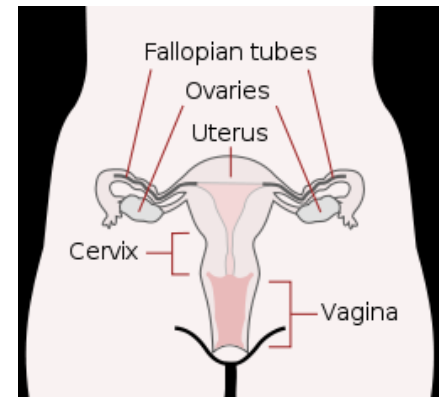


Fetal Development

Life begins at conception. Conception is when the mother's egg is joined with the father's sperm (fertilization) and a new, unique human being is created. This new human being is genetically distinct from both father and mother. The sex, hair color, and many other characteristics of this new human person have already been determined by his or her genetic makeup. The fertilized egg will divide many times to create the millions of cells that make up a fully developed person. If after one division, the two cells separate, and they each develop into a separate person, they are called identical twins. (If two different eggs are released at the same time, and both fertilized, fraternal twins will develop.)

Fertilization takes place in the fallopian tube, where the egg, many times bigger than the sperm, is traveling from the ovary toward the uterus, meets the sperm, which has traveled from the vagina, into the uterus and up into the fallopian tube. The fertilized egg, or zygote, continues to travel toward the uterus as it divides into a ball of cells.

Implantation takes place about 5-7 days after fertilization. This is the process where the tiny developing child nestles into the lining of the uterus and begins to make the connections to the mother's tissues that will enable the embryo to receive nourishment from the mother. The developing embryo also begins to secrete hormones that will maintain the pregnancy and prevent the mother's next menstrual cycle from occurring.



Some people define pregnancy as beginning at implantation, rather than conception. That way, a device such as an IUD (intrauterine device) which prevents implantation, can be classified as a pregnancy preventative or "birth control" device although it does nothing to prevent conception. Hormonal birth control methods do prevent ovulation (the release of an egg) and therefore prevent conception in many cases, but can also act to prevent implantation, when conception does occur. Ovulation may occur as often as 50% of the time with low dose birth control pills. See separate information sheet on birth control methods. If a newly developing embryo is prevented from implanting in the uterus, then the young child is expelled from the uterus along with the mother's next menstrual period, and she will never know that she had conceived a child.

The process of development inside the womb is called gestation, and gestational age is counted from the first day of the mother's last period, since that is a known date (while the exact day of conception is usually not known). Therefore the gestational age of a newly fertilized egg is actually about 2 weeks! So it can be confusing to read different descriptions of fetal development at a certain number of weeks, since sometimes the development is described in weeks of gestation, and sometimes in weeks since conception.

The scientific terms used to describe the child are different for different stages of development:

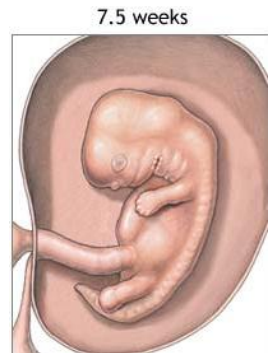
Zygote: Fertilized egg, before any division has taken place.

Embryo: developing child in which differentiation has begun. That is, some cells are becoming different than others. Some will become nervous tissue, some heart and circulatory system, some gastrointestinal tract, and so on. The child is called an embryo from time of implantation until the end of the eighth week after conception, or the tenth week of pregnancy (gestational age).

Fetus: the developing pre-born child when adult features have become more recognizable, at more than eight weeks after conception or more than ten weeks after the last menstrual period.

Milestones of development:

Weeks		(ages of illustrations are in weeks after conception)
After_ conception	of Pregnancy	
3	5	Heart begins to beat, brain and spinal cord begin to develop.
4 -5	6 -7	Arm and legs buds visible. Heart now beats regularly. Ear and eye structures begin to form.
6	8	Hand and foot areas can be distinguished, fingers and toes may still be webbed. Lungs begin to form.
8	10	Eyelids are more developed. Facial features continue to develop.
9 – 12	11- 14	Eyelids close and will not reopen until 28 th week. Limbs are long and thin. Genitals are well differentiated. Liver produces red blood cells. The head makes up nearly half the baby's size. Baby can make a fist. Tooth buds appear.
13 – 16	15 – 18	More muscle tissue and bones have developed, the baby begins to make active movements. The liver and pancreas produce fluid secretions. Sucking motions are made with mouth.
17 – 19	19-21	Baby can hear. Baby makes more movements.
20	22	Mother can feel movements. Fetal heartbeat can be heard with a stethoscope. Baby has eyebrows, lashes, fingernails and toenails.
21 – 23	23 – 25	Bone marrow begins to make blood cells. Baby begins to store fat.
24	26	The baby has a hand and startle reflex. Footprints and fingerprints are forming. Air sacs form in lungs.
25 – 28	27 – 30	Rapid brain development. The nervous system is developed enough to control some body functions. Eyelids open and close.
29- 32	31- 34	Rapid increase in body fat. Rhythmic breathing motions occur, but lungs are not fully mature.
36	38	Fingernails reach the end of the fingertips. Body fat increases.
37-40	39-42	Fingernails extend beyond fingertips. Head hair is now coarser and thicker. Birth usually occurs at about 40 weeks of pregnancy.



16 weeks
after conception.

Developmental facts and illustrations from University of Maryland Medical Center website
www.umm.edu/ency/article/002398.htm
 Retrieved 4/1/10.

Photo on left from Life Issues Institute Windows to the Womb CD.
www.lifeissues.org

Information compiled by Christian Voices for Life of Fort Bend County. More information available at ChristianVoicesforLife.org.