

Labor and birth

INTRODUCTION

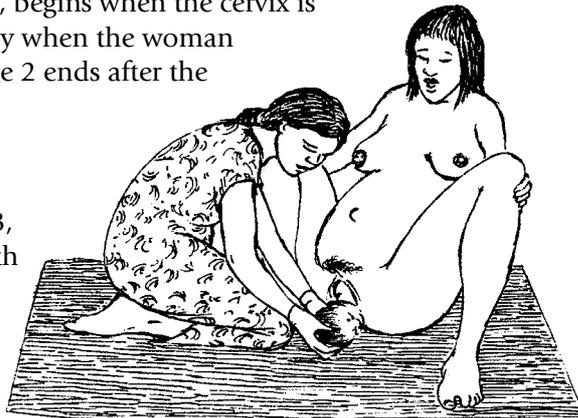
At the end of pregnancy, a woman's body begins the work of opening up and pushing the baby out into the world. This work is called labor.

Every labor is different. It can be long or short, very difficult or not. But each labor follows a basic pattern:

- Contractions (labor pains) open the cervix,
- the woman pushes the baby out of the womb and down through the vagina,
- the baby is born, and then
- the placenta (afterbirth) is born.

In this section of the book, we explain how to get ready for a birth, and some general ways to care for a woman during labor. Then we explain labor in 3 different parts, or stages.

- **Opening**, or Stage 1, begins when contractions start to open the cervix. It ends when the cervix is completely open. (See Chapter 11.)
- **Pushing**, or Stage 2, begins when the cervix is open. This is usually when the woman wants to push. Stage 2 ends after the birth of the baby. (See Chapter 12.)
- **The birth of the placenta**, or Stage 3, begins after the birth of the baby. It ends after the placenta is born. (See Chapter 13.)



Most babies are born without problems, but sometimes things go wrong, and the mother or the baby can be in serious danger. Before most problems happen, there are warning signs.

In this section of the book, we explain what warning signs to look for during labor so you can know if the birth is going well or if a problem might happen. We also explain how to treat some problems, and when to bring a woman to the hospital if she has a problem that cannot be helped at home. To ensure the health of women and babies during labor and birth, you, the woman, the family, and the community should plan before the birth what to do in an emergency (see page 106).

Remember: These are the most important warning signs that mean a woman in labor should get medical help:

- high fever (see page 179)
- high blood pressure (see page 180)
- labor goes on too long (see page 186)
- heavy bleeding (see page 224)
- water breaks too early (see page 174)



CHAPTER 8

Prenatal checkups

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Prenatal checkups



The regular prenatal (pregnancy) checkup has 3 main parts: talking with the mother, checking the mother's body, and checking the baby. Write what you learn during each visit on chart like the one on page 145.

For each part of the checkup, we list healthy signs and warning signs. If you find a warning sign, be sure to follow instructions for what to do. You may be able to take care of the woman yourself or she may need medical help. At times we suggest that you get medical advice. This means you will need a skilled health worker or doctor to help you decide if there is an emergency or if the woman is OK. If no doctor is willing to give you advice, you will have to send the woman to a medical center for help.



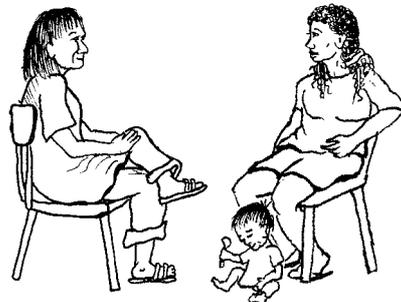
WARNING! The following are the most important warning signs to look for in a pregnant woman:

1. **bleeding from the vagina** (see page 112)
2. **severe pain in the belly** (see page 113)
3. **high fever** (see page 120)
4. **high blood pressure, headache, dizziness, or blurred vision** (see page 125)

At each checkup, remind the mother to get medical help if she has any of these signs.

Talk with the mother

Start the checkup by talking. Ask the mother how she has been feeling and how her pregnancy is going. Find out if she has any complaints or questions.



Observe her general health

HEALTHY SIGNS Mother looks, sounds, and feels healthy and happy.

WARNING SIGNS Mother looks, sounds, or feels unhealthy or unhappy.

While you are talking with the mother, notice everything that you can about her general health. For example:

- Does she have plenty of energy, or is she tired and ill?
- Does she move easily, or is she stiff and slow?
- Does she seem to think and talk clearly, or is she confused or withdrawn?
- Does she have clear skin, or does she have sores and rashes?
- Does she seem happy, or is she sad?



If the mother's general health seems poor, give her extra care, even if you do not know exactly what is wrong. Pay attention if you have a feeling that something is wrong, and remind her to tell you right away if things get worse. She may need medical advice.

Ask if she has any nausea or vomiting

HEALTHY SIGNS Mother has no nausea or vomiting, or mild nausea in the first 3 or 4 months.

WARNING SIGNS

- Mother has severe vomiting, or is unable to keep even water in her stomach.
- Mother can only urinate a little bit, or stops urinating, or her urine is very dark.
- Mother gains less than 1 kilo (2 pounds) in a month after the first 3 months.

Many women have nausea in the first 3 or 4 months of pregnancy. This is not usually dangerous. But if a woman vomits a lot, feels too sick to eat, or cannot keep down even fluids, she will have problems. She and her baby may become malnourished. The nausea may also be a sign that something else is wrong.

If the nausea is mild and in early pregnancy, see page 73 for some helpful remedies to give the mother. If these remedies do not work, or if vomiting is severe, get medical advice. There are medicines that help calm the stomach so she can eat.

If the mother has diarrhea (loose watery stool) or other signs of illness along with vomiting, get medical advice. She should be checked for infection, malaria, ulcers (sores in the stomach), and parasites (harmful worms or other tiny animals living in people's intestines).

If the mother has parasites but they are not causing too many problems, she should probably wait until after the birth to take medicine. Some medicines for parasites harm the baby, especially during the first 3 months of pregnancy. If illness from parasites is severe and the woman is not gaining weight normally or has other signs of illness, get medical advice.

If the mother is unable to keep fluids down and stops urinating, get medical help immediately. She may already have severe dehydration, which is very dangerous. She will need intravenous fluids (fluids given in the veins, which are also called IV fluids, see page 350) and medicine. If you are trained in starting IV fluids, start them while you are traveling to get medical help.



If other people in the area also have trouble with nausea, vomiting, or diarrhea, there may be a problem with the local water. It will not help to give the mother medicines for parasites if she will get parasites again from bad water. If the water is bad, she should only drink it after boiling it or cooking with it. See the book *Where Women Have No Doctor* for simple ways to purify water.

Ask if she feels weak

HEALTHY SIGNS Mother has plenty of energy.

WARNING SIGNS Mother feels weak or tired all of the time, especially after the 4th month.

It is normal for a pregnant woman to feel tired or sleepy in the first 3 months and in the last 4 to 5 weeks of pregnancy. But during the rest of pregnancy she should have plenty of energy.

If a woman is weak or tired for a long time, she may be suffering from one or more of the following problems:

- poor nutrition (see pages 33 to 42)
- anemia (see page 116)
- depression (see page 274)
- too much work
- illness

Help her find out what is causing her weakness. A mother who feels very weak is more likely to have problems in labor and birth. She may have a long, difficult labor, bleed heavily, or get an infection after the birth. Her baby is also more likely to get sick.



Ask if she has any bleeding from the vagina

HEALTHY SIGNS

- No bleeding.
- Very light bleeding or spotting for a few days during the first months, with no cramps.
- Pink or slightly bloody mucus 2 to 3 days before labor begins. This mucus is called show or the mucus plug.

WARNING SIGNS

- Bleeding as much as monthly bleeding at any time during pregnancy.
- Bleeding with pain at any time during pregnancy.
- Bleeding with no pain in the second half of pregnancy (placenta previa).



Bleeding with cramps during the first 6 months

If the mother has bleeding with cramps, she may be having a miscarriage. If the bleeding is light (spotting), the risk is low.

Get medical help if:

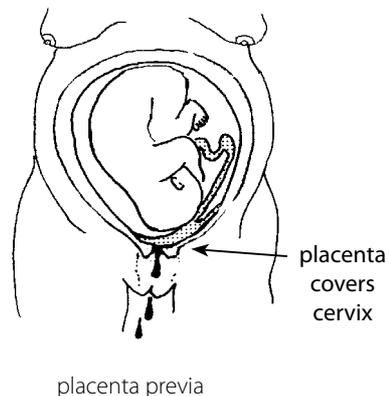
- the bleeding is like a monthly bleeding or heavier.
- the mother is more than 3 months pregnant.
- the mother has a fever.
- there is severe pain or a bad smell from her vagina.

See Chapter 22 to learn how to help a woman with problems after a miscarriage.

Placenta previa

Bleeding with no pain, especially in the second half of pregnancy, may mean the placenta is covering, or partially covering, the cervix instead of being near the top of the womb where it should be. This is called placenta previa. When the cervix starts to open near the end of pregnancy, the womb side of the placenta is not protected. It is like a raw wound. The mother's blood flows through the placenta and out the vagina. This is very dangerous. The mother and baby may die.

Never do a vaginal exam for a woman who might have placenta previa. Treat her for shock (see page 239) and get medical help immediately!



Ask if she has any unusual pain in the belly, back, or legs

HEALTHY SIGNS No pain in the belly, back, or legs. Only common aches and pains that are not dangerous, just uncomfortable, such as:

- mild, irregular cramps high in the belly, all over the belly, or inside the belly (also called practice contractions, see page 150).
- sudden, sharp pains low in the front but to the side that last a few minutes and then go away (see page 79).
- lower back pain that feels better with rest, massage, or exercise.
- sharp pain in the buttocks that runs down the leg and feels better with rest.

WARNING SIGNS

If the mother has any of the following pains, there may be a problem.

- Cramps or belly pains in the first 6 months that get stronger or come regularly may mean that a miscarriage is starting. (See page 91.)
- Pain in one leg that does not go away can be a sign of a blood clot in the leg. (See page 273.)
- Constant pain in the lower belly that goes through the sides into the back, or back pain that does not get better with rest, massage, or exercise, especially if the mother also has a fever, may be caused by a bladder or kidney infection. (See page 128.)
- Any belly pain with fever can be a sign of womb infection. (See page 179.)
- Constant belly pain in late pregnancy may mean the placenta is coming off the womb wall. (See page 114.)
- Strong, constant belly or side pain in the first 3 months may mean that this is a tubal pregnancy. (See below.)



Constant pain early in pregnancy (tubal pregnancy)

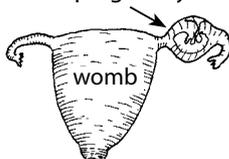
Constant pain in the belly during the first 3 months may be a sign that the pregnancy is growing in the wrong place.

The baby usually grows in the womb, where it belongs. But in rare cases, it may start to grow in the tube that leads from the ovary to the womb. This is called a tubal pregnancy. Tubal pregnancy is very dangerous.

At first the tube stretches. But as the pregnancy grows, the mother may feel a sore lump or pain on her side. Then, sometime before she is 3 months pregnant, the tube breaks and bleeds. This bleeding usually stays inside the body where no one can see it, but it can bleed enough to kill the woman. If you think that the

pregnancy may be growing in the tube, **get medical help immediately!** Watch for signs of shock (see page 239).

tubal pregnancy

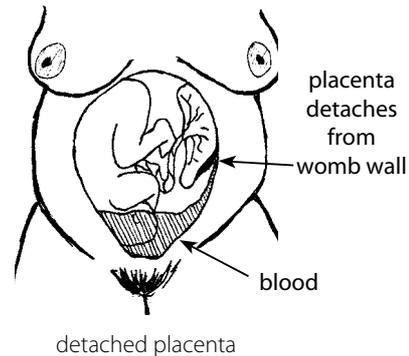


A pregnancy in the tube will make the tube break and bleed.



Constant pain and bleeding late in pregnancy (detached placenta)

Pain in the belly during the last few months of pregnancy may mean the placenta has come off the wall of the womb. This is called a detached placenta, or abruption of the placenta (see page 184). The mother may be bleeding heavily inside. A womb full of blood may feel hard. This is very dangerous — the mother and baby may die. Get medical help immediately! Watch for signs of shock (see page 239).



Note: A pregnant woman can have a pain in her belly from an illness that is not related to her pregnancy. The illness could be caused by appendicitis (an infection of part of the intestines, with fever, pain on the right side of the belly, and lack of appetite), parasites (with nausea or diarrhea), or ulcers (sometimes with vomiting and black, tarry stool). Get medical advice if you think the mother may have one of these illnesses.

Ask if she has shortness of breath

HEALTHY SIGNS Some shortness of breath, especially late in pregnancy, is normal.

WARNING SIGNS A lot of shortness of breath, especially with other signs of illness, is a warning sign.

Many women get a little short of breath when they are 8 or 9 months pregnant. As the baby gets bigger, it squeezes the lungs so there is less room to breathe. Breathing may get easier when the baby drops lower in the belly shortly before labor begins.

Shortness of breath can also be caused by:

- allergies
- anemia (see page 116)
- heart problems
- tuberculosis (a contagious lung disease)
- asthma
- lung infection
- a blood clot in the lung (see page 273)

If the mother has trouble breathing all of the time, or severe trouble even one time, or if you think she may have any of the illnesses above, get medical advice.



Check for signs of diabetes

WARNING SIGNS

If a woman has some of the following warning signs, she may have diabetes. Women with diabetes do not always have all of these signs. But the more signs a woman has, the more likely it is that she has diabetes.

- She had diabetes in a past pregnancy.
- One of her past babies was born very big (more than 4 kilograms or 9 pounds), or was ill or died at birth and no one knows why.
- She is fat.
- She is thirsty all the time.
- She has frequent yeast infections.
- Her wounds heal slowly.
- She has to urinate more often than other pregnant women.
- Her womb is bigger than normal for how many months she has been pregnant.



When a woman has diabetes, her body cannot use the sugar in her blood. There is a blood test for diabetes. Ask your local health department if they can give the test. The best time to do this test is at about 6 months (24 weeks) of pregnancy.

A simple test for diabetes



Ask a woman to urinate into a container like a pot or a cup, and leave the container outside. If ants climb into the container, there is probably sugar in the woman's urine — a sign of diabetes.

How to help a woman with diabetes

Diabetes can make a woman very sick and childbirth more dangerous. Her baby may be very big, have birth defects, or it may become very ill and die after the birth. Women with diabetes are at high risk for pre-eclampsia.

Usually diabetes in pregnancy will improve if the woman eats a good diet and exercises. Sometimes medicine is needed to prevent serious problems.

If you think that a woman has diabetes, she should get medical help. She should probably plan to have her baby in a medical center. She must eat a variety of healthy foods (see pages 33 to 42), avoid candy and sugar, and eat frequent small meals.

For more information about diabetes, see Hesperian's booklet *Diabetes*, the *NEW Where There Is No Doctor* or another general health book.

Check the mother's body

Check for signs of anemia

HEALTHY SIGNS General good health and plenty of energy.

WARNING SIGNS

- Pale inside of eyelids, fingernails, and gums.
- Dizziness or fainting.
- Weakness or tiredness.
- Fast pulse (over 100 beats a minute).
- Difficulty breathing.



There is also a blood test for anemia.

When someone has anemia, it usually means she has not been able to eat enough foods with iron (see page 36). Iron helps the blood carry oxygen from the air we breathe to all parts of the body. Some kinds of anemia are caused by illness, not lack of iron. And some kinds of anemia are inherited (genetic). They cannot be cured by eating iron foods or iron pills.

Many pregnant women have anemia, especially poor women. Women with anemia have less strength for childbirth and are more likely to bleed heavily, become ill after childbirth, or even die.

How to treat anemia

Ordinary anemia can usually be cured by eating foods high in iron (like beans, yams and meat) and foods high in vitamin C (like citrus fruits and tomatoes), and by taking iron supplements.



iron-rich foods

After using these methods, the mother should be checked again in about 4 weeks. If she is not getting better, get medical advice. She may have an illness, or she may just need a stronger iron supplement.

To treat anemia with iron supplements

- give 300 to 325 mg ferrous sulfateby mouth, 2 times a day



If a woman is very anemic in the 9th month of pregnancy, she should plan to have her baby in a medical center.

Check for signs of poor nutrition or lack of iodine

HEALTHY SIGNS General good health and a lot of energy.

WARNING SIGNS Signs of general poor nutrition:

- Not wanting to eat.
- Not gaining weight.
- Weakness and general ill health.
- Sores, rashes, or other skin problems.
- Sore or bleeding gums.
- Stomach problems or diarrhea.
- Burning or numbness of the feet.



Signs of lack of iodine:

- Goiter (swelling in the front of the throat).
- Short children, or children with deafness or hypothyroidism, a disability that affects thinking.

See page 38 for ways to get more iodine.

What to do for poor nutrition

The best way to prevent or cure poor nutrition is to help people eat well. Find out what the mother has been eating. See pages 33 to 42 to find ways to help her eat better. Remember: vitamin pills and tonics can be helpful in pregnancy, but they cannot replace a good diet!



A woman with poor nutrition is more likely to have a difficult birth, a too-small baby, and more difficulty recovering from birth. If you are worried that a woman may have a hard birth because of poor nutrition, get medical advice.

Weigh the mother

HEALTHY SIGNS Mother slowly and steadily gains between 9 and 18 kilograms (20 to 40 pounds) during pregnancy. This is the same as 1 to 2 kilograms (2 to 4 pounds) each month.

WARNING SIGNS

- Mother is very thin or gains fewer than 9 kilograms (20 pounds) during pregnancy.
- Mother gains more than 19 kilograms (42 pounds) during pregnancy.
- Mother gains weight suddenly — more than 2 kilograms (4 pounds) in 1 week or 4 kilograms (8 pounds) in 1 month, especially in the last 2 months of pregnancy.

Most of the weight a woman gains during pregnancy is from her baby, the placenta, and the bag of waters. The mother also puts on some fat. This is healthy.

If you have a scale, weigh the mother at each visit. If possible, always use the same scale.

What to do if you find warning signs

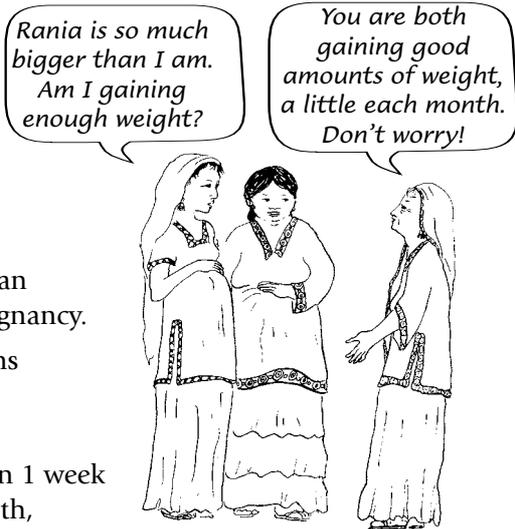
Mother is very thin or does not gain enough weight

Some women are small or thin and may stay small or thin during pregnancy. That is normal. But all pregnant women should steadily gain weight. If the mother does not gain enough weight, try to find out why. Ask the mother about:

- her eating (see page 33).
- hookworm and other parasites (see page 37).
- drug use (see page 46).
- nausea and vomiting (see page 73).
- HIV (see page 99).
- money problems (cannot afford food — see page 104).

Mother is very fat or gains a lot of weight

Women of all sizes can be healthy and have safe births. But gaining a lot of weight can be a warning sign of diabetes. If a woman is very fat, or gains a lot of weight in pregnancy, look for other signs of diabetes (see page 115).



Mother gains weight suddenly

If a mother gains weight suddenly near the end of her pregnancy, it may be a sign of twins (see page 143) or pre-eclampsia (see page 125).

Check the mother's temperature

HEALTHY SIGNS Temperature is close to 37°C (98.6°F). Woman does not feel hot-to-touch.

WARNING SIGNS Woman has a fever — a temperature of 38°C (100.4°F) or above. Woman feels hot-to-touch.

How to check the temperature

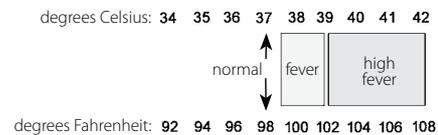
Put the back of one hand on the woman's forehead, and the other on your own or that of another healthy person. If the woman has a fever, you should be able to feel that her skin is hotter than that of a healthy person.



If you have a thermometer, clean it well with soap and clean water or alcohol. To use it, press the button to turn it on.



digital thermometer



Put the thermometer under the tongue and leave it there. The woman should keep her mouth closed. It will “beep” when it has measured the woman's temperature, usually in less than a minute.

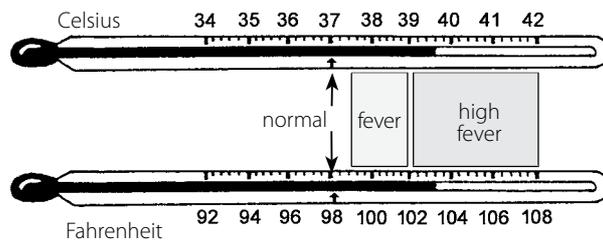
Always clean the thermometer with soap and warm water or with alcohol after you use it.



Glass thermometers are filled with mercury, a very poisonous liquid metal.

Get a digital thermometer if you can. If you must use a glass thermometer, clean it with alcohol or with soap and warm water after every use. It takes longer to

give a temperature than a digital thermometer — leave it in the mouth for at least 3 minutes. If the thermometer breaks, do not pick up the silver mercury with your bare hands. Sweep the mercury into a jar and bury it. Do not let children play with thermometers or mercury.



What to do if the woman has a fever

A fever can be caused by:

- sickness — like flu or malaria (see page 98).
- an infection of part of the body — like a bladder infection (see page 128) or a womb infection (see page 179).

A mild fever can also be caused by dehydration.

Find the cause of the fever, and then treat it. Along with treating the cause, a high fever needs to be lowered right away.



To lower a fever

- give 500 to 1000 mg paracetamol by mouth, every 4 to 6 hours

And have her drink 1 cup of water or rehydration drink every hour. If she is too sick to drink, give rectal fluids (page 342) or IV fluids (page 350).

If the fever does not come down in 8 hours, get medical help.



Check the mother's pulse

HEALTHY SIGNS Pulse is about 60 to 80 beats a minute when the mother is resting.

WARNING SIGNS Pulse is 100 or more beats a minute when the mother is resting.

The pulse tells you how fast the heart is beating. Everyone's pulse is different. That is normal.

How to check the pulse

1. Wait until the mother is resting and relaxed.
2. Put the pads of two fingers on the pulse. Do not use your thumbs.
3. Count the number of beats in a minute:



You can find the pulse on the side of the throat, under the jaw...



or on the wrist below the thumb.



How to know how long to count:

- If you have a watch with a second hand, or a digital watch, or a phone with a clock on it, count the number of beats in the mother's pulse for 1 minute.

(At first, have someone watch the clock for you and tell you when to start and stop counting. Many people find it hard to count accurately while looking at a watch. They tend to count one pulse beat every second, no matter how fast the pulse is really beating.)

- If you do not have a watch with a second hand, check the pulse anyway. You can learn to tell if it is slow, normal, or fast compared to your own pulse, and to other women's. Or you can make a homemade timer to use instead of a watch (see page 447).

What to do if the woman has a fast pulse

If the mother's pulse is 100 beats or more a minute, she may have one or more of the following problems:

- stress, fear, worry, or depression (see pages 104 and 274)
- anemia (see page 116)
- infection like malaria (see page 98), bladder infection (see page 128), or womb infection (see page 179)
- heavy bleeding (see page 112)
- dehydration (see page 159)
- harmful drugs in her blood (for example, from using cocaine or methamphetamines or taking diet pills — see page 46)
- thyroid trouble
- heart trouble



If you suspect any of these causes, turn to the page number listed for more information. If you do not know what is causing the fast pulse, get medical advice.

—● **Note:** Some healers check other traits of the pulse. For example, in many parts of Asia, healers feel how strong and how easy to feel the pulse is. In this book, we only teach how to check how fast the pulse is beating. If you usually check the pulse for other traits, try checking how fast it beats too.

Check the mother's blood pressure

HEALTHY SIGNS Blood pressure stays between 90/60 and 140/90 and does not go up much during pregnancy.

WARNING SIGNS High blood pressure. The mother has high blood pressure if either of these is true:

- The top number is over 140.
- The bottom number is over 90.

(Very low blood pressure is also a warning sign, but is usually only caused by heavy bleeding or shock. See page 180.)

A woman's heart is like a pump, pumping her blood through her body. High blood pressure means that the heart must work harder to press the blood through tight or shrunken blood vessels (veins and arteries). Blood pressure numbers show how hard the blood has to press.

When a woman has high blood pressure during pregnancy, it is harder for her blood to bring food to the baby. The baby then grows too slowly. Very high blood pressure can also cause the mother to have kidney problems, bleeding in the womb before birth, or bleeding in the brain.

High blood pressure can also be a sign of pre-eclampsia (see page 125). Pre-eclampsia can lead to premature birth, bleeding, convulsions, and even death for the mother or baby.

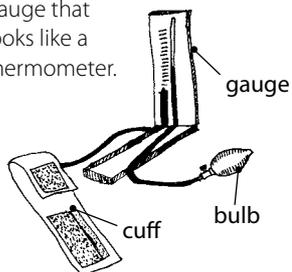
For these reasons it is very important to check the mother's blood pressure.

Blood pressure is not the same as the pulse. You can have a slow pulse with high blood pressure.

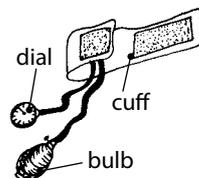
How to check blood pressure

There are several types of blood pressure equipment.

Some have a tall gauge that looks like a thermometer.



Others have a round dial.

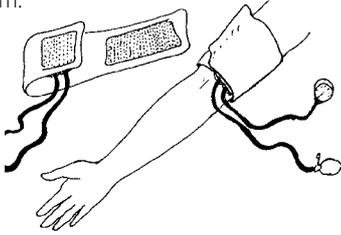


Blood pressure equipment usually comes with a stethoscope. (See page 449 for how to make a homemade stethoscope.)

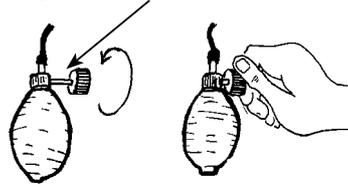


When you take the mother's blood pressure, first tell her what you are going to do and why.

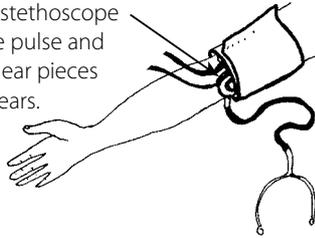
- 1** Fasten the cuff around the bare upper arm.



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



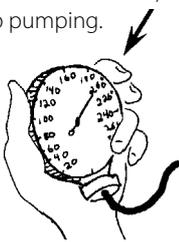
- 3** Feel for a pulse just below the cuff, on the inside of the elbow. Put the stethoscope over the pulse and put the ear pieces in your ears.



- 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 open the valve just 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.)



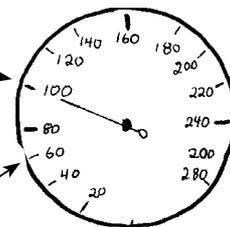
- 8** As the air leaks out, you will start to hear the mother's pulse through your stethoscope.

Notice where the needle or mercury is:

1. when you start to hear the pulse (this will be the top number), **and**
2. when the pulse disappears or gets very soft (this will be the bottom number).

If you start to hear a pulse here

and then cannot hear it anymore when the needle is here



then the blood pressure is: 100/60.

Check the mother's blood pressure at each visit. Write it down on a chart or on one piece of paper, so you can look for changes over time.

If her blood pressure is going up, ask her to come back every week until you are sure that it is not still rising.

If it is ever higher than 140/90, then the blood pressure is too high and can be a warning sign.

| | |
|---------|------------------|
| Sept 13 | $\frac{100}{60}$ |
| Oct 12 | $\frac{110}{62}$ |
| Nov 15 | $\frac{94}{58}$ |
| Dec 10 | $\frac{100}{66}$ |
| Jan 12 | $\frac{110}{72}$ |

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

If her blood pressure is 140/90 or higher

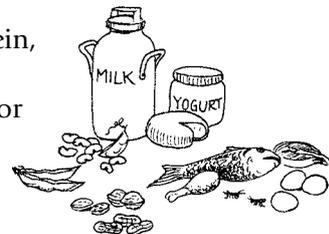
If the mother's blood pressure is high the first time you take it, have her lie on her left side. Help her relax (stress or fear can cause blood pressure to go up). In 10 to 30 minutes, take her blood pressure again.

- If the blood pressure goes down to a normal level, things are probably OK. If possible, have the mother come back in a few days so you can take her blood pressure again. Ask her to rest on her side every day.
- If the blood pressure does not go down, there may be a problem. To find out, take her blood pressure later that day, or the next day. If the blood pressure stays high, get medical advice. Teach the mother the danger signs of pre-eclampsia and check to see if she has any of those signs (see page 125). If she has these signs, get medical help fast. It will probably be safest for her to give birth in a medical center.
- If the top number of the blood pressure is over 150, or if the bottom number is over 100, get medical help now. She must get medical help. She may be able to take medicines to control her blood pressure until the birth.

Home care for moderately high blood pressure (between 140/90 and 150/100)

If the mother cannot see a doctor or if the doctor advises her to rest at home, she should:

- **Rest often during the day.** She should rest as much as she can, even if it is just for several minutes every hour. When in bed, it is best if she rests on her left side. The mother can practice relaxing and feeling peaceful during these rest times. It is especially important to rest in the last 3 months of pregnancy.
- **Eat a good diet.** Help the woman eat a variety of vegetables, fruits, and protein. Foods high in protein, calcium, or magnesium all may help prevent pre-eclampsia. Eating cucumbers, beets, bananas, or lemon or lime juice might help lower blood pressure.





- **Drink a lot of liquid.** Have the woman drink plenty of clean water, herb teas, soups, or other healthy fluids.
- **Avoid very salty foods.** A little salt is fine, but women with high blood pressure should avoid foods with a lot of salt like potato chips, salted nuts, or processed meats.

Check for signs of pre-eclampsia (toxemia of pregnancy)

Pre-eclampsia is a very dangerous problem that can happen in late pregnancy, during labor, or in the few days after a woman has a baby. It can lead to convulsions (eclampsia) and even death.

HEALTHY SIGNS

Normal blood pressure.

WARNING SIGNS

The 2 most sure signs of pre-eclampsia are:

- high blood pressure (140/90 or higher).
- protein in the urine (see page 126).

If a woman has both of these signs, she already has pre-eclampsia and needs medical help right away.

If she has high blood pressure and any of these danger signs, she probably has pre-eclampsia — and you should **get medical help**:

- Strong headaches.
- Vision changes such as spots, blurriness, or double vision.
- Steady, severe pain in the top of the belly or the right side just under the ribs. If it feels like acid indigestion, you can give an antacid. If the pain does not get better in 20 minutes, it is a danger sign.
- Overactive reflexes. Check the foot for overactive reflexes:



Have the woman lie down and hold her foot like this. Give a sharp push, then let go.



If the foot jerks 2 times or more, it is a danger sign.

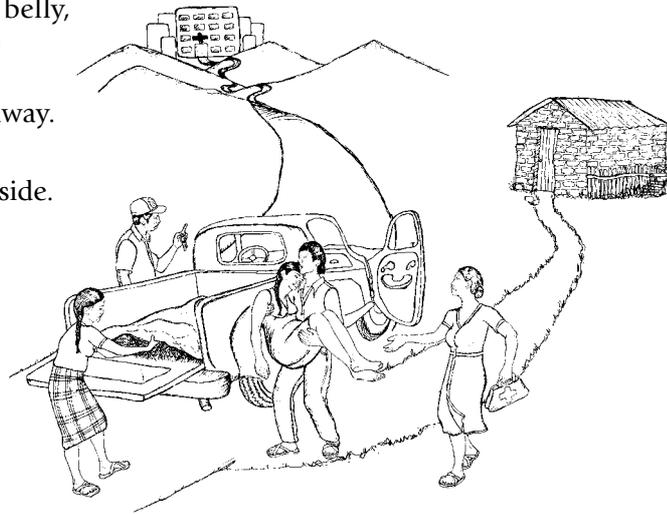
Get medical help immediately if you also see any of these signs:

- Baby seems too small when you measure her womb. This might mean the baby's growth is too slow.
- Little urine. She is drinking enough liquid but making only a little urine.
- Trouble breathing, or wet-sounding lungs.

A woman with pre-eclampsia needs medical help immediately

A woman with high blood pressure and any other sign of severe pre-eclampsia (protein in the urine, strong headaches, blurred vision, pain in the top of the belly, or overactive reflexes) should be taken to a medical center right away.

On the way, she should lie on her left side. Someone should go with her in case she has a convulsion. For more about convulsions, see page 181.



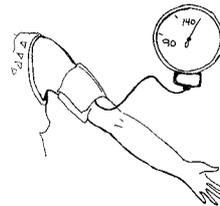
Other warning signs of pre-eclampsia are:

- swelling of the face and hands (especially if she has the swelling when she first wakes up in the morning).
- sudden weight gain.

If she has these signs, continue to check her regularly.

Checking for pre-eclampsia

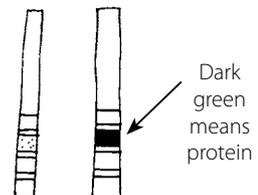
1. Check the woman's blood pressure.
High blood pressure is always a warning sign.
2. If possible, check for protein in the urine.
There are 2 methods for doing this.



140/90 or higher blood pressure is dangerous

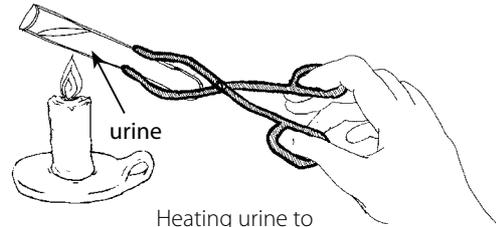
Method 1: Use small plastic strips called *Uristicks*, *Albusticks*, or *Labsticks* to check for protein. Check the date on the box to make sure they are not expired.

You may be able to get a bottle of these sticks from the local health authority or pharmacy. The strips have different color squares that turn from yellow to dark green. Ask the mother to urinate on the stick, and then compare the color of the squares with the color chart on the bottle. If the square turns dark green, there is protein in the urine. This is the most accurate way to check for protein.



Method 2: Heat the mother's urine to check for protein.

Ask the mother to wash her genitals well and then urinate into a clean container. Then pour the urine into a test tube to within 2 centimeters (or one inch) of the top of the tube. Heat the upper part of the tube over a small burner, low flame, or candle until the urine boils. (Keep turning the test tube or the glass will break.)



Heating urine to test for protein

If the urine is clear, there is no protein in it. If the urine becomes cloudy and white, add a few drops of vinegar (2% acetic acid). If the cloudiness goes away there is no protein in the urine. If it stays cloudy or gets whiter, there is protein in the urine. If the woman has protein and high blood pressure, she has pre-eclampsia. When a woman has severe pre-eclampsia, the urine may become very cloudy, white, and thick.



Method 3: Ask the mother if she has had any headaches, dizziness, or trouble seeing.

If these problems are severe or happen often, especially if they start in the last 3 months of pregnancy, they can be signs of pre-eclampsia.

Method 4: Check for swelling. Swelling is also called water weight, water retention, or edema.

Swelling is common during pregnancy, and it is not usually a serious warning sign. Swelling is normal when it is on the ankles and feet, and when it goes away after the woman rests with her feet up. If the woman is having swelling, she should drink plenty of water, take more breaks during the day, and put her feet up when she can.



Swelling can be a sign of pre-eclampsia if:

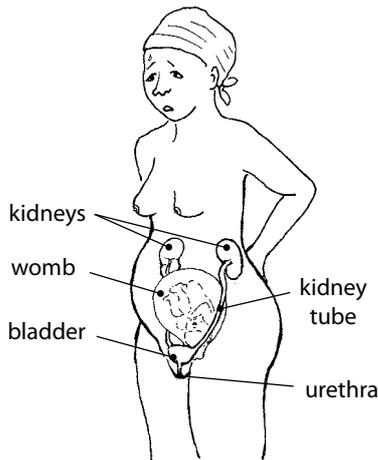
- the woman's hands or face are puffy or swollen **and**
- the woman has swelling when she first wakes up in the morning

What to do if you find warning signs

If a mother has warning signs, get medical help (even if the birth is several months away). It may be safer for her to give birth in a medical center. If you must do the birth at home, be prepared for problems. Read the sections on bleeding (see page 224), convulsions (page 181), and small babies (page 221).

Taking a low dose of aspirin (81 mg) may prevent pre-eclampsia. If the mother is told to rest at home, encourage her to follow the instructions for home care for high blood pressure on page 124.

Check for signs of bladder or kidney infection



The kidneys, kidney tubes, bladder, and urethra (the opening where urine comes out of the body) are all connected and work together to get rid of body wastes. First the kidneys clean the blood and turn waste into urine. Then the urine goes down the kidney tubes to the bladder. The urine stays in the bladder until you urinate.

When harmful germs get into the urethra, it can become infected. That infection can easily spread to the bladder or kidneys.

HEALTHY SIGNS No pain, itching, or burning when urinating.

WARNING SIGNS

Bladder infection

- constant feeling of needing to urinate, even after having just urinated
- pain or burning while or just after urinating
- pain in the lower belly, behind the front of the pelvis
- protein in the urine

Kidney infection

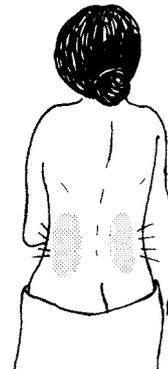
- any signs of bladder infection
- cloudy or bloody urine
- pain in the lower back, sometimes on the sides
- fever
- feeling very sick or weak

Sometimes a woman has a bladder infection but she has no signs.

(Back pain along the spine is common in pregnancy. It can be helped with massage, exercise, or hot compresses.)

A woman is more likely to get infections of the urethra, bladder, or kidneys during pregnancy than at other times. Bladder and kidney infections can be dangerous for the mother and can also cause her to start labor too early if they are not treated right away.

Note: Itching or burning while urinating can be a sign of infection of the vagina or a sexually transmitted infection. See Chapter 18 to learn more about treating these infections.



Pain along the sides of the back may be normal, or — especially if only on one side — it may be a sign of kidney infection.

What to do if you find signs of bladder infection

Encourage the mother to **drink 1 glass of liquid every hour while she is awake**. Liquids help wash infection out of the body. Water and fruit juices are especially good to drink.

Encourage the mother to eat fruits that have a lot of vitamin C, like oranges, guavas, kiwis, mangos, or jujubes.

Use local plant medicines that fight infection or heal injured tissues. Two plant medicines that you might be able to use are:

- **corn silk tea** — boil the tassels from an ear of corn (maize) and then drink.
- **marshmallow tea** — soak chopped pieces of the root of the marshmallow plant (*Althaea officinalis*) in cold water overnight and then drink.



Boil a large handful of corn silk in water and drink 1 or 2 cups.

If the infection does not start to improve quickly, or **if the woman has any signs of kidney infection, give antibiotics**. The longer you wait to treat an infection, the more difficult it will be to cure. If she is not better after 2 days of antibiotics, get medical help.

See the medicines pages at the end of this book before giving this or any medicine.

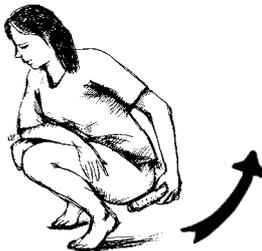
**For a bladder infection that is not getting better, or for a kidney infection**

- give 500 mg amoxicillinby mouth, 3 times a day for 7 days

If the woman is allergic to amoxicillin

- give 960 mg cotrimoxazole.....by mouth, 2 times a day for 7 days (160 mg trimethoprim and 800 mg sulfamethoxazole)

But do not give cotrimoxazole in the last 3 months of pregnancy.

**Prevent bladder infections**

To prevent bladder infections, teach women how to keep germs in stool away from the urethra by wiping from front to back after urinating or passing stool.

Remind women's partners to clean their hands and genitals before sex. Women should also urinate right after having sex.

Check the baby

Measure the mother's womb

HEALTHY SIGNS

- The size of the womb matches the due date.
- The womb grows about 2 finger widths every month.

WARNING SIGNS

- The size of the womb does not match the due date the first time you check.
- The womb grows more or less than 2 finger widths every month.

When you measure the womb, you check to see where the top of the womb is. This will show you 3 things:

1. **How many months the woman is pregnant now.**
2. **The probable due date.** If you were able to figure out the due date from the mother's last monthly bleeding (see page 88), measuring the womb can help you see if this due date is probably correct. If you were unable to figure out her due date from her monthly bleeding, measuring the womb can help you figure out a probable due date. This should be done during the first checkup.
3. **How fast the baby is growing.** At each checkup, measure the womb to see if the baby is growing at a normal rate. If it is growing very fast or very slow, there may be a problem.

How to measure the womb

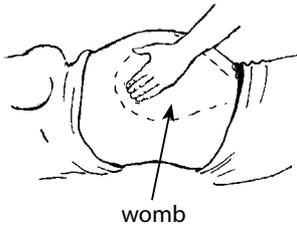
As the baby grows inside the womb, you can feel the womb grow bigger in the mother's belly. The top of the womb moves about 2 finger widths higher each month. At 3 months, the top of the womb is usually just above the mother's pubic bone (where her pubic hair begins). At about 5 months, the top of the womb is usually right at the mother's bellybutton.

At 8½ to 9 months, the top of the womb is almost up to the mother's ribs. Babies may drop lower in the weeks just before birth.

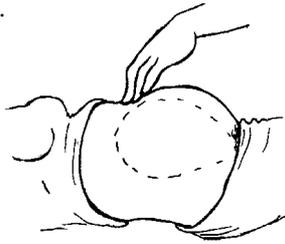
To feel the womb, have the mother lie on her back with some support under her head and knees. Your touch should be firm but gentle.



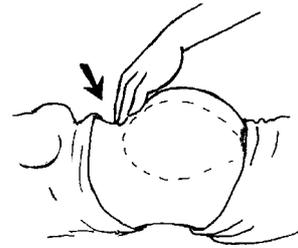
Find the top of the womb.



Walk your fingers up the side of the belly.



Find the top of the womb (it feels like a hard ball under the skin).

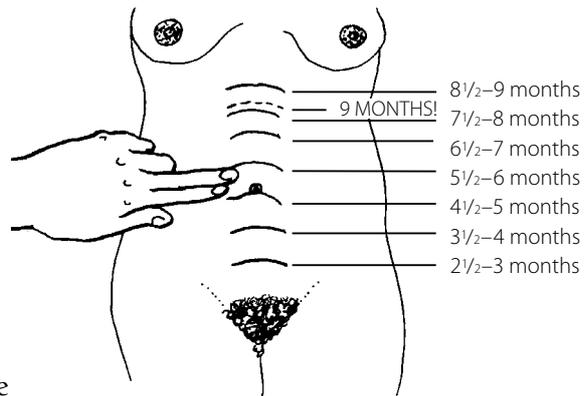


You can feel the top by curving into the belly.

To measure using the finger method

1. If the top of the womb is below the bellybutton, measure how many fingers below the bellybutton it is. If the top of the womb is above the bellybutton, measure how many fingers above the bellybutton it is.

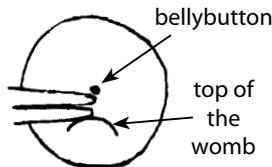
Then see how many months pregnant the woman is now by comparing the number of fingers with this picture (each line is about the width of 2 fingers).



2. Write down what you find, with a picture or with numbers.

To draw a picture: Make a circle for the mother's belly, a dot for her bellybutton, and a curved line for the top of the womb. Then draw the number of fingers the top of the womb is above or below the bellybutton. For example:

This drawing means that the top of the womb is 2 fingers below the bellybutton.



This woman is about 4 1/2 months pregnant.

This drawing means that the top of the womb is 3 fingers above the bellybutton.



This woman is about 6 1/2 months pregnant.

To use numbers: Write down the number of fingers you used to measure the womb. Put a "+" sign in front of the number if the top of the womb is above the bellybutton. Put a "-" sign in front of the number if the top of the womb is below the bellybutton. The example above on the left would be **-2**. The one on the right would be **+3**.

3. Figure out (or double check) the due date.

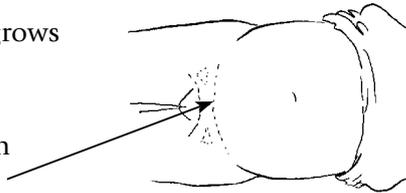
For example, if measuring the top of the womb tells you that the woman is 7 months pregnant, you can expect that the baby will be born in about 2 months. If you have already figured out her due date using her last monthly bleeding, check to see if the 2 dates are about the same. If the 2 dates are not about the same, see page 133.



To measure using a soft tape measure

You can use this method when the womb grows as high as the woman's bellybutton.

1. Lay a cloth or paper measuring tape on the mother's belly, holding the **0** on the tape at the top of the pubic bone. Follow the curve of her womb up and hold the tape at the top of her womb.
2. Write down the number of centimeters from the top of the pubic bone to the top of the womb.
3. Doctors, nurses, and many midwives are taught to count pregnancy by weeks instead of months. They start counting at the first day of the last monthly bleeding, even though the woman probably got pregnant 2 weeks later. Counting this way makes most pregnancies 40 weeks long.



During the second half of pregnancy, the womb measures close in centimeters to the number of weeks that the woman has been pregnant. For example, if it has been 24 weeks since her last monthly bleeding, the womb will usually measure 22 to 26 centimeters. The womb should grow about 1 centimeter every week, or 4 centimeters every month.

If the size of the womb is not what you expected

If you are measuring correctly and you do not find the top of the womb where you expect it, it could mean 3 different things:

- The due date you got by counting from the last monthly bleeding could be wrong.
- The womb could be growing too fast.
- The womb could be growing too slowly.

The due date you got by counting from the last monthly bleeding is wrong

There are several reasons why a due date figured from the last monthly bleeding could be wrong. Sometimes women do not remember the date of their last monthly bleeding correctly. Sometimes a woman misses her bleeding for another reason, and then gets pregnant later. This woman could really be less pregnant than you thought, so the womb is smaller than you expect. Or sometimes a woman has a little bleeding after she gets pregnant. If you assumed that was her regular monthly bleeding, this woman will be 1 or 2 months more pregnant than you thought. The womb will be bigger than you expect.

If the due date does not match the size of the womb at the first visit, make a note. Wait and measure the womb again in 2 to 4 weeks. If the womb grows about 1 to 2 finger widths a month or 1 centimeter a week, the due date that you got from feeling the top of the womb is probably correct. The due date you got by figuring from the last monthly bleeding was probably wrong.

—● **Remember:** Due dates are not exact. Women often give birth up to 2 or 3 weeks before or after their due date. This is perfectly safe.

The womb is growing too quickly

If the womb grows more than 2 finger widths a month or more than 1 centimeter a week, several different causes are possible:

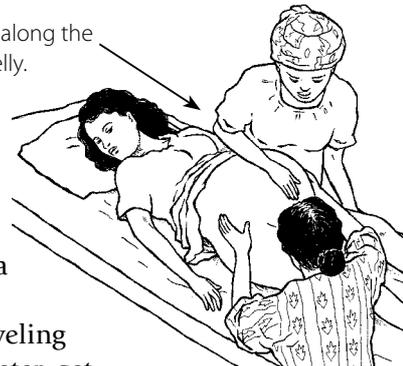
- The mother may have twins. See page 143 to learn how to tell if there are twins.
- The mother may have diabetes (see page 115).
- The mother may have too much water in the womb.
- The mother may have a molar pregnancy (a tumor instead of a baby).

Too much water in the womb

Too much water is not always a problem, but it can cause the womb to stretch too much. Then the womb cannot contract enough to push the baby out or to stop the bleeding after the birth. In rare cases it can mean that the baby will have birth defects. To see if the mother has too much water, try the thump test:

Have a helper put a hand along the middle of the mother's belly.

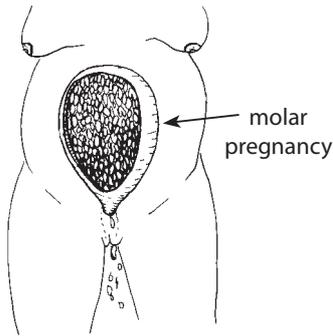
Put one of your hands on one side of the mother's belly. Thump the other side of her belly with your other hand.



If there is too much water inside, you may feel a wave or ripple cross the belly from one side to the other. (The helper's hand keeps the wave from traveling through the mother's skin.) If there is too much water, get medical advice. It may be safer for the mother to have the birth in a medical center.

Molar pregnancy (tumor)

Sometimes a woman gets pregnant, but a tumor grows instead of a baby. This is called a molar pregnancy.



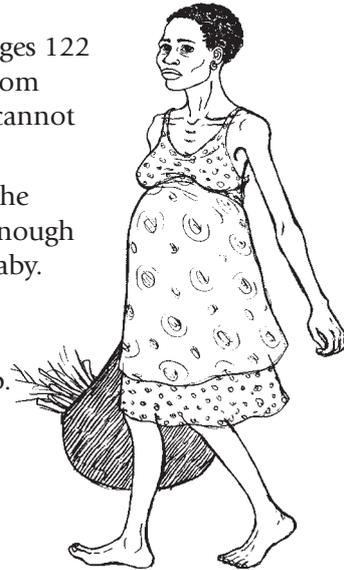
Other signs of a molar pregnancy are: no heartbeat can be heard, no baby can be felt, the mother has bad nausea all through pregnancy, and the mother has spotting of blood and tissue (sometimes shaped like grapes).

If you see signs of a molar pregnancy, get medical help as soon as possible. The tumor can become cancer and kill the woman — sometimes very fast. A doctor can remove the tumor to save the woman.

The womb is growing too slowly

Slow growth can be a sign of one of these problems:

- The mother may have high blood pressure (see pages 122 to 124). High blood pressure can keep the baby from getting the nutrition it needs to grow well. If you cannot check her blood pressure, get medical help.
- The mother may have a poor diet. Find out what the mother has been eating. If she is too poor to get enough good food, try to find a way to help her and her baby. Enough healthy food can save the lives of many mothers and children.
- The mother may have too little water in the womb. Sometimes there is less water than usual, and everything is still OK. At other times, too little water can mean the baby is not normal or will have problems during the labor. If you think the mother has too little water, get medical advice.
- The mother may be drinking alcohol, smoking, or using drugs. These can cause a baby to be small.
- The baby may be dead. Dead babies do not grow, so the womb stops getting bigger. If the mother is 5 months pregnant or more, ask if she has felt the baby move recently. If the baby has not moved for 2 days, something may be wrong.



If the mother is more than 7 months pregnant, or if you heard the baby's heartbeat at an earlier visit, listen for the heartbeat again. If you cannot find it, get medical help. Some medical centers may have equipment to see if the baby is still alive.

If the baby has died, it is important for the mother to give birth soon. She can give birth at home, but she may bleed more than other mothers, and is at more risk for infection. If labor does not start in 2 weeks, go to a medical center where she can get medicine to start her labor.

Note: When a mother loses a baby, she needs love, care, and understanding. Make sure she does not go through labor alone. If she gives birth in the hospital, someone should stay there with her during the birth.



Find the position of the baby

HEALTHY SIGNS

- There is only 1 baby in the womb.
- The baby is head down at the time of birth.

WARNING SIGNS

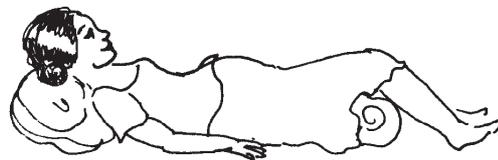
- The baby is breech (feet or bottom down) at the time of birth.
- The baby is sideways at the time of birth.
- The mother has twins.

There are 2 methods for finding the baby's position: feeling the mother's belly, and listening to where the baby's heartbeat is strongest. You may need both to be sure of the position of the baby.

Feeling the mother's belly

It may be difficult to find the position of the baby before the 6th or 7th month. Try anyway. What you feel may not make sense now but may make sense the next time you feel for the baby. It will be easier to find the position during the last 2 months of pregnancy. The more you practice feeling the position of a baby, the better you will be at it.

To begin, help the mother lie on her back and give her support under her knees and head. Make sure she is comfortable.



Then feel the mother's belly. You will be checking for 3 things:

- Is the baby vertical (up and down)?
- Is the baby facing front or back?
- Is the baby head down or bottom down?

Is the baby vertical?

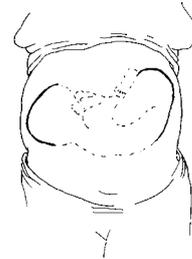
Most babies are vertical by the 7th month.

To find out if the baby is vertical, lay one hand flat on each side of the belly. Press in gently but firmly, first with one hand, and then with the other.

Check the shape carefully. Do the ends of the baby seem to be in the mother's sides? If so, the baby is probably lying sideways. Many babies lie sideways in the first months but most turn head down by 8 months or so. Babies cannot be born through the vagina from the sideways position. A baby that is sideways and cannot be turned when labor starts must be born by cesarean surgery in a hospital (see page 96). If the baby is sideways after 8 months, get medical help.



vertical:
head or bottom
down



sideways:
head and bottom
on the sides

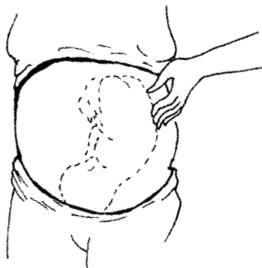
It can be difficult to feel the position of the baby if the mother has very strong muscles on her belly, or if she has a lot of fat on her belly. If you have a hard time feeling the position, ask the mother to take a deep breath and let it out slowly, and to relax her body as you feel.

Is the baby facing the mother's front or her back?

Next, feel the mother's belly for a large, hard shape (the baby's back). If you cannot feel the baby's back, feel for a lot of small lumps.

A large, hard shape probably means the baby is facing the mother's back.

If you feel a lot of small lumps instead of a large hard shape, you are probably feeling the arms and legs. The baby is probably facing the mother's front.



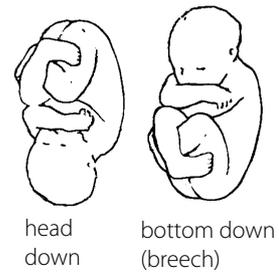
If the baby is facing the mother's front, see page 190.

Is the baby head down or bottom down?

By the last month before birth, most babies are lying with their head toward the cervix. This is called a head-down position. The head-down position is easiest for childbirth.

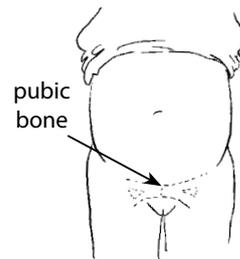
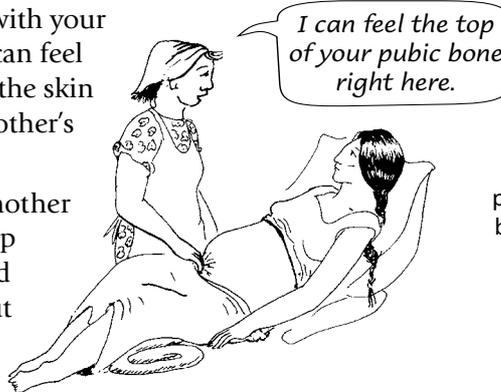
If a baby is head up, with her bottom toward the birth opening, this is called a breech position.

By the 7th or 8th month, the baby's head has usually moved down in the mother's pelvis. Here is how to feel for the baby's head:



1. Find the mother's pubic bone with your fingers. You can feel it just under the skin under the mother's pubic hair.

Ask the mother to take a deep breath in and then let it out slowly.



As she breathes out, press deeply just above her pubic bone. Be gentle and stop if you hurt her.

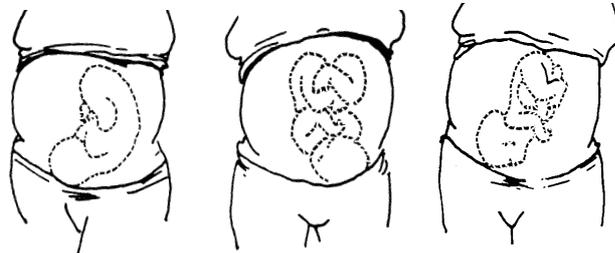
If you feel a round, hard object that you can move a little from side to side, it is probably the back or side of the baby's head.



If you do not feel anything in the mother's lower belly, the baby may be lying sideways.

If the shape is not clearly round, it may be the baby's face or the baby's bottom.

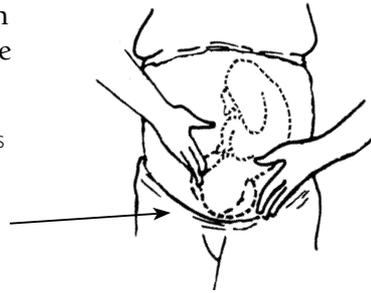
Or sometimes the baby's bottom is up, but the head is not straight down.



The head may be bent to the side, or the chin may be up. (These could be signs that the baby will not fit through the mother's pelvis at birth.)

2. If the lower part of the baby is not too deep in the mother's pelvis, try moving that part of the baby from side to side.

If moving the lower part of the baby makes its whole back move, then the baby may be breech. If the back does not move, then the baby may be head down.



3. Now feel the top of the mother's womb. Does it feel round and hard, like a head? Or is it a different shape — like a bottom, a back, or legs? If the top of the womb feels more like a head than what you felt in the mother's lower belly, the baby may be breech.

4. Put one hand on the baby's back. At the same time, with your other hand, push the top end of the baby gently sideways.

If the whole back moves when you move the top end, the baby is probably in a head-down position.



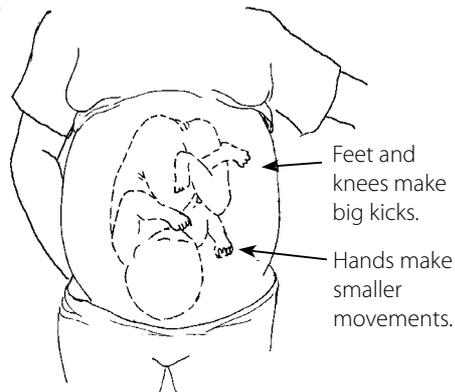
If the back stays where it is while you move the upper part of the baby, you may be moving the head (because the neck can bend, the back stays in place). If you are moving the head, the baby is breech.



Page 142 has more information on breech babies during pregnancy. If the baby is breech at the time of birth, see page 215.

As you feel the mother's belly, try to imagine the different positions the baby might be in. Imagine where the baby's hands and legs might be. Imagine how each position would feel to the mother when the baby kicks.

Then ask the mother where she feels the strongest kicks and where she feels smaller movements. Is this where you think the legs and hands probably are? If not, you may not have figured out the baby's position correctly.



When you check the baby's position, you might think you feel 2 heads or 2 bottoms. The mother may have twins. See page 143.

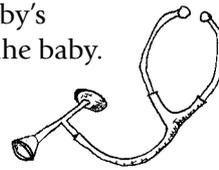
Listening to the baby's heartbeat

The baby's heartbeat gives information about the baby's position inside the mother and about the health of the baby. Listen to the heartbeat at each visit starting at 5 months.

By the last 2 months, you can often hear the baby's heartbeat in a quiet room by putting your ear on the mother's belly.



The heartbeat will be easier to hear if you have a fetoscope or a stethoscope. You can make a simple fetoscope from wood, clay, or a hollow tube of bamboo (see page 449). Or you can buy a fetoscope.



fetoscope

1-ear
fetoscope

2-ear fetoscope



stethoscope



1-ear fetoscope

The baby's heartbeat is quiet and quick. It may sound like a watch ticking under a pillow, only faster. The baby's heartbeat is about twice as fast as a healthy adult heartbeat — usually 120 to 160 beats a minute.

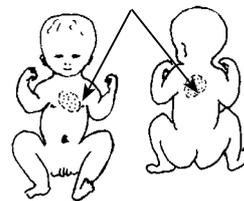
Note: If you hear a "swishy" sound (shee-oo shee-oo shee-oo), you are probably hearing the baby's pulse in the cord. Cord sounds tell you how fast the baby's heart is beating, but they do not help you find the baby's position.

If the heartbeat sounds slow, you are probably hearing the mother's pulse instead of the baby. Try listening to a different place on her belly.

Find the baby's heartbeat

Think about which way the baby seems to be lying. Then start listening for the heartbeat near the spot where you think the baby's heart should be. You may need to listen in many places before you find the spot where the heartbeat is the most loud and clear.

This is where the heartbeat is loudest:

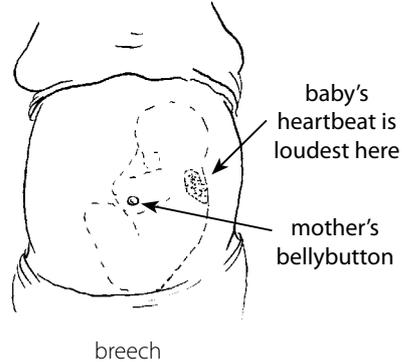
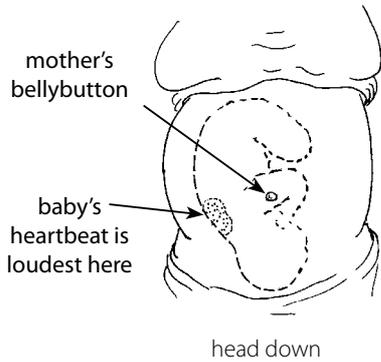


Find the baby's position by listening to the heartbeat

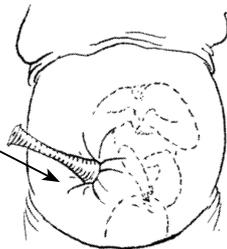
Is the heartbeat loudest above or below the mother's bellybutton?

If you hear the heartbeat loudest **below** the mother's bellybutton, the baby is probably head down.

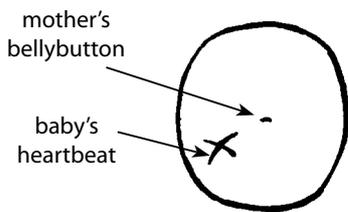
If you hear the heartbeat loudest **above** the mother's bellybutton, the baby may be breech.



Sometimes when the baby is facing the mother's front, the heartbeat is harder to find because the baby's arms and legs get in the way. Listen near the mother's sides, or directly in the middle of her belly to hear the heart.



If you can, keep a record of where you heard the baby's heartbeat by making a simple drawing.



In this picture, the dot in the middle is the mother's bellybutton, and the **X** shows where the heartbeat was found.

In this record, for example, the baby did not turn head down until 7 months. Even then the baby moved from side to side, so the **X** moves from the left side to the right side of the mother's belly and then back again. This kind of movement is normal.

a record of baby's position

| | | |
|-----------|----------|----------------------------|
| 5 months | Sept. 13 | ○ ⁻ × |
| 6 months | Oct. 12 | ○ ⁻ × |
| 7 months | Nov. 15 | ○ ^x - head down |
| 8 months | Dec. 10 | ○ ⁻ × head down |
| 8½ months | Jan. 12 | ○ ⁻ × head down |
| 9 months | Jan. 28 | ○ ⁻ × head down |

Check how fast the baby's heart beats

HEALTHY SIGNS Baby's heartbeat is between 120 and 160 beats a minute.

WARNING SIGNS A baby whose heartbeat is slower than 120 or faster than 160 beats a minute may be having trouble. A baby whose heartbeat is slower than 100 or faster than 180 needs medical help.

Follow these steps to check how fast the baby's heart beats:

1. Use a clock or a watch with a second hand, a digital watch, or a telephone with a clock as you would for checking the mother's pulse (see page 120). If you do not have one, compare the baby's heartbeat to your own pulse when you are resting and calm. (Or make a timer out of homemade materials; see page 447.) The baby's heartbeat should be about 2 times as fast as your pulse.
2. Count the number of heartbeats in one minute. If you have trouble watching the clock and counting at the same time, have someone tell you when to start and stop counting.



If the baby's heartbeat seems very slow, feel the mother's pulse in her wrist while you listen. If the mother's pulse and the heartbeat you hear are the same, you are hearing the mother's heartbeat by mistake.

3. Keep a record of where you found the heartbeat and how fast it beats.

If the baby's heartbeat is above 160, wait a few minutes and check it again. Sometimes the heartbeat is faster when the baby moves. If the heartbeat stays above 160 (especially if it is 180 or more) the mother may have an infection. Check if she has a fast pulse or a fever. If she does, see page 179.

If the baby's heartbeat is slow, the baby may be in danger. If the heartbeat is between 100 and 120 beats a minute, try moving the baby a little from the outside. The baby may be sleeping. Check if the heartbeat is faster when the baby is awake.

If the heartbeat is slower than 100 beats a minute, get medical help.

The baby is in danger! At a hospital the woman may be able to get a cesarean surgery to help the baby to be born early.

—● **Note:** A quiet heartbeat does not mean that the baby is weak. It just means that the baby's chest or back is far from your ear, or that the mother's belly is hard to hear through. For example, the wall of the belly might be thick if the mother is fat.

What to do if you find warning signs

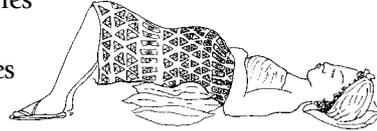


Baby is breech

Breech babies are often born without any trouble, especially if the mother has had other children and her births were easy. But breech babies are more likely to get stuck or have other serious problems (see page 215).

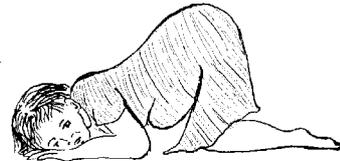
It may be possible to get the baby to turn. Try these methods:

- Lift the mother's hips. This lifts the baby out of the pelvis so he can turn around and put his head down. The mother lies on her back and puts something soft (like a pillow) under her hips for 15 minutes, 3 times every day. It is best to do this when the baby is moving a lot.



After lying this way for 15 minutes, the mother should walk around for about 5 minutes. If she thinks she felt the baby turn, she should not lift her hips like this again until you have checked to see if the baby is still breech.

- Ask the mother to get on her knees with her head resting on the floor. This is another way to move the baby out of the pelvis so that he can turn.
- Try talking to the baby, shining a flashlight, or playing music low on the mother's belly, near her pubic bone. The baby may turn to be closer to the light or sounds.
- You may have plant medicines in your area that can help.



WARNING! Only try massage to turn the baby if you have been taught how to do it safely and can get medical help. Trying to turn the baby by pushing on the womb is very dangerous. See page 369.

Never turn a baby if the mother's waters have broken or if she has ever had vaginal bleeding, high blood pressure, surgery on her womb, or cesarean surgery.



A doctor can pull the baby out with forceps.

If the baby is not head down when labor starts, it is safer for the mother to give birth in a medical center or hospital. Doctors can use forceps (pulling tools) if the baby gets stuck. Or they can do a cesarean surgery.

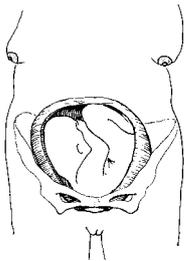
If a breech baby is going to be born at home, it is important for a very skilled midwife to be there (see page 215 for how to deliver a breech baby).

Remember, there are some times when breech birth is even more dangerous. Do not try to deliver a breech at home if:

- this is the mother's first baby.
- the mother has had long or difficult births in the past.
- the baby is big.
- the mother is weak or has been ill, so she cannot push well.
- the midwife is not very skilled or experienced with breech births.

Baby is sideways

If the baby is sideways — not head down or head up — by 8 months, you can try lifting the mother's hips. If the baby does not turn, you should make arrangements for a hospital birth by cesarean surgery.



This baby must be born by cesarean.

Sideways babies cannot fit through the mother's pelvis to be born. If you try to deliver the baby without surgery, the mother's womb will break during labor, and she and the baby will die without medical care.

If the baby turns head down at any time — even on the day the mother goes into labor — it is OK for the mother to give birth at home. But remember that turning a sideways baby by hand is just as dangerous as trying to turn a breech baby. (See page 369.)

Twins

It can be very difficult to know for sure that a mother is pregnant with twins.

Signs of twins:

- The womb grows faster or larger than normal.
- You can feel 2 heads or 2 bottoms when you feel the mother's belly.
- You can hear 2 heartbeats. This is not easy, but it may be possible in the last few months.

Here are 2 ways to try to hear the heartbeats of twins:

1. Find the heartbeat of 1 baby. Have a helper listen for other places where the heartbeat is easy to hear. If she hears a heartbeat, have her listen to one place while you listen to the other.

Each of you can tap the rhythm of the heartbeat with your hand. If the rhythms are the same, you may be listening to the same baby. If the rhythms are not exactly the same, you may be hearing 2 different babies.

Their tapping is different. I may have twins!



2. If you do not have a helper but you have a watch with a second hand, a digital watch, a telephone, or a homemade timer, try timing each heartbeat separately. If the heartbeats are not the same, you may be hearing 2 different babies.



If you think there might be twins, even if you can find only one heartbeat, get medical help. At a medical center or hospital, someone can use a sonogram (see page 437) to see if there are twins.

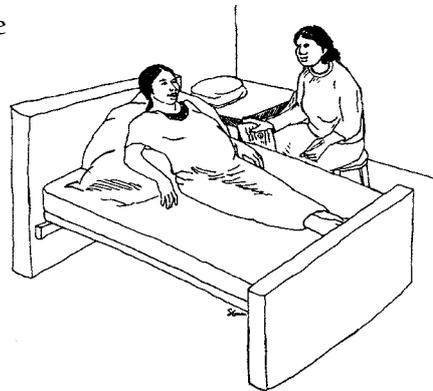
Because twin births are often more difficult or dangerous than single births, they are safer in a medical center. Since twins are more likely to be born early, the mother should try to have transportation ready at all times after the 6th month. If the medical center is far away, the mother may wish to move closer in the last months of pregnancy. Be sure to have a plan for how to get help in an emergency (see page 106).

If the babies must be born at home, 2 very skilled midwives should attend the birth. Watch for labor starting too soon. See page 219 for more about twin births.

After the checkup

Make a time for the next prenatal visit

After you have finished checking the baby and the mother, find out if the woman has any more questions or needs to talk about anything else. If she has any warning signs, carefully explain what the warning sign is and what she must do to care for herself. If she needs to get medical help, be sure she knows where and when to go. Before you leave her, make a time for her next prenatal checkup. Make sure the mother knows when and where the next checkup will be.



Keeping health records

A health record can show you quickly what health issues each woman has, how things have changed for her, and remind you of any warning signs she has had. On the next page, there is a chart you can use to keep a record of prenatal checkups for each woman you help. Adapt this chart or make your own to meet the needs of your community.

Many midwives also make a “lifetime health record” on a folded card the woman keeps at home or brings to appointments. It is a quick way to keep a short record of her general health issues, details about pregnancies and births, vaccinations, pelvic exams, family planning methods, health education, or other details you may need.

Record of prenatal care

Name of mother: _____ Age: _____ Number of children: _____ Date of last childbirth: _____
 Date of last monthly bleeding: _____ Probable due date: _____ Problems with other births: _____

| date of visit | month of pregnancy | general health and minor problems | anemia | weight | temperature | pulse | blood pressure | signs of pre-eclampsia | protein in urine | other warning signs | size of womb | position of baby in womb | baby's heartbeat |
|---------------|--------------------|-----------------------------------|--------|--------|-------------|-------|----------------|------------------------|------------------|---------------------|--------------|--------------------------|------------------|
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