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# Introduction

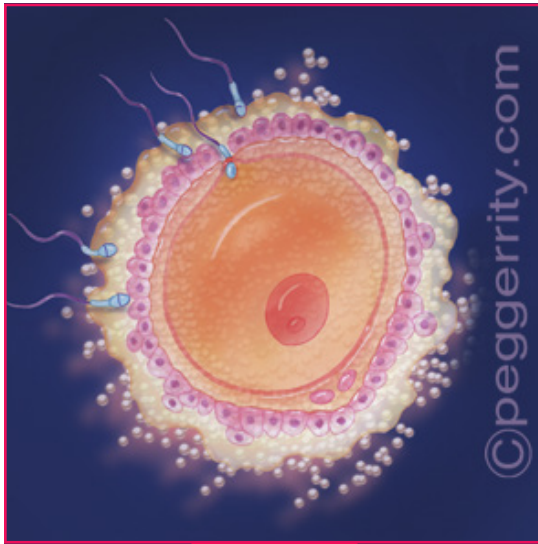
As required by Session Law 2011-405, this handbook provides information regarding the probable anatomical and physiological characteristics during the stages of pregnancy. This handbook also provides information regarding abortion methods and the risks of both abortion and childbirth.

As required by Session Law 2011-405, the handbook and a directory of public and private agencies and services are available upon request at **[www.wrtk.ncdhhs.gov](http://www.wrtk.ncdhhs.gov)**.



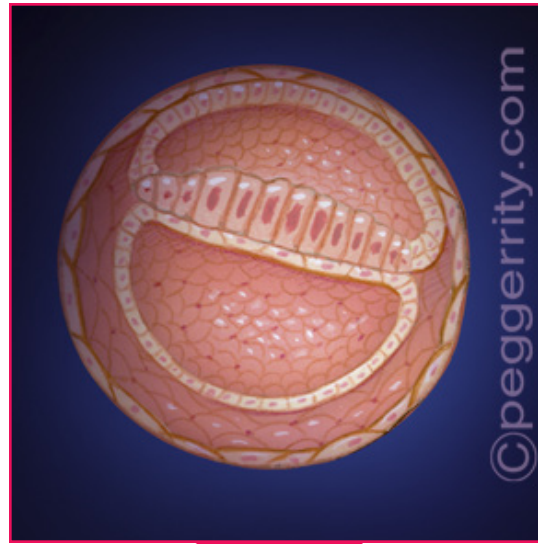
## Stages of Pregnancy

Unless otherwise noted, all prenatal ages in this booklet are referenced from the start of the last normal menstrual period. This age is two weeks greater than the age from conception, also referred to as fertilization. Full-term pregnancy typically lasts for 40 weeks from the first day of a woman's last normal menstrual period, which is actually approximately 38 weeks from fertilization.



## The First Two Weeks

- Shortly after a woman's menstrual period begins, her body begins preparing for a possible pregnancy.
- Approximately two weeks after her period, a woman releases an egg from one of her ovaries into her adjacent Fallopian tube.
- Fertilization is now possible for the next 24 hours or so.
- If fertilization occurs, a single-cell embryo forms, which has a diameter of approximately 4/1000 of an inch.



## 2 to 4 Weeks

- The cells of the embryo repeatedly divide as the embryo moves through the Fallopian tube into the uterus.
- During the fourth week after menstruation, the embryo may implant into the wall of the uterus. If the embryo does not implant, the woman resumes having menstrual periods.



## 4 to 6 Weeks

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- At four weeks, the embryo is less than 1/100 of an inch long.
- By five weeks, development of the brain, spinal cord, and heart is under way.
- The heart begins beating at approximately five weeks and one day. It is visible by ultrasound almost immediately.





## 6 to 8 Weeks

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- At six weeks, the embryo measures less than  $\frac{1}{4}$  of an inch long from head to rump.
- By six weeks, the heart is pumping the embryo's own blood to the brain and body.
- All four chambers of the heart are present and functioning.
- The head, chest and abdominal cavities have formed and the beginnings of the arms and legs can be seen; the fingers and toes start to develop.
- Rapid brain development continues with the appearance of the cerebral hemispheres at about seven weeks.

## 8 to 10 Weeks

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- At eight weeks, the embryo measures about  $\frac{1}{2}$  inch from head to rump.
- Brainwaves have been measured and recorded before eight and a half weeks.
- The bones of the jaw and collar bone begin to harden.
- By nine weeks, the hands move and the neck turns.
- Ovaries and testes have formed.
- The embryo's heart rate peaks at about 170 beats per minute. The heart is nearly fully formed.





## 10 to 12 Weeks

- After 10 weeks, the embryo is now called a fetus.
- The 10-week fetus weighs less than  $\frac{1}{2}$  of an ounce and measures slightly less than  $1\frac{1}{4}$  inches from head to rump.
- By 10 weeks, kidneys begin to produce and release urine, and intermittent breathing motions begin. The fingers and toes have formed.
- More movements of the hands and feet can be seen on ultrasound.
- Experts estimate the 10-week fetus possesses approximately 90 percent of the 4,500 body parts found in adults.
- By 11 weeks, the head moves forward and back, the jaw actively opens and closes.
- In the female fetus, ovaries now contain reproductive cells and the uterus is now present.

## 12 to 14 Weeks

- The 12-week fetus weighs less than 1 ounce and measures about 3 inches from head to heel.
- Fingerprints start forming at 12 weeks; fingernails and toenails begin to grow.
- The bones are hardening in many locations.
- The lips and nose are fully formed.

## 14 to 16 Weeks

- The 14-week fetus weighs about 2 ounces and measures slightly less than 5 inches from head to heel.
- Taste buds have developed on the tongue, and tooth development is under way.
- The fetus now produces a wide variety of hormones.
- Arms reach final proportion to body size.





## 16 to 18 Weeks

- At 16 weeks, the fetus is about 7 inches long and weighs about 4 ounces.
- A pregnant woman may begin to feel fetal movement at about 18 weeks.
- Production of a variety of digestive enzymes is under way.
- Around 17 weeks, blood cell formation moves to inside the bone marrow and the fetus begins to store energy in body fat.



## 18 to 20 Weeks

- The 18 week fetus weighs around 6 ounces and is about 8 inches long.
- By 18 weeks, the breathing passages, called the bronchial tree, are formed.

## 20 to 22 Weeks

- The 20-week fetus weighs about 9 ounces and is about 10 inches long.
- By 20 weeks, almost all the organs have been formed.
- By 20 weeks, the larynx or voice box begins moving. The skin has developed sweat glands and is covered by a greasy white substance called “vernix.”
- At 21 weeks, body movements and heart rate begin to follow daily cycles called circadian rhythms.



## 22 to 24 Weeks

- The 22-week fetus weighs slightly less than 1 pound and is about 11 inches long.
- By 22 weeks, the sense of hearing begins to function and the fetus may move in response to sound. The cochlea, the organ of hearing, reaches adult size. All skin layers and structures are complete.
- Eye movements begin.





## 24 to 26 Weeks

- The 24-week fetus weighs about 1¼ pounds and is about 12 inches long.



## 26 to 28 Weeks

- The 26-week fetus weighs almost 2 pounds and is about 14 inches in length.
- The lungs produce a substance necessary for breathing after birth.



## 28 to 30 Weeks

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- The 28-week fetus weighs more than 2½ pounds and is about 15 inches long.
- By 28 weeks, the sense of smell is functioning and eyes produce tears.
- By 29 weeks, pupils of the eyes can react to light.

## 30 to 32 Weeks

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- The 30-week fetus weighs about 3¼ pounds and measures about 16 inches long.
- Wrinkles in the skin are disappearing as more fat deposits are formed.





## 32 to 34 Weeks

- The 32-week fetus weighs about 4 pounds and is about 17 inches long.



## 34 to 36 Weeks

- The 34-week fetus weighs about 5 pounds and is about 18 inches long.
- The lung tissue continues to develop.

## 36 to 38 Weeks

- The 36-week fetus weighs about  $5\frac{3}{4}$  pounds and is about  $18\frac{1}{2}$  inches in length.
- By 37 weeks, the fetus has a firm hand grip.



## 38 to 40 Weeks

- The 38-week fetus weighs about 6 pounds and is about 19 inches in length.
- At term, the umbilical cord is typically 20 to 24 inches long.
- Labor is initiated by the fetus, ideally around 40 weeks, leading to childbirth.
- At full-term, newborn babies typically weigh between 6 and 9 pounds and are between 18 and 21 inches long.





## Abortion Methods

There are medical and social reasons to have an abortion but a basis of good medical practice is to have informed consent about your options. These include talking about continuing the pregnancy, methods of abortion, and your birth control options along with the risks and benefits of each of these options. If you are considering an abortion, effective Oct. 1, 2015, you will need to contact the qualified provider who will be doing the abortion by phone or in person at least 72 hours prior to the procedure to discuss your options. This will give you the chance to ask questions about all of your options and also the risks and benefits of the different medical and surgical procedures you may be able to choose from, depending on how far along in the pregnancy you are. Your provider is required to do an ultrasound that will show how far along you are, if you are early enough in your pregnancy to be a candidate for a medical abortion, and to make sure you do not have a pregnancy that is in one of your tubes (ectopic pregnancy) instead of in your uterus.

### **Two kinds of abortions – the abortion pill (medical) and surgical abortion**

If your ultrasound shows that you are early in your pregnancy, you may have the choice of having a medical (non-surgical) abortion. A drug is given to stop the development of the pregnancy. A second drug is given by mouth or placed in the vagina, causing the uterus to expel the tissue. Side effects of these drugs may be that a person may have cramping of the uterus, nausea, pelvic pain or bleeding with the passage of clots and

tissue for hours and sometimes days. There are medicines that you can take to help if you have any pain and nausea. You will need to return for another visit 12 to 18 days later to make sure that you have passed all the tissue since up to one of 20 patients will not pass all the tissue and they will need further treatment. In all, one of 50 patients will have a problem requiring treatment at the provider's office or emergency room and three of 1000 will have a major complication requiring hospital admission, surgery or blood transfusion. The most common complications that occur are failure to pass all the tissue, bleeding and infection. Most patients will not have any of these complications but there are risks to this type of treatment and thus cannot be predicted.

### **Vacuum Aspiration (Operative Procedure)**

For patients who are under 14 weeks pregnant and want (or the provider recommends) an operative procedure, a Vacuum Aspiration procedure can be scheduled that may be done in the office or clinic. Often, to prepare the cervix for the procedure so it is easier to do, medicines are given by mouth or inserted into the vagina with or without a small device inserted into the cervix from four to twelve hours before the procedure. Different kinds of pain medicines can be used, as decided by the patient and her provider. At the time of the procedure, the cervix (opening to the uterus) will be gradually opened further and a clear plastic tube is inserted into the uterus and attached to a suction system that will remove the tissue. After the tube has been removed, a small curette (spoon-like instrument) will be inserted to gently scrape the walls of the uterus to be sure it has been completely emptied so that you will stop bleeding. Approximately one of 77 patients who have an early (less than 13 weeks) Vacuum Aspiration will have a problem

requiring treatment at the abortion facility or hospital emergency room. The risks of the procedure and the complications that can occur are retention of tissue, infection of the uterus, bleeding and cuts in the cervix (opening of the uterus) or cuts in the uterus (perforation) as a result of using instruments in the uterus. Major problems requiring hospital admission, surgery or blood transfusion occur in about one to two of 1000 patients.

### **Dilatation and Evacuation (D & E)**

This type of abortion is an operative procedure that is usually done after 14 weeks of pregnancy. The D & E procedure requires more opening of the cervix (the opening to the uterus) so it is done in two steps. The cervix is first dilated by placing small sticks, called laminaria, into the cervix or by placing a medication into the vagina to soften the cervix. This will be done several hours or overnight prior to the procedure but sometimes will have to be done one or two times more before the cervix is ready to be opened. Once the cervix is softened and ready to be opened, pain medicine is given and the fetal and placental tissue are removed from the uterus using suction with a vacuum and a medical instrument. About one of 67 patients will have a problem that will need treatment at the abortion facility or hospital emergency room. The risks of the procedure and the problems that can occur are retention of fetal and placental tissue, infection of the uterus, bleeding and cuts in the cervix (opening of the uterus) or cuts in the uterus (perforation) as a result of using instruments in the uterus. Major problems requiring hospital admission, surgery or blood transfusion occur in about four of 1000 patients.

## Labor Induction

This type of abortion is used after 13 weeks of pregnancy. Labor induction requires a hospital stay. Drugs are given to start labor in one of several ways: by mouth, in the vagina, in the rectum, or by a needle through the patient's abdominal wall into the uterus. Appropriate pain medicine is given. Usually the labor induction is completed within 24 hours, but sometimes the abortion can take longer than 48 hours. The main risk of this practice is sometimes the placenta (afterbirth) is not completely removed during labor induction, in which case either more labor induction medicine can be given or the provider can empty the uterus using suction and instruments in the uterus. If this is the case, the risks of the procedure are similar to those noted above for D & E.

## Other Concerns

Other concerns to discuss with your provider are which pain medicines and/or anesthesia are appropriate for your particular procedure and what the risks of those treatments are.

Your blood type will be checked and if you are Rh negative, your provider will talk with you about the significance of that and you may need a shot to prevent complications in a future pregnancy. If it cannot be determined what your blood type is from previous records or Red Cross information, blood will need to be drawn and this will need to be followed up at the time of the procedure since timely treatment is important in giving the shot.



## Risks of continuing pregnancy until delivery

Both abortions and continuing pregnancies until delivery have risks. Risks of continuing pregnancy include:

Risk	Incidence
Severe nausea and vomiting	0.5 – 2%
Diabetes developing during pregnancy	5.6%
Pre-eclampsia	3%
Hypertensive disorders other than pre-eclampsia	5 – 10%
Premature separation of the placenta	0.4 – 1%
Placenta previa	2%
Uterine infection after delivery	5.5% – vaginal delivery 7.4% – cesarean delivery
Severe postpartum hemorrhage	0.3%
Postpartum depression	8 – 19%

Severe problems of pregnancy are present in 1.6% of mothers in the United States.

There has been much written about the risk of death from either abortion or childbirth. We know that the risk from either abortion or childbirth is very low. The differences may depend upon the conditions of populations from which the data were collected and therefore the reliability of that data. Based on data from the Centers for Disease Control and Prevention, the risk of patient death as a direct result of the legally induced abortion is less

than one in a 100,000. For comparison, their data shows the risk of death related to pregnancy resulting in childbirth is approximately 16.5 per 100,000.

There is also much written about other possible risks of abortion that are not immediate or short-term problems related to the procedure, but rather they are risks of conditions that impact long-term health or wellbeing. A review of psychological health consequences of induced abortion concluded that women undergoing abortion should be informed about the subsequent risk of depression. A second example would be the risk of a future pregnancy ending in premature birth. Premature birth occurs in 11% of pregnancies in the United States.

There is evidence induced abortion may lead to an increased risk of premature birth in a later pregnancy. The possible consequences of premature birth are cerebral palsy, vision and hearing impairment and developmental delay. This is especially true of abortions that are performed with operative procedures that open up the cervix (mechanical dilatation). The risk increases the further along in pregnancy a patient is and how many abortions she has had. However, there is recent evidence that first trimester abortions which are induced medically and otherwise simple are associated with much lower risk (if any) of resulting in premature birth in a later pregnancy. This is true also of first-trimester surgical abortions that are conducted after using pre-treatment to the cervix to reduce the force needed to open up the cervix with instruments.

## Future Birth Control

Pregnancy can result from birth control failure but studies have shown that 50% of pregnancies in the United States and 82% of teenage pregnancies are not planned. Newer forms of Long Acting Reversible Contraception (LARC) can be started around the time of abortion or during a follow-up appointment so the 72-hour contact prior to an abortion is a good time to talk to a provider about future options for birth control. The newer IUDs (intrauterine device) work very well at preventing pregnancy, have safety claims supported by good evidence and have the advantage of patients not having to take an action for them to work once they have been placed. The two types of IUDs and a birth control implant are the types of LARC that are available to patients at this time. Your provider can discuss whether these types of birth control or others would be a good option for you if you want to use birth control.



## Finding Services

The North Carolina Department of Health and Human Services publication, “Woman’s Right to Know Act” Resource Directory, includes state, county and local health and social service agencies and organizations that may be available to assist. The publication is available online at [www.wrtk.ncdhhs.gov](http://www.wrtk.ncdhhs.gov).

## Medical Assistance Benefits for Prenatal Care, Childbirth and Care for Baby

An individual may qualify for financial help for medical care depending on income. For people who qualify, programs such as Medicaid may help pay bills for a doctor, clinic, hospital and other related medical expenses for prenatal care, childbirth/delivery services and care for newborns. For information about Medicaid, including how to apply for benefits, visit [www.ncdhhs.gov/dma/medicaid/families.htm#pregnant](http://www.ncdhhs.gov/dma/medicaid/families.htm#pregnant).



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