

A photograph of a rural village scene. In the foreground, a river with brownish water flows. Several small wooden boats are moored along the muddy bank. Behind the boats, there are several small, simple houses with corrugated metal roofs, partially obscured by dense tropical vegetation including banana trees and palm trees. The background is filled with a thick wall of green trees under a cloudy sky.

RENEW HEALTH PROMOTION TOOLKIT BOOKLET #5

HEALTHY MOTHERS & NEWBORNS

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OVERVIEW

INTRODUCTION

One of a woman's most significant roles in any thriving community or culture is that of the nurturer of life. In her body, human life is conceived, nurtured in its early stages of development, and delivered to the outside world. She is one who feeds and cares for nearly every newborn person.

In partnership with her family, her kindness and instruction provide the environment where children develop into healthy functioning adults. The community's support and protection of women, in all their vital roles, provides for the community's ongoing success.

GOAL

The goal of this booklet is to help ensure, as much as possible, that healthy babies are born to healthy mothers.

METHOD

1. Focus on providing basic introductory understanding of pregnancy, delivery, and immediate post-partum care of the mother and newborn for those who are unfamiliar with these topics. *This booklet does not provide adequate knowledge or training to equip anyone to manage pregnancy, labor, and delivery. Rely on trained professional help.*
2. Encourage ongoing and excellent training for midwives, available through various government and academic programs. Ideally, every expectant mother should have appropriate care. This includes a well-trained local midwife to monitor the mother and baby's wellbeing throughout the pregnancy and delivery, access to a physician consultant by a phone or radio, and a way to receive timely emergency treatment for any serious complications. *This booklet is not a substitute for good care during and after pregnancy by a well-trained midwife or physician.*
3. Encourage local education on human sexuality, which includes basic information on pregnancy, delivery, and immediate care of the newborn. Hesperian's *A Book for Midwives* is one potential resource. Other aspects of women's health including the equal partner role of women in marriage, sexual development, anatomy, sexually transmitted infections, and other related topics are covered in **Renew Health's Book 3: Healthy Sexuality**. It is recommended that *Book 3: Healthy Sexuality* be read before this Healthy Mothers and Newborns booklet to understand basic terms.

HOW TO USE THIS BOOK

Among the Renew Health Toolkit booklets, Book 5 is different in a number of ways:

1. It is more informational and not as participatory. *Healthy Mothers and Newborns* has fewer skits and discussion.
2. It is recommended that the facilitator carefully gauge the interest and appropriate use of this booklet's information in the setting they have been invited to. This requires previous relationship and trust building, with a facilitator who recognizes their position as "learner". This means learning from the local women and midwives regarding their cultural beliefs, traditions, and what resources are available to pregnant and laboring women.
3. The facilitator will incorporate opportunities for participants to fully participate by asking questions and designing dramas and participatory activities that engage participants with the subject matter.
4. This training, unlike most of the other Renew Health materials, *requires a facilitator with professional expertise in these areas.*

Therefore, supplies and preparation will adapt to the training. Potential supplies may include:

- The Circle Beads materials (see page 8 & 9)
- Posters, laminations, or white board simple illustrations (e.g. Internal and external female anatomy and physiology, the growing fetus in utero, stages of labor, umbilical cord care, skin to skin mother-baby contact, breast feeding technique, sterilization procedures)
- Examples, charts, or illustrations of various birth control methods (e.g. calendar, thermometer, condom, skin patch, vaginal ring, female condom, diaphragm, sponge, IUD, pill packet)
- A sample homemade Midwife's Kit
- Demonstration of local methods to contact medical care in an emergency

The goal is healthy babies born to healthy mothers. This booklet is designed to share only introductory information, to inform others on this common and natural event in every life, and does not train people to manage pregnancy or deliver babies. *This booklet is not a substitute for good care during and after pregnancy by a well-trained midwife or physician.*

To view and download the entire package of Renew Health Promotion booklets and training materials, go to renewoutreach.org/health.

NOTES

PREGNANCY DEFINITION

Pregnancy is the time when a new life is developing inside the woman's womb, or uterus.

PREGNANCY CAN HAPPEN WHEN

- ① Both male and female bodies are sexually developed and functioning normally.
- ② The sperm has gotten inside the woman's vagina and migrated up to the fallopian tube.
Sperm usually enters the woman's body through **sexual intercourse**, when the penis is inserted into the vagina and there is ejaculation. But there can be sperm present on the penis before ejaculation, and a woman can become pregnant without full penetration.
- ③ Inside the woman's fallopian tube, a sperm from the male meets and burrows into the **egg** from the female. The egg and the sperm each contain half the instructions, or genetic information, to direct the development of a mature human being. The sperm determines whether the child is male or female.
The genetic information from the sperm and the egg combine to form a **zygote**. This is **fertilization** and a new life begins, which is **conception**.
- ④ If the combined genetic information is complete, the zygote has all the instructions necessary to begin the process of growth and development of a unique human person. If any of the information is missing, the pregnancy ends, and a very early **miscarriage** occurs.
- ⑤ The zygote travels down the fallopian tube to the prepared lining of the uterus for **implantation**.
- ⑥ It is called an **embryo** from week 2-7 and a **fetus** after 8 weeks.
- ⑦ After implantation, the embryo begins to develop and a placenta forms. This is a round thick plate of tissue that connects the mother to the baby. The **placenta** helps provide oxygen and nutrients from the mother through the **umbilical cord** for the baby to grow and develop. The baby is in amniotic fluid, which surrounds, protects, and nourishes. After the baby is born, the placenta separates from the lining of the womb (or **uterus**) and comes out.



PREDICTING THE DUE DATE

This can be done in a variety of ways. Here is one way:

Start from the **first day of the last period** and **count 40 weeks**. Most babies are born *near*, but not *on* their due dates.

Preterm (early) – anything before 37 weeks

Full term (just right) – any time after 37 weeks

Post term (late) – anything after 42 weeks

Pregnancy ends at about 38 weeks from conception to childbirth or delivery.

PREGNANCY PLANNING

Pregnancy can be both *planned* and *prevented*.

It can be *planned* in a number of ways. One way it can be planned is by timing sexual intercourse to happen when the egg is usually in the fallopian tube. This is called **Natural Family Planning**.

DEFINITION

When a woman is fertile, she can get pregnant. There are times during the monthly cycle when a woman is more likely (fertile) and less likely (infertile) to get pregnant. Natural Family Planning is one method of using the woman's monthly cycle to plan a pregnancy.

CAUSE

A woman is most likely to get pregnant 14 days before the next period. A woman is most fertile then because the egg is usually available in the fallopian tube to meet the sperm.

HOW IT WORKS

Every woman's cycle is different from every other woman. Additionally, her own cycle may vary from month to month.

After a number of months of monitoring, she may notice that her menstrual cycle is very regular, where fertile times can be predicted by counting days. Also, during the fertile times, the normal cervical mucous is like an egg yolk. If it is placed between two fingers, it can be stretched between them, instead of just sticking to the fingers.

ONE WAY TO KEEP TRACK OF FERTILE TIMES

Make a circle of colored beads as shown on the following page.

Move a marker every day of the monthly cycle to show where in the cycle the woman is. Use this to help determine if it might be a fertile time. Plan to have sexual intercourse during the fertile times. The egg is available for fertilization for about 24 hours, and the sperm may be present for up to 5 days. However, over time these sperm become less vigorous and unable to join with the egg.

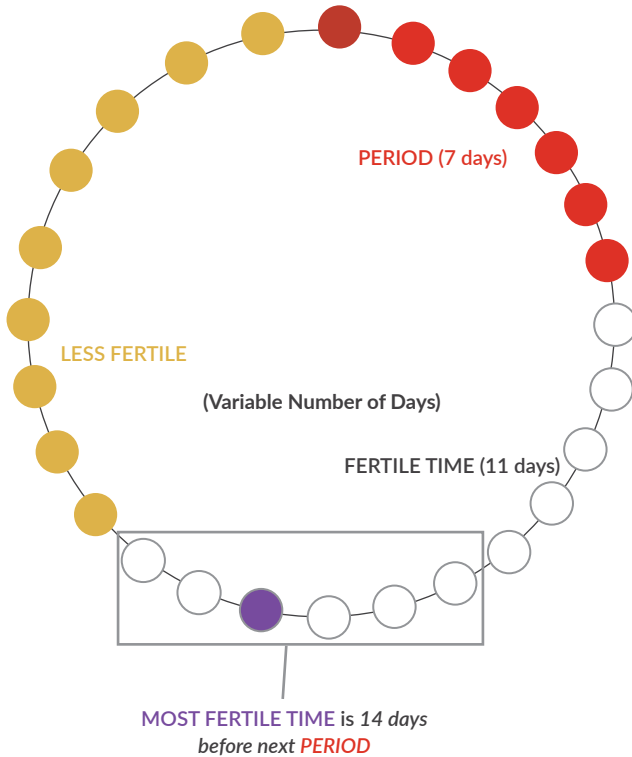
It usually takes about 3 to 6 monthly cycles to get pregnant. If no pregnancy occurs, see a health provider.

Materials Needed for the Circle Beads

(See following page)

Per participant: One string, 7 red beads, 10 white beads, 1 purple or blue bead, 13 yellow beads, & a little rubber band or some other way to mark the day in the cycle.

NATURAL FAMILY PLANNING



The **red** bead stands for the woman's **period** time. Her actual bleeding may be shorter (3 days) or it may be longer (7 days). After the period ends, move to the **white** beads.

The white beads stand for the fertile time of the month. (**-11 days**)

IMPORTANT- The **MOST** fertile time is 14 days **BEFORE** the next period begins.

The **yellow** beads stand for the less fertile time of the month. When the period starts again, move to the red beads. After a number of months, a woman can often predict what her cycles are usually like. By counting *backwards* from the first day of the *expected* period, she can estimate when she is likely to be most fertile. She can also test the cervical mucous to see if it is stretchy. Using these two methods if she wants to get pregnant, she can plan to have sexual intercourse daily during that time.

PREVENTING PREGNANCY

CATEGORIES OF BIRTH CONTROL

Just as pregnancy can be planned, pregnancy can also be avoided. There are three general categories of birth control:

METHOD 1: Avoiding sex when fertile (Natural Family Planning)

Avoid sexual intercourse during potentially fertile times.

Problems with this form of birth control: Natural Family Planning *does not work for every woman.*

1 out of every 4 women who use this method for a year will become pregnant. This is because:

- ① It works best if a woman has very regular cycles, when the period occurs on the same exact number of days apart every month. Normal periods can vary from 21 to 35 days apart, so less fertile days can also vary.
- ② A woman and her sexual partner have to agree to abstain from sexual intercourse during fertile times. If they have sex during the fertile time, they must use another method of birth control (like condoms) to reduce the risk of getting pregnant.
- ③ This birth control method does not protect against sexually transmitted diseases. It is very important to use a condom if there is any risk of a sexually transmitted disease.

Abstinence is the most effective form of birth control and prevention of sexually transmitted diseases. It is a reasonable birth control alternative only for men and women who are not in a lifetime monogamous relationship/marriage, and who are not in a position to provide a stable nurturing home for children.

METHOD 2: Medications that prevent the egg from being released from the ovary and going into the fallopian tube

These medications prevent the ovary from releasing an egg. No egg in the fallopian tubes means no pregnancy. The medications come in different forms:

- Pill
- Skin patch
- Injection
- A small tube placed under the skin
- A ring that is inserted into the vagina

Problems with these medications: These medications are quite safe and effective. However, a health provider needs to evaluate each woman to see if these medications are right and safe for her. A health care provider also writes a prescription, should follow each woman and adjust the medication if there are side effects, does the under-the-skin surgery, and/or gives the injection.

With the pill, injection, or skin patch, 1 out of every 10 to 16 women will become pregnant after one year.

With the small tube placed under the skin, less than 1 in 200 will become pregnant after a year.

There are three general categories of birth control:

Natural Family Planning uses the woman's cycle to assess when she is fertile or not fertile

Medications prevent the woman from releasing an egg from the uterus.

Condoms, creams, IUDs, sponges, & sterilization block the sperm and egg from meeting.

METHOD 3: Different ways to block the egg and sperm from meeting in the fallopian tube.

Here are 4 ways to block the sperm and egg from meeting.

- ① **Male condoms** cover the penis and keep the sperm from going to the fallopian tube via the vagina.
- ② There are devices that are inserted into the vagina, which also block the sperm. (e.g. diaphragm, female condom).

Potential problems with the above methods, called “the Barrier Methods”:

1. The condom has to be applied before sexual intercourse and remain on until the man has withdrawn. This means that the couple has to be prepared and a condom has to be ready and available.
2. Sometimes the condom can break or come off. This is not common unless the condom is not well made.
3. There can be sperm on the end of penis before ejaculation, so any contact of the penis with the external female body near the vagina (called the genital area) can result in a pregnancy.
4. Some men say the condom reduces the pleasurable sensation of intercourse.
5. The condom reduces, but does not eliminate the potential for getting an STI.
6. A health care provider helps fit the diaphragm and teaches the woman how to use it.

One out of every 5 women will be pregnant at the end of a year.

There are **sponges** and **creams** that can be put into the vagina which kill the sperm cells before they can get to the fallopian tube.

Potential problems: These can be irritating to the skin and vagina. They also do not protect from sexually transmitted diseases.

Between 1 in 4 and 1 in 5 women who use these will become pregnant at the end of a year.

- ③ **A small wire like device called an IUD** (Intra Uterine Device) can be inserted into the uterus by a health provider in a clinic. These work primarily by making it difficult for the sperm to go to the fallopian tube.

Continued...

Problems with an IUD:

1. These need to be placed and followed up with by a well-trained health provider to avoid serious problems and address possible complications such as very heavy irregular periods, pain, poking a hole in the uterus (rare), and an increased risk of infections. The health provider needs to be near and available to discuss how it works, what the risks are, and follow up for any problems. It is reversible.
2. Some IUDs may prevent implantation of the zygote and therefore stop the new life from further developing, resulting in a very early abortion of the embryo. For this reason, some providers and women choose *not* to use an IUD as a way to prevent pregnancy or birth.

Less than 1 in 100 will become pregnant within a year with an IUD.

- ④ **There are surgical procedures** for both men and women to prevent the sperm and egg from meeting. This is called **sterilization**. It is permanent, although specialized surgery can try and reverse it. A pregnancy is exceedingly rare after these procedures have been done. The male surgery is called a **vasectomy**. It is a simple office procedure to the scrotum to block the tube from leaving the testis, where the sperm is made.

Problems with a Vasectomy:

Usually there are a few days of local swelling and discomfort after this is done in an office procedure. The physician will discuss potential problems. The procedure takes about 4 months to work, and the man should be checked by the doctor to see that there are no sperm in the ejaculate. It does NOT affect libido (sexual interest) or sexual performance (ability to have and enjoy an erection). It ONLY prevents sperm from getting into the ejaculate.

The female procedure, called a **tubal ligation**, requires a surgeon in a hospital to perform an operation to block the fallopian tube.

Problems with a Tubal Ligation:

The surgeon will discuss potential problems. This is a surgical procedure done in an operating room with an anesthesia; therefore, it is more complicated, risky, and expensive. The risk of ectopic pregnancy is higher than other birth control, but less than using no birth control.

There is around *1 pregnancy in 100* within a year with these surgeries.

PREPARING FOR PREGNANCY

Prior to becoming pregnant, a woman can increase her chances of a having a healthy baby by seeing a health care specialist familiar with care of pregnant women. Some of their recommendations may include

RECOMMENDATIONS

① GOOD NUTRITION

All three food groups are important for a pregnant woman and her baby. See Nutrition lesson in **Renew Health's Book 2: Health Lessons**.

The three food groups include **carbohydrates** (rice, yucca, bread), **proteins** (meat, eggs, cheese, beans, quinoa), and **vitamins and minerals** often found in a variety of colorful fruits and vegetables.

Specific needs for pregnant women include:

- Folic acid-rich foods (dark leafy vegetables, cereals, citrus fruits, bananas, tomatoes). Supplements of folic acid are recommended prior to and during pregnancy; 4 mg/day.
- Iron-rich foods (meats, beans, lentils, quinoa, spinach). Supplements of iron are sometimes recommended in pregnancy; 30 mg/day.
- Calcium-rich foods (dairy products, oranges, coconut, avocado).

DO NOT eat clay or dirt. It can lead to infection and other serious health problems for mother and baby. If there is a craving for starch, dirt, or clay, then increase protein rich foods.

② IMMUNIZATIONS

Immunization recommended prior to pregnancy include:

1. MMR (measles, mumps, rubella) shot at least a month before conception.
2. Before or during pregnancy include tetanus (Td before or Tdap at 27–36 weeks) and influenza if endemic. These diseases in pregnancy can be serious or fatal to the baby or mother.

③ TAKE CARE OF ANY CHRONIC DISEASES OR HEALTH PROBLEMS

Recent and chronic anemia, diabetes, high blood pressure, seizure disorders, tuberculosis, genetic disorders, and mental health problems are important to diagnose and address prior to pregnancy. See a health care provider to discuss and monitor any health problems that could affect mother or baby.

④ AVOID THINGS THAT CAN BE HARMFUL TO MOTHER AND BABY

Any alcohol consumed in pregnancy will hurt the baby!

Other harmful things include:

- Drugs
- Certain medications and herbs
- Cat feces
- Infectious diseases like malaria and Zika (Use a bed net for mosquitoes)
- Poison or other toxins in the environment
- Falls, back injuries, or abdominal injuries

It is often best for mother and babies if pregnancies are at least 18 months apart. This allows the mother's body to recover and the first child to be adequately weaned, started on all three food groups, and be nurtured.

⑤ IF THERE IS ANY RISK AT ALL, BOTH THE FATHER AND THE PREGNANT WOMAN SHOULD BE CHECKED FOR SEXUALLY TRANSMITTED DISEASES.

HIV, hepatitis B, gonorrhea, chlamydia, syphilis, and herpes can cause serious health problems, including death, for mothers and babies. These can be treated and watched in order to prevent illness and death. See **Renew Health's Book 3: Healthy Sexuality** for more information on sexually transmitted infections.

EARLY SIGNS OF PREGNANCY

Pregnancy begins before a woman has any signs or symptoms.

The following can be signs of early pregnancy. Because they can also be

present for other reasons besides pregnancy, see a health care provider to help diagnose the cause of these symptoms. It is recommended that a woman see a health care provider very early in her pregnancy and followed throughout at regular intervals.

Common early signs of pregnancy include:

MISSED PERIOD	A woman's cycle can be irregular for other reasons such as illness, stress, poor nutrition or weight loss. With pregnancy, see a health provider soon. With no pregnancy, see a health provider if more than 3 periods are missed.
FEELING NAUSEATED IN THE MORNING	In pregnancy this is often present for about 14 weeks. If it persists or occurs without other signs of pregnancy, see a health care provider.
FEELING VERY TIRED	Rest during the day and get more sleep. This usually resolves by week 14. If this persists without other signs of pregnancy, see a health care provider.

URINATING MORE FREQUENTLY	<p>It is important for every woman to have a safe & private place to urinate. Keep drinking clean water throughout the day.</p> <p>NOTE: If there is blood in the urine or it's pink, a fever, back pain, it stings to urinate, or the urine smells bad, see a health care provider because it could be an infection of the bladder.</p>
BREAST TENDERNESS AND SWELLING	<p>Wear supportive clothing like a well-fitting bra or a wrap-around over the breasts for comfort.</p>
CONSTIPATION	<p>Increase the amount of clean water to drink. Eat fresh vegetables and fruits to keep stools loose. Walk daily. If constipated and not improving, see a health care provider.</p>

NORMAL SIGNS OF PREGNANCY

What to do and when to be concerned.

SWOLLEN FEET	Rest twenty minutes three times a day with the feet elevated above the level of the heart. NOTE: If it becomes worse near the end of pregnancy, get checked to be sure your blood pressure is not too high.
HEMORRHOIDS	This sore swelling around the anus will be less sore if you can sit for ½ hour in cool clean water, regularly elevate your legs, avoid heavy lifting and prevent constipation. NOTE: If the hemorrhoids bleed or are suddenly very painful, this is usually not life threatening, but see a health care provider.
HEADACHE	Drink more clean water, take paracetamol, and rest. NOTE: If it does not get better or becomes severe, seek a health care provider to examine you and check your blood pressure and other potential causes.
COLOR CHANGES OF THE NIPPLES (DARKER), CHEEKS (DARKER), ABDOMEN (A DARK LINE FORMS IN THE MIDDLE)	These are normal and usually resolve sometime after delivery.

BACK PAIN	Avoid heavy lifting & lift properly (not by bending over but using your legs to lift the weight). Rest at least three times a day on a flat comfortable surface with a pillow under the knees. Do gentle stretches the health provider teaches you. Take paracetamol according to directions. Get a gentle massage. NOTE: If signs of bladder infection are present, see a health care provider.
LEG AND FOOT CRAMPS	Stretch the tight muscle. For example, if you get a cramp in the lower leg, flex the ankle. Increase calcium and magnesium with green leafy vegetables, fruit, nuts, beans, vegetables, & raw cacao.
ABDOMINAL DISCOMFORT	Mild discomfort can be normal. Rest & drink more fluids. NOTE: If this persists, there is vaginal or rectal bleeding, the pain is severe, there is nausea or vomiting or diarrhea, it occurs in a regular on-off pattern, see a health care provider about early labor or other problems.

PREPARING FOR DELIVERY

A midwife who is experienced, has good judgment, is well trained, and is kind and loving is the most valuable resource to have at a delivery!

USEFUL SUPPLIES

- 1 A reliable helper for the midwife.
- 2 Support person for the mother.
- 3 A clean safe place to give birth.
- 4 A way to wash hands (e.g. clean running water, clean bowl or sink, soap, clean pitcher, a brush for the finger nails, alcohol).
- 5 Ample clean cloths, towels, or linens.
- 6 Boiled water, cooled.
- 7 Something sterile* and sharp to cut the umbilical cord, like a razor blade.
- 8 Something sterile to tie off the umbilical cord.
- 9 Clean clothes & blankets for the mother and baby.
- 10 Clean food for the mother and helpers.
- 11 Clean water for the mother to drink.
- 12 Bowls or containers for the placenta.
- 13 Light source if it is at night or dark where the baby is being born.

**See page 33 on how to sterilize equipment.*

- 14 A near place for the mother to urinate.
- 15 A way to contact a physician for consultation and to get to a hospital in an emergency.
- 16 Very clean rubber or latex gloves, or clean plastic bags.
- 17 Supplies for making oral rehydration solution.
- 18 A fetoscope to listen to the baby's heart rate.
- 19 A stethoscope and blood pressure cuff to check the mother's blood pressure.
- 20 A mucous trap or suction bulb for the baby.

MANY MIDWIFES WILL ALSO HAVE

- A clean apron
- Nitrazine paper to check for **amniotic fluid** (the womb fluid that the baby is in which usually leaks out in early labor)
- Medicines to help the uterus to contract after delivery, not during
- Antibiotic ointment for the baby's eyes
- HIV medicines if the mother has HIV
- Scale and measuring tape
- A thermometer
- Sterilized clamps to stop bleeding if there are vaginal tears
- Expertise and a kit to sew up any tears at the opening of the vagina or the genital/anal area. If there is a tear that involves the anus, it is usually necessary to see a health care provider at a hospital or clinic who is familiar with this kind of injury. If it is not sewn correctly it will cause a lifetime of serious problems with urination, defecation, sexual activity, and future deliveries.

SIGNS OF LABOR

SIGNS THAT LABOR MAY START SOON INCLUDE

1. The baby seems lower in the belly
2. The expectant mother's stools get looser
3. She has tightening of the uterus that seems to be coming regularly a few minutes apart.
4. There may be a plug of mucous with a little bit of blood that comes out
5. Or she might just feel "different".
6. There may be a little leaking of fluid. Be seen by a midwife or health care provider to check if this is amniotic fluid or urine.

*If there is **a gush of fluid**, it usually means the amniotic sack that the baby is in has ruptured. **Do not delay—Seek a midwife or go to a birthing center** to be sure that labor begins soon and progresses normally. Do not put anything unsterile in the vagina. It is time to prepare for delivery.*

THE STAGES OF LABOR

The three stages of normal labor

STAGE 1

The uterus muscle begins to have strong regular contractions that open up the cervix and birth canal for the baby.

STAGE 2

The mother pushes the baby through the birth canal out into the world.

STAGE 3

The placenta also delivers through the vagina and the uterus contracts firm and small.

LABOR: STAGE 1

The **cervix**, which is the opening to the uterus, is thick and closed. During stage 1 it becomes thin and open to allow for the baby to leave the uterus, go through the vagina, and be delivered. This takes many **contractions**, which are the very strong tightenings of the uterus muscles. This stage of labor may last an hour, a day, or longer. First babies take longer.

DURING STAGE 1

THE MIDWIFE

The midwife will be sure everything is set up for labor and delivery and the immediate care of the baby after delivery. They will check to see if the baby is head first, check that the baby and mother's heartbeats are not too high or too low, check for the rupture of membranes (the normal leaking of the amniotic fluid) and if the fluid is clear, check the mother's blood pressure, watch for the normal progress of labor and for any signs of trouble. The midwife will be ready for any emergency. The midwife may have a helper to help with these tasks and to ensure that the nurse midwife has everything needed at hand.

THE MOTHER

The mother will rest between contractions. During contractions she can carry herself through them by concentrating on relaxation breathing (example: breathe in for three "He, he, he" and out for 3 "Who, who, who"), making low regular moaning sounds, or distracting herself by focusing on something good and pleasant. The helper can help her concentrate and/or do these things with her to help her relax. Resting calmly between contractions is important to save strength.

THE MOTHER'S HELPER

The helper will help the woman drink water (a cup an hour) and help the woman try to urinate every 2 hours. The helper can make oral rehydration solution if labor is long and the woman is not eating, help the woman change and support different positions once an hour (never put her flat on her back), help her concentrate and breathe during the hard contractions, and provide important reassurance and comfort. Labor is very hard but the helper tells the woman that she can do this. Helping involves being engaged with the woman, finding out what kinds of touch she wants like neck massage, pressure on her lower back, or putting cool or warm cloths on her back or forehead.

STAGE 1: SOME DANGER SIGNS, POSSIBLE CAUSES, AND WHAT TO DO

<p>Baby's heart rate <110/minute and stays there</p>	<p>The cord may be pinched, the placenta is not working well, or the baby is not well.</p>	<p>Change positions. Try putting mother on her knees with chest and head resting down. If it persists, go to a medical center right away. If ready to push, deliver baby and go to a medical center. Give oxygen if you have it.</p>
<p>Baby heart rate is too fast >160/minute and remains high after 5 contractions</p>	<p>Mother is dehydrated or there may be a serious complication.</p>	<p>Encourage the mother to drink fluids and go to a health care facility.</p>
<p>Bag of water breaks and the pregnancy is too early</p>	<p>When the amniotic fluid bag breaks, infection can get to the baby. Also, Babies that come too early have more problems.</p>	<p>Seek medical care. DO NOT put anything in the vagina but if it is necessary, then only sterile things.</p>
<p>If the amniotic fluid has a bad odor, is darker than normal, or has chunks of baby stool</p>	<p>There may be an infection. If the baby has pooped, there will be stool (meconium) in the fluid that the baby can breathe into their lungs at delivery. This can be dangerous.</p>	<p>Seek a medical clinic. Suction the baby's mouth and nose as soon as the baby is delivered. Sometimes, when the head is out and the body is not yet delivered, one can suction—but do not delay delivery to do this.</p>
<p>Heavy bleeding (more than a cup)</p>	<p>There are many causes, including the placenta laying right around the cervix.</p>	<p>DO NOT do a vaginal exam! Seek medical attention right away.</p>

<p>Between contractions there is pain, tenderness and hardness to the uterus</p>	<p>There may be infection or the placenta may be separating from the wall of the uterus too early and causing large amount of blood in the uterus.</p>	<p>Get medical help right away.</p> <p>Reassure her, help her to relax during contraction and seek medical attention. Use only safe medications or plants to help her sleep or rest.</p>
<p>Labor lasts more than 24 hours for first baby or 12 hours for second baby</p>	<p>There are many possible causes; do not blame the mother.</p>	<p>Seek a health care facility for expert care. Forceps (a special instrument a doctor uses to help the stuck baby) or a C section delivery (a surgery in a hospital) may be needed to save mother and baby.</p>
<p>Baby is in the wrong position (face first, forehead first, sideways, bottom or feet first) or there may be more than one baby; the midwife should be able to tell</p>	<p>The baby may be too big for the mother's pelvis or has moved into a difficult or dangerous impossible position for a safe delivery.</p>	<p>Stay calm. Put her on her left side. Seek medical care. If you are trained in this, give oxygen and medication (Mg sulfate or diazepam).</p>
<p>Mother's blood pressure is too high, > 140/90</p>	<p>This is called pre-eclampsia. If she has seizures, it is called eclampsia and is very dangerous.</p>	<p>If she has a seizure do not put anything in her mouth, make sure she will not hurt herself or hit anything. Seek medical care.</p>

STAGE 2

During stage two, the baby is pushed out of the uterus through the cervix and vagina to delivery.

DURING A NORMAL DELIVERY: STAGE TWO

- ① The mother will have an urge to push.
- ② The contractions may be less often, but still strong.
- ③ The genitals, the outside of the woman's body around the vagina, will begin to bulge during a contraction and bulge less after the contraction is over.
- ④ Soon a small amount of the top of the baby's head will begin to be visible during a contraction and disappear after the contraction is over. But with each push, more of the top of the head should be seen. When a palm size part of the head is visible it is called crowning.
- ⑤ The nurse midwife will know when it is time to deliver the baby. She will wash her hands well and put on gloves. Everything should be ready for the delivery of the baby and the placenta.
- ⑥ The nurse midwife will try to help the vaginal opening gradually stretch and not tear during the delivery.
- ⑦ She may begin to apply clean water (boiled for 20 minutes and cooled, but still warm) on a clean cloth to the vaginal opening just before crowning to help the tissues stretch.
- ⑧ She may hold and support the skin between the anus and the vagina (the perineum) to help the tissues stretch with contractions.
- ⑨ She may ask the mother to not push for a number of contractions but have her pant, to give time for the tissues to stretch. This can also prevent tearing during delivery.

- ⑩ Still protecting the area between the vagina and the anus (the perineum) with one hand, She will begin to deliver the head (The baby's face should be facing down) by very gentle pressure of her free hand on the baby's head and towards the mother's bottom.
- ⑪ The nurse midwife will help the head slip out slowly, not too fast.
- ⑫ Sometimes it is good to suction out the baby's nose and mouth before the baby breathes to prevent breathing in the amniotic fluid and possibly meconium (baby poop). But do not delay delivery of the body to do this.
- ⑬ The nurse midwife will support the head, gently helping the baby's head toward the mother's bottom.
- ⑭ Without pulling on or bending the baby's neck, she will support the head and gently deliver the front and then the back shoulder, one at a time. Protect the perineum as the rest of the baby's body slips out slowly to prevent tearing.
- ⑮ Clear the baby's mouth of secretions with a suction.
- ⑯ Place the baby on the mother's bare chest and dry the baby off quickly. Cover mother and baby to keep the baby warm, skin to skin, at least an hour. Put something over the top of the baby's head to keep warm.
- ⑰ When the cord is flat and white, use something sterile to clamp or tightly tie off the cord in two places. The clamp near the baby should be 2 finger breadths away from the baby. Cut in between the two places with a sterile sharp tool.
- ⑱ Keep the clamped cord on the baby dry and clean until it falls off a couple of weeks later.

STAGE 2: SOME DANGER SIGNS, POSSIBLE CAUSES, AND WHAT TO DO

These are potentially life threatening to mother and baby. This chart is NO substitute for the experience and wisdom of a well-trained experienced midwife or physician. Always be prepared for an emergency.

<u>DANGER SIGN</u>	<u>WHY</u>	<u>WHAT TO DO</u>
Pushing too long. Longer than 1 to 2 hours of good pushing.	Baby may be too big or in a difficult or impossible position; the mother may be too small or too exhausted.	Empty bladder; change position; give more clean water to drink; massage. If still no delivery after 1 hour- get medical help.
Bleeding	The placenta can separate too early or the uterus can get torn.	If it is the placenta- deliver this baby quickly even if you have to cut an episiotomy. Someone well trained in repair will then be needed. Get medical help immediately for torn uterus, even if the health provider is far away.
Baby is in impossible position to deliver; cross ways, forehead, or brow presentation	The baby cannot fit through the vaginal canal. This is an emergency.	Get medical help immediately even if the health care provider is far away.

<p><u>DANGER SIGN</u> Baby is in a difficult but not impossible position to deliver (posterior)</p>	<p><u>WHY</u> For example–The baby is facing up instead of facing down. This makes it harder for the head to fit through the pelvis and pushing may take longer.</p>	<p><u>WHAT TO DO</u> Often a posterior delivery is possible. Many times the baby rotates just before delivery. Sometimes the nurse midwife will need to use a different technique to deliver. With prolonged pushing and no delivery after 2 hours seek medical help.</p>
<p>Breech (Baby is <u>not</u> head first)</p>	<p>This baby needs to be delivered by an experienced midwife to prevent serious problems.</p>	<p>Important Tip: Delivery of the head is done last, once the body is delivered. Gently rotate the baby to face down, tuck the chin, and hold it there. Gently lower the baby, until the hair on the back of the head is seen, and then carefully lift the body up.</p>
<p>Twins, or more than one baby</p>	<p>There are many potential problems with twins.</p>	<p>You will need at least 2 experienced midwives present. Ideally these babies are delivered by a doctor who can perform a C section in a hospital setting if one is needed.</p>
<p>Cord Prolapse (the cord comes out of the birth canal before the baby)</p>	<p>If the cord comes out first, the blood supply to the baby will be cut off because of pressure on the cord. This will cause death in a matter of minutes.</p>	<p>This is an emergency. Deliver as soon as possible.</p>

(CONT.) STAGE 2: SOME DANGER SIGNS, POSSIBLE CAUSES, AND WHAT TO DO

<u>DANGER SIGN</u>	<u>WHY</u>	<u>WHAT TO DO</u>
Nuchal cord	The cord is wrapped around the baby's neck. If it is tight, the blood supply in the cord can be cut off and can cause death.	If it is loose, gently wrap it over the head. If it is tight, deliver the baby quickly and keep the head close to the mother's bottom. The baby will 'summersault' over the head. In an emergency—double clamp and cut the cord to deliver IMMEDIATELY.
Meconium	The baby has been distressed and pooped meconium. If the baby breathes this into their lungs serious breathing problems can occur.	Suction the baby's mouth and nose as soon as possible without delaying delivery. Be prepared to resuscitate the newborn after delivery and treat potential breathing problems.
Shoulder dystocia	The baby's shoulders get stuck in the bony pelvis.	An experienced midwife will have a series of positions to try to unlodge one of the shoulders. Example: Have the mother lie down, grab her knees, and pull them as close to her shoulders as she can. Have someone lean on her pubic bone—NOT on the belly. Pull straight for 30 seconds and watch for a shoulder to appear. If unsuccessful—try another position such as hands and knees. You will need expert help.

<p><u>DANGER SIGN</u></p> <p>Severe perineal tear</p>	<p><u>WHY</u></p> <p>The vaginal opening and some of the surrounding tissue are torn in the process of delivery. On some occasions a cut is made to help delivery and prevent serious tears. The cut is called an episiotomy.</p>	<p><u>WHAT TO DO</u></p> <p>The nurse midwife or doctor needs to be trained and prepared to sew the tissues back together so that all the correct layers are fully together and reinforced.</p> <p>If the tear is severe and/or involves the anus a surgeon or an OBGYN specialist is sometimes needed to sew this correctly. Consider taking the mother and baby to a health provider right away after delivery. Prevent tears as much as possible.</p>
<p>Baby is very small or born more than 4 weeks early</p>	<p>These babies are more fragile. They have more problems keeping warm, feeding, and more injury during delivery.</p>	<p>Deliver in a hospital or go to a medical facility as soon as possible. Dry the baby well right away. Put only a hat and diaper on baby and keep baby on mother's naked chest during transport. Cover them both to keep them warm! If the baby is too weak to nurse, give breast milk with a clean syringe or cup.</p>

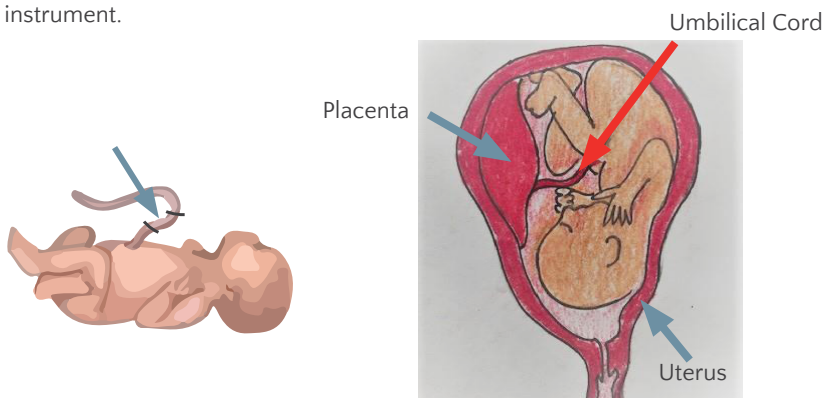
STAGE 3

In stage three, the placenta is delivered.

DURING A NORMAL DELIVERY STAGE TWO

One side of the placenta is attached to the baby by the umbilical cord.

After the baby is born, the cord will soon become flat and white. Clamp or tightly tie the off in two places about two finger breadths apart, with something sterile. The clamp nearest the baby should be about 2 finger breadths from the baby. Cut in between the two places with a sharp sterile instrument.



The remaining cord on the baby will fall off in about 2 weeks. DO NOT PUT ANYTHING on the cord. Keep it DRY and CLEAN. Do not let any dirt, dust, unwashed hands, flies, unclean cloths, feces, or anything unclean touch the cord or it could become infected.

Infected umbilical stumps can make the baby sick or die!

The other side of the placenta is attached to the inner lining of the uterus. This is the place where the mother's blood supplies oxygen and nutrients to the baby. After the baby is born, the placenta usually peels off the lining of the uterus, and the mother pushes it out usually within 30 minutes. This marks the end of Stage 3 of labor.

The big danger of Stage 3 is bleeding, $> \frac{1}{2}$ L.

Losing too much blood is usually caused by one of the reasons outlined on the following pages. The midwife will know what how to diagnoses and treat the different reasons for bleeding.

STAGE 3: SOME DANGER SIGNS, POSSIBLE CAUSES, AND WHAT TO DO

TONE	<p>The uterus is a muscle. To stop bleeding after delivery of the baby and the placenta, it must contract down quickly and tightly, to about the size of a small coconut. If it is soft and floppy, it does not have tone and will continue to bleed.</p>	<p>To help the uterus contract: After delivery, have the mother start breast feeding right away. The mother is to push the placenta out with the contractions, like she did for the baby. This will allow the uterus to become firm and small again. Never pull the cord out. It may cause bleeding and death. After the placenta has delivered, strong massages of the stomach over the uterus help the uterus contract. Sometimes the midwife has sterile procedures or medicines to help.</p>
TISSUE	<p>Sometimes all the placenta tissue does not come out. If there is a piece left inside, this is very dangerous; it could cause the woman to bleed to death.</p>	<p>The midwife will know how to examine the placenta for missing parts, how to retrieve the missing parts from the uterus using sterile technique, and how to evaluate for and treat potential infection and shock.</p>

TRAUMA	There may be a tear of the vagina, uterus, anus or other area.	This needs to be sewn by someone who is trained to get each layer sewn correctly. The midwife will know how to sew this, or how to pack it carefully with sterile cloth to stop bleeding in order to take the woman to a health clinic to have it sewn.
CLOTTING	A less common cause is a problem with the cells that help clot the blood and stop bleeding.	Blood clotting problems are an emergency and require a health care provider in a hospital

If a woman loses too much blood, she may experience **shock**. If enough blood is lost, major organs like heart, lungs, kidneys, and brain do not get the oxygen and nutrients they need to survive. She will breathe fast and be faint, pale, cold, sweating, with a heart rate > 100. She may become unconscious. It is an emergency.

The woman needs to get to a clinic or hospital where they can stop the bleeding, start an IV, and give her fluids and blood.

Transport her laying on her back with her feet higher than her head. If she is conscious, give her water to drink. Keep her warm, supported, and comforted.

NOTES

CARE OF THE MOTHER & NEWBORN

*The nurse midwife will tend to both the **mother and the baby**.*

FOR THE MOTHER

After delivering the placenta, gently massage the uterus to help it contract. After delivering the placenta, have the mother eat and drink. If she is not hungry, fruit juices will help restore energy. Encourage drinking lots of clean water.

There may be certain cultural customs for eating. Be sure that she gets all three food groups—carbohydrates, proteins, and vitamins & minerals (see lesson on nutrition in **Renew Health's Book 2: Health Lessons**). The mother will need all these nutrients to heal, take care of the infant, and have good milk.

Gently wash her bottom with clean warm water. Carefully pouring mild soapy warm water over the area and rinsing well with clean warm water is one way to clean the area until it is healed. Do this soon after delivery and daily until the tissues are healed to prevent infection.

If she is able, help the mother get up and walk a little.

Help her urinate frequently. Pouring warm clean water on her bottom while she tries to urinate may help her do this more comfortably after delivery because of tears or soreness.

Breast feeding helps both the baby and the mother. Her uterus gets firm faster and stops bleeding. (Hesperian drawing below.)

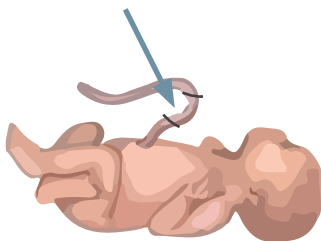


FOR THE BABY

The newborn has some big adjustments to make—coming from the womb to the outside world! To help the baby adjust, here are some important things to do:

- ① Put the baby on the mother's bare chest right away after delivery. Dry the baby quickly and *cover to keep the baby warm*. Put something on the baby's head to keep it warm. Keep the baby on the mother for at least an hour.
- ② Cut the cord only using sterile instruments. Once the cord is flat and white, clamp or tightly tie it off in two places with something sterile. The tie nearest the baby should be 2 finger breadths away from the baby's body. Cut in between the two places. The remaining cord on the baby will fall off in about 2 weeks. **DO NOT PUT ANYTHING** on the cord. Keep it **DRY** and **CLEAN**. Do not let any dirt, unwashed hands, flies, unclean cloths, feces, or anything unclean touch the cord.

Dirty cords can cause infection and make the baby sick or die.



- ③ **BREAST FEED** right away! The baby needs the colostrum. This is the clear liquid that first comes from the mother's breast. It is important to help the baby fight infection. Breast feeding also helps the mother's uterus to contract and stop bleeding.
- ④ Keep the baby warm, but not too warm. Wash the baby the next day; keep the baby covered, but not too wrapped.
- ⑤ The midwife will check the baby for breathing problems, normal heart rate, signs of fever, a stool in the first 24 hours, birth weight, and to see if the baby looks healthy. She will help and assess whether the baby is successfully latching onto the breast and getting milk. The midwife will also give the first set of immunizations if available.

If the baby does not look well, the midwife will know how to respond to help the baby and how to seek medical help.

TERMS

STERILE

Sterile means being unable to reproduce. Men and women have “sterilization surgeries” to stop having children. They become unable to reproduce. We sterilize equipment to prevent dangerous microbes from reproducing on the equipment and causing infection. To sterilize equipment is to kill all the microbes that could make the mother or baby sick or die.

There are a number of ways to sterilize the instruments used at delivery including:

- ① Soaking for 20 minutes in bleach solution (1 part bleach to 7 parts water)
- ② Boiling for 30 minutes or steam for 30 minutes
- ③ Soaking in strong alcohol for 20 minutes (70% ethanol or isopropyl alcohol, 6% hydrogen peroxide)

Importantly, the instruments must be washed well before sterilizing and not touched by anything that is not sterile afterwards, or they will no longer be sterile.

The sterilizing alcohol, peroxide, or bleach solution will lose strength, so change daily.

Infection is a source of death for both mothers and babies. Do what you can to prevent infection!

This includes sterilizing instruments, washing hands frequently with clean running water and soap, using sterile gloves, using sterile ties and cutting instrument when taking care of the umbilical cord, ensuring that the delivery is in a clean place with clean clothes and blankets, and following other clean practices the midwife initiates.

NOTES

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