

Serious Illnesses that Need Special Medical Attention

CHAPTER 14

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**, p. 42.

TUBERCULOSIS (TB)

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 are weak, poorly nourished, live in crowded conditions, have HIV, or live with someone who has TB. TB is usually only in the lungs. But it can affect any part of the body. In young children it may cause meningitis (see p. 185). For skin problems from TB, see p. 212.

Because so many people with HIV (p. 401) get very sick with TB, all people with HIV should get a TB test. People with HIV can take isoniazid (see p. 360) to prevent TB from developing. Encourage people with TB to also be tested for HIV and get support from a treatment program if they are positive.

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. Be on the lookout for the signs of tuberculosis.** A person may have one or many of them.

Most frequent signs of TB in the lungs:

- A cough that lasts longer than 3 weeks, often worse just after waking up.
- Slight fever in the evening and sweating at night.
- There may be pain in the chest or upper back.
- Chronic loss of appetite and weight and increasing weakness.

In serious or advanced cases:

- Coughing up blood (usually a little, but in some cases a lot).
- Pale, waxy skin.
- Voice grows hoarse (this is very serious).

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

- Steady weight loss.
- Frequent fever.
- Less energy for play and activity.
- Swellings in the neck (lymph nodes), or the belly (p. 20).



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 examine you, and test the stuff you cough up (*phlegm or sputum*) to see if you have TB or not. Many governments give TB medicines free. Ask at the nearest health center. For information about treatment with TB medicines, see the Green Pages (pages 359 to 361).

It is very important to take the medicines as directed. Treatment may be different in different countries, but usually the treatment has 2 parts. You will take 4 medicines for 2 months and then get your sputum tested. If you are getting better, you will take 2 or 3 medicines for another 4 months. Then you will be tested again to make sure you are cured. Do not stop taking the medicines, even if you feel better. This can lead to the illness coming back and infecting you and other people with forms of TB that are much harder to cure (see p. 359). To cure TB completely can take 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 (pages 110 to 111). 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, but the treatment may be longer. This includes TB in the glands of the neck, TB of the abdomen (see picture on p. 20), TB of the skin (see p. 212), 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).

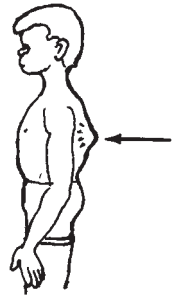
Tuberculosis is very contagious. It spreads when someone with TB coughs germs into the air. Anyone, especially a child, who lives with someone who has TB runs a great risk of catching the disease.

If someone in the house has TB:

- ◆ If possible, have the whole family tested for TB (tuberculin skin test).
- ◆ Have the children vaccinated against TB with BCG 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.
- ◆ Ask the person with TB 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.

Weigh each person, especially the children, once a month, until you are sure no one in the household is sick with TB.

TB is likely to spread to those who often spend time with a person who has TB. If anyone in the family shows signs of TB, have tests done and begin treatment at once.



TB of
the backbone

Early and full treatment is a key part of prevention.

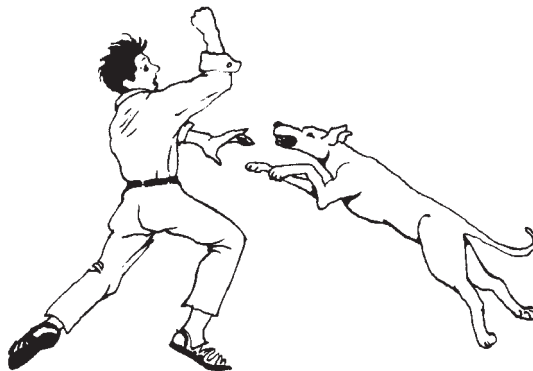
RABIES

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.

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, and fear of liquids. A lot of thick, sticky saliva.
- The person is alert, but very nervous or excitable. Fits of anger can occur.
- As death nears, seizures (convulsions) and paralysis.

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

- ◆ If available, give the person a series of 4 injections of anti-rabies vaccine.
- ◆ 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 for a series of injections with anti-rabies immunoglobulin.

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.

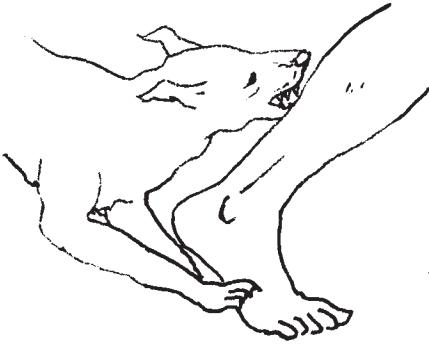
Take great care in handling any animal that seems sick or acts strangely. Even if it does not bite anyone, its saliva can cause rabies if it gets into a cut or scratch.

TETANUS (LOCKJAW)

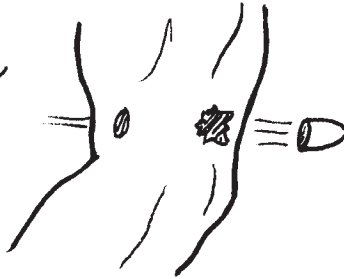
Tetanus results when a germ that lives in the feces of animals or people enters the body through a wound. Deep or dirty wounds are especially dangerous.

WOUNDS VERY LIKELY TO CAUSE TETANUS

animal bites, especially those of dogs and pigs



gunshot and knife wounds



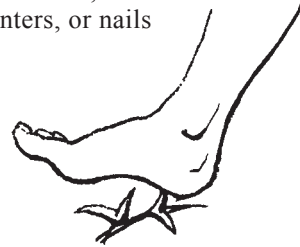
holes made with dirty needles



injuries caused by barbed wire



puncture wounds from thorns, splinters, or nails

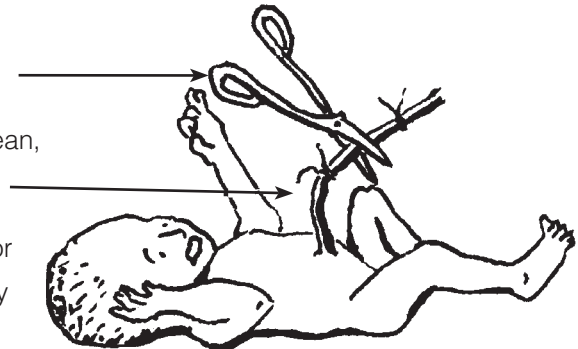


CAUSES OF TETANUS IN THE NEWBORN CHILD

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 IS CUT A LONG WAY FROM THE BODY, LIKE THIS, THE CHANCE OF TETANUS IS GREATER.

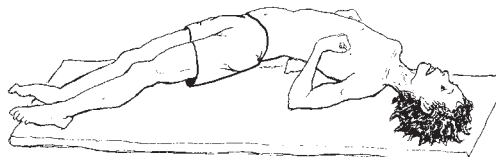
- when the cord has been cut with an instrument that has not been sterilized and kept completely clean, or
- when the cord has not been cut **close** to the body (see p. 262), or
- when the newly cut cord is tightly covered or is not kept dry.



Signs of tetanus:

- An infected wound (sometimes no wound can be found).
- Discomfort and difficulty in swallowing.
- The jaw gets stiff (lockjaw), then the muscles of the neck and other parts of the body get stiff. The person has difficulty walking.
- 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), use 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 typical.

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.

(continued on the next page)

What to do when there are signs of tetanus: (continued)

- ◆ Give 500 mg metronidazole by mouth 3 to 4 times a day for 7 to 10 days (p. 370). For newborn babies, use benzathine benzylpenicillin (p. 352).
- ◆ If you can get it, inject 500 Units of antitetanus immunoglobulin (human tetanus immune globulin, HTIG, *HyperTET*) in the muscle, 1 time only. Be sure to follow all the precautions (see pages 70 and 389).
- ◆ If you can get it, inject 0.5 ml tetanus vaccine into muscle 1 time only. You must inject this into a different place than the antitetanus immunoglobulin or neither will work.
- ◆ As long as the person can swallow, give nutritious liquids in frequent small sips.
- ◆ To control convulsions, give diazepam (*Valium*) by mouth or in the rectum (for dosages see pages 390 to 392).
- ◆ 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 is the surest protection against tetanus. Both children and adults should be vaccinated. Vaccinate your whole family at the nearest health center (see p. 147). 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 (see p. 250).
- ◆ When you have a wound, especially a dirty or deep wound, clean and take care of it in the manner described on page 89.
- ◆ If the wound is very big, deep, or dirty, seek medical help. If you have not been completely vaccinated against tetanus, or have not had a booster within 5 years, get the vaccination and also get an injection of antitetanus immunoglobulin (see p. 389).
- ◆ In newborn babies, cleanliness is very important to prevent tetanus. The instrument used to cut the umbilical cord must be sterilized (p. 262); 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.



HE STAYED HEALTHY.

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

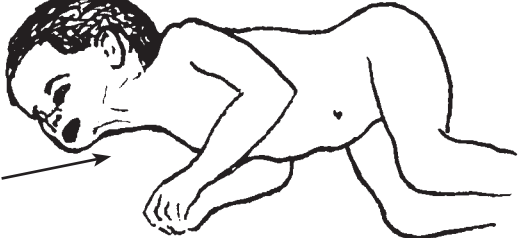


HE DIED OF TETANUS.

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, malaria, 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: 
- 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 seizures (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 every 6 hours, 500 mg for children or 1 g for adults (see p. 353). Also give ceftriaxone or gentamicin (see p. 358).
- ◆ If there is high fever (more than 40°C), lower it with wet cloths and acetaminophen or aspirin (see page 380).
- ◆ If the mother has tuberculosis or if you have any other reason to suspect that the child has tubercular meningitis, inject him with 20 mg of streptomycin for each kg he weighs and get medical help at once. Also, use ampicillin in case the meningitis is not from TB.
- ◆ If you know the meningitis came from malaria, an injection, or suppositories for children, of artesunate or quinine are needed at once (see pages 367 and 369).

Prevention:

For prevention of tubercular meningitis, newborn babies of mothers with tuberculosis should be vaccinated with BCG at birth. Dose for the newborn is 0.05 ml (half the normal dose of 0.1 ml). For other suggestions on prevention of TB, see pages 179 to 180.

MALARIA AND OTHER MOSQUITO-BORNE ILLNESSES

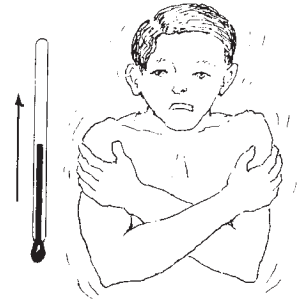
Malaria is an infection of the blood that causes fever and chills. Malaria is spread by mosquitos. The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites who gets sick 7 to 30 days later. People with HIV are more likely to catch malaria.

Malaria is especially dangerous for pregnant women. They get more severe attacks, and it can cause anemia, miscarriage, and babies who are born too small. Children need extra attention to make sure they get good nutrition so they can recover from malaria.

There are different types of malaria. Falciparum malaria is the most dangerous.

Signs of uncomplicated malaria:

- A fever, often as high as 39°C (102°F), with chills, shivers and sometimes headache.
- Fever, chills, shaking and sweating may return every few days or weeks.
- Vomiting, lack of appetite, anemia, and body pain.
- Diarrhea and cough, especially for children.
- Yellow eyes (jaundice)



Get help right away for signs of severe malaria:

- Too weak to sit or stand, cannot stay awake
- Mental confusion, convulsions or loss of consciousness
- Repeated vomiting, cannot drink or breastfeed
- Rapid breathing
- Low blood pressure and other signs of shock (see p. 77)
- Dark urine, and less urine as kidneys begin to fail

Analysis and treatment:

- ◆ If you suspect malaria or have repeated fevers, ask a health worker for a rapid blood test. It gives results in 15 minutes so you can start treatment immediately.
- ◆ If there is malaria in your region and you cannot get a test, start treatment with the medicines recommended for your area. (See pages 363 to 369 for doses and information on malaria medicines.)
- ◆ If you get better, but after several days the fevers start again, you may need a different medicine. Get advice from the nearest health center.
- ◆ If a person with signs of severe malaria has seizures, a strong headache, or if a baby has swelling in the soft spot (the *fontanel*, see p. 274), he may have severe malaria affecting his brain. Inject artesunate or quinine at once (see p. 367 and 369) or put an artesunate capsule in the rectum for a child under 6 if injections are not available. Then hurry to a health center.
- ◆ In some countries where malaria is widespread, pregnant women who do not have malaria are given pyrimethamine with sulfadoxine to prevent getting it while pregnant. Do not start the treatment during the first 3 months of pregnancy, but after that give at least 3 times during pregnancy, with at least 1 month between treatments (see p. 366).
- ◆ Use paracetamol (acetaminophen, p. 380) to help relieve pain and fever.

Dengue, Zika, Chikungunya and Yellow Fever

Like malaria, these diseases are spread by mosquitoes. They have similar signs, including fever, aches, and rash. It is possible to get more than one at a time and often they occur as epidemics. Different than malaria, mosquitoes carrying these illnesses breed in the home and bite during the day. Prevent mosquitoes from breeding by covering or emptying containers around the home. Window screens, clothing that covers the body, repellents, and bed nets will help prevent bites.

Dengue (breakbone fever): A sudden, high fever that can last up to a week, usually with 2 or more signs: severe muscle and joint ache, headache, pain behind the eyes, nausea or vomiting, and rash. Severe dengue may cause bleeding from the skin, the nose or gums, or inside the body — go to a hospital immediately.

Chikungunya: A mild fever with very intense joint pain affects the hands, feet, knees, and back. It can be so painful it hurts to walk. After the fever goes away, joint pain can last for weeks or can return, on and off, for months.

Zika: Can cause fever, rash, body aches, and irritated eyes, or have no signs. Most people get Zika from mosquitoes, but it can also pass during sex. Zika can harm a baby growing in the womb. If pregnant, avoid mosquito bites and use condoms during sex.

Yellow Fever: Fever starts suddenly and there may be chills, body aches, headache, nausea (sometimes with vomiting), and weakness. There is no rash. The illness usually goes away after 3 or 4 days. If fever returns later with jaundice, belly pain, vomiting, or bleeding from mouth, nose or eyes, this severe form of Yellow Fever needs hospital care right away. A vaccine will prevent the illness.

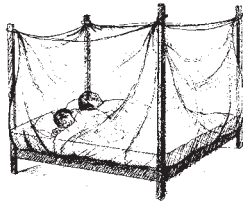
Treatment:

- ◆ No medicines cure these illnesses yet. For a week or two, the person will need rest, liquids (fruit juice, milk, or Rehydration Drink, see p. 152), and acetaminophen for pain and fever (**not** aspirin or ibuprofen).
- ◆ For severe bleeding with dengue or yellow fever, treat for shock (see p. 77) and get medical help fast.

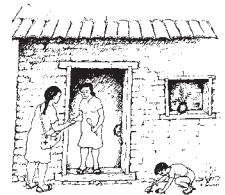
How to Avoid Mosquito-borne Illnesses

Mosquito-borne illness occurs more during hot, rainy seasons. To control mosquitoes:

1. Avoid mosquitos. Sleep underneath a bed net treated with insecticide or a sheet. Cover the baby's cradle with treated mosquito netting or a thin cloth.



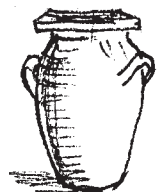
2. Cooperate with the mosquito control workers. Tell them if anyone in the family has had fevers and let them take blood for testing.



3. Treat malaria quickly. After you have been treated, mosquitos that bite you will not pass malaria on to others.



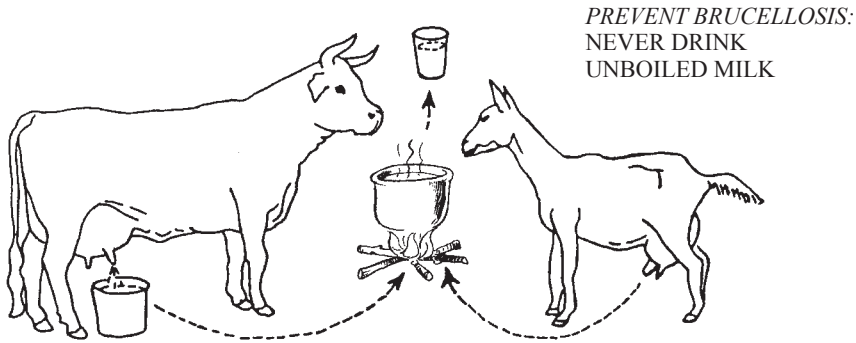
4. Destroy mosquitos and their young. Mosquitos breed in still water. Remove old tires or any items that collect water. Raise mosquito-eating fish in ponds or lakes. Fill hollow posts with sand and cover water containers.



5. Medicines can prevent malaria and lessen its effects. See pages 363 to 369. A vaccine to prevent falciparum malaria is now in use in high-malaria regions.

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.



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 (p. 88).

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. For precautions, see p. 355. Or use cotrimoxazole. (For dosage and precautions, see p. 357.)

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" (see p. 26), 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°C 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 (see p. 26).

- Sometimes there is vomiting, diarrhea, or constipation.

Second week:

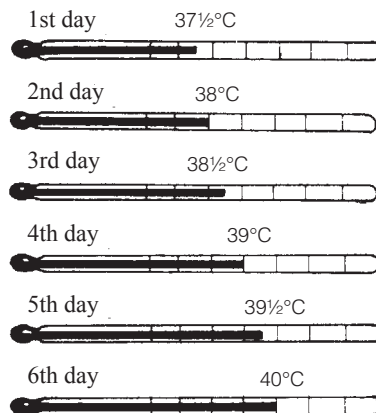
- High fever, pulse relatively slow.
- A few pink spots may appear on the body.
- Trembling.
- Delirium (person does not think clearly or make sense).
- Weakness, weight loss, dehydration.

Treatment:

- ◆ Seek medical help.
- ◆ Give ciprofloxacin (p. 358), ceftriaxone (p. 358), or azithromycin (p. 354). Ask a health worker what medicine works best where you live.
- ◆ Lower the fever with cool wet cloths (see p. 76).
- ◆ Give plenty of liquids: soups, juices, and Rehydration Drink to avoid dehydration (see p. 152).
- ◆ 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 (p. 94) or pneumonia (p. 171), 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 for 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.

**Third week:**

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

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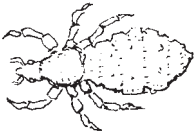
Prevention of typhoid: (continued)

- ◆ 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.

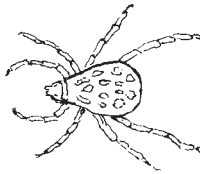
TYPHUS

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

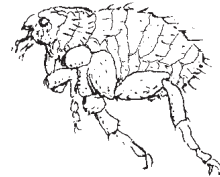
lice



ticks



rat fleas

*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 doxycycline, adults: 1 capsule of 100 mg 2 times a day for 7 days, OR tetracycline, adults: 2 capsules of 250 mg 4 times a day for 7 days (see p. 355). Chloramphenicol also works, but is riskier (p. 356).

Prevention:

- ◆ Keep clean. Check the whole family regularly for lice (p. 200).
- ◆ 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 onto you. Drown and burn the rats and their fleas. Put insecticide into rat holes and nests.



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.

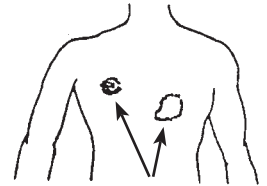
Signs: Leprosy can cause a variety of skin problems, loss of feeling, and paralysis of the hands and feet.

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 as usual. Keep watching it. If feeling in the patch becomes reduced or absent (see p. 38) it is probably leprosy.

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



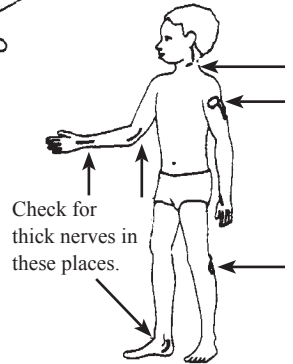
Patches are a different color from surrounding skin, but never completely white or scaly.



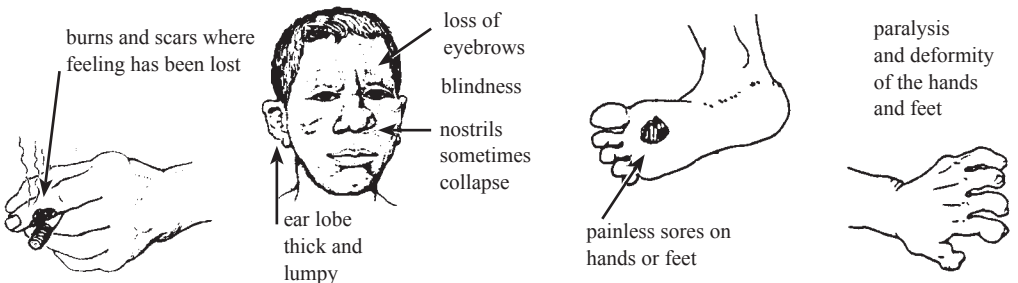
ringworm-like patch with or without raised border

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 sores or loss of feeling in skin patches.
- Slight weakness or deformities in the hands and feet.
- Swollen nerves form thick cords under the skin that may or may not be painful when pressed.
- Painless swelling or lumps on face or ears.



Advanced sign may include:



Treatment of leprosy: Leprosy is usually curable, but medicine must usually be taken for several months to 1 year. Multi-drug treatment (MDT) with rifampicin (rifampin), dapsone, and clofazimine (see p. 362 to 363) works best. These medicines should be used in combination, not alone, and are supplied free in many places.

Prevention of injury 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.

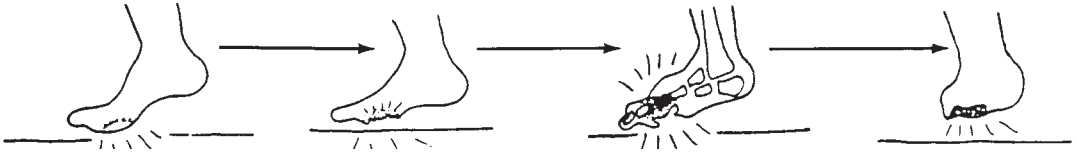
For example, when someone who does not have leprosy walks a long way and gets a blister, it hurts, so he stops walking or limps.

But when a person with leprosy gets a blister, it does not hurt.

So he keeps walking until the blister bursts and becomes infected.

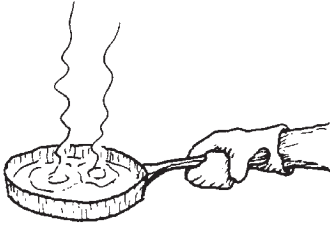
Still without pain, the infection gets deeper and attacks the bone.

In time the bone is destroyed and the foot becomes more and more deformed.



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.



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.

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 healed. 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.



If you do these things and begin treatment early, most disabilities caused by leprosy can be prevented. For more information, see *Disabled Village Children*, Chapter 26.