

## **Lesson Four: Pregnancy**

### **Student Learning Objectives**

The student will be able to ...

1. List several early symptoms of pregnancy.
2. Describe the process of conception.
3. Identify when a pregnancy test is needed and where people can access a confidential test.

### **Agenda**

1. Discuss the transition from yesterday's Reproductive Systems class into today's Pregnancy lesson.
2. Briefly cover the process of conception using two chapters of the film Life's Greatest Miracle or Pregnancy Visuals 1-3.
3. Brainstorm common symptoms of pregnancy and discuss pregnancy testing.
4. List local, credible, confidential resources for pregnancy testing that youth can access.
5. Briefly explain sex selection and fetal development using Pregnancy Visuals 4-5.
6. Facilitate the Pregnancy Activity: Two Truths and a Lie.
7. Assign homework.

### **Pregnancy**

#### **Spermatozoon and Ovum**

The ovum, or egg cell, is the largest cell of the human body, about the size of a grain of sand ... visible but only barely. The spermatozoon or sperm cell for short is much smaller. The human body is made of billions of cells (brain cells, blood cells, muscle and bone cells as well as eggs and sperm). Most cells in your body contain 23 pairs of chromosomes (for a total of 46). Each chromosome is a chain of genes. Unlike other human cells, sperm and egg cells contain 23 individual chromosomes each, rather than 23 pairs. When sperm and egg meet, they form 23 pairs of chromosomes for a total of 46 like other body cells. These chromosomes determine physical traits, personality, etc.

## **Fertilization**

Usually, during intercourse (vaginal sex), when the man ejaculates, he releases about a teaspoon of semen, containing about 300 million sperm, into the woman's vagina. The semen contains millions of sperm which begin to swim towards the cervix. Many sperm eventually die. However, thousands quickly enter the uterus, with assistance from the cervical fluid, and travel toward the Fallopian tubes. It takes the fastest ones two days to reach a Fallopian tube. Others hang out and gradually, over a few days, begin their journey through the uterus into a tube. When they get there, if there happens to be an ovum waiting, many sperm will try to penetrate its outer layers. Only one may finally enter it, forming a fertilized egg. Fertilization is complete. But she is not yet pregnant. The fertilized egg contains a unique combination of genes: the blueprint for a new individual. Appearance, health and even aspects of personality are determined by that genetic blueprint.

## **The First Week**

Over half of all fertilized eggs die for various reasons. If the egg doesn't die, then within 12 hours it begins to divide, becoming 2 cells, then 4, then 8. In the meantime, it travels down the tube. By the fourth or fifth day, it enters the uterus and burrows into the rich endometrium, the lining of the uterus. This nesting process is called implantation. Now conception is complete.

## **Common Early Symptoms of Pregnancy**

a. Missing a period: About two weeks after an egg is fertilized the woman's body may be releasing enough progesterone to stop what would have been her next period. Some women do have a lighter than usual period rather than stopping altogether at this point. But many stop having periods starting at the very beginning of the pregnancy.

b. Tender, swollen breasts: As early as two weeks after conception, hormonal changes may make a woman's breasts feel tender, sore, fuller or heavier.

c. Fatigue: Hormonal changes during pregnancy can make a woman feel sleepy and less energetic.

d. Nausea with or without vomiting: Sometimes called "morning sickness." This feeling can begin in pregnant women as early as two weeks after conception. This also comes from the hormonal changes in pregnancy. Pregnant women also have a heightened sense of smell, so odors like certain foods cooking, perfume, or cigarette smoke may cause nausea in pregnancy.

e. Frequent urination: The feeling of having to go to the bathroom a lot can also be a symptom of pregnancy. This sensation sometimes stops and then recurs later in the pregnancy.

## **Sex Selection and Fetal Development**

Of each parent's 23 pairs of chromosomes, one pair is the sex chromosomes. The mother's sex chromosomes are always a pair of X's so when they part, to form 23 single chromosomes, each egg receives an X. Men's sex chromosomes, on the other hand, are always a pair consisting of one X and one Y. So when the father's chromosomes part to form spermatozoa, half the sperm receive an X and half receive a Y. Thus, an X egg fertilized by an X sperm makes an XX baby: a girl. An X egg (all eggs are X's, remember) fertilized by a Y sperm makes an XY baby: a boy.

For the first two months, the developing baby is called an embryo. After that, it's called a fetus. But pregnancies are often described in three-month periods of time or "trimesters." People often say the word "baby" while a woman is pregnant, but baby refers to the time after birth.

The first trimester of pregnancy is the first three months after conception. During this period of time:

All organs begin to develop, so the embryo is most susceptible now – even in the time before the woman has missed a period -- to damage from infections and from alcohol, nicotine and other drugs.

During month two, genitals begin to form and during month three, male and female fetuses begin to look different.

By the end of the first trimester, the fetus is almost three inches long (about as long as three quarters laid end to end) and weighs about an ounce (or as much as just one of those quarters).

The second trimester is the next three months. During this time:

Organs continue to mature.

The fetus grows much longer. By the end of the sixth month, it is  $\frac{3}{4}$  its birth length -- about 14 inches long, about as long as three cans of soda laid end to end. But it weighs just 1.7 pounds, less than  $\frac{1}{4}$  its full-term birth weight, about as much as just one can of soda.

By the end of this trimester, 6 months into the pregnancy, the fetus is unable to survive outside the uterus without extraordinary medical attention.

The third trimester is the last three months of the pregnancy until birth. The "due date" is 40 weeks from the first day of the woman's last menstrual period or about 38 weeks from conception. During this last trimester:

The fetus's brain and lungs continue maturing.

The fetus begins to open and close its eyes, suck its thumb, and respond to light and sound.

By the end of the third trimester, the fetus weighs, on average, 7.6 pounds. A newborn smaller than 5.5 pounds is described as "low birth weight." One that's over 8.8 pounds is considered "high birth weight." Being born very small or very large can mean more complications and health risks.

## **Local Pregnancy Resource List**

### **Planned Parenthood League of Massachusetts**

<http://www.plannedparenthood.org/ma/>

#### **[Plan: A Planned Parenthood Express Center – Somerville, MA](#)**

260 Elm Street, Suite 109  
Davis Square Plaza  
Somerville, MA 02144 P: 800.258.4448 | F: 617.623.0085

#### **[Marlborough Health Center – Marlborough, MA](#)**

91 Main Street  
Suite 103  
Marlborough, MA 01752 P: 800.258.4448 | F: 508.970.1119

#### **[Greater Boston Health Center – Boston, MA](#)**

1055 Commonwealth Avenue  
Boston, MA 02215 P: 800.258.4448 | F: 617.616.1617

**Cambridge Health Alliance Family Planning**  
**230 Highland Avenue, SON # 602 Somerville, MA 02143**  
**Phone: (617) 591-6746**  
**URL: [www.challiance.org](http://www.challiance.org)**

Statewide Sexual Helpline at 877.MA-SEX-ED (877. 627. 3933)

[MariaTalks.com](http://MariaTalks.com)

**Massachusetts Alliance on Teen Pregnancy**

<http://www.massteenpregnancy.org/teens/health-centers-teens>

Montachusett Opportunity Council (clinical referrals and education)

356 Broad Street, 4th Floor Fitchburg, MA 01420

Phone: (978) 343-6259

[www.mocinc.org/prohealth.htm](http://www.mocinc.org/prohealth.htm)