

Health Care Skills

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In many parts of this book we refer to certain skills that can help a person give the best care to someone who is ill. These skills include preventing infection, giving an exam and getting information about a person's body, giving life-saving fluids, and giving injections.

This section gives more complete information about these skills. You may think of these as 'doctor's' or 'nurse's' skills, but they are all skills that anyone can learn with time and practice. Some skills, like giving an *exam* or an *injection*, are best learned by having a skilled person show you how. Once learned, all of these skills can make a careful person better able to help others safely.

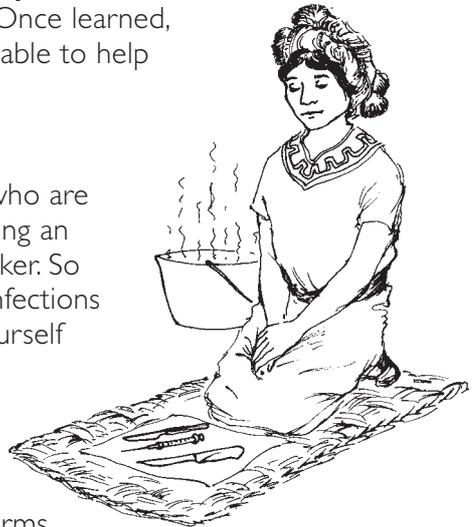
Preventing Infection

Infections cause many kinds of sickness. People who are already sick or hurt are often more at risk for getting an infection, and getting one can make them much sicker. So it is important to do everything you can to keep infections from developing. It is also important to protect yourself from getting an infection from those you care for.

Infections are caused by germs, such as bacteria and viruses, that are too small to see. Every person carries bacteria on her skin, and in her mouth, *intestines*, and *genitals* all the time. These germs do not usually cause problems, but they can cause infections if passed to sick people. Germs also live on the equipment and tools used when caring for a sick person and can easily be passed to others you help.

You can *prevent* infection by following the guidelines in this chapter. For other ways to prevent infection, see page 149.

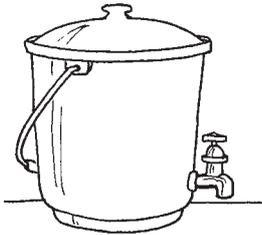
IMPORTANT *You must follow these guidelines every time you help someone, whether you use your hands, tools, or special equipment. If you do not, you may get a dangerous infection, or pass an infection to the people you are helping.*



WASHING YOUR HANDS

Wash your hands before and after caring for another person. It is the most important way to kill germs living on your skin. You need to wash your hands even more thoroughly and for a longer time:

- before and after helping someone give birth.
- before and after touching a wound or broken skin.
- before and after giving an injection, or cutting or piercing a body part.
- after touching blood, *urine*, *stool*, *mucus*, or fluid from the *vagina*.
- after removing gloves.



Use water that flows.

Let your hands dry in the air instead of using a towel. Do not touch anything until your hands are dry.



Use soap to remove dirt and germs. Count to 30 as you scrub your hands all over with the soapy lather. Use a brush or soft stick to clean under your nails. Then rinse. Use water that flows. Do not reuse water if your hands must be very clean.

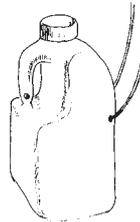
Try making a Tippy Tap. It will save water and will make it easy to keep a supply of clean water for washing hands.

Use a large, clean plastic bottle with a handle.

1. Pinch the handle together here with a pair of hot pliers or a hot knife.



2. Make a small hole in the handle, just above where you sealed it.



3. To hang the tippy tap, make 2 more holes in the other side of the bottle and pass a string through them. Now you can hang it on a peg or tree branch.

4. Fill the bottle with clean water and replace the lid.

5. When you tip the bottle forward, the water will flow out, so you can wash your hands. Do not make the hole too large or it will waste water.



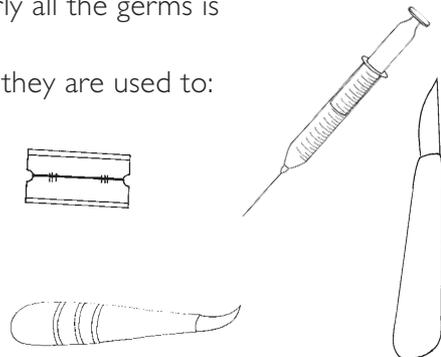
You can also hang a bar of soap from the string.

HOW TO DISINFECT EQUIPMENT AND TOOLS

Cleaning tools and equipment to get rid of nearly all the germs is called *high-level disinfection*.

Tools must **first** be washed and **then** disinfected if they are used to:

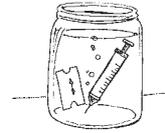
- cut, pierce, or tattoo skin.
- give an injection.
- cut the cord during childbirth.
- examine the vagina, especially during or after childbirth, a *miscarriage*, or an *abortion*.
- when giving fluids in the *rectum*.



High-level disinfection: 3 steps

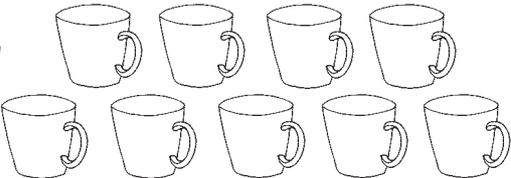
Steps 1 and 2 should be done right after using your tools. Try not to let blood and mucus dry on them. Step 3 should be done right before you use the tools again. All the steps can be done together if you can store your tools so they will stay disinfected (see the next page).

- Soaking:** Soak your tools for 10 minutes. If possible, use a 0.5% solution of bleach (*chlorine*). Soaking your tools in bleach solution first will help protect you from infection when cleaning the tools. If you do not have bleach, soak your tools in water.



How to make a disinfecting solution of 0.5% bleach:

<i>If your bleach says:</i>	<i>Use:</i>
2% available chlorine	1 part bleach to 3 parts water
5% available chlorine	1 part bleach to 9 parts water
10% available chlorine	1 part bleach to 19 parts water
15% available chlorine.....	1 part bleach to 29 parts water

For example:
 If your bleach says 5% available chlorine, use this much bleach:  and this much water: 

Mix just enough solution for one day. **Do not use it again the next day.** It will not be strong enough to kill germs anymore.

- Washing:** Wash all tools with soapy water and a brush until each one looks very clean, and rinse them with clean water. Be careful not to cut yourself on sharp edges or points. If possible, use heavy gloves, or any gloves you may have.



- Disinfecting:** Steam or boil the tools for 20 minutes (as long as it takes to cook rice).

To steam them, you need a pot with a lid. The water does not need to cover the tools, but use enough water to keep steam coming out the sides of the lid for 20 minutes.



To boil them, you do not need to fill the whole pot with water. But you should make sure water covers everything in the pot the entire time. If possible, put a lid on the pot.



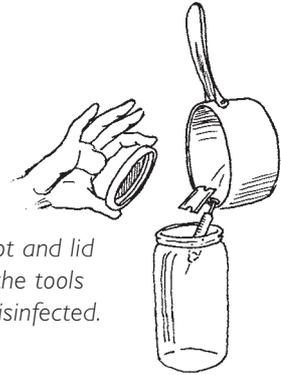
For both steaming and boiling, start to count the 20 minutes after the water is fully boiling. Do not add anything new to the pot once you begin to count.

IMPORTANT Never use a tool on more than one person without washing and disinfecting all the parts between each use. 

Storing your tools

If you store your tools properly you can do Steps 1, 2, and 3 at one time, and the tools will be ready to use whenever you need them. To store tools:

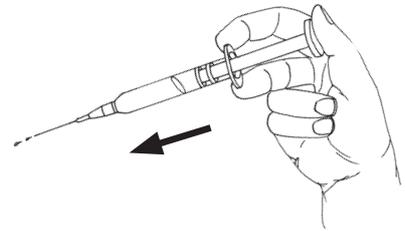
- After boiling, pour off the water and let the tools dry by themselves. Do not dry them with a cloth. Put a lid or a thin, clean cloth over the pot to prevent flies and dust from getting in. Be sure to let the tools dry completely. Metal objects will rust if they are not dry.
- Do not let the tools touch your hands or anything else.
- Store the tools in a covered pot that has been disinfected. You can use the pot that was used for boiling with a lid, or the steamer that was used for steaming, or a glass jar and lid that have been boiled. If possible, put everything in a clean plastic bag to protect from dust.



Make sure the pot and lid where you store the tools have also been disinfected.

Disinfecting needles and syringes, gloves, and bandages

Needles and syringes. If a needle and *syringe* can be used more than once (reusable), squirt bleach or soapy water through the syringe 3 times right after using it. Then take everything apart and follow Step 2 and then Step 3 on page 527. Carefully store the syringe until the next use. Be sure not to touch the needle or the plunger.



If you are not able to store things in a clean and dry place, boil or steam them again before use.

If a needle and syringe can be used one time only (disposable), carefully put them in a covered container that cannot be pierced by the needle, and bury the container deeply. If you cannot dispose of the needle safely, squirt bleach solution through it 3 times.



Used needles are dangerous!

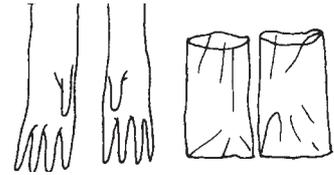


Gloves

Gloves protect both you and the people you help against the spread of infection. If you do not have gloves, use clean plastic bags to cover your hands.

Sometimes it is OK to use gloves that are clean but not disinfected—as long as you are not reusing them. But you should **always use high-level disinfected gloves when:**

- putting your hand inside the vagina during an emergency exam before or after childbirth or abortion.
- touching broken skin.



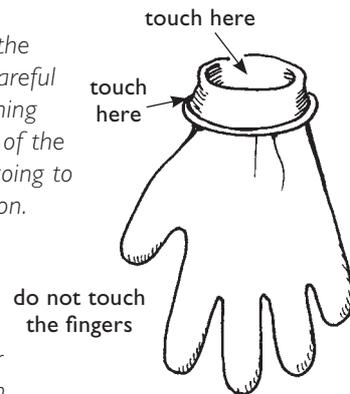
If you do not have gloves, you can use clean plastic bags to cover your hands.

Using high-level disinfected gloves:



Be careful not to touch other gloves as you remove a pair from the jar or container where they have been stored.

When putting the gloves on, be careful not to let anything touch the part of the gloves that is going to touch the person.



► If you have a pair of 'sterile' gloves in a package, save them for a time when you must be especially careful not to spread infection.

If you use gloves more than one time, they should be cleaned, disinfected, and stored following the instructions on pages 527 and 528. Always check washed gloves for holes, and throw away any that are torn.

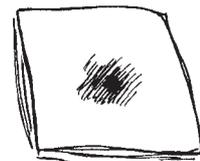
If possible, it is best to steam gloves rather than boil them because they can stay in the pot they were steamed in until they are dry. If you are unable to steam gloves and must boil them, try to dry them in the sun. You will probably have to touch them to do this, so they will no longer be disinfected, but they will be clean. Keep them in a clean, dry place.

Cloth dressings

If you do not have sterile *gauze*, use cloth dressings. Follow the instructions for disinfection and storage on pages 527 and 528. Dry the dressings in the sun, but be sure to keep them off the ground, and to protect them from dust, flies, and other insects.



Any items that have touched blood or body fluids (urine, stool, semen, fluid from the bag of waters, pus) should be burned, or disposed of carefully so that children or animals will not find them. This includes supplies that are no longer useful but are contaminated, such as syringes, torn gloves or gloves that can only be used once, gauze, or cotton.



How to Take Temperature, Pulse, Respiration, and Blood Pressure

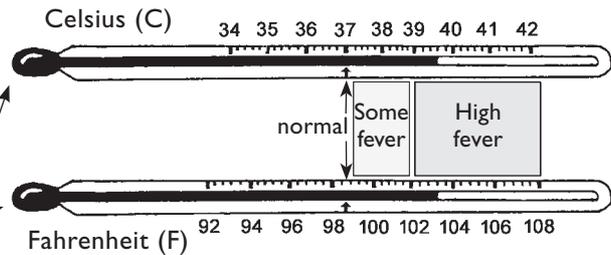
When a person is sick or has a health problem, her basic physical signs may change. The next few pages tell how to measure these signs to know if a person has a problem.

TEMPERATURE

If you need to know a person's temperature and do not have a thermometer, touch the back of your hand to the person's skin, and compare it with your own skin. If her skin feels much warmer, she probably has a fever. To learn what to do for a fever, see page 297.



If you have a thermometer, you can take a person's temperature in the mouth, armpit, or rectum. A person's temperature is normally cooler in the armpit, warmer in the mouth, and warmest in the rectum. There are 2 kinds of thermometer scales. Here is how they compare. Either can be used to measure a person's temperature.



The levels listed here for normal and fever temperatures are for the mouth.

How to take the temperature

(using a thermometer marked in degrees Celsius—°C)

1. Clean the thermometer well with soap and cold water, or alcohol. Hold it at the end without the silver (or red) and shake it hard, with a snap of the wrist, until it reads less than 36 degrees.
2. Put the thermometer . . .

*under the tongue
(keep the mouth closed around it)*



OR

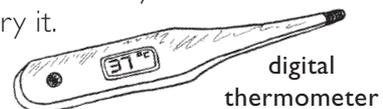
in the armpit if there is danger that the person might bite the thermometer



3. Leave it there for 3 or 4 minutes.
4. Read it (see above).
5. Wash the thermometer well with soap and cold water. Then, if you can, soak it for 20 minutes in a bleach solution (see page 527) and rinse with clean water.

Glass thermometers are filled with mercury, a very poisonous metal. Be careful with glass thermometers, and if they break, do not pick up the mercury with your bare hands. Sweep the mercury into a jar and bury it.

Do not let children play with thermometers or mercury. Get a digital thermometer if you can.



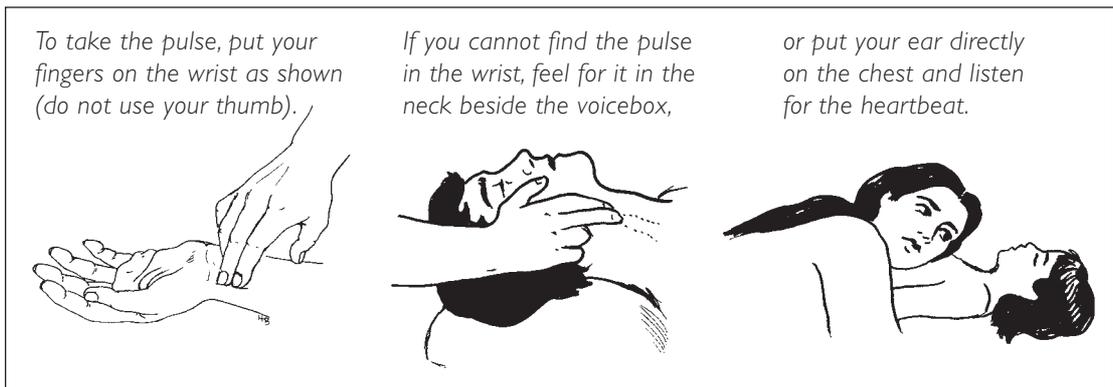
digital thermometer

PULSE (HEARTBEAT)

The pulse tells how fast the heart is beating and how hard it is working. After hard work or exercise, the heart of a healthy person beats fast, but slows back to normal in a few minutes. The heart usually increases 20 beats a minute for each degree (C) rise in fever.

A normal pulse in an adult is between 60 and 90 beats per minute. A fast pulse can be a sign of:

- blood loss or fluid loss, or *shock* (see page 254).
- fever and infection.
- problems with the lungs and breathing system, or with the heart.
- *thyroid* problems.



RESPIRATION (BREATHING RATE)

The breathing rate tells you about health of the lungs and breathing system. It can also give information about a person's general health. To take the breathing rate, watch the chest rise and fall when a person is at rest. Normal breathing in an adult is 12 to 20 total breaths per minute (a complete breath equals one breath in and one breath out).

Breathing usually speeds up (along with the pulse) when there is infection, fever, blood loss or *dehydration*, shock, lung problems, or other emergencies.

Very slow pulse and breathing in a very sick person can mean she is near death.

Fast, shallow breathing can be a sign of infection of the breathing system. A breathing rate of more than 30 breaths per minute may be a sign of *pneumonia* (see page 304).

BLOOD PRESSURE

Blood pressure is a measure of how hard the blood presses on the inside of the blood vessels.

It is useful to know a woman's blood pressure at these times:

- during pregnancy, childbirth, miscarriage, or abortion.
- if she is using or planning to use birth control pills.
- in emergencies, such as shock, severe abdominal pain, or a difficult childbirth.



What the numbers mean

A blood pressure measurement (BP) has two numbers:

$BP \frac{120}{80}$ or $BP 120/80$

120 is the top (systolic) reading

80 is the bottom (diastolic) reading

Normal blood pressure for an adult is from 90/60 to 120/80.

If a person has a blood pressure in this range, there is no need to worry. If the blood pressure is between 120/80 and 140/90, a person should exercise, lose weight, and eat less salt. If the blood pressure is over 140/90, the person also needs to take medicines. A person who has diabetes or heart disease should take medicine if the blood pressure is over 130/80.

A pregnant woman who has a blood pressure over 140/90 should see a health worker for medicines that are safe for her to take.

A **sudden drop in blood pressure** is a danger sign, especially if it falls below 90/60. Watch for any sudden drop in the blood pressure of persons who are losing blood or at risk of shock. If you get an abnormal blood pressure reading and you do not think the person is in shock, wait a few minutes and take the blood pressure again.

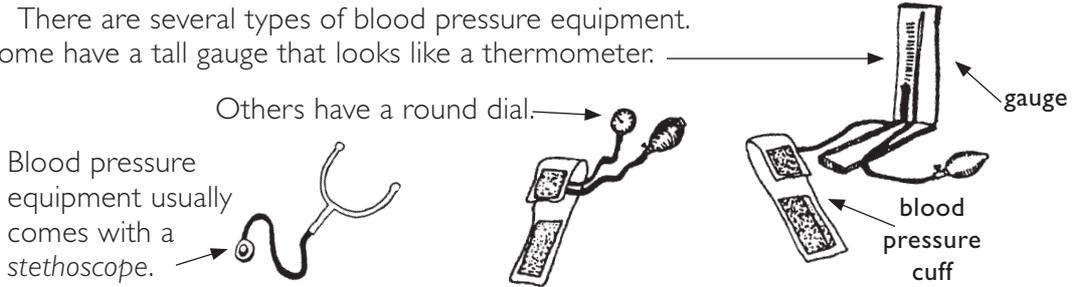
You will often need to watch a person's blood pressure over time (for example, during a woman's pregnancy) to see how it changes. It will help to keep a record:

Sept 13	$\frac{100}{60}$
Oct 12	$\frac{110}{62}$
Nov 15	$\frac{90}{58}$
Dec 10	$\frac{112}{60}$
Jan 12	$\frac{110}{70}$

This woman's blood pressure goes up and down a little from month to month. This is normal.

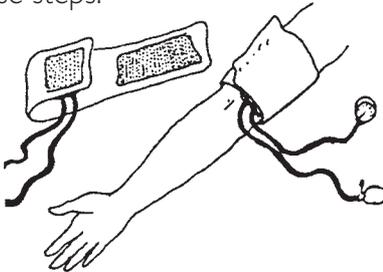
How to take blood pressure

There are several types of blood pressure equipment. Some have a tall gauge that looks like a thermometer:

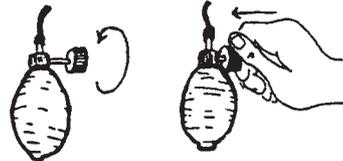


To take a person's blood pressure, first tell her what you are going to do. Then follow these steps:

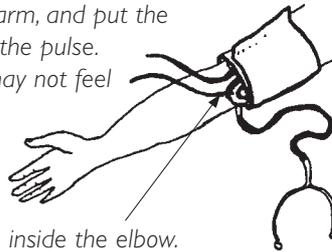
1. Fasten the cuff around the bare upper arm.



2. Close the valve on the rubber bulb by turning the screw to the right. The valve will get shorter.



3. Feel for a pulse just below the elbow, on the inside of the arm, and put the stethoscope over the pulse. Sometimes you may not feel the pulse. If you cannot, put the stethoscope over the center of the skin crease inside the elbow.



4. Pump the cuff up by squeezing the bulb.



5. As you pump, the needle will move.



When it reaches 200, stop pumping.

6. Then release the valve a little so that the air leaks out slowly.



7. The needle will begin to go back down. (If the valve is closed, it will stay at 200.)

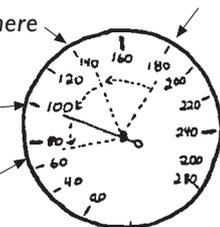


As the air leaks out, you will start to hear the person's pulse through your stethoscope. Notice where the needle or the silver bar is when you start to hear the pulse (this will be the top number) and when the pulse disappears or gets very soft (this will be the bottom number).

If you... do not hear anything when the needle is here...

...or here

but start to hear a pulse about here and then lose it again when the needle is about here



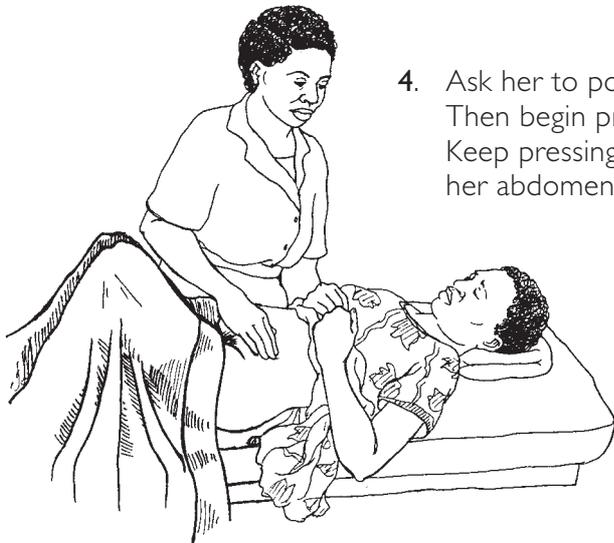
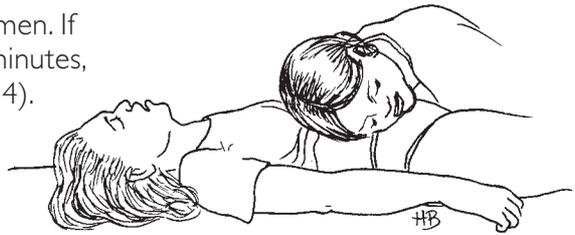
then the blood pressure is: 100/70.

How to Examine the Abdomen

If a woman has pain in the lower *abdomen*, first read the chapter on “Pain in the Lower Abdomen” and ask the woman the questions on page 357.

Then examine her abdomen:

1. Ask her to undress so that you can see her abdomen from just below her breasts down to the hair between her legs.
2. Ask her to lie flat on her back on a firm bed, a table, or a clean floor, with her knees bent and her feet close to her buttocks. Ask her to relax her abdominal muscles as much as she can. This may be difficult for someone who is in pain.
3. Listen for bubbling and gurgling noises by putting your ear on her abdomen. If you do not hear anything for 2 minutes, this is a danger sign (see page 354).



4. Ask her to point to where it hurts most. Then begin pressing gently on the other side. Keep pressing gently as you move around her abdomen to see where it hurts most.

5. As you press her abdomen, feel for lumps. Also, see if her abdomen is soft or hard, and if she can relax it under your hand.

6. To make sure she does not have another problem like *appendicitis*, an infection in her gut, or a *pelvic infection (PID)*, slowly but firmly press on her abdomen on the left side, just above where the leg joins the body (the groin). Press until it hurts a little. Then quickly remove the hand. If a very sharp pain (rebound pain) happens when the hand is removed, she may have a serious infection. Take her immediately to a health center or hospital to see if she needs surgery. If she does not have rebound pain, continue to examine her by looking at the outside of her genitals for sores, *discharge*, bleeding, or other signs of *sexually transmitted infections (STIs)*. For signs and treatment of STIs, see page 261. If you know how, do a pelvic exam (see the next page).

How to Examine a Woman's Genitals (the Pelvic Exam)

Knowing how to examine a woman's genitals can save lives. It is necessary for giving some *family planning* methods and for finding out about many serious women's health problems, such as *pregnancy in the tubes*, *cancer of the cervix* and of the *womb (uterus)*, many STIs, and complications from abortion. It is not difficult to learn, and with practice, most women or health workers can:

- examine the outer genitals.
- feel the *reproductive parts* inside the abdomen.

But only do a *pelvic exam* if it is really necessary. Any time you put something inside a woman's vagina you increase her risk of infection.

IMPORTANT Do not do a pelvic examination:

- when a woman is *pregnant and bleeding*, or if her waters have broken.
- after a normal birth or uncomplicated abortion.

Before you start:

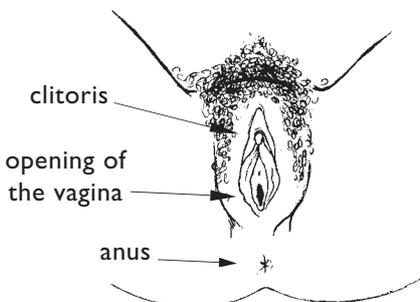
1. Ask the woman to pass urine.
2. Wash your hands well with clean water and soap.
3. Ask her to loosen her clothing. Use a sheet or her clothing to cover her.
4. Have her lie on her back, with her heels close to her bottom and her knees up. Explain what you are about to do.
5. Put a clean glove on the hand you will put inside the vagina.



Always examine a woman where others cannot see.



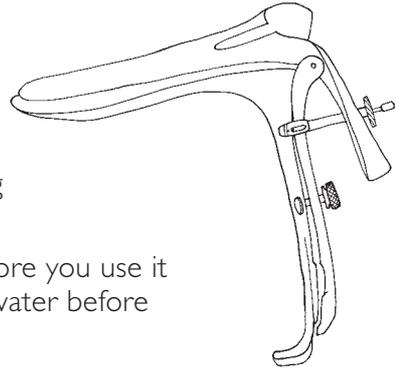
Look at the outside genitals:



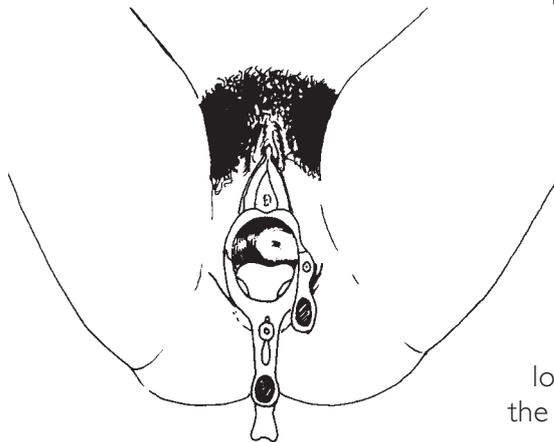
Using the gloved hand to gently touch the woman, look for lumps, swelling, unusual discharge, sores, tears, and scars around the genitals and in between the skin folds of the *vulva*. Some diseases have signs that appear on the outside of the genitals (see the chapter on STIs).

How to do a speculum exam

A speculum is useful for looking at the cervix and vagina. If you have one, follow the steps below and then continue with the exam on the next page. If you do not have a speculum, you can get much of the same information by following the steps on the next page.



1. Be sure the speculum has been disinfected before you use it (see page 527). Wet the speculum with clean water before using it.
2. Put the first finger of your gloved hand in the woman's vagina. As you put your finger in, push gently downward on the muscle surrounding the vagina. (Work slowly, waiting for the woman to relax her muscles.) Use this finger to find the cervix, which feels like the tip of the nose.
3. With the other hand, hold the speculum blades together between the pointing finger and the middle finger. Turn the blades sideways and slip them into the vagina. (Be careful not to press on the urine hole or *clitoris*, because these areas are very sensitive.) When the speculum is halfway in, turn it so the handle is down. Remove your gloved finger.
4. Gently open the blades a little and look for the cervix. Move the speculum slowly and gently until you can see the cervix between the blades. Tighten the screw on the speculum so it will stay in place.
5. Check the cervix, which should look pink and round and smooth. Notice if the opening is open or closed, and whether there is any discharge or bleeding.

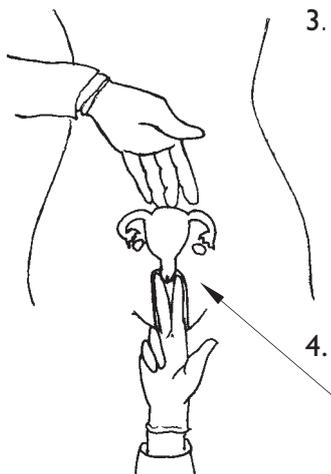
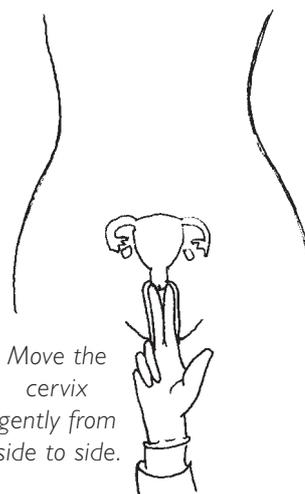


If you are examining the woman because she is bleeding from the vagina after birth, abortion, or miscarriage, look for flesh coming from the opening of the cervix. If you think she may have an infection, check for green or yellow discharge, or bleeding from the cervix. If the woman has been leaking urine or stool, gently turn the speculum to look at the walls of the vagina. Bring the blades closer together to do this.

6. To remove the speculum, gently pull it toward you until the blades are clear of the cervix. Then bring the blades together and gently pull back. Be sure to disinfect your speculum again.

How to feel the reproductive parts inside the abdomen

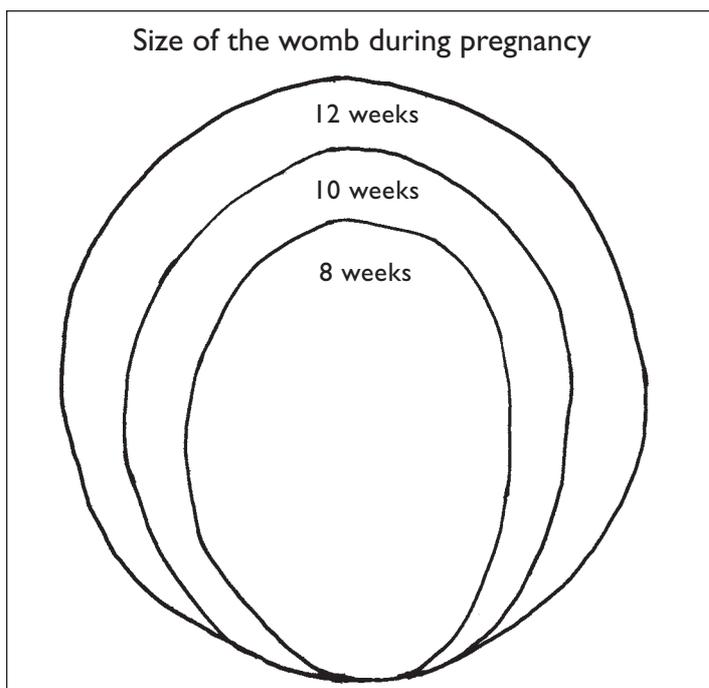
1. Put the pointing finger of your gloved hand in the woman's vagina. As you put your finger in, push gently downward on the muscle surrounding the vagina. When the woman's body relaxes, put the middle finger in too. Turn the palm of your hand up.
2. Feel the opening of her womb (cervix) to see if it is firm and round. Then put one finger on either side of the cervix and move the cervix gently. It should move easily, without causing pain. If it does cause pain, she may have an infection of the womb, tubes, or ovaries. If her cervix feels soft, she may be pregnant.



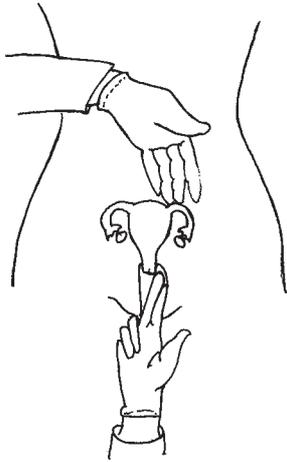
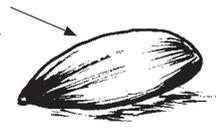
3. Feel the womb by gently pushing on her lower abdomen with your outside hand. This moves the inside parts (womb, tubes, and ovaries) closer to your inside hand. The womb may be tipped forward or backward. If you do not feel it in front of the cervix, gently lift the cervix and feel around it for the body of the womb. If you feel it under the cervix, it is pointed to the back.
4. When you find the womb, feel for its size and shape. Do this by moving your inside fingers to the sides of the cervix, and then 'walk' your outside fingers around the womb. It should feel firm, smooth, and smaller than a lemon.

If the womb:

- feels soft and large, she is probably pregnant.
- feels lumpy and hard, she may have a *fibroid* or other growth (see page 380).
- hurts when you touch it, she probably has an infection inside.
- does not move freely, she could have scars from an old infection (*pelvic inflammatory disease* – PID, see page 274).



5. Feel her tubes and ovaries. If these are normal, they will be hard to feel. But if you feel any lumps that are bigger than an almond (this size) or that cause severe pain, she could have an infection or other emergency. If she has a painful lump, and her monthly bleeding is late, she could be pregnant in the tube. She needs medical help right away.



6. Move your finger and feel along the inside of the vagina. If she has a problem with leaking urine or stool, check for a tear (see page 370). Make sure there are no unusual lumps or sores.
7. Have the woman cough, or push down as if she were passing stool. Watch to see if something bulges out of the vagina. If it does, she could have a fallen womb or fallen *bladder* (see page 131).
8. When you are finished, clean and disinfect your glove (see page 527). Wash your hands well with soap and water.

Caring for Burns

Burns are a common injury for women and children (see page 394). All burns should first be cooled for 15 minutes with ice, cold water, or cloths soaked in cold water. After cooling, treatment depends on how serious the burn is. It is very important to keep burns as clean as possible. Protect them from dirt, dust, flies, and other insects. For better healing, never put grease, fat, animal skins, coffee, herbs, or stool on a burn. It is important for persons who have been burned to eat body-building foods (*protein*). There is no type of food that needs to be avoided.

There are 3 basic kinds of burns:

I. Minor burns (1st degree)

These burns do not form blisters, but the skin will get darker or red. After cooling, no other treatment is needed. Use aspirin or paracetamol for pain.



IMPORTANT Wash your hands carefully before caring for burns to prevent infection.

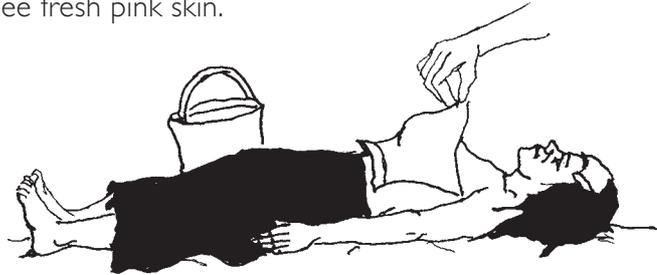
2. Burns that cause blisters (2nd degree)

After cooling, do not break the blisters. Do not make a hole in the blister or take out the liquid inside—not even with a needle and syringe that has been disinfected. If the blister does break, use scissors that have been disinfected to gently remove all the dead skin. Then use mild soap and boiled, cooled water on sterile cotton or gauze, or disinfected cloth, to gently clean the burn. You can also use *hydrogen peroxide*. Remove any remaining burned skin on and around the burn until you see the fresh pink skin underneath. Cover this fresh skin with a piece of sterile gauze or disinfected cloth. If the cloth sticks to the burn when you want to remove it, wet it with water that has been boiled and cooled.

To prevent infection in the burn area, apply a sterile gauze or disinfected cloth that has been soaked in a salt water solution for 15 minutes, 3 times a day. Each time you change the cloth, remove the dead skin and flesh carefully with very clean tweezers, until you see fresh pink skin.

To make a salt solution:

Use 1 teaspoon of salt for 1 liter or quart of water. Boil both the cloth and water before use and cool before putting on the burn.



If the burn does become infected, it will be even more painful, more swollen, and the skin spreading out away from the burn will become hard and red. Use an *antibiotic*, such as 250 mg of dicloxacillin or 250 mg of cephalexin, 4 times a day for 7 to 10 days. Give the person plenty of liquids.

3. Deep Burns (3rd Degree)

These are burns that destroy the skin and expose blackened and charred flesh. **These burns are always serious.** Take the person for medical help at once. In the meantime, wrap the burned part with a disinfected damp cloth or towel. Make sure the water used to dampen the cloth has been boiled and cooled. Give the person plenty of fluids.

If it is impossible to get medical help, treat the burn as you would a 2nd degree burn. To protect the burn from dust and insects, cover it with a loose, sterile cotton cloth or sheet. Change the cloth at least 4 times a day, or 2 times a day if the cloth stays dry.

Give 'rehydration drink' (see page 540) as often as possible, until the person passes urine frequently. If the person is *unconscious* or cannot swallow, give the rehydration drink in the rectum (see page 541 for how to do this).

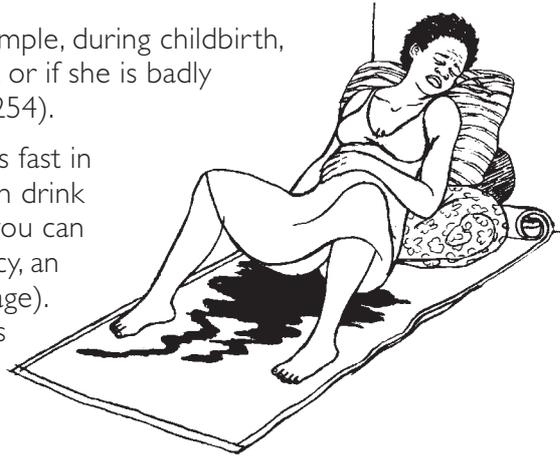
Any person who has been badly burned can easily go into shock, caused by the loss of body fluids from the oozing burn.

Comfort and reassure the burned person, and treat her or him for shock if necessary. Give codeine or any strong pain medicine you have. Bathing open wounds in slightly salty cold water also helps ease pain.

How to Give Fluids to Treat Shock

If a woman loses a lot of blood—for example, during childbirth, after a complicated miscarriage or abortion, or if she is badly burned—she may go into shock (see page 254).

When this happens a woman needs fluids fast in order to save her life. If she is awake and can drink fluids, let her do so. Also, if you know how, you can start an *intravenous drip* (IV). In an emergency, an *enema* can be used instead (see the next page). But enemas should be used for emergencies only. Using too many enemas can be harmful.



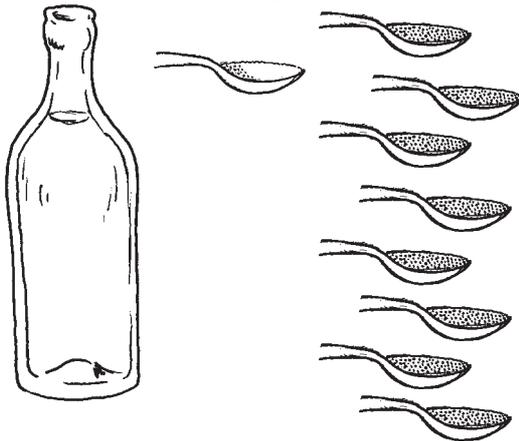
HOW TO MAKE REHYDRATION DRINK

2 ways to make rehydration drink

If you can, add half a cup of fruit juice, coconut water, or mashed ripe banana to either drink. These contain potassium, a mineral which helps a sick person accept more food and drink.

1. **With sugar and salt.** (You can use raw sugar or molasses instead of sugar.)

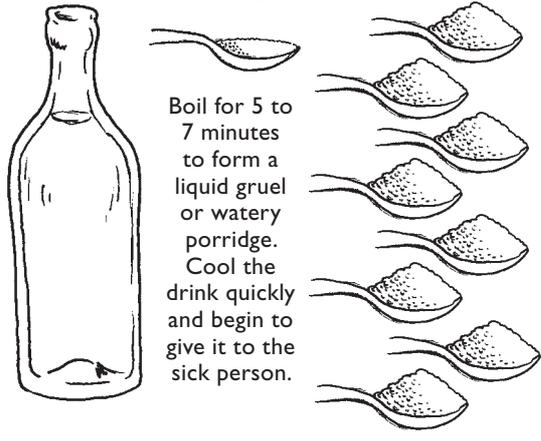
In 1 liter of clean WATER put half of a level teaspoon of SALT and 8 level teaspoons of SUGAR.



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

2. **With powdered cereal and salt.** (Powdered rice is best. But you can 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 heaping teaspoons of powdered CEREAL.



Boil for 5 to 7 minutes to form a liquid gruel or watery porridge. Cool the drink quickly and begin to give it to the sick person.

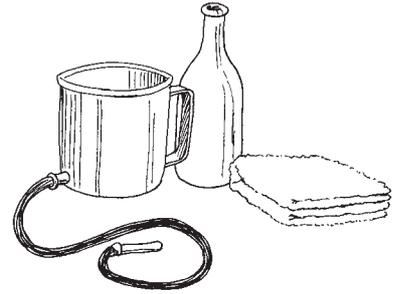
CAUTION: Taste the drink each time before you give it to make sure that it has not spoiled. Cereal drinks can spoil within a few hours in hot weather.

Rehydration drink will also help treat and prevent dehydration, especially in cases of severe watery *diarrhea*.

HOW TO GIVE RECTAL FLUIDS

You will need:

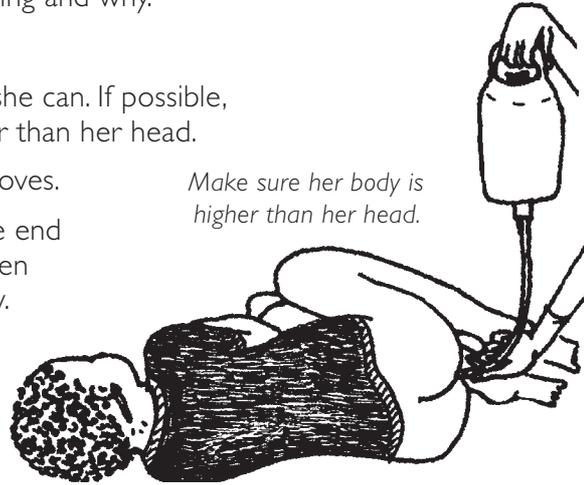
- a clean enema bag, or a can or tin with tubing.
- a cloth to place under the person.
- 600 ml (a little more than $\frac{1}{2}$ a liter bottle) of warm (not hot) drinking water. If you have them, sugar and salt rehydration drink or a bag of IV solution can be used instead.



What to do:

1. Tell the woman what you are doing and why.
2. Wash your hands.
3. Ask her to lie on her left side if she can. If possible, her body should be a little higher than her head.
4. If you have them, put on clean gloves.
5. Let the water come down to the end of the tube to get the air out. Then pinch the tubing to stop the flow.
6. Wet the end of the tube with water, and slide it into the anus. Ask her to take slow, deep breaths to help her relax.

Make sure her body is higher than her head.



Do not put the tube in more than this much.



7. Hold the bag or can just high enough for the water to run in very slowly (about the level of the woman's hips). It should take about 20 minutes. If the water runs out of her body, the bag may be too high. Lower the bag so the water runs in more slowly.
8. Gently remove the tube. Tell her to try and keep the water inside, and that the urge to pass stool will go away soon. If the woman is unconscious, you can hold her *buttocks* together.
9. Clean and dry the woman. Then remove your gloves and wash your hands.
10. Transport the woman for medical help right away. If the woman is still in shock, you can give another enema one hour later. If she is not in shock, try to give sips of rehydration drink as you transport her.

How to Give an Injection

Injections are not needed often. Many medicines sometimes given by injection are safer when given by mouth. But it can be necessary to give an injection:

- when the medicine does not come in a form that can be given by mouth.
- when the person cannot swallow or keep medicine down without *vomiting*.
- in some emergencies, such as bleeding or infections after childbirth or abortion.

It is important to give injections properly. They can be dangerous when given in the wrong place, in the wrong way, or without properly cleaning the syringe, hands, and injection site. Carefully follow all of the instructions on 'How to inject,' page 544.

Preventing infection

Needles and syringes that are not cleaned and disinfected properly can pass a disease like *HIV* or liver disease (*hepatitis*) to another person. They can also cause a serious infection at the injection site or in the blood.

- **Never** use the same needle and syringe to inject more than one person without cleaning and disinfecting the needle and syringe first. Follow the steps on page 528.
- After the needle has boiled, do not touch it with anything that has not been disinfected.
- If needles are for one-time use only, see page 528 for how to dispose of them safely.

WHERE TO GIVE AN INJECTION

There are 2 basic kinds of injections:

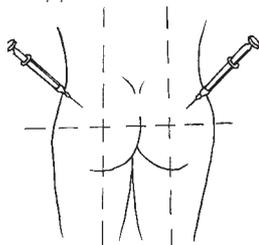
- injections that go into a muscle (intramuscular or IM).
- injections that go into the fatty layer under the skin (subcutaneous).

Where you choose to inject depends on how much medicine you need to inject, the size of the person receiving the injection, and what kind of medicine you are using. For information about how to give both kinds of injections, see page 544.

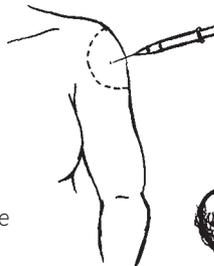
Most of the medicines in this book that need to be injected should go into the muscle. IM injections can be given in a large muscle in the buttock, upper arm, or thigh. It is best to use the buttock or thigh instead of the arm if:

- the amount to inject is more than 2 ml (2 cc). (But you should never inject more than 3 ml (3 cc) in a single dose. Use 2 injections instead.)
- the medicine is likely to cause pain when injected.
- the person being given the injection is very small or poorly nourished.

In the buttock, always inject in the upper, outer quarter.



In the upper arm, keep the arm relaxed against the body. Measure 2 finger widths down from the bone at the edge of the shoulder.



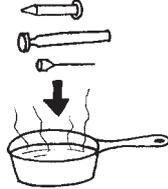
In the thigh, inject into the upper outer part. (This is the best way to inject babies.)



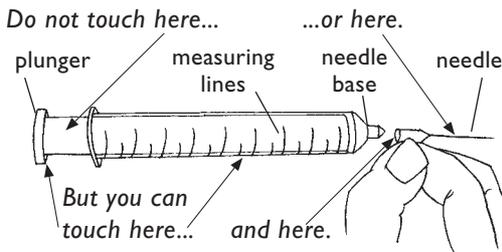
HOW TO PREPARE A SYRINGE FOR INJECTION

Before preparing a syringe, **wash your hands with soap and water**. If the syringe is reusable, start with step 1. If you have a disposable syringe, open the package carefully and start with step 2.

1. Follow the instructions for disinfecting syringes on page 528.

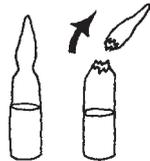


2. Put the needle and syringe together, touching only the base of the needle and the end of the plunger.

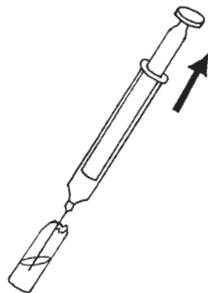


3. Some medicines come ready to use. If you have this kind of medicine, follow steps 4, 5, and 10. If the medicine needs to be mixed with distilled water, follow steps 4 through 10.

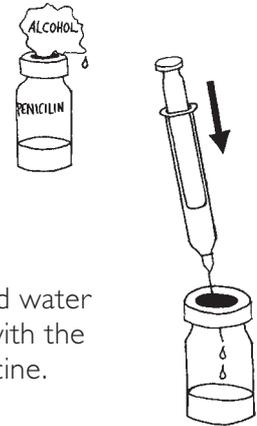
4. Clean the glass container (ampule) of medicine or distilled water. Then break off the top.



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

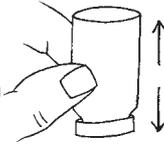


6. Rub the rubber top of the medicine bottle with a clean cloth or cotton that is wet with alcohol or boiled water.



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

8. Shake until the medicine mixes completely with the water.



9. Fill the syringe again.



10. Remove all air from the syringe. To do this, hold the syringe with the needle upright and tap it lightly here to make any air bubbles rise to the top. Then slowly push a little on the plunger until all the air comes out through the needle.

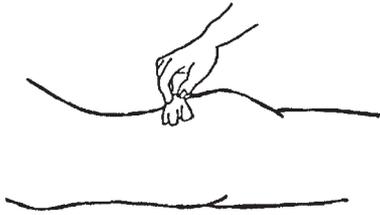


Be very careful not to touch the needle with anything—not even the cloth or cotton that is wet with alcohol. If the needle touches anything, boil it again.

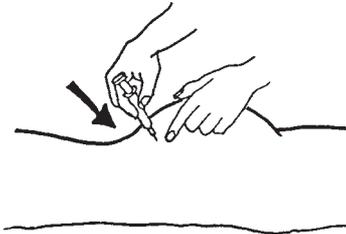
HOW TO INJECT INTO THE MUSCLE (INTRAMUSCULAR, OR IM)

The pictures below show how to inject into the buttock. Steps 2 through 6 are the same for injections into the arm or thigh.

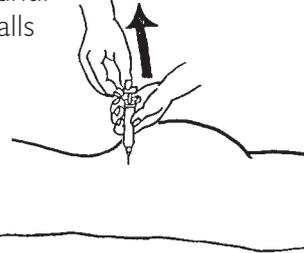
1. The person should sit or lie down. Pointing the toes together will relax the muscle to be injected.
2. Clean the skin with alcohol, or soap and water (it will hurt less if you let the alcohol dry before injecting).



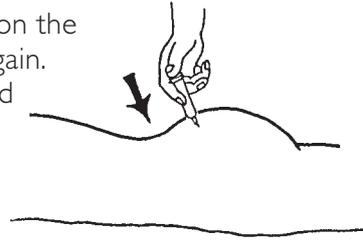
3. Put the needle straight in, all the way. If it is done with one quick movement, it hurts less.



4. Before injecting the medicine, gently pull back on the plunger a little bit (do not pull until the plunger falls out). If blood enters the syringe, take the needle out and put it back in somewhere else close by in the area you have cleaned.



5. Pull back on the plunger again. If no blood enters, inject the medicine slowly.

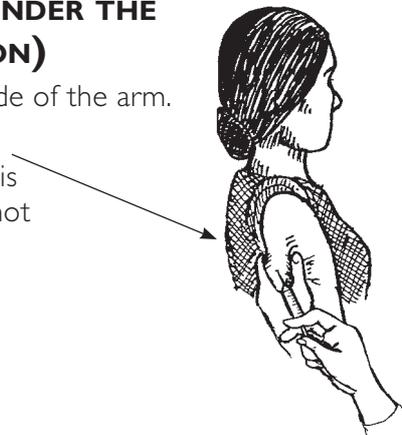


6. Remove the needle and clean the skin again.



HOW TO GIVE AN INJECTION UNDER THE SKIN (SUBCUTANEOUS INJECTION)

- Grab the fatty part on the underside of the arm. Hold the skin like this:
- Put the needle under the skin at this angle. Make sure the needle does not go into the muscle.



BE PREPARED TO TREAT ALLERGIC REACTION AND ALLERGIC SHOCK

Some medicines, especially antibiotics like penicillin and ampicillin, can produce an allergic reaction, usually within 30 minutes after an injection. An allergic reaction can progress to allergic shock, which is an emergency. To prevent allergic reaction and allergic shock, before giving an injection ask the person: “Have you ever had a reaction to this medicine—like hives, itching, swelling, or trouble breathing?” If the answer is yes, do not use that medicine in any form, or any medicine from the same family of medicines. Whenever you inject medicines, watch for signs of allergic reaction and allergic shock and have medicines for treating them nearby.

Mild allergic reaction

Signs: • itching • sneezing • hives or rash

Treatment:

Give 25 mg diphenhydramine by mouth 3 times a day until the signs disappear.

Pregnant or breastfeeding women may find the discomfort of a mild allergic reaction better than the risks of taking an antihistamine.

Moderate to severe allergic reaction

Signs: • itching • swollen mouth • difficulty breathing
• hives and tongue

Treatment:

1. Inject 0.5 mg of epinephrine in the muscle of the outer thigh or just under the skin every 5 to 15 minutes until there is improvement. See the drawing on page 544. Give 25 mg diphenhydramine or promethazine by mouth or by injection into a muscle. Repeat in 8 hours or less if the signs do not get better.
2. Watch the person for at least 4 hours to make sure the reaction does not progress to allergic shock.

Allergic shock

Signs: • itching or hives • swollen mouth and tongue • weak, rapid pulse or heartbeat (more than 100 beats per minute for an adult)
• sudden paleness or cool, moist skin (cold sweats) • difficulty breathing
• loss of consciousness

Treatment:

1. Inject 0.5 mg of epinephrine in the muscle of the outer thigh or just under the skin every 5 to 15 minutes until there is improvement. See the drawing on page 544. Give 50 mg diphenhydramine or promethazine by mouth or by injection into a muscle. Repeat in 8 hours or less if the signs do not get better.
2. Inject 500 mg hydrocortisone (cortisol) into muscle and repeat in 4 hours if needed. Or inject 20 mg dexamethasone into muscle and repeat in 6 hours if needed.
3. Watch the person for 8 to 12 hours to make sure the signs do not come back. Leave her with steroid medicines to take by mouth if her signs return. She should take 500 to 1000 mg of hydrocortisone and repeat after 4 hours if needed. Or she can take 20 mg of dexamethasone and repeat after 6 hours if needed.

Acupressure Massage

Pressing on special 'points' on the body can help relieve some of the common health problems of women. These points come from an ancient Chinese way of healing called acupressure. Local healers may know other kinds of massage.

Use your own sense of how long and how often to press on these points (an average amount of time is 3 to 10 minutes). Many women feel tender at these points. If a point is very tender, be careful not to irritate it. If there is an injury, do not use acupressure in that area.

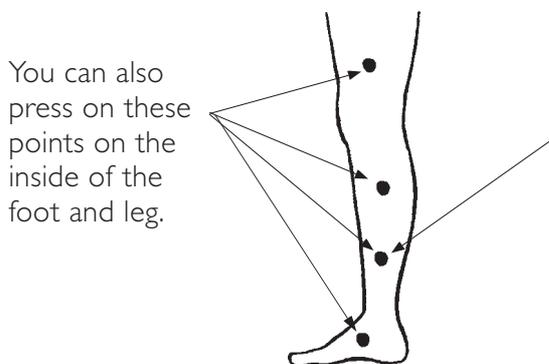
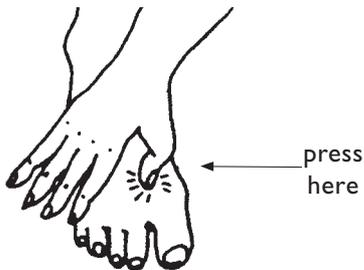
Sometimes there are several points to help the same problem. You can try all these points. If one seems tender or makes you feel better, focus on that point. If not, use all of the points in any order.

IMPORTANT *Pressing on some of these points can cause problems during pregnancy. If you are pregnant, watch for the warnings mentioned below.*

General pain from monthly bleeding

(For information about monthly bleeding, see page 48.)

1. To help prevent general discomfort during monthly bleeding, such as sore breasts, feeling tired, and a full feeling in the lower abdomen:
2. To lessen pain and cramps during monthly bleeding, firmly hold and massage the tender place on your hand you will find between your thumb and first finger. Pressing hard on this spot can ease many kinds of pain.



You can also press on these points on the inside of the foot and leg.

But do not press too hard on this point or it will cause injury. Do not press on this point if a woman is pregnant. This point can cause labor to begin.

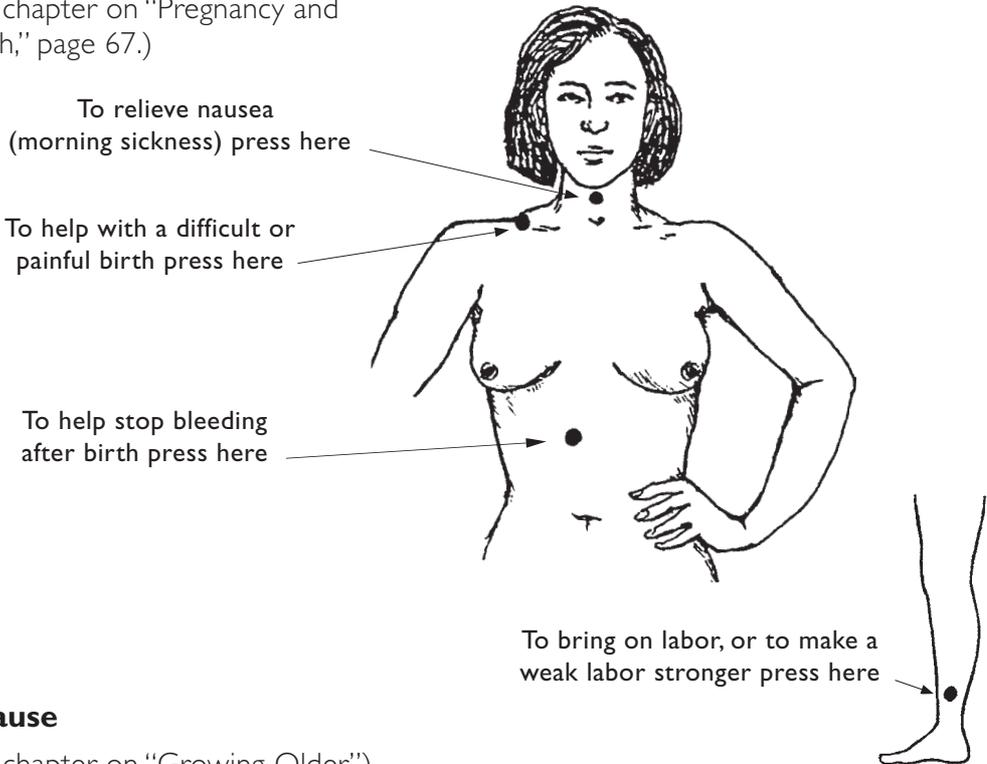
The following massage is also useful to relieve pain and *cramps*, as well as signs of pre-menstrual syndrome (PMS). See page 51.

Massage in between the toes, around the ankle bones, and up the ankles on the outside of the feet. Look for areas that are sensitive and massage these places longer. **For a pregnant woman, do not massage the outside of the big toe, the arch or the middle of the bottom of the foot or above the outside of the ankle. It can make labor start.**

Hand, wrist, and ear massage can also help with pain or signs of PMS.

Pregnancy and childbirth

(See the chapter on "Pregnancy and Childbirth," page 67.)



Menopause

(See the chapter on "Growing Older.")

To help relieve general discomfort, press the following points about once a day for 10 minutes:

