

The location of the pain often gives a clue to the cause. First, ask the person to point with one finger where it hurts.

Fig P.192

Then beginning on the opposite side from the spot where he has pointed, press gently on different parts of the belly to see where it hurts most.

Fig P.193

See if the belly is soft or hard and whether the person can relax his stomach muscles. A very hard belly could mean an acute abdomen perhaps appendicitis or peritonitis. In order to decrease pressure relaying abdominal muscles, ask the patient to contract his legs as it is shown in the figure.

Fig P.193

**Signs of dangerous illness.**

A person who has one or more of the following signs is probably too sick to be treated at home without skilled medical help. His life maybe in danger. Seek medical help as soon as possible. until help comes, follow the instructions given in this book:

1:- Loss of large amounts of blood from anywhere in the body.
2:- Coughing up blood.
3:- Marked blueness of lips and nails (if it is new)
4:- Great difficulty in breathing: does not improve with rest.
5:- The person cannot be wakened (coma)
6:- The person is so weak he faints when he stands up.
7:- A day or more without being able to urinate.
8:- A day or more without being able to drink.
9:- Heavy vomiting or severe diarrhea that lasts for more than one day or a few hours in babies.

10: Black stools like tar or vomit with blood or feces.
11: Strong, continuous stomach pains with vomiting in a persons who does not have diarrhea or cannot have a bowel movement.
12: Any strong continuous pain that lasts for more than 3 days.
13: Stiff neck with arched back with or without a stiffjaw.
14: More than one fit (convulsions) in someone with fever or serious illness
15: High fever (above 39°c that cannot be brought down or that lasts more than 4 or 5 days.
16: Weight loss over an extended time.
17: Blood in the urine.
18: Sores that keep growing and do not go away with treatment.
19: A lump in any part of the body that keeps getting bigger.
20: Problems with pregnancy and children:
21: Any bleeding during pregnancy.
    a- Swollen face and trouble seeing in the last months.
    b- Long delay once the waters have broken and labor has begun.
    c- Sever bleeding.

When and how to look for medical help, Seek medical help at the first sign of a dangerous illness. Do not wait until the person is so sick that it becomes difficult or impossible to take him to a health center or hospital. When you send someone for medical help, always, send a completed information form with him.

**FEVER**

When a person's body temperature is too hot, we say he has a fever. Fever itself is not a sickness, but a sign of many different sicknesses. However, high fever can be dangerous, especially in a small child.

**When a person has a fever:**

1- Uncover him completely. Small children should be undressed completely and left naked until the fever goes down.

Fig P.197

Never wrap the child in clothing in blankets.

Fig P.197

To wrap up a child with fever is dangerous. Fresh air or a breeze will not harm a person with fever. On the contrary, a fresh breeze helps lower the fever.

2- Also take paracetamol to lower fever.
3- Any one who has a fever should drink lots of water juices or other liquids. For small children, especially babies, drinking water should be boiled first (& then cooled).
4- When possible find and treat the cause of fever.

**VERY HIGH FEVER**

A very high fever can be dangerous, if is not brought down soon. It can cause fits (convulsion) or even permanent brain damage (Paralysis, mental slowness, epilepsy e.t.c) High fever is most dangerous for small children. When a fever goes very high (over $40^0$C), It must be lowered at once:

1- Put the person in a cool place.
2- Remove all clothing.
3- Fan him.
4- Pour cool (not cold) water over him, or put clothes soaked in cool water on his chest and forehead. Fan the cloths and change them often to keep them cool. Continue to do this until the fever goes down ( below 38°c )

Fig P.199

5. Give him plenty of cool (not cold) water to drink.
6. Give a medicine to bring down fever. Paracetamol works well. If a high fever does not go down soon, or if fits (convulsion) begin, continue cooling with water & seek medical help at once.

**HEADACHES**

Simple headache can be helped by rest and paracetamol. It often helps to put a cloth soaked in hot water on the back of the neck to massage (rub) the neck and shoulders gently. Some other home remedies also seem to help. Headache is common with any sickness that causes fever. If headache is sever with fever consult a doctor.

Fig P.200

Headache that keep coming back may be a sign of chronic illness or poor nutrition. It is important to eat well & get enough sleep. If the headache do not go away, see medical help.

## BACK PAIN

Back Pain has many causes. Here are some:

- Chronic upper back pain with cough & weight loss may be TB of the lungs.
- Standing or sitting wrong, with the shoulder drooped, is a common cause of backache.
- In older people, chronic back pain is often arthritis.
- Lower back pain that is worse the day after heavy lifting or straining may be a sprain, especially if one leg or foot becomes painful or numb & weak. This can result from a pinched nerve. Mid pain in a child may be T.B of the spine especially if the backbone has a hump or lump.

Fig P.201

- Sever low back pain that is worse the day after heavy lifting or straining may be a sprain.
- Very low back pain sometimes comes from problems in the uterus, ovaries, or rectum.
- Low backache is normal for some woman during menstrual periods or pregnancy.

**Treatment & prevention of back pain:**

- If back pain has a cause like TB, a urinary infection or gall bladder disease, treat the cause. Seek medical help if you suspect a serious disease.
- Simple backache, including that of pregnancy, often be prevented or made better by: always standing straight, sleeping on a firm flat surface back- bending exercises.

Fig P.202

- Paracetamol & hot soake help calm most kinds of back pain.
- If back pain from lifting or twisting is sudden and sever with knife- like pain when you bend over, if the pain goes into the leg(s), or if a foot becomes numb or weak, this is serious. A

nerve coming from the back may be pinched' by a slipped disc. It is better to consult a doctor.

**Arthritis (Painful, Inflamed joints):**

Mostly chronic joint pain, or arthritis, is seen in older people. cannot be cured completely. However, the following offer some relief.

- Rest: If possible avoid hard work and heavy exercise that bother the painful joints. It helps to take naps during the day.
- Hot compress:
- Place cloths soaked in hot water on painful joints.
- It is important to do simple exercises or help maintain or increase the range of motion in the painful joints. If joint is swollen & fells hot, It may be infected especially if there is fever. Use an antibiotic such as penicillin.

Painful joints in young people and children may be a sign of other serious illness, such as rheumatic fever and tuberculosis, so in these conditions send the patient to the health center.

## VOMITING

Many people, especially children, have an occasional stomach upset, with vomiting. Often no cause can be found. There may be mild stomach or gut ache or fever. This kind of simple vomiting usually is not serious and clears up by itself.

Vomiting is one of the signs of many different problems, some minor & some quite serious, so it is important to examine the person carefully, vomiting often comes from a problem in the stomach or guts, such as: an infection, poisoning from spoiled food, or acute abdomen (for example, appendicitis or something blocking the gut). Also almost any sickness with high fever or sever pain may cause vomiting, especially malaria, hepatitis, tonsillitis, earache, meningitis urinary infection, gallbladder pain or headache.

Fig P.205

**Danger signs with vomiting:**

- Dehydration that increases and that you cannot control.
- Sever vomiting that lasts more than 24 hours.

- Violent vomiting, especially if vomit is dark green, brown, or smells like shit. (signs of obstruction).
- Constant pain in the gut, especially if the person cannot defecate or if you cannot hear gurgles when you put your ear to the belly ( see acute abdomen: abstraction, appendicitis).
- Vomiting of blood (peptic ulcer etc.).

Fig P.206

In all above conditions seek medical help quickly.

**TO HELP CONTROL SIMPLE VOMITING**

- Eat nothing while vomiting is severe.
- Slip a cola drink or ginger ale. Some herbal teas, like camomile, may also help.
- For dehydration give small frequent sips of cola, tea, or rehydration drink.
- If vomiting does not stop soon, send the patient to the health center.

**Colds and the Flu**

Cold and flu are common virus infections that may cause runny nose, cough, sore throat, & some times fever or pain in the joints.

Fig P.207

There may be mild diarrhea, especially in young children colds & the flu almost always go away without medicine. Do not use antibiotics, as they will not help at all and may cause harm.

1- Drink plenty of water and get enough rest.
2- Paracetamol helps lower fever and relieve body aches and headaches.
3- No special diet is needed. However fruit juices, especially orange juice or lemonade, are helpful.

To prevent a cold from leading to earache, try not to blow your nose-just wipe it. Teach children to do the same older children in adults can put small amount of salt water into their hand and sniff it, into the nose. This helps to loosen the mucus.

Fig P.208

Breathing hot water vapor helps clear a stuffy nose.

Fig P.208

If a cold or the flu lasts more than a week, or if the person has fever, cough up a lot of phlegm (mucus with pus), has shallow fast breathing or chest pain, he could be developing bronchitis or pneumonia. An antibiotic may be called for. The danger of a cold turning into pneumonic is greater in old people, in those who have lung problem, like chronic bronchitis, and in people who cannot move much.

Sore throat is often part of a cold. No special medicine is needed, but it may help to gargle with warm water. However, if the sore throat begins suddenly, with high fever, it could be a trip throat. Special treatment is needed.

**Prevention of Colds:**

- Getting enough sleep and catting will helps prevent colds, eating oranges, tomatoes, and other fruit containing vitamin C may also help.
- Contrary to popular belief, colds do not come from getting cold or wet. A cold is 'caught' from others who have the infection and sneeze the virus into the air.
- To keep from giving his cold to others, the sick person should eat and sleep separately and take special care to keep far away from small babies. He should cover his nose and mouth when he cough, or sneezes.
- To prevent a cold from leading to earache try not to blow your nose-just wipe it. Teach children to do the same.

**Sore Throat and inflamed Tonsils**

These problems after begin with the common cold. The throat may be red & hurt when the child swallow.

Fig P.210

The tonsils (two lymph nodes seen as lumps on each side at the back of the throat) may become large and painful or drain pus. Fever may reach $40^0$c.

**Treatment:**

1- Gargle with warm salt water (1 teaspoon of salt in a glass of water)
2- Take paracetamol for pain.
   - If pain and fever come on suddenly or continue for more than 3 days, sea the following topic.

**Sore throat and the danger of rheumatic Fever:**

For the sore throat that often comes with the common cold of flu, antibiotics should usually not be used and will do no good. Treat with gargles and paracetamol .

However, one kind of sore throat-called strep throat should be treated with penicillin. It is most common in children and young adults. It usually begins suddenly with severe sore throat and high fever, often without signs of a cold or cough. The back of the mouth and tonsils become very red, and the lymph nodes under the jaw or in the neck may swollen and tender.

Give penicillin for 10 days. If penicillin is given early and continued for 10 days there is less danger of getting rheumatic fever. A child with strep throat should eat and sleep far apart from others, to prevent their getting it also.

## Respiratory tract diseases

### 1- Acute bronchitic:

Bronchitis is an infection of the bronchi or tubes that carry air to the lungs. It causes a noisy cough, often with mucus or phlegm. Bronchitis is usually caused by a virus, so antibiotics do not generally help.

**Use antibiotics:**

- If the bronchitis lasts more than a week and is not getting better.
- If the person shows signs of pneumonia (respiration rate is more than 50 in one minute).
- If he already has a chronic lung problem.

### 2- Chronic Bronchitis:

**Signs:**

- A cough with mucus that lasts for months or years. Sometimes the cough gets worse, and there may be fever. A person who has this kind of cough, but does not have another long term illness such as tuberclusis or asthma, probably has chronic bronchitis.
- It occurs most frequently in older persons who is beary smoker.
- It can lead to emphysema, a very serious and incurable condition in which the tiny air pockets of the lungs break down. A person with emphysema has a hard time breathing, especially with exercise, and his chest becomes big like a barrel.

Fig P.214

**Treatment:**

- Stop smoking
- Persons with chronic bronchitis should use ampicillin, or cotrimaxazole every time they have a cold or 'flu' with a fever.
- If the person has trouble coughing up sticky phlegm, have him breath hot water vapors and then help him with postural drainage.
- If the patient's condition doesn't get better send him to health center.

Fig P.215

If you have a chronic cough (or want to prevent one), do not smoke!

**3- Pneumonia:**

Pneumonia is an acute infection of the lung. It often occurs after another respiratory illness such as measles, whooping cough, flu, bronchitis, asthma or any very serious illness, especially in babies and old people.

**Signs:**

- Sudden chills and then high fever.
- Rapid shallow breathing, with little grunts or sometimes wheezing. The nostrils may spread with each breath. (very sick child who takes more than 50 shallow breaths a minutes probably has pneumonia). If breathing is rapid and deep check for dehydration.
- Fever (sometimes newborns and old or very weak persons have severe pneumonia with little or no fever).
- Pulling of intercostal space towards internal chest cavity.
- Cough (often with yellow, greenish, rust-colored, or slightly bloody mucus).
- Chest pain (sometimes).
- Cold sores often appear on the face or lips.

**Treatment:**

- For pneumonia, treatment with antibiotics can make the difference between life and death. Give penicillin, ampicillin and co-trimoxazole (dosage should be studied in the chapter of medicines).
- Give paracetamol for fever and pain.
- Give plenty of liquids. If the person will not eat, give him liquid foods or rehydration drink.
- Ease the cough and loosen the mucus by giving the person plenty of water and having him breath hot water vapors. Postural drainage may also help.

**If respiration rate is more then 50 in a minute synchronous with cough, and the patient cannot eat or drink send him to the health center as soon as possible.**

## How to drain mucus from the lungs

## (Postural drainage)

When a person who has a bad cough is very old or weak and cannot get rid of the sticky mucus or phlegm in his chest, it will help if he drinks a lot of water. Also do the following:

- First have him breath hot water vapors to loosen the mucus.
- Then have him lie partly on the bed, with his bead and chest hanging over the edge. Pound him lightly on the back. This will help to bring out the mucus.

Fig P.218

**4- Asthma:**

A person with asthma has fits or attacks of difficult breathing. Listen for wheezing sound, especially when breathing out. When he breaths in, the skin behind his collar bones and between his ribs may suck in as he tries to get air. If the person cannot get enough air, his nails and lips may turn blue, and his neck veins may swell. Usually there is no fever.

Fig P.219

Asthma often begins in childhood and may be a problem for life. It is not contagious, but is more common in children with relatives who have asthma. It is generally worse during cartain month, of the year or at night. Persons who have had asthma for years my develop emphysema.

An asthma attack may be caused by eating or breathing things to which the person is allergic. In children asthma often starts with a common cold. In some persons nervousness or worry also plays, a part in bringing on an asthma attack.

**Treatment:**

1- If asthma gets worse inside the house, the person should go outside to a place where the air is cleanest. Remain calm and be gentle with the person. Reassure him.

2- Give a lot of liquids. This loosens mucus and makes breathing easier. Breathing water vapor may also help.
3- If a person has a fever, or if the attack lasts more than 3 days, give ampicillin or co-trimoxazole .
4- In rare cases roundworms cause asthma. Try giving vermox to a child who starts having asthma if you think she has roundworms.
5- If the person does not get better, seek medical help.

**Prevention:**

A person with asthma should avoid eating or breathing things that bring on attacks. The house or work-place should be kept clean. Do not let chickens or other animals inside. Put bedding out to air in the sunshine, sometimes it helps to sleep outside in the open air, drink at least 8 glasses of water each day to keep the mucus loose. Persons with asthma may improve when they move to a different area where the air is cleaner. If you have asthma do not smoke, smoking damages your lungs even more.

**5- Tuberculssis:**

Tuberculosis of the lungs is chronic (long-lasting) contagious (easily spread) disease that any one can get. But it often strikes persons between 15 and 35 years of age especially those who are weak, poorly nourished, or live with someone who has T.B.
Tuberculosis is curable. Yet thousands die needlessly from this disease every year. Both for prevention and cure, it is very important to treat tuberculosis early.

Fig P.222

**Most frequent signs of TB:**

1- Chronic cough, often worse just after waking up.
2- Mild fever in the afternoon and sweating at night.
3- There may be pain in the chest or upper back.
4- Chronic loss of weight and increasing weakness.

In serious or advanced cases:

1- Coughing up blood (usually a little, but in some cases a lot.)
2- Pale, waxy skin.
3- Voice hoarseness (very serious).
4- Tuberculosis is usually in the lungs, but it can affect any part of the body. At first sign of tuberculosis send the

patient to a health center to see if he has TB or not. Most anti TB drugs are earned free. Ask the nearest health center. It is important to take the medicines as directed. To cure tuberculosis completely usually takes from 1 to 2 years. Plenty of energy food also foods rich in proteins and vitamins should be advice. Rest is important. If possible, stop working and take it easy until you begin to get better. From then on, try not to work so hard that you become tired or breath with difficulty. Try always get to enough rest and sleep.

Tuberculosis in any part of the body is treated the same as TB of the lungs. A child with severe TB of the backbone may also need surgery to prevent paralysis.

Tuberculosis is very contagious. Persons (especially children) who live with someone who has TB, run a great risk of catching the disease.

If someone at the home has TB:

1- If possible, see that the whole family is tested for TB (Tuberculin test).
2- Every one, especially the children, should eat plenty of nutritious food.
3- The person with TB should eat and sleep separately from the children, if possible in a different room, as long as he has any cough at all.
4- Also ask him to cover his mouth when coughing and not spit on the floor. Try to store the sputum in a container and then burn or bury it some where far from the hume.
5- A child if has cough more then 2 weeks and you think of T.B send him to the health center.
6- If anyone in the family shows signs of TB, have tests done and begin treatment at once.
(Early and full treatment is a key part of Prevention).

## (Disease of G.I.T.)
## or
## G.I.Disbrders

**Amebic Dysentery:**

Amebas: These are not worms, but tiny parasites, that can be seen only with a microscope (an instrument that makes things look much bigger).

Fig P.226

How they are transmitted:

The stools of infected people contain millions of these tiny parasites. Because of poor sanitation, they get into the source of drinking water or into food and other people become infected. Many healthy people have amebas without becoming sick. However, amebas are a common cause of severe diarrhea or dysentery (diarrhea with blood) especially in persons already weakened by other sickness or poor nutrition. Less commonly, amebascause painful, dangerous abscesses in the liver.

Signs:

- Diarrhea that comes and goes-sometimes alternating with constipation.
- Cramps in the belly and a need to have frequent bowel movement, even when little or nothing or just mucus comes out.
- Many loose (but usually not watery) stools with lots of mucus, sometimes stained with blood.
- In severe cases, much blood, the person may be very weak and ill.
- Usually there is no fever.
- Diarrhea with blood may be caused by either amebas or bacteria. However, bacterial dysentery begins more suddenly, the stools are more watery and then is almost always fever.

As a general rule:

Diarrhea + blood + fever = bacterial infection.
Diarrhea + blood + no fever = amebas.

**Treatment:**

Amebic dysentery can be treated with metronidazole and for bacterial dysentery use ampicillin or co-trimoxazol (refer to medicines chapter).

**Prevention:**

Make and use latrines, protect the source of drinking water, and follow the guidelines of cleanliness. Eating well and avoiding fatigue are also important in preventing amebic dysentery.

## 2- Constipation:

A person who had hard stools and has not had a bowl movement for 3 or more days is said to be constipated. Constipation is often caused by a poor diet (especially not eating enough fruits, green vegetables, or food with natural fiber like whole grain bread) or by lack of exercise.

Drinking more water and eating more fruits vegetables and food with natural fiber is better than using laxatives.
It also helps to add a little vegetable oil to eat food day. Older people especially may need to walk or exercise more in order to have regular bowel movements.

Never use strong laxatives or purgatives especially if there is stomach pain.

## 3- Roundworm (Ascaris)

20 to 30 cm. long. color. pink or white.

How they are spread:

Feces-to mouth: Through lack of cleanliness, the roundworm eggs pass from one person's stools to another person's mouth.

Effect on health:

Once the eggs are swallowed, young worm hatch and enter the blood stream; this may cause general itching.

The young worms then travel to the lungs, sometimes causing a dry cough or, at worst, pneumonia with coughing of blood.

The young worms are coughed up, swallowed, and reach the intestines, where they grow to full size.

Many roundworms in the intestines may cause discomfort, indigestion, and weakness. Children with many roundworms often have very large, swollen bellis. Rarely roundworms may cause asthma, fits or a dangerous obstruction or blockage in the gut.

Especially when the child has a fever, the worms sometimes come out in the stools or crawl out through the mouth or nose. Occasionally they crawl into the airways and cause gagging.

**Prevention:**

Use latrines, wash hands before eating or handling food, protect food from flies, and follow the guidelines of cleanliness.

**Treatment:**

- Vermox (Mebendazole) is useful (see chapter of medicine section).
- Some home remedies work fairly well.

**4- Hook Worm:**

1 cm, Color, red.

Hookworm cannot usually be seen in the faces. A stool analysis is needed to prove that they are there. In order to prove if there is hookworm in the skull, so it should be examined.

Fig P.232

Hookworm infection can be one of the most damaging disease of childhood. Any child who is anemic, very pale, or eats dirt may have hookworms. If possible his stools should be analyzed.

**Treatment:**

- Use tablet of Vermox.
- Personal hygiene is very important.
- Do not let children go barefoot.

**5- Heartburn, and stomach ulcers:**

Heartburns often come from eating too much heavy or greasy food or from drinking too much alcohol or coffee. These make the stomach produce extra acid, which causes discomfort or a 'burning' feeling in the stomach or wid-chest. Frequent or lasting Heartburn is a warning sign of an ulcer.
An ulcer is a chronic sore in the stomach or small intestine, caused by too much acid. It may cause a chronic, dull (sometimes sharp) pain in the pit of the stomach. As with heartburn, often the pain lessens when the person eats food or drinks milk. The pain usually gets worse 2-3 hours after eating, if the person misses a meal, or after he drinks alcohol or eats fatty or spicy foods. Pain is often worse at night. If the ulcer is severe, it can cause vomiting with blood. Stools with blood from an ulcer are usually black, like tar.

**Prevention & treatment:**

1- Eat mainly foods that seem to calm and not to cause the pain.
   - Notice what foods or drinks make the pain (ulcer) better.
   - Boiled milk.
   - Cheese
   - Corn, Barley
   - Banana

- Foods make the pain worse:
   - Salty cookies
   - Soap
   - Boiled potatoes
   - Squash
   - Simple cookies.
   - Fried or boiled egg.

- Dangerous foods:
   - Tea
   - Spices
   - Carbonated drinks (coca-colo)
   - Greasy foods
   - Tobacco

2- Milk is the best antacid for stomach ulcer and indigestion if it is sever ulcer in early days drink a glass of milk every hour. Only medicines which better the ulcer should be advised. Just after relieving of the pain safe foods should be advice.

3- Antacid is also useful in the treatment of acid, and stomach ulcer.

4- Even after getting well, foods which damage shouldn't be advice. If possible every nigh before going to bed take antacid and milk. It is important to treat an ulcer. Otherwise it may lead to dangerous bleeding or peritonitis. Ulcers usually get better if the person is careful with what he eats and drinks. Anger, tension and nervousness increase acid in the stomach and make ulcer worse. Learning to relax and keep calm will help. Continued care is necessary to prevent the ulcer from returning. Better still, avoid problems caused by stomach acid by not eating harmful foods and eat useful foods.

**Hepatitis (Jaundice):**

Hepatitis is a virus infection that harms the liver. Even though in some places people call it the fever, hepatitis often causes little or no rise in temperature. The disease is usually mild in small children and more serous in older persons and in women who are pregnant.

**Signs:**

- May have a fever
- After a few days, the eyes turn yellow
- Sight or smell of food may cause vomiting.
- The urine turns the color of coca-cola and the stools become whitish.
- Does not want to eat or smoke. Often goes days without eating any thing.
- Sometimes there is a pain on the right side near the liver.

In general the patient is very sick for 2 weeks and he looks very week 1-3 months after getting well.

**Treatment:**

- Antibiotics do not work against hepatitis. In fact some medicines will cause added damage to the sick liver. Do not use medicines.
- The sick person should rest and drinks lots of hiquids. If he refuses most foods give him orange juice and other fruit, plus vegetable soup.
- It may help to take vitamins.
- Control vomiting
- When the sick person can eat, give a balanced meal vegetable and fruit are good, with some protein like, bean, chicken and boiled egg. Avoid Óil and fatty foods.

**Prevention:**

- The hepatitis virus passes from the stool of one person to the mouth of another by contaminated water or food. To prevent others from getting sick, berry or burn the sick person's stool and keep him very clean. The person providing care should wash his hands well after each time he goes near the sick person.
- Small children often have hepatitis without any signs of sickness, but they can spread the disease to others . It is very important that everyone in the house follow all the guidelines of cleanliness with great care.

Warning:- Hepatitis can also be transmitted by giving injections with unsterile needles. Always boil needles and syringes before use.

## 7- ACUTE ABDOMEN

Acute abdomen is a name given to a number of sudden, severe conditions of the gut for which prompt surgery is often needed to prevent death. Appendicitis, peritonitis, and obstruction are examples study under this heading, often the exact cause of acnte abdomen. Will be uncertain until a surgeon cuts open the belly and looks inside.

If a person has continuous server gut pain with vomiting, but does not have diarrhea, suspect an acute abdomen.

| ACUTE ABDOMEN: | LESS SERIOUS ILLNESS: |
|---|---|
| Take to a hospital surgery may be needed | Probably can be treated in the home or health center |
| * continuous severe pain that keeps getting worse | * pain that comes and goes (cramps) |
| * constipation and vomiting | * moderate or severe diarrhea |
| * belly swollen, hard, person protrects it | * sometimes signs of an infection, perhaps a cold or sore throat |
| * severely ill | * he has had pains like this before |
| | * only moderately ill |

**If a person shows signs of acute abdomen, get him to a hospital as fast as you can.**

## 8- TYPHOID FEVER

Typhoid is an infection of the gut that affects the whole body. It is spread from feces to mouth by eating contaminated food and water. Typhoid often comes in epidemics (many people sick at once). Of the different infections sometimes called "the fever" typhoid is one of the most dangerous.

**Signs of typhoid:**

**First week:**

* It begins like a cold or flu.
* Headache, sore throat, and often a dry cough.
* Patient temperature rises every day and sometimes reach to 40°C or more.
* Pulse is often relatively slow for the degree of fever. Take the pulse and temperature every half hour. If the pulse gets slower when the fever goes up, the person probably has typhoid.
* Sometimes there is vomiting, diarrhea, or constipation.

**Second week:**

* High fever, pulse relatively slow.
* A few pink spots may appear on the body.
* Trembling.
* Delirium (person does not think clearly of make sense).
* Weakness, weight loss, dehydration.

**Third week:**

* If there are no complications the fever and other symptoms slowly go away.

**Typhoid Treatment:**

1- Seek medical help (send the patient to the health center).
2- If health center is far advice Ampicillin first and send the patient to the health center.
3- If it is not possible to send the patient to health center continue treatment with Ampicilline fo 14 days, if patient is sensitive to Ampicilline give cotrimoxazol (for dosage please fefer to drug section).
4- Lower the fever with cold compress and advising paracetamol.
5- Give plenty of liquids, so up, juice, nutritious food in liquid for to prevent dehydration.
6- Patient should stay in bed until complete abseree of fever.
7- If there is blood in patient's feces or patient develop sign and symptom of peritonities or pneumonia immediately take the patient to the hospital.

**Prevention:**

- To prevent typhoid care must be taken to avoid contamination of water and food by human feces. Follow the guidelines of personal and public hygiene. Make and use latrines. Be sure latrines are a safe distance from where people get drinking water.
- Cases of typhoid often appear after a flood or other disaster, and special care must be taken with cleanliness at these times. Be sure drinking water is clean. If there are cases of typhoid in your village, all drinking water should be boiled. Look for the cause of contaminated water or food.
- To avoid the spread of typhoid, a person who has the disease should stay in a separate room. No one else should eat or drink from the dishes he uses. His stools should be burned or buried in deep holes. Persons who care for him should wash their hands right afterwards.
- After recovering from typhoid some persons still carry the disease and can spread it to others. So anyone who has had typhoid should be extra careful with personal cleanliness and should not work in restaurants or where food is handled.

**MALARIA**

Malaria is an infection of the blood that causes chills and high fever. Malaria is spread by mosquitos. The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites.

**Signs of malaria**

1. The typical attack has 3 stages:
   1- It begins with chills and often headache. The person shivers or shakes for 15 minutes to an hour.
   2- Chills are followed by fever often $40^0$ or more. The person is weak. Hushed (red skin), and at times delirious (no in his right mind). The fever lasts several hours or days.
   3- Finally the person begins to sweat and his temperature goes down. After an attack, the person feels weak but may feel more or less OK that bites will not pass malaria.
2. Usually malaria causes fevers every 2 or 3 days (depending on the kind of malaria), but in the beginning it may cause fever daily. Also, the fever pattern may not be regular or typical. For this reason anyone who suffers from unexplained fevers should have his blood tested for malaria.

   Chronic malaria often causes a large spleen and anemia.

**Treatment:**

1- Advice tab. Chloroquine (see medicine chapter)
2- If Chloroquine is not useful send. The patient to the hospital.

**HOW TO AVOID MALARIA**

Malaria occurs more often during hot, rainy seasons if everyone cooperates, it can be controlled. All these control measures should be practiced at once.

1- Avoid mosquitos. Sleep where there are no mosquitos or under neath a sheet. Cover the baby's cradle with a mosquito netting or a thin cloth.
2- Cooperate with the malaria control workers when they come to your village.
3- If you suspect malaria, get treatment quickly. After you have been treated, mosquitos that bite you will not pass malaria on to others.
4- Destroy mosquitos and their young . Mosquitos breed in water that is not flowing. Drain or put a little oil on pools or marshes where mosquitos breed.
5- Malaria can also be prevented, or its effects greatly reduced, by taking anti-malaria medicines on regular schedule.

**PROBLEMS OF THE URINARY TRACT.**

1- **Urinary tract infections.** These are most common in women are suffered from mild infections while such infections are less common in men.

**Urinary Tract Infections.**

**Signs**

1- Sometimes pain in the side. Sometimes the pain seems to go down the legs.
2- In serious cases (kidney disease) the feet and face may swell.
3- Sometimes fever and chills or headache.
4- Painful urination and need to urinate very often.
5- Urine may be cloudy or reddish(bloody).
6- Unable to hold in urine (especially true for children).
7- Sometimes there is pain in the lower back (kidneys).

**Treatment:**

- **Drink a lot of water.** Many minor urinary infections can be cured by simply drinking a lot of water, without the need for medicine(But if the person cannot urinate or has swelling of the hands and face, she should not drink much water)
- If the person does not get batter by drinking a lot of water, or if she has a fever, she should take pills of co-trimoxazole or ampicillin. It is very important to continue to drink a lot of water while taking these medicine, especially co-trimoxazole.

If the person does not get batter quickly, seek medical advice.

**ANEMIA**

A person with anemia has thin blood. This happens when blood is lost or destroyed faster than the body can replace it. Blood loss from large wounds, bleeding ulcers, or dysentery can cause anemia. So can malaria, which destroys red blood cells. No eating enough foods rich in iron can cause anemia or make it worse.

Women can become anemic from blood loss during monthly bleeding(menstrual periods) or childbirth if they do not eat the foods their bodies need. Pregnant women are at risk of becoming severely anemic, because they need to make extra blood for their growing babies.

In children anemia can come from not eating foods rich in iron. It can also come from not starting to give some foods in addition to breast milk, after the baby is 4 months old. Common causes of severe anemia in children are hookworm infection chronic diarrhea, and dysentery.

The signs of anemia are:

* Pale or transparent skin.
* Pale insides of eyelids
* Pale gums
* White fingernails
* Weakness and fatigue
* If the anemia is very severe, face and feet may be swollen, the heartbeat rapid, and the person may have shortness of breath.

**Treatment and Prevention of Anemia:**

- **Eat foods rich in iron.** Meat, fish, and chicken are high in iron, Liver is especially high. Dark green leafy vegetables, peas, and lentils also have some iron.
- If the anemia is moderate or severe. the person should take iron (ferrous sulfate pills).This is especially important for pregnant women who are anemic. For nearly all cases of anemia. ferrous sulfate tablets are much better than liver extract or vitamin B. As a general rule iron should be given by mouth, not injected, because iron injections can be dangerous and are not better than pills.
- If the anemia is caused by dysentery (diarrhea with blood), hookworm, malaria, or another disease, this should also be treated.
- If the anemia is severe or does not get better, seek medical help this is especially important for a pregnant woman.

**Many women are anemic.** Anemic women run a greater risk of miscarriage and of dangerous bleeding in child birth. **It is very important and women eat as much of the foods high in iron as possible**, especially during pregnancy. Allowing 2 to 3 years between pregnancies lets the women regain strength and make new blood therefore its important for women to eat beans, dark green leafy vegetable, not liver chicken and egg every time especially during pregnancy.

**'PINK EYE' (CONJUNCTIVITIS)**

This infection causes redness, pus, and mild 'burning' in one or both eyes. Lids often stick together after sleep.

**Treatment:**

First clean pus from the eyes with a clean cloth moistened with boiled water. Then put in tetracycline eye ointment. Pull down the lower lid and put a little bit of ointment inside, like this. Putting ointment outside the eye does no good.
Caution: Do not touch the tube against the eye.

**Prevention:**

Most conjunctivitis is very contagious. The infection is easily from one person to another. Do not let a child with pink eye play or sleep with others, or use the same towel. Wash after touching eyes.

**TRACHOMA**

Trachoma is a chronic infection that slowly gets worse. It may last for months or many years. If not treated early, It sometimes causes blindness. It is spread by touch or by flies, and is most common where people live in poor, crowded conditions.

**Signs:**

1. Trachoma begins with red, watery eyes, like ordinary conjunctivitis.
2. After a month or more, small, pinkish gray lumps, called follicles, form inside the upper eyelids. To see these, turn back the lid.
3. The white of the eye is a little red.
4. After a few months, if you look very carefully, or with a magnifying glass, you may see that the top edge of the cornea looks grayish.

After several years, the follicles begin to disappear, leaving whitish scares.

These scars make the eyelids thick and may keep them from opening or closing all the way. Or the scarring may pull the eyelashes down into the eye, scratching the cornea and causing blindness.

**Treatment of trachoma:**

Put tetracycline eye ointment inside the eye 3 times each day or for a complete cure, also take tetracycline by mouth for 2 to 3 weeks with co-trimoxazole.

**Prevention:**

Early and complete treatment of trachoma helps prevent its spread to others. All persons living with someone who has trachoma, especially children, should have their eyes examined often and if signs appear they should be treated early. Washing the face every day can help prevent trachoma. Also it is very important to follow the Guidelines of Cleanliness

| Cleanliness helps prevent trachoma |
|---|

1- **SMALL SORES WITH PUS**
Skin infections in the from of small sores with pus often result from scratching insect bites, scabies, or other irritations with dirty fingernails.

**Treatment and Prevention.**

- Wash the sores well with soap and cooled, boiled water, gently soaking off the crust. Do this daily as long as there is pus.
- Leave small sores open to the air, Bandage large sores and change the bandage frequently.
- If the skin around a sore is red and hot, or if the person has a fever, or swollen lymph nodes, use an antibiotic.
- Do not scratch. This makes the sores worse and can spread infection to other parts of the body. Cut the fingernails of small children very short. Or have them wear gloves they cannot scratch.
- Never let a child with sores or any skin infection play or sleep with other children. These infections are easily spread.

2- **IMPETIGO**

This is a bacterial infection that causes rapidly spreading sores with shiny, yellow crusts. It often occurs on children's faces especially around the mouth impetigo can spread easily to other people from the sores or contaminated fingers.

**Treatment:**

- Wash the affected part with soap and cooled, boiled water 3 to 4 times each day gently soaking off the crusts.
- After each washing paint the sores with Gentian Violet or applied on an antibiotic cream.
- If the infection is spread over a large area or causes fever, give Ampicillin or co-trimoxazol tablets.

**Prevention:**

- Follow the Guidelines of Personal Cleanliness. Bathe children daily and protect them from bedbugs and biting flies. If a child gets scabies, treat him as soon as possible.
- Do not let a child with impetigo sleep or play with other children. Begin treatment at the first sign.

3- **BOILS AND ABSCESSES.**

A boil, or abscess, is an infection that forms a sac of pus under the skin. This can happen when the root of a hair gets infected. Or it can result from a puncture wound or an injection given with a contaminated needle.

**Signs:**

A boil is painful and the skin around it becomes red and hot. It can cause swollen lymph nodes and fever.

**Treatment:**

- Put hot compresses over the boil several times a day
- Let the boil break open by itself. After it opens, keep using hot compresses. Allow the pus to dram, but never press or squeeze the boil, since this can cause the infection to spread to other parts of the body.
- If the boil causes swollen nodes or fever, take penicillin tablets or Ampicillin.

## 4- ITCHING RASH, OR HIVES (ALLERGIC REACTIONS IN THE SKIN)

Touching, eating, injecting, or breathing certain things can cause an itching rash or hives in allergic persons.

Hives are thick, raised spots or patches that look like bee stings and itch like mad. They may come and go rapidly or move one spot to another.

**Treatment of itching**

- Bathe in cool water or use cool compresses cloths soaked in cold water or ice water.
- Compresses of cool oats water also calm itching. Boil the oats in water, strain it, and use the water when cool.(Starch can be instead of oats).
- If itching is severe, take an antihistamine like chlorpheniramine.
- To protect a baby from scratching himself. Cut his fingernails very short, or put gloves or socks over his hands.

## 5- SCABIES (SEVEN YEAR ITCH)

Scabies is especially common in children. It causes very itchy little bumps that can appear all over the body, but are most common between the fingers on the wrists around the waist on the genitals between the toes.

Usually does not appear on head and face except in babies. Small itchy sores on the penis and scrotum of young boys are almost always scabies.

Scabies is caused by little animals-similar to tiny ticks or chiggers-which make tunnels under the skin. It is spread by

touching the affected skin or by clothes and bedding. Scratching can cause infection, producing sores with pus, and sometimes swollen lymph nodes or fever.

**Treatment:**

- If one person has scabies, everyone in his family should be treated.
- Personal cleanliness is of first importance. Bathe and change clothes daily.
- Cut fingernails very short to reduce spreading and infection.
- Wash all clothes and bedding or, better still, boil them and hang them in the sun.
- Use benzylbenzoit solution (see medicine chapter).

- Wash the whole body vigorously with soap and hot water.

**6- LICE**

Lice cause itching, and sometimes skin infections and swollen lymph nodes. To avoid lice, take great care with personal cleanliness. Wash clothing and bedding often and hang them in the sun. Bathe and wash hair often. Check children's hair if they have lice, treat them at once. Do not let a child with lice steep with others.

**Treatment:**

**For head and public lice:** You can often get rid of lice without medicines by scrubbing the hair well with regular soap or shampoo for 10 minutes. Rinse well and comb thoroughly with a fine-tooth comb. Repeat every day for 10 days.

If necessary, make a shampoo of lindane water , and soap (1 part lindane to 10 parts water). Wash hair, being careful not to get lindane in the eyes. Leave the shampoo for 10 minutes, then rinse well with clean water Repeat a week later.

To get rid of lice eggs, soak hair with warm vinegar water (1 part vinegar to 1 part water) for half an hour, then comb it thoroughly with a fine-tooth comb.

## CHAPTER 8

### Health Care of Children

Good nutrition, cleanliness and vaccination are the three important body guards' that keep children healthy and protect them against many sicknesses.

**Vaccine:**

Vaccine protect children from a great number of disease such as: Whooping caught, diphtheria, tetanus polio, measles, and tuberculosis. Therefore children should be vaccinated against the disease threatened their life. In order to have a healthy child, it is very important to cooperate with the immunization team on timely vaccination of your children.

D.P.T. Vaccine is used against diphtheria, whooping cough and tetanus. For full protection the child needs 3 injections:

A. First - at 2 months old.
B. Second - at 3 months old.
C. Third _ one year after the second injection.

**Polio Vaccine(infantile paralysis)**

It gives immunity against polio if prepared as drops and taken by month, child should take one drop each month, In some countries it is advised few days after birth, but in some countries in 2 months of age, child should put on breast for feeding 2 hrs before and 2 hours after vaccine.

Fig P.296

B.C.G. For tuberculosis:

This protect body against tuberculosis, since this is most common in our country. We should try hard to save life of children from this fatal disease. Injection of this vaccine in given into the skin of the right shoulder once through out the life. Early vaccination is specially important if any member of the household has tuberculosis. This vaccine makes a sore and leaves a scar.

**Tetanus Vaccine:**

For adult, and children over 12 years old, the most important vaccine is for tetanus (lock jaw) One injection every month for 3 months, another after a year, and then are every ten years. Everyone should be vaccinated. Pregnant women should be vaccinated during each pregnancy, so that their babies will be protected against tetanus of the new born.

**Vaccinate your children on time. Be sure they get the complete series of each vaccine they need.**

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**2-Cleanliness:**

Children are more likely to be healthy if their village, their homes and they themselves are kept clean.

In addition to care for the personal cleanliness (hygiene), family hygiene and public cleanliness (sanitation) the following points are in great importance.

- Bath your children and change their cloths more often.
- Always advice your children to wash their hands with soap when they get up in the morning, after having a bowel movement, and before they eat food.
- Build the latrine and teach the children how to use it.
- Child is not allowed to go barefoot.
- Teach them how to brush their teeth, and avoid a lot of sweet and cold drinks such as coca-cola, fanta, sprit, etc.

Fig P.272

- Cut fingernails very short.

Fig P.272

- Children who are sick as has sore, scabies or lice are not allowed to rest with healthy children also others should not use their beds and their cloths.

Fig P.272

- Other children who are suffered from contagious disease, should be treated as soon as possible to prevent spread of disease tc other children.
- Do not let children put dirty hands in their mouths or let animals lick their faces or hands.
- Keep dogs and chickens out of the house.
- Use only pure, boiled or filtered water for drinking. (This is especially important for babies.)

Fig P.273

**3-Nutrition**

Good food is needed for children to grow well, and stay healthy. Many common sicknesses come from not eating enough.

The best diet for small children:

- For the first 4 months give the baby breast milk and nothing more.
- From 4 months to 1 year of age in addition to breast milk start giving her other foods such as beans, egg, fruit, dark green leafy vegetable etc. The mentioned foods should be taken together with energetic foods such as rice, corn, wheat, potato etc.
- After a child is one year old and older he can eat the same foods adults, but should continue to breast feed. Every day, try to give the child plenty of the main food that people eat.
- Bottle feeding will cause recurrent diarrhea which results in malnutrition and death of child.

Fig P.275

- Poorly nourished children are much more likely to get severe diarrhea, and to die from it, than are children who are well nourished.

- Measles is especially dangerous where many children are malnourished.
- Sick children need food. If a sick child is not eating, encourage him to do so.
- When a person is sick, eating enough nutritious food is especially important.

Unfortunately, some mothers stop breast-feeding a child or stop giving certain nutritious foods when he is sick or has diarrhea-so the child becomes weaker, cannot fight off the illness, and may die.

For example a child who has had diarrhea for several days may develop swollen hands and feet, a swollen face, dark spots, or peeling sores on his legs. These are signs of severe malnutrition.

A person who is weak or sick because he does not eat enough, or does not eat the foods his body needs, is said to be poorly nourished-or malnourished. He suffers from malnutrition.

Poor nutrition can result in the following health problems:

In children

1. failure of a child grow or gain weight normally.
2. slowness in walking, talking, or thinking
3. big bellies, thin arms and legs
4. common illnesses and infections that last longer, are more severe, and more often cause death
5. lack of energy, child is sad and does not play
6. swelling of feet, face, and hands, often with sores or marks on the skin
7. thinning, straightening, or loss of hair, or loss of its color and shine poor vision at night, dryness of eyes blindness.

Although the following problems may have other causes, they are sometimes caused and are often made worse by not eating well:

- diarrhea
- frequent infections
- buzzing in the ears
- headache
- bleeding or redness of the gums
- skin bruises easily
- nosebleeds
- stomach discomfort
- dryness and cracking of the skin
- heavy pulsing of the heart or of the "pit" of the stomach (palpitations)
- anxiety (nervous worry) and various nerve or mental problems
- cirrhosis (liver disease)

**DRY MALNUTRITION-OR MARASMUS**

This child does not get enough of any kind of food. He is aid to have dry **malnutrition** or **marasmus**. In other words, he is starved. His body is small very thin and wasted. He is little more than skin and bones.

112 No. sector

The is child needs more food-especially energy foods.

**THIS CHILD IS JUST SKIN AND BONES.**

Fig P.277 - 288

## WET MALNUTRITION OR KWASHIORKOR

This child's condition is called 'wet malnutrition' because his feet, hands, and face are swollen. This can happen when a child does not eat enough 'body-building' helper foods-or proteins. Or it can happen when he does not get enough energy foods, and his body burns up whatever proteins he eats for energy.

Eating beans, lentils, or other foods that have been stored in a damp place and are a little moldy may also be part of the cause.

This child needs more food more often-a lot of foods rich in energy, and some foods rich in protein.

Also, try to avoid foods that are old, and may be spoiled or moldy. First the child becomes swollen. The other signs come later.

THIS CHILD IS SKIN AND WATER.

Fig P.278

**Sign of malnutrition in children:**

**Measuring the arm circumference:**

This is a useful and quick way to diagnose if a child is malnourished. If a child is well nourished his arm is fat.

Fig P.280

But if a child is not well nourished his arms and legs are thin.

Fig P.280

Measuring of arms is recognized as a very easy method so for, through which we can find the nutrition condition of child. Measure his arm circumference half way between the point of his shoulder and his elbow. A child with an arm circumference below 13.5cm is malnourished.

Measuring of arm circumference is a useful method because it does not relate to the age of child.
But we should know only this much that child should be between 1-5 years of age. If child is very mild malnourished it is not recognized by measuring arm circumference, in such a case child should be weighed.

**Method of measuring arm circumference of a child by a tape:**

Use a tape measure. Measure the child's left arm. Let it hang by his side with his elbow straight. Measure his arm circumference half way between the point of his shoulder and his elbow. Put the tape gently, but firmly, round his arm. Don't pull so tight that folds come in his skin.

Fig P.281

**Result of measuring the arm circumference:**

Measure arms of children who are between 1-5 years old.
A child with an arm circumference below 12.5 cm is severely malnourished. If his arm circumference is between 12.5 cm to 13.5 cm he is moderately malnourished if it is above 13.5 cm, he is normal. The arm circumference is not helpful in children under one years or above five years of age.

Fig P.282

**What to do with very thin children:**

They need more and nourishing food. Malnutrition is a difficulty health problem, which is different in one community from another. In some communities especially in poor families food which is rich of water is usually given to children. Therefore, before getting energetic food their stomach become full with the mentioned food. The simple health massage which is be said by first aiders to parents are as follow:

- Confirmation of red color with green color: Shows health, and child should be fed at least three times a day.
- Confirmation of red color with yellow color: Indicates illness of the child. Therefore, child should be given food at least four times.

- Confirmation of red color with red color; Indicates advanced or chronic illness and the child should be given food at least five times a day.

Fig P.284

**Accidents prevention in children:**

Accidents are most common among children. Some of them are really dangerous and may cause death. While some may cause defectiveness in children which might affect them the whole life. Therefore, parents should try hard to prevent occurrence of such situations. The main accidents in childhood.

In small children, who crawl and toddle unsafely in and around the house, the common accidents are;

* cuts, burns from fire, and scalds from boiling water or boiling oil.
* falls, with wounds or fractures, from climbing or when running.
* poisoning from drinking kerosene, petrol, chemicals, etc. or from eating insecticides, rat poison, poisonous berries, pills or tablets etc.
* drowning in rivers, lakes, ponds, or wells.

In older children who go around the whole neighborhood, the common accidents are;

* The same as for young children, but often more serious because older children take more risks. They climb higher in trees or on walls, run faster, and go further into rivers, lakes or the sea.
* Road traffic accidents(which are becoming a main cause of serious accidents) caused by falling from bicycles or being hit by cars on the road.

Among teenagers, who are generally daring and do dangerous things to show off, the most common accidents are traffic accidents. These are the main cause of serious injuries and death among young people. Accidents happen when teenagers drive motorcycles or cars very fast, or when young people are hit by motor vehicles.

**The community can do many things to prevent accidents among children:**

The government can set speed limits for road traffic or set minimum and maximum ages for driving.
The community can:
1- fill in old, empty wells.
2- put fences or barriers around dangerous places
3- warn the people by signs
4- provide services to rescue and care to persons who have accidents.
5- arrange for children to be taught about accidents at school.

Families can look after their children properly, particularly to prevent home accidents, and can teach them how to avoid accidents.

To understand how accidents can be prevented, let us take an example of a young child alone by a pond who does not know how to swim. Think of what can be done to prevent drawing:

1. Get rid of the risk, for example by filling in the pond if it is small enough.

Fig P.287

2. Cut off the risk, for example, by putting a fence around it so that the child cannot go near it.

Fig P.287

3. Keep the child away from the pond and watch him carefully.

Fig P.288

4. Inform and remind the child of the possible dangers by placing warnings-signs, posters at the pond and by oral messages.

5. Teach the child how to swim.

Fig P.288

6. Give the child safety equipment, such as floats, a rubber ring, a cork belt, or an inflated tube.

7. Provide life-belts at places of high risk. These may be bathing places, beaches, bridges, ponds, etc.

8. Provide special supervision and rescue services.

**What you can do to prevent accidents among children You can:**

1. collect information about all the accidents that have happened in the community in the last few years. Find out how many and what kinds of accidents they were. Where did they happen and what age were the children involved.? Has anything been done to prevent such accidents from happening again?
2. Discuss with families and women's groups how they can reduce the risks of accidents in their homes and in other places by supervising children and organizing play areas.
3. Remind the community committee about the accidents that have already occurred and may occur again if nothing is done to prevent them.
4. Discuss with the leaders or the committee how to make the roads and other dangerous places safe for the people.
5. Discuss with the schoolteacher how to make children more aware of the risks of accidents, for example, by organizing a programmed to find out the numbers and types of accidents that have happened in the community and by asking the children to suggest means of preventing them.

**Care of a sick child:**

Most children get sick sometimes.

1. Well fed children get sick less often than badly fed children. Badly fed children become sick more seriously than well fed children.
2. Children who work too many hours a day and do not get enough time to play or sleep may get sick more often.
3. Full immunization prevents most of the diseases that kill very young children.

4. Early treatment can stop a sickness from becoming dangerous. A sick child needs to eat and drink to help the body to fight the sickness.
5. A sick child needs more care than a sick adult. Never leave a sick child alone.
6. A child who refuses to eat or drink and who does not want to play may be at the beginning of a sickness: watch the child carefully.
7. When a sick child does not get good care early, the sickness may become dangerous. It is important to treat children early.
8. Children who are weak and of low weight become sick more easily.
9. Your community may have very strong ideas about how to care for sick children. Find out what they are. Some may be dangerous and may make the child more sick. Always make sure that a sick child:

   1-eats and drinks enough (except when there is belly pain)
   2-is kept warm
   3-is washed every day.

**Common serious sicknesses in children**

Tetanus of the newborn

If a dirty or rusted blade or scissors is used to cut the cord, the baby may get tetanus. The germs enter the baby's body through the cord. First, the baby's arms and logs become stiff. Then he has difficulty in opening his mouth, and soon he cannot open it at all. A baby with tetanus can be treated only in a hospital. In most cases the babies die, but this disease can be prevented by:

* immunizing the pregnant mother
* making sure that all birth attendants cut the cord with a clean, new blade, dress it only with very clean material and do not put any powder or other material on the cord or navel.

**Infectious diseases:**

Tetanus, diphtheria, whooping cough, polio, measles and tuberculosis can be prevented by immunization. Without full immunization children may get sicknesses, they may become very sick, and may even die. They may also pass them to other children.

**Diarrhoea:**

Diarrhoea is very serious disease in small children. Breast-fed babies rarely get diarrhoea. Diarrhoea happens when dirt or dirty water or food get inside the child's body.

To prevent and treat diarrhoea, ask mothers to:

1. Continue breast-feeding
2. Give solid food at least 4 times a day- the food should be made easy to eat by mashing it or making it into soup.
3. Give one glass of ORS every time the child passes a watery stool.
4. Take the child to the health center if the diarrhoea is not better in 2 days; take plenty of rehydration fluid for the journey.

**Care at home:**

**A child with fever:**

When a person has fever it means that his body is fighting an infection. Children may have very high fever.
When a child has a fever:

1. Keep the body cool by sponging it often with cool water.
2. Put only one cotton shirt on the child and cover the child in the cot or bed with a cotton cover. To many clothes will make the child too warm.
3. A child with fever should drink as much as possible. ORS is good, but the child can also have tea or fruit juice or milk.
4. Give pracetamol according to the child's age.
5. An adult should always look after a sick child. A sick child should not be left alone.
6. As soon as the fever goes down, give the child plenty to eat. Fighting a sickness makes the body tired and only good food can make the child strong again.
7. If the fever does not go down after one full day and one night, the parents should take the child to the health center for further treatment.

**A child who coughs**

Coughing is the body's way of trying clear blockages in the lungs or air-tubes or throat. Many coughs can be prevented by keeping a child's nose clean. The stuff that runs out of his nose during day may run into his lungs when he sleeps. Teach all children to blow their nose to keep it clean.

Encourage children to run and jump. This is good exercise for their lungs and will keep them healthy.

When a child has a cough;

1. sit him up in bed or against a wall, with pillows.
2. cover the chest with loose light clothes only. Heavy or tight clothes will make it hard for the lungs to work and the cough will get worse.

3. give small meals, 4-5 times a day, to help the body fight the cough.
4. give plenty of drinks.
5. Take a coughing child to the health center if:
   * the cough does not improve in 3-4 days
   * there is loss of weight
   * there is high fever
   * anyone in the house or family has tuberculosis (TB)

A sick child uses a lot of energy to fight the sickness. After the sickness the child needs to make his body strong again. To do this he will need:

1. to eat good food 3-4 times every day.
2. to eat plenty of fruit and vegetables.
3. to do less walk than usually for 2-3 weeks.
4. the child should have a check up at the health center to make sure that he is gaining weight again.

<u>Managing common illness in children:</u>

**Diarrhea and dehydration:**

When a person has loose or watery stools, he has diarrhea. Diarrhea can be mild or serious. It can be acute (sudden and sever) or chromic (lasting many days). The greatest danger with diarrhea is dehydration or losing too much liquid from the body and usually cause death. Diarrhea in children suffered from malnutrition is common and dangerous. Children taking nutritious food are less commonly affected with diarrhea. If they suffered, they will get better soon, there is high possibility of diarrhea in those who take incomplete and poor food. It has a lot of causes:

**Causes of Diarrhea:**

1. Poor nutrition
   - This weakens the child and makes diarrhea more frequent and worse, from other causes.
2. Virus infection
   - such infections are usually mild.
3. Bacteria and Amebas
4. Worms
5. Infections outside the gut (ear infections, tonsillitis, measles etc.)
6. Malaria
7. Food poisoning (spoiled food)
8. Inability to digest milk (mainly in severely malnourished children)
9. Difficulty: babies have digesting foods that are new to then.
10. Allergies to certain foods, occasionally babies are allergic to cow's milk.

11. Side effects produced by certain medicine, such as ampicillin.
12. Laxatives, purges, irritating or poisonous plants, certain poisons.
13. Eating too much unripe fruit or heavy, greasy food.

**Treatment of diarrhea:**

For most cases of diarrhea no medicine is needed. If the diarrhea is severe, the biggest danger is dehydration. If the diarrhea lasts eat long time, the biggest danger is malnutrition. So the most important part of treatment has to do with giving enough liquids and enough food. No matter what the cause of diarrhea always take care with the following.

1. PREVENT OR CONTROL DEHYDRATION.

A person with diarrhea must drink a lot of liquids. If diarrhea is severe or there are signs of dehydration, give him O.R.S. Even if he does not want to drink, gently insist that he do so. Have him take several swallows every few minutes.

2. MEET NUTRITIONAL NEEDS.

**A person with diarrhea needs food as soon as he will eat.** This is especially important in small children or persons who are already poorly nourished. Also, when a person has diarrhea, food passes through the gut very quickly and is not all used. **So give the person food many times a day-** especially if he only takes a little at a time.

* A baby with diarrhea should go on breast feeding.
* An underweight child should get plenty of energy foods and some body-building foods (proteins) all the time he has diarrhea-and extra when he gets well. If he stops eating because he feels too sick or is vomiting, he should eat again as soon as he can **Giving O.R.S** will help the child be able to eat. Although giving food may cause more frequent stools at first, it can save his life.
* If a child who is underweight has diarrhea that lasts for many days or keeps coming pack, give him more food more often-at least 5 or 6 meals each day. Often no other treatment is needed.

**FOODS FOR A PERSON WITH DIARRHEA**

| **When the person is vomiting or feels too sick to eat.** | **As soon as the person is able to eat, in addition to giving the drinks listed at the left, he should eat a balanced selection of the following foods or similar ones.** | |
|---|---|---|
| **he should drink.** | **energy foods** | **body-building foods** |
| Watery mush or broth of rice. maize powder, or potato | ripe or cooked bananas crackers rice, oatmeal or other well-cooked grain | chicken(boiled or roasted) eggs (boiled) meat(well cooked without much fat or grease) |
| rice water(with some mashed rice) | fresh maize (well cooked and mashed) potatoes applesauce(cooked) papaya (It helps to add a little sugar or vegetable oil to the cereal foods) | beans, lentils or peas(well cooked and mashed) fish(well cooked) milk(sometimes this causes problems, |
| chicken, meat, egg, or bean broth Cool-Aid or similar sweetened drinks | | |
| REHYDRATION DRINK Breast milk. | | |

| | | |
|---|---|---|
| fatty or greasy foods most raw fruits. | **DO NOT EAT OR DRINK** any kind of laxative or purge. | highly seasoned food alcoholic drinks. |

**Preventing diarrhea:**

Although diarrhea has many different causes, the most common are **infection** and **poor nutrition. With good hygiene and good food, most diarrhea could be prevented.** And if treated correctly by giving lots of drink and food, fewer children who get diarrhea would die.

Children who are poorly nourished get diarrhea and die from it far more often than those who are well nourished. Yet diarrhea itself can be part of the cause of malnutrition. And if malnutrition already exists, diarrhea rapidly makes it worse.

**Malnutrition causes diarrhea.**

**Diarrhea causes malnutrition.**

The results in a vicious circle, in which each makes the other worse. For this reason, **good nutrition is important in both the prevention and treatment of diarrhea.**

**Prevent diarrhea by preventing malnutrition.**
**Prevent malnutrition by preventing diarrhea.**

To learn about the kinds of foods that help the body resist or fight off different illnesses, including diarrhea.

The prevention of diarrhea depends both on **good nutrition** and **cleanliness.** Many suggestions for personal and public cleanliness are given. These include the use of latrines, the importance of clean water, and the protection of foods from dirt and flies.
Here are some other important suggestions for preventing diarrhea in babies.

* **Breast feed rather than bottle feed babies.** Give only breast milk for the first 4 to 6 months. Breast milk helps babies resist the infections that cause diarrhea. If it is not possible to breast feed a baby, feed her with a cup and spoon, **Do not use a baby bottle** because it is harder to keep clean and more likely, to cause an infection.
* When you begin to give the baby new or solid food, start by giving her just a little, mashing it well, and mixing it with a little breast milk. The baby has to learn how to digest new foods. If she starts with too much at one time, she may get diarrhea **Do not stop giving breast milk suddenly. Start with other foods while the baby is still breast feeding.**
* Keep the baby clean-and in a clean place. Try to keep her from putting dirty things in her mouth.
* Do not give babies unnecessary medicines.

## SOME VERY COMMON SICKNESSES

### 1- DEHYDRATION

**Most children who die from diarrhea die because they do not have enough water left in their bodies. This lack of water is called dehydration.**

Dehydration results when the body loses more liquid than it takes in. This can happen with severe diarrhea, especially when there is vomiting too. It can also happen in very serious illness, when a person is too sick to take much food or liquid.

People of any age can become dehydrated, but **dehydration develops more quickly and is most dangerous in small children.**

**Any child with watery diarrhea is in danger of dehydration.**

It is important that everyone-especially mothers-know the signs of dehydration and how to prevent and treat it.

**Signs of dehydration:**

1. Sagging in of the 'soft spot.
2. Sunken, tearless eyes.
3. Dry mouth.
4. Loss of elasticity or stretchiness of the skin. Lift the skin between two fingers, if the skin does not fall right back to normal, the child is dehydrated.
5. Little or no urine; the urine is dark yellow.
6. Sudden weight loss.
7. Very severe dehydration may cause rapid, weak pulse fast, deep breathing, fever, or fits, (convulsions).

To prevent or treat dehydration: When a person has watery diarrhea, act quickly:

* Give lots of liquids to drink: Rehydration Drink is best. Or give a thin cereal porridge or gruel, teas, soups, or even plain water.
* keep giving food. As soon as the sick child (or adult) will accept food, give frequent feedings or foods he likes and accepts.
* To babies, keep giving breast milk often-and before other drinks.

A special Rehydration Drink helps to prevent or treat dehydration, especially in cases of severe watery diarrhea.

2.. **Tuberculosis** (see chapter of respiratory tract infection).

3- **Measles**

This severe virus infection is especially dangerous in children who are poorly nourished or have tuberculosis. Ten days after being near a person with measles, it begins with signs of a cold-fever, runny nose, red sore eyes, and cough.

The child becomes increasingly ill. The mouth may become very sore and he may develop diarrhea.

After 2 or 3 days a few tiny white spots like salt grains appear in the mouth. A day or 2 later the rash appears-first behind the ears and on the neck, then on the face and body, and last on the arms and legs. After the rash appears, the child usually begins to get better. The rash lasts about 5 days.

**Treatment.**

* The child should stay in bed, drink lots of liquids, and be given nutritious food. If she cannot swallow solid food, give her liquids like soup. If baby cannot breast feed, give breast milk in a spoon.

* If possible, give vitamin A to prevent eye damage .
* For fever and discomfort, give acetaminophen(paracetamol)
* If earache develops, give an antibiotic(ampicillin or co-trimoxazol.
* If signs of pneumonia, meningitis, or severe pain in the ear or stomach develop, get medical help.
* If the child has diarrhea, give Rehydration Drink
* To prevent death, children should be given proper food when they are in age of 8-14 months, should be given vaccine for measles.

4- **Whooping Cough.**

Whooping cough begins a week or two after being exposed to a child who has it. It starts like a cold with fever, a runny nose, and cough.

Two weeks later, the whoop begins. The child coughs rapidly many times without taking a breath, until she coughs up a plug of sticky mucus, and the air rushes back into her lungs with a loud whoop. While she is coughing her lips and nails may turn blue for lack of air. After the whoop, she may vomit. Between coughing spells the child seems fairly healthy.

Whooping cough often lasts 3 months or more.

Whooping cough is especially dangerous in babies under 1 year of age, so vaccinate children early. Small babies do not develop the typical whoop so it is hard to be sure if they have whooping cough or not. If a baby gets fits of coughing and swollen or puffy eyes when there are cases of whooping cough in your area, treat her for whooping cough at once.

**Treatment.**

* Antibiotics are helpful only in the early stage of whooping cough before the whoop begins. Use ampicillin or co-trimoxazol. It is especially important to treat babies under 6 months at the first sign.
* In severe cases of whooping cough, especially if the cough does not let the child sleep or causes convulsions, send the children to the health center.
* If the baby stops breathing after a cough, turn her over and pull the sticky mucus from her mouth with your finger. Then slap he on the back with the flat of your hand.
* To avoid weight loss and malnutrition, be sure the child gets enough nutritious food. Have her eat and drink shortly after she vomits.

**Complications:**

A bright red hemorrhage (bleeding) inside the white of the eyes may be caused by the coughing. No treatment is necessary. If fits or signs of pneumonia develop get medical help.
**Protect all children against whooping cough.**
**See that they are first vaccinated at 2 months of age.**

5- **Diphtheria**

This begins like a cold with fever, headache, and sore throat. A yellow-gray coating or membrane may form in the back of the throat and sometimes in the nose and on the lips. The child's neck may become swollen. His breath smells very bad.

**If you suspect that a child diphtheria:**
* Put him in bed in a room separate from other persons.
* Get medical help quickly. There is special antitoxin for diphtheria.
* Have him gargle warm water with a little salt.
* Have him breathe hot water vapors often or continually.
* If the child begins to choke and turn blue, try to remove the membrane from his throat using a cloth wrapped around your finger.

Diphtheria is a dangerous disease that can easily be prevented with the DPT vaccine. **Be sure your children are vaccinated.**

## 6- TETANUS (LOCKJAW)

Tetanus results when a germ that lives in the feces of animals or people enters the body through a wound. Deep or dirty wounds are especially dangerous.

### WOUNDS VERY LIKELY TO CAUSE TETANUS.

- animal bites, especially those of dogs and pigs
- gunshot and knife wounds
- holes made with dirty needles
- injuries caused by barbed wire
- puncture wounds from thorns, splinters, or nails

### CAUSES OF TETANUS IN THE NEWBORN BABY.

Tetanus germs enter through the umbilical cord of a newborn baby because of lack of cleanliness or failure to take other simple precautions. The chance of tetanus is greater.

* When the cord is cut along way from the body. The chance of tetanus is greater.
* When the cord has been cut with an instrument that has not been boiled and kept completely clean or .
* When the cord has not been cut close to the body or .
* When the newly cut cord is tightly covered or is not kept dry.

**Signs of tetanus:**

* An infected wound(sometimes no wound can be found).
* Discomfort and difficulty in swallowing.
* The jaw gets stiff (lockjaw), then the muscles of the neck and parts of the body. The person has difficulty walking normally.
* Painful convulsions(sudden tightening) of the jaw and finally of the whole body. Moving or touching the person may trigger sudden spasms.

Sudden noise or bright light may also bring on these spasms.
**In the newborn**, the first signs of tetanus generally appear 3 to 10 days after birth. The child begins to cry continuously and is **unable to suck.** Often the umbilical area is dirty or infected. After several hours or days lockjaw and the other signs of tetanus begin. It is very important to start treating at the first sign.

**What to do when there are signs of tetanus.**

Tetanus is a deadly disease. Seek medical help at the first sign. If there is any delay in getting help, do the following things.

* Examine the whole body for infected wounds or sores. Often the wound will contain pus. Open the wound and wash it with soap and cool, boiled water, completely all dirt, pus, thorn, splinters, etc; flood the wound with hydrogen peroxide if you any.
* Inject 1 million units of procaine penicillin at once and repeat every 12 hours(For newborn babies crystalline penicillin is better) if there is no penicillin, use another antibiotic, like Ampicillin.

* As long as the person can swallow, give nutritious liquids in frequent, small sips.
* Touch and move the person as little as possible. Avoid noise bright light.

**How to prevent tetanus:**

Even in the best hospitals, half the people with tetanus die, it is much easier to prevent tetanus than to treat it.

**Vaccination:** This is the surest protection against tetanus. Both children and adults should be vaccinated. Vaccinate your whole family at the nearest health center. For complete protection, the vaccination should be repeated once every 10 years, **Vaccinating women against tetanus each time they are pregnant will prevent tetanus in newborn infants.**

* When you have a wound, especially a dirty or deep wound clean and take care of it.
* If the wound is very big, deep, or dirty, seek medical help. If you have not been vaccinated against tetanus, take penicillin. Also consider getting an injection of an antitoxin for tetanus.
* In newborn babies, cleanliness is very important to prevent tetanus. The instrument used to cut the umbilical cord should be sterilized the cord should be cut short, and the umbilical area kept clean and dry.

**Infantile Paralysis (Polio, Poliomyelitis)**

Polio is most common in children under 2 years of age. It is caused by a virus infection similar to a cold, often with fever, vomiting, diarrhea, and sore muscles. Usually the child gets completely well in a few days. But sometimes a part of the body becomes weak or paralyzed. Most often this happens to one or both legs. In time, the weak limb becomes thin and does not grown as fast as the other one.

Fig P.317

**Treatment:**

Once the disease has begun, no medicine will correct the paralysis. (However, sometimes part or all of the lost strength slowly returns.) Antibiotics do not help. For early treatment, calm the pain with acetaminophen (Paracetamol) and put hot soaks on painful muscles.

**Prevention:**

* Vaccination against polio is the best protection.
* Do not give injections of any medicine to child with signs of a cold fever, or other signs that might be caused by the polio virus. The irritation caused by an injection could turn a mild case of polio without paralysis into a severe case, with paralysis. **Never inject children with any medicine unless it is absolutely necessary.**
* Keep any child with signs of a cold and fever in a separate room, away from other children. The mother and father should wash their hands after touching the child.

**See that children are vaccinated against polio, with 'polio drops' at 2,3, AND 4 months of age.**

8- **Mumps.**

The first symptoms begin 2 or 3 weeks after being exposed to someone with mumps.

Mumps begin with fever and pain on opening the mouth or eating in 2 days, a soft swelling appears below the ears at the angle of the jaw. Often it comes first on one side, and later on the other side.

**Treatment.**

The swelling goes away by itself in about 10 days, without need for medicine. Acetaminophen (paracetamol) can be taken for pain and fever. Feed the child soft, nourishing foods and keep his mouth clean.

**Complications:**

In adults and children over 11 years of age, after the first week there may be pain in the belly or a painful swelling of the testicles in men. Persons with such swelling should stay quiet and put ice packs or cold wet cloths on the swollen parts to help reduce the pain and swelling.
If signs or meningitis appear, get medical help.

9- **Chickenpox.**

This mild virus infection begins 2 to 3 weeks after a child is exposed to another child who has the disease.

**Signs:**

First many small, red, itchy spots appear. These turn into little pimples or blisters that pop and finally form scabs. Usually they begin on the body, and later on the face, arms, and legs. There may be spots, and scabs, all at the same time. Fever is usually mild.

**Treatment:**

The infection usually goes away in a week. Bathe the child daily with soap and warm water. To calm itching, apply cool cloths soaked in water from boiled and strained oatmeal. Cut fingernails very short. If the scabs get infected, keep them clean. Apply hot, wet compresses, and put an antibiotic ointment on them. Try to keep the child from scratching.

10- **Earache and Ear Infections.**

Ear infections are common in small children. The infection often begins after a few days with a cold or a stuffy or plugged nose. The fever may rise, and the child often cries or rubs the side of his head. Sometimes pus can be seen in the ear. In small children an ear infection sometimes causes vomiting or diarrhea. So when a child has diarrhea and fever be sure to check his ears.

**Treatment:**

1. It is important to treat ear infections early. Give an antibiotic like penicillin or co-trimoxazol. In children under 3 years of age, ampicillin often works better. Give acetaminophen for pain .
2. Carefully clean pus out of the ear with cotton, but do not put a plug of cotton, a stick leaves, or anything else in the ear.

3. Children with pus coming from an ear should bathe regularly but should not swim or dive for at least 2 weeks after they are well.

**Prevention:**

1. Teach children to wipe but not to blow their noses when they have a cold.
2. Do not bottle feed babies-or if you do, don't let a baby feed lying on his back, as milk can go up his nose and lead to an ear infection.
3. When children's noses are plugged up, use salt drops and suck the mucus out with a bulb of syring.

**Infection in the ear canal:**

To find out whether the canal or tube going into the ear is infected, gently pull the ear. If this causes pain, the canal is infected. Put drops of water with vinegar in the ear 3 or 4 times a day (Mix 1 spoon of vinegar with 1 spoon of boiled water.) If there is fever or pus, also use an antibiotic.

## CHAPTER 9

Health Care of Mothers and Women

**PREGNANCY.**

**Signs of pregnancy:**

All these signs are normal:

| Fig P. |
|---|

1. The woman misses her period(often the first sign).
2. 'Morning sickness' (nausea or feeling you are going to vomit especially in the morning). This is worse during the second and third months of pregnancy.
3. She may have to urinate more often.
4. The belly gets bigger.
5. The breasts get bigger or feel tender.
6. 'Mask of pregnancy'(dark areas on the face, breasts, and belly
7. Finally, during the fifth month or so, the child begins to move in the womb.

**How to Stay Healthy during Pregnancy.**

1. Most important is to **eat enough** to gain weight regularly-especially if you are thin.
2. It is very important to **eat well**. The body needs food rich in proteins, vitamins, and minerals, especially iron.
3. **Use iodized salt** to increase the chances that the child will be born alive and will not be retarded. (But to avoid swelling of the feet and other problems, do not use very much salt.)
4. **Keep clean.** Bathe or wash regularly and brush your teeth every day.
5. In the last month of pregnancy, it is perhaps best not to use a vaginal douche and to **avoid sexual contact** to keep from breaking the bag of water and causing an infection.
6. **Avoid taking medicines** if at all possible.(If a health worker is going to prescribe a medicine and you think that you might be pregnant, tell her so.)
7. **Do not smoke** during pregnancy. Smoking is bad for the mother and harm the developing baby.
8. Stay far away from children with measles, especially **German measles.**
9. Continue to work and **get exercise,** but try no to get too tired.

**Minor Problems during Pregnancy.**

1. **Nausea or vomiting:** Normally, this is worse in the morning, during the second or third month of pregnancy. It helps to eat something dry, like crackers or dry bread, before you go to bed at night and before you get out of bed in the morning. Do not eat large meals but rather smaller amounts of food several times a day. Avoid greasy foods.
2. **Heartburn:** in the pit of the stomach or chest (acid indigestion) and heartburn, : Eat only small amounts of food at one time and drink water often. Antacids can help. It may also help to suck hard candy. Try to sleep with the chest and head lifted up some with pillows or blankets.
3. **Swelling of the feet:** Rest at different times during the day with your feet up. Eat less salt and avoid salty foods. Tea made from corn silk may help. If the feet are very swollen, and the hands and face also swell, seek medical advice. Swelling of the feet usually comes from the pressure of the child in the womb during the last months. It is worse in women who are anemic, malnourished, or who eat a lot of salt.
4. **Low back pain:** This is common in pregnancy. It can be helped by exercise and taking care to stand and sit with the back straight.
5. **Anemia and malnutrition:** Many women in rural areas are anemic even before they are pregnant, and become more anemic during pregnancy. To make a healthy baby, a woman needs to eat well. If she is very pale.and weak or has other signs of anemia and malnutrition, she needs to eat more protein and food with iron-foods like beans, groundnut, chicken, milk, cheese, eggs, meat, fish and dark green leafy vegetable. She should also take iron pills, especially if it is hard to get enough nutritious foods. This way she will strengthen her blood to resist dangerous bleeding after childbirth. If possible, iron pills should also contain some folic acid and vitamin C.
6. **Swollen veins(varicose veins):** These are common in pregnancy, due to the weight of the baby pressing on the veins that come from the legs. Put your feet up often, as high as you can. If the veins get very big or hurt, wrap them like this with an elastic bandage, or use elastic stockings. Take off the bandage or stockings at night.
7. **Piles (hemorrhoids):** These are varicose veins in the anus. They result from the weight of the baby in the womb. To relieve the pain, kneel with the buttocks in the air, or sit in a warm bath.
8. **Constipation:** Drink plenty of water. Eat fruits and food with a lot of natural fiber like bran. Get plenty of exercise **Do not take strong laxatives.**

**Danger Signs in Pregnancy**

1. **Bleeding:** If a woman begins to bleed during pregnancy, even a little, this is a danger sign. She could be having a miscarriage (losing the baby, or the baby could be developing outside the womb(ectopic pregnancy). The woman should lie quietly and send for a health worker. Bleeding late in pregnancy (after 6 months is dangerous). Try to get her to a hospital at once.

2. **Severe anemia:** The woman is weak, tired, and has pale or transparent skin. If not treated, she might die from blood loss at childbirth. If anemia is severe, a good diet is not enough to correct the condition in time. See a health worker and get pills of iron salts. If possible, she should have her baby in a hospital, in case extra blood is needed.

3. **Swelling** of the feet, hands, and face, with headache, dizziness, and sometimes blurred vision, are signs of **toxemia or poisoning of pregnancy.** Sudden weight gain, high blood pressure, and a lot of protein in the urine are other important signs.

**To treat TOXEMIA OF PREGNANCY a woman should:**

* Stay quiet and in bed.
* Eat foods rich in protein, but with only a little salt. Avoid salty foods.
* If she does not get better quickly, has trouble seeing, swells more in the face, or has fits (convulsions),get medical help fast.

**THINGS A MOTHER SHOULD HAVE READY BEFORE GIVING BIRTH.**

Every pregnant woman should have the following things ready by the seventh month of pregnancy.

- A lot of very clean cloths or rags.
- A new razor blade, (Do not unwrap until you are ready to cut the umbilical cord).
- An antiseptic soap.
- (If you do not have a new razor blade, have clean, rust-free scissors ready, Boil them just before cutting the cord).
- A clean scrub brush for cleaning the hands and fingernails.
- Sterile gauze or patches of thoroughly cleaned cloth for covering the navel.
- Alcohol for rubbing hands after washing them.
- Two ribbons or strips of clean cloth for tying the cord.
- Clean cotton.
- Both patches and ribbons should be wrapped and seated in paper packets and then baked in an oven or ironed.

## PREPARING FOR BIRTH

Birth is a natural event. When the mother is healthy and everything goes well, the baby can be born without help from anyone. In a normal birth, **the less the midwife or birth attendant does, the more likely everything will go well.**

Difficulties in childbirth do occur, and sometimes the life of the mother or child may be in danger. **If there is any reason to think that a birth may be difficult or dangerous, a skilled midwife or experienced doctor should be present**

**Signs of Special Risk that Make it Important that a Doctor or Skilled Midwife Attend the Birth-if Possible in a Hospital:**

* If the woman begins to bleed before labor.
* If there are signs of toxemia of pregnancy.
* If the woman is suffering from a chronic or acute illness.
* If the woman is very anemic, or if her blood does not clot normally (when she cuts herself)
* If she is under 15 or over 35 at her first pregnancy.
* If she is especially short or has narrow hips.
* If she has had serious trouble or severe bleeding with other births.
* If she has diabetes or heart trouble.
* If she has a hernia.
* If it looks like she will have twins.
* If it seems the baby is not in a normal potion in the womb.
* If the bag of waters breaks and labor does not begin within a few hours. (The danger is even greater if there is fever.)

SIGNS THAT SHOW LABOR IS NEAR

* A few days before labor begins, **the baby moves lower** in the womb. This lets the mother breathe more easily, but she may need to urinate more often because of pressure on the bladder. (In the first birth these signs can appear up to 4 weeks before delivery).
* A short time before the labor begins, a small **plug of mucus** (jelly) may come out. Or some mucus may come out for 2 or 3 days before labor begins. Sometimes it is tinted with blood. This is normal.
* The **contractions** (sudden tightening of the womb) or labor pains may start up to several days before childbirth; at first a long time usually passes between contractions-several minutes or even hours. When the contractions become stronger, regular, and more frequent, labor is beginning.
* Some women have a few **practice contractions** weeks before labor. This is normal. On rare occasions, a woman may have **false labor.** This happens when the contractions are coming strong and close together, but then stop for hours or days

before childbirth actually begins. Sometimes walking a warm bath, or resting will help calm the contractions if they are false, or bring on childbirth if they are real. Even if it is false labor, the contractions help to prepare the womb for labor.

Labor pains are caused by contractions or tightening of the bomb. Between contractions the womb is relaxed.
During contractions, the womb tightens and lifts up.
The contractions push the baby down farther. This causes the cervix or 'door of the womb' to open-a little more each time

* The **bag of water** that holds the baby in the womb usually breaks with a flood of liquid sometimes after labor has begun. If the waters break before the contractions start, this usually means the beginning of labor. After the water break, the mother should keep very clean. Walking back and forth may help bring on labor more quickly. To prevent infection, avoid sexual contact, do not sit in a bath of water, and do not **douche**. If labor does not start within 12 hours, seek medical help.

THE STAGES OF LABOR

Labor has 3 parts or stages:

* The first stage .lasts from the beginning of the strong contractions until the baby drops into the birth canal.
* The second stage lasts from the dropping of the baby into the birth canal until it is born.
* The third stage lasts from the birth of the baby until the placenta (afterbirth ) comes out.

The first stage of labor usually lasts 10 to 20 hours or more when it is the mother's first birth, and from 7 to 10 hours in later births. This varies a lot.

The mother should keep her bowels and bladder empty. If the bladder and the bowels are full, they get in the way when the baby is being born.

During labor, the mother should urinate often. If she has not moved her bowels several hours, an enema may make labor easier. During labor the mother should drink water or other liquids often. Too little liquid in the body can slow down or stop labor if labor is long. she should eat lightly, as well, If she vomiting, she should sip a little O.R.S. or fruit juices between each contraction.

During labor the mother should change positions often or get up and walk about from time to time. She should not lie flat on her back for a long time.

During the first stage of labor, the midwife or birth attendant should:

* Wash the mother's belly, genitals, buttock, and legs well with soap and warm water. The bed should be in a clean place with enough light to see clearly.
* Spread clean sheets, towels, or newspapers on the bed and change them whenever they get wet or dirty.
* Have a new, unopened razor blade ready for cutting the cord, or boil a pair of scissors for 15 minutes. Keep the scissors in the boiled water in a covered pan until they are needed.

The midwife should not massage or push on the belly. She should not ask the mother to push or bear down at this time.

If the mother is frightened or in great pain, have her take deep, slow, regular breaths during each contraction, and breathe normally between them. This will help control the pain and calm her. Reassure the mother that the strong pains are normal and that they help to push her baby out.

**The second stage of labor:**

**THE SECOND STAGE OF LABOR**, in which the child is born, sometimes this begins when the bag of water breaks. It is often easier than the first stage and usually does not take longer than 2 hours. During the contractions the mother bears down (pushes) with all her strength. Between contractions, she may seem very tired and half asleep. This is normal.

To bear down, the mother should take a deep breath and push hard with her stomach muscles, as if she were having a bowel movement if the child comes slowly after the bag of waters breaks, the mother can double her knees, while squatting, sitting propped up, kneeling, or lying down.

When the birth opening of the mother stretches, and the baby's head begins to show, the midwife or helper should have everything ready for the birth of the baby. At this time the mother should try **not** to push hard, so that the head comes out more slowly. This helps prevent tearing of the opening.

**In a normal birth, the midwife NEVER needs to put her hand or finger inside the mother.** This is the most common cause of dangerous infections of the mother after the birth.

When the head comes out, the midwife may support it, but must **never** pull on it.

**Normally the baby is born head first:**

This helps prevent tearing the opening.

1. The head usually comes out to face down. If the baby has faces (shit) in her mouth and nose, clean it out immediately.
2. Then the baby's body turns to one side that shoulder can come out.

**If the shoulders get stuck after the head comes out:**

The midwife can take the baby's head in her hands and lower it very carefully, so the shoulder can come out.

Then she can raise the head a little so that the other shoulder comes out.

All the force must come from the mother. The midwife should **never pull on the head, or twist or bend the baby's neck**, because this can harm the baby.

THE THIRD STAGE OF LABOR

The third stage of labor begins when the baby has been born and lasts until the placenta (afterbirth) comes out. Usually, the placenta comes out by itself 5 minutes to an hour after the baby. In the meantime, care for the baby. If there is a lot of bleeding or if the placenta does not come out within 1 hour, seek medical help.

**CARE OF THE BABY AT BIRTH**

Immediately after the baby comes out:

* Put the baby's head down so that the mucus comes out of his mouth and throat. Keep it this way until he begins-to breathe.
* Keep the baby below the level of the mother until the cord is tied. (This way, the baby gets more blood and will be stronger)
* If the baby does not begin to breathe right away, rub his back with a towel or a cloth.
* If he still does not breathe, clean the mucus out of his nose and mouth with a suction bulb or a clean cloth wrapped around your finger.
* If the baby has not begun to breathe within one minute after birth, start MOUTH-TO-MOUTH BREATHING at once.
* Wrap the baby in a clean cloth. It is very important not to let him get cold, especially if he is premature (born too early).

**How to Cut the Cord**

When the child is born, the cord pulses and is fat and blue. After a while, the cord becomes thin and white. It stops pulsing, tie it in 3 places with very clean, dry strips of cloth, string or ribbon. These should have been recently ironed or heated in an oven. Cut between the first and second ties.

**Care of the Cut Cord**

The most important way to protect the freshly cut cord from infection is to keep it dry. To help it dry out, the air must get to it. If the home is very clean and there are no flies, leave the cut cord uncovered and open to the air. If there are dust and flies, cover the cord lightly. It is best to use sterile gauze. Cut it with boiled scissors. Put it on the novel:

If you do not have sterile gauze, you can cover the navel with a very clean and freshly ironed cloth. It is better not to use a belly band, but if you want to use one use a thin light cloth, like cheesecloth, and be sure it is loose enough to let air under it, to keep the navel dry. Do not make it light.

Be sure the baby's nippy (diapers)does not cover the navel, so that the cord does not get wet with urine.

**Cleaning the Newborn Baby:**

With a warm, soft, damp cloth, gently clean away any blood or fluid.

It is better not to bathe the baby until after the cord drops off(usually 5 to 8 days). Then bathe him daily in warm water, using a mild soap.

**Put the Newborn Baby to the Breast at Once:**

Place the baby at its mother's breast as soon as the cord is cut. If the baby nurses, this will help to make the afterbirth come out sooner and to prevent or control heavy bleeding.

**CARE OF THE NEWBORN BABY:**

1- **The Cord.**

To prevent the freshly cut cord from becoming infected, it should be kept **clean** and **dry.**

**2- The Eyes.**

To protect a newborn baby's eyes from dangerous conjunctivitis, put 2 drops of 1% silver nitrate, in each eye as soon as he is born or use tetracycline eye ointment.

**Keeping the Baby Warm - But Not Too Warm.**

Protect the baby from cold, but also from too much heat. Dress him as warmly as you feel like dressing yourself.

**Cleanliness.**

It is important to follow the Guidelines of Cleanliness. Take special care with the following:

* Change the baby's diapers(nippy) or bedding each time he wets or dirties them. If the skin gets red, change the diaper more often-or better, leave it off.
* After the cord drops off, bathe the baby daily with mild soap and warm water.
* If there are flies or mosquitos, cover the baby's crib with mosquito netting or a thin cloth.
* Persons with open sores, colds, sore throat, tuberculosis, or other infectious illnesses should not touch or go near the newborn baby or the woman while she is giving birth.
* Keep the baby in a clean place away from smoke and dust.

**Feeding:**

Breast milk is by far the best food for a baby. Babies who nurse on breast milk are healthier, grow stronger, and are less likely to die. This is why:

* Breast milk has a better balance of what the baby needs than does any other milk, whether fresh, canned, or powdered.
* Breast milk is clean. When other foods are given, especially by bottle feeding, it is very hard to keep things clean enough to prevent the baby from getting diarrhea and other sicknesses.
* The temperature of breast milk is always right.
* Breast milk has things in it (antibodies) that help protect the baby against certain illnesses such as diarrhea, measles, and polio.

**HOW A MOTHER CAN PRODUCE MORE BREAST MILK:**

She should....

* drink plenty of liquids.
* eat as well as possible, especially milk, milk products, and body-building foods.
* get plenty of sleep and avoid getting very tired or upset.
* nurse her baby more often at least every 2 hours.

**Care in Giving Medicines to the Newborn:**

Many medicines are dangerous for the newborn. Use only medicines you are sure recommended for the newborn and use them only when they are absolutely necessary. Be sure you know the right dose and do not give too much.

**THE MOTHER'S HEALTH AFTER CHILDBIRTH:**

**Diet and Cleanliness:**

After she gives birth to a baby, the mother can and should eat every kind of nutritious food she can get. She does not need to avoid any kind of food. Foods that are especially good for her are milk, cheese, chicken, eggs, meat, fish ,fruits, vegetables, grains, beans, groundnut, etc. If all she has is corn and beans, she should eat them both together at each meal. Milk and other dairy products help the mother make plenty of milk for her baby.

The mother can and should bathe in the first few days after giving birth. In the first week, it is better if she bathes with a wet towel and does not go into the water. Bathing is not harmful following childbirth. In fact, women who let many days go by without bathing may get infections that will make their skin unhealthy and their babies sick.

During the days and weeks following childbirth, the mother should eat nutritious foods and bathe regularly.

**Childbirth Fever (Infection after Giving Birth):**

Sometimes a mother develops fever and infection after childbirth, usually because the midwife was not careful enough to keep everything very clean or because she put her hand inside the mother.

**The signs of childbirth fever are:**

Chills or fever headache or low back pain. Sometimes pain in the belly, and a foul-smelling or bloody discharge from the vagina.

Child birth fever can be very dangerous. If the mother does not get well soon, get medical help.

**CARE OF THE BREASTS**

Taking good care of the breasts is important for the health of both the mother and her baby. Breast feeding should be started the same day the baby is born. At first the baby may not suck much, but this lets the mother's body get used to his sucking, and helps

prevent sore nipples. The very first milk the breast makes (called colostrum) also protects the baby against infection and is rich in protein. Although it looks watery, this first milk is very good for the baby. So,...

BEGIN BREAST FEEDING THE SAME DAY THE BABY IS BORN.

Normally, the breasts make as much milk as the baby needs. If the baby empties them, they begin to make more. If the baby does not empty them, soon they make less. But when a baby gets sick and stops sucking, after a few days the mother's breasts stop making milk. So when the baby is able to suck again, and needs a full amount of milk, there may not be enough. For this reason.

**When a baby is sick and unable to take much milk it is important that the mother keep producing lots of milk by milking her breasts with her hands.**

Another reason it is important to milk the breast when the baby stops sucking is that this keeps the breasts from getting too full. When they are too full, they are painful. A breast that is painfully full is more likely to develop an abscess. Also, the baby may have trouble sucking them even if he wants to.

When your baby is too weak to suck, squeeze milk out of your breast by hand and give it to the baby by spoon or dropper.

Always keep your breasts clean. Before breast feeding your baby, wipe your nipples with a clean, moist cloth. Do not use soap each time you clean your nipples, as this may lead to cracking of the skin, sore nipples, and infection.

**Sore Nipples:**

Sore nipples may develop when the baby bites on the nipple instead of taking the whole thing into his mouth . This is most likely to happen in women who have short nipples.

**Prevention.**

For a woman with short nipples or nipples that sink into the breast, it helps to squeeze the nipples several times a day during pregnancy. This will make it easier for her child to suck, and she will be suck, and she will be less likely to get sore nipples.

**Treatment:**

It is important to keep breast feeding the baby, even though this hurts. First let him suck the side that is least sore. Only stop breast feeding if the nipple oozes a lot of blood or pus. In this case, milk the breast by hand until the nipple heals. When the baby feeds again on the breast, be sure the whole nipple enters his mouth.

**Breast Abscess (Infection Inside the Breast, Mastitis)**

A breast abscess may result from an infection that enters through a sore or cracked nipple. This is most common during the first weeks or months of breast feeding.

**Signs:**

Part of the breast becomes hot, red, swollen, and very painful. Lymph nodes in the armpit are often sore and swollen. A severe abscess sometimes bursts and drains pus. The woman may have a fever.

**Prevention:**

* Keep the breast clean. If a sore nipple or painful cracks develop, breast feed the baby for shorter periods, but more often.
* Also put a little vegetable oil or baby oil on the nipples after each feeding.

**Treatment:**

* Let the baby continue to feed from the abscessed breast, or milk it by hand, whichever is less painful.
* Use cold water or ice compresses to ease the pain. Also take aspirin.
* Take an antibiotic as for childbirth fever.

Note: If there is sore in the nipple and discharge and blood comes out along with milk, stop feeding the child and squeeze the milk out of the nipples.

## CHAPTER 10

## HEALTH CARE

## HOW TO AVOID MANY SICKNESSES

An ounce of prevention is worth a pound of cure. If we all took more care to eat well, to keep ourselves, our homes, and our villages clean, and to be sure that our children are vaccinated, we could stop most sicknesses before they start.

I. PERSONAL AND FAMILY HYGIENE:

As a community health worker you should set an example of healthy living and good health in the community. The community will then imitate your habits.

People will learn healthy habits by watching how you live and look after your family and house.

Cleanliness is the most basic health habit.

**You and your family should have healthy habits:**

1. Look clean,

   Bathing

   You and your family should bath in a safe place where the water flows rapidly and no plants are growing. It is a good idea to have a bathroom in the house if people can afford it. If you use soap, you will need less water and your skin will be cleaner.

2. Wash your hands before and after meals, and keep your fingernails short and clean.

   Washing hands is important

   You and your family may catch diseases or pass diseases on to other people if you do not all keep your hands clean.

   Food prepared with dirty hands can carry diseases.

   Even if water is scarce, try to wash hands with soap and water at least before you prepare and eat food, and after defecating.

   Discuss with people how they can prevent diseases by keeping their hands clean.

3. Do not smoke cigarettes or chew tobacco.

Smoking cigarettes and chewing tobacco harms health.

Do no smoke. Cigarette smoke harms your lungs and your family's lungs.

It may cause coughing and yellow sputum. Smoking cigarettes can also cause serious diseases such as cancer.

Chewing tobacco harms the teeth and can also cause cancer.

You cannot advise people not to smoke or chew tobacco if you do these things yourself.

4. Boil the water to prepare feeds for small children.

5. Use a safe bathing place.

6. Clean your teeth after meals.

Do you brush or clean your teeth after every meal? Advise others to do this as well. Discuss with people why it is a good habit to clean the teeth after meals.

7. Have one or more latrines, which all members of the family use.

8. Never urinate or defecate anywhere on the ground or in water.

9. Do not spit on the ground.

Never spit carelessly.

Spitting is a bad habit. Spit contains germs that can cause disease. Advise people not to spit on the ground.

When you have to spit, you should spit into a special cloth or a container. Keep the container clean by washing it regularly.

10. Wear shoes or sandals that are made or obtained locally. Use simple, locally made shoes or sandals.

Some worms (hookworms) enter the body through the feet. This can be prevented by wearing shoes. If you wear simple locally made shoes, others can more easily imitate what you do than if you wear expensive shoes.

Encourage people to wear shoes.

11. Never drink alcohol.

## II. HOUSING

The house is the center of family life. The kinds of houses in which people live affect their health. Good houses protect health. Bad houses may damage health.

The BHW should know how housing affects health and should be able to advise people on how to improve their house in order to have a healthier environment and better health.

In judging how good a house is, consider five important points:

* the site of the house
* the amount of space, the layout, and the ventilation
* protection against rain and wind, heat and cold, insects and animals
* materials used in constructing the house
* how people maintain and use their house.

**A healthy house**

A healthy house need not be a big house made of modern materials. Traditional houses often suit people's need and activities and the local climate better than "modern" houses. Often traditional houses can be made more healthy if attention is paid to cleanliness and simple improvements that do not cost mush.

You should speak to your supervisor about how housing can best be improved in your area. He can tell you what to look for to see whether a house is healthy, and how to improve it in the easiest and cheapest way.

In general, a healthy house is:

1. Close to a reliable supply of safe water.
2. More than 100 meters away from a place where people dump waste.
3. Close to a sanitary means of disposal of excreta.
4. In a place from which rainwater and waste water drain away and where puddles do not form.
5. Enough spaces so that people are not crowded together, especially when sleeping.

6. Barriers to keep animals out and a fenced-off area, at least 10 m from the house and from outdoor living areas, for goats, sheep, pigs, cows, or other domestic animals.

7. Separate places for bathing and washing household utensils and clothes, with drainage of waste water to plants in the garden.

8. A place to store food and water, which can be reached easily but can also be kept very clean and safe from rats, mice and other animals and insects.

9. A place for fire or cooking stove (under a chimney or an opening in the roof to let out the smoke), which is protected to minimize danger of burns and scalds, especially to little children.

10. Windows that permit cross-currents of air so that fresh air may enter and stale or smoky air may be drawn or blown out.

11. Protected places to store dangerous substances and objects out of the reach of children.

12. A good roof to keep out the rain.

13. Good walls and doors to protect against bad weather, and to keep out animals.

14. Screens of netting wire at the windows and doors to keep out insects, especially mosquitos.

15. Sunshades all around to protect the walls from direct sunlight in hot weather.

16. A floor of wood, stamped clay, bamboo, concrete, tiles, or similar material so that people do no have to walk on the bare earth and so that the floor can be easily cleaned.

17. Walls with a smooth hard surface so that they can be easily cleaned and with no holes or cracks in which insects, rodents or other carriers of disease can live.

## III. WATER SUPPLY

Much sickness is caused by dirty or unsafe water.

To be healthy, people need clean water for:

* drinking
* preparing and cooking food
* washing the body
* washing clothes.

A clean water supply is essential for community health. Clean water comes from a protected tap, spring, well, or borehole. Water for drinking from any other source should first be treated to make it safe. When it cannot be boiled, it should be cleaned by filtration. The vessels and other containers used for storing or carrying water must be kept clean.

The whole community should always be concerned with improving and maintaining the quality of the water supply.

### Dirty water causes diarrhoea

If people often get diarrhoea in your community you should check where people get their water from and how they use it. The use of unclean water is often a main cause of diarrhoea.

Visit the places where the people get their water from and decide what is wrong and what action should be taken to improve the situation.

The people usually get water from:

* a pond
* a river
* a spring
* a well or borehole
* a tank (rainwater).

The people may be drawing the water directly from the source or the water may be coming through pipes to a common village tap or stand-pipe or to separate house connections.

Watch how they draw their drinking-water from the source and how they carry and store it. Visit houses to find out what they do to keep their drinking-water clean.

**A- Water from a pond:**

If there is no other place from which to get water.

Tell the people to boil the water, filter it, or disinfect it with chemicals before drinking and store it in a clean container. They should avoid bathing in the pond. Discuss with the village chief how to find some other way of getting clean water such as from a river or a spring.

**If there is another place (river, spring or well) from which to get water**

First make sure the other sources are clean and not too far away. Then advise the people not to use water from the pond for drinking.

The pond can then be used for other purposes such as watering the cattle, or watering gardens, but not for drinking or cooking.

**B- Water from a river**

If there is no other place to get water from

The people should draw water from the river before it reaches the village (see drawing below, point no. 1) and boil, filter, or disinfect the water before drinking it.

They should bathe and wash clothes only where the river leaves the village, and only let the animals drink the water further down the river.
Ask your supervisor if it is safe or people to bathe in the river.

**If there is a well or spring**

Advise the people that it is safer to get drinking-water from a well or spring if the water from these sources is known to be clean. See next two sections on wells and springs.

**C- Water from a spring**

Spring water is usually clean, but only if the spring is well protected. A spring is properly protected when,

1. There is a fence all the way around it and there is a gate that is kept closed and is opened only when someone wants to get water.

2. There is a ditch around the spring to let the water drain away.

3. There is a cemented stone wall half a meter high round the spring.

4. There is a pipe coming out of this wall and the water is taken from this pipe.

5. There is a cover over the spring to keep out animals, birds, insects, and dirt.

**If the spring is not properly protected or is not being used.**

See the village chief and help the village to have it properly protected. Se your supervisor if you cannot arrange to get water from the spring or protect it properly.

**If the people want to bring the water from a spring to the village through pipes.**

This is usually a very good idea. Consult your supervisor about any help or advice that may be needed.

**D- Water from a well:**

Water from a well is usually clean, but only if the well is properly protected.

**A well is properly protected if:**

1. It is least 20 meters away and uphill from any latrine or rubbish heap.

2. It is a least 3 meters deep.

3. It is lined inside with stones stuck with mortar.

4. There is a stone wall around it which is at least half a meter high.

5. I has a removable cover and a hand-pump, if possible, or another simple device for a drawing water.

6. There is a ditch for the rainwater to drain away.

7. People do not let dirt get into it and they do not wash in it.

8. Any water that is spilled can drain away from the well.

**If the well is not protected**

Discuss with the community committee how the well may be protected. Talk with your supervisor about choosing a place for a new well if necessary.

If the people want to improve the well (by putting in a pump, for example) or if they are talking about drilling to search for water, ask your supervisor's advice.

**People carry water from the well or spring in a container and store it at home**

**The water can be kept clean if the container:**

* is kept clean
* is cleaned and rinsed before it is filled
* is disinfected with bleaching powder or by boiling water in it
* is used only for clean water
* is kept covered with a clean cloth or lid.

## IV. DISPOSAL OF EXCRETA: LATRINES

People who have diarrhoea, cholera, or worms pass these diseases on through their faeces. Like waste, faeces attract flies and animals. Flies that land on faeces that contain germs can carry these germs to food, and people who eat such food may fall ill. Therefore, people should not be careless about where they defecate.

If people defecate near a river or spring there is a danger that the water can become dirty, and that people drinking this water may then fall ill.

To prevent the diseases that are spread through faeces, people should not defecate in places where other people flies, animals and birds can touch the faeces, or where water can be contaminated.

Every household should have a latrine of its own.

If human excreta is left in a pit for 2-3 months it turns into fertilizer. This can be used in the fields to grow plants. If you want to know more about this, ask your supervisor.

**The problem**

Some people in your community defecate carelessly in the open. Others do not keep their latrines clean. Many children and other people are suffering from diseases that are carried by faeces. The people do not know that the way they defecate causes diseases to spread. What do you do?

First find out where the villagers go to defecate, then discuss why it is dangerous to defecate just anywhere. The following actions can be taken depending upon the situation in your community.

**When people have no latrines**

**If people defecate around their houses**

There is a danger of disease from faeces, particularly when people defecate less than 20 meters away from the house or on the paths that lead to the house.

* Advise the head of the household to tell the family to defecate in a latrine or, if they have no latrine, to defecate in a latrine or, if they have no latrine, to defecate in the field away from the house.
* Ask for the help of the village chief. He may speak to the people about the problem. If he wants the people to build latrines, ask your supervisor for help. Afterwards make sure that the latrines are being used properly.

**If people defecate in the river**

The river water becomes dirty and dangerous when people defecate in it. Tell the people not to defecate:

* in the river

* within 20 meters of the river

* on the path leading to the river.

If people continue to do so in spite of your telling them not to, ask the village chief to help in persuading the people to build latrines and not to defecate in or around the river.

**If people defecate in the fields or the forest**

There is not much danger of disease if people defecate in the fields or the forest, provided that:

* People defecate at least 20 meters away from any house, spring. well, river, etc.

* People defecate far away from any path or track.

In the open, it is better to defecate in sunny places rather than in the shade. The sun can kill the germs in the faeces. People should not defecate in agricultural fields.

Remember, it is always best to use a latrine, if possible.

**When people have latrines but do not use them properly**

Advise the head of the household to:

* make sure that no faeces are left on the slab (cover) of the latrines

* have the latrine scrubbed and cleaned regularly with water.

Check from time to time to see whether the people are keeping their latrines clean.

**When people use latrines properly**

Even when people are careful and use their latrines properly, their children may suffer from diseases spread by faeces because other people defecate carelessly. People who use latrines properly may be able to help you in showing other people how to make latrines and use them properly.

**When is a latrine properly built?**

A proper latrine has the following features:

1. It is downhill and more than 20 meters away from the water supply (well, river, borehole, spring, pond).

2. It is at least 20 meters away from the house.

3. It has a pit at least 1 meter deep.

4. It has a slab (cover) over the pit made of concrete (best) or wood; the slab has a hole through which faeces and urine can drop. The hole should be small enough so that children too can use the latrine; but it should be large enough for faeces and urine to fall through it. The hole should have a cover.

5. It has walls and a roof made of materials that are easy to get and cheap to but and repair.

6. It is kept clean. (A separate broom and water bucket should be kept for cleaning the latrine. Water for washing or leaves or paper for cleaning oneself should also be kept in the latrine.)

Other types of latrines can also be built, depending on local conditions. You should discuss this with your supervisor.

**When is a latrine properly used?**

A latrine is properly used when:

* everyone in the household uses it

* it is kept clean and the floor and the slab are washed often

* the pit is kept covered when the latrine is not being used

* materials for personal cleaning are always available (water, leaves, paper)

* the pit is emptied or a new one is dug when the pit is full.

When a new pit is dug, the latrine is moved to the new site. The earth from the new pit is used to cover the old one, but the same slab is used to keep the new pit covered.

**Always remember!**

1. To avoid diseases carried by faeces, people should defecate in a latrine.

2. When there are no latrines, people may defecate in a hole far away from the house and from the water supply (village well, river, spring or pond). Cover the hole with earth after defecating.

3. Always wash hands with soap and water after defecating.

## V. FOOD SAFETY

Food is very precious. People should not let it go bad or be eaten or spoiled by rats and other animals.

It should be kept clean at every stage -- from production until it is eaten. Stale or contaminated food can cause diarrhoea and other diseases.

Food can also be contaminated by chemicals through:

* careless use of household insecticides
* careless use of pesticides by the farmer
* treatment of seeds with chemicals
* accidental contamination during transport and storage.

You should know how to prevent the diseases or sicknesses that people can get from eating stale or contaminated foods.

Find out:

* What people eat
* how they prepare their food
* how they store their food.

Then decide what action to take.

**What do the people eat?**

The main problems with grain concern storage.

**Vegetables**

Vegetables that will be eaten raw should not be fertilized with faeces. When faeces have been used as fertilizer, vegetables should always be well washed and properly cooked before they are eaten.

**Meat**

Eating raw or undercooked meat can be very dangerous. Eating infected or contaminated meat can cause sever vomiting and diarrhoea, infestation with worms, and other illnesses that sometimes cause death.

**Food animals should be slaughtered hygienically and in a way that prevent disease.** The food animals should be healthy. They should be hanging during slaughter, and after that they should be fully bled. The slaughterhouse (abattoir) or the place of slaughtering should be fenced off and kept clean. Diseased parts (e.g., liver with worms) found during removal of the offal and processing of the carcass should be burned or buried and not given to dogs.

**How to prevent contamination of food**

People who handle, prepare, and serve food should wash their hands well, with clean water and soap. They should always keep any finger wounds bandaged cleanly. The tables or other surfaces on which food is prepared, and the utensils used, should be kept clean.

Show the women who prepare food at home how to wash and dry their hands properly and to clean their nails.

Show the people who work in the restaurants and food shops how to wash and dry their hands properly. Ask the village chief to remind the people in the community from time to time to wash their hands before they touch food, especially after they have been to the latrine.

People should also be reminded regularly to:

* cook food for only one meal at a time, unless they can chill the leftovers
* see that the food is eaten soon after it is cooked -- food should not be left for long in a warm place.

**How should people store their food?**

**Storing cooked food**

Put the food in a clean container in which water has just been boiled or which has been rinsed with hot water. Cover the container with a clean cloth. Store it in a cool place which is protected against flies, other insects, mice, rats, and other animals.

In hot countries, people often store drinking-water in a shaded, but breezy, corner of the house. This keeps the water cool. It is a good idea to store cooked food near the drinking-water vessel. This will keep the food cool and unspoiled for a few hours. If earthen pots are used to store water, the place around the vessel will be even cooler.

**Storage of grain**

The grain store is properly protected against rats if:

* it is closed on all sides
* it is raised at least 30 cm above the ground
* there is no grain (or other food) lying around near it or near the house
* there is a lid to close the container properly
* metallic cones are placed on the poles that support the container to prevent the rats from climbing up

If you see a grain store that is not properly protected against rats, show the head of the household what to do. If after a month there are still some rats, consult your supervisor.

**Always remember!**

Dirty food brings disease (particularly diarrhoea) to the whole family

To avoid wasting food:

* prevent flies, worms, rats and other animals from reaching the food and eating or contaminating it
* eat the food soon after it is cooked.

To keep the food clean and safe:

* wash you hands before touching or preparing food
* prevent dust from the house and the road, flies, clothes, mice, rats, animals, and children's or adults' hands from touching what is going to be eaten
* cook enough food for one meal only and never keep left-overs if you cannot chill them
* keep your kitchen utensils clean
* do not leave clean utensils lying on the ground.