

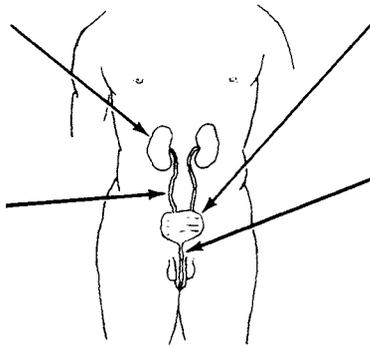
The Urinary System and the Genitals

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*:

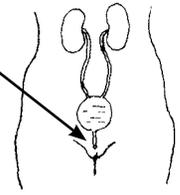
The *kidneys* filter the blood and form the urine.

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

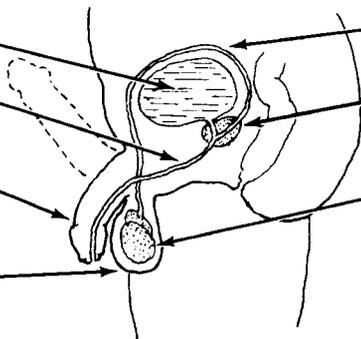
penis or male sex organ

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

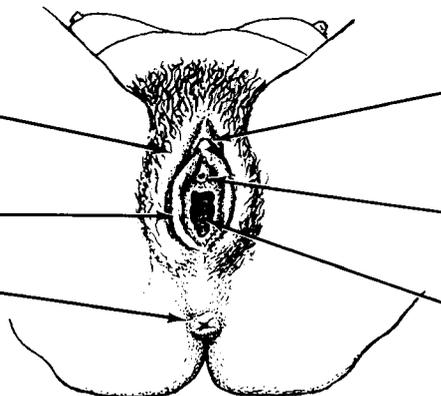
inner lips

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

The urinary tract is the kidneys, the bladder, and the tubes that connect them and carry the urine out of the body. The many different problems of the urinary tract can be difficult to tell apart. And the same illness can show itself differently in men and women. Some 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. Special knowledge and tests may be needed. When possible, seek advice from a health worker.

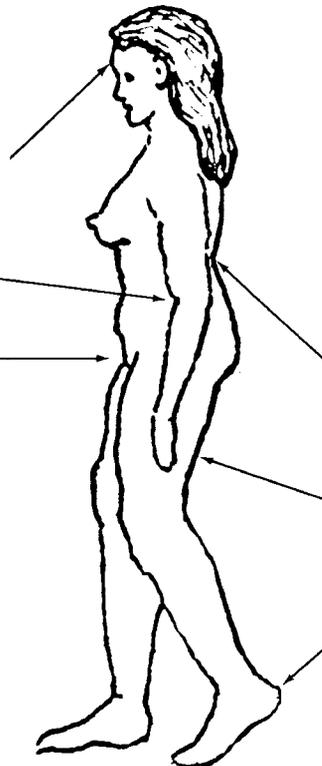
Common **problems with urinating** include:

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 nitrofurantoin, 100 mg 2 times a day for 5 days. 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:

- ◆ Use cotrimoxazole (p. 357) or ciprofloxacin (p. 358).
- ◆ Also give aspirin or another painkiller and an antispasmodic (see p. 381).
- ◆ 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 buboes**. 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. 401 to 405.

Gonorrhea (clap, the drip) and Chlamydia

People 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. Since people can have gonorrhea and chlamydia at the same time, it is best to treat for both. If not treated, either gonorrhea or chlamydia can make a person unable to have a baby (see p. 244).

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, signs begin a few days to a few weeks after sexual contact with an infected person. In a woman, signs may not show up for weeks or months. But a person without any signs can still pass the infection to someone else a few days after becoming infected.

Treatment:

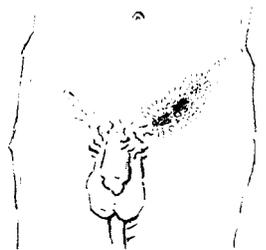
- ◆ In the past, gonorrhea was usually treated with penicillin. But now in many areas the disease has become **resistant** to penicillin, so other antibiotics must be used. It is best to seek local advice about which medicines are effective, available, and affordable in your area. Medicines used to treat 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.

Buboes (Lymphogranuloma Venereum)

Buboes are infected lymph nodes that are inflamed, swollen, and painful. They may burst, drain pus, scar, and reopen. Some sexually transmitted infections cause buboes in the lymph nodes on one or both sides of the genitals, or in the anus. These buboes are most often caused by a chlamydia virus. But buboes in the groin can also be a sign of chancroid (see p. 405). So if the treatment below does not work, try treating for chancroid.



Treatment:

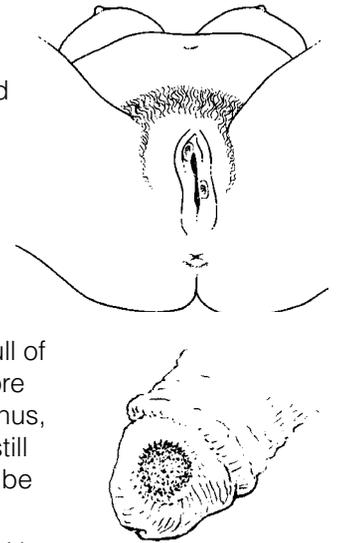
- ◆ See a health worker for testing and treatment.
- ◆ Give adults doxycycline (p. 355) by mouth, 100 mg, 2 times a day for 21 days. For people who are pregnant or breastfeeding, give either azithromycin (p. 354) by mouth, 1 g, 1 time a week for 3 weeks, or erythromycin (p. 354) by mouth, 500 mg, 4 times a day for 21 days. Do not give doxycycline to people who are pregnant or breastfeeding.
- ◆ Avoid sex until the sores are completely healed and you have completed antibiotic treatment.
- ◆ To avoid reinfection, avoid sex until all partners are also treated.

Syphilis

Syphilis is a common and serious infection passed during sex that affects the whole body and worsens over time. It can be cured if treated early.

Signs:

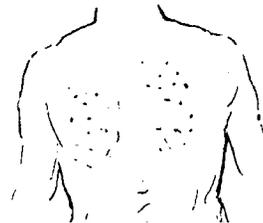
- The first sign is usually a sore, called a chancre. It appears 1 week to 3 months after sexual contact with a person who has syphilis. The chancre may look like a pimple, a blister, or an open sore on the genital area (or less commonly on the lips, fingers, anus, or mouth). This sore is full of germs, which are easily passed on to another person. The sore is usually painless, and if it is not visible (inside the vagina, anus, or throat), a person may not know they have it. But they can still infect anyone they have sex with. If the sore is painful, it may be chancroid (see p. 405).
- The sore lasts only a few days and then goes away by itself without treatment. **But the infection continues spreading through the body.**
- Weeks or months later, the infected person may have a sore throat, mild fever, mouth sores, or swollen joints. These rashes, containing syphilis germs that can be easily passed, may appear on the skin:



a reddish-brown rash on the hands or feet



a rash that may be flat or bumpy on other parts of the body



All of these signs usually go away by themselves—but the disease continues. **Without adequate treatment, syphilis can cause heart disease, paralysis, mental illness, and death.** If any unexplained skin condition shows up days or weeks after a pimple or sore appears on the genitals, it may be syphilis. Get medical advice.

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

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 benzylpenicillin all at once, half the dose in each buttock (see p. 352). If allergic to penicillin, take erythromycin by mouth, 500 mg, 4 times a day for 14 days, or azithromycin by mouth, 2 g, all at once.
- ◆ **If signs have been present 2 years or more, or if you don't know how long signs have been present**, inject 2.4 million units of benzathine benzylpenicillin—half in each buttock—once a week for 3 weeks, for a total of 7.2 million units. If allergic to penicillin, take erythromycin by mouth, 500 mg, 4 times each day for 30 days.
- ◆ If there is any chance that someone has syphilis, they should immediately see a health worker for testing and treatment.
- ◆ 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.

To prevent syphilis, see the next page.

HOW TO PREVENT SPREADING SEXUALLY TRANSMITTED INFECTIONS

1. **Protect yourself during sex:** Take precautions to lower your risk of sexually transmitted infections. Find out if there is affordable STI testing in your area and get tested with your partners. Use a condom each time you have sex.

2. **Get treatment right away:** It is important that a person with a sexually transmitted infection get treatment quickly, for their protection and the protection of others. Having one STI makes it easier to get infected with other STIs, including HIV. Being treated quickly also makes a person less likely to infect others.

3. **Tell your partners if they need treatment:** When a person finds out they have a sexually transmitted infection, it is important that they tell their sexual partners so they can get treatment, too. This helps prevent spread of infection, especially for people without signs of infection who would not know otherwise.

4. **Help others:** Support people with a sexually transmitted infection by helping them get treatment. Be compassionate and do not judge people for having an STI.

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.



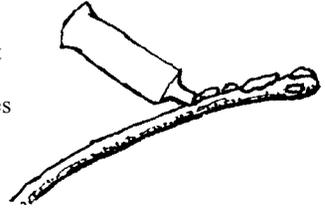
4. Put very clean cloths under and around the area.



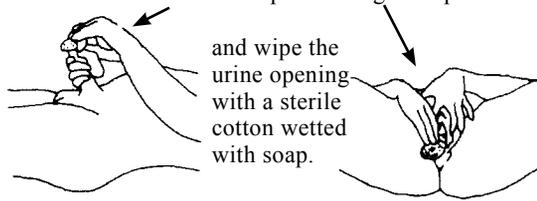
5. Put on sterile gloves or rub hands well with alcohol or surgical soap.



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

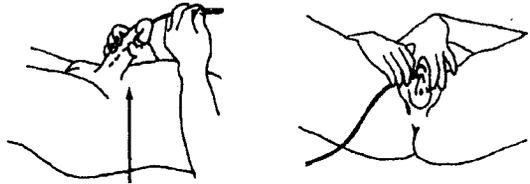


7. Pull back foreskin or open the vaginal lips.



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.

Vaginal Discharge (a mucus or fluid that comes from the vagina)

It is normal to have vaginal discharge that is clear, white, or thick. The amount is different for each person and can change (at different times in the menstrual cycle, when using hormonal contraception, or during pregnancy). If there is no itching or bad smell, there is probably no problem.

When vaginal discharge is an unusual color, has a bad smell, or comes with itching or pain in or around the vagina, belly pain, pain while peeing or having sex, or fever, this may be caused by an infection. Some are only bothersome while others may be serious.

1. **A thin and foamy, greenish-yellow or whitish, foul-smelling discharge with itching.** This is probably an infection of **Trichomonas**. There may be pain during sex or burning when you pee.

Treatment:

- ◆ Take metronidazole by mouth. For precautions and instructions, see page 370.
- ◆ It is likely that a person's partner will have the infection at the same time, even if they have no symptoms. (Some men with *Trichomonas* have a burning feeling when urinating.) If you are being treated with metronidazole, your partner should also take it by mouth at the same time.
- ◆ To feel better, you can take a sitz bath. Sit in a pan of clean, warm water for 15 minutes as often as possible. This is soothing to the genitals and will speed healing.
- ◆ 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. Insert a new clove of garlic each night. Do this for 10 to 14 days.



2. **White discharge that looks like cottage cheese or buttermilk, and smells like mold or bread dough.** This could be a yeast infection (Candida). Itching may be severe. The genitals often hurt and look red. It may hurt while urinating or having sex. This infection is especially common during pregnancy, and in people who have diabetes (p. 127), HIV, or have been taking antibiotics.

Treatment: Use vaginal inserts or cream for Candida, such as nystatin or clotrimazole. For dosage and instructions see page 374. 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.**

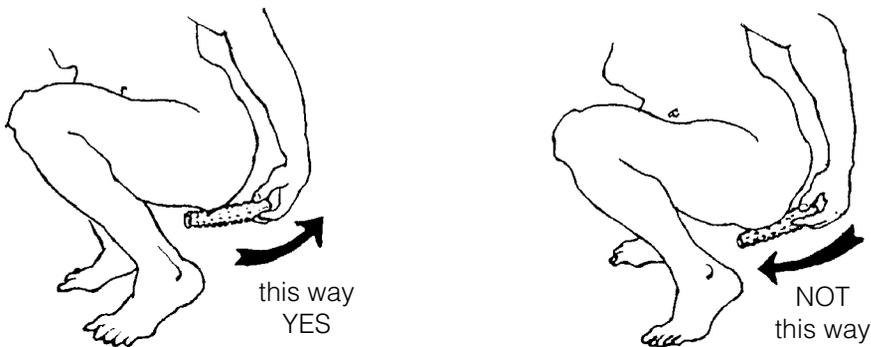
3. **Thick, milky discharge with a rancid smell.** This could be an infection caused by bacteria. Tests may be needed to tell this from a Trichomonas infection. See pages 236 to 238 for more information about common sexually transmitted infections and how to treat them.

4. **Discharge with blood in it, or that comes with fever or pain in the lower belly.** These may be signs of a more serious infection or cancer (p. 280). **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 To Avoid Vaginal Infections:

1. Keep your body clean. When you bathe, wash with mild soap.
2. Urinate after sexual contact. This helps prevent urinary infections (but will not prevent pregnancy).
3. Be sure to wipe from front to back after each bowel movement:



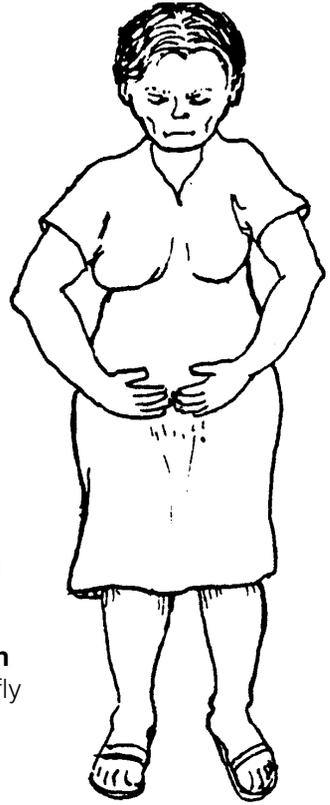
Wiping forward can spread germs, amebas, or worms into the urinary opening and vagina. Also take care to wipe little girls' bottoms from front to back and to teach them, as they grow up, to do it the same way.

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. 245). 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. PID is most often due to gonorrhea, chlamydia, or both that have gone untreated (p. 236). Treat with medicines for gonorrhea and chlamydia (p. 359) and also metronidazole (p. 370). 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. 416). 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*.

PEOPLE WHO ARE NOT ABLE TO HAVE CHILDREN (INFERTILITY)

Sometimes people try to have children but do not succeed. Infertility can affect anyone, and includes being unable to become pregnant, being unable to make another person pregnant, and being unable to carry a pregnancy to birth. Whether something can be done depends on the cause of the difficulty.

COMMON CAUSES OF INFERTILITY:

1. **Genetic and physical factors.** Some people are unable to have children due to genetic or physical factors that affect how their bodies work. For example, a person's menstrual cycle (p. 245) may happen in a way that makes it difficult for them to become pregnant. Or a person may make fewer sperm than is normal, and so be unable to make someone pregnant. Treatments to address these depend on the specific condition and require the help of a health worker.

2. **Nutrition.** Poor nutrition can cause severe anemia or lack of iodine, which can make it difficult for a person to become pregnant. Or they may cause a pregnancy to end, perhaps even before the person knows they are pregnant (see Miscarriage, p. 281). A person trying to become pregnant should get enough nutritious food, use iodized salt, and, if they are anemic, take iron pills (p. 247).

3. **Untreated infections.** Undiagnosed and untreated infections, especially pelvic inflammatory disease (PID, see p. 243) due to gonorrhea or chlamydia, are a common cause of infertility in people trying to become pregnant. Treatment is important to lessen PID's effect on fertility. But using condoms and early treatment of gonorrhea and chlamydia are the best ways to prevent infertility caused by these infections.

4. **Medical conditions.** Some medical conditions and illnesses, such as diabetes, malaria, and tuberculosis, make it more difficult to become pregnant or make another person pregnant. Treating these conditions and illnesses is important for both fertility and long-term health.

5. **Substance use.** People who drink a lot of coffee or alcohol, smoke or chew tobacco, or who use certain drugs are at higher risk of infertility. Reducing use of these substances can help a person's fertility and overall health.

6. **Chemical exposure.** Some chemicals people are exposed to at work and in the environment increase chances of infertility. Reducing pollution from and use of chemicals is good for fertility and overall health.

There are many ways to for people who experience infertility to raise or support children:

- Arrange to care for or adopt children who need a home.
- Become a health worker in your community.
- Form a group to help care for children or adults with special needs.
- If you live in a place where people look with shame on a man or woman who cannot produce children, being involved with the community can show that having babies is not the only thing that makes a person worthwhile.

