

📖 **Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)**

➔ **Chapter 12 - PREVENTION: HOW TO AVOID MANY SICKNESSES**

📄 **(introduction...)**

📄 **Cleanliness - and Problems that Come from Lack of Cleanliness**

📄 **Basic Guidelines of Cleanliness**

📄 **Public Cleanliness (Sanitation)**

📄 **Worms and Other Intestinal Parasites**

📄 **Roundworm (Ascaris)**

📄 **Pinworm, Threadworm, Seatworm (Enterobius)**

📄 **Whipworm (Trichuris, Trichocephalus)**

📄 **Hookworm**

📄 **Tapeworm**

📄 **Trichinosis**

📄 **Amebas**

📄 **Giardia**

📄 **Blood Flukes (Schistosomiasis, Bilharzia)**

📄 **Vaccinations (Immunizations) - Simple, Sure Protection**

📄 **Other Ways to Prevent Sickness and Injury**

📄 **Habits That Affect Health**

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Chapter 12 - PREVENTION: 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. In Chapter 11 we discussed eating well. In this chapter we talk about cleanliness and vaccination.**

Cleanliness - and Problems that Come from Lack of Cleanliness

Cleanliness is of great importance in the prevention of many kinds of infections - infections of the gut, the skin, the eyes, the lungs, and the whole body. Personal cleanliness (or *hygiene*) and public cleanliness (or *sanitation*) are both important.

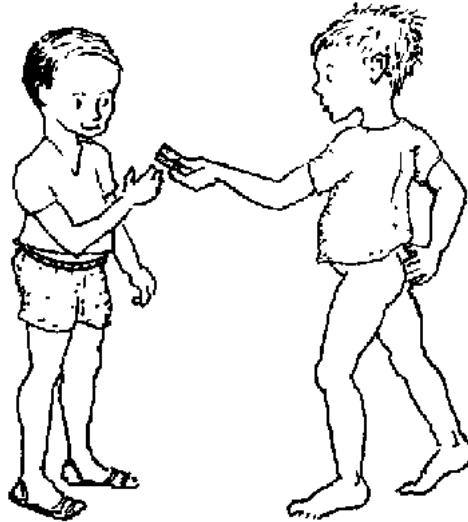
Many common infections of the gut are spread from one person to another because of poor hygiene and poor sanitation. Germs and worms (or their eggs) are passed by the thousands in the *stools* or *feces* (shit) of infected persons. These are carried from the feces of one person to the mouth of another by dirty fingers or *contaminated* food or water. Diseases that are spread or *transmitted* from *feces-to-mouth* in this way, include:

- **diarrhea and dysentery (caused by amebas and bacteria)**
- **intestinal worms (several types)**
- **hepatitis, typhoid fever, and cholera**
- **certain other diseases, like polio, are sometimes spread this same way**

The way these infections are transmitted can be very direct.

For example: A child who has worms and who forgot to wash his hands after his last bowel movement, offers his friend a cracker. His fingers, still dirty with his own stool, are

covered with hundreds of tiny worm eggs (so small they cannot be seen). Some of these worm eggs stick to the cracker. When his friend eats the cracker, he swallows the worm eggs, too.



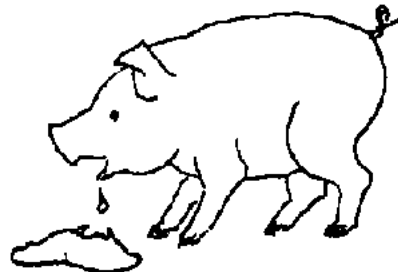
Figure

Soon the friend will also have worms. His mother may say this is because he ate sweets. But no, it is because he ate shit!

Many times pigs, dogs, chickens, and other animals spread intestinal disease and worm eggs. For example:



A man with diarrhea or worms has a bowel movement behind his house.



A pig eats his stool, dirtying its nose and feet.



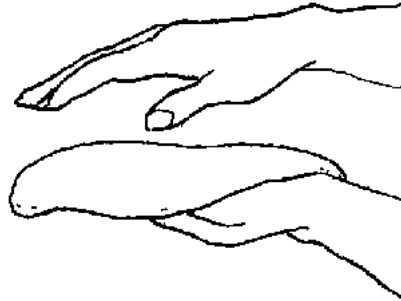
Then the pig goes into the house.



In the house a child is playing on the floor. In this way, a bit of the man's stool gets on the child, too.



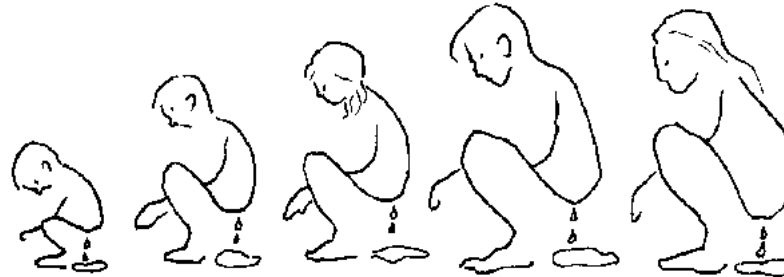
Later the child starts to cry, and the mother takes him in her arms.



Then the mother prepares food, forgetting to wash her hands after handling the child.



The family eats the food.



And soon, the whole family has diarrhea or worms.

Many kinds of infections, as well as worm eggs, are passed from one person to another in the way just shown.

If the family had taken any of the following precautions, the spread of the sickness could have been prevented:

- if the man had used a latrine or out-house,
- if the family had not let the pigs come into the house,
- if they had not let the child play where the pig had been,
- if the mother had washed her hands after touching the child and before preparing food.

If there are many cases of diarrhea, worms, and other intestinal parasites in your village, people are not being careful enough about cleanliness. If many children die from diarrhea, it is likely that poor nutrition is also part of the problem. To prevent death from diarrhea, both cleanliness and good nutrition are important (see Chapter 11).

Basic Guidelines of Cleanliness

PERSONAL CLEANLINESS (HYGIENE)

1. Always wash your hands with soap when you get up in the morning, after having a bowel movement, and before eating.



Figure

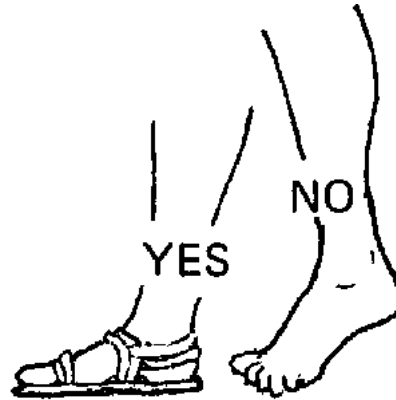
2. Bathe often - every day when the weather is hot. Bathe after working hard or sweating. Frequent bathing helps prevent skin infections, dandruff, pimples, itching, and rashes. Sick

persons, including babies, should be bathed daily.



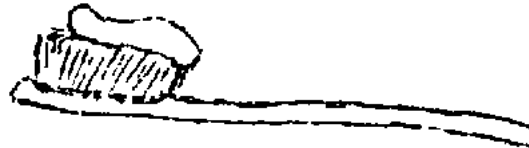
Figure

3. In areas where hookworm is common, do not go barefoot or allow children to do so. Hookworm infection causes severe anemia. These worms enter the body through the soles of the feet.



Figure

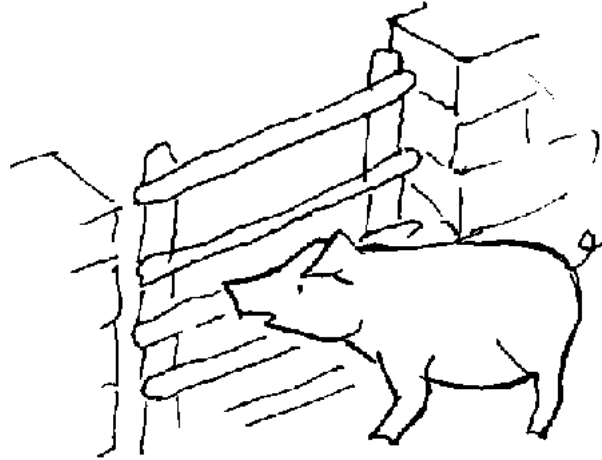
4. Brush your teeth every day and after each time you eat sweets. If you do not have a toothbrush and toothpaste, rub your teeth with salt and baking soda. For more-information about the care of teeth, see Chapter 17.



Figure

CLEANLINESS IN THE HOME

1. Do not let pigs or other animals come into the house or places where children play.



Figure

2. Do not let dogs lick children or climb up on beds. Dogs, too, can spread disease.



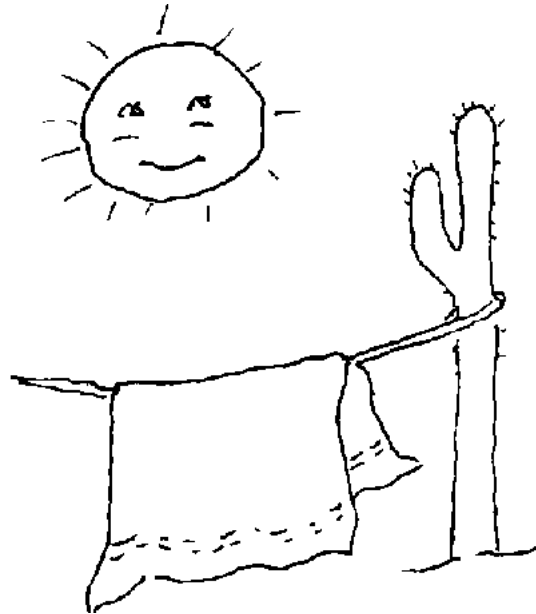
Figure

3. If children or animals have a bowel movement near the house, clean it up at once. Teach children to use a latrine or at least to go farther from the house.



Figure

4. Hang or spread sheets and blankets in the sun often. If there are bedbugs, pour boiling water on the cots and wash the sheets and blankets - all on the same day.



Figure

5. De-lice the whole family often. Lice and fleas carry many diseases. Dogs and other animals that carry fleas should not come into the house.



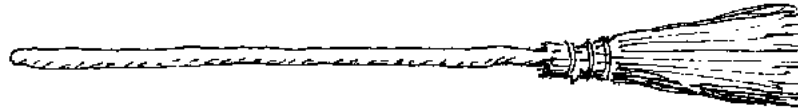
Figure

6. Do not spit on the floor. Spit can spread disease. When you cough or sneeze, cover your mouth with your hand or a cloth or handkerchief.



Figure

7. Clean house often. Sweep and wash the floors, walls, and beneath furniture. Fill in cracks and holes in the floor or walls where roaches, bedbugs, and scorpions can hide.



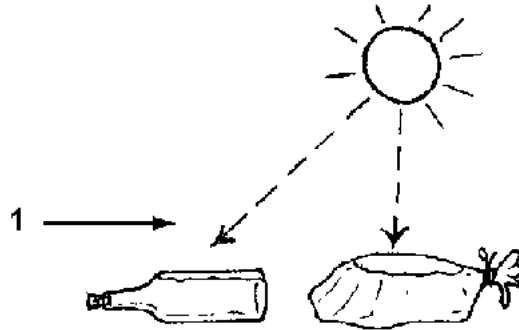
Figure

CLEANLINESS IN EATING AND DRINKING

1. Ideally all water that does not come from a pure water system should be boiled, filtered, or purified before drinking. This is especially important for small children and at times when there is a lot of diarrhea or cases of typhoid, hepatitis, or cholera. However, to prevent disease having enough water is more important than having pure water. Also,

asking poor families to use a lot of time or money for fire wood to boil drinking water may do more harm than good, especially if it means less food for the children or more destruction of forests. For more information on clean water, see *Helping Health Workers Learn*, Chapter 15.

A good, low-cost way to purify water is to put it in a clear plastic bag or clear bottle and leave it in direct sunlight for a few hours. This will kill most germs in the water. (1)



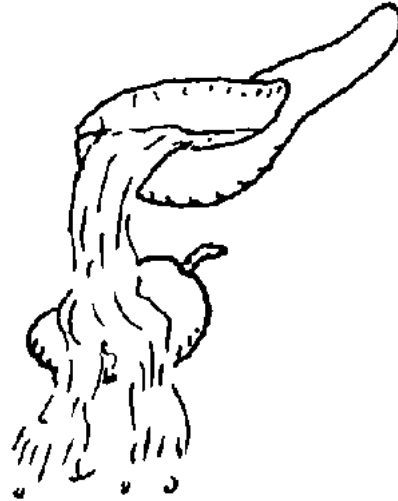
Figure

2. Do not let flies and other insects land or crawl on food. These insects carry germs and spread disease. Do not leave food scraps or dirty dishes lying around, as these attract flies and breed germs. Protect food by keeping it covered or in boxes or cabinets with wire screens.



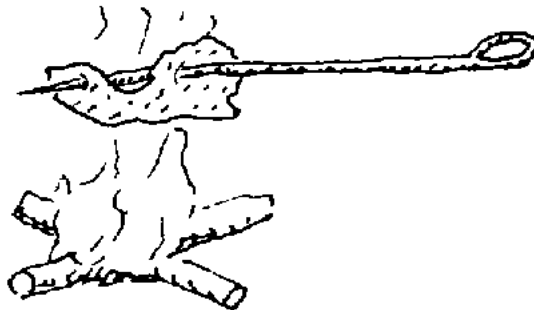
Figure

3. Before eating fruit that has fallen to the ground, wash it well. Do not let children pick up and eat food that has been dropped - wash it first.



Figure

4. Only eat meat and fish that is well cooked. Be careful that roasted meat, especially pork and fish, do not have raw parts inside. Raw pork carries dangerous diseases.



Figure

5. Chickens carry germs that can cause diarrhea. Wash your hands after preparing chicken before you touch other foods.

6. Do not eat food that is old or smells bad. It may be poisonous. Do not eat canned food if the can is swollen or squirts when opened. Be especially careful with canned fish. Also, be careful with chicken that has passed several hours since it was cooked. Before eating left-over cooked foods, heat them again, very hot. If possible, give only foods that have been freshly prepared, especially to children, elderly people, and very sick people.

**Figure**

7. People with tuberculosis, flu, colds, or other infectious diseases should eat separately from others. Plates and utensils used by sick people should be boiled before being used by others.



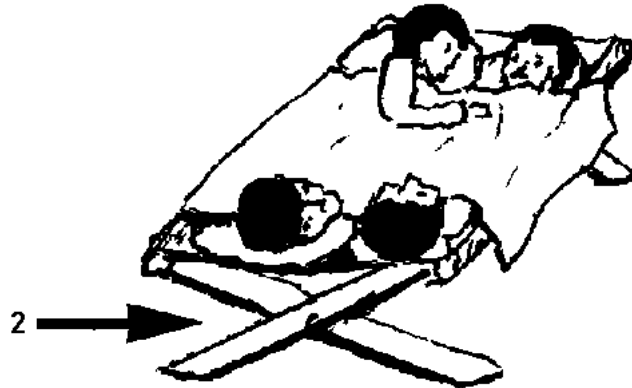
Figure

HOW TO PROTECT YOUR CHILDREN'S HEALTH

1. A sick child like this one (1) should sleep apart from children who are well. (2)



Figure



Figure

Sick children or children with sores, itchy skin, or lice should always sleep separately from those who are well. Children with infectious diseases like whooping cough, measles, or the common cold should sleep in separate rooms, if possible, and should not be allowed near babies or small children.

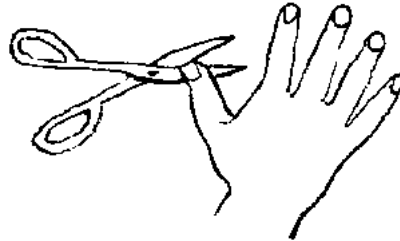
2. Protect children from tuberculosis. People with long-term coughing or other signs of tuberculosis should cover their mouths whenever they cough. They should never sleep in the same room with children. They should see a health worker and be treated as soon as possible.



Figure

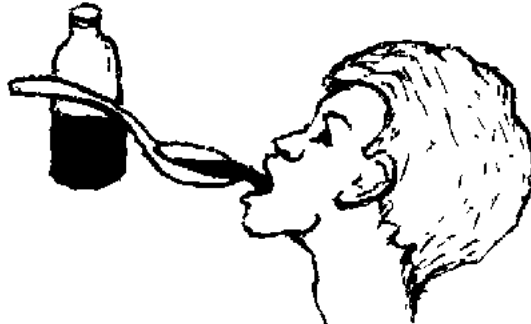
Children living with a person who has tuberculosis should be vaccinated against TB (B.C.G. Vaccine).

3. Bathe children, change their clothes, and cut their fingernails often. Germs and worm eggs often hide beneath long fingernails.



Figure

4. Treat children who have infectious diseases as soon as possible, so that the diseases are not spread to others.



Figure

5. Follow all the guidelines of cleanliness mentioned in this chapter. Teach children to follow these guidelines and explain why they are important. Encourage children to help with projects that make the home or village a healthier place to live.

6. Be sure children get enough good food. Good nutrition helps protect the body against

many infections. A well-nourished child will usually resist or fight off infections that can kill a poorly nourished child (read Chapter 11).



Figure

Public Cleanliness (Sanitation)

1. Keep wells and public water holes clean. Do not let animals go near where people get drinking water. If necessary, put a fence around the place to keep animals out.

Do not defecate (shit) or throw garbage near the water hole. Take special care to keep rivers and streams clean upstream from any place where drinking water is taken.

2. Burn all garbage that can be burned. Garbage that cannot be burned should be buried in a special pit or place far away from houses and the places where people get drinking

water.

3. Build latrines (out-houses, toilets) so pigs and other animals cannot reach the human waste. A deep hole with a little house over it works well. The deeper the hole, the less problem there is with flies and smell.

Here is a drawing of a simple out-house that is easy to build.





Figure

It helps to throw a little lime, dirt, or ashes in the hole after each use to reduce the smell and keep flies away.

Out-houses should be built at least 20 meters from homes or the source of water.

If you do not have an outhouse, go far away from where people bathe or get drinking water. Teach your children to do the same.

Use of latrines helps prevent many sicknesses.

Ideas for better latrines are found on the next pages. Also latrines can be built to produce good fertilizer for gardens.

BETTER LATRINES

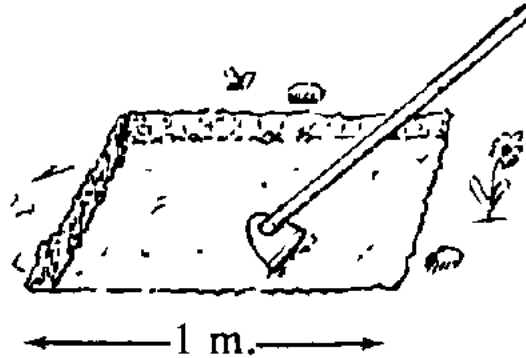
The latrine or out-house shown on the previous page is very simple and costs almost nothing to make. But it is open at the top and lets in flies.

Closed latrines are better because the flies stay out and the smell stays in. A closed latrine has a platform or slab with a hole in it and a lid over the hole. The slab can be made of

wood or cement. Cement is better because the slab fits more tightly and will not rot.

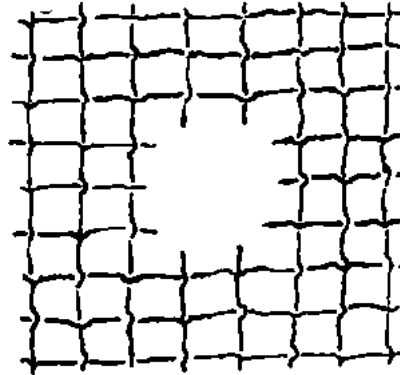
One way to make a cement slab:

1. Dig a shallow pit, about 1 meter square and 7 cm. deep. Be sure the bottom of the pit is level and smooth.



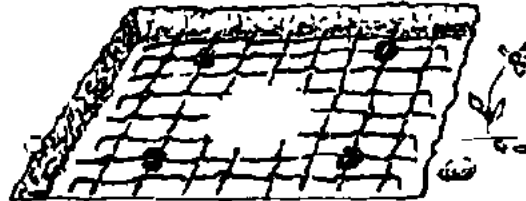
Figure

2. Make or cut a wire mesh or grid 1 meter square. The wires can be 1/4 to 1/2 cm. thick and about 10 cm. apart. Cut a hole about 25 cm. across in the middle of the grid.



Figure

3. Put the grid in the pit. Bend the ends of the wires, or put a small stone at each corner, so that the grid stands about 3 cm. off the ground.



Figure

4. Put an old bucket in the hole in the grid.



Figure

5. Mix cement with sand, gravel, and water and pour it until it is about 5 cm. thick. (With each shovel of cement mix 2 shovels of sand and 3 shovels of gravel.)



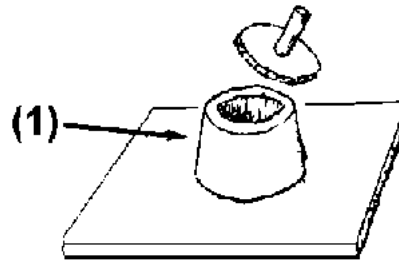
Figure

6. Remove the bucket when the cement is beginning to get hard (about 3 hours). Then cover the cement with damp cloths, sand, hay, or a sheet of plastic and keep it wet. Remove slab after 3 days.



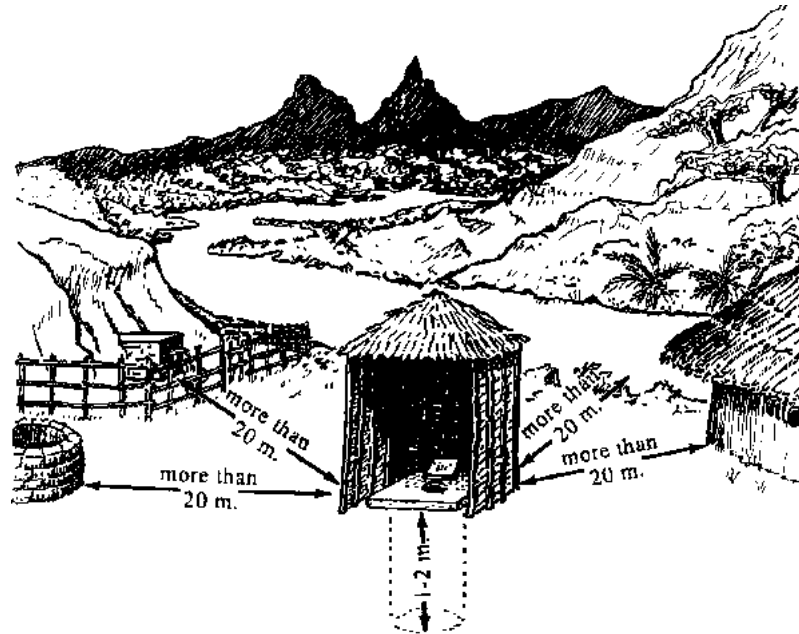
Figure

If you prefer to sit when you use the latrine, make a cement seat like this: Make a mold, or you can use 2 buckets of different sizes, one inside the other. (1)



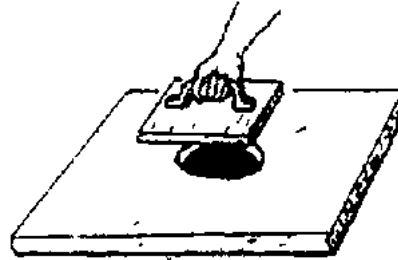
Figure

To make the closed latrine, the slab should be placed over a round hole in the ground. Dig the hole a little less than 1 meter across and between 1 and 2 meters deep. To be safe, the latrine should be at least 20 meters from all houses, wells, springs, rivers, or streams. If it is anywhere near where people go for water, be sure to put the latrine downstream.



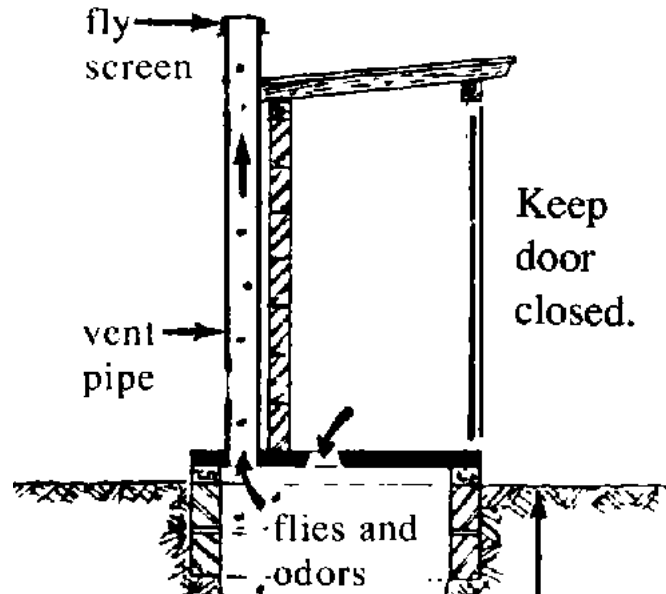
CLOSED LATRINE:

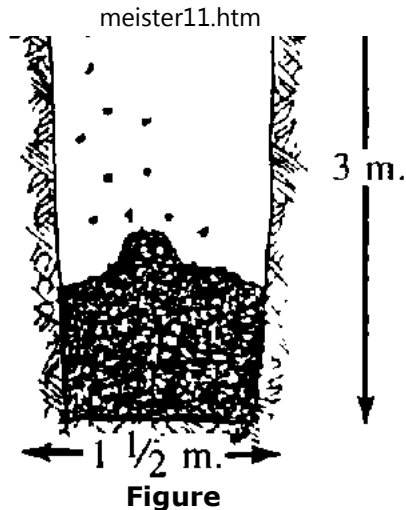
Keep your latrine clean. Wash the slab often. Be sure the hole in the slab has a cover and that the cover is kept in place. A simple cover can be made of wood.



Figure

THE FLY-TRAPPING VIP LATRINE:



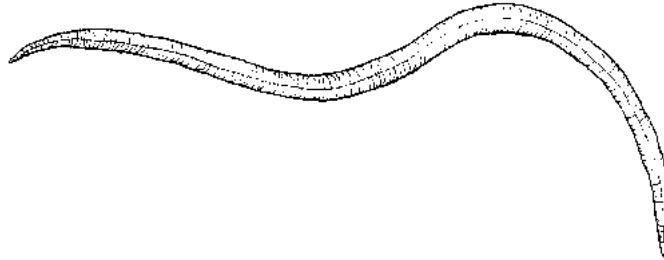


To make the ventilated improved pit (VIP) latrine, make a larger slab (2 meters square) with 2 holes in it. Over one hole put a ventilation pipe, covered with fly screen (wire screen lasts longer). Over the other hole build an out-house, which must be kept dark inside. Leave this hole uncovered.

This latrine helps get rid of odors and flies: smells escape through the pipe, and flies get trapped there and die!

Worms and Other Intestinal Parasites

There are many types of worms and other tiny animals (parasites) that live in people's intestines and cause diseases. Those which are larger are sometimes seen in the stools (feces, shit):



1. ROUNDWORM (Ascaris)



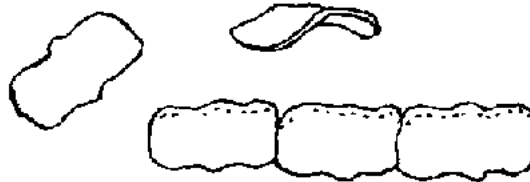
2. PINWORM (threadworm)



3. WHIPWORM (Trichuris)



4. HOOKWORM

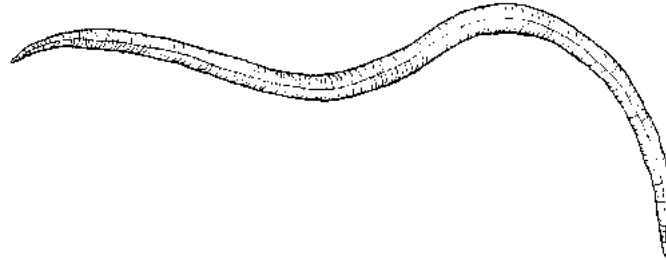


5. TAPEWORM

The only worms commonly seen in the stools are roundworms, pinworms, and tapeworms. Hookworms and whipworms may be present in the gut in large numbers without ever being seen in the stools.

Note on worm medicines: Many 'worm medicines' contain piperazine. These work only for roundworms and pinworms and should not be given to babies and small children. Mebendazole (*Vermox*) is safer and attacks many more kinds of worms. Albendazole and pyrantel also work for many kinds of worms, but they may be expensive. Thiabendazole attacks many kinds of worms, but causes dangerous side effects and should usually not be used.

Roundworm (*Ascaris*)



Figure

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 worms hatch and enter the bloodstream; 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 bellies. Rarely, roundworms may cause asthma, 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 airway and cause gagging.

Prevention:

Use latrines, wash hands before eating or handling food, protect food from flies, and follow the guidelines of cleanliness described in the first part of this chapter.

Treatment:

Mebendazole will usually get rid of roundworms. Piperazine also works. Some home remedies work fairly well. For a home remedy using papaya see page 13.

WARNING: Do not use thiabendazole for roundworms. It often makes the worms move up to the nose or mouth and can cause gagging.

Pinworm, Threadworm, Seatworm (Enterobius)

Figure

1 cm. long. Color: white. Very thin and threadlike.

How they are transmitted:

These worms lay thousands of eggs just outside the anus (ass hole). This causes itching, especially at night. When a child scratches, the eggs stick under his nails, and are carried to food and other objects. In this way they reach his own mouth or the mouths of others, causing new infections of pinworms.



Figure

Effect on health:

These worms are not dangerous. Itching may disturb the child's sleep.

Treatment and Prevention:

- **A child who has pinworms should wear tight diapers or pants while sleeping to keep him from scratching his anus.**
- **Wash the child's hands and buttocks (anal area) when he wakes up and after he has a bowel movement. Always wash his hands before he eats.**

- **Cut his fingernails very short.**
- **Change his clothes and bathe him often - wash the buttocks and nails especially well.**
- **Put *Vaseline* in and around his anus at bedtime to help stop itching.**
- **Give mebendazole worm medicine. Piperazine also works, but should not be used for babies. When one child is treated for these worms, it is wise to treat the whole family at the same time. For a home remedy using garlic.**
- **Cleanliness is the best prevention for threadworms. Even if medicine gets rid of the worms, they will be picked up again if care is not taken with personal hygiene. Pinworms only live for about 6 weeks. By carefully following the guidelines of cleanliness, most of the worms will be gone within a few weeks, even without medicine.**

Whipworm (Trichuris, Trichocephalus)



Figure

3 to 5 cm. long. Color: pink or gray.

This worm, like the roundworm, is passed from the feces of one person to the mouth of another person. Usually this worm does little harm, but it may cause diarrhea. In children it occasionally causes part of the intestines to come out of the anus (*prolapse* of the

rectum).

Prevention: The same as for roundworm.

Treatment: If the worms cause a problem, give mebendazole. For prolapse of the rectum, turn the child upside down and pour cool water on the intestine. This should make it pull back in.

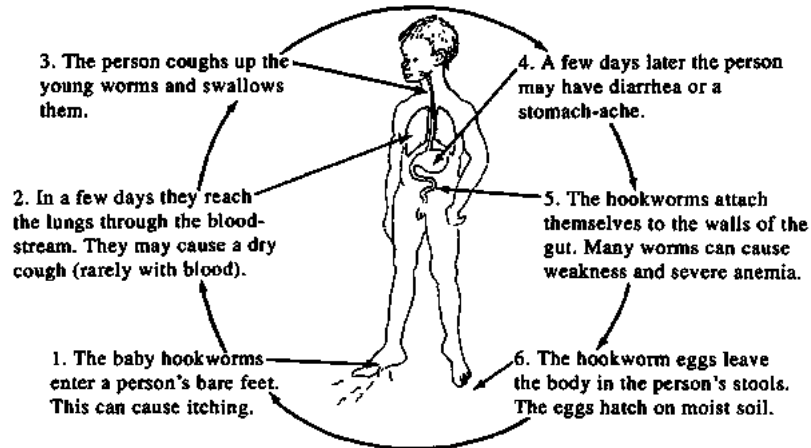
Hookworm



Figure

1 cm. long. Color: red.

Hookworms cannot usually be seen in the feces. A stool analysis is needed to prove that they are there.



How hookworms are spread:

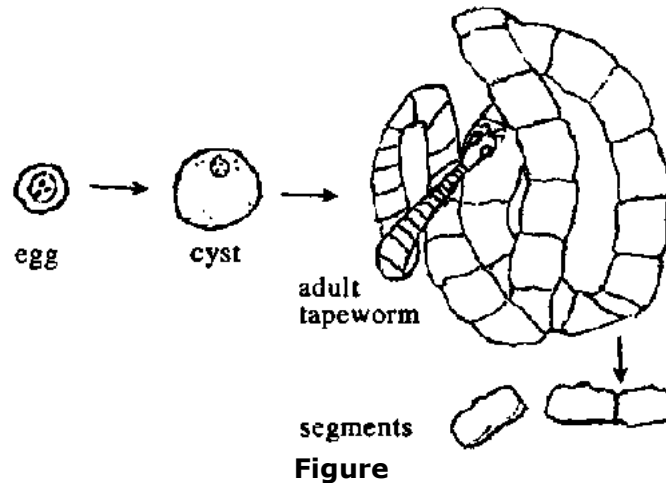
Hookworm infection can be one of the most damaging diseases of childhood. Any child who is anemic, very pale, or eats dirt may have hookworms. If possible, his stools should be analyzed.

Treatment: Use mebendazole. Treat anemia by eating foods rich in iron and if necessary by taking iron pills .

Prevent hookworm: Build and use latrines. Do not let children go barefoot.

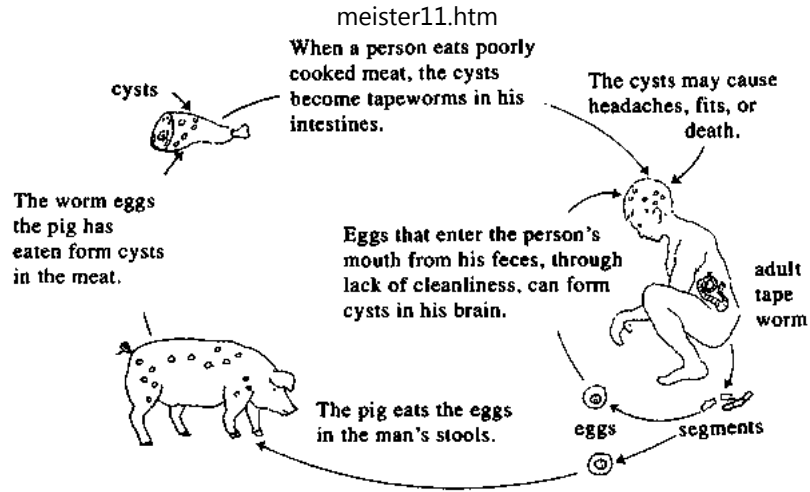
Tapeworm

In the intestines tapeworms grow several meters long. But the small, flat, white pieces (segments) found in the feces are usually about 1 cm. long. Occasionally a segment may crawl out by itself and be found in the underclothing.



People get tapeworms from eating pork (pig meat), beef (cow meat) or other meat or fish that is not well cooked.

***Prevention:* Be careful that all meat is well cooked, especially pork. Make sure no parts in the center of roasted meat or cooked fish are still raw.**



Figure

Effect on health: Tapeworms in the intestines sometimes cause mild stomach-aches, but few other problems.

The greatest danger exists when the *cysts* (small sacs containing baby worms) get into a person's brain. This happens when the eggs pass from his stools to his mouth. For this reason, anyone with tapeworms must follow the guidelines of cleanliness carefully - and get treatment as soon as possible.

***Treatment:* Take niclosamide (*Yomesan*), or praziquantel. Follow instructions carefully.**

Trichinosis

These worms are never seen in the stools. They burrow through the person's intestines and get into her muscles. People get these worms, like tapeworms, from eating infected

pork or other meat that is not well cooked.

Effect on health: Depending on the amount of infected meat eaten, the person may feel no effects, or she may become very sick or die. From a few hours to 5 days after eating the infected pork, the person may develop diarrhea and feel sick to her stomach.

In serious cases the person may have:

- fever with chills
- muscle pain
- swelling around the eyes and sometimes swelling of the feet
- small bruises (black or blue spots) on the skin
- bleeding in the whites of the eyes

Severe cases may last 3 or 4 weeks.

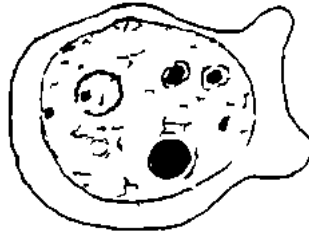
Treatment: Seek medical help at once. Thiabendazole or mebendazole may help. (Corticosteroids may help, but should be given by a health worker or doctor.)

Important: If several people who ate meat from the same pig get sick afterward, suspect trichinosis. This can be dangerous; seek medical attention.

Prevention of trichinosis:

- Only eat pork and other meat that has been well cooked.
- Do not feed scraps of meat or leftovers from butchering to pigs unless the meat has first been cooked.

Amebas

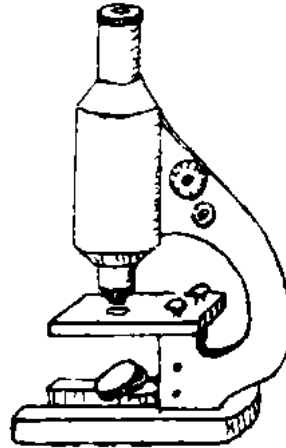


Ameba as seen under a microscope

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

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.



Microscope

Signs of infection with amebas:

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, amebas cause painful, dangerous abscesses in the liver.

Typical amebic dysentery consists of:

- **diarrhea that comes and goes - sometimes alternating with constipation**
- **cramps in the belly and a need to have frequent bowel movements, 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 (Shigella) begins more suddenly, the stools are more watery, and there is almost always fever. As a general rule:

<p>Diarrhea + blood + fever = bacterial infection (Shigella) Diarrhea + blood + no fever = amebas</p>

Occasionally bloody diarrhea has other causes. To be sure of the cause, a *stool analysis* may be necessary.

Sometimes amebas get into the liver and form an abscess or pocket of pus. This causes tenderness or pain in the right upper belly. Pain may extend into the right chest and is worse when the person walks. (Compare this with gallbladder pain; hepatitis; and cirrhosis.) If the person with these signs begins to cough up a brown liquid, an amebic abscess is draining into his lung.

Treatment:

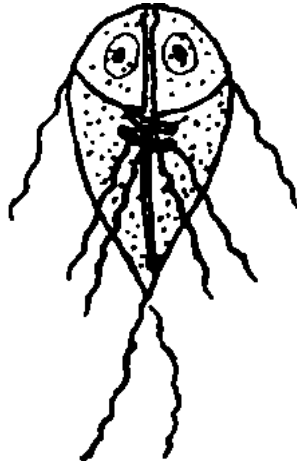
- **If possible get medical help and a stool analysis.**
- **Amebic dysentery can be treated with metronidazole, if possible together with diloxanide furoate or tetracycline.**

- For amebic abscess, treat as for amebic dysentery, and then take chloroquine for 10 days.

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

Giardia

The giardia, like the ameba, is a microscopic parasite that lives in the gut and is a common cause of diarrhea, especially in children. The diarrhea may be *chronic* or intermittent (may come and go).



Giardia as seen under a microscope

A person who has yellow, bad-smelling diarrhea that is frothy (full of bubbles) but without

blood or mucus, probably has giardia. The belly is swollen with gas and uncomfortable, there are mild intestinal cramps, and the person farts and burps a lot. The burps have a bad taste, like sulfur. There is usually no fever.

Giardia infections sometimes clear up by themselves. Good nutrition helps. Severe cases are best treated with metronidazole. Quinacrine (*Atabrine*) is cheaper and often works well, but causes worse side effects.

Blood Flukes (Schistosomiasis, Bilharzia)

This infection is caused by a kind of worm that gets into the bloodstream. Different types of blood flukes are found in different parts of the world. One kind, common in Africa and the Middle East, causes blood in the urine. Other types, which cause bloody diarrhea, occur in Africa, South America, and Asia. In areas where these diseases are known to occur, any person who has blood in his urine or stools should have a sample of it tested for fluke eggs.

Signs:

- **The most common sign is blood in the urine (especially when passing the last drops) - or, for other kinds of flukes, bloody diarrhea.**
- **Pain may occur in the lower belly and between the legs; it is usually worst at the end of urinating. Low fever, weakness, and itching may occur.**
- **After months or years, the kidneys or liver may be badly damaged, which can eventually cause death.**
- **Sometimes there are no early signs. In areas where schistosomiasis is very common, persons with only mild signs or belly pain should be tested.**

Treatment:

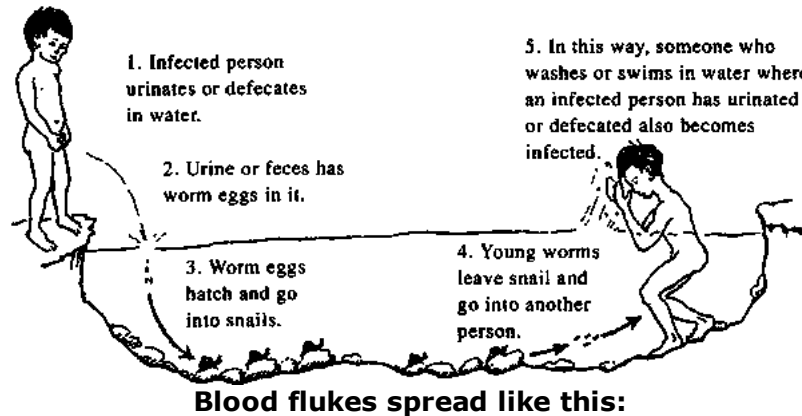
Praziquantel works for all types of blood flukes. Metrifonate and oxamniquine work for some kinds of blood flukes. Medicines should be given under direction of an experienced health worker.



SNAIL, REAL SIZE

Prevention:

Blood flukes are not spread directly from person to person. Part of their life they must live inside a certain kind of small water snail.



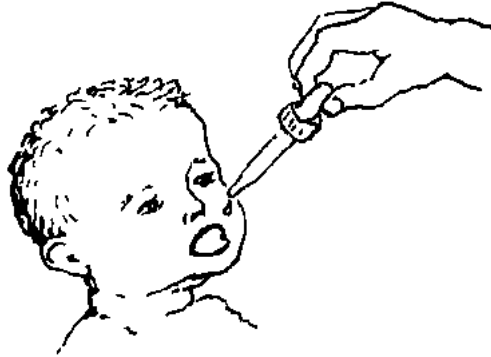
To prevent schistosomiasis, cooperate with programs to kill snails and treat infected persons. But most important: Everyone should learn to use latrines and NEVER URINATE OR DEFECATE IN OR NEAR WATER.

Vaccinations (Immunizations) - Simple, Sure Protection

Vaccines give protection against many dangerous diseases. If health workers do not vaccinate in your village, take your children to the nearest health center to be vaccinated. It is better to take them for vaccinations while they are healthy, than to take them for treatment when they are sick or dying. Vaccinations are usually given free. (Different countries use different schedules.) The most important vaccines for children are:

1. D.P.T., for diphtheria, whooping cough (pertussis), and tetanus. For full protection, the child needs 3 injections. These are usually given at 2 months old, the second at 3 months old, and the third at 4 months old.

2. POLIO (infantile paralysis). The child needs drops in the mouth at birth, and once each month for 3 months (these are usually given with the D.P.T. injections). It is best not to breast feed the baby for 2 hours before or after giving the drops.



POLIO VACCINE - The drops taste sweet.

3. B.C.G., for tuberculosis. A single injection is given into the skin of the right shoulder. Children can be vaccinated at birth or anytime afterwards. Early vaccination is especially important if any member of the household has tuberculosis. The vaccine makes a sore and leaves a scar.

4. MEASLES. One injection only, given no younger than 9 to 15 months of age, depending on the country.

5. TETANUS. For adults and children over 12 years old, the most important vaccine is for tetanus (lockjaw). One injection every month for 3 months, another after a year, and then one every 10 years. Everyone should be vaccinated against tetanus. Pregnant women should be vaccinated during each pregnancy so that their babies will be protected against tetanus of the newborn.

6. SMALL POX. This vaccination, put on the left shoulder, leaves a round scar. Thanks to world-wide vaccination in the past, small pox no longer exists. So vaccination against it is now not needed.

In some places there are also vaccinations for cholera, yellow fever, typhus, mumps, and German measles. The World Health Organization is also working to develop vaccines for leprosy, malaria, and meningitis.

WARNING: Vaccines spoil easily and then do not work. Measles vaccine must be kept frozen. Try to keep the polio vaccine frozen until shortly before it is used. For up to 3 months it can be thawed and refrozen. But it must be kept cold or it will spoil. D.P.T, B.C.G., and Tetanus must be kept cold (0° to 8° C.) but never frozen. Good D.P.T. remains cloudy at least 1 hour after shaking. If it becomes clear within 1 hour, it is spoiled. For suggestions on how to keep vaccines cold, see *Helping Health Workers Learn*, Chapter 16.

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

Other Ways to Prevent Sickness and Injury

In this chapter he have talked about ways to prevent intestinal and other infections through hygiene, sanitation, and vaccination. All through this book you will find suggestions for the prevention of sickness and injury - from building healthy bodies by eating nutritious foods to the wise use of home remedies and modern medicines.

The Introduction to the Village Health Worker gives ideas for getting people working together to change the conditions that cause poor health.

In the remaining chapters, as specific health problems are discussed, you will find many suggestions for their prevention. By following these suggestions you can help make your

home and village healthier places to live.

Keep in mind that one of the best ways to prevent serious illness and death is early and sensible treatment.

Early and sensible treatment is an important part of preventive medicine.

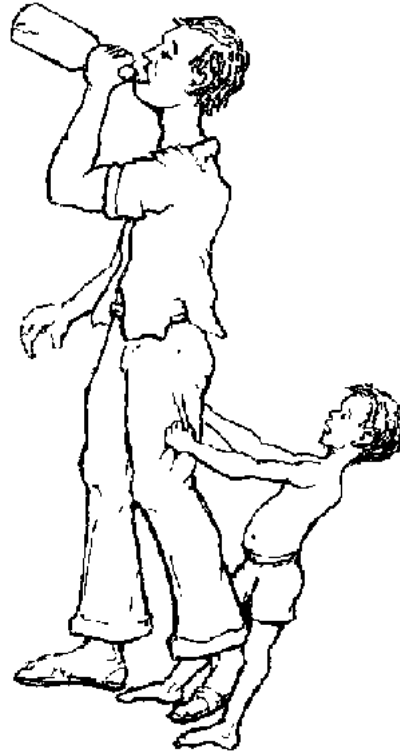
Before ending this chapter, I would like to mention a few aspects of prevention that are touched on in other parts of the book, but deserve special attention.

Habits That Affect Health

Some of the habits that people have not only damage their own health but in one way or another harm those around them. Many of these habits can be broken or avoided - but the first step is to understand why breaking these habits is so important.

DRINKING

If alcohol has brought much joy to man, it has also brought much suffering - especially to the families of those who drink. A little alcohol now and then may do no harm. But too often a little leads to a lot. In much of the world, heavy or excessive drinking is one of the underlying causes of major health problems - even for those who do not drink. Not only can drunkenness harm the health of those who drink (through diseases such as cirrhosis of the liver, and hepatitis), but it also hurts the family and community in many ways. Through the loss of judgment when drunk - and of self-respect when sober - it leads to much unhappiness, waste, and violence, often affecting those who are loved most.



Figure

How many fathers have spent their last money on drink when their children were hungry? How many sicknesses result because a man spends the little bit of extra money he earns on drink rather than on improving his family's living conditions? How many persons, hating themselves because they have hurt those they love, take another drink - to forget?

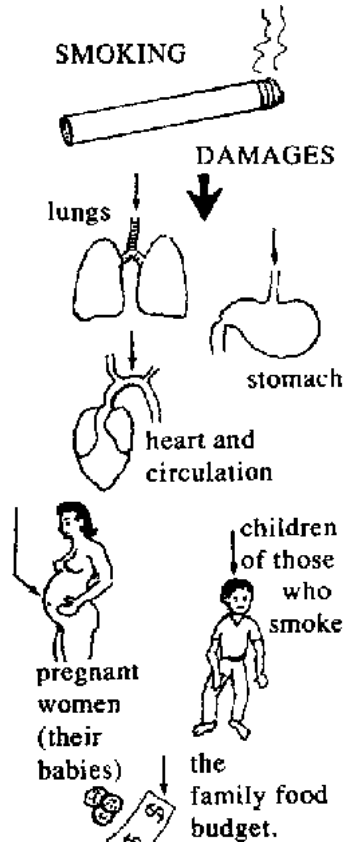
Once a man realizes that alcohol is harming the health and happiness of those around him, what can he do? First he must admit that his drinking is a problem. He must be honest with himself and with others. Some individuals are able to simply decide to stop drinking. More often people need help and support - from family, friends, and others who understand how hard it may be to give up this habit. People who have been heavy drinkers and have stopped are often the best persons to help others do the same. In many areas Alcoholics Anonymous (AA) groups exist where recovering alcoholics help one another to stop drinking.

Drinking is not so much a problem of individuals as of a whole community. A community that recognizes this can do much to encourage those who are willing to make changes. If you are concerned about the misuse of alcohol in your community, help organize a meeting to discuss these problems and decide what actions to take. For more about harm from alcohol and community action, see *Helping Health Workers Learn*, Chapters 5 and 27.

Many problems can be resolved when people work together and give each other help and support.

SMOKING

There are many reasons why smoking is dangerous to your own and your family's health.



Figure

1. Smoking increases the risk of cancer of the lungs, mouth, throat, and lips. (The more

you smoke, the greater the chance of dying of cancer.)

2. Smoking causes serious diseases of the lungs, including chronic bronchitis and emphysema (and is deadly for persons who already have these conditions or have asthma).

3. Smoking can cause stomach ulcers or make them worse.

4. Smoking increases your chance of suffering or dying from heart disease or stroke.

5. Children whose parents smoke have more cases of pneumonia and other respiratory illness than children whose parents do not smoke.

6. Babies of mothers who smoked during pregnancy are smaller and develop more slowly than babies whose mothers did not smoke.

7. Parents, teachers, health workers, and others who smoke set an unhealthy example for children and young people, increasing the likelihood that they too will begin smoking.

8. Also, smoking costs money. It looks like little is spent, but it adds up to a lot. In poorer countries, many of the poorest persons spend more on tobacco than the country spends per person on its health program. If money spent on tobacco were spent for food instead, children and whole families could be healthier.

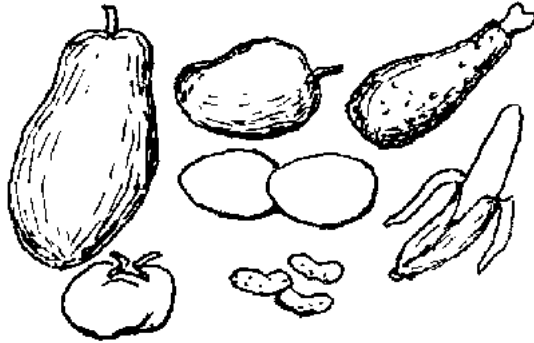
Anyone interested in the health of others should not smoke, and should encourage others not to smoke.

CARBONATED DRINKS (soft drinks, soda pop, Coke, fizzy drinks, colas)

In some areas these drinks have become very popular. Often a poor mother will buy

carbonated drinks for a child who is poorly nourished, when the same money could be better used to buy 2 eggs or other nutritious food.

IF YOU WANT HEALTHY CHILDREN AND HAVE A LITTLE MONEY TO BUY THEM SOMETHING...



YES

buy them a couple of eggs or other nutritious food,



NO

not carbonated drinks!

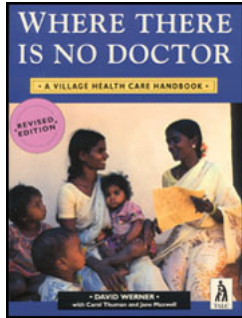
Carbonated drinks have no nutritional value apart from sugar. And for the amount of sugar they contain, they are very expensive. Children who are given a lot of carbonated drinks and other sweet things often begin to get cavities and rotten teeth at an early age. Carbonated drinks are especially bad for persons with acid indigestion or stomach ulcer.

Natural drinks you make from fruits are healthier and often much cheaper than carbonated drinks.






















Do not get your children used to drinking carbonated drinks.



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- 📖 **Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)**
 - 📄 *(introduction...)*
 - ➔ 📄 **HOW TO USE THIS BOOK**
 - 📄 **THANKS**
 - 📄 **TEACHING AIDS AT LOW COST**
 - 📄 **INTRODUCTION**
 - 📄 **NOTE ABOUT THIS NEW EDITION**
 - WORDS TO THE VILLAGE HEALTH WORKER (Brown Pages)**
 - Chapter 1 - HOME CURES AND POPULAR BELIEFS**
 - Chapter 2 - SICKNESSES THAT ARE OFTEN CONFUSED**
 - Chapter 3 - HOW TO EXAMINE A SICK PERSON**
 - Chapter 4 - HOW TO TAKE CARE OF A SICK PERSON**
 - Chapter 5 - HEALING WITHOUT MEDICINES**
 - Chapter 6 - RIGHT AND WRONG USES OF MODERN MEDICINES**
 - Chapter 7 - ANTIBIOTICS: WHAT THEY ARE AND HOW TO USE THEM**
 - Chapter 8 - HOW TO MEASURE AND GIVE MEDICINE**
 - Chapter 9 - INSTRUCTIONS AND PRECAUTIONS FOR INJECTIONS**
 - Chapter 10 - FIRST AID**
 - Chapter 11 - NUTRITION: WHAT TO EAT TO BE HEALTHY**

-  **Chapter 12 - PREVENTION: HOW TO AVOID MANY SICKNESSES**
-  **Chapter 13 - SOME VERY COMMON SICKNESSES**
-  **Chapter 14 - SERIOUS ILLNESSES THAT NEED SPECIAL MEDICAL ATTENTION**
-  **Chapter 15 - SKIN PROBLEMS**
-  **Chapter 16 - THE EYES**
-  **Chapter 17 - THE TEETH, GUMS, AND MOUTH**
-  **Chapter 18 - THE URINARY SYSTEM AND THE GENITALS**
-  **Chapter 19 - INFORMATION FOR MOTHERS AND MIDWIVES**
-  **Chapter 20 - FAMILY PLANNING - HAVING THE NUMBER OF CHILDREN YOU WANT**
-  **Chapter 21 - HEALTH AND SICKNESSES OF CHILDREN**
-  **Chapter 22 - HEALTH AND SICKNESSES OF OLDER PEOPLE**
-  **Chapter 23 - THE MEDICINE KIT**
-  **THE GREEN PAGES - The Uses, Dosage, and Precautions for the Medicines Referred to in This Book**
-  **THE BLUE PAGES - New Information**
-  **VOCABULARY - Explaining Difficult Words**
-  **ADDRESSES FOR TEACHING MATERIALS**
-  **Dosage Blanks - For Giving Medicines to Those Who Cannot Read**
-  **Patient Report**
-  **Information on Vital Signs**
-  **ABBREVIATIONS - WEIGHT - VOLUME**
-  **Back cover**

HOW TO USE THIS BOOK

IF YOU DO NOT UNDERSTAND THE MEANING OF SOME OF THE WORDS IN THIS BOOK:

Look for the word in the VOCABULARY right after the green pages in the back of the book. Words explained in the Vocabulary are written in *italics* the first time they are used in a chapter.

BEFORE USING ANY MEDICINE:

Always look at the GREEN PAGES for information on uses, dosage, risks, and precautions.

TO BE READY FOR EMERGENCIES:

- 1. Keep a Medicine Kit like the ones recommended in Chapter 23 handy in the house or in the village.**
- 2. Study this book before it is needed, especially Chapter 10, FIRST AID, and Chapter 4, HOW TO CARE FOR A SICK PERSON.**

TO HELP KEEP YOUR FAMILY IN GOOD HEALTH:

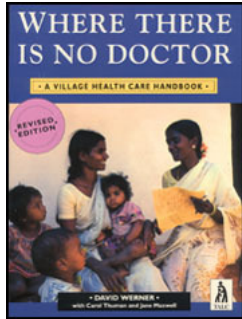
Carefully study Chapter 11, on NUTRITION, and Chapter 12, on PREVENTION, and pay attention to the guidelines and precautions.


TO IMPROVE HEALTH IN YOUR COMMUNITY:

Organize a meeting of your neighbors, to study this book and discuss local health problems. Or ask a teacher to give classes to the children and adults, using the book. You will find many useful suggestions in the brown pages, WORDS TO THE VILLAGE HEALTH WORKER, in the first part of this book.


























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 **Where There Is No Doctor - A Village Health Care Handbook**
(Hesperian Foundation, 1993, 516 p.)

➔  **Chapter 13 - SOME VERY COMMON SICKNESSES**

-  **Dehydration**
-  **Diarrhea and Dysentery**
-  **The Care of a Person with Acute Diarrhea**
-  **Vomiting**
-  **Headaches and Migraines**
-  **Colds and the Flu**
-  **Stuffy and Runny Noses**
-  **Sinus Trouble (Sinusitis)**
-  **Hay Fever (Allergic Rhinitis)**
-  **Allergic Reactions**
-  **Asthma**
-  **Cough**
-  **Bronchitis**
-  **Pneumonia**
-  **Hepatitis**
-  **Arthritis (Painful, Inflamed Joints)**
-  **Back Pain**
-  **Varicose Veins**
- 

-  **Piles (Hemorrhoids)**
-  **Swelling of the Feet and Other Parts of the Body**
-  **Hernia (Rupture)**
-  **Fits (Convulsions)**

Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)

Chapter 13 - SOME VERY COMMON SICKNESSES

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.

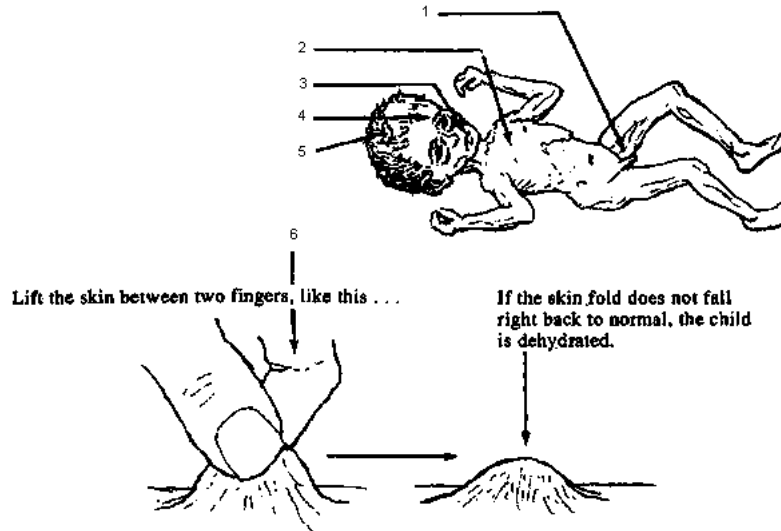
Any child with watery diarrhea is in danger of dehydration.

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

Signs of dehydration:

- thirst is often a first, early sign of dehydration**

- little or no urine; the urine is dark yellow (1)
- sudden weight loss (2)
- dry mouth (3)
- sunken, tearless eyes (4)
- sagging in of the 'soft spot' in infants (5)
- loss of elasticity or stretchiness of the skin... (6)



Figure

Very severe dehydration may cause rapid, weak pulse (see Shock), fast, deep breathing, fever, or fits (convulsions).

When a person has watery diarrhea, or diarrhea and vomiting, do not wait for signs of dehydration. Act quickly - see the next page.

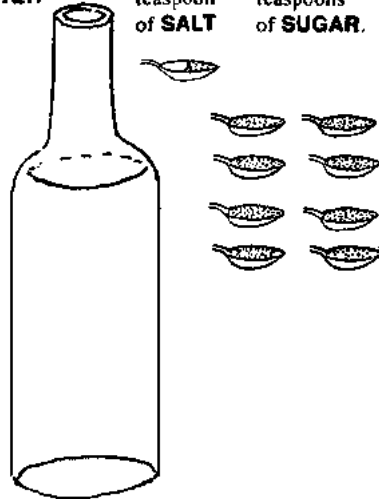
To prevent or treat dehydration: When a person has watery diarrhea, act quickly:

- **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 of 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 WAYS TO MAKE 'HOME MIX' REHYDRATION DRINK	
1. WITH SUGAR AND SALT (Raw sugar or molasses can be used instead of sugar.)	2. WITH POWDERED CEREAL AND SALT (Powdered rice is best. Or use finely ground maize, wheat flour, sorghum, or cooked and mashed potatoes.)

In 1 liter of clean **WATER** put half of a level teaspoon of **SALT** and 8 level teaspoons of **SUGAR**.



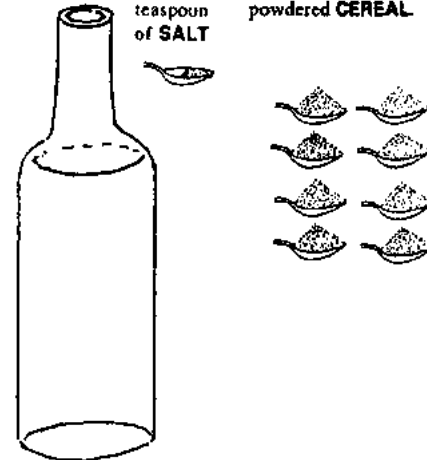
Figure

CAUTION: Before adding the sugar, taste the drink and be sure it is less salty than tears.

To either Drink you can add half a cup of fruit juice, coconut water, or mashed ripe banana, if available. This provides potassium which may help the child accept more food and drink.

IMPORTANT: Adapt the Drink to your area. If liter containers or teaspoons are not in most homes, adjust quantities to local forms of measurement. Where people traditionally give cereal gruels to young children, add enough water to make it liquid, and use that. Look for an easy and simple way.

In 1 liter of **WATER** put half a teaspoon of **SALT** and 8 heaped teaspoons (or 2 handfuls) of powdered **CEREAL**.



Figure

Boil for 5 to 7 minutes to form a liquid gruel or watery porridge. Cool the Drink quickly and start giving it to the child.

CAUTION: Taste the Drink each time before you give it to be sure it is not spoiled. Cereal drinks can spoil in a few hours in hot weather.

Give the dehydrated person sips: of this Drink every 5 minutes, day and night, until he begins to urinate normally. A large person needs 3 or more liters a day. A small child usually needs at least 1 liter a day, or 1 glass for each watery stool. Keep giving the Drink often in small sips, even if the person vomits. Not all of the Drink will be vomited.

***WARNING:* If dehydration gets worse or other danger signs appear, go for medical help. It may be necessary to give liquid in a vein (intravenous solution).**

***Note:* In some countries packets of Oral, Rehydration Salts (ORS) are available for mixing with water. These contain a simple sugar, salt, soda, and potassium. However, homemade drinks - especially cereal drinks - when correctly prepared are often cheaper, safer, and more effective than ORS packets.**

Diarrhea and Dysentery

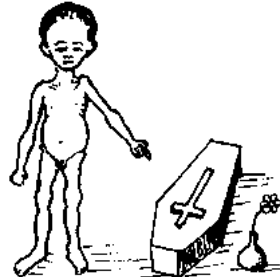
When a person has loose or watery stools, he has *diarrhea*. If mucus and blood can be seen in the stools, he has *dysentery*.

Diarrhea can be mild or serious. It can be acute (sudden and severe) or *chronic* (lasting many days).

Diarrhea is more common and more dangerous in young children, especially those who are poorly nourished.



This child is well nourished. He is less likely to get diarrhea. If he gets it he usually will get well again quickly.



This child is poorly nourished. - He is more likely to get diarrhea - and there is a much greater chance he will die from it.

Diarrhea has many causes. Usually no medicines are needed, and the child gets well in a few days if you give him lots of Rehydration Drink and food. (If he does not eat much, give him a little food many times a day.) Occasionally, special treatment is needed. However, most diarrhea can be treated successfully in the home, even if you are not sure of the exact cause or causes.

THE MAIN CAUSES OF DIARRHEA:

poor nutrition. This weakens the child and makes diarrhea from other causes more frequent and worse.

shortage of water and unclean conditions (no latrines) spread the germs that cause diarrhea
virus infection or 'intestinal flu'

an infection of the gut caused by bacteria, amebas, or giardia

worm infections (most worm infections do not cause diarrhea)

infections outside the gut (ear infections; tonsillitis; measles; urinary infections)

malaria (*falciparum* type - in parts of Africa, Asia, and the Pacific)

food poisoning (spoiled food)

AIDS (long-lasting diarrhea may be an early sign)

inability to digest milk (mainly in severely malnourished children and certain adults)

difficulty babies have digesting foods that are new to them

allergies to certain foods (seafood, crayfish, etc.); occasionally babies are allergic to cow's milk or other milk

side effects produced by certain medicines, such as ampicillin or tetracycline

laxatives, purges, irritating or poisonous plants, certain poisons

eating too much unripe fruit or heavy, greasy foods

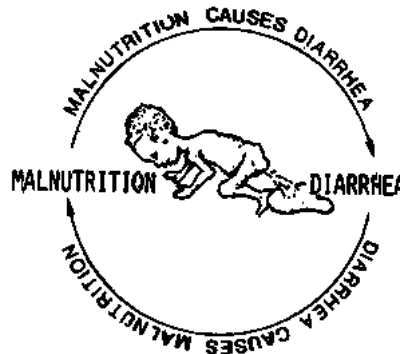
Preventing diarrhea:

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.

This 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.



THE 'VICIOUS CIRCLE' OF MALNUTRITION AND DIARRHEA TAKES MANY CHILDREN'S

LIVES.

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, read Chapter 11.

The prevention of diarrhea depends both on good nutrition and cleanliness. Many suggestions for personal and public cleanliness are given in Chapter 12. 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.**



Figure

- **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.



Figure

- **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.**

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 a 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 Rehydration Drink. 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 Rehydration Drink 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 back, 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, he should drink:	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:	
watery mush or broth of rice, maize powder, or potato	energy foods ripe or cooked bananas crackers	body-building foods chicken (boiled or roasted)
rice water (with some mashed rice)	rice, oatmeal, or other well-cooked grain	eggs (boiled)
chicken, meat, egg, or bean broth	fresh maize (well cooked and mashed)	meat (well cooked, without much fat or grease)
Kool-Aid or similar	potatoes	beans, lentils, or peas (well cooked and mashed)
	applesauce (cooked)	

sweetened drinks REHYDRATION DRINK Breast milk	papaya (It helps to add a little sugar or vegetable oil to the cereal foods.)	fish (well cooked) milk (sometimes this causes problems)
fatty or greasy foods most raw fruits	DO NOT EAT OR DRINK any kind of laxative or purge	highly seasoned food alcoholic drinks

Diarrhea and milk:

Breast milk is the best food for babies. It helps prevent and combat diarrhea. Keep giving breast milk when the baby has diarrhea.

Cow's milk, powdered milk, or canned milk can be good sources of energy and protein. Keep on giving them to a child with diarrhea. In a very few children these milks may cause more diarrhea. If this happens, try giving less milk and mixing it with other foods. But remember: a poorly nourished child with diarrhea must have enough energy foods and protein. If less milk is given, well-cooked and mashed foods such as chicken, egg yolk, meat, fish, or beans should be added. Beans are easier to digest if their skins have been taken off and they are boiled and mashed.

As the child gets better, he will usually be able to drink more milk without getting diarrhea.

Medicines for diarrhea:

For most cases of diarrhea no medicines are needed. But in certain cases, using the right medicine can be important. However, many of the medicines commonly used for diarrhea

do little or no good. Some are actually harmful:

GENERALLY IT IS BETTER **NOT** TO USE THE FOLLOWING MEDICINES IN THE TREATMENT OF DIARRHEA:

'Anti-diarrhea' medicines with kaolin and pectin (such as *Kaopectate*) make diarrhea thicker and less frequent. But they do not correct dehydration or control infection. Some anti-diarrhea medicines, like loperamide (*Imodium*) or diphenoxylate (*Lomotil*) may even cause harm or make infections last longer.



Figure

'ANTI-DIARRHEA MEDICINES' ACT LIKE PLUGS. THEY KEEP IN THE INFECTED MATERIAL THAT NEEDS TO COME OUT.



Figure

'Anti-diarrhea' mixtures containing neomycin or streptomycin should not be used. They irritate the gut and often do more harm than good.

Antibiotics like ampicillin and tetracycline are useful only in **some** cases of diarrhea. But they themselves sometimes cause diarrhea, especially in small children. If, after taking these antibiotics for more than 2 or 3 days, diarrhea gets worse rather than better, stop taking them - the antibiotics may be the cause.

Chloramphenicol has certain dangers in its use and should never be used for mild diarrhea or

given to babies less than 1 month old.

Laxatives and purges should never be given to persons with diarrhea. They will make it worse and increase the danger of dehydration.

Special treatment in different cases of diarrhea:

While most cases of diarrhea are best treated by giving plenty of liquids and food, and no medicine, sometimes special treatment is needed.

In considering treatment, keep in mind that some cases of diarrhea, especially in small children, are caused by infections outside the gut. Always check for infections of the ears, the throat, and the urinary system. If found, these infections should be treated. Also look for signs of measles.

If the child has mild diarrhea together with signs of a cold, the diarrhea is probably caused by a virus, or 'intestinal flu', and no special treatment is called for. Give lots of liquids and all the food the child will accept.

In certain difficult cases of diarrhea, analysis of the stools or other tests may be needed to know how to treat it correctly. But usually you can learn enough from asking specific questions, seeing the stools, and looking for certain signs. Here are some guidelines for treatment according to signs.

1. Sudden, mild diarrhea. No fever. (Upset stomach? 'Intestinal flu'?)

- **Drink lots of liquids. Usually no special treatment is needed. It is usually best not to use 'diarrhea plug' medicines such as kaolin with pectin (*Kaopectate*) or diphenoxylate (*Lomotil*). They are never necessary and do not help either to correct dehydration or get rid of infection - so why waste money buying them?**

Never give them to persons who are very ill, or to small children.

2. Diarrhea with vomiting. (Many causes)

- **If a person with diarrhea is also vomiting, the danger of dehydration is greater, especially in small children. It is very important to give the Rehydration Drink, tea, soup, or whatever liquids he will take. Keep giving the Drink, even if the person vomits it out again. Some will stay inside. Give sips every 5 to 10 minutes. If vomiting does not stop soon, you can use medicines like promethazine or phenobarbital.**



Figure

- **If you cannot control the vomiting or if the dehydration gets worse, seek medical help fast.**

3. Diarrhea with mucus and blood. Often chronic. No fever. There may be diarrhea some days and constipation other days. (Possibly amebic dysentery.)

- **Use metronidazole or diloxanide furoate. Take the medicine according to the recommended dose. If the diarrhea continues after treatment, seek medical advice.**

4. Severe diarrhea with blood, with fever. (Bacterial dysentery - caused by Shigella?)

- **Give co-trimoxazole or ampicillin. Shigella is now often resistant to ampicillin, and sometimes to co-trimoxazole. If the first medicine you try does not bring improvement within 2 days, try another or seek medical help.**

5. Severe diarrhea with fever, usually no blood.

- **Fever may be partly caused by dehydration. Give-lots of Rehydration Drink. If the person is very ill and does not improve within 6 hours after beginning Rehydration Drink, seek medical help.**
- **Check for signs of typhoid fever. If present, treat for typhoid.**
- **In areas where *falciparum* malaria is common, it is a good idea to treat persons with diarrhea and fever for malaria, especially if they have a large spleen.**

6. Yellow, bad-smelling diarrhea with bubbles or froth, without blood or mucus. Often a lot of gas in the belly, and burps that taste bad, like sulfur. (Giardia?)

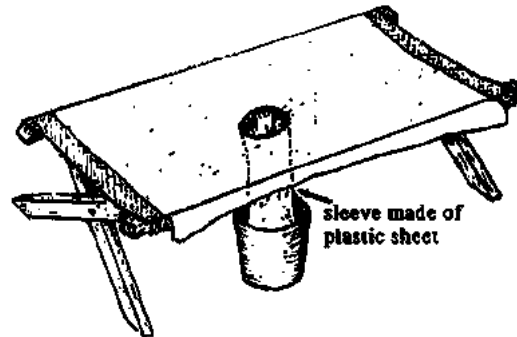
- **This may be caused by microscopic parasites called giardia or perhaps by malnutrition. In either case, plenty of liquid, nutritious food, and rest are often the only treatment needed. Severe giardia infections can be treated with metronidazole. Quinacrine (*Atabrine*) is cheaper, but has worse side effects.**

7. Chronic diarrhea (diarrhea that lasts a long time or keeps coming back).

- **This can be in part caused by malnutrition, or by a chronic infection such as that caused by amebas or giardia. See that the child eats more nutritious food more times a day. If the diarrhea still continues, seek medical help.**

8. Diarrhea like rice water. (Cholera?)

- 'Rice water' stools in very large quantities may be a sign of cholera. In countries where this dangerous disease occurs, cholera often comes in *epidemics* (striking many people at once) and is usually worse in older children and adults. Severe dehydration can develop quickly, especially if there is vomiting also. Treat the dehydration continuously, and give tetracycline, co-trimoxazole, or chloramphenicol. Cholera should be reported to the health authorities. Seek medical help.



A 'cholera bed' like this can be made for persons with very severe diarrhea. Watch how much liquid the person is losing and be sure he drinks larger amounts of Rehydration Drink. Give him the Drink almost continuously, and have him drink as much as he can.

Care of Babies with Diarrhea

Diarrhea is especially dangerous in babies and small children. Often no medicine is needed, but special care must be taken because a baby can die very quickly of dehydration.

- **Continue breast feeding and also give sips of Rehydration Drink made with water, sugar and salt only.**
- **If vomiting is a problem, give breast milk often, but only a little at a time, Also give Rehydration Drink in small sips every 5 to 10 minutes (see Vomiting).**
- **If there is no breast milk, try giving frequent small feedings of some other milk or milk substitute (like milk made from soybeans) mixed to half normal strength with boiled water. If milk seems to make the diarrhea worse, give some other protein (mashed chicken, eggs, lean meat, or skinned mashed beans, mixed with sugar or well-cooked rice or another carbohydrate, and boiled water).**
- **If the child is younger than 1 month, try to find a health worker before giving any medicine. If there is no health worker and the child is very sick, give him an 'infant syrup' that contains ampicillin: half a teaspoon 4 times daily. It is better not to use other antibiotics.**



GIVE HIM BREAST MILK



AND ALSO REHYDRATION DRINK

When to Seek Medical Help in Cases of Diarrhea

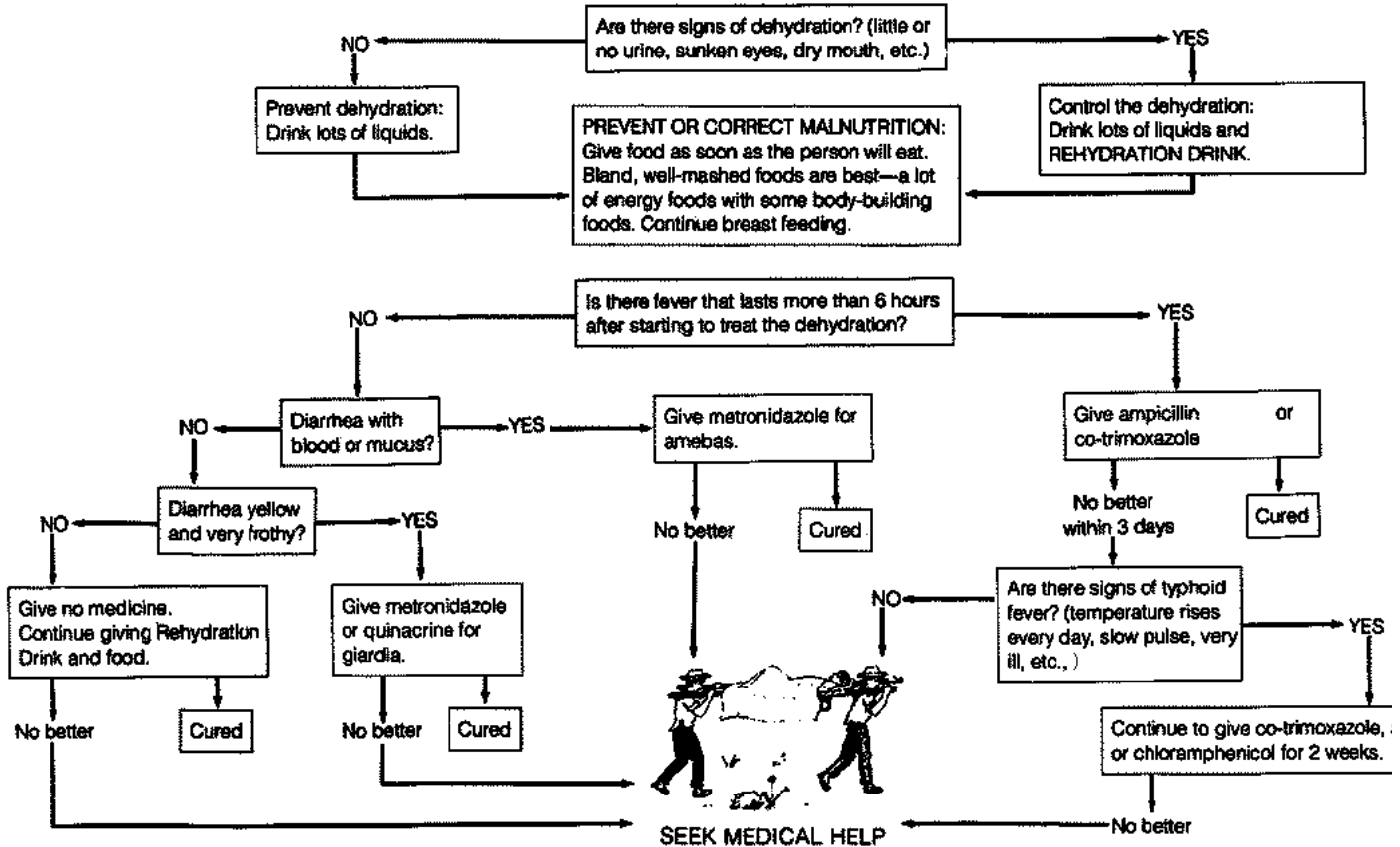
Diarrhea and dysentery can be very dangerous - especially in small children. In the following situations you should get medical help:

- **if diarrhea lasts more than 4 days and is not getting better - or more than 1 day in a small child with severe diarrhea**
- **if the person shows signs of dehydration and is getting worse**
- **if the child vomits everything he drinks, or drinks nothing, or if frequent vomiting continues for more than 3 hours after beginning Rehydration Drink**
- **if the child begins to have fits, or if the feet and face swell**
- **if the person was very sick, weak, or malnourished before the diarrhea began (especially a little child or a very old person)**
- **if there is much blood in the stools. This can be dangerous even if there is only**

very little diarrhea (see gut obstruction).

The Care of a Person with Acute Diarrhea

DIARRHEA



Figure

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 and 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 (see diarrhea), poisoning from spoiled food, or 'acute abdomen' (for example, appendicitis or something blocking the gut). Also, almost any sickness with high fever or severe pain may cause vomiting, especially malaria, hepatitis, tonsillitis, earache, meningitis, urinary infection, gallbladder pain or migraine headache.



Figure

Danger signs with vomiting - seek medical help quickly!

- **dehydration that increases and that you cannot control**

- **severe 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 (shit) or if you cannot hear gurgles when you put your ear to the belly (see acute abdomen: 'obstruction, appendicitis)**
- **vomiting of blood (ulcer; cirrhosis).**

To help control simple vomiting:

- **Eat nothing while vomiting is severe.**
- **Sip 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, use a vomit-control medicine like promethazine or diphenhydramine.**



Figure

Most of these come in pills, syrups, injections, and suppositories (soft pills you push up the *anus*). Tablets or syrup can also be put up the anus. Grind up the tablet in a little water. Put it in with an enema set or syringe without a needle

When taken by mouth, the medicine should be swallowed with very little water and nothing else should be swallowed for 5 minutes. Never give more than the recommended dose. Do not give a second dose until dehydration has been corrected and the person has begun to urinate. If severe vomiting and diarrhea make medication by mouth or anus impossible, give an injection of one of the vomit-control medicines. Promethazine may work best. Take care not to give too much.

Headaches and Migraines

SIMPLE HEADACHE can be helped by rest and aspirin. It often helps to put a cloth soaked in hot water on the back of the neck and 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 severe, check for signs of meningitis, aspirin

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

For simple or nervous headache, folk cures sometimes work as well as modern medicine.



Mexican folk cure



aspirin

A MIGRAINE is a severe throbbing headache often on one side of the head only. Migraine attacks may come often, or months or years apart:

A typical migraine begins with blurring of vision, seeing strange spots of light, or numbness of one hand or foot. This is followed by severe headache, which may last hours or days. Often there is vomiting. Migraines are very painful; but not dangerous.

TO STOP A MIGRAINE, DO THE FOLLOWING AT THE FIRST SIGN:

- **Take 2 aspirins with a cup of strong coffee or strong black tea.**



aspirin



Figure

- Lie down in a dark, quiet place. Do your best to relax. Try not to think about your problems.
- For especially bad migraine headaches, take aspirin, if possible with codeine, or with another sedative. Or obtain pills of ergotamine with caffeine (*Cafergot*). Take 2 pills at first and 1 pill every 30 minutes until the pain goes away. Do not take more than 6 pills in 1 day.



Figure

***WARNING:* Do not use *Cafergot* during pregnancy.**

Colds and the Flu

Colds and the flu are common virus infections that may cause runny nose, cough, sore throat, and sometimes fever or pain in the joints. There may be mild diarrhea, especially in

young children.



Figure

Colds and the flu almost always go away without medicine. Do not use penicillin, tetracycline, or other antibiotics, as they will not help at all and may cause harm.

- **Drink plenty of water and get enough rest.**
- **Aspirin or acetaminophen helps lower fever and relieve body aches and headaches. More expensive 'cold tablets' are no better than aspirin. So why waste your money?**
- **No special diet is needed. However, fruit juices, especially orange juice or lemonade, are helpful.**

For treating coughs and stuffy noses that come with colds, see the next pages.

***WARNING:* Do not give any kind of antibiotic or injections to a child with a simple cold. They will not help and may cause harm. Sometimes signs of cold are caused by the polio virus, and giving the child an injection could bring on paralysis from polio. '**

If a cold or the flu lasts more than a week, or if the person has fever, coughs 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 pneumonia is greater in old people, in those who have lung problems 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 strep throat. Special treatment is needed.

Prevention of colds:

- **Getting enough sleep and eating well 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 (although getting very cold, wet, or tired can make a cold worse). 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 coughs 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:**

Stuffy and Runny Noses

A stuffy or runny nose can result from a cold or allergy (see next page). A lot of mucus in the nose may cause ear infections in children or sinus problems in adults.

To help clear a stuffy nose, do the following:

1. In little children, carefully suck the mucus out of the nose with a suction bulb or syringe without a needle, like this:



Figure

2. Older children and adults can put a little salt water into their hand and sniff it into the nose. This helps to loosen the mucus.



Figure

3. Breathing hot water vapor, helps clear a stuffy nose.

4. Wipe a runny or stuffy nose, but try not to blow it. Blowing the nose may lead to earache and sinus infections.

5. Persons who often get earaches or sinus trouble after a cold can help prevent these problems by using *decongestant* nose drops like phenylephrine. Or make nose drops of ephedrine tablets. After sniffing a little salt water, put the drops in the nose like this:

With the head sideways, put 2 or 3 drops in the lower nostril. Wait a couple of minutes and then do the other side.



Figure

CAUTION: Use decongestant drops no more than 3 times a day, for no more than 3 days.

A decongestant syrup (with phenylephrine or something similar) may also help.

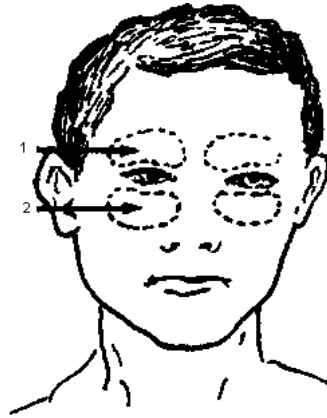
Prevent ear and sinus infections - try not to blow your nose, just wipe it.

Sinus Trouble (Sinusitis)

Sinusitis is an acute or chronic (long-term) inflammation of the sinuses or hollows in the bone that open into the nose. It usually occurs after a person has had an infection of the ears or throat, or after a bad cold.

Signs:

- **Pain in the face above and below the eyes, here, (It hurts more when you tap lightly just over the bones, or when the person bends over.) (1, 2)**



Figure

- **Thick mucus or pus in the nose, perhaps with a bad smell. The nose is often stuffy.**
- **Fever (sometimes).**
- **Certain teeth may hurt.**

Treatment:

- **Drink a lot of water.**
- **Sniff a little salt water into the nose, or breathe steam from hot water to clear the nose.**
- **Put hot compresses on the face.**
- **Use decongestant nose drops such as phenylephrine (*Neo-synephrine*).**
- **Use an antibiotic such as tetracycline, ampicillin, or penicillin.**

- **If the person does not get better, seek medical help.**

Prevention:

When you get a cold and a stuffy nose, try to keep your nose clear.

Hay Fever (Allergic Rhinitis)

Runny nose and itchy eyes can be caused by an allergic reaction to something in the air that a person has breathed in (see the next page). It is often worse at certain times of year.



Figure

Treatment:

Use an antihistamine such as chlorpheniramine. Dimenhydrinate (*Dramamine*), usually sold for motion sickness, also works.

Prevention:

Find out what things cause this reaction (for example: dust, chicken feathers, *pollen*, mold) and try to avoid them.

Allergic Reactions

An allergy is a disturbance or reaction that affects only certain persons when things they are sensitive or allergic to are...

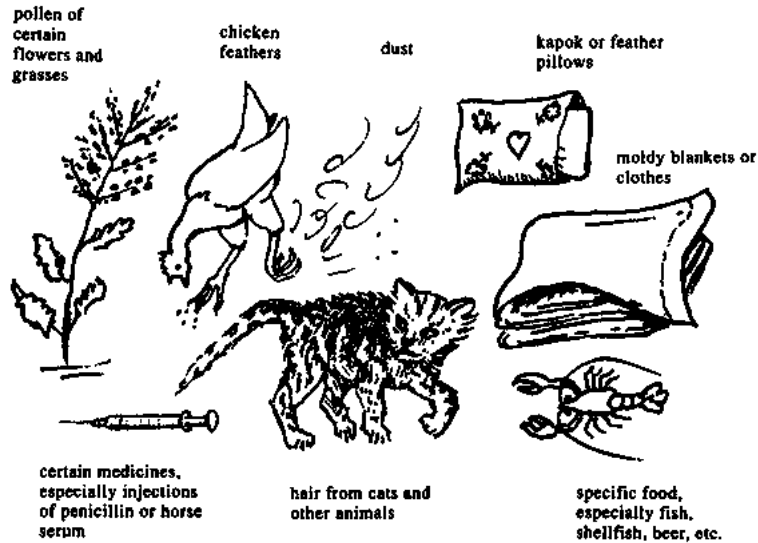
- **breathed in**
- **eaten**
- **injected**
- **or touch the skin**

Allergic reactions, which can be mild or very serious, include:

- **itching rashes, lumpy patches or *hives***
- **runny nose and itching or burning eyes (hay fever)**
- **irritation in the throat, difficulty breathing, or asthma**
- **allergic shock**
- **diarrhea (in children allergic to milk - a rare cause of diarrhea)**

An allergy is not an infection and cannot be passed from one person to another. However, children of allergic parents also tend to have allergies.

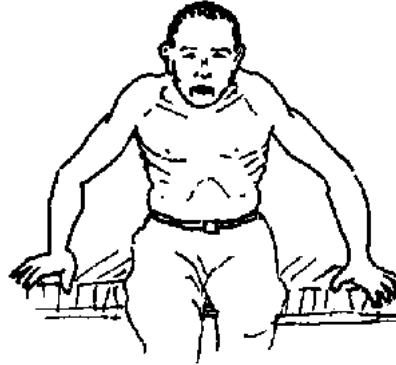
Often allergic persons suffer more in certain seasons - or whenever they come in touch with the substances that bother them. Common causes of allergic reactions are:



Figure

Asthma

A person with asthma has fits or attacks of difficult breathing. Listen for a hissing or wheezing sound, especially when breathing out. When he breathes 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.



sitting up to breathe

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 certain months of the year or at night. Persons who have had asthma for years may 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:

- **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.**
- **Give a lot of liquids. This loosens mucus and makes breathing easier. Breathing water vapor may also help.**

- For mild attacks give ephedrine, theophylline, or salbutamol.
- For severe asthma, ephedrine or salbutamol can be used with theophylline.
- If the asthma attack is especially bad, inject epinephrine (*Adrenalin*). Adults: 1/3 cc.; children ages 7 to 12: 1/5 cc. You can repeat the dose every half hour, as needed up to 3 times.



Inject epinephrine just under the skin.

- If the person has a fever, or if the attack lasts more than 3 days, give tetracycline capsules or erythromycin.
- In rare cases, roundworms cause asthma. Try giving piperazine to a child who starts having asthma if you think she has roundworms.
- 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.

Cough

Coughing is not a sickness in itself, but is a sign of many different sicknesses that affect the throat, lungs, or *bronchi* (the network of air tubes going into the lungs). Below are some of the problems that cause different kinds of coughs:

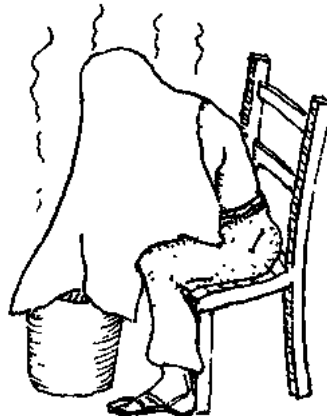
DRY COUGH WITH LITTLE OR NO PHLEGM:	COUGH WITH MUCH OR LITTLE PHLEGM:	COUGH WITH A WHEEZE OR WHOOP AND TROUBLE BREATHING:
cold or flu worms - when passing through the lungs measles smoker's cough (smoking)	bronchitis pneumonia asthma smoker's cough, especially when getting up in the morning	asthma whooping cough diphtheria heart trouble something stuck in the throat
CHRONIC OR PERSISTENT COUGH:	COUGHING UP BLOOD:	
tuberculosis smoker's or miner's cough asthma (repeated attacks) chronic bronchitis emphysema	tuberculosis pneumonia (yellow, green, or blood-streaked phlegm) severe worm infection cancer of the lungs or throat	

Coughing is the body's way of cleaning the breathing system and getting rid of phlegm (mucus with pus) and germs in the throat or lungs. So when a cough produces phlegm, do not take medicine to stop the cough, but rather do something to help loosen and bring up the phlegm.

Treatment for cough:

1. To loosen mucus and ease any kind of cough, drink lots of water. This works better than any medicine.

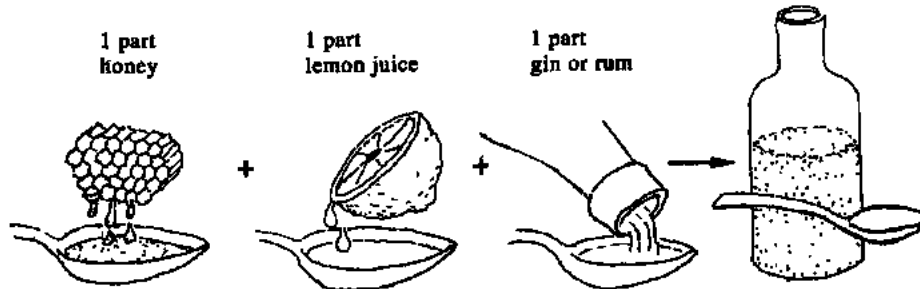
Also breathe hot water vapors. Sit on a chair with a bucket of very hot water at your feet. Place a sheet over your head and cover the bucket to catch the vapors as they rise. Breathe the vapors deeply for 15 minutes. Repeat several times a day. Some people like to add mint or eucalyptus leaves or *Vaporub*, but hot water works just as well alone.



Figure

CAUTION: Do not use eucalyptus or *Vaporub* if the person has asthma. They make it worse.

2. For all kinds of cough, especially a dry cough, the following cough syrup can be given:



Figure

Take a teaspoonful every 2 or 3 hours. For little children and people who have difficulty in breathing, leave out the alcohol. For babies under 1 year, if possible, use sugar instead of honey.

3. For a severe dry cough that does not let you sleep, you can take a syrup with codeine. Tablets of aspirin with codeine (or even aspirin alone) also help. If there is a lot of phlegm or wheezing, do not use codeine.

4. For a cough with wheezing (difficult, noisy breathing), see Asthma, Chronic Bronchitis, and Heart Trouble.

5. Try to find out what sickness is causing the cough and treat that. If the cough lasts a long time, if there is blood, pus, or smelly phlegm in it, or if the person is losing weight or has continual difficulty breathing, see a health worker.

6. If you have any kind of a cough, do not smoke. Smoking damages the lungs.

To prevent a cough, do not smoke.

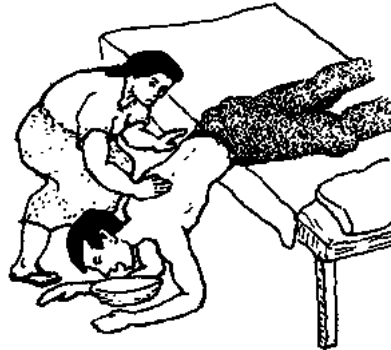
To cure a cough, treat the illness that causes it - and do not smoke.

To calm a cough, and loosen phlegm, drink lots of water - and do not smoke.

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



Figure

Bronchitis

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 only if the bronchitis lasts more than a week and is not getting better, if the person shows signs of pneumonia or if he already has a chronic lung problem.

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 tuberculosis or asthma, probably has chronic bronchitis.**
- **It occurs most frequently in older persons who have been heavy smokers.**
- **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'**



Emphysema can result from chronic asthma, chronic bronchitis, or smoking

Treatment:

- **Stop smoking.**
- **Take an anti-asthma medicine with ephedrine or theophylline.**
- **Persons with chronic bronchitis should use ampicillin or tetracycline every time they have a cold or 'flu' with a fever.**
- **If the person has trouble coughing up sticky phlegm, have him breathe hot water vapors and then help him with postural drainage.**



If you have a chronic cough (or want to prevent one),



DO NOT SMOKE!

Figure



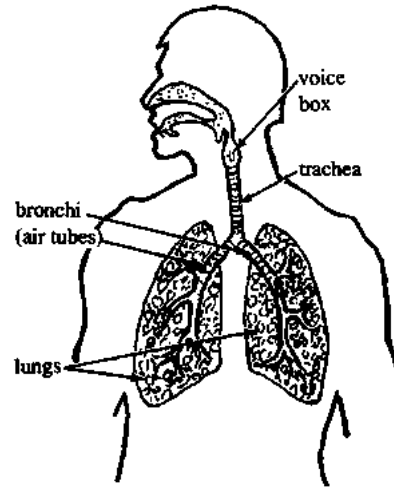
Figure

Pneumonia

Pneumonia is an *acute* infection of the lungs. 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. Also, persons with AIDS may develop pneumonia.

Signs:

- **Sudden chills and then high fever.**
- **Rapid, shallow breathing, with little grunts or sometimes wheezing. The nostrils may spread with each breath.**
- **Fever (sometimes newborns and old or very weak persons have severe pneumonia with little or no fever).**
- **Cough (often with yellow, greenish, rust-colored, or slightly bloody mucus)**
- **Chest pain (sometimes).**
- **The person looks very ill.**
- **Cold, sores often appear on the face or lips.**



Figure

A very sick child who takes more than 60 shallow breaths a minute probably has pneumonia.

(If breathing is rapid and deep, check for dehydration, or hyperventilation)

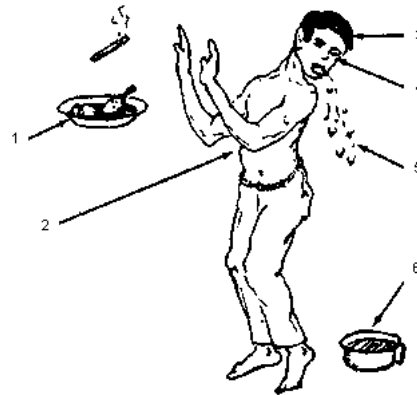
Treatment:

- **For pneumonia, treatment with antibiotics can make the difference between life and death. Give penicillin, co-trimoxazole, or erythromycin. In serious cases, inject procaine penicillin, adults: 400,000 units (250 mg.) 2 or 3 times a day, or give ampicillin by mouth, 500 mg., 4 times a day. Give small children 1/4 to 1/2 the adult dose. For children under 6, ampicillin is usually best.**

- **Give aspirin or acetaminophen to lower the temperature and lessen the 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 breathe hot water vapors. Postural drainage may also help.**
- **If the person is wheezing, an anti-asthma medicine with theophylline or ephedrine may help.**

Hepatitis

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 serious in older persons and in women who are pregnant. A person is often very sick for 2 weeks and weak for 1 to 3 months after. (He can spread hepatitis easily to others until 3 weeks after the yellow in his eyes disappears.)



Figure

Signs:

- Does not want to eat or smoke. Often goes days without eating anything. (1)
- Sometimes there is a pain on the right side near the liver. (2)
- May have a fever (3)
- After a few days, the eyes turn yellow. (4)
- Sight or smell of food may cause vomiting. (5)
- The urine turns the color of Coca-Cola, and the stools become whitish. (6)

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 drink lots of liquids. If he refuses most food, give him orange juice, papaya, and other fruit, plus broth or vegetable soup. It may help

to take vitamins.

- **To control vomiting.**
- **When the sick person can eat, give a balanced meal. Vegetables and fruit are good, with some protein. But do not give a lot of protein (meat, eggs, fish, etc.) because this makes the damaged liver work too hard. Avoid lard and fatty foods. Do not drink any alcohol for at least 6 months.**

Prevention:

- **The hepatitis virus passes from the stool of one person to the mouth of another by way of contaminated water or food. To prevent others from getting sick, bury or burn the sick person's stools 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.**
- **For at least 3 weeks after the signs of hepatitis go away, take steps to prevent passing it to others. Use separate dishes for eating, avoid sex, even with a condom, and do not handle food.**

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

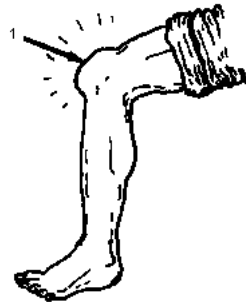
Arthritis (Painful, Inflamed Joints)

Most chronic joint pain, or arthritis, 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. If the arthritis causes some fever, it helps to take naps during the day.**
- **Place cloths soaked in hot water on the painful joints.**
- **Aspirin helps relieve pain; the dose for arthritis is higher than that for calming other pain. Adults should take 3 tablets, 4 to 6 times a day. If your ears begin to ring, take less. To avoid stomach problems caused by aspirin, always take it with food, or a large glass of water. If stomach pain continues, take the aspirin not only with food and lots of water, but also with a spoonful of an antacid such as *Maalox* or *Gelusil*.**
- **It is important to do simple exercises to help maintain or increase the range of motion in the painful joints.**

If only one joint is swollen and feels hot, it may be infected - especially if there is fever. Use an antibiotic such as penicillin and if possible see a health worker. (1)

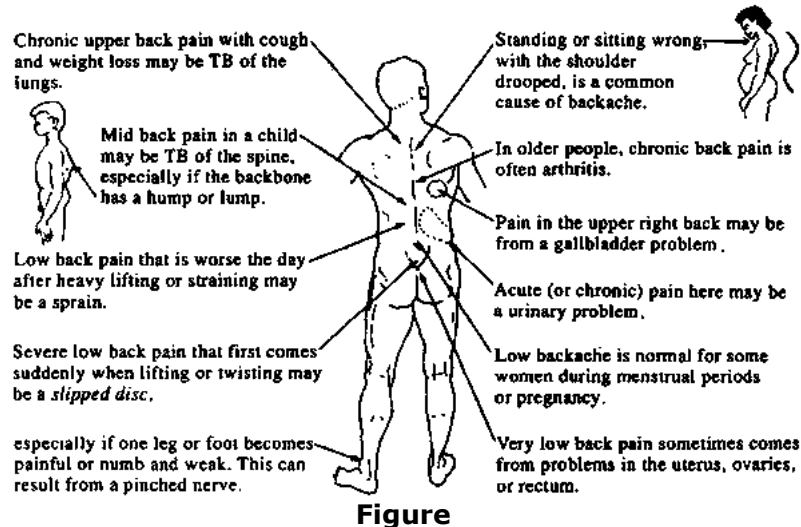


Figure

Painful joints in young people and children may be a sign of other serious illness, such as rheumatic fever or tuberculosis. For more information on joint pain, see *Disabled Village Children*, Chapters 15 and 16.

Back Pain

Back pain has many causes. Here are some:

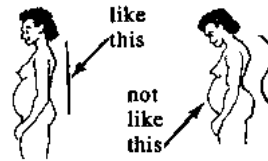


Treatment and prevention of back pain:

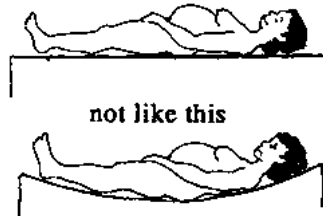
- If back pain has a cause like TB, a urinary infection, or gallbladder disease, treat

the cause. Seek medical help if you suspect a serious disease.

- **Simple backache, including that of pregnancy, can often be prevented or made better by: always standing straight sleeping on a firm flat surface like this back-bending exercises (done very slowly)**



always standing straight

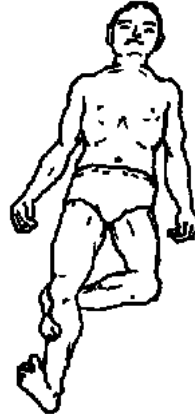


sleeping on a firm flat surface like this



back-bending exercises (done very slowly)

- **Aspirin and hot soaks help calm most kinds of back pain.**
- **For sudden, severe, low back pain that comes from twisting, lifting, bending, or straining, quick relief can sometimes be brought like this:**



Have the person lie with one foot tucked under his knee.

Then, holding this shoulder down,

gently but steadily push this knee over so as to twist the back.

Do this first on one side and then the other.



Figure

CAUTION: Do not try this if the back pain is from a fall or injury.

- If back pain from lifting or twisting is sudden and severe 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 (pad between the bones of the back). It is best to rest flat on your back for a few days. It may help to put something firm under the knees and mid back.
- Take aspirin and use hot soaks. If pain does not begin to get better in a few days, seek medical advice.



Figure

Varicose Veins

Varicose veins are veins that are swollen, twisted, and often painful. They are often seen on the legs of older people and of women who are pregnant or who have had many children.

Treatment:

There is no medicine for varicose veins. But the following will help:

- **Do not spend much time standing or sitting with your feet down. If you have no choice but to sit or stand for long periods, try to lie down with your feet up (above the level of the heart) for a few minutes every half hour. When standing, try to walk in place. Or, repeatedly lift your heels of the ground and put them back down. Also, sleep with your feet up (on pillows).**
- **Use elastic stockings (support hose) or elastic bandages to help hold in the veins. Be sure to take them off at night. (1)**



Figure

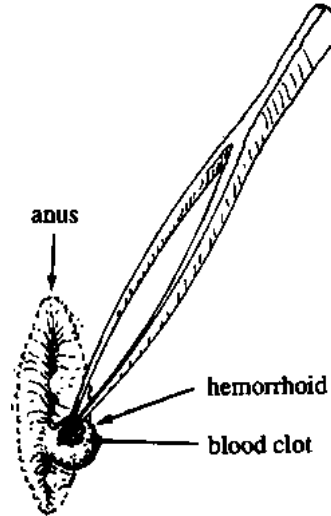
- **Taking care of your veins in this way will help prevent chronic sores or *varicose ulcers* on the ankles.**

Piles (Hemorrhoids)

Piles or hemorrhoids are varicose veins of the anus or rectum, which feel like little lumps or balls. They may be painful, but are not dangerous. They frequently appear during pregnancy and may go away afterwards.

- **Certain bitter plant juices (witch hazel, cactus, etc.) dabbed on hemorrhoids help shrink them. So do hemorrhoid *suppositories*.**
- **Sitting in a bath of warm water can help the hemorrhoid heal.**
- **Piles may be caused in part by constipation. It helps to eat plenty of fruit or food with a lot of fiber, like cassava or bran.**
- **Very large hemorrhoids may require an operation. Get medical advice.**

If a hemorrhoid begins to bleed, the bleeding can sometimes be controlled by pressing with a clean cloth directly on the hemorrhoid. If the bleeding still does not stop, seek medical advice. Or try to control the bleeding by removing the clot that is inside the swollen vein. Tweezers like these can be used after they have been sterilized by boiling.



Figure

***CAUTION:* Do not try to cut the hemorrhoid out. The person can bleed to death.**

Swelling of the Feet and Other Parts of the Body

Swelling of the feet may be caused by a number of different problems, some minor and others serious. But if the face or other parts of the body are also swollen, this is usually a sign of serious illness.

Women's feet sometimes swell during the last three months of pregnancy. This is usually not serious. It is caused by the weight of the child that presses on the veins coming from the legs in a way that limits the flow of blood. However, if the 'woman's hands and face also swell, she feels dizzy, has problems seeing, or does not pass much urine, she may be suffering from poisoning or *toxemia* of pregnancy. Seek medical help fast.

Old people who spend a lot of time sitting or standing in one place often get swollen feet because of poor circulation. However, swollen feet in older persons may also be due to heart trouble or, less commonly, kidney disease.

Swelling of the feet in small children may result from anemia or malnutrition. In severe cases the face and hands may also become swollen (see Kwashiorkor).

Treatment:

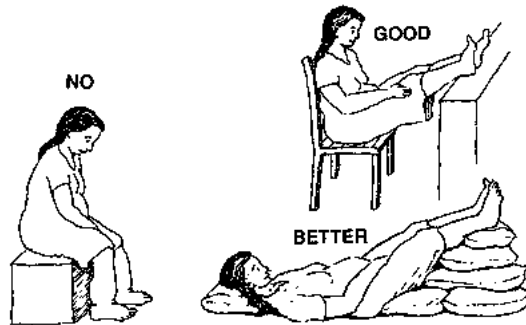
To reduce swelling, treat the sickness that causes it. Use little or no salt in food. Herbal teas that make people urinate a lot usually help (see corn silk). Also do the following:

WHEN YOUR FEET ARE SWOLLEN:

Do not spend time sitting with your feet down. This makes them swell more.

When you sit, put your feet up high. This way the swelling becomes less. Put your feet up several times a day. Your feet should be above the level of your heart.

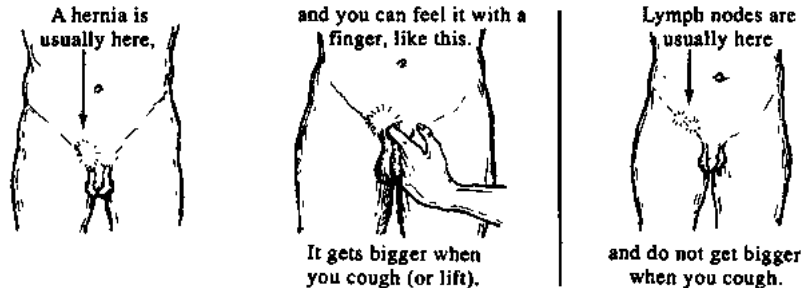
Also sleep with your feet raised.



Figure

Hernia (Rupture)

A hernia is an opening or tear in the muscles covering the belly. This permits a loop of gut to push through and form a lump under the skin. Hernias usually come from lifting something heavy, or straining (as during childbirth). Some babies are born with a hernia. In men, hernias are common in the groin. Swollen lymph nodes may also cause lumps in the groin. However...



Figure

How to prevent a hernia:



Lift heavy things like this

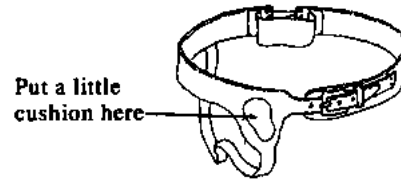


not like this

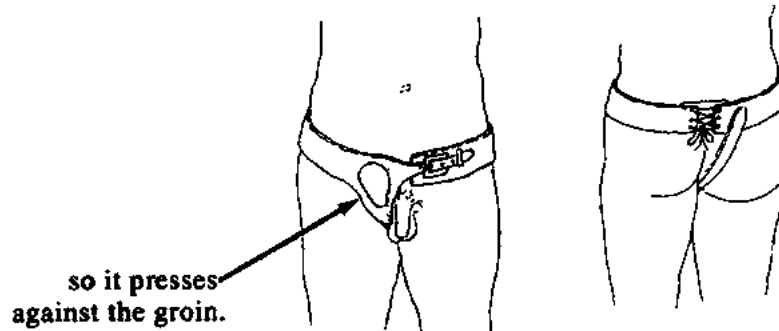
How to live with a hernia:

- **Avoid lifting heavy objects.**
- **Make a truss to hold the hernia in.**

PLAN FOR A SIMPLE TRUSS:



Figure



Figure

CAUTION: If a hernia suddenly becomes large or painful, try to make it go back in by lying with the feet higher than the head and pressing gently on the bulge. If it will not go back, seek medical help.

If the hernia becomes very painful and causes vomiting, and the person cannot have a bowel movement, this can be very dangerous. Surgery may be necessary. Seek medical help fast. In the meantime, treat as for Appendicitis.

Fits (Convulsions)

We say a person has a fit when he suddenly loses consciousness and makes strange, jerking movements (convulsions). Fits come from a problem in the brain. In small children common causes of fits are high fever and severe dehydration. In very ill persons, the cause may be meningitis, malaria of the brain, or poisoning. A person who often has fits may have epilepsy.

- **Try to figure out the cause of a fit and treat it, if possible.**
- **If the child has a high fever, lower it at once with cool water.**
- **If the child is dehydrated, give an enema of Rehydration Drink slowly. Send for medical help. Give nothing by mouth during a fit.**
- **If there are signs of meningitis, begin treatment at once and seek medical help.**
- **If you suspect cerebral malaria, inject a malaria medicine.**

EPILEPSY

Epilepsy causes fits in people who otherwise seem fairly healthy. Fits may come hours, days, weeks, or months apart. In some persons they cause loss of consciousness and violent movements. The eyes often roll back. In mild types of epilepsy the person may suddenly 'blank out' a moment, make strange movements, or behave oddly. Epilepsy is more common in some families (inherited). Or it may come from brain damage at birth, high fever in infancy, or tapeworm cysts in the brain. Epilepsy is not an infection and cannot be 'caught'. It is often a life-long problem. However, babies sometimes get over it.

Medicines to prevent epileptic fits:

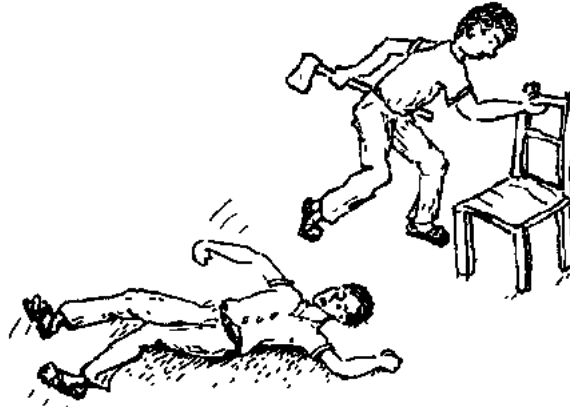
Note: These do not 'cure' epilepsy; they help prevent fits. Often the medicine must be

taken for life.

- **Phenobarbital often controls epilepsy. It costs little.**
- **Phenytoin may work when phenobarbital does not. Use the lowest possible dose that prevents fits.**

When a person is having a fit:

- **Try to keep the person from hurting himself: move away all hard or sharp objects.**



Figure

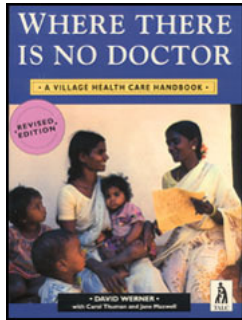
- **Put nothing in the person's mouth while he is having a fit - no food, drink, medicine, nor any object to prevent biting the tongue.**
- **After the fit the person may be dull and sleepy. Let him sleep.**


- If fits last a long time, inject phenobarbital or phenytoin. If the fit still has not stopped after 15 minutes, give a second dose. Or if someone knows how, inject IV diazepam (*Valium*) or phenobarbital into the vein. Liquid or injectable medicine can be put up the rectum with a plastic syringe without a needle. Or grind up a pill of diazepam or phenobarbital, mix with water, and put it lip the rectum.

For more information on fits, see *Disabled Village Children*, Chapter 29.



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 **Where There Is No Doctor - A Village Health Care Handbook**
(Hesperian Foundation, 1993, 516 p.)

  **Chapter 14 - SERIOUS ILLNESSES THAT NEED SPECIAL MEDICAL ATTENTION**

 **(introduction...)**

 **Tuberculosis (TB, Consumption)**

 **Rabies**

 **Tetanus (Lockjaw)**

 **Meningitis**

 **Malaria**

 **Dengue (Breakbone Fever, Dandy Fever)**

 **Brucellosis (Undulant Fever, Malta Fever)**

 **Typhoid Fever**

 **Typhus**

 **Leprosy (Hansen's Disease)**

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Chapter 14 - SERIOUS ILLNESSES THAT NEED SPECIAL MEDICAL ATTENTION

The diseases covered in this chapter are often difficult or impossible to cure without medical help. Many need special medicines that are difficult to get in rural areas. Home remedies will not cure them. If a person has one of these illnesses, *THE SOONER HE GETS MEDICAL HELP, THE BETTER HIS CHANCE OF GETTING WELL.*

***CAUTION:* Many of the illnesses covered in other chapters may also be serious and require medical assistance. See the Signs of Dangerous Illness.**

Tuberculosis (TB, Consumption)

Tuberculosis of the lungs is a *chronic* (long-lasting), *contagious* (easily spread) disease that anyone can get. But it often strikes persons between 15 and 35 years of age - especially those who have AIDS, or who are weak, poorly nourished, or live with someone who has TB.

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. Therefore, you should know the signs of tuberculosis and be on the lookout for them.



Figure

Most frequent signs of TB:

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

In serious or advanced cases:

- **Coughing up blood (usually a little, but in some cases a lot).**
- **Pale, waxy skin. The skin of a dark-skinned person tends to get lighter, especially the face.**
- **Voice grows hoarse (very serious).**

***In young children:* The cough may come late. Instead, look for:**

- **Steady weight loss.**
- **Frequent fever.**
- **Lighter skin color.**
- **Swellings in the neck (lymph nodes), or the belly.**

Tuberculosis is usually only in the lungs. But it can affect any part of the body. In young children it may cause meningitis. For skin problems from TB.

***If you think you might have tuberculosis:* Seek medical help. At the first sign of tuberculosis, go to a health center where the workers can give you a skin test, take an X-ray, and examine the stuff you cough up (*phlegm* or *sputum*) to see if you have TB or not. Many governments give the medicines free. Ask at the nearest health center. You will probably be given 2, 3, or 4 of the following:**

- Isoniazid (INH) pills
- Ethambutol pills
- Rifampin pills
- Streptomycin injections
- Pyrazinamide pills
- Thiacetazone pills

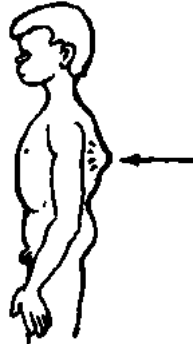
It is very important to take the medicines as directed. At least 2 must be taken at the same time. For a choice of treatment plans and for risks and precautions in the use of these medicines. Continue taking the medicines until the health worker says you are cured. Do not stop taking the medicines just because you feel better. To cure tuberculosis completely usually takes from 6 months to more than a year.

Eat as well as possible: plenty of energy foods and also foods rich in proteins and vitamins.

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 breathe with difficulty. Try to always get enough rest and sleep.

Tuberculosis in any other part of the body is treated the same as TB of the lungs. This includes TB in the glands of the neck, TB of the abdomen, TB of the skin, and TB of a joint (like the knee). A child with severe TB of the backbone may also need surgery to prevent paralysis (see *Disabled Village Children*, Chapter 21).



TB of the backbone

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

If someone in the house has TB:

- **If possible, see that the whole family is tested for TB (Tuberculin test).**
- **Have the children vaccinated against TB with B.C.G. vaccine.**
- **Everyone, especially the children, should eat plenty of nutritious food.**

- **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.**
- **Also, ask him to cover his mouth when coughing and not spit on the floor.**
- **Watch for weight loss and other signs of TB in members of the family. If possible, weigh each person, especially the children, once a month, until the danger is past.**

TB in family members often starts very slowly and quietly. 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.

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.



Figure

Signs of rabies:**In the animal:**

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

Signs in people:

- **Pain and 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. Fits of anger can occur.**
- **As death nears, fits (convulsions) and paralysis.**

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

- **Tie or cage the animal for a week.**
- **Clean the bite well with soap, water, and hydrogen peroxide. Do not close the wound; leave it open.**
- **If the animal dies before the 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 injections.**

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

Once the sickness begins, no treatment known to medical science can save the person's life.

Prevention:

- **Kill and 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.**

Take great care in handling any animal that seems sick or acts strangely. Even if it does not bite anyone, its saliva can cause rabies if it gets into a cut or scratch.

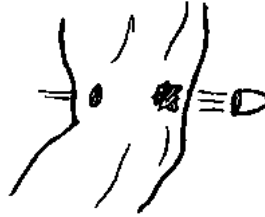
Tetanus (Lockjaw)

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

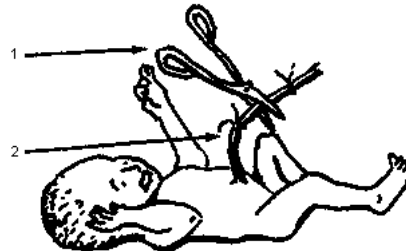


puncture wounds from thorns, splinters, or nails

CAUSES OF TETANUS IN THE NEWBORN CHILD

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...

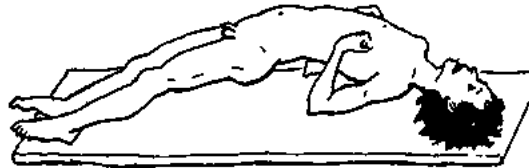
- **when the cord has been cut with an instrument that has not been boiled and kept completely clean or (1)**
- **when the cord has not been cut close to the body or (2)**
- **when the newly cut cord is tightly covered or is not kept dry.**



WHEN THE CORD IS CUT A LONG WAY FROM THE BODY, LIKE THIS, THE CHANCE OF

TETANUS IS GREATER.***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 other 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* like this:**



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 tetanus at the first sign. If you suspect tetanus (or if a newborn child cries continuously or stops nursing), make this test:

TEST OF KNEE REFLEXES



With the leg hanging freely tap the knee with a knuckle just below the kneecap.



If the leg jumps just a little bit, the reaction is normal.



If the leg jumps high, this indicates a serious illness like tetanus (or perhaps meningitis or poisoning with certain medicines or rat poison).

This test is especially useful when you suspect tetanus in a newborn baby.

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 remove all dirt, pus, thorns, splinters, etc.; flood the wound with hydrogen peroxide if you have 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 tetracycline.**
- **If you can get it, inject 5,000 units of Human Immune Globulin or 40,000 to 50,000 units of Tetanus Antitoxin. Be sure to follow all the precautions. Human Immune Globulin has less risk of severe allergic reaction, but may be more expensive and harder to obtain.**
- **As long as the person can swallow, give nutritious liquids in frequent, small sips.**
- **To control convulsions, inject phenobarbital (for the dose) or diazepam (*Valium*), adults: 10 to 20 mg, to start with, and more as necessary.**
- **Touch and move the person as little as possible. Avoid noise and bright light.**
- **If necessary, use a *catheter* (rubber tube) connected to a syringe to suck the mucus from the nose and throat. This helps clear the airway.**

- **For the newborn with tetanus, if possible, have a health worker or doctor put in a nose-to-stomach tube and feed the baby the mother's breast milk. This provides needed nutrition and fights infection.**

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.**

THIS BABY'S CORD WAS CUT SHORT, KEPT DRY, AND LEFT OPEN TO THE AIR.



Figure

HE STAYED HEALTHY

THIS BABY'S CORD WAS LEFT LONG, KEPT TIGHTLY COVERED, AND NOT KEPT DRY.



Figure

HE DIED OF TETANUS.

Meningitis

This is a very serious infection of the brain, more common in children. It may begin as a *complication* of another illness, such as measles, mumps, whooping cough, or an ear infection. Children of mothers who have tuberculosis sometimes get tubercular meningitis in the first few months of life.

Signs:

- **Fever.**

- **Severe headache.**
- **Stiff neck. The child looks very ill, and lies with his head and neck bent back, like this: (1)**



Figure

- **The back is too stiff to put the head between the knees.**
- **In babies under a year old: the fontanel (soft spot on top of the head) bulges out.**
- **Vomiting is common.**
- **In babies and young children, early meningitis may be hard to recognize. The child may cry in a strange way (the 'meningitis cry'), even when the mother puts the child on her breast. Or the child may become very sleepy.**
- **Sometimes there are fits (convulsions) or strange movements.**
- **The child often gets worse and worse and only becomes quiet when he loses consciousness completely.**
- **Tubercular meningitis develops slowly, over days or weeks. Other forms of meningitis come on more quickly, in hours or days.**

Treatment:

Get medical help fast - every minute counts! If possible take the person to a hospital.

Meanwhile:

- **Inject ampicillin, 500 mg. every 4 hours. Or inject crystalline penicillin, 1,000,000 U. every 4 hours. If possible, also give chloramphenicol.**
- **If there is high fever (more than 40°), lower it with wet cloths and acetaminophen or aspirin.**
- **If the mother has tuberculosis or if you have any other reason to suspect that the child has tubercular meningitis, inject him with 0.2 ml. of streptomycin for each 5 kilos he weighs and get medical help at once. Also, use ampicillin or penicillin in case the meningitis is not from TB.**

Prevention:

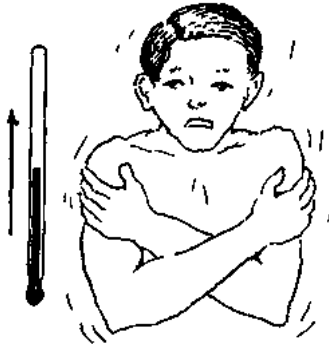
For prevention of tubercular meningitis, newborn babies of mothers with tuberculosis should be vaccinated with B.C.G. at birth. Dose for the newborn is 0.05 ml. (half the normal dose of 0.1 ml.).

Malaria

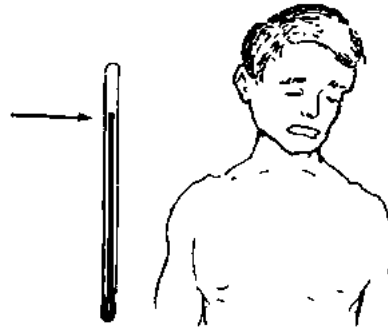
Malaria is an infection of the blood that causes chills and high fever. Malaria is spread by mosquitos. The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites.

Signs of malaria:

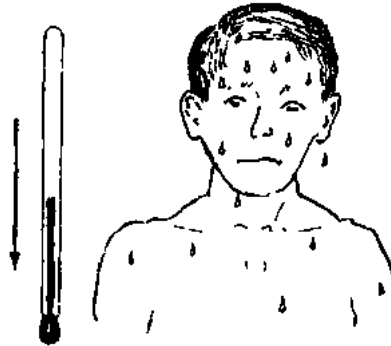
- **The typical attack has 3 stages:**



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° or more. The person is weak, flushed (red skin), and at times delirious (not 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.

- **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.**
- **In young children, anemia and paleness can begin within a day or two. In children with malaria affecting the brain (cerebral malaria), fits may be followed by periods of unconsciousness. Also, the palms may show a blue-gray color, and breathing may be rapid and deep. (*Note: Children who have not been breast fed are more likely to get malaria.*)**

Analysis and treatment:

- **If you suspect malaria or have repeated fevers, if possible go to a health center**

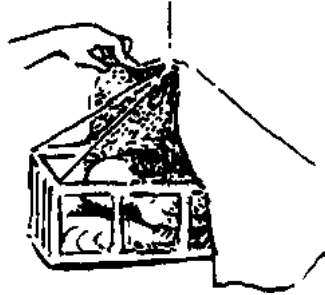
for a blood test. In areas where an especially dangerous type of malaria called *falciparum* occurs, seek treatment immediately.

- **In areas where malaria is common, treat any unexplained high fever as malaria. Take the malaria medicine known to work best in your area.**
- **If you get better with the medicine, but after several days the fevers start again, you may need another medicine. Get advice from the nearest health center.**
- **If a person who possibly has malaria begins to have fits or other signs of meningitis he may have *cerebral* malaria. If possible, inject malaria medicine at once.**

HOW TO AVOID MALARIA (AND DENGUE)

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 underneath a sheet. Cover the baby's cradle with a mosquito netting or a thin cloth. Netting treated with insecticide works best.**



Figure

2. Cooperate with the malaria control workers when they come to your village. Tell them if anyone in the family has had fevers and let them take blood for testing.



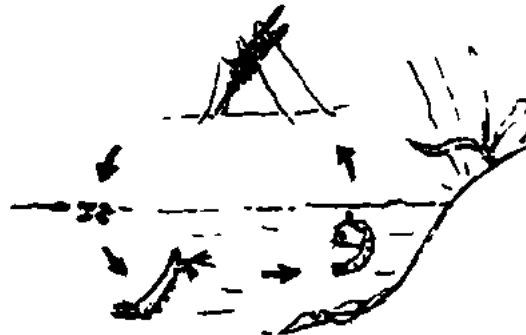
Figure

3. If you suspect malaria, get treatment quickly. After you have been treated, mosquitos that bite you will not pass malaria on to others.



Figure

4. Destroy mosquitos and their young. Mosquitos breed in water that is not flowing. Clear ponds pits, old cans, or broken pots that collect water. Drain or put a-little oil on pools or marshes where mosquitos breed. Fill the tops of bamboo posts with sand.



Figure

5. Malaria can also be prevented, or its effects greatly reduced, by taking anti-malaria medicines on a regular schedule.

Dengue (Breakbone Fever, Dandy Fever)

This illness is sometimes confused with malaria. It is caused by a virus that is spread by mosquitos. In recent years it has become much more common in many countries. It often occurs in epidemics (many persons get it at the same time), usually during the hot, rainy season. A person can get dengue more than once. Repeat illnesses are often worse. To prevent dengue, control mosquitos and protect against their bites, as described above.

Signs:

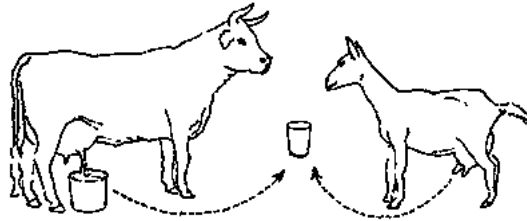
- Sudden high fever with chills.
- Severe body aches, headache, sore throat.
- Person feels very ill, weak, miserable.
- After 3 to 4 days person feels better for a few hours to 2 days.
- Then illness returns for 1 or 2 days, often with a rash that begins on hands and feet.
- The rash then spreads to arms, legs, and finally the body (usually not the face).
- In Southeast Asia, a severe form of dengue may cause bleeding into the skin (small dark spots), or dangerous bleeding inside the body.

Treatment:

- No medicine cures it, but the illness goes away by itself in a few days
- Rest, lots of liquids, acetaminophen (but not aspirin) for fever and pain;
- In case of severe bleeding, treat for shock, if necessary.

Brucellosis (Undulant Fever, Malta Fever)

This is a disease that comes from drinking fresh milk from infected cows or goats. It may also enter the body through scrapes or wounds in the skin of persons who work with sick cattle, goats, or pigs, or by breathing it into the lungs.



PREVENT BRUCELLOSIS: NEVER DRINK UNBOILED MILK

Signs:

- **Brucellosis may start with fever and chills, but it often begins very gradually, with increasing tiredness, weakness, loss of appetite, headache, stomach-ache, and sometimes joint pains.**
- **The fevers may be mild or severe. Typically, these begin with afternoon chills and end with sweating in the early morning. In chronic brucellosis, the fevers may stop for several days and then return. Without treatment, brucellosis may last for years.**
- **There may be swollen lymph nodes in the neck, armpits, and groin.**

Treatment:

- **If you suspect brucellosis, get medical advice, because it is easy to confuse this disease with others, and the treatment is long and expensive.**
- **Treat with tetracycline, adults: two 250 mg. capsules 4 times a day for 3 weeks. Or use co-trimoxazole.**

Prevention:

- **Drink only cow's or goat's milk that has been boiled or pasteurized. In areas where brucellosis is a problem, it is safer not to eat cheese made from unboiled milk.**
- **Be careful when handling cattle, goats, and pigs, especially if you have any cuts or scrapes.**
- **Cooperate with livestock inspectors who check to be sure your animals are healthy.**

Typhoid Fever

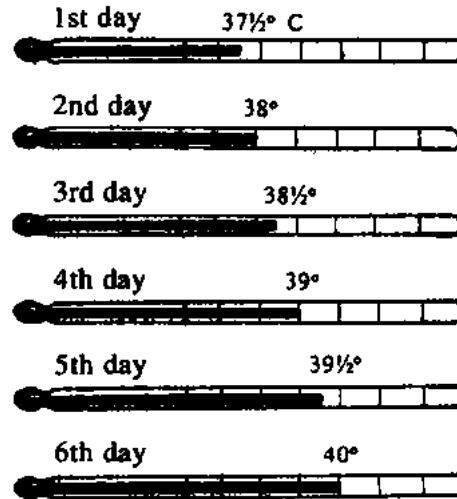
Typhoid is an infection of the gut that affects the whole body. It is spread from *feces-to-mouth* in contaminated food and water and often comes in *epidemics* (many people sick at once). Of the different infections sometimes called 'the fever', typhoid is one of the most dangerous.

Signs of typhoid:

First week:

- **It begins like a cold or flu.**
- **Headache, sore throat, and often a dry cough.**
- **The fever goes up and down, but, rises a little more each day until it reaches 40° or more.**
- **Pulse is often relatively slow for the amount of fever present. 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.



Figure

Second week:

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

Third week:

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

Treatment:

- **Seek medical help.**
- **In areas where typhoid has become resistant to chloramphenicol and ampicillin, give co-trimoxazole for at least 2 weeks.**
- **Or, try chloramphenicol, adults: 3 capsules of 250 mg. 4 times a day for at least 2 weeks. If there is no chloramphenicol, use ampicillin or tetracycline.**
- **Lower the fever with cool wet cloths.**
- **Give plenty of liquids: soups, juices, and Rehydration Drink to avoid dehydration.**
- **Give nutritious foods, in liquid form if necessary.**
- **The person should stay in bed until the fever is completely gone.**
- **If the person shits blood or develops signs of peritonitis or pneumonia, take her to a hospital at once.**

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 in Chapter 12. 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.

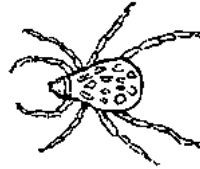
- **To avoid the spread of typhoid, a person who has the disease should stay in a separate room. No one else should eat or drink from the dishes he uses. His stools should be burned or buried in deep holes. Persons who care for him should wash their hands right afterwards.**
- **After recovering from 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. Sometimes ampicillin is effective in treating typhoid carriers.**

Typhus

Typhus is an illness similar to but different from typhoid. The infection is transmitted by bites of: lice ticks rat fleas



lice



ticks



rat fleas

Signs:

- **Typhus begins like a bad cold. After a week or more fever begins, with chills, headache, and pain in-the muscles and chest.**
- **After a few days of fever a typical rash appears, first in the armpits and then on the body, then the arms and legs (but not on the face, palms of the hands, or soles of the feet). The rash looks like many tiny bruises.**
- **The fever lasts 2 weeks or more. Typhus is usually mild in children and very severe in old people. An epidemic form of typhus is especially dangerous.**
- **In typhus spread by ticks, there is often a large painful sore at the point of the bite, and the lymph nodes near the bite are swollen and painful.**

Treatment:

- **If you think someone may have typhus, get medical advice. Special tests are often needed.**
- **Give tetracycline, adults: 2 capsules of 250 mg., 4 times a day for 7 days. Chloramphenicol also works, but is riskier.**

Prevention:

- **Keep clean. De-louse the whole family regularly.**
- **Remove ticks from your dogs and do not allow dogs in your house.**
- **Kill rats. Use cats or traps (not poison, which can be dangerous to other animals and children).**
- **Kill rat fleas. Do not handle dead rats. The fleas may jump off onto you. Drown and burn the rats and their fleas. Put insecticide into rat holes and nests.**



Figure

Leprosy (Hansen's Disease)

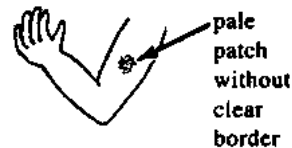
This mildly infectious disease develops slowly, often over many years. It can only spread

from persons who have untreated leprosy, to persons who have 'low resistance' to the disease. In areas where leprosy is common, children should be checked every 6 to 12 months - especially children living with persons who have leprosy.

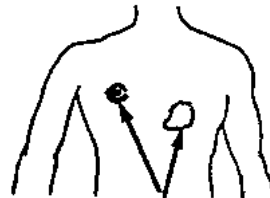
***Signs:* Leprosy can cause a variety of skin problems, loss of feeling, and paralysis of the hands and feet.**

The first sign of leprosy is often a slowly growing patch on the skin that does not itch or hurt. At first, feeling inside the patch may be normal. Keep watching it. If feeling in the patch becomes reduced or absent it is probably leprosy.

Examine the whole body for skin patches, especially the face, arms, back, butt, and legs.



Figure



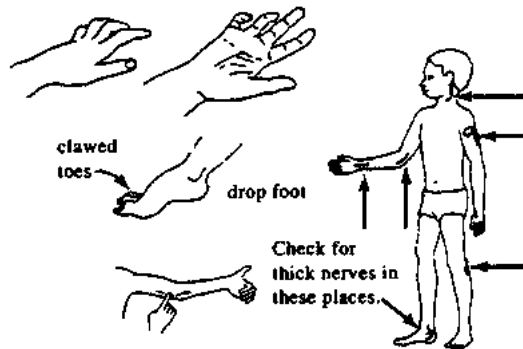
**ringworm-like patch with
or without raised border.**

Figure

Patches are a different color from surrounding skin, but never completely white or scaly.

Later signs differ according to the person's natural resistance to the disease. Watch out for:

- **Tingling, numbness or loss of feeling in hands or feet. Or deformities or loss of feeling in skin patches.**



Figure

- **Slight weakness or deformities in the hands and feet.**
- **Swollen nerves that form thick cords under the skin. Nerves may or may not be painful when you press them.**

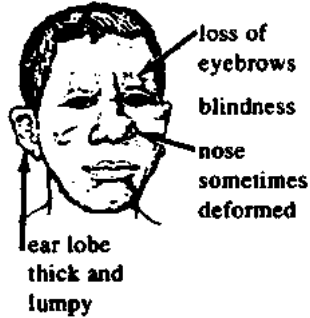
Advanced signs may include:

meister11.htm

burns and scars
where feeling
has been lost



Figure



Figure



painless sores
on hands or feet

Figure

paralysis
and deformity
of the hands
and feet



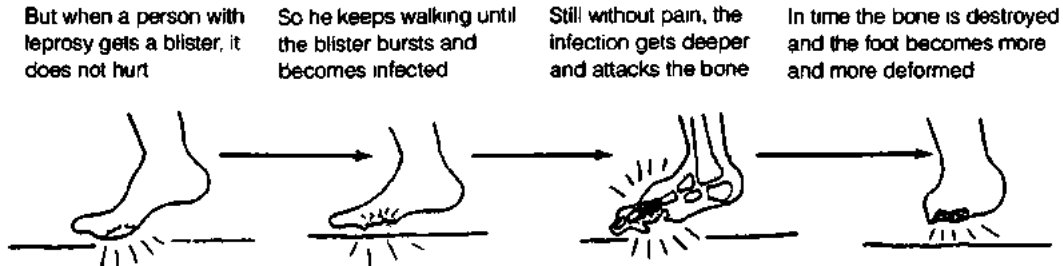
Figure

Treatment of leprosy: *Leprosy* is usually curable, but medicine must usually be taken for years. The best medicine is dapson, if possible combined with rifampin and clofazimine. If a 'lepra reaction' (fever, a rash, pain and perhaps swelling of hands and feet, or eye damage) occurs or gets worse while taking the medicine, keep taking it but get medical help.

Prevention of damage to hands, feet, and eyes: The large open sores often seen on the hands and feet of persons with leprosy are not caused by the disease itself and can be

prevented. They result because, when feeling has been lost, a person no longer protects himself against injury.

For example, if a person with normal feeling walks a long way and gets a blister, it hurts, so he stops walking or limps.



Figure

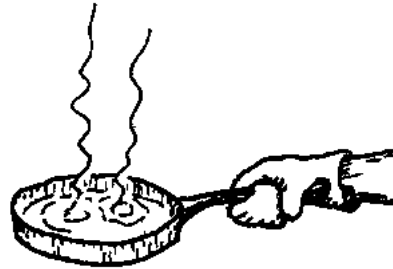
1. Protect hands and feet from things that can cut, bruise, blister, or burn them:

Do not go barefoot, especially not where there are sharp stones or thorns. Wear shoes or sandals. Put soft padding inside shoes and under straps that may rub. (1)



Figure

When working or cooking meals, wear gloves. Never pick up an object that might be hot without first protecting your hand with a thick glove or folded cloth. If possible, avoid work that involves handling sharp or hot objects. Do not smoke.

**Figure**

2. At the end of each day (or more often if you work hard or walk far) examine your hands and feet very carefully - or have someone else examine them. Look for cuts, bruises, or thorns. Also look for spots or areas on the hands and feet that are red, hot, swollen or show the beginnings of blisters. If you find any of these, rest the hands or feet until the skin is completely normal again. This will help callous and strengthen the skin. Sores can be prevented.

3. If you have an open sore, keep the part with the sore very clean and at rest until it has completely healed. Take great care not to injure the area again.

4. Protect your eyes. Much eye damage comes from not blinking enough, because of weakness or loss of feeling. Blink your eyes often to keep them wet and clean. If you cannot blink well, close your eyes tightly often during the day, especially when dust

blows. Wear sun glasses with side shades, and maybe a sun hat. Keep eyes clean and flies away.

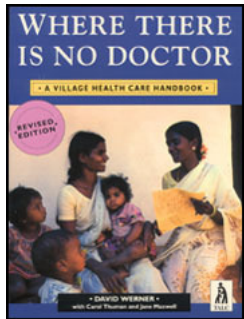



Figure


If you do these things and begin treatment early, most deformities with leprosy can be prevented. For more information about Hansen's disease, see *Disabled Village Children*, Chapter 26.



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 **Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)**

➔  **Chapter 15 - SKIN PROBLEMS**

 **(introduction...)**

 **General Rules for Treating Skin Problems**

 **Instructions for Using Hot Compresses (Hot Soaks)**
















 **Identifying Skin Problem**








 **Scabies (Seven Year Itch)**

 **Lice**

 **Bedbugs**

 **Ticks and Chiggers**

-  **Small Sores with Pus**
-  **Impetigo**
-  **Boils and Abscesses**
-  **Itching Rash, Welts, or Hives (Allergic Reactions in the Skin)**
-  **Plants and Other Things That Cause Itching or Burning of the Skin**
-  **Shingles (Herpes Zoster)**
-  **Ringworm, Tinea (Fungus Infections)**
-  **White Spots on the Face and Body**
-  **Mask of Pregnancy**
-  **Pellagra and Other Skin Problems Due to Malnutrition**
-  **Warts (Verrucae)**
-  **Corns**
-  **Pimples and Blackheads (Acne)**
-  **Cancer of the Skin**
-  **Tuberculosis of the Skin or Lymph Nodes**

-  **Erysipelas and Cellulitis**
-  **Gangrene (Gas Gangrene)**
-  **Ulcers of the Skin Caused By Poor Circulation**
-  **Bed Sores (Pressure Sores)**
-  **Skin Problems of Babies**
-  **Eczema (Red Patches with Little Blisters)**
-  **Psoriasis**

Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993,

516 p.)

Chapter 15 - SKIN PROBLEMS

Some skin problems are caused by diseases or irritations that affect the skin only - such as ringworm, diaper rash, or warts. Other skin problems are signs of diseases that affect the whole body - such as the rash of measles or the sore, dry patches of pellagra (malnutrition). Certain kinds of sores or skin conditions may be signs of serious diseases - like tuberculosis, syphilis, or leprosy.

This chapter deals only with the more common skin problems in rural areas. However, there are hundreds of diseases of the skin. Some look so much alike that they are hard to tell apart - yet their causes and the specific treatments they require may be quite different.

If a skin problem is serious or gets worse in spite of treatment, seek medical help.

General Rules for Treating Skin Problems

Although many skin problems need specific treatment, there are a few general measures that often help:

RULE #1

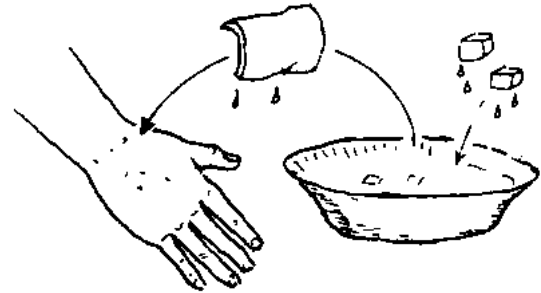
If the affected area is **hot** and painful, or oozes pus, treat it with **heat**. Put hot, moist cloths on it (*hot compresses*).

RULE #2

If the affected area itches, stings, or oozes clear fluid, treat it with **cold**. Put cool, wet cloths on it (*cold compresses*).



Figure



Figure

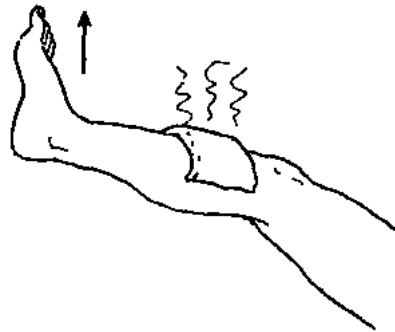
RULE #1 (in greater detail)

If the skin shows signs of serious infection such as:

- **inflammation (redness or darkening of skin around the affected areas)**
- **swelling**
- **pain**
- **heat (it feels hot)**
- **pus**

Do the following:

- **Keep the affected part still and elevate it (put it higher than the rest of the body).**
- **Apply hot, moist cloths.**



Figure

- If the infection is severe or the person has a fever, give antibiotics (penicillin, a sulfonamide, or erythromycin).



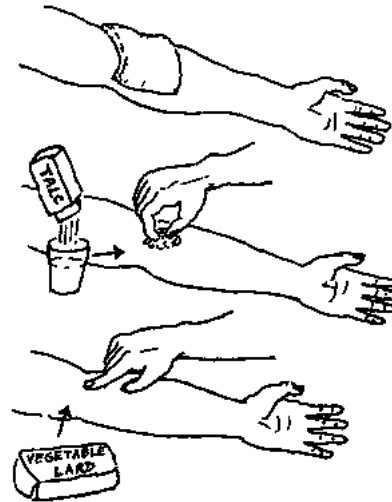
Figure

Danger signs include: swollen lymph nodes, a red or dark line above the infected area, or a bad smell. If these do not get better with treatment - use an antibiotic and seek medical help quickly.

RULE #2 (in greater detail)

If the affected skin forms blisters or a crust, oozes, itches, stings, or burns, do the following:

- **Apply cloths soaked in cool water with white vinegar (2 tablespoons of vinegar in 1 quart of pure or boiled water).**
- **When the affected area feels better, no longer oozes, and has formed tender new skin, lightly spread on a mixture of talc and water (1 part talc to 1 part water).**
- **When healing has taken place, and the new skin begins to thicken or flake; rub on a little vegetable lard or body oil to soften it.**



Figure

RULE #3

If the skin areas affected are on parts of

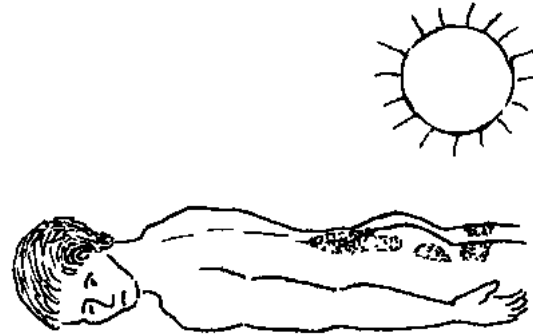
RULE #4

If the skin areas most affected are usually covered by

the body often exposed to sunlight, protect clothing, expose them to direct sunlight for 10 to 20 minutes, 2 or 3 times a day.



Figure



Figure

Instructions for Using Hot Compresses (Hot Soaks)

1. Boil water and allow it to cool until you can just hold your hand in it.



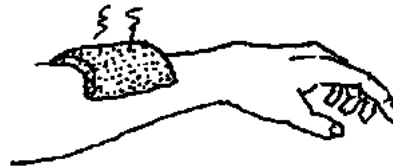
Figure

2. Fold a clean cloth so it is slightly larger than the area you want to treat, wet the cloth in the hot water, and squeeze out the extra water.



Figure

3. Put the cloth over the affected skin.



Figure

4. Cover the cloth with a sheet of thin plastic or cellophane.



Figure

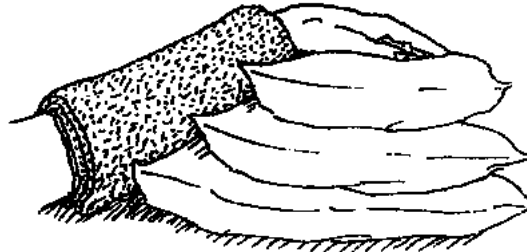
5. Wrap it with a towel to hold in the heat.



Figure

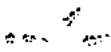



6. Keep the affected part raised.

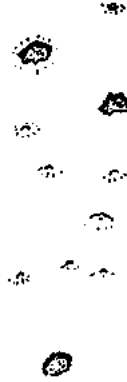









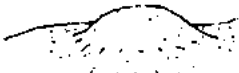
7. When the cloth starts to cool, put it back in the hot water and repeat.







Figure







Identifying Skin Problem

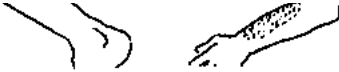


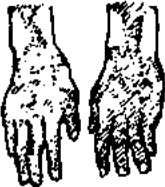



IF THE SKIN HAS:	AND LOOKS LIKE:	YOU MAY HAVE:
 small or pimple-like sores	Tiny bumps or sores with much itching—first between fingers, on the wrists, or the waist. 	scabies
 Pimples or sores with pus or inflammation, often from scratching insect bites. May		infection from bacteria



	<p>cause swollen lymph nodes.</p>		
	<p>Irregular, spreading sores with shiny, yellow crusts.</p>		<p>impetigo (bacterial infection)</p>
	<p>Pimples on young people's faces, sometimes chest and back, often with small heads of pus.</p>		<p>acne, pimples, blackheads</p>
	<p>A sore on the genitals.</p>		<p>without itching or pain. with pain and pus.</p> <p>syphills venereal lymphogranuloma chancroid</p>
<p>a large, open sore or skin ulcer</p> 	<p>A large chronic (unhealing) sore surrounded by purplish skin—on or near the ankles of older people with varicose veins.</p>		<p>ulcers from bad circulation (possibly diabetes)</p>
	<p>Sores over the bones and joints of very sick persons who cannot get out of bed.</p>		<p>bed sores</p>
	<p>Sores with loss of feeling on the feet or hands. (They do not hurt even when pricked with a needle.)</p>		<p>leprosy</p>
	<p>A bump and then a sore that will not heal, anywhere on the body or face.</p>		<p>leishmaniasis</p>
	<p>A warm, painful swelling that eventually may break open and drain pus.</p>		<p>abscess or boil</p>

<p>lumps under the skin</p> 	<p>A warm, painful lump in the breast of a woman breast feeding.</p> 	<p>mastitis (bacterial infection), possibly cancer</p>
	<p>A lump that keeps growing. Usually not painful at first.</p> 	<p>cancer (also see lymph nodes)</p>
	<p>One or more round lumps on the head, neck, or upper body (or central body and thighs).</p> 	<p>river blindness (also see lymph nodes)</p>





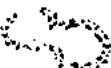

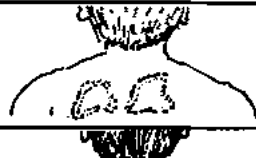
SKIN PROBLEMS - A Guide to Identification (a)





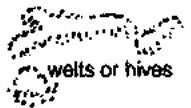

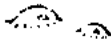



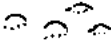
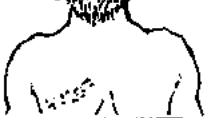


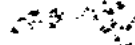

IF THE SKIN HAS:	AND LOOKS LIKE:	YOU MAY HAVE:
<p>swollen lymph nodes</p> 	<p>Nodes on the side of the neck that continuously break open and scar.</p> 	<p>scrofula (a type of tuberculosis)</p>
	<p>Nodes in the groin that continuously break open and scar.</p> 	<p>venereal lymphogranuloma chancroid</p>
<p>large spots or patches</p> 	<p>Dark patches on the forehead and cheeks of pregnant women.</p> 	<p>mask of pregnancy</p>
	<p>Scaly, cracking areas that</p> 	

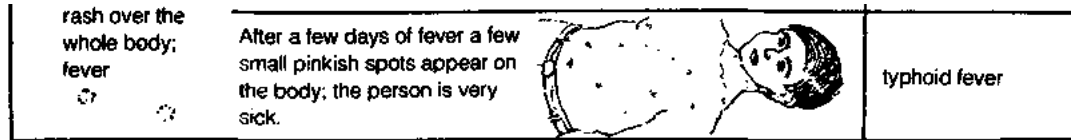
dark	<p>look like sunburn on the arms, legs, neck, or face.</p> 	<p>prominent type of malnutrition</p>
	<p>Purple spots or peeling sores on children with swollen feet.</p> 	<p>malnutrition</p>
white	<p>Round or irregular patches on the face or body, especially of children.</p> 	<p>tinea versicolor (fungus infection)</p>
	<p>White patches, especially on hands, feet, or lips.</p> 	<p>that begin with reddish or bluish pimples</p> <hr/> <p>that begin without other signs.</p>
reddish	<p>Reddish or blistering patches on the cheeks or behind knees and elbows of young children.</p> 	<p>eczema</p>
	<p>A reddish, hot, painful patch that spreads rapidly.</p> 	<p>erysipelas (cellulitis or very serious bacterial infections)</p>
	<p>A reddish area between a baby's legs.</p> 	<p>diaper rash from urine or heat</p>

	<p>Beef-red patches with white, milky curds in the skin folds.</p>		<p>moniliasis (yeast infection)</p>
<p>reddish or gray</p>	<p>Raised reddish or gray patches with silvery scales; especially on elbows and knees; chronic (long-term).</p>		<p>psoriasis (or sometimes tuberculosis)</p>

SKIN PROBLEMS - A Guide to Identification (b)

IF THE SKIN HAS.	AND LOOKS LIKE:	YOU MAY HAVE:
<p>warts</p> 	<p>Simple warts, not very large.</p> 	<p>common warts (virus infection)</p>
	<p>Wart-like growths on the penis, vagina, or around the anus.</p> 	<p>genital warts</p>
	<p>Large warts (more than 1 cm.), often on arms or feet.</p> 	<p>a type of tuberculosis of the skin</p>
	<p>Small rings that continue to grow or spread and may itch.</p> 	<p>Ringworm (fungus infection)</p>
<p>rings (spots with raised or red edges, often clear</p>	<p>large circles with a thick border that do not itch</p> 	<p>advanced stage of syphilis</p>
	<p>Large rings that are numb in the</p>	

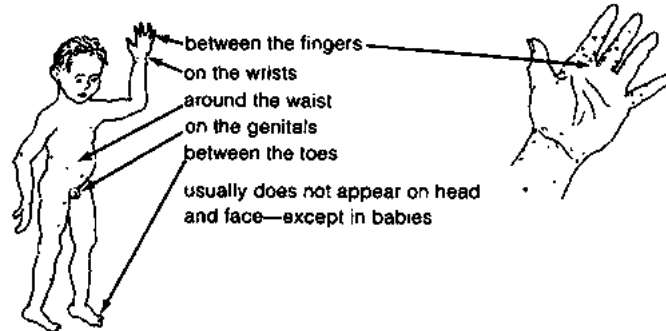
<p>in the center)</p> 	<p>Large rings that are raised in the center. (A needle prick does not hurt them.)</p>		<p>leprosy</p>
	<p>Small rings, sometimes with a small pit in the middle, found on the temple, nose, or neck.</p>		<p>cancer of the skin</p>
 <p>welts or hives</p>	<p>Very itchy rash, bumps, or patches. (They may appear and disappear rapidly.)</p>		<p>allergic reaction</p>
 <p>blisters</p>	<p>Blisters with bumps and much itching and weeping (oozing).</p>		<p>contact dermatitis (like poison ivy or sumac)</p>
	<p>Small blisters over the whole body, with some fever.</p>		<p>chickenpox</p>
	<p>A patch of painful blisters that appears only on one part of the body, often in a stripe or cluster.</p>		<p>Herpes zoster (shingles)</p>
	<p>A gray or black bad smelling area with blisters and air pockets that spread.</p>		<p>gas gangrene (very serious bacterial infection)</p>
 <p>small reddish spots or a</p>	<p>A rash that very sick children get over the whole body.</p>		<p>measles</p>



SKIN PROBLEMS - A Guide to Identification (c)

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:



Figure



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:

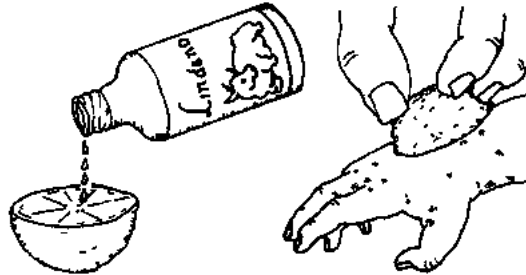
- **If one, person has scabies, everyone in his family should be treated.**
- **Personal cleanliness is of first importance. Bathe and change clothes daily.**
- **Cut fingernails very short to reduce spreading and infection:**
- **Wash all clothes and bedding or, better still, boil them and hang them in the sun.**
- **Make the following ointment from lindane (gamma benzene hexachloride) and *Vaseline* (petroleum jelly). In many countries lindane is sold as a sheep or cattle 'dip'.**

Wash the whole body vigorously with soap and hot water.

Heat 15 parts *Vaseline* (or body oil) and mix well with 1 part lindane. Smear this ointment on the whole body (except the face - unless it is affected). Leave for 1 day and then bathe well.

After treating, put on clean clothes and use clean bedding. Repeat treatment 1 week later.

- Instead of this ointment, you can put 4 drops of lindane on half a lemon. Leave it for 5 minutes and then rub the lemon over your whole body, except the face, starting with the areas most affected.



Figure

Note: Lindane comes in commercial ointments or solutions (*Kwell*, *Gammexane*) but these are more expensive.

CAUTION: Lindane can cause poisoning if used too often. Do not apply more than once a week and bathe well the day after treatment. Do not use lindane on babies under 1 year old. See the next page for some safer treatments.

- Sulfur powder mixed with lard or body oil - use 1 part sulfur to 10 parts lard or

oil. Apply to whole body (except face) 3 times a day for 3 days.

- **Benzyl benzoate lotion**
- **Crotamiton (*Eurax*).**

Lice



Figure

There are 3 kinds: head lice, body lice, and pubic lice (or 'crabs') that live in the hairy parts of the body. 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 sleep with others.



Figure

Treatment:

For head and pubic 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. Medications containing pyrethrins with piperonyl (*RID*) also work well for lice and are safer.**

- **To get rid of nits (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.**



Figure

For body lice: Soak your whole body in a bath of hot water every day for 10 days. After each bath, wash your entire body thoroughly with soap and rinse well. Use a fine-tooth comb on any hairy places. If necessary, treat as for scabies. Keep clothing and bedding clean.

Bedbugs



Figure

These are very small, flat, crawling insects that hide inside mattresses, bedding, furniture, and walls. They usually bite at night. The bites often appear in groups or lines.



Figure

To get rid of bedbugs, wash bedding and, pour boiling water on cots and bed frames. Sprinkle sulfur on mattresses, cloth furniture, and rugs and do not use them for 3 weeks. Be sure to clean off the powder well before using again.

To prevent bedbugs, spread bedding, mats, and cots in the sun often.

Ticks and Chiggers

Some dangerous infections or paralysis are spread by tick bites. But careful removal within a few hours usually prevents these problems. So check the whole body well after walking in areas where ticks are common.

When removing a tick that is firmly attached, take care that its head does not remain in the skin, since this can cause an infection. Never pull on the body of a tick. To remove a

tick:

- **With tweezers, grasp the tick as close as possible to its mouth - the part sticking into the skin. (Try not to squeeze its swollen belly.) Pull the tick out gently but firmly. Do not touch the removed tick. Burn it.**
- **Or, hold a lit cigarette near it. Or put some alcohol on it.**

**Figure**

To remove very small ticks or chiggers, use one of the remedies recommended for scabies. To relieve itching or pain caused by tick or chigger bites, take aspirin and follow the instructions for treatment of itching.

To help prevent chiggers and ticks from biting you, dust sulfur powder on your body before going into the fields or forests. Especially dust ankles, wrists, waist, and underarms.

Small Sores with Pus

Skin infections in the form 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 scabs. 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, red lines coming from the sore, or swollen lymph nodes, use an antibiotic - such as penicillin tablets or sulfa tablets.**
- **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 put gloves or socks over their hands so they cannot scratch.**
- **Never let a child with sores or any skin infection play or sleep with other children. These infections are easily spread.**



Figure

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.



Figure

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 spread on an antibiotic cream containing bacitracin such as *Polysporin*.**
- **If the infection is spread over a large area or causes fever, give penicillin tablets or dicloxacillin. If the person is allergic to penicillin, or if these medicines do not seem to be helping, give erythromycin or co-trimoxazole.**

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 steep or play with other children. Begin treatment at the first sign.**

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



Figure

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 drain, but never press or squeeze the boil, since this can cause the infection to spread to other parts of the body.**

- **If the abscess is very painful and does not open after 2 or 3 days of hot soaks, it may help to have it cut open so the pus can drain out. This will quickly reduce the pain. If possible, get medical help.**
- **If the boil causes swollen nodes or fever, take penicillin tablets or erythromycin.**

Itching Rash, Welts, or Hives (Allergic Reactions in the Skin)



Figure

Touching, eating, injecting, or breathing certain things can cause an itching rash or *hives* in allergic persons. For more details, see Allergic Reactions.

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

Be on the watch for any reaction caused by certain medicines, especially injections of penicillin and the antivenoms or antitoxins made from, horse serum. A rash or hives may

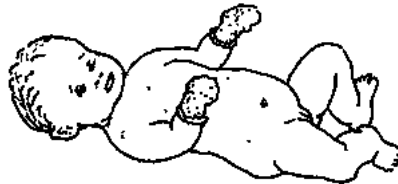
appear from a few minutes up to 10 days after the medicine has been injected.

If you get an itching rash, hives, or any other allergic reaction after taking or being injected with any medicine, stop using it and never use that medicine again in your life!

This is very important to prevent the danger of ALLERGIC SHOCK.

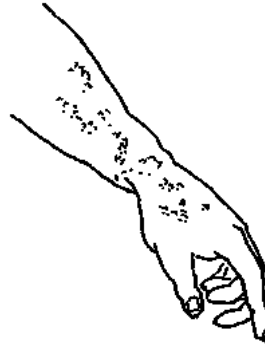
Treatment of itching:

- **Bathe in cool water or use cool compresses - cloths soaked in cold water or ice water.**
- **Compresses of cool oatmeal water also calm itching. Boil the oatmeal in water, strain it, and use the water when cool. (Starch can be used 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.**



Figure

Plants and Other Things That Cause Itching or Burning of the Skin



Figure

Nettles, 'stinging trees', sumac, 'poison ivy', and many other plants may cause blisters, burns, or hives with itching when they touch the skin. Juices or hairs of certain caterpillars and other insects produce similar reactions.

In allergic persons rashes or 'weeping' sore patches may be caused by certain things that touch or are put on the skin. Rubber shoes, watchbands, ear drops and other medicines, face creams, perfumes, or soaps may cause such problems.

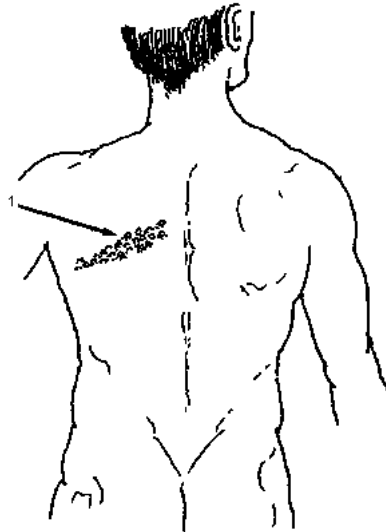
Treatment:

All these irritations go away by themselves when the things that cause them no longer touch the skin. A paste of oatmeal and cool water helps calm the itching. Aspirin or antihistamines may also help. In severe cases, you can use a cream that contains cortisone or a cortico-steroid. To prevent infection, keep the irritated areas clean.

Shingles (Herpes Zoster)

Signs:

A line or patch of painful blisters that suddenly appears on one side of the body is probably shingles. It is most common on the back, chest, neck, or face. The blisters usually last 2 or 3 weeks, then go away by themselves. Sometimes the pain continues or returns long after the blisters are gone. (1)



Figure

Shingles is caused by the virus that causes chickenpox and usually affects persons who have had chickenpox before. It is not dangerous. (However, it is occasionally a warning sign of some other more serious problem - perhaps cancer or AIDS.)

Treatment:

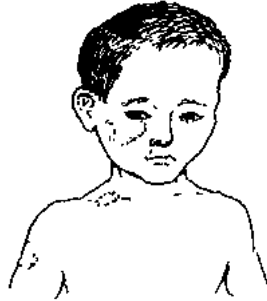
- **Put light bandages over the rash so that clothes do not rub against it.**
- **Take aspirin for the pain. (Antibiotics do not help.)**

Ringworm, Tinea (Fungus Infections)

Fungus infections may appear on any part of the body, but occur most frequently on:



the scalp (tinea)



the parts without hair (ringworm)



between the toes or fingers (athlete's foot)



between the legs (jock itch)

Most fungus infections grow in the form of a ring. They often itch. Ringworm of the head can produce round patches with scales and loss of hair. Finger and toe nails infected with the fungus become rough and thick.

Treatment:

- **Soap and water. Washing the infected part every day with soap and water may be all that is needed.**
- **Do your best to keep the affected areas dry and exposed to the air or sunlight. Change underwear or socks often, especially when sweaty.**
- **Use a cream of sulfur and lard (1 part sulfur to 10 parts lard).**
- **Creams and powders with salicylic or undecylenic acid, or tolnaftate (*Tinactin*) help cure the fungus between the fingers, toes, and groin.!**
- **For severe tinea of the scalp, or any fungus infection that is widespread or does not get better with the above treatments, take griseofulvin, 1 gram a day for adults and half a gram a day for children. It may be necessary to keep taking it for weeks**

or even months to completely control the infection.

- **Many tineas of the scalp clear up when a child reaches puberty (11 to 14 years old). Severe infections forming large swollen patches with pus should be treated with compresses of warm water. It is important to pull out all of the hair from the infected part. Use griseofulvin, if possible.**



Figure

How to prevent fungal infections:

Ringworm and all other fungus infections are *contagious* (easily spread). To prevent spreading them from one child to others:

- **Do not let a child with a fungal infection sleep with the others.**
- **Do not let different children use the same comb, or use each other's clothing or towel, unless these are washed or well cleaned first.**
- **Treat an infected child at once.**

White Spots on the Face and Body



Figure

Tinea versicolor is a mild fungus infection that causes small dark or light spots with a distinct and irregular border that are often seen on the neck, chest, and back. The spots may be slightly scaly but usually do not itch. They are of little medical importance.

Treatment:

- **Make a cream with sulfur and lard (1 part sulfur to 10 parts lard) and apply it to the whole body every day until they disappear. Or use an anti-fungal cream.**
- **Sodium thiosulfate works better. This is the 'hypo' photographers use when developing film. Dissolve a tablespoon of sodium thiosulfate in a glass of water and apply it to the whole upper body. Then rub the skin with a piece of cotton dipped in vinegar.**

- **To prevent the spots from returning, it is often necessary to repeat this treatment every 2 weeks.**
- **Selenium sulfide or Whitfield's ointment may also help:**



Figure

There is another kind of small whitish spot that is common on the cheeks of dark-skinned children who spend a lot of time in the sun. The border is less clear than in tinea versicolor. These spots are not an infection and are of no importance. Usually they go away as the child grows up. Avoid harsh soaps and apply oil. No other treatment is needed.

Contrary to popular opinion, none of these types of white spots is a sign of anemia. They will not go away with tonics or vitamins. The spots that are only on the cheeks do not need any treatment.

***CAUTION:* Sometimes pale spots are early signs of leprosy. Leprosy spots are never completely white and may have reduced feeling when pricked by a pin. If leprosy is common in your area, have the child checked.**

Vitiligo (White Areas of the Skin)



Figure

In some persons, certain areas of the skin lose their natural color (pigment). Then white patches appear. These are most common on the hands, feet, face, and upper body. This loss of normal skin color - called vitiligo - is not an illness. It can be compared to white hair in older people. No treatment helps or is needed, but the white skin should be protected from sunburn - with clothing or an ointment of zinc oxide. Also, special coloring creams can help make the spots less noticeable.

Other Causes of White Skin Patches



Figure

Certain diseases may cause white spots that look like vitiligo. In Latin America an infectious disease called pinta starts with bluish or red pimples and later leaves pale or white patches.

Treatment of pinta is 2.4 million units of benzathine penicillin injected into the buttocks (1.2 million units in each buttock). For a person allergic to penicillin give tetracycline or erythromycin, 500 mg. 4 times each day for 15 days.

Some fungus infections also cause whitish spots (see tinea versicolor, on the opposite page).

General or patchy, partial loss of skin and hair color in children may be caused by severe malnutrition (kwashiorkor; or pellagra).

Mask of Pregnancy



Figure

During pregnancy many women develop dark, olive-colored areas on the skin of the face, breasts, and down the middle of the belly. Sometimes these disappear after the birth and sometimes not. These marks also appear sometimes on women who are taking birth control pills.

They are completely normal and do not indicate weakness or sickness. No treatment is needed.

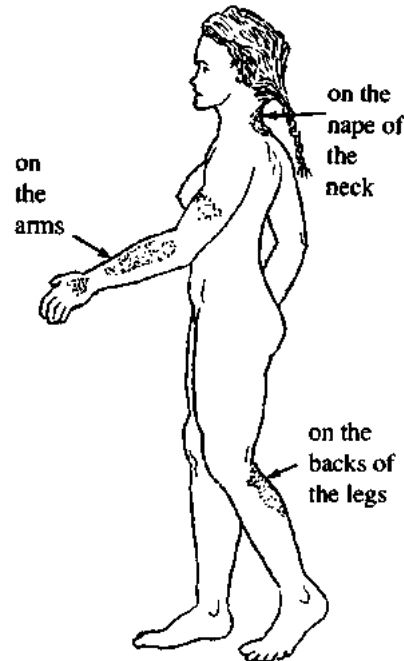
Pellagra and Other Skin Problems Due to Malnutrition

Pellagra is a form of malnutrition that affects the skin and sometimes the digestive and

nervous systems. It is very common in places where people eat a lot of maize (corn) or other starchy foods and not enough beans, meat, fish, eggs, vegetables, and other body-building and protective foods.

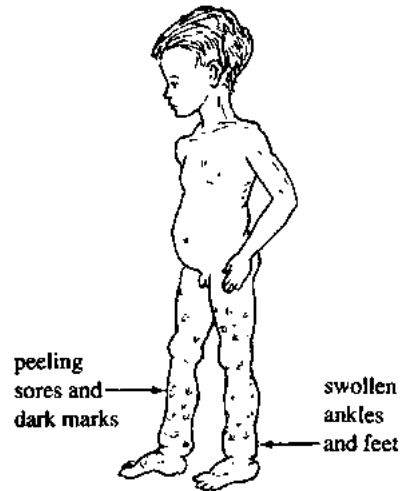
***Skin signs in malnutrition* (see the pictures on the following page):**

In adults with pellagra the skin is dry and cracked; it peels like sunburn on the parts where the sun hits it, especially:



Figure

In malnourished children, the skin of the legs (and sometimes arms) may have dark marks, like bruises, or even peeling sores; the ankles and feet may be swollen.

**Figure**

When these conditions exist, often there are also other signs of malnutrition: swollen belly; sores in the corners of the mouth; red, sore tongue; weakness; loss of appetite; failure to gain weight; etc. (see Chapter 11).

Treatment:

- **Eating nutritious foods cures pellagra. Every day a person should try to eat beans, lentils, groundnuts, or some chicken, fish, eggs, meat, or cheese. When you have a**

choice, it is also better to use wheat (preferably whole wheat) instead of maize (corn).

- **For severe pellagra and some other forms of malnutrition, it may help to take vitamins, but good food is more important. Be sure the vitamin formula you use is high in the B vitamins, especially niacin. Brewer's yeast is a good source of B vitamins.**



The swelling and dark spots on this boy's legs and feet are the result of poor nutrition. He was eating mostly maize (corn) without any foods rich in proteins and vitamins. (BEFORE THIS BOY BEGAN TO EAT WELL)



One week after he began to eat beans and eggs along with the maize, the swelling was gone and the spots had almost disappeared. (AND AFTER)



The 'burnt' skin on the legs of this woman is a sign of pellagra - which results from not eating well.



The white spots on the legs of this woman are due to an infectious disease called pinta.

Warts (Verrucae)



Figure

Most warts, especially those in children, last 3 to 5 years and go away by themselves. Flat, painful wart-like spots on the sole of the foot are often 'plantar warts'. (Or they may be corns. See below.)

Treatment:

- **Magical or household cures often get rid of warts. But it is safer not to use strong acids or poisonous plants, as these may cause burns or sores much worse than the warts.**
- **Painful plantar warts sometimes can be removed by a health worker.**
- **For warts on the: penis or vagina.**

Corns

A corn is a hard, thick part of the skin. It forms where sandals or shoes push against the

skin, or one toe presses against another. Corns can be very painful.

Treatment:

- **Get sandals or shoes that do not press on the corns.**
- **To make corns hurt less, do this:**
 - 1. Soak the foot in warm water for 15 minutes.**



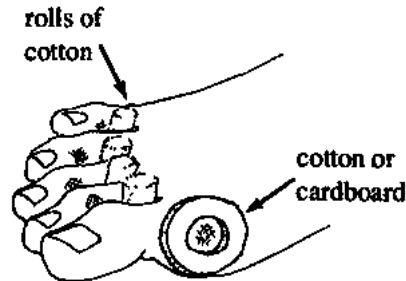
Figure

- 2. With a file or rasp, trim down the corn until it is thin.**



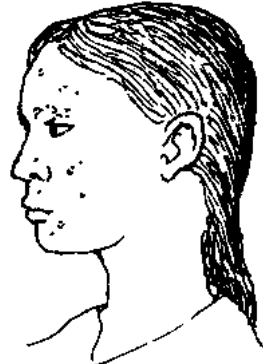
Figure

3. Pad the foot around the corn so that it will not press against the shoe or another toe. Wrap the foot or toe in a soft cloth to make a thick pad and cut a hole around the corn.



Figure

Pimples and Blackheads (Acne)



Figure

Young people sometimes get pimples on their face, chest, or back - especially if their skin has too much oil in it. *Pimples* are little lumps that form tiny white 'heads' of pus or *blackheads* of dirt. Sometimes they can become quite sore and large.

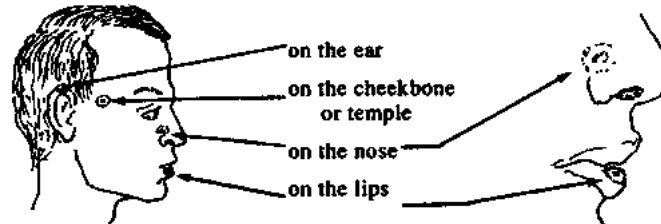
Treatment:

- **Wash the face twice a day with soap and hot water.**
- **Wash the hair every 2 days, if possible.**
- **Sunshine helps clear pimples. Let the sunlight fall on the affected parts of the body.**
- **Eat as well as possible, drink a lot of water, and get enough sleep.**
- **Do not use skin or hair lotions that are waxy, oily, or greasy.**

- **Before you go to bed, put a mixture of alcohol with a little sulfur on the face (10 parts alcohol to 1 part sulfur).**
- **For serious cases forming lumps and pockets of pus, if these do not get better with the methods already described, tetracycline may help. Take 1 capsule 4 times a day for 3 days and then 2 capsules daily. It may be necessary to take 1 or 2 capsules daily for months.**

Cancer of the Skin

Skin cancer is most frequent in light-skinned persons who spend a lot of time in the sun. It usually appears in places where the sun hits with most force, especially:



Figure

Skin cancer may take many forms. It usually begins as a little ring the color of pearl with a hole in the center. It grows little by little.

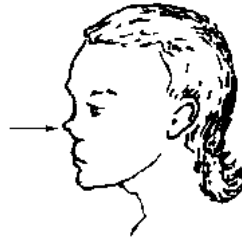
Most cancers of the skin are not dangerous if treated in time. Surgery is needed to remove them. If you have a chronic sore that might be skin cancer, see a health worker.

To prevent skin cancer, light-skinned persons should protect themselves from the sun and always wear a hat. Persons who have suffered from cancer of the skin and have to work in

the sun can buy special creams that protect them. Zinc oxide ointment is cheap and works well.

Tuberculosis of the Skin or Lymph Nodes

The same microbe that causes tuberculosis of the lungs also sometimes affects the skin, causing painless



tumors that disfigure



chronic patches of sores



skin ulcers

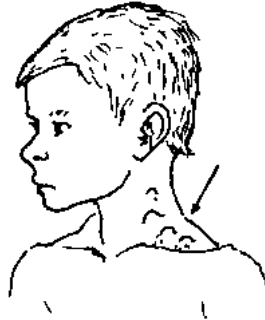
or



big warts.

As a rule, TB of the skin develops slowly, lasts a long time, and keeps coming back over a period of months or years.

Also, tuberculosis sometimes infects the lymph nodes - most often those of the neck or in the area behind the collar bone, between the neck and the shoulder. The nodes become large, open, drain pus, seal closed for a time, and then open and drain again. Usually they are not painful.



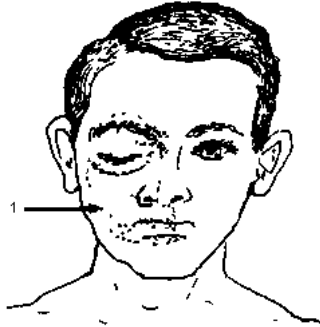
TUBERCULOSIS OF THE LYMPH NODES, OR SCROFULA

Treatment:

In the case of any chronic sore, ulcer, or swollen lymph nodes, it is best to seek medical advice. Tests may be needed to learn the cause. Tuberculosis of the skin is treated the same as tuberculosis of the lungs. To keep the infection from returning, the medicines must be taken for many months after the skin looks well.

Erysipelas and Cellulitis

Erysipelas (or St. Anthony's fire) is a very painful, acute (sudden) infection in the skin. It forms a hot, bright red, swollen patch with a sharp border: The patch spreads rapidly over the skin. It often begins on the face, at the edge of the nose. This usually causes swollen lymph nodes, fever, and chills. (1)



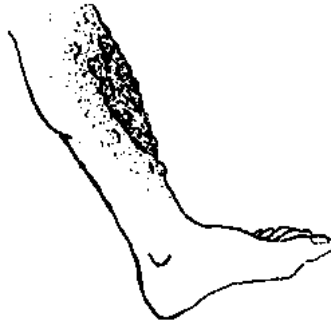
Figure

Cellulitis is also a very painful, acute infection of the skin that can appear anywhere on the body. It usually occurs after a break in the skin. The infection is deeper and the borders of the patch are less clear than with erysipelas.

Treatment:

For both erysipelas and cellulitis, begin treatment as soon as possible. Use an antibiotic: penicillin tablets, 400,000 units, 4 times a day; in serious cases, injectable procaine penicillin, 800,000 units daily. Continue using the antibiotic for 2 days after all signs of infection are gone. Also use hot compresses - and aspirin for pain.

Gangrene (Gas Gangrene)



Figure

This is a very dangerous infection of a wound, in which a foul-smelling gray or brown liquid forms. The skin near the wound may have dark blisters and the flesh may have air bubbles in it. The infection begins between 6 hours and 3 days after the injury. It quickly gets worse and spreads fast. Without treatment it causes death in a few days.

Treatment:

- **Open up the wound as wide as possible. Wash it out with cool, boiled water and soap. Clean out the dead and damaged flesh. If possible, flood the wound with hydrogen peroxide every 2 hours.**
- **Inject penicillin (crystalline if possible), 1,000,000 (a million) units every 3 hours.**
- **Leave the wound uncovered so that air gets to it. Get medical help.**

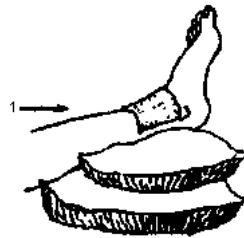
Ulcers of the Skin Caused By Poor Circulation

**Figure**

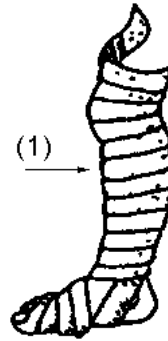
Skin ulcers, or large, open sores, have many causes. However, chronic ulcers on the ankles of older persons, especially in women with varicose veins, usually come from poor circulation. The blood is not moved fast enough through the legs. Such ulcers may become very large. The skin around the ulcer is dark blue, shiny, and very thin. Often the foot is swollen.

Treatment:

- **These ulcers heal very slowly - and only if great care is taken. Most important: keep the foot up (1) high as often as possible. Sleep with it on pillows. During the day, rest with the foot up high every 15 or 20 minutes. Walking helps the circulation but standing in one place and sitting with the feet down are harmful.**

**Figure**

- **Put warm compresses of weak salt water on the ulcer - 1 teaspoon salt to a liter of boiled water. Cover the ulcer loosely with sterile gauze or a clean cloth. Keep it clean.**
- **Support the varicose veins with elastic stockings (1) or bandages. Continue to use these and to keep the feet up after the ulcer heals. Take great care not to scratch or injure the delicate scar.**



Figure

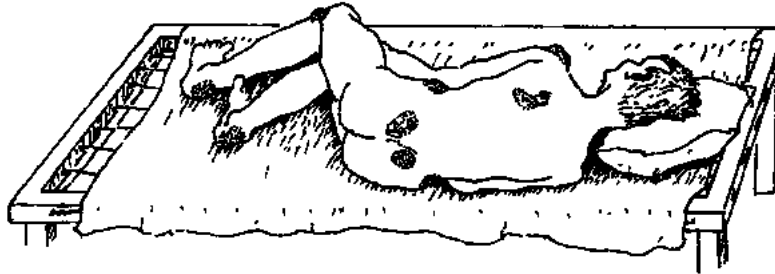
- **Treating the ulcers with honey or sugar may help.**

Prevent skin ulcers - care for varicose veins early.

Bed Sores (Pressure Sores)

These chronic open sores appear in persons so ill they cannot roll over in bed, especially in sick old persons who are very thin and weak. The sores form over bony parts of the

body where the skin is pressed against the bedding. They are most often seen on the buttocks, back, shoulders, elbows, or feet.

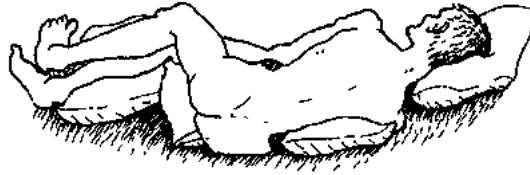


Figure

For a more complete discussion of pressure sores, see *Disabled Village Children*, Chapter 24.

How to prevent bed sores:

- **Turn the sick person over every hour: face up, face down, side to side.**
- **Bathe him every day and rub his skin with baby oil.**
- **Use soft bed sheets and padding. Change them daily and each time the bedding gets dirty with urine, stools, vomit, etc.**
- **Put cushions under the person in such a way that the bony parts rub less.**



Figure

- **Feed the sick person as well as possible. If he does not eat well, extra vitamins and iron may help.**
- **A child who has a severe chronic illness should be held often on his mother's lap.**

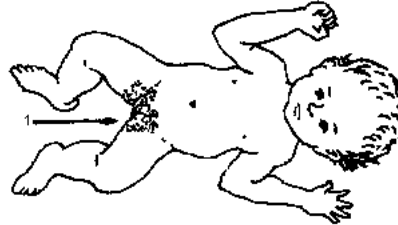
Treatment:

- **Do all the things mentioned above.**
- **3 times a day, wash the sores with cool, boiled water mixed with mild soap. Gently remove any dead flesh. Rinse well with cool, boiled water.**
- **To fight infection and speed healing, fill the sore with honey, sugar, or molasses. (A paste made of honey and sugar is easiest to use.) It is important to clean and refill the sore at least 2 times a day. If the honey or sugar becomes too thin with liquid from the sore, it will feed germs rather than kill them.**

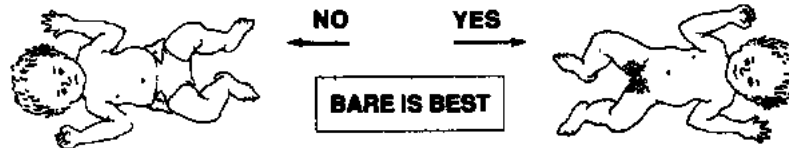
Skin Problems of Babies

Diaper Rash

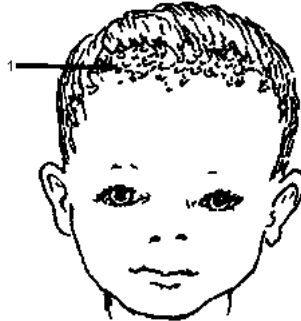
Reddish patches of irritation between a baby's legs or buttocks may be caused by urine in

his diapers (nappy) or bedding. (1)**Figure*****Treatment:***

- **Bathe the child daily with lukewarm water and mild soap. Dry her carefully.**
- **To prevent or cure the rash, the child should be kept naked, without diapers, and he should be taken out into the sun.**

**Figure**

- **If diapers are used, change them often. After washing the diapers, rinse them in water with a little vinegar.**
- **It is best not to use talc (talcum powder), but if you do, wait until the rash is gone.**

Cradle Cap (Seborrhea, Dandruff) (1)**Figure**

Cradle cap is an oily, yellow crust that forms on a baby's scalp. The skin is often red and irritated. Cradle cap usually results from not washing the baby's head often enough, or from keeping the head covered.

Treatment:

- **Wash the head daily. If possible use a medicated soap**
- **Gently clean off all the dandruff and crust. To loosen the scales and crust, first wrap the head with towels soaked in lukewarm water.**
- **Keep the baby's head uncovered, open to the air and sunlight.**



DO NOT COVER A BABY'S HEAD WITH A CAP OR CLOTH. KEEP THE HEAD UNCOVERED.

- If there are signs of infection, treat as for impetigo.

Eczema (Red Patches with Little Blisters)



Figure

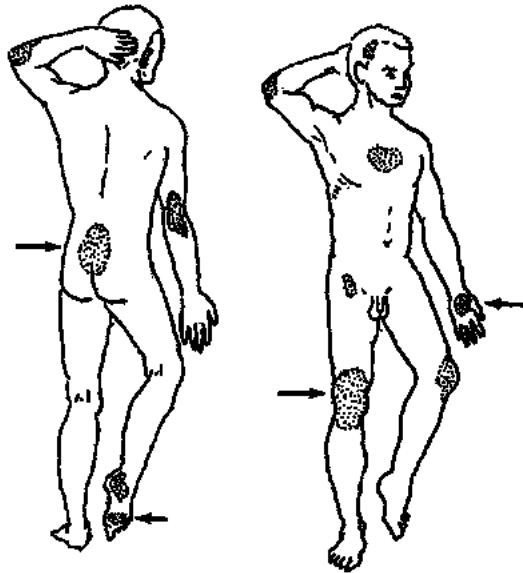
Signs:

- **In small children: a red patch or rash forms on the cheeks or sometimes on the arms and hands. The rash consists of small sores or blisters that ooze or weep (burst and leak fluid).**
- **In older children and grown-ups: eczema is usually drier and is most common behind the knees and on the inside of the elbows.**
- **It does not start as an infection but is more like an allergic reaction.**

Treatment:

- **Put cold compresses on the rash.**
- **If signs of infection develop, treat as for impetigo.**
- **Let the sunlight fall on the patches.**
- **In difficult cases, use a cortisone or cortico-steroid cream. Or coal tar may help. Seek medical advice.**

Psoriasis



Figure

Signs:

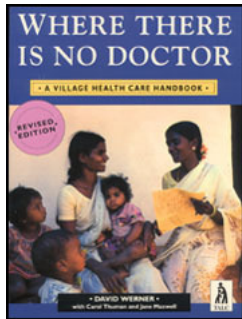
- **Thick, rough patches of reddish or blue-gray skin covered with whitish or silver-colored scales. The patches appear most commonly in the parts shown in the drawings.**
- **The condition usually lasts a long time or keeps coming back. It is not an infection and is not dangerous.**


Treatment:



- **Leaving the affected skin open to the sunlight often helps.**
- **Bathing in the ocean sometimes helps.**
- **Seek medical advice. Treatment must be continued for a long time.**



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 **Where There Is No Doctor - A Village Health Care Handbook**
(Hesperian Foundation, 1993, 516 p.)

  **Chapter 16 - THE EYES**

 ***(introduction...)***

 **Danger Signs**

 **Injuries to the Eye**

 **How to Remove a Speck of Dirt from the Eye**

 **Chemical Burns of the Eye**

 **Red, Painful Eyes - Different Causes**

 **'Pink Eye' (Conjunctivitis)**

 **Trachoma**

 **Infected Eyes in Newborn Babies (Neonatal Conjunctivitis)**

 **Iritis (Inflammation of the Iris)**











 **Glaucoma**

 **Infection of the Tear Sac (Dacryocystitis)**

 **Trouble Seeing Clearly**

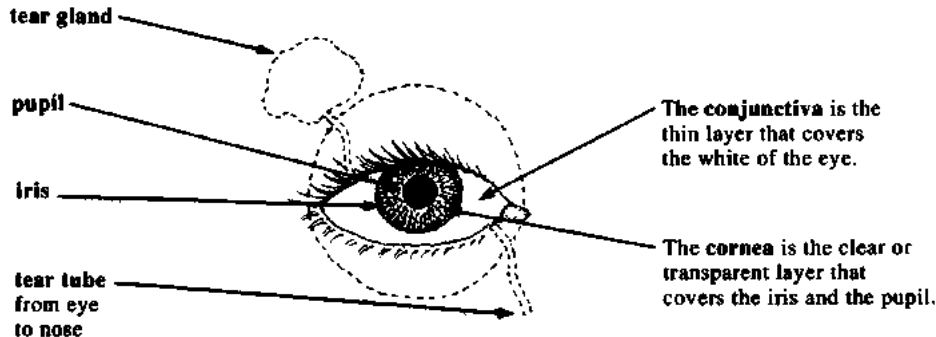
 **Cross-Eyes and Wandering Eyes**

 **Sty (Hordeolum)**

-  **Pterygium**
-  **A Scrape, Ulcer, or Scar on the Cornea**
-  **Bleeding in the White of the Eye**
-  **Bleeding behind the Cornea (Hyphema)**
-  **Pus Behind the Cornea (Hypopyon)**
-  **Cataract**
-  **Night Blindness and Xerophthalmia (Vitamin A Deficiency)**
-  **Spots or 'Flies' before the Eyes (Mouches Volantes)**
-  **Double Vision**
-  **River Blindness (Onchocerciasis)**

Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)

Chapter 16 - THE EYES



Figure

Danger Signs

The eyes are delicate and need good care. Get medical help fast when any of the following danger signs occurs:

1. Any injury that cuts or ruptures (goes through) the eyeball.
2. Painful, grayish spot on the cornea, with redness around the cornea (corneal ulcer).
3. Great pain inside the eye (possibly iritis or glaucoma).
4. A big difference in the size of the pupils when there is pain in the eye or the head.



A big difference in the size of the pupils may come from brain damage, stroke, injury to the eye, glaucoma, or iritis. (A small difference is normal in some people.)

5. Blood behind the cornea inside the eyeball.



Figure

6. If vision begins to fail in one or both eyes.

7. Any eye infection or inflammation that does not get better after 5 or 6 days of treatment with an antibiotic eye ointment.

Injuries to the Eye

All injuries to the eyeball must be considered dangerous, for they may cause blindness.

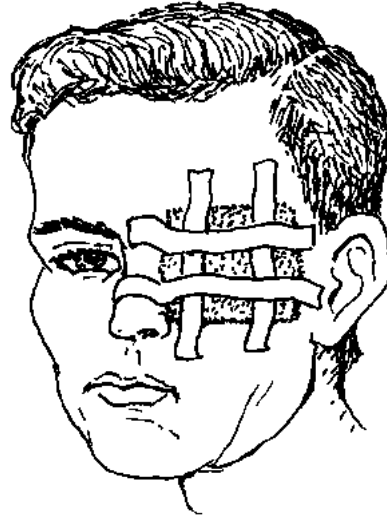
Even small cuts on the cornea (the transparent layer covering the pupil and iris) may get infected and harm the vision if not cared for correctly.

If a 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 fist) causes the eyeball to fill with blood, the eye is in danger. Danger is especially great if pain suddenly gets much worse after a few days, for this is probably acute glaucoma.

Treatment:

- **If the person still sees well with the injured eye, put an antibiotic eye ointment 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 the 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.**
- **Do not try to remove thorns or splinters that are tightly stuck in the eyeball. Get medical help.**

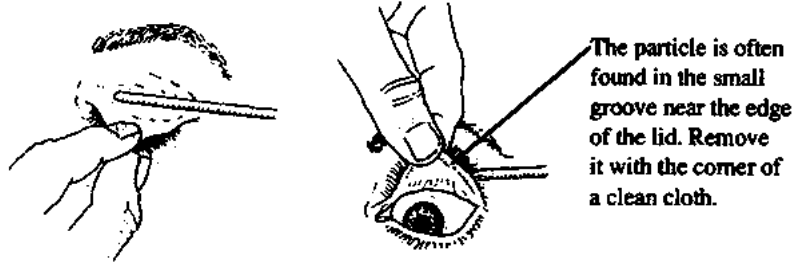


Figure

How to Remove a Speck of Dirt from the Eye

Have the person close her eyes and look to the left, the right, up and down. Then, while you hold her eye open, have her look up and then down. This will make the eye produce more tears and the dirt often comes out by itself.

Or, you can try to remove the bit of dirt or sand by flooding the eye with clean water or by using the corner of a clean cloth or some moist cotton. If the particle of dirt is under the upper lid, look for it by turning the lid up over a thin stick. The person should look down while you do this:



Figure

If you cannot get the particle out easily, use an antibiotic eye ointment, cover the eye with a bandage, and go for medical help.

Chemical Burns of the Eye




Figure

Battery acid, lye, gasoline, or a pesticide that gets into the eye can be dangerous. Hold open the eye. Immediately flood the eye with clean, cool water. Keep flooding for 30 minutes, or until it stops hurting. Do not let the water get into the other eye.

Red, Painful Eyes - Different Causes

Many different problems cause red, painful eyes. Correct treatment often depends on finding the cause, so be sure to check carefully for signs of each possibility. This chart may help you find the cause:

foreign matter (bit of dirt, etc.) in the eye	usually affects one eye only ; redness and pain variable
burns or harmful liquids	one or both eyes; redness and pain variable
pink eye' (conjunctivitis) hay fever (allergic conjunctivitis) trachoma measles	usually both eyes (may start or be worse in one) usually reddest at outer edge  Figure 'burning' pain, usually mild
acute glaucoma iritis scratch or ulcer on the cornea	usually one eye only ; reddest next to the cornea



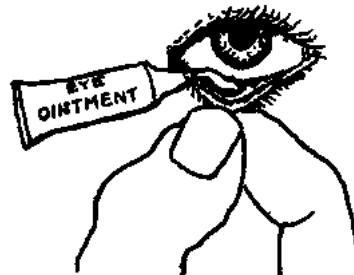
Figure

'Pink Eye' (Conjunctivitis)

This infection causes redness, pus, and mild ^{pain often great} "burning" in one or both eyes. Lids often stick together after sleep. It is especially common in children.

Treatment:

First clean pus from the eyes with a clean cloth moistened with boiled water. Then put in antibiotic 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.



Figure

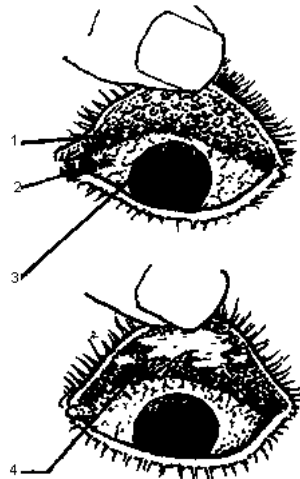
CAUTION: Do not touch the tube against the eye.

Prevention:

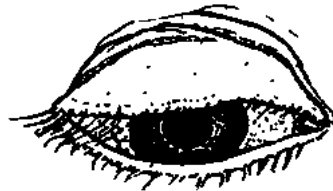
Most conjunctivitis is very contagious. The infection is easily spread from one person to another. Do not let a child with pink eye play or sleep with others, or use the same towel. Wash hands after touching eyes.

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.

**Figure****Signs:**

- **Trachoma begins with red, watery eyes, like ordinary conjunctivitis.**
- **After a month or more, small, pinkish gray lumps, called follicles, form inside the upper eyelids. (1)**
- **The white of the eye is a little red. (2)**
- **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, because it has many tiny new blood vessels in it (*pannus*). (3)**
- **The combination of both follicles and pannus is almost certainly trachoma.**
- **After several years, the follicles begin to disappear, leaving whitish scars. (4)**



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 1% tetracycline eye ointment inside the eye 3 times each day, or 3% tetracycline eye ointment 1 time each day. Do this for 30 days. For a complete cure, also take tetracycline or a sulfonamide by mouth for 2 to 3 weeks.

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, explained in Chapter 12.

Cleanliness helps prevent trachoma.

Infected Eyes in Newborn Babies (Neonatal Conjunctivitis)



Figure

In the first 2 days of life, if a newborn baby's eyes get red, swell, and have a lot of pus in them, this is probably gonorrhea. It must be treated at once to prevent the baby from going blind. If the eye infection begins between 1 and 3 weeks after birth, she may have chlamydia. The baby has picked up one or both of these diseases from the mother at birth.

Treatment for gonorrhea:

- **Give one injection of 50 to 75 mg. of kanamycin. Or, penicillin sometimes works: inject 200,000 units of crystalline penicillin twice a day for 3 days. Or, try 1/2 teaspoon of co-trimoxazole syrup by mouth 2 times a day for a week. (If available, one injection of 125 mg. of ceftriaxone is the best treatment.)**
- **Also use tetracycline eye ointment: put a little in the baby's eyes every hour for the first day, and then 3 times a day for 2 weeks.**

***Treatment for chlamydia:* Treat with tetracycline eye ointment as described above. Also give erythromycin syrup by mouth, 30 mg. 4 times a day for 2 weeks. (This will treat pneumonia, which often affects babies with chlamydia.)**

Prevention:

All babies' eyes should be protected against gonorrhea and chlamydia, especially the eyes of babies whose mothers may have these diseases or whose fathers have pain when passing urine. (Mothers may have gonorrhea or chlamydia without knowing it.)

Put a drop of 1% silver nitrate solution once only in each eye at birth. Or, put a little 1% tetracycline eye ointment, or .5% erythromycin eye ointment, in each eye at birth.

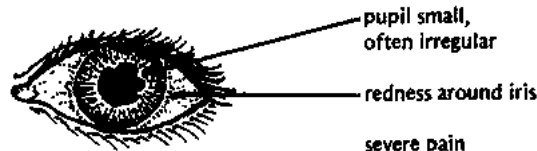
If a baby develops gonorrhoea or chlamydia of the eyes, both parents should be treated for these infections.

Iritis (Inflammation of the Iris)

Signs:



NORMAL EYE



pupil small,
often irregular

redness around iris

severe pain

EYE WITH IRITIS

Iritis usually happens in one eye only. Pain may begin suddenly or gradually. The eye waters a lot. It hurts more in bright light. The eyeball hurts when you touch it. There is no pus as with conjunctivitis. Vision is usually blurred.

This is an emergency. Antibiotic ointments do not help. Get medical help.

Glaucoma

This dangerous disease is the result of too much pressure in the eye. It usually begins after the age of 40 and is a common cause of blindness. To prevent blindness, it is important to recognize the signs of glaucoma and get medical help fast.

There are 2 forms of glaucoma.

ACUTE GLAUCOMA:

This starts suddenly with a headache or severe pain in the eye. The eye becomes red, the vision blurred. The eyeball feels hard to the touch, like a marble. There may be vomiting. The pupil of the bad eye is bigger than that of the good eye.



normal



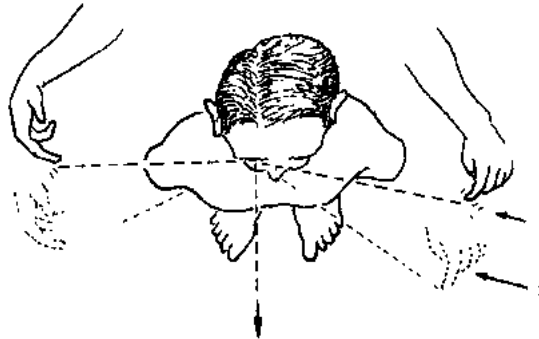
glaucoma

If not treated very soon, acute glaucoma will cause blindness within a few days. Surgery is often needed. Get medical help fast.

CHRONIC GLAUCOMA:

The pressure in the eye rises slowly. Usually there is no pain. Vision is lost slowly, starting from the side, and often the person does not notice the loss. Testing the side vision may help detect the disease.

Have the person cover one eye, and with the other look at an object straight ahead of him. Note when he can first see moving fingers coming from behind on each side of the head.



TEST FOR GLAUCOMA

Normally fingers are first seen here. (1)

In glaucoma, finger movement is first seen more toward the front. (2)

If discovered early, treatment with special eyedrops (pilocarpine) may prevent blindness. Dosage should be determined by a doctor or health worker who can measure the eye pressure periodically. Drops must be used for the rest of one's life. When possible, eye surgery is usually the surest form of treatment.

Prevention:

Persons who are over 40 years old or have relatives with glaucoma should try to have their eye pressure checked once a year.

Infection of the Tear Sac (Dacryocystitis)***Signs:***

Redness, pain, and swelling beneath the eye, next to the nose. The eye waters a lot. A drop of pus may appear in the corner of the eye when the swelling is gently pressed. (1)



Figure

Treatment:

- **Apply hot compresses.**
- **Put antibiotic eye drops or ointment in the eye.**
- **Take penicillin.**

Trouble Seeing Clearly

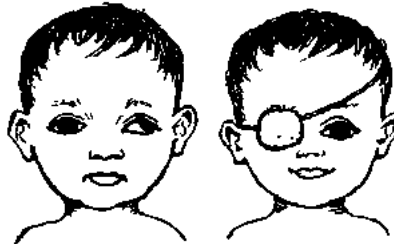
Children who have trouble seeing clearly or who get headaches or eye pain when they read may need glasses. Have their eyes examined.

In older persons, it is normal that, with passing years, it becomes more difficult to see close things clearly. Reading glasses often help. Pick glasses that let you see clearly about 40 cm. (15 inches) away from your eyes. If glasses do not help, see an eye doctor.



Figure

Cross-Eyes and Wandering Eyes



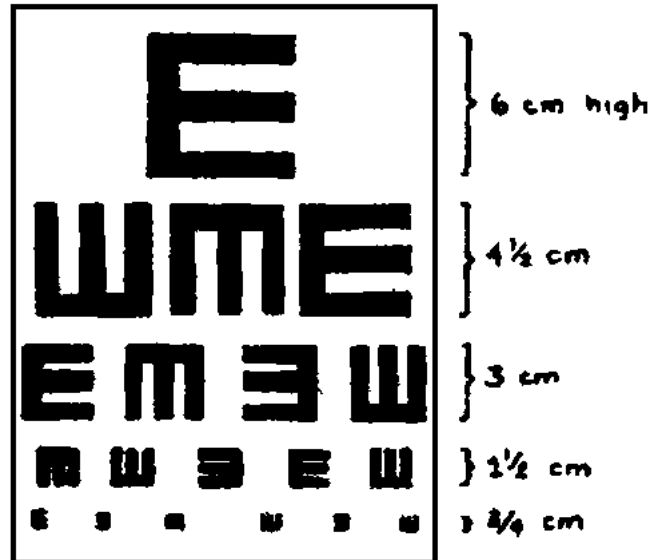
Figure

If the eye sometimes wanders like this, but at other times looks ahead normally, usually you need not worry. The eye will grow straighter in time. But if the eye is always turned the wrong way, and if the child is not treated at a very early age, she may never see well

with that eye. See an eye doctor as soon as possible to find out if patching of the good eye, surgery, or special glasses might help.

Surgery done at a later age can usually straighten the eye and improve the child's appearance, but it will not help the weak eye see better.

IMPORTANT: The eyesight of every child should be checked as early as possible (best around 4 years). You can use an 'E' chart (see *Helping Health Workers Learn*). Test each eye separately to discover any problem that affects only one eye. If sight is poor in one or both eyes, see an eye doctor.



Figure

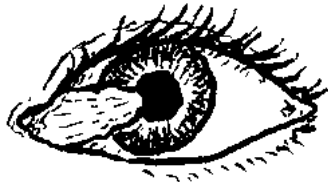
Sty (Hordeolum)



Figure

A red, swollen lump on the eyelid, usually near its edge. To treat, apply warm, moist compresses with a little salt in the water. Use of an antibiotic eye ointment 3 times a day will help prevent more sties from occurring.

Pterygium



Figure

A fleshy thickening on the eye surface that slowly grows out from the edge of the white part of the eye near the nose and onto the cornea; caused in part by sunlight, wind, and dust. Dark glasses may help calm irritation and slow the growth of a pterygium. It should, be removed by surgery before it reaches the pupil. Unfortunately, after surgery a pterygium often grows back again.

Folk treatments using powdered shells do more harm than good; To help calm itching and burning you can try using cold compresses. Or use eye drops of camomile (well boiled, then cooled, and without sugar).

A Scrape, Ulcer, or Scar on the Cornea

When the very thin, delicate surface of the cornea has been scraped, or damaged by infection, a painful corneal ulcer may result. If you look hard in a good light, you may see a grayish or less shiny patch on the surface of the cornea.



Figure

If not well cared for, a corneal ulcer can cause blindness. Apply antibiotic eye ointment, 4 times a day for 7 days, give penicillin, and cover the eye with a patch. If the eye is not better in 2 days, get medical help.

A corneal scar is a painless, white patch on the cornea. It may result from a healed corneal ulcer, burn, or other injury to the eye. If both eyes are blind but the person still sees light, surgery (corneal transplant) to one eye may return its sight. But this is expensive. If one eye is scarred, but sight is good in the other, avoid surgery. Take care to protect the good eye from injury.



Figure

Bleeding in the White of the Eye



Figure

A painless, blood-red patch in the white part of the eye occasionally appears after lifting something heavy, coughing hard (as with whooping cough), or being hit on the eye. The condition results from the bursting of a small vessel. It is harmless, like a bruise, and will slowly disappear without treatment in about 2 weeks.

Small red patches are common on the eyes of newborn babies. No treatment is needed.

Bleeding behind the Cornea (Hyphema)



Figure

Blood behind the cornea is a danger sign. It usually results from an injury to the eye with a blunt object, like a fist. If there is pain and loss of sight, refer the person to an eye specialist immediately. If the pain is mild and there is not loss of sight, patch both eyes and keep the person at rest in bed for several days. If after a few days the pain becomes much worse, there is probably hardening of the eye (glaucoma). Take the person to an eye doctor at once.

Pus Behind the Cornea (Hypopyon)



Figure

Pus behind the cornea is a sign of severe *inflammation*. It is sometimes seen with corneal ulcers and is a sign that the eye is in danger. Give penicillin and get medical help at once. If the ulcer is treated correctly, the hypopyon will often clear up by itself.

Cataract



Figure

The lens of the eye, behind the pupil, becomes cloudy making-the pupil look gray or white when you shine a light into it. Cataract is common in older persons, but also occurs, rarely, in babies. If a blind person with cataracts can still tell light from dark and notice movement, surgery may let him see again. However, he will need strong glasses afterward, which take time to get used to. Medicines do not help cataracts. (Now sometimes during surgery an artificial lens is put inside the eye - so that strong eyeglasses are not needed.)

Night Blindness and Xerophthalmia (Vitamin A Deficiency)

This eye disease is most common in children between 1 and 5 years of age. It comes from not eating enough foods with vitamin A. If not recognized and treated early, it can make the child blind.

Signs:

- At first, the child may have night blindness. He cannot see as well in the dark as other people can. (1)**



Figure

- Later, he develops dry eyes (xerophthalmia). The white of the eyes loses its shine and begins to wrinkle. (2)
- Patches of little gray bubbles (Bitot's spots) may form in the eyes. (3)



Figure

- As the disease gets worse, the cornea also becomes dry and dull, and may develop little pits. (4)



Figure

- Then the cornea may quickly grow soft, bulge, or even burst. Usually there is no pain. Blindness may result from infection, scarring, or other damage. (5)



Figure

- Xerophthalmia often begins, or gets worse, when a child is sick with another illness like diarrhea, whooping cough, tuberculosis, or measles. Examine the eyes of all sick and underweight children. Open the child's eyes and look for signs of vitamin A deficiency.

Prevention and treatment:

Xerophthalmia can easily be prevented by eating foods that have vitamin A. Do the following:



Figure

- **Breast feed the baby - up to 2 years, if possible.**
- **After the first 6 months, begin giving the child foods rich in vitamin A, such as dark green leafy vegetables, and yellow or orange fruits and vegetables such as papaya (paw paw), mango, and squash. Whole milk, eggs, and liver are also rich in vitamin A.**
- **If the child is not likely to get these foods, or if he is developing signs of night blindness or xerophthalmia, give him vitamin A, 200,000 units (60 mg. retinol, in capsule or liquid) once every 6 months. Babies under 1 year of age should get 100,000 units.**
- **If the condition is already fairly severe, give the child 200,000 units of vitamin A the first day, 200,000 units the second day, and 200,000 units 14 days later. Babies under 1 year old should get half that amount (100,000 units).**

- **In communities where xerophthalmia is common, give 200,000 units of vitamin A once every 6 months to women who are breast feeding, and also to pregnant women during the second half of their pregnancy.**

WARNINGS: Too much vitamin A is poisonous. Do not give more than the amounts advised here.

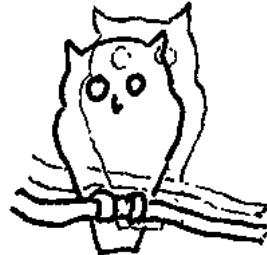
If the condition of the child's eye is severe, with a dull, pitted, or bulging cornea, get medical help. The child's eye should be bandaged, and he should receive vitamin A at once, preferably an injection of 100,000 units.

Dark green leafy vegetables, and yellow or orange fruits and vegetables, help prevent blindness in children.

Spots or 'Flies' before the Eyes (Mouches Volantes)

Sometimes older persons complain of small moving spots when they look at a bright surface (wall, sky). The spots move when the eyes move and look like tiny flies. These spots are usually harmless and need no treatment. But if they appear suddenly in large numbers and vision begins to fail from one side, this could be a medical emergency (detached retina). Seek medical help at once.

Double Vision



Figure

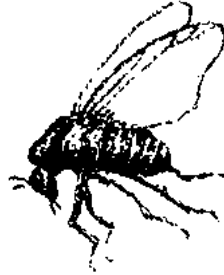
Seeing double can have many causes.

If double vision comes suddenly, is chronic, or gradually gets worse, it is probably a sign of a serious problem. Seek medical help.

If double vision occurs only from time to time, it may be a sign of weakness or exhaustion, perhaps from malnutrition. Read Chapter 11 on good nutrition and try to eat as well as possible. If sight does not improve, get medical help.

River Blindness (Onchocerciasis)

This disease is common in many parts of Africa and certain areas of southern Mexico, Central America, and northern South America. The infection is caused by tiny worms that are carried from person to person by small, hump-backed flies or gnats known as black flies (simuliids).

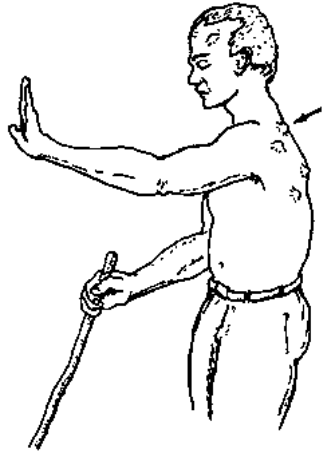


BLACK FLY

The worms are 'injected' into a person when an infected black fly bites him.

Signs of river blindness:

- **Several months after a black fly bites and the worms enter the body, lumps begin to form under the skin. In the Americas the lumps are most common on the head and upper body; in Africa on the chest, the lower body, and thighs. Often there are no more than 3 to 6 lumps. They grow slowly to a size of 2 to 3 cm. across. They are usually painless. (1)**



Figure

- **There may be itching when the baby worms are spreading.**
- **Pains in the back, shoulder or hip joints, or 'general pains all over'.**
- **Enlargement of the lymph nodes in the groin.**
- **Thickening of the skin on the back or belly, with big pores like the skin of an orange. To see this, look at the skin with light shining across it from one side.**
- **If the disease is not treated, the skin gradually becomes more wrinkled, like an old man's. White spots and patches may appear on the front of the lower legs. A dry rash may appear on the lower limbs and trunk.**
- **Eye problems often lead to blindness. First there may be redness and tears, then**

signs of iritis. The cornea becomes dull and pitted as in xerophthalmia. Finally, sight is lost because of corneal scarring, cataract, glaucoma, or other problems.

Treatment of river blindness:

Early treatment can prevent blindness. In areas where river blindness is known to occur, seek medical testing and treatment when the first signs appear.

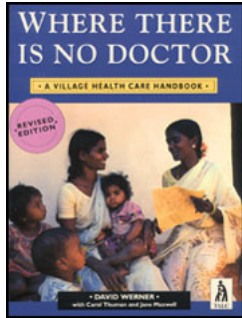
- **Ivermectin (*Mectizan*) is the best medicine for river blindness, and it may be available at no cost through your local health department. Diethylcarbamazine and suramin are other medicines used to treat river blindness, but these can sometimes do more harm than good, especially when eye damage has already begun. They should only be given by experienced health workers. For dosage and precautions on all these medicines.**
- **Antihistamines help reduce itching.**
- **Early surgical removal of the lumps lowers the number of worms.**


Prevention:

- **Black flies breed in fast-running water. Clearing brush and vegetation back from the banks of fast-running streams may help reduce the number.**
- **Avoid sleeping out-of-doors - especially in the daytime, which is when the flies usually bite.**
- **Cooperate with programs for the control of black flies.**
- **Early treatment prevents blindness and reduces spread of the disease.**










[Home](#) > [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)



 **Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)**

➔  **Chapter 17 - THE TEETH, GUMS, AND MOUTH**

-  **Care of the Teeth and Gums**
-  **If You Do Not Have A Toothbrush**
-  **Toothaches and Abscesses**
-  **Pyorrhoea, a Disease of the Gums**
-  **Sores or Cracks at the Corners of the Mouth**
-  **White Patches or Spots in the Mouth**
-  **Cold Sores and Fever Blisters**

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Chapter 17 - THE TEETH, GUMS, AND MOUTH

Care of the Teeth and Gums

Taking good care of teeth and gums is important because:

- **Strong, healthy teeth are needed to chew and digest food well.**
- **Painful cavities (holes in the teeth caused by decay) and sore gums can be prevented by good tooth care.**

- **Decayed or rotten teeth: caused by lack of cleanliness can lead to serious infections that may affect other parts of the body.**

To keep the teeth and gums healthy:

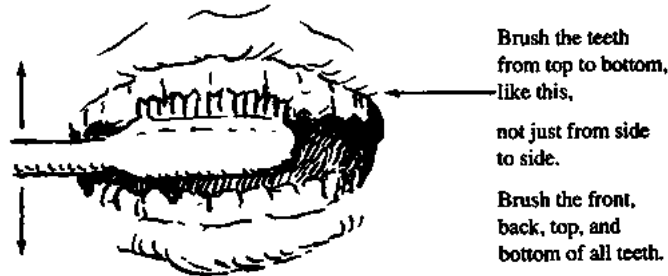
1. Avoid sweets. Eating a lot of sweets (sugar cane, candy, pastry, tea or coffee with sugar, soft or fizzy drinks like colas) rots the teeth quickly.

Do not accustom children to sweets or soft drinks if you want them to have good teeth.



“This child has a sweet tooth - but soon he'll have no more” (no more teeth).

2. Brush teeth well every day - and always brush immediately after eating anything sweet. Start brushing your children's teeth as the teeth appear. Later, teach them to brush their teeth themselves, and watch to see that they do it right.



Figure

3. In areas where there is not enough natural fluoride in water and foods, putting fluoride in the drinking water or directly on teeth helps prevent cavities. Some health programs put fluoride on children's teeth once or twice a year. Also, most foods from the sea contain a large amount of fluoride.

***CAUTION:* Fluoride is poisonous if more than a small amount is swallowed. Use with care and keep it out of the reach of children. Before adding fluoride to drinking water, try to get the water tested to see how much fluoride is needed.**

4. Do not bottle feed older babies. Continual sucking on a bottle bathes the baby's teeth in sweet liquid and causes early decay. (It is best not to bottle feed at all.)

If You Do Not Have A Toothbrush

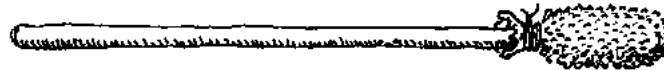
A TOOTHBRUSH IS NOT NECESSARY

You can use the twig of a tree, like this:



Figure

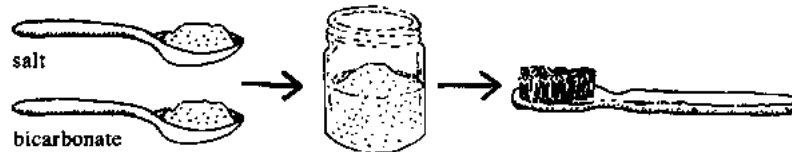
Or tie a piece of rough towel around the end of a stick, or wrap it around your finger, and use it as a toothbrush.



piece of rough towel

TOOTHPASTE IS NOT NECESSARY

Just water is enough, if you rub well. Rubbing the teeth and gums with something soft but a little rough is what cleans them. Some people rub their teeth with powdered charcoal or with salt. Or you can make a tooth powder by mixing salt and bicarbonate of soda (baking soda) in equal amounts. To make it stick, wet the brush before putting it in the powder.



Figure

IF A TOOTH ALREADY HAS A CAVITY (a hole caused by rot)



Figure

To keep it from hurting as much or forming an abscess, avoid sweet things and brush well after every meal.

If possible, see a dental worker right away. If you go soon enough, he can often clean and fill the tooth so it will last for many years.

When you have a tooth with a cavity, do not wait until it hurts a lot. Have it filled by a dental worker right away.

Toothaches and Abscesses

To calm the pain:

- **Clean the hole in the tooth wall, removing all food particles. Then rinse the mouth with warm salt water.**
- **Take a pain medicine like aspirin.**
- **If the tooth infection is severe (swelling, pus, large tender lymph nodes), use an antibiotic: tablets of penicillin or sulfonamide, or tetracycline capsules (for adults only).**



Figure

A toothache results when a cavity becomes infected.

An *abscess* results when the infection reaches the tip of a root and forms a pocket of pus.

If the pain and swelling do not go away or keep coming back, the tooth should probably be pulled.

Treat abscesses right away - before the infection spreads to other parts of the body.

Pyorrhea, a Disease of the Gums

AN INFECTION OF THE GUMS PYORRHEA



Figure

Inflamed (red and swollen), painful gums that bleed easily are caused by:

- 1. Not cleaning the teeth and gums well or often enough.**
- 2. Not eating enough nutritious foods (malnutrition).**

Prevention and treatment:

- Brush teeth well after each meal, removing food that sticks between the teeth. Also, if possible, scrape off the dark yellow crust (tartar) that forms where the teeth meet the gums. It helps to clean under the gums regularly by passing a strong thin thread (or dental floss) between the teeth. At first this will cause a lot of bleeding, but soon the gums will be healthier and bleed less.**
- Eat protective foods rich in vitamins, especially eggs, meat, beans, dark green vegetables, and fruits like oranges, lemons, and tomatoes (see Chapter 11). Avoid sweet, sticky, and stringy foods that get stuck between the teeth.**

Note: Sometimes medicines for fits (epilepsy), such as phenytoin (*Dilantin*), cause swelling and unhealthy growth of the gums. If this happens, consult a health worker and consider using a different medicine.

Sores or Cracks at the Corners of the Mouth



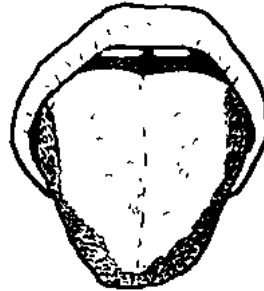
Figure

Narrow sores at the corners of children's mouths are often a sign of malnutrition.

Children with these sores should eat foods rich in vitamins and proteins: like milk, meat, fish, nuts, eggs, fruits, and green vegetables.

White Patches or Spots in the Mouth

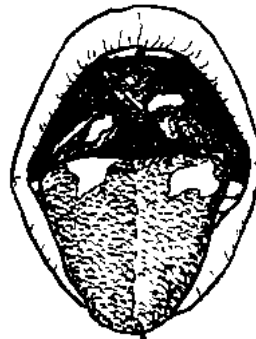
The tongue is coated with white 'fur'. Many illnesses cause a white or yellowish coating on the tongue and roof of the mouth. This is common when there is a fever. Although this coating is not serious, it helps to rinse the mouth with a solution of warm water with salt and bicarbonate of soda several times a day.



Figure

Tiny white spots, like salt grains, in the mouth of a child with fever may be an early sign of measles.

Thrush: small white patches on the inside of the mouth and tongue that look like milk curds stuck to raw meat. They are caused by a fungus or yeast infection called moniliasis. Thrush is common in newborn babies, in persons with the AIDS virus, and in persons using certain antibiotics, especially tetracycline or ampicillin.



Figure

Unless it is very important to keep taking the antibiotic, stop taking it. Paint the inside of the mouth with gentian violet. Chewing garlic or eating yogurt may also help. In severe cases, use nystatin.

Canker sores: small, white, painful spots inside the lip or mouth. May appear after fever or stress (worry). In 1 to 3 weeks they go away. Rinse mouth with salt water, or put on a little hydrogen peroxide or cortico-steroid ointment. Antibiotics do not help.

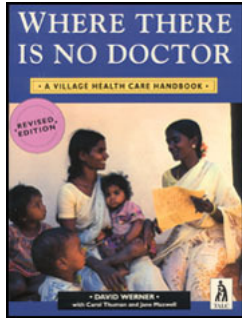
**Figure****Cold Sores and Fever Blisters**


Small painful blisters on lips (or genitals) that break and form scabs. May appear after fever or stress. Caused by a herpes virus. They heal after 1 or 2 weeks. Holding ice on the sores for several minutes, several times a day may help them to heal faster. Putting alum, camphor, or bitter plant juices (see Cardon) on them may help. No medications do much good. For information about herpes on the genitals.

For more information on caring for the teeth and gums, see *Where There Is No Dentist*, also available from the Hesperian Foundation.



[Home](#) > [ar.cn.de.en.es.fr.id.it.ph.po.ru.sw](#)



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  **Chapter 18 - THE URINARY SYSTEM AND THE GENITALS**


 **(introduction...)**

 **Urinary Tract Infections**

 **Kidney or Bladder Stones**

 **Enlarged Prostate Gland**

 **Diseases Spread By Sexual Contact (Sexually Transmitted Diseases)**

 **Gonorrhea (Clap, VD, the Drip) and Chlamydia**

 **Syphilis**

 **Bubos: Bursting Lymph Nodes in the Groin (Lymphogranuloma Venereum)**

 **How and When to Use a Catheter (A Rubber Tube to Drain Urine from the Bladder)**

 **Problems of Women**

 **Vaginal Discharge (a mucus or pus-like stuff that comes from the vagina)**

 **How a Woman Can Avoid Many Infections**

 **Pain or Discomfort in the Lower Central Part of a Woman's Belly**

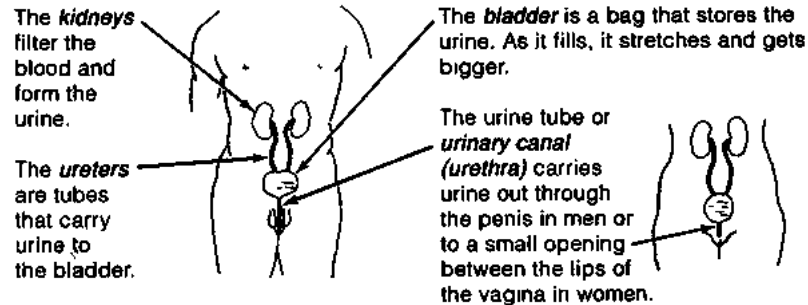
 **Men and Women Who Are Not Able to Have Children**

(Infertility)

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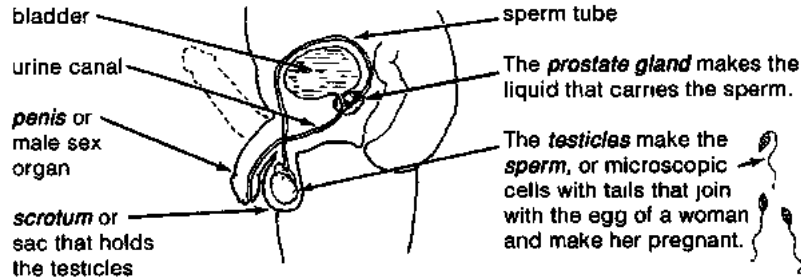
Chapter 18 - THE URINARY SYSTEM AND THE GENITALS

The urinary system or *tract* serves the body by removing waste material from the blood and getting rid of it in the form of *urine*:

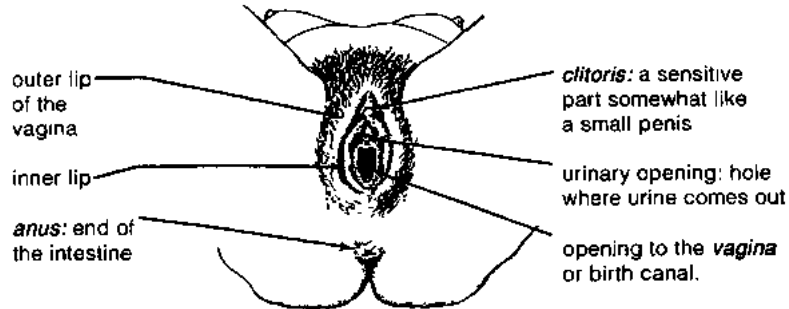


Figure

The genitals are the sex organs.



The man



The woman

PROBLEMS OF THE URINARY TRACT

There are many different disorders of the urinary tract. They are not always easy to tell apart. And the same illness can show itself differently in men and women. Some of these disorders are not serious, while others can be very dangerous. A dangerous illness may begin with only mild symptoms. It is often difficult to identify these disorders correctly by simply using a book like this one. Special knowledge and tests may be needed. When

possible, seek advice from a health worker.

Common problems with urinating include:

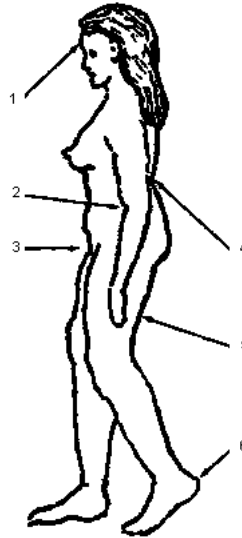
- 1. Urinary tract infections. These are most common in women. (Sometimes they start after sexual contact, but may come at other-times, especially during pregnancy.)**
- 2. Kidney stones, or bladder stones.**
- 3. Prostate trouble (difficulty passing urine caused by an enlarged prostate gland; most common in older men).**
- 4. Gonorrhoea or chlamydia (infectious diseases spread by sexual contact that often cause difficulty or pain in passing urine).**
- 5. In some parts of the world schistosomiasis is the most common cause of blood in the urine. This is discussed with other worm infections. See page 146.**

Urinary Tract Infections

Signs:

- Sometimes fever and chills' or headache. (1)**
- Sometimes pain in the side. (2)**
- Painful urination and need to urinate very often. (3)**
- Unable to hold in urine (especially true for children).**
- Urine may be cloudy or reddish (bloody).**
- Sometimes it feels as though the bladder does not empty completely.**
- Sometimes there is pain in the lower back (kidneys). (4)**

- Sometimes the pain seems to go down the legs. (5)
- In serious cases (kidney disease) the feet and face may swell. (6)



Figure

Many women suffer from urinary infections. In men they are much less common. Sometimes the only symptoms are painful urination and the need to urinate often. Other common signs are blood in the urine and pain in the lower belly. Pain in the mid or lower back, often spreading around the sides below the ribs, with fever, indicates a more serious problem.

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. Drink at least 1 glass every 30 minutes for 3 to 4 hours, and get into the habit of drinking lots of water. (But if the person cannot urinate or has swelling of the hands and face, she should not drink much water.)**



Figure

- **If the person does not get better by drinking a lot of water, or if she has a fever, she should take pills of co-trimoxazole or another sulfonamide, ampicillin, or tetracycline. Pay careful attention to dosage and precautions. To completely control the infection it may be necessary to take the medicine for 10 days or more. It is very important to continue to drink a lot of water while taking these medicines, especially the sulfonamides.**
- **If the person does not get better quickly, seek medical advice.**

Kidney or Bladder Stones

Signs:

- **The first sign is often sharp or severe pain in the lower back, the side, or the lower belly, or in the base of the penis in men.**
- **Sometimes the urinary tube is blocked so the person has difficulty passing urine - or; cannot pass any. Or drops of blood may come out when the person begins to urinate.**
- **There may be a urinary infection at the same time.**

Treatment:

- **The same as for the urinary infections described above.**
- **Also give aspirin or another painkiller and an antispasmodic.**
- **If you cannot pass urine, try to do it lying down. This sometimes allows a stone in the bladder to roll back and free the opening to the urinary tube.**
- **In severe cases, get medical help. Sometimes surgery is needed.**

Enlarged Prostate Gland

This condition is most common in men over 40 years old. It is caused by a swelling of the prostate gland, which is between the bladder and the urinary tube (urethra).

- **The person has difficulty in passing urine and sometimes in having a bowel movement. The urine may only dribble or drip or become blocked completely. Sometimes the man is not able to urinate for days.**
- **If he has a fever, this is a sign that infection is also present.**

Treatment for an enlarged prostate:

- **If the person cannot urinate, he should try sitting in a tub of hot water, like this: If this does not work, a catheter may be needed.**
- **If he has a fever, use an antibiotic such as ampicillin or tetracycline.**
- **Get medical help. Serious or chronic cases may require surgery.**



Figure

Note: Both prostate trouble and gonorrhea (or chlamydia) can also make it hard to pass urine. In older men it is more likely to be an enlarged prostate. However, a younger man - especially one who has recently had sex with an infected person - probably has gonorrhea or chlamydia.

Diseases Spread By Sexual Contact (Sexually Transmitted Diseases)

On the following pages, we discuss some common diseases spread by sexual contact (STD): gonorrhea, chlamydia, syphilis, and bubos. AIDS, a new, dangerous illness, and

some sexually transmitted diseases that cause sores on the genitals (genital herpes, genital warts, and chancroid) are discussed in the Blue Pages.

Gonorrhea (Clap, VD, the Drip) and Chlamydia

These diseases are usually spread by sexual contact, and have the same early signs. Often a person has both gonorrhea and chlamydia at the same time, so usually both diseases should be treated.

Signs:



Figure

In the man:

- Pain or difficulty with urination.
- Drops of pus from the penis.
- Sometimes there is painful swelling of the testicles.

After weeks or months:

- Painful swelling in one or both knees, ankles or wrists, or many other problems.
- Rash or sores all over the

In the woman:

- **At first, there are often no symptoms** (she may feel a little pain when urinating or have a slight vaginal discharge).
- If a pregnant woman with gonorrhea is not treated before giving birth, the infection may get in the baby's eyes and make him blind.

After weeks or months:

- Pain in the lower belly (pelvic inflammatory disease).

body.

- Menstrual problems.
- She may become *sterile*.

- He may become sterile (cannot make a woman pregnant).

- Urinary problems.

In a man, the first signs begin 2 to 5 days (or up to 3 weeks or more) after sexual-contact with an infected person. In a woman, signs may not show up for weeks or months. But a person who does not show any signs can give the disease to someone else, starting a few days after becoming infected.

Treatment:

- **In the past, gonorrhoea was usually treated with penicillin. But now in many areas the disease has become *resistant* to penicillin, so other antibiotics must be used. It is best to seek local advice about which medicines are effective, available, and affordable in your area. If the drip and pain have not gone away in 2 or 3 days after trying a treatment, the gonorrhoea could be *resistant* to the medicine, or the person could have chlamydia.**

- **If a woman has gonorrhoea or chlamydia and also has fever and pain in the lower belly, she may have pelvic inflammatory disease.**

- **Everyone who has had sex with, a person known to have gonorrhoea or chlamydia should also be treated, especially wives of men who are infected. Even if the wife shows no signs, she is probably infected. If she is not treated at the same time, she will give the disease back to her husband again.**

- **Protect the eyes of all newborn babies from chlamydia and especially gonorrhoea, which can cause blindness.**

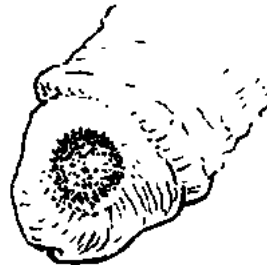
CAUTION: A person with gonorrhea or chlamydia may also have syphilis without knowing it. Sometimes it is best to go ahead and give the full treatment for syphilis, because the gonorrhea or chlamydia treatment may prevent the first syphilis symptoms, but may not cure the disease.

Syphilis

Syphilis is a common and dangerous disease that is spread from person to person through sexual contact.

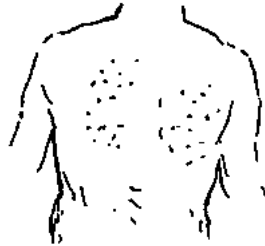
Signs:

- The first sign is usually a sore, called a *chancre*. It appears 2 to 5 weeks after sexual contact with a person who has syphilis. The chancre may look like a pimple, a blister, or an open sore. It usually appears in the genital area of the man or woman (or less commonly on the lips, fingers, anus, or mouth). This sore is full of germs, which are easily passed on to another person. The sore is usually painless, and if it is inside the vagina, a woman may not know she has it - but she can easily infect other persons.



Figure

- **The sore only lasts a few days and then goes away by itself without treatment. But the disease continues spreading through the body.**
- **Weeks or months later, there may be sore throat, mild fever, mouth sores, or swollen joints. Or any of these signs may appear on the skin:**



a painful rash or 'pimples' all over the body



ring-shaped welts (like hives)



an itchy rash on the hands or feet

All of these signs usually go away by themselves, and then the person often thinks he is well - but the disease continues. Without adequate treatment, syphilis can invade any part of the body, causing heart disease, paralysis, insanity, and many other problems.

***CAUTION:* If any strange rash or skin condition shows up days or weeks after a pimple or sore appears on the genitals, it may be syphilis. Get medical advice.**

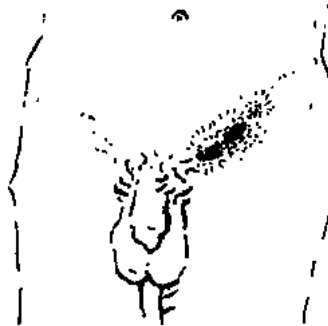
***Treatment for syphilis:* (For complete cure, the full treatment is essential.)**

- **If signs have, been present less than 1 year, inject 2.4 million units of benzathine penicillin all at once. Put half the dose in each buttock. Persons allergic to penicillin can take tetracycline. 500 mg., 4 times each day for 15 days.**
- **If signs have been present more than 1 year, inject 2.4 million units of benzathine penicillin - half in each buttock - once a week for 3 weeks, for a total of 7.2 million units. If allergic to penicillin, take tetracycline, 500 mg., 4 times each day for 30 days.**
- **If there is any chance that someone has syphilis, she should immediately see a health worker. Special blood tests may be needed. If tests cannot be made, the person should be treated for syphilis in any case.**

- **Everyone who has had sexual contact with a person known to have syphilis should also be treated, especially husbands or wives of those known to be infected.**

Note: Pregnant or breast feeding women who are allergic to penicillin can take erythromycin in the same dosage as tetracycline.

Bubos: Bursting Lymph Nodes in the Groin (Lymphogranuloma Venereum)



Figure

Signs:

- **In a man: Large, dark lumps in the groin that open to drain pus, scar up, and open again.**
- **In a woman: Lymph nodes similar to those in the man. Or painful, oozing sores in the anus.**

Treatment:

- **See a health worker.**

- **Give adults 250 mg. capsules of tetracycline, 2 capsules, 4 times a day for 14 days.**
- **Avoid sex until the sores are completely healed.**

Note: Bubos in the groin can also be a sign of chancroid.

HOW TO PREVENT SPREADING SEXUALLY TRANSMITTER DISEASES

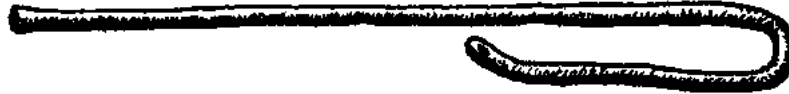
1. Be careful with whom you have sex: Someone who has sex with many different persons is more likely to catch these diseases. Prostitutes are especially likely to be infected. To avoid infection, have sex only with one faithful partner. If you have sex with anyone else, always use a condom. (Use of condoms helps prevent sexually transmitted diseases, but does not assure complete protection.)

2. Get treatment right away: It is very important that all persons infected with a sexually transmitted disease get treatment at once so that they do not infect other people. Do not have sex with anyone until 3 days after treatment is finished. (Unfortunately there is still no effective treatment for AIDS.)

3. Tell other people if they need treatment: When a person finds out that he or she has a sexually transmitted disease, he should tell everyone with whom he has had sex, so that they can get treatment, too. It is especially important that a man tell a woman, because without knowing she has the disease she can pass it on to other people, her babies may become infected or blind, and in time she may become sterile or very ill herself.

4. Help others: Insist that friends who may have a sexually transmitted disease get treatment at once, and that they avoid all sexual contact until they are cured.

How and When to Use a Catheter (A Rubber Tube to Drain Urine from the Bladder)



Figure

When to use and when not to use a catheter:

- **Never use a catheter unless it is absolutely necessary and it is impossible to get medical help in time. Even careful use of a catheter sometimes causes dangerous infection or damages the urinary canal.**
- **If any urine is coming out at all, do not use the catheter.**
- **If the person cannot urinate, first have him try to urinate while sitting in a tub of warm water. Begin the recommended medicine (for gonorrhea or prostate trouble) at once.**
- **If the person has a very full, painful bladder and cannot urinate, or if he or she begins to show signs of poisoning from urine, then and only then use a catheter.**

Signs of urine poisoning (uremia):

- **The breath smells like urine.**
- **The feet and face swell.**
- **Vomiting, distress, confusion.**



Figure

Note: People who have suffered from difficulty urinating, enlarged prostate, or kidney stones should buy a catheter and keep it handy in case of emergency.

HOW TO PUT IN A CATHETER



- 1. Boil the catheter (and any syringe or instrument you may be using) for 15 minutes.**



2. Wash well under foreskin or between vaginal lips and surrounding areas.



3. Wash hands - if possible with surgical soap (like *Betadine*). After washing, touch only things that are sterile or very clean.



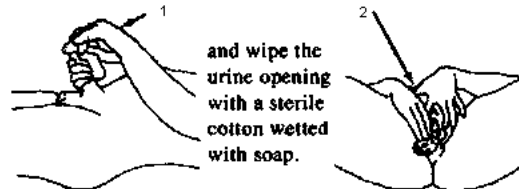
4. Put very clean cloths under and around the area.



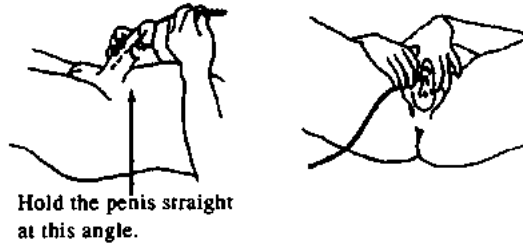
5. Put on sterile gloves - or rub hands well with alcohol or surgical soap.



6. Cover the catheter with a sterile lubricant (slippery cream) like *K-Y Jelly* that dissolves in water (not oil or *Vaseline*).



7. Pull back foreskin (1) or open the vaginal (2) lips



8. Holding the foreskin back or the lips open, gently put the catheter into the urine hole. Twist it as necessary but DO NOT FORCE IT.



9. For a man, push the catheter in until urine starts coming out - then 3 cm. more

Note: A woman's urinary tube is much shorter than a man's.

Important: If the person shows signs of urine poisoning, or if the bladder has been over-full and stretched, do not let the urine come out all at once: instead, let it out very slowly (by pinching or plugging the catheter), little by little over an hour or 2.

Sometimes a woman cannot urinate after giving birth. If more than 6 hours pass and her bladder seems full, she may need a catheter put in. If her bladder does not feel full, do not

use a catheter but have her drink lots of water.

For more information on catheter use, see *Disabled Village Children*, Chapter 25.

Problems of Women

Vaginal Discharge (a mucus or pus-like stuff that comes from the vagina)

All women normally have a small amount of vaginal discharge, which is clear, milky, or slightly yellow: If there is no itching or bad smell, there is probably no problem.

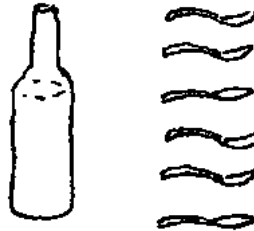
But many women, especially during pregnancy, suffer from a discharge often with itching in the vagina. This discharge may be caused by various infections. Most of them are bothersome, but not dangerous. However, an infection caused by gonorrhea or chlamydia can harm a baby at birth.

1. A thin and foamy, greenish-yellow or whitish, foul-smelling discharge with itching. This is probably an infection of *Trichomonas*. It may burn to urinate: Sometimes the genitals hurt or are swollen. The discharge may contain blood.

Treatment:

- **It is very important to keep the genitals clean.**
- **A vaginal wash, or *douche*, with warm water and distilled vinegar will help. If there is no vinegar, use lemon juice in water.**

IMPORTANT: Let water enter slowly during about 3 minutes. Do not put the tube more than 3 inches into the vagina.



For the douche, use 6 teaspoons of vinegar in 1 liter of boiled, cooled water.



Figure

CAUTION: Do not douche in the last 4 weeks of pregnancy, or for 6 weeks after giving birth. If the discharge is troublesome, nystatin vaginal inserts may help (see #2 on the next page).

- You can also use a clove of garlic as a vaginal insert. (Peel the garlic, taking care not to puncture it. Wrap it in a piece of clean cloth or gauze, and put it into the vagina.)
- Use the douche 2 times during the day, and each night insert a new clove of garlic. Do this for 10 to 14 days.
- If this does not help, use vaginal inserts that contain metronidazole or other

medication recommended for Trichomonas, or take metronidazole by mouth. For precautions and instructions.

IMPORTANT: It is likely that the husband of a woman with Trichomonas has the infection, too, even though he does not feel anything. (Some men with Trichomonas have a burning feeling when urinating.) If a woman is treated with metronidazole, her husband should also take it by mouth at the same time.

2. White discharge that looks like cottage cheese or buttermilk, and smells like mold, mildew, or baking bread. This could be a yeast infection (moniliasis, Candida). Itching may be severe. The lips of the vagina often look bright red and hurt. It may burn to urinate. This infection is especially common in pregnant women or in those who are sick, diabetic, or have been taking antibiotics, or birth control pills.

***Treatment:* Douche with vinegar-water or dilute gentian violet, 2 parts gentian violet to 100 parts water (2 teaspoons to a half liter). Or use nystatin vaginal tablets or any other vaginal inserts for moniliasis or Candida. Putting unsweetened yogurt in the vagina is said to be a useful home remedy to help control yeast infections. Never use antibiotics for a yeast infection. They can make it worse.**

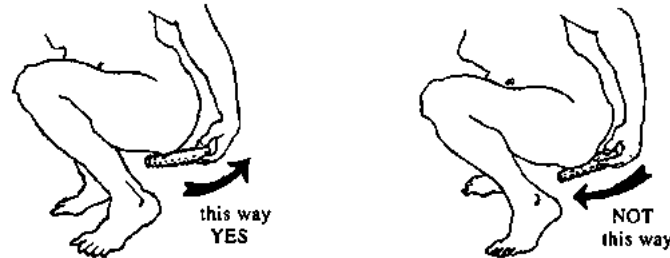
3. Thick, milky discharge with a rancid smell. This could be an infection caused by bacteria. Special tests may be needed to tell this from a Trichomonas infection. Douche with vinegar-water, or with povidone-iodine (*Betadine*: 6 teaspoons in 1 liter of water). Also, you can try inserting a clove of garlic every night for 2 weeks. If none of these treatments works, try metronidazole.

4. Watery, brown, or gray discharge, streaked with blood; bad smell; pain in the lower belly. These are signs of more serious infections, or possibly cancer. If there is fever, use antibiotics (if possible, ampicillin together with tetracycline). Get medical help right away.

Important: If any discharge lasts a long time, or does not get better with treatment, see a health worker.

How a Woman Can Avoid Many Infections

- 1. Keep the genital area clean. When you bathe (daily if possible) wash well with mild soap.**
- 2. Urinate after sexual contact. This helps prevent urinary infections (but will not prevent pregnancy).**
- 3. Be sure to clean yourself carefully after each bowel movement. Always wipe from front to back:**



Figure

Wiping forward can spread germs, amebas, or worms into the urinary opening and vagina. Also take care to wipe little girls' bottoms from front to back and to teach them, as they grow up, to do it the same way.

Pain or Discomfort in the Lower Central Part of a Woman's Belly



Figure

This can come from many different causes, which are discussed in different parts of this book. The following list, which includes a few key questions, will help you know where to look.

Possible causes of pain in the lower belly are:

- 1. Menstrual discomfort. Is it worst shortly before or during the period?**
- 2. A bladder infection. One of the most common low mid-belly pains. Is urination very frequent or painful?**
- 3. Pelvic inflammatory disease. This is almost always a late stage of gonorrhoea or chlamydia, with pain in the lower belly and fever. If these signs' are mild, first treat**

for gonorrhea. Then give tetracycline or erythromycin for 14 days. For more severe signs, also give 400 to 500 mg. of metronidazole 3 times a day for 10 days. If the woman is using an intrauterine device (IUD), it may need to be removed. See a health worker.

4. Problems that are related to a lump or mass in the lower part of the belly. These are discussed briefly in chapter 19 and include ovarian cyst and cancer. A special exam is needed, done by a trained health worker.

5. Ectopic pregnancy (when the baby begins to develop outside the womb). Usually there is severe pain with irregular bleeding. The woman often has signs of early pregnancy, and feels dizzy and weak. Get medical help immediately; her life is in danger.

6. Complications from an abortion, There may be fever, bleeding from the vagina with clots, belly pain, difficulty urinating, and shock. Start giving antibiotics as for childbirth fever, and get the woman to a hospital at once. Her life is in danger.

7. An infection or other problem of the gut or rectum. Is the pain related to eating or to bowel movements?

Some of the above problems are not serious. Others are dangerous. They are not always easy to tell apart. Special tests or examinations may be needed.

If you are unsure what is causing the pain, or if it does not get better soon, seek medical help.

Men and Women Who Are Not Able to Have Children (Infertility)

Sometimes a man and woman try to have children but the woman does not become

pregnant. Either the man or woman may be infertile (unable to bring about pregnancy). Often nothing can be done to make a person fertile, but sometimes something can be done, depending on the cause.

COMMON CAUSES OF INFERTILITY:

- 1. Sterility. The person's body is such that he or she can never have children. Some men and women are born sterile.**
- 2. Weaknesses or a nutritional lack. In some women severe anemia, poor nutrition, or lack of iodine may lower the chance of becoming pregnant. Or it may cause the unformed baby (embryo) to die, perhaps before the mother even knows she is pregnant (see Miscarriage). A woman who is not able to become pregnant, or has had only miscarriages, should get enough nutritious food, use iodized salt, and if she is severely anemic, take iron pills. These may increase her chance of becoming pregnant and having a healthy baby.**
- 3. Chronic infection, especially pelvic inflammatory disease due to gonorrhea or chlamydia, is a common cause of infertility in women. Treatment may help - if the disease has not gone too far. Prevention and early treatment of gonorrhea and chlamydia mean fewer sterile women.**
- 4. Men are sometimes unable to make women pregnant because they have fewer sperms than is normal. It may help for the man to wait, without having sex, for several days before the woman enters her 'fertile days' each month, midway between her last menstrual period and the next (see Rhythm Method and Mucus Method). This way he will give her his full amount of sperm when they have sex on days when she is able to become pregnant.**

WARNING: Hormones and other medicines commonly given to men or women who cannot

have babies almost never do any good, especially in men. Home remedies and magic cures are not likely to help either. Be careful not to waste your money for things that will not help.

If you are a woman and are not able to have a baby, there are still many possibilities for leading a happy and worthwhile life:

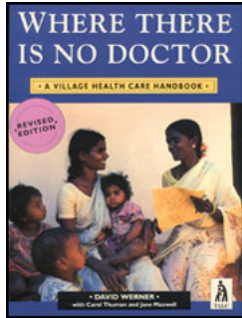
- **Perhaps you can arrange to care for or adopt children who are orphans or need a home. Many couples come to love such children just as if they were their own.**
- **Perhaps you can become a health worker or help your community in other ways. The love you would give to your children, you can give to others, and all will benefit.**
- **You may live in a village where people look with shame on a woman who cannot have children. Perhaps you and others can form a group to help those who have special needs, land-to to show that having babies is not the only thing that makes a woman worthwhile.**




Figure




























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 **Where There Is No Doctor - A Village Health Care Handbook (Hesperian Foundation, 1993, 516 p.)**

  **Chapter 19 - INFORMATION FOR MOTHERS AND MIDWIVES**

-  **The Menstrual Period (Monthly Bleeding in Women)**
-  **The Menopause (When Women Stop Having Periods)**
-  **Pregnancy**
-  **How to Stay Healthy during Pregnancy**
-  **Minor Problems during Pregnancy**
-  **Danger Signs in Pregnancy**
-  **Check-ups during Pregnancy (Prenatal Care)**
-  **Record of Prenatal Care**
-  **Things a Mother Should Have Ready before Giving Birth**
-  **Preparing for Birth**
-  **Signs That Show Labor is Near**
-  **The Stages of Labor**
-  **Care of the Baby at Birth**
-  **Care of the Cut Cord (Navel)**
-  **The Delivery of the Placenta (Afterbirth)**
-  **Hemorrhaging (Heavy Bleeding)**
-  **The Correct Use of Oxytocics: Ergonovine, Oxytocin, Pitocin, etc.**
-  **Difficult Births**

-  **Tearing of the Birth Opening**
-  **Care of the Newborn Baby**
-  **Illnesses of the Newborn**
-  **The Mother's Health after Childbirth**
-  **Childbirth Fever (Infection after Giving Birth)**
-  **Breast Feeding - And Care of the Breasts**
-  **Lumps or Growths in the Lower Part of the Belly**
-  **Miscarriage (Spontaneous Abortion)**

-  **High Risk Mothers and Babies**

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Chapter 19 - INFORMATION FOR MOTHERS AND MIDWIVES

The Menstrual Period (Monthly Bleeding in Women)

Most girls have their first 'period' or monthly bleeding between the ages of 11 and 16. This means that they are now old enough to become pregnant.

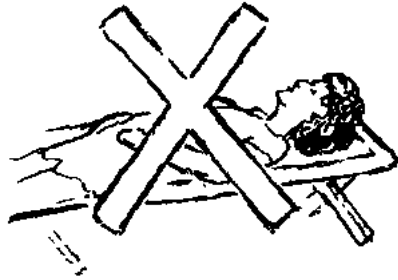
The normal period comes once every 28 days or so, and lasts 3 to 6 days. However, this varies a lot in different women.

Irregular or painful periods are common in adolescent (teenage) girls. This does not usually mean there is anything wrong.

If your menstrual period is painful:

21/10/2011

There is no need for you to stay in bed. In fact, lying quietly can make the pain worse.



Figure

meister11.htm
It often helps to walk around and do light work or exercises...



Figure

or to take hot drinks, or put your feet in hot water.



Figure

If it is very painful, it may help to take aspirin or ibuprofen and to lie down and put warm compresses on the belly.

During the period - as at all times - a woman should take care to keep clean, get enough sleep, and eat a well-balanced diet. She can eat everything she normally eats and can continue to do her usual work. It is not harmful to have sex during the menstrual period. (However, if one of the partners has the AIDS virus, the risk of infecting the other partner may be higher.)

Signs of menstrual problems:

- **Some irregularity in the length of time between periods is normal for certain women, but for others it may be a sign of chronic illness, anemia, malnutrition, or possibly an infection or tumor in the womb.**
- **If a period does not come when it should, this may be a sign of pregnancy. But for many girls who have recently begun to menstruate, and for women over 40, it is often normal to miss or have irregular periods. Worry or emotional upset may also cause a woman to miss her period.**
- **If the bleeding comes later than expected, is more severe, and lasts longer, it may be a miscarriage.**
- **If the menstrual period lasts more than 6 days, results in unusually heavy bleeding, or comes more than once a month, seek medical advice.**

The Menopause (When Women Stop Having Periods)



Figure

The *menopause* or *climacteric* is the time in a woman's life when the menstrual periods stop coming. After menopause, she can no longer bear children. In general, this 'change of life' happens between the ages of 40 and 50. The periods often become irregular for several months before they stop completely.

There is no reason to stop having sex during or after the menopause. But a woman can still become pregnant during this time. If she does not want to have more children, she should continue to use birth control for 12 months after her periods stop.

When menopause begins, a woman may think she is pregnant. And when she bleeds again after 3 or 4 months, she may think she is having a miscarriage. If a woman of 40 or 50 starts bleeding again after some months without, explain to her that it may be menopause.

During menopause, it is normal to feel many discomforts - anxiety, distress, 'hot flashes'

(suddenly feeling uncomfortably hot), pains that travel all over the body, sadness, etc. After menopause is over, most women feel better again.

Women who have severe bleeding or a lot of pain in the belly during menopause, or who begin to bleed again after the bleeding has stopped for months or years, should seek medical help. An examination is needed to make sure they do not have cancer or another serious problem.

After menopause, a woman's bones may become weaker and break more easily. To prevent this, it helps to eat foods with calcium.

Because she will not have any more children, a woman may be more free now to spend time with her grandchildren or to become more active in the community. Some become midwives or health workers at this time in their lives.

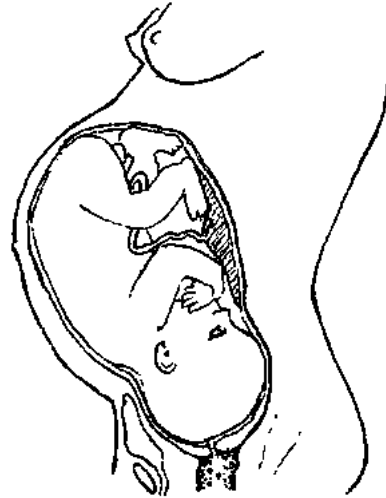
Pregnancy

Signs of pregnancy:

All these signs are normal:

- **The woman misses her period (often the first sign).**
- **'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.**
- **She may have to urinate more often.**
- **The belly gets bigger.**
- **The breasts get bigger or feel tender.**

- **'Mask of pregnancy' (dark areas on the face, breasts, and belly).**
- **Finally, during the fifth month or so, the child begins to move in the womb.**



This is the normal position of the baby in the mother at 9 months.

How to Stay Healthy during Pregnancy

- **Most important is to eat enough to gain weight regularly - especially if you are thin. It is also important to eat well. The body needs food rich in proteins, vitamins, and minerals, especially iron. (Read Chapter 11 in this book.)**
- **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.)

- **Keep clean. Bathe or wash regularly and brush your teeth every day.**
- **In the last month of pregnancy, it is best not to use a vaginal *douche* and to avoid sexual contact to keep from breaking the bag of water and causing an infection.**
- **Avoid taking medicines if at all possible. Some medicines can harm the developing baby. As a rule, only take medicines recommended by a health worker or doctor. (If a health worker is going to prescribe a medicine, and you think that you might be pregnant, tell her so.) You can take acetaminophen, or antacids once in a while if you need them. Vitamin and iron pills are often helpful and do no harm when taken in the right dosage.**
- **Do not smoke or drink during pregnancy. Smoking and drinking are bad for the mother and harm the developing baby.**
- **Stay far away from children with measles, especially German measles (see Rubella).**
- **Continue to work and get exercise, but try not to get too tired.**
- **Avoid poisons and chemicals. They can harm the developing baby. Do not work near pesticides, herbicides or factory chemicals - and do not store food in their containers. Try not to breathe fumes or powders from chemicals.**

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. Tea made from

mint leaves also helps. In severe cases, take an antihistamine when you go to bed and when you get up in the morning.

2. Burning or pain 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, especially those with calcium carbonate. It may also help to suck hard candy. Try to sleep with the chest and head lifted up some with pillows or blankets.

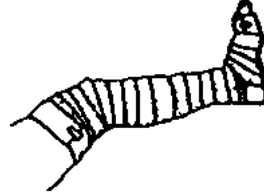
3. Swelling of the feet: Rest at different times during the day with your feet up. Eat less salt and avoid salty foods. Tea made from maize silk (corn silk) may help. If the feet are very swollen, and the hands and face also swell, seek medical advice. Swelling of the feet usually comes from the pressure of the child in the womb during the last months. It is worse in women who are anemic or malnourished. So eat plenty of nutritious food.

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, groundnuts, chicken, milk, cheese, eggs, meat, fish, and dark green leafy vegetables. 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. (Vitamin C helps the body make better use of the iron.)

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.



Figure

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 like this:

Or sit in a warm bath.

8. Constipation: Drink plenty of water. Eat fruits and food with a lot of natural fiber, like cassava or 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.

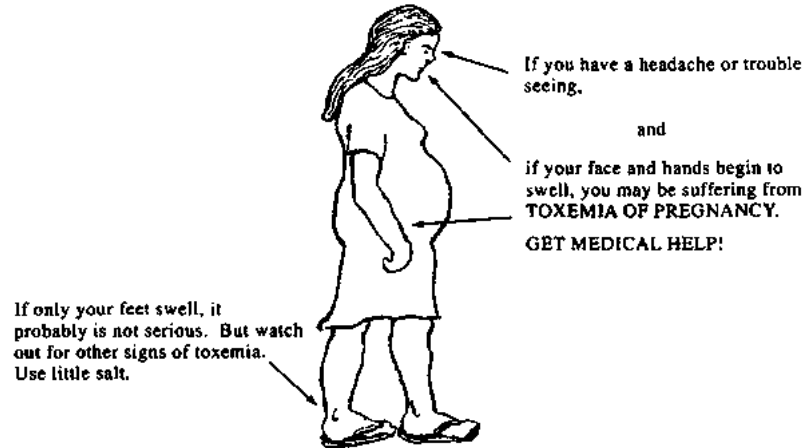
Bleeding late in pregnancy (after 6 months) may mean the *placenta* (afterbirth) is blocking the birth opening (*placenta previa*). Without expert help, the woman could quickly bleed to death. Do not do a vaginal exam or put anything inside her vagina. Try to get her to a hospital at once.

2. Severe anemia: The woman is weak, tired, and has pale or transparent skin (see The Signs of Anemia). 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. So if you can do so, go to a midwife or health worker who can measure these things.

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. Her life is in danger.**



DURING THE LAST 3 MONTHS OF PREGNANCY:

To help prevent TOXEMIA OF PREGNANCY: eat nutritious food, making sure to get enough protein and use little salt (but do use a little).

Check-ups during Pregnancy (Prenatal Care)

Many health centers and midwives encourage pregnant women to come for regular *prenatal* (before birth) check-ups and to talk about their health needs. If you are pregnant and have the chance to go for these check-ups, you will learn many things to help you prevent problems and have a healthier baby.

If you are a midwife, you can provide an important service to mothers-to-be (and babies-to-be) by inviting them to come for prenatal check-ups - or by going to see them. It is a good idea to see them once a month for the first 6 months of pregnancy, twice a month during months 7 and 8, and once a week during the last month.

Here are some important things prenatal care should cover:

1. Sharing information

Ask the mother about her problems and needs. Find out how many pregnancies she has had, when she had her last baby, and any problems she may have had during pregnancy or childbirth. Talk with her about ways she can help herself and her baby be healthy, including:

- **Eating right. Encourage her to eat enough energy foods, and also foods rich in protein, vitamins, iron, and calcium (see Chapter 11).**
- **Good hygiene (Chapter 12).**
- **The importance of taking few or no medicines.**
- **The importance of not smoking, not drinking alcoholic drinks, and not using drugs.**
- **Getting enough exercise and rest.**
- **Tetanus vaccination to prevent tetanus in the newborn. (Give at the 6th, 7th, and 8th month if first time. If she has been vaccinated against tetanus before, give one booster during the 7th month.)**

2. Nutrition

Does the mother look well nourished? Is she anemic? If so, discuss ways of eating better. If possible, see that she gets iron pills - preferably with folic acid and vitamin C. Advise her about how to handle morning sickness and heartburn.

Is she gaining weight normally? If possible, weigh her each visit. Normally she should gain 8 to 10 kilograms during the nine months of pregnancy. If she stops gaining weight, this is a bad sign. Sudden weight gain in the last months is a danger sign. If you do not have scales, try to judge if she is gaining weight by how she looks.



Or make a simple scale:

3. Minor problems

Ask the mother if she has any of the common problems of pregnancy. Explain that they are not serious, and give what advice you can.

4. Signs of danger and special risk

Take the mother's pulse each visit. This will let you know what is normal for her in case she has problems later (for example, shock from toxemia or severe bleeding). If you have a blood pressure cuff, take her blood pressure. And weigh her. Watch out especially for the following danger signs:

- sudden weight gain
 - swelling of hands and face
- signs of toxemia of pregnancy

- marked increase in blood pressure
- severe anemia
- any bleeding

Some midwives may have paper 'dip sticks' or other methods for measuring the protein and sugar in the urine. High protein may be a sign of toxemia. High sugar could be a sign of diabetes.

If any of the danger signs appear, see that the woman gets medical help as soon as possible. Also, check for signs of special risk. If any are present, it is safer if the mother gives birth in a hospital.

5. Growth and position of the baby in the womb

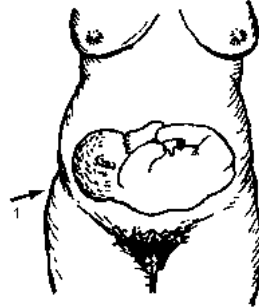
Feel the mother's womb each time she visits; or show her how to do it herself.



Figure

Each month write down how many finger widths the womb is above or below the navel. If the womb seems too big or grows too fast, it may mean the woman is having twins. Or the womb may have more water in it than normal. If so, you may find it more difficult to feel the baby inside. Too much water in the womb means greater risk of severe bleeding during childbirth and may mean the baby is deformed.

Try to feel the baby's position in the womb. If it appears to be lying sideways, the mother should go to a doctor before labor begins, because an operation may be needed. For checking the baby's position near the time of birth. (1)



Figure

6. Baby's heartbeat (fetal heartbeat) and movement

After 5 months, listen for the baby's heartbeat and check for movement. You can try putting your ear against the belly, but it may be hard to hear. It will be easier if you get a *fetoscope*. (Or make one. Fired clay or hard wood works well.)



Fetoscope



If the baby's heartbeat is heard loudest below the navel in the last month, the baby is head down and will probably be born head first.



If the heartbeat is heard loudest above the navel, the baby's head is probably up. It may be a breech birth.

A baby's heart beats about twice as fast as an adult's. If you have a watch with a second hand, count the baby's heartbeats. From 120 to 160 per minute is normal. If less than 120, something is wrong. (Or perhaps you counted wrong or heard the mother's heartbeat. Check her pulse. The baby's heartbeat is often hard to hear. It takes practice.)

7. Preparing the mother for labor

As the birth approaches, see the mother more often. If she has other children, ask her how long labor lasted and if she had any problems. Perhaps suggest that she lie down to rest

after eating, twice a day for an hour each time. Talk with her about ways to make the birth easier and less painful. You may want to have her practice deep, slow breathing, so that she can do this during the contractions of labor. Explain to her that relaxing during contractions, and resting between them, will help her save strength, reduce pain, and speed labor.

If there is any reason to suspect the labor may result in problems you cannot handle, send the mother to a health center or hospital to have her baby. Be sure she is near the hospital by the time labor begins.

HOW A MOTHER CAN TELL THE DATE WHEN SHE IS LIKELY TO GIVE BIRTH:

Start with the date the last menstrual period began, subtract 3 months, and add 7 days. For example, suppose your last period began May 10.

**May 10 minus 3 months is February 10,
Plus 7 days is February 17.**

The baby is likely to be born around February 17.

8. Keeping records

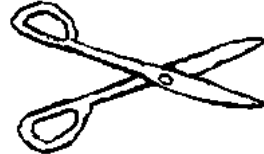
To compare your findings from month to month and see how the mother is progressing, it helps to keep simple records. On the next page is a sample record sheet. Change it as you see fit. A larger sheet of paper would be better. Each mother can keep her own record sheet and bring it when she comes for her check-up.

Record of Prenatal Care

MONTH	DATE OF VISIT	WHAT OFTEN HAPPENS	GENERAL HEALTH AND MINOR PROBLEMS	ANEMIA (how severe)?	DANGER SIGNS	SWELLING (where? how much?)	PULSE	TEMP	WEIGHT (estimate or measure)	BLOOD PRESSURE	PROTEIN IN URINE	SU UF
1												
2		tiredness, nausea, and morning sickness										
3												
4		womb at level of the navel										
5		baby's heartbeat & 1st movements										
6												
7 (1st week)		some swelling of feet										
(3rd week)												
8 (1st week)		constipation										
(3rd week)		heartburn										
9 (1st week)		varicose veins										
(2nd week)		shortness of breath										
(3rd week)		frequent urination										
(4th week)		baby moves lower in belly										



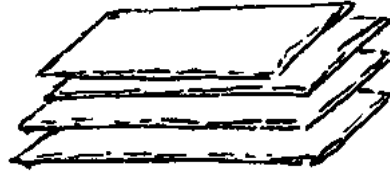
An antiseptic soap (or any soap).



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.



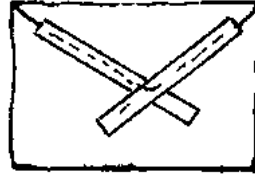
Alcohol for rubbing hands after washing them.



Two ribbons or strips of clean cloth for tying the cord.

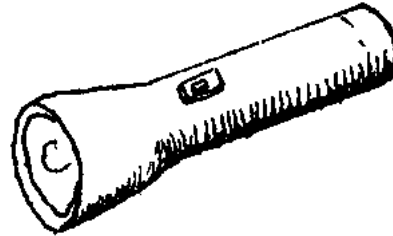


Clean cotton.



Both patches and ribbons should be wrapped and sealed in paper packets and then baked in an oven or ironed.

Additional Supplies for the Well-Prepared Midwife or Birth Attendant



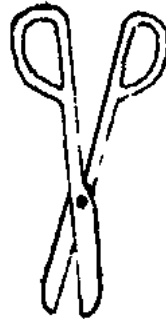
Flashlight (torch).



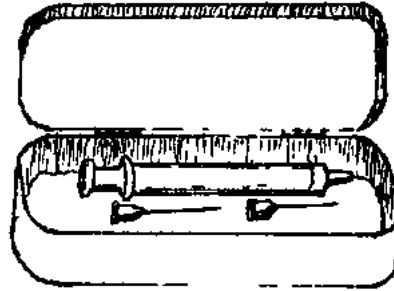
Fetoscope - or fetal stethoscope - for listening to the baby's heartbeat through the mother's belly.



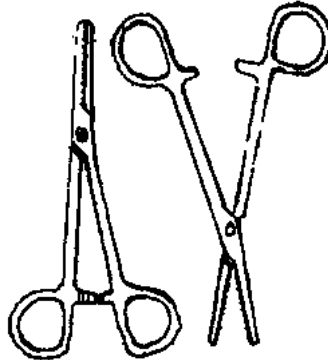
Suction bulb for sucking mucus out of the baby's nose and mouth.



Blunt-tipped scissors for cutting the cord before the baby is all the way born (extreme emergency only).



Sterile syringe and needles.



Two clamps (hemostats) for clamping the umbilical cord or clamping bleeding veins from tears of the birth opening.



Several injections of ergonovine or ergometrine.



Rubber or plastic gloves (that can be sterilized by boiling) to wear while examining the woman, while the baby is coming out, when sewing tears in the birth opening, and for catching and examining afterbirth.



Two bowls - 1 for washing hands and 1 for catching and examining the afterbirth.



Sterile needle and gut thread for sewing tears in the birth opening



1% silver nitrate drops, tetracycline eye ointment, or erythromycin eye ointment for the baby's eyes to prevent dangerous infection.

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.

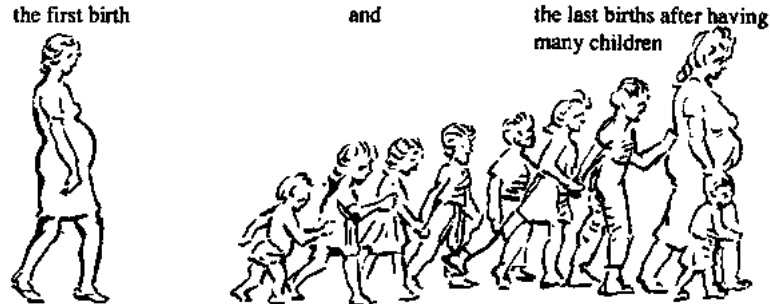
Difficulties in childbirth do occur, and sometimes the life of the mother or child may be in danger. If there is any reason to think that a birth may be difficult or dangerous, a skilled midwife or experienced doctor should be present.

***CAUTION:* If you have a fever, cough, sore throat, or sores or infections on your skin at the time of the birth, it would be better for someone else to deliver the baby.**

Signs of Special Risk that Make It Important that a Doctor or Skilled Midwife Attend the Birth - if Possible in a Hospital:

- **If regular labor pains begin more than 3 weeks before the baby is expected.**
- **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, over 40, or over 35 at her first pregnancy.**
- **If she has had more than 5 or 6 babies.**
- **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 position 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.)**
- **If the baby is still not born 2 weeks after 9 months of pregnancy.**



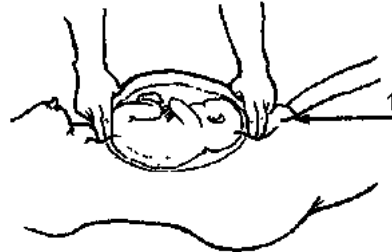
THE BIRTHS WITH THE GREATEST CHANGE OF PROBLEMS ARE:

Checking if the Baby is in a Good Position

To make sure the baby is head down the normal position for birth, feel for his head, like this:

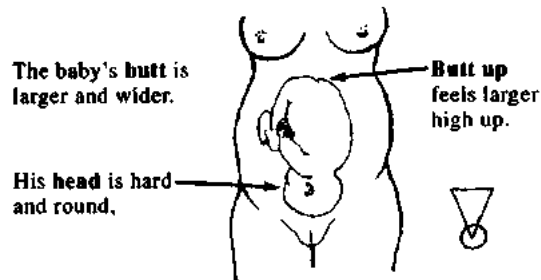
1. Have the mother breathe out all the way.

With the thumb and 2 finger, push in here, just above the *pelvic* bone. (1)

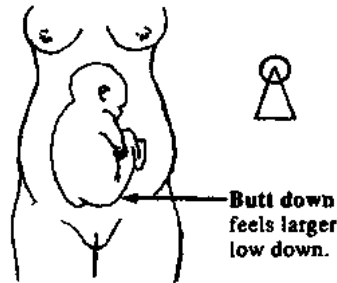


Figure

With the other hand, feel the top of the womb.



Figure



Figure

2. Push gently from side to side, first with one hand, then the other.

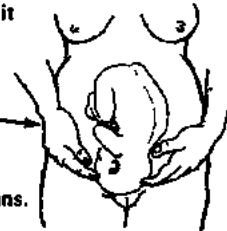
If the baby's butt is pushed gently sideways, the baby's whole body will move too.

But if the head is pushed gently sideways, it will bend at the neck and the back will not move.



If the baby still is high in the womb, you can move the head a little. But if it has already engaged (dropped lower) getting ready for birth, you cannot move it.

A woman's first baby sometimes engages 2 weeks before labor begins. Later babies may not engage until labor starts.



Figure

If the baby's head is *down*, his birth is likely to go well.

If the head is *up*, the birth may be more difficult (a breech birth), and it is safer for the mother to give birth in or near a hospital.

If the baby is *sideways*, the mother should have her baby in a hospital.

She and the baby are in danger.

Signs That Show Labor is Near

- **A few days before labor begins, usually 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, some thick 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 womb.

Between contractions the womb is relaxed like this:



Figure

During contractions, the womb tightens and lifts up like this:



Figure

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 sometime after labor has begun. If the waters break before the contractions start, this usually means the beginning of labor. After the waters 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:

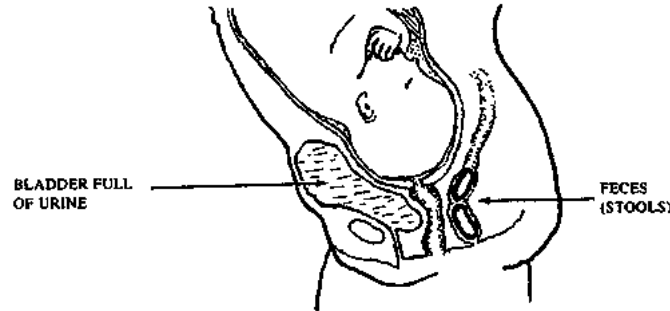
- **The first stage lasts from the beginning of the strong contractions until the baby drops into: the birth canal.**
- **The second stage lasts from the dropping of the baby into the birth canal until it is born.**
- **The third stage lasts from the birth of the baby until the placenta (afterbirth) 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.

During the first stage of labor, the mother should not try to hurry the birth. It is natural for this stage to go slowly. The mother may not feel the progress and begin to worry. Try to reassure her. Tell her that most women have the same concern.

The mother should not try to push or bear down until the child is beginning to move down into the birth canal, and she feels she has to push.

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 in 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 is vomiting, she should sip a little Rehydration Drink, herbal tea, 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, buttocks, 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, 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 like this, while



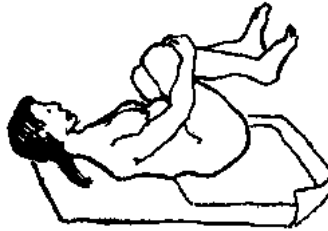
squatting



sitting propped up



kneeling



or lying down.

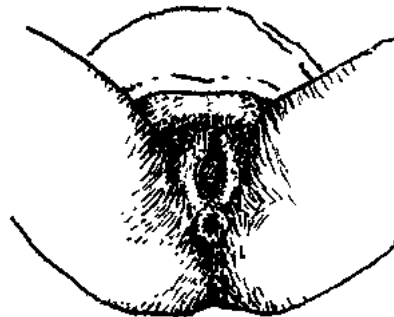
When the birth opening of the mother stretches, and the baby's head begins to show, the midwife or helper should have everything ready for the birth of the baby. At this time the mother should try not to push hard, so that the head comes out more slowly. This helps prevent tearing of the opening.

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.

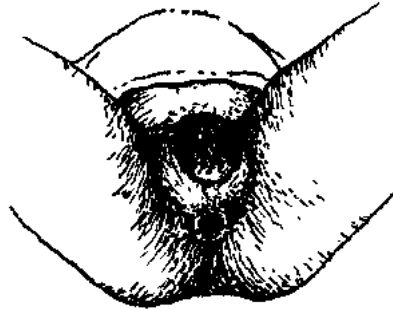
When the head comes out, the midwife may support it, but must *never* pull on it.

If possible, wear gloves to attend the birth - to protect the health of the mother, baby, and midwife. Today this is more important than ever.

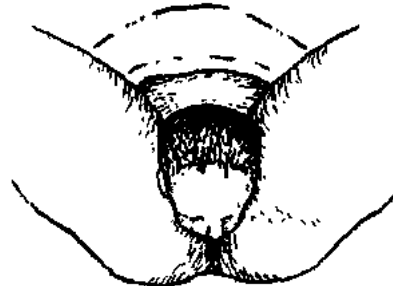
Normally the baby is born head first like this:



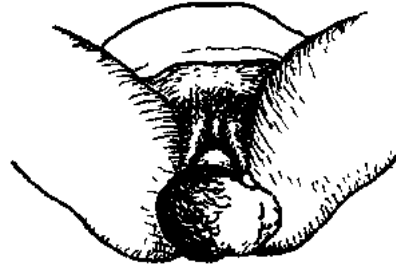
1. Now push hard.



2. Now try not to push hard. Take many short, fast breaths. This helps prevent tearing the opening.

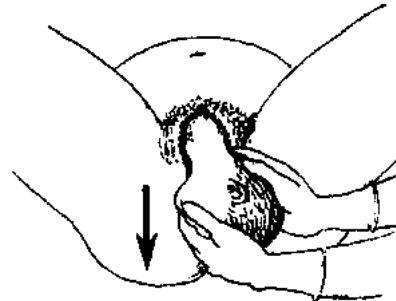


The head usually comes out face down. If the baby has feces (shit) in her mouth and nose, clean it out immediately.

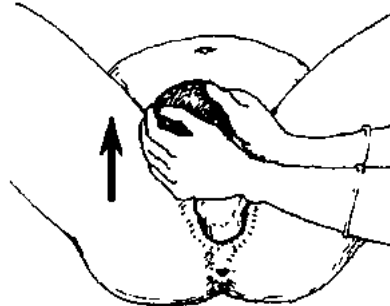


Then the baby's body turns to one side so the shoulders can come out.

If the shoulders get stuck after the head comes out:



- 1. The midwife can take the baby's head in her hands and lower it very carefully, so the shoulder can come out.**



2. 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 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



Figure

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).**

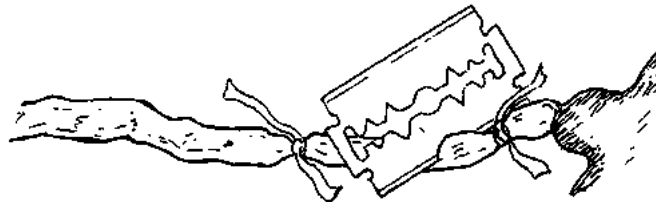
How to Cut the Cord

When the child is born, the cord pulses and is fat and blue. WAIT.



Figure

After a while, the cord becomes thin and white. It stops pulsing. Now tie it in 2 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 ties, like this:

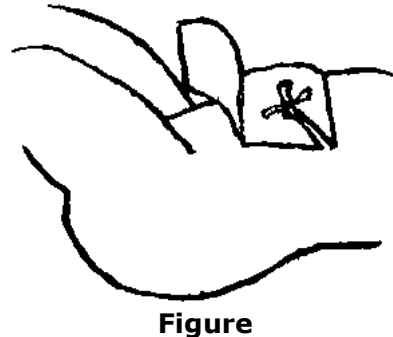
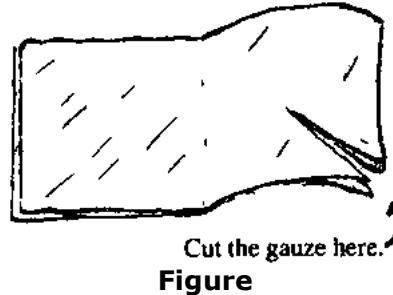


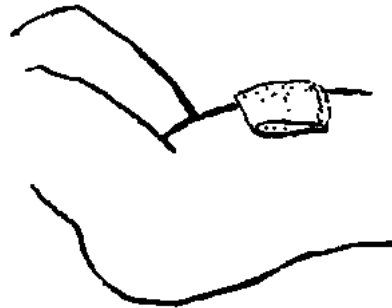
Figure

***IMPORTANT:* Cut the cord with a clean, unused razor blade. Before unwrapping it, wash your hands very well. Or wear clean rubber or plastic gloves. If you do not have a new razor blade, use freshly boiled scissors. Always cut the cord close to the body of the newborn baby. Leave only about 2 centimeters attached to the baby. These precautions help prevent tetanus.**

Care of the Cut Cord (Navel)

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 like this:





Figure



thin and loose

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 tight.

Be sure the baby's nappy (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

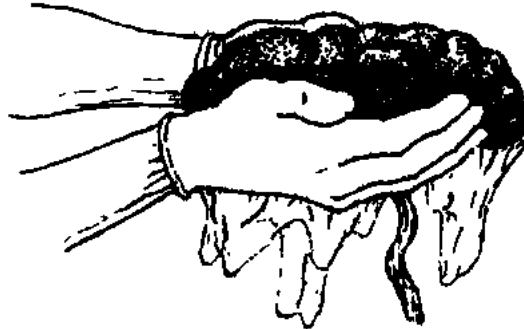
Place the baby at its mother's breast as soon as the baby is born. If the baby nurses, this will help to make the afterbirth come out sooner and to prevent or control heavy bleeding.

The Delivery of the Placenta (Afterbirth)

Normally, the placenta comes out 5 minutes to an hour after the baby is born, but sometimes it is delayed for many hours (see below).

Checking the afterbirth:

When the afterbirth comes out, pick it up and examine it to see if it is complete. If it is torn and there seem to be pieces missing, get medical help. A piece of placenta left inside the womb can cause continued bleeding or infection.



Use gloves or plastic bags on your hands to handle the placenta. Wash your hands well afterwards.

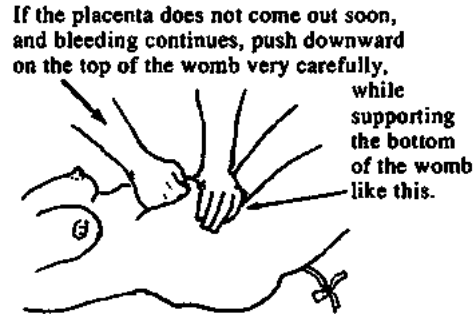
When the placenta is delayed in coming:

If the mother is not losing much blood, do nothing. Do not pull on the cord. This could cause dangerous hemorrhage (heavy bleeding). Sometimes the placenta will come out if the woman squats and pushes a little.

If the mother is losing blood, feel the womb (uterus) through the belly. If it is soft, do the following:



Massage the womb carefully, until it gets hard. This should make it contract and push out the placenta.



Figure

If the placenta still does not come out, and the heavy bleeding continues, try to control the bleeding as follows and seek medical help fast.

Hemorrhaging (Heavy Bleeding)

When the placenta comes out, there is always a brief flow of blood. It normally lasts only a few minutes and not more than a quarter of a liter (1 cup) of blood is lost, (A little bleeding may continue for several days and is usually not serious.)

***WARNING:* Sometimes a woman may be bleeding severely inside without much blood coming out. Feel her belly from time to time. If it seems to be getting bigger, it may be filling with blood. Check her pulse often and watch for signs of shock.**

To help prevent or control heavy bleeding, let the baby suck the mother's breast. If the baby will not suck, have the husband (if possible) gently pull and massage the mother's

nipples. This will cause her to produce a hormone (pituitrin) that helps control bleeding.

If heavy bleeding continues, or if the mother is losing a great deal of blood through a slow trickle, do the following:

- **Get medical help fast. If the bleeding does not stop quickly, the mother may need to be given serum blood in a vein (a transfusion).**
- **If you have ergonovine or oxytocin, use it, following the instructions on the next page. (Use oxytocin instead of ergonovine if the placenta is still inside.)**
- **The mother should drink a lot of liquid (water, fruit juices, tea, soup, or Rehydration Drink). If she grows faint or has a fast, weak pulse or shows other signs of shock, put her legs up and her head down.**
- **If the mother is losing a lot of blood, and is in danger of bleeding to death, try to stop the bleeding like this:**

Massage the belly until you can feel the womb get hard.



Figure

If the bleeding stops, check every 5 minutes to make sure the womb stays

hard. If it does not, massage it again.

As soon as the womb gets hard and bleeding stops, stop massaging. Check it every minute or so. If it gets soft, massage it again.

- **If the bleeding continues in spite of massaging the womb, do the following:**

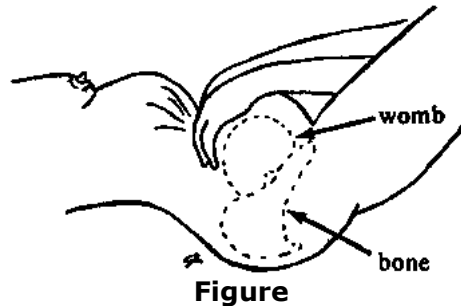
Using all of your weight, press down with both hands, one over the other, on the belly just below the navel. You should continue pressing down a long time after the bleeding stops.



Figure

- **If the bleeding is still not under control:**

Press both hands into the belly above the womb. Scoop it up and fold it forward so the womb is pressed hard against the pubic bone. Press as hard as you can, using your weight if your muscles are not strong enough. Keep pressing for several minutes after the bleeding has stopped, or until you can get medical help.



Note: Although some doctors use it, vitamin K does not help stop bleeding related to childbirth, miscarriage, or abortion. Do not use it.

The Correct Use of Oxytocics: Ergonovine, Oxytocin, Pitocin, etc.

Oxytocics are medicines that contain ergonovine, ergometrine, or oxytocin. They cause contractions of the uterus and its blood vessels. They are important but dangerous drugs. Used the wrong way, they can cause the death of the mother or the child in her womb. Used correctly, sometimes they can save lives. These are their correct uses:

1. To control bleeding after childbirth. This is the most important use of these medicines. In a case of heavy bleeding after the placenta has come out, inject one 0.2 mg. ampule (or give two 0.2 mg. tablets) of ergonovine or ergometrine maleate (*Ergotrate*, etc.) once every hour for 3 hours or until the bleeding is under control. After the bleeding is controlled, continue giving 1 ampule (or 1 pill) every 4 hours for 24 hours. If there is no ergonovine or if heavy bleeding starts before the placenta comes out, inject oxytocin (*Pitocin*) instead.

IMPORTANT: Each expectant mother, and the midwife, should have ready enough ampules

of oxytocin and ergonovine to combat heavy bleeding if it occurs. But these medicines should be used only in serious cases.

2. To help prevent heavy bleeding after birth. A woman who has suffered from heavy bleeding after previous births can be given 1 ampule (or 2 pills) of ergonovine immediately after the placenta comes out, and every 4 hours for the next 24 hours.

3. To control the bleeding of a miscarriage. The use of oxytocics can be dangerous, and only a skilled health worker should use them. But, if the woman is rapidly losing blood and medical help is far away, use an oxytocic as suggested above. Oxytocin (*Pitocin*) is probably best.

***WARNING:* The use of *Ergostrate*, *Pitocin*, or *Pituitrin* to hasten childbirth or 'give strength' to the mother in labor is very dangerous for both her and the child. The times when oxytocics are needed before the baby is born are very rare, and it is better that only a trained birth attendant use them then. Never use oxytocics before the child is born!**

THE USE OF OXYTOCICS DURING CHILDBIRTH TO 'GIVE STRENGTH' TO THE MOTHER...



CAN KILL THE MOTHER, THE BABY, OR BOTH.

There is no safe medicine for giving strength to the mother or for making the birth quicker or easier.

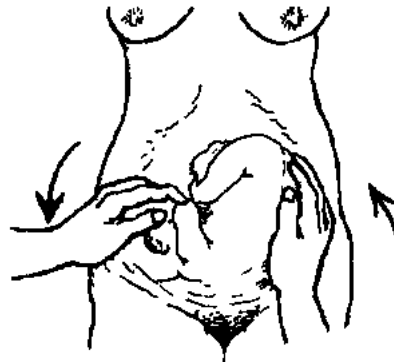
If you want the woman to have enough strength for childbirth, have her eat plenty of nutritious foods during the 9 months of pregnancy. Also encourage her to space her children. Suggest that she not get pregnant again until enough time has passed for her to regain her full strength (see Family Planning).

Difficult Births

It is important to get medical help as quickly as possible when there is any serious problem during labor. Many problems or complications may come up, some more, serious than others. Here are a few of the more common ones:

1. LABOR STOPS OR SLOWS DOWN, or lasts a very long time after being stronger after the waters break. This has several possible causes:

- **The woman may be frightened or upset. This can slow down or even stop contractions. Talk to her. Help her to relax. Try to reassure her. Explain that the birth is slow, but there are no serious problems. Encourage her to change her position often and to drink, eat, and urinate. Stimulation (massage or milking motion) of the nipples can help speed labor.**



Figure

- **The baby may be in an unusual position. Feel the belly between contractions to**

see if the baby is sideways. Sometimes the midwife can turn the baby through gentle handling of the woman's belly. Try to work the baby around little by little between contractions, until the head is down. But do not use force as this could tear the womb or placenta, or pinch the cord. If the baby cannot be turned, try to get the mother to the hospital.

- **If the baby is facing forward rather than backward, you may feel the lumpy arms and legs rather than the rounded back. This is usually no big problem, but labor may be longer and cause the woman more back pain. She should change positions often, as this may help turn the baby. Have her try on her hands and knees.**



Figure

- **The baby's head may be too large to fit through the woman's hip bones (pelvis). This is more likely in a woman with very narrow hips or a woman who is very much shorter than her husband. (It is very unlikely in a woman who has given normal birth before.) You may feel that the baby does not move down. If you suspect this**

problem, try to get the mother to a hospital as she may need an operation (Cesarean). Women who have very narrow hips or are especially short should have at least their first child in or near a hospital.

- **If the mother has been vomiting or has not been drinking liquids, she may be dehydrated. This can slow down or stop contractions. Have her sip Rehydration Drink or other liquids after each contraction.**

2. BREECH DELIVERY (the buttocks come out first). Sometimes the midwife can tell if the baby is in the breech position by feeling the mother's belly and listening to the baby's heartbeat.



A breech birth may be easier in this position:

If the baby's legs come out, but not the arms, wash your hands very well, rub them with alcohol (or wear sterile gloves), and then...



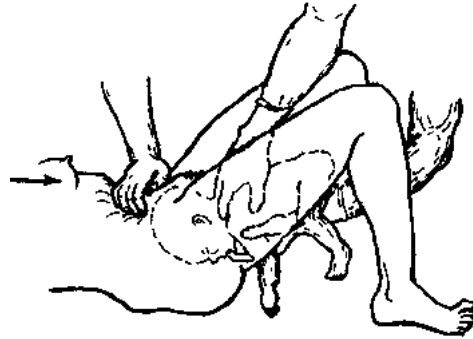
slip your fingers inside and push the baby's shoulders toward the back, like this:

or



press his arms against his body, like this:

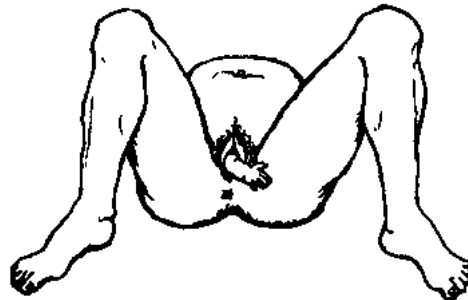
If the baby gets stuck, have the mother lie face up. Put your finger in the baby's mouth and push his head towards his chest. At the same time have someone push the baby's head down by pressing on the mother's belly like this



Figure

Have the mother push hard. But never pull on the body of the baby.

3. PRESENTATION OF AN ARM (hand first). If the baby's hand comes out first, get medical help right away. An operation may be needed to get the baby out.



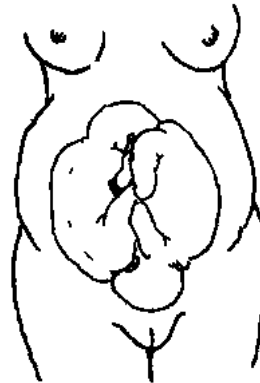
Figure

4. Sometimes the CORD IS WRAPPED AROUND THE BABY'S NECK so tightly he cannot

come out all the way. Try to slip the loop of cord from around the baby's neck. If you cannot do this, you may have to clamp or tie and cut the cord. Use boiled blunt-tipped scissors.

5. FECES IN THE BABY'S MOUTH AND NOSE. When the waters break, if you see they contain a dark green (almost black) liquid, this is probably the baby's first stools (meconium). The baby may be in danger. If he breathes any of the feces into his lungs, he may die. As soon as his head is out, tell the mother not to push, but to take short, rapid breaths. Before the baby starts breathing, take time to suck the feces out of his nose and mouth with a suction bulb. Even if he starts breathing right away, keep sucking until you get all the feces out.

6. TWINS. Giving birth to twins is often more difficult and dangerous - both for the mother and babies - than giving birth to a single baby.



Figure

To be safe, the mother should give birth to twins in a hospital.

Because with twins labor often begins early, the mother should be within easy reach of a hospital after the seventh month of pregnancy.

Signs that a woman is likely to have twins:

- **The belly grows faster and the womb is larger than usual, especially in the last months.**
- **If the woman gains weight faster than normal, or the common problems of pregnancy (morning sickness, backache, varicose veins, piles, swelling, and difficult breathing) are worse than usual, be sure to check for twins.**
- **If you can feel 3 or more large objects (heads and buttocks) in a womb that seems extra large, twins are likely.**
- **Sometimes you can hear 2 different heartbeats (other than the mother's) - but this is difficult.**

During the last months, if the woman rests a lot and is careful to avoid hard work, twins are less likely to be born too early.

Twins are often born small and need special care. However, there is no truth in beliefs that twins have strange or magic powers.

Tearing of the Birth Opening

The birth opening must stretch a lot for the baby to come out. Sometimes it tears. Tearing is more likely if it is the mother's first baby.

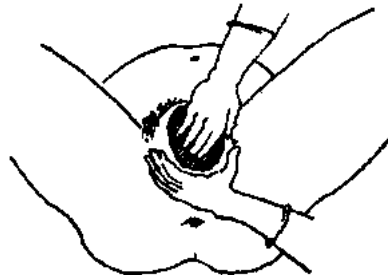
Tearing can usually be prevented if care is taken:

The mother should try to stop pushing when the baby's head is coming out. This gives her birth opening time to stretch. In order not to push, she should pant (take many short rapid breaths).



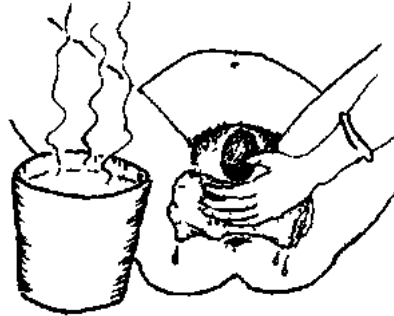
Figure

When the birth opening is stretching, the midwife can support it with one hand and with the other hand gently keep the head from coming too fast, like this:



Figure

It may also help to put warm compresses against the skin below the birth opening. Start when it begins to stretch. You can also massage the stretched skin with oil.



Figure

If a tear does happen, someone who knows how should carefully sew it shut after the placenta comes out.

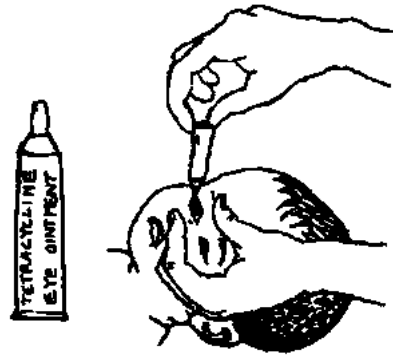
Care of the Newborn Baby

The Cord

To prevent the freshly cut cord from becoming infected, it should be kept clean and dry. The drier it is, the sooner it will fall off and the navel will heal. For this reason, it is better not to use a belly band, or if one is used, to keep it very loose.

The Eyes

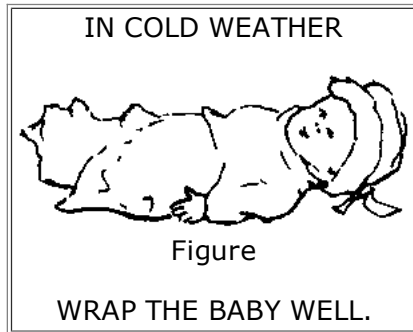
To protect a newborn baby's eyes from dangerous conjunctivitis, put a drop of 1% silver nitrate, or a little tetracycline or erythromycin eye ointment, in each eye as soon as he is born. This is especially important if either parent has ever had signs of gonorrhea or chlamydia.



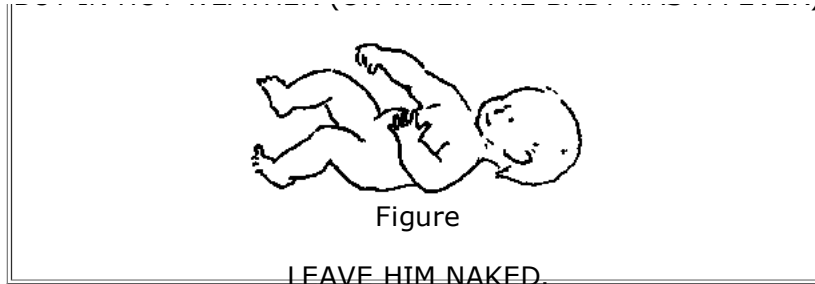
Figure

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.



BUT IN HOT WEATHER (OR WHEN THE BABY HAS A FEVER)



To keep a baby just warm enough, keep him close to his mother's body. This is especially important for a baby that is born early or very small. See 'Special Care for Small, Early, and Underweight Babies'.

Cleanliness

It is important to follow the Guidelines of Cleanliness as discussed in Chapter 12. Take special care with the following:

- **Change the baby's diapers (nappy) 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

(Also see "The Best Diet for Small Children.")

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.**

The mother should give her breast to the baby as soon as he is born. For the first few days the mother's breasts usually produce very little milk. This is normal. She should continue to nurse her baby often - at least every two hours. The baby's sucking will help her produce more milk.

If the baby seems healthy, gains weight, and wets her diaper (nappy) regularly, the mother is producing enough milk.

It is best for the baby if the mother gives him only breast milk for the first 4 to 6 months. After that, she should continue to breast feed her baby, but should begin to give him other

nourishing foods also.

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.**



BOTTLE-FED BABIES ARE MORE LIKELY TO GET SICK AND DIE.



BREAST-FED BABIES ARE HEALTHIER.

Care in Giving Medicines to the Newborn

Many medicines are dangerous for the newborn. Use only medicines you are sure are 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. Chloramphenicol is especially dangerous to the newborn... and even more dangerous if the baby is premature or underweight (less than 2 kilograms).

Illnesses of the Newborn

It is very important to notice any problem or illness a baby may have - and to act quickly.

Diseases that take days or weeks to kill adults can kill a baby in a matter of hours.

Problems the Baby is Born with

These may result from something that went wrong with the development of the baby in the womb or from damage to the baby while he was being born. Examine the baby carefully immediately after birth. If he shows any of the following signs, something is

probably seriously wrong with him:

- **If he does not breathe as soon as he is born.**
- **If his pulse cannot be felt or heard, or is less than 100 per minute.**
- **If his face and body are white, blue, or yellow after he has begun breathing.**
- **If his arms and legs are floppy - he does not move them by himself or when you pinch them.**
- **If he grunts or has difficulty breathing after the first 15 minutes.**

Some of these problems may be caused by brain damage at birth. They are almost never caused by infection (unless the water broke more than 24 hours before birth). Common medicines probably will not help. Keep the baby warm, but not too warm. Try to get medical help.

If the newborn baby vomits or shits blood, or develops many bruises, she may need vitamin K.

If the baby does not urinate or have a bowel movement in the first 2 days, also seek medical help.

Problems that Result after the Baby is Born (in the first days or weeks)

1. Pus or a bad smell from the navel (cord) is a dangerous sign. Watch for early signs of tetanus or bacterial infection of the blood. Soak the cord in alcohol and leave it open to the air. If the skin around the cord becomes hot and red, treat with ampicillin or with penicillin and streptomycin.

2. Either low temperature (below 35°) or high fever can be a-sign of infection. *High fever (above 39°) is dangerous for the newborn.* Take off all clothing and sponge the baby with cool (not cold) water. Also look for signs of dehydration. If you find these signs, give the

baby breast, milk and also Rehydration Drink made with water, sugar, and salt only. Alternate this with equal amounts of cooled boiled water.

3. Fits (convulsions). If the baby also has fever, treat it as just described. Be sure to check for dehydration. Fits that begin the day of birth could be caused by brain damage at birth. If fits begin several days later, look carefully for signs of tetanus or meningitis.

4. The baby does not gain weight. During the first days of life, most babies lose a little weight. This is normal. After the first week, a healthy baby should gain about 200 gm. a week. By two weeks the healthy baby should weigh as much as he did at birth. If he does not gain weight, or loses weight, something is wrong. Did the baby seem healthy at birth? Does he feed well? Examine the baby carefully for signs of infection or other problems. If you cannot find out the cause of the problem and correct it, get medical help.

5. Vomiting. When healthy babies burp (or bring up air they have swallowed while feeding), sometimes a little milk comes up too. This is normal. Help the baby bring up air after feeding by holding him against your shoulder and patting his back gently, like this.



BURP YOUR BABY AFTER FEEDING.

If a baby vomits when you lay him down after nursing, try sitting him upright for a while after each feeding.

A baby who vomits violently, or so much and so often that he begins to lose weight or become dehydrated, is ill. If the baby also has diarrhea, he probably has a gut infection. Bacterial infection of the blood (see the next pages), meningitis, and other infections may also cause vomiting.

If the vomit is yellow or green, there may be a gut obstruction, especially if the belly is very swollen or the baby has not been having bowel movements. Take the baby to a health center at once.

6. The baby stops sucking well. If more than 4 hours pass and the baby still will not nurse, this is a danger sign - especially if the baby seems very sleepy or ill, or if he cries or moves differently from normal. Many illnesses can cause these signs, but the most

common and dangerous causes in the first 2 weeks of life are a bacterial infection of the blood (see next 2 pages) and tetanus.

A baby who stops nursing during the second to fifth day of life may have a bacterial infection of the blood.

A baby who stops nursing during the fifth to fifteenth day may have tetanus.

If a Baby Stops Sucking Well or Seems Ill

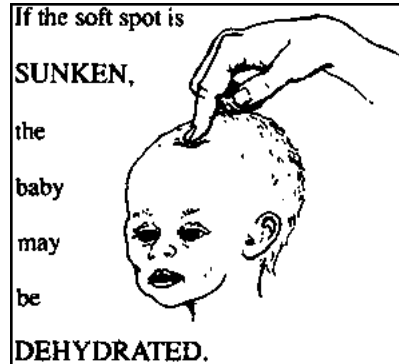
Examine him carefully and completely as described in Chapter 3. Be sure to check the following:

- **Notice if the baby has difficulty breathing. If the nose is stuffed up, suck it out. Fast breathing (50 or more breaths a minute), blue color, grunting, and sucking in of the skin between the ribs with each breath are signs of pneumonia. Small babies with pneumonia often do not cough; sometimes none of the common signs are present. If you suspect pneumonia, treat as for a bacterial infection of the blood.**
- **Look at the baby's skin color.**

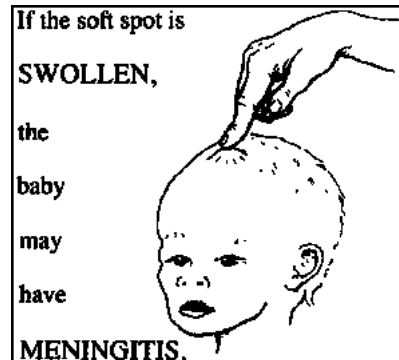
If the lips and face are blue, consider pneumonia (or a heart defect or other problem the baby was born with).

If the face and whites of the eyes begin to get yellow (jaundiced) in the first day of life or after the fifth day, this is serious. Get medical help. Some yellow color between the second and fifth day of life is usually not serious. Give plenty of breast milk - by spoon if necessary. Take off all the baby's clothes and put him in bright light near a window (but not direct sunlight).

- **Feel the soft spot on top of the head (fontanel).**



Figure



Figure

IMPORTANT: If a baby has meningitis and dehydration at the same time, the soft spot may feel normal. Be sure to check for other signs of both dehydration and

meningitis.

- **Watch the baby's movements and expression on his face.**



Figure

Stiffness of the body and/or strange movements may be signs of tetanus, meningitis, or brain damage from birth or fever. If, when the baby is touched or moved, the muscles of his face and body suddenly tighten, this could be tetanus. See if his jaw will open and check his knee reflexes.

If the baby's eyes roll back or flutter when he makes sudden or violent movements, he probably does not have tetanus. Such fits may be caused by meningitis, but dehydration and high fever are more common causes. Can you put the baby's head between his knees? If the baby is too stiff for this or cries out in pain, it is probably meningitis.

- **Look for signs of a bacterial infection in the blood.**

Bacterial Infection in the Blood (Septicemia)

Newborn babies cannot fight infections well. Therefore, bacteria that enter the baby's skin or cord at the time of birth often get into the blood and spread through his whole body. Since this takes a day or two, septicemia is most common after the second day of life.

Signs:

Signs of infection in newborn babies are different from those in older children. In the baby, almost any sign could be caused by, a serious infection in the blood. Possible signs are:

- **does not suck well**
- **seems very sleepy**
- **very pale (anemic)**
- **vomiting or diarrhea**
- **fever or low temperature (below 35°)**
- **swollen belly**
- **yellow skin (jaundice)**
- **fits (convulsions)**
- **times when the baby turns blue**

Each of these signs may be caused by something other than septicemia, but if the baby has several of these signs at once, septicemia is likely.

Newborn babies do not always have a fever when they have a serious infection. The temperature may be high, low, or normal.

Treatment when you suspect septicemia in the newborn:

- **Inject 125 mg. of ampicillin 3 times a day. Or inject 150 mg. (250,000 units) of crystalline penicillin 3 times a day.**
- **If possible, also inject kanamycin or streptomycin: Give 25 mg. of kanamycin 2 times a day; or give 20 mg. of streptomycin for each kilogram the baby weighs (60 mg. for a 3 kilogram baby) once a day. Be careful not to give too much of either of**

these medicines!

- **Be sure the baby has enough liquids. Spoon feed breast milk. Also give Rehydration Drink, if necessary, made with water, sugar, and salt only. Alternate this with equal amounts of cooled boiled water.**
- **Try to get medical help.**

Infections in newborn babies are sometimes hard to recognize. Often there is no fever. If possible, get medical help. If not, treat with ampicillin as described above. Ampicillin is one of the safest and most useful antibiotics for babies.



Figure

The Mother's Health after Childbirth**Diet and Cleanliness**

As was explained in Chapter 11, 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, groundnuts, 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, often 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.**

Treatment:

Give penicillin: injections of 500,000 units of procaine penicillin twice a day, or 2 pills of 400,000 units 4 times a day for a week. Ampicillin, co-trimoxazole, or tetracycline may be used instead.

Childbirth fever can be very dangerous. If the mother does not get well soon, get medical help. Very severe infections may need treatment with a stronger antibiotic

(chloramphenicol, gentamicin, kanamycin, or a cephalosporin) in addition to high doses of penicillin or ampicillin.

Breast Feeding - And 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.

TO MILK YOUR BREASTS



Take hold of the breast way back, like this,



then move your hands forward, squeezing,



and finally, squeeze the milk out of the nipple.

Another reason it is important to milk the breasts 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

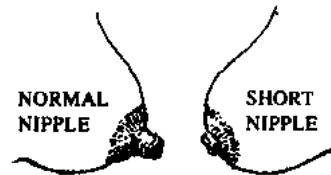
that is painfully full is more likely to develop an abscess. Also, the baby may have trouble sucking them even if he wants to.

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.



Figure

Prevention:

Be sure the whole nipple, not just the tip, is in the baby's mouth.

For a woman with short nipples, or nipples that sink into the breast, it helps to squeeze the nipples like this several times a day during pregnancy. This will make it easier for her child to suck, and she will be less likely to get sore nipples.

**Figure*****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 Infection (Mastitis) and Abscess

A breast infection may result from a sore or cracked nipple. This is most common during the first weeks or months of breast feeding. Sometimes the infection leads to an abscess, or pocket of pus.

**Figure*****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 (or hot) compresses to ease the pain. Also take aspirin.**
- **Take an antibiotic as for childbirth fever.**

Different kinds of breast lumps:

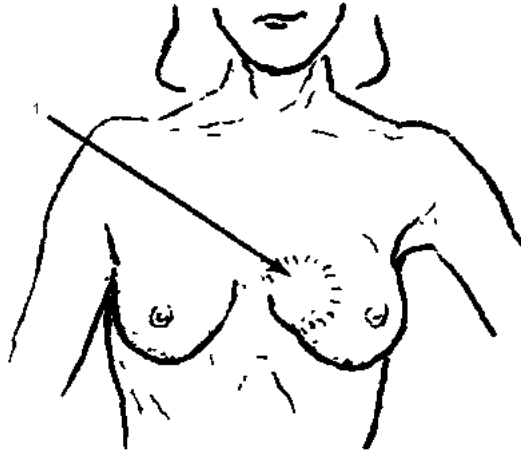
A painful, hot lump in the breast of a nursing mother is probably a breast abscess (infection). A painless breast lump may be cancer, or a cyst.

Breast Cancer

Cancer of the breast is fairly common in women, and is always dangerous. Successful treatment depends on spotting the first sign of possible cancer and getting medical care soon. Surgery is usually necessary.

Signs of breast cancer:

- **The woman may notice a lump, often in this (1) part of the breast.**



Figure

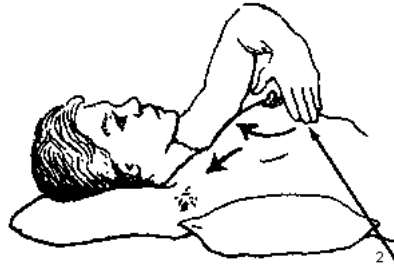
- **Or the breast may have an abnormal dent or dimple - or many tiny pits like the skin of an orange.**
- **Often there are large but painless lymph nodes in the armpit.**
- **The lump grows slowly.**

At first it usually does not hurt or get hot. Later it may hurt.

SELF-EXAMINATION OF THE BREASTS

Every woman should learn how to examine her own breasts for possible signs of cancer. She should do it once a month, preferably on the 10th day after her menstrual period started.

- **Look at your breasts carefully for any new difference between the two in size or shape. Try to notice any of the above signs.**
- **While lying with a pillow or folded blanket under your back, feel your breasts with the flat of your fingers, Press your breast and roll it beneath your finger tips. Start near the nipple and go around the breast and up into the armpit. (2)**



Figure

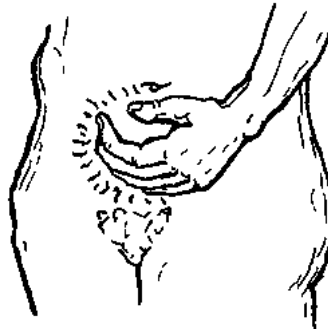
- **Then squeeze your nipples and check whether blood or a *discharge* comes out. (3)**



Figure

If you find a lump or any other abnormal sign, get medical advice. Many lumps are not cancer, but it is important to find out early.

Lumps or Growths in the Lower Part of the Belly



Figure

The most common lump is, of course, caused by the normal development of a baby. Abnormal lumps or masses may be caused by:

- **a *cyst* or watery swelling in one of the ovaries**

- by a baby that has accidentally begun to develop outside of the womb (ectopic pregnancy), or
- cancer

All 3 of these conditions are usually painless or mildly uncomfortable at first, and become very painful later. All require medical attention-usually surgery. If you find any unusual, gradually growing lump, seek medical advice.

Cancer of the Womb

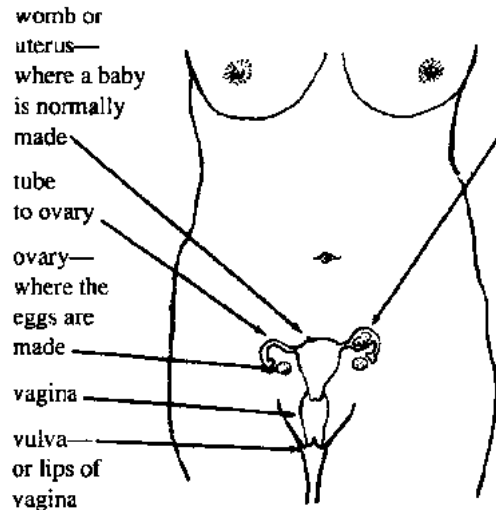
Cancer of the uterus (womb), cervix (neck of the womb), or ovaries/is most common in women over 40. The first sign may be *anemia* or unexplained bleeding. Later, an uncomfortable or painful lump in the belly may be noticed.

There is a special test called a Pap smear (Papanicolaou) to find cancer of the cervix when it is just beginning. Where it is available, all women over 20 should try to get one of these tests once a year.

At the first suspicion of cancer, seek medical help.

Home remedies are not likely to help.

Out-of-place or *Ectopic* Pregnancy



Figure

Sometimes a baby begins to form outside the womb, in one of the tubes that comes from the ovaries. (1)

There may be abnormal menstrual bleeding together with signs of pregnancy - also severe cramps low in the belly and a painful lump outside the womb.

A baby that begins to form out of place usually cannot live. Ectopic pregnancy requires surgery in a hospital. If you suspect this problem, seek medical advice soon, as dangerous bleeding could start any time.

Miscarriage (Spontaneous Abortion)

A miscarriage is the loss of the unborn baby. Miscarriages are most frequent in the first 3 months of pregnancy. Usually the baby is imperfectly formed, and this is nature's way of taking care of the problem.

Most women have one or more miscarriages in their lifetime. Many times they do not realize that they are having a miscarriage. They may think their period was missed or delayed, and then came back in a strange way, with big blood clots. A woman should learn to know when she is having a miscarriage, because it could be dangerous.

A woman who has heavy bleeding after she has missed one or more periods probably is having a miscarriage.

A miscarriage is like a birth in that the embryo (the beginning of the baby) and the placenta (afterbirth) must both come out. Heavy bleeding with big blood clots and painful cramps often continues until both are completely out.

30 days



60 days



The embryo of a miscarriage may be no longer than 1 or 2 centimeters.

Treatment:

The woman should rest and take aspirin, ibuprofen, or codeine for pain.

If heavy bleeding continues for many days:

- **Get medical help. A simple operation may be needed to clean out the womb (dilatation and curettage, or D and C, or suction).**
- **Stay in bed until the heavy bleeding stops.**
- **If the bleeding is extreme, follow the instructions from "The Correct Use of Oxytocics: Ergonovine, Oxytocin, Pitocin, etc."**
- **If fever or other signs of infection develop, treat as for Childbirth Fever.**
- **A woman may continue to bleed a little for several days after the miscarriage. It will be similar to her menstrual flow (period).**
- **She should not *douche* or have sex for at least 2 weeks after the miscarriage, or until the bleeding stops.**
- **If she is using an IUD and has a miscarriage, serious infection may occur. Seek medical help fast, have the IUD removed, and give antibiotics.**

High Risk Mothers and Babies

A note to midwives or health workers or anyone who cares:

Some women are more likely to have difficult births and problems following birth, and their babies are more likely to be underweight and sick. Often these are mothers who are single, homeless, poorly nourished, very young, mentally slow, or who already have malnourished or sickly children.

Often if a midwife, health worker, or someone else takes special interest in these mothers, and helps them find ways to get the food, care, and companionship they need, it can make a great difference in the well-being of both the mothers and their babies.

Do not wait for those in need to come to you. Go to them.



Figure

