

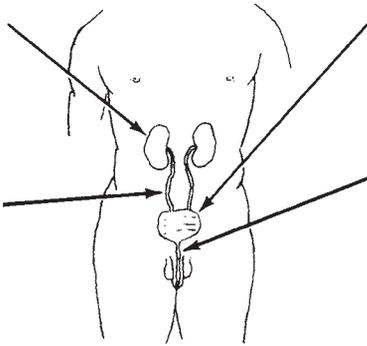
The Urinary System and the Genitals

CHAPTER 18

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*:

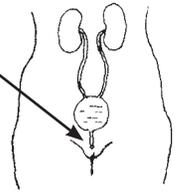
The *kidneys* filter the blood and form the urine.

The *ureters* are tubes that carry urine to the bladder.



The bladder is a bag that stores the urine. As it fills, it stretches and gets bigger.

The urine tube or *urinary canal (urethra)* carries urine out through the penis in men or to a small opening between the lips of the vagina in women.



The **genitals** are the sex organs.

The man:

bladder

urine canal

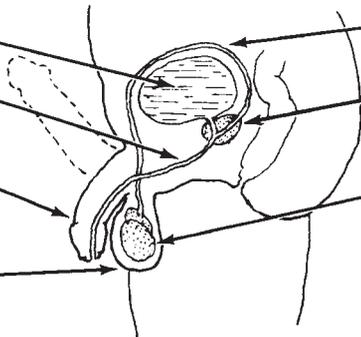
penis or male sex organ

scrotum or sac that holds the testicles

sperm tube

The prostate gland makes the liquid that carries the sperm.

The testicles make the sperm, or microscopic cells with tails that join with the egg of a woman and make her pregnant.



The woman:

outer lips of the vagina

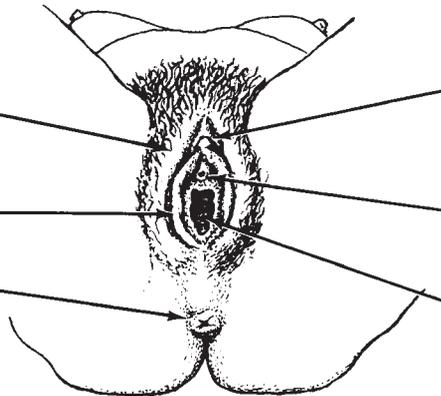
inner lips

anus: end of the intestine

clitoris: a very sensitive spot that can give sexual pleasure when touched

urinary opening: hole where urine comes out

opening to the *vagina* or birth canal. (For inside view, see p. 280.)



PROBLEMS OF THE URINARY TRACT

There are many different problems 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 problems are not serious, while others can be very dangerous. A dangerous illness may begin with only mild signs. It is often difficult to identify these problems correctly by simply using a book like this one. Special knowledge and tests may be needed. When possible, seek advice from a health worker.

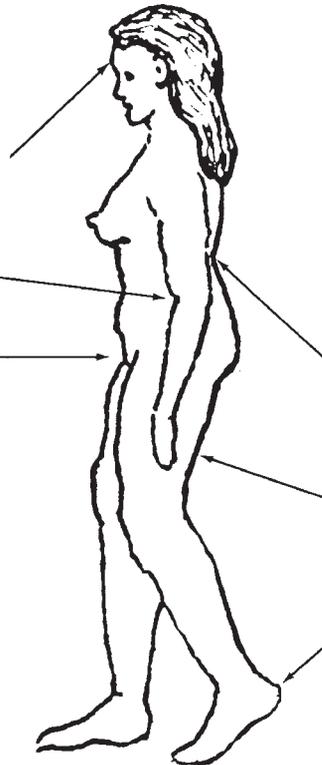
Common **problems with urinating** include:

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. Gonorrhea 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 (blood flukes) 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.
- Sometimes pain in the side.
- Painful urination and need to urinate very often.
- 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).
- Sometimes the pain seems to go down the legs.
- In serious cases (kidney disease) the feet and face may swell.

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.)
- ◆ If the person does not get better by drinking a lot of water, or if she has a fever, she should take cotrimoxazole (p. 357) or amoxicillin (p. 352). Pay careful attention to dosage and precautions. To completely control the infection it may be necessary to take the medicine for 10 days. If the infection moves into the kidneys or if these medicines do not work, try ciprofloxacin (p. 358). It is important to drink a lot of water while taking these medicines.
- ◆ 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 (see p. 380).
- ◆ 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 (p. 239).
- ◆ If he has a fever, use an antibiotic such as ampicillin (p. 352) or tetracycline (p. 355).
- ◆ Get medical help. Serious or chronic cases may require surgery.



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 a person with gonorrhea or chlamydia—probably has gonorrhea or chlamydia.

INFECTIONS SPREAD BY SEX (SEXUALLY TRANSMITTED INFECTIONS)

On the following pages, we discuss some common infections spread by sexual contact (STIs): **gonorrhea, chlamydia, syphilis, and bubos**. For information on **HIV and AIDS** and some sexually transmitted infections that cause sores on the genitals (**genital herpes, genital warts, and chancroid**) see Additional Information, p. 399 to 403.

Gonorrhea (clap, VD, the drip) and Chlamydia

Both men and women can have gonorrhea or chlamydia without any signs.

Gonorrhea and chlamydia can have the same signs, though gonorrhea usually starts sooner and is more painful. Both men and women can have gonorrhea and chlamydia at the same time so it is best to treat for both. If not treated, either gonorrhea or chlamydia can make a man or a woman sterile (unable to have a baby).

If a pregnant woman with gonorrhea or chlamydia is not treated before giving birth, the infection may get in the baby's eyes and make him blind (see p. 221).

Signs in the man:

- Drops of pus from the penis
- Sometimes there is painful swelling of the testicles



Signs in both the man and the woman:

- Pain or burning during urination (peeing)
- Rash or sores all over the body
- Painful swelling in one or both knees, ankles, or wrists

Signs in the woman:

- Yellow or green discharge from the vagina or anus
- Pain in the lower belly (pelvic inflammatory disease, p. 243)
- Fever
- Pain during sex



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 still give the disease to someone else**, starting a few days after becoming infected.

Treatment:

- ◆ In the past, gonorrhea 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. Medicines used to treat gonorrhea and chlamydia are listed on p. 359. If the drip and pain have not gone away in 2 or 3 days after trying a treatment, the gonorrhea could be *resistant* to the medicine, or the person could have chlamydia.
- ◆ If a woman has gonorrhea or chlamydia and also has fever and pain in the lower belly, she may have pelvic inflammatory disease (see p. 243).
- ◆ Everyone who has had sex with a person known to have gonorrhea 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 gonorrhea, which can cause blindness (see p. 221).

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.**

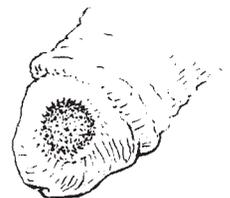
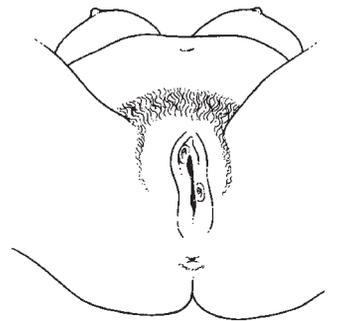
For prevention of these and other sexually transmitted infections, see p. 239.

Syphilis

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

Signs:

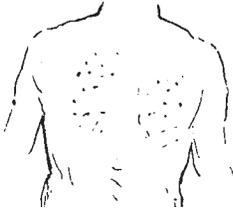
- The first sign is usually a sore, called a chancre. It appears 2 to 5 weeks after sexual contact with a person who has syphilis. The chancre may look like a pimple, a blister, or an open sore. It usually appears in the genital area of the man or woman (or less commonly on the lips, fingers, anus, or 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 it can easily spread to other people.** If the sore is painful, it may be chancroid (see p. 403).
- The sore lasts only a few days and then goes away by itself without treatment. **But the disease continues spreading through the body.**



(continued on the next page)

- 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, making the person think 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.**

Note: Yaws shares many of the same signs as syphilis (see p. 202).

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 2 years**, inject 2.4 million units of benzathine penicillin all at once, half the dose in each buttock (see p. 352). If allergic to penicillin, take tetracycline or erythromycin by mouth, 500 mg, 4 times a day for 15 days.
- ◆ **If signs have been present more than 2 years**, 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 either tetracycline or erythromycin, 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 breastfeeding women who are allergic to penicillin can take erythromycin in the same dosage as tetracycline (see p. 355).

To prevent syphilis, see the next page.

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

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 500 mg of erythromycin, 4 times a day for 14 to 21 days. Or give doxycycline, 100 mg, 2 times a day for 14 to 21 days.
- ◆ Avoid sex until the sores are completely healed.

Note: Bubos in the groin can also be a sign of chancroid (see p. 403).

HOW TO PREVENT SPREADING SEXUALLY TRANSMITTED INFECTIONS

1. **Be careful with whom you have sex:** Someone who has sex with many different persons is more likely to catch these infections. That is why prostitutes are more likely to get an infection and then pass it on. To avoid infection, **always use a condom** or have sex with only one faithful partner.

2. **Get treatment right away:** It is very important that all persons infected with a sexually transmitted infection get treatment at once so that they do not infect other people. Having one STI also makes it easier to become infected with HIV or other STIs. Do not have sex with anyone until 3 days after treatment is finished. (Unfortunately there is still no cure for HIV. See p. 397.)

3. **Tell other people if they need treatment:** When a person finds out that he or she has a sexually transmitted infection, 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 infection 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)

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 (p. 236). 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.

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.



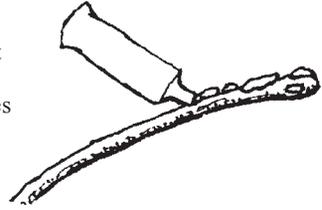
4. Put very clean cloths under and around the area.



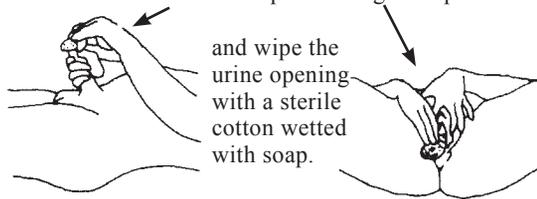
5. Put on sterile gloves or rub hands well with alcohol or surgical soap.



6. Cover the catheter with a sterile lubricant (slippery cream) like *K-Y Jelly* that dissolves in water (not oil or *Vaseline*).

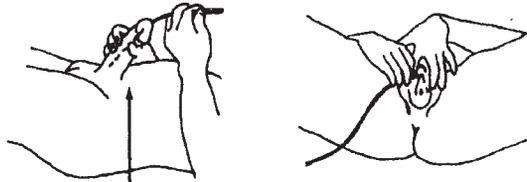


7. Pull back foreskin or open the vaginal lips.



and wipe the urine opening with a sterile cotton wetted with soap.

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**.



Hold the penis straight at this angle.

9. Push the catheter in until urine starts coming out. For a man, then push it in 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 (see p. 221).

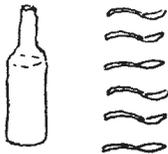
1. **A thin and foamy, greenish-yellow or whitish, foul-smelling discharge with itching.** This is probably an infection of **Trichomonas**. It may burn to urinate. Sometimes the genitals hurt or are swollen. The discharge may contain blood.

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.



CAUTION: Do not douche in the last 4 weeks of pregnancy, or for 6 weeks after giving birth.

- ◆ 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, see page 368.

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 (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 (p. 127), have HIV, or have been taking antibiotics or birth control pills.

Treatment: Douche with vinegar-water (see p. 241) or dilute gentian violet, 2 parts gentian violet to 100 parts water (2 teaspoons to a half liter). Or use nystatin vaginal tablets or other vaginal inserts for Candida, like nystatin or miconazole. For dosage and instructions see page 372. 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.**

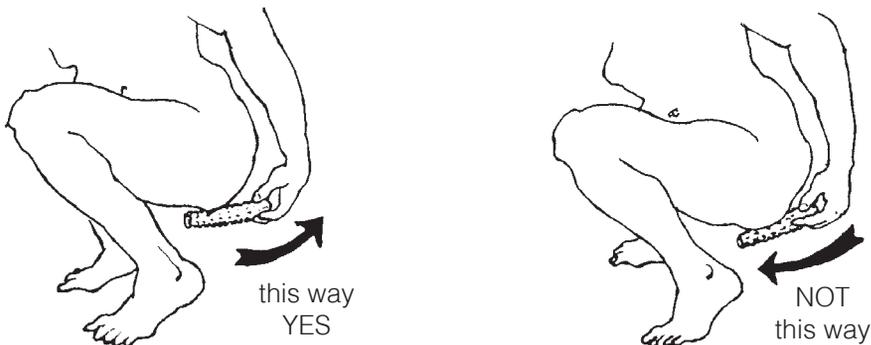
3. **Thick, milky discharge with a rancid smell.** This could be an infection caused by bacteria. Special tests may be needed to tell this from a Trichomonas infection. Douche with vinegar-water (p. 241), or with povidone-iodine (**Betadine**: 6 teaspoons in 1 liter of water). Also, you can try inserting a clove of garlic every night for 2 weeks (see p. 241). If none of these treatments works, try metronidazole (see p. 368).

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 (p. 280). If there is fever, use antibiotics (see page 276). **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:



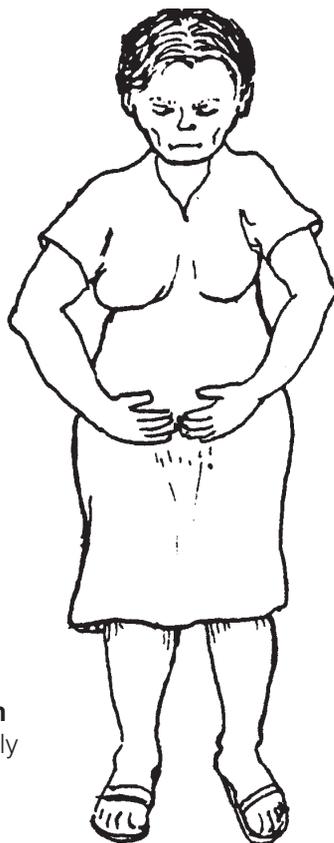
Wiping forward can spread germs, amebas, or worms into the urinary opening and vagina. Also take care to wipe little girls' bottoms from front to back and to teach them, as they grow up, to do it the same way.

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

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** (p. 246). Is it worse shortly before or during the period?
2. **A bladder infection** (p. 234). One of the most common low mid-belly pains. Is urination very frequent or painful?
3. **Pelvic inflammatory disease (PID)**. This infection causes pain in the lower belly and fever. It can happen after birth, abortion, miscarriage, or inserting an IUD. Gonorrhea or chlamydia that have gone untreated can also lead to PID (p. 236). Treat for gonorrhea and chlamydia (p. 359). 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 on page 280 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 (p. 280). Usually there is severe pain with irregular bleeding. The woman often has signs of early pregnancy (see p. 247), and feels dizzy and weak. **Get medical help immediately; her life is in danger.**
6. **Complications from an abortion** (p. 414). There may be fever, bleeding from the vagina with clots, belly pain, difficulty urinating, and shock. Start giving antibiotics as for childbirth fever (p. 276), 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** (p. 145). 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.** For more information on treating women's health problems, see *Where Women Have No Doctor*.

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, p. 281). 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 (p. 247). These may increase her chance of becoming pregnant and having a healthy baby.

3. **Chronic infection,** especially pelvic inflammatory disease (see p. 243) 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 sperm 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 Counting Days Method and Mucus Method, p. 291 and 292). 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 on things that will not help.

For a man or a woman who is not able to have a baby, there are still many ways to raise or support children and to lead a happy 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 care for people with special needs or to make other contributions to the community, and to show that having babies is not the only thing that makes a woman worthwhile.