



## Fetal Development: First Trimester

### Week 1 & 2 - Gestational Age

The menstrual period has just ended and your body is getting ready for ovulation. For most women, ovulation takes place about 11 - 19 days from the first day of the last period. During intercourse, millions of sperm are released in the vagina. Sperm travel through the cervix and into the *fallopian tube*. *If conception takes place, one sperm will penetrate an egg and create a single set of 46 chromosomes called a zygote—the basis for a new human being. The fertilized egg will then spend a couple of days traveling through the fallopian tube toward the uterus, dividing into more and more cells. At this point, the bundle of cells is called a morula. The morula becomes a blastocyst and will eventually end up in the uterus. Anywhere from day 6-10 since conception, the blastocyst will imbed into the uterine lining and begin the embryonic stage.*

### Week 3 - Gestational Age (Fetal Age - Week 1)

The embryo is going through lots of rapid growth at this time, with the beginning development of the brain, spinal cord, heart and gastrointestinal tract.

### Week 4 & 5 - Gestational Age (Fetal Age - Weeks 2 & 3)

Arm and leg buds are visible, but not clearly distinguishable. The heart is now beating at a steady rhythm. The placenta has begun to form and is producing some important hormones including hCG. There is movement of rudimentary blood through the main vessels. The early structures that will become the eyes and ears are forming. The embryo is  $\frac{1}{4}$  inch long by the end of these weeks.

### Week 6 - Gestational Age (Fetal Age - Week 4)

The formation of the lungs, jaw, nose and palate begin now. The hand and feet buds have webbed-like structures that will become the fingers and toes. The brain is continuing to form into its complex parts. A vaginal ultrasound could detect an audible heartbeat at this time. The embryo is about a  $\frac{1}{2}$  inch in length.

### Week 7 - Gestational Age (Fetal Age - Week 5)

At 7 weeks gestation, every essential organ has begun to form in the embryo's tiny body even though it still weighs less than an aspirin. The hair and nipple follicles are forming, and the eyelids and tongue have begun formation. The elbows and toes are more visible as the trunk begins to straighten out.

### Week 8 - Gestational Age (Fetal Age - Week 6)

The ears are continuing to form externally and internally. Everything that is present in an adult human is now present in the small embryo. The bones are beginning to form, and the muscles can contract. The facial features continue to mature, and the eyelids are now more developed.



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The embryo is at the end of the embryonic period and begins the fetal period. The embryo is about 1 inch long and is the size of a bean.

**Weeks 9 thru 13 - Gestational Age (Fetal Age - Weeks 7 thru 11)**

The fetus has grown to about 3 inches in length and weighs about an ounce. The genitalia have clearly formed into male or female, but still could not be seen clearly on an ultrasound. The eyelids close and will not reopen until the 28th week of pregnancy. The fetus can make a fist, and the buds for baby teeth appear. The head is nearly half the size of the entire fetus.

Hemoglobin (HGB) & Hematocrit (HCT): Screens for anemia

Red Blood Cell Indices: Measures specific characteristics of the RBC

White Blood Cell (WBCS): White blood cells are important to the body's immune system

Platelet Count: Platelet's are important to your immune system

Blood Type: Determines blood type O, A, B, AB

RH Factor: Rhesus factor.

Antibody Screen: Done at the beginning and at 28 weeks of pregnancy

Rubella Titre: Tests for German Measles"

VDRL B: Venereal Disease

Hepatitis B/C: Tests for hepatitis

HIV: Virus that can lead to AIDS

Urinalysis: Tests for protein, sugar and ketones plus others

PAP Smear: Verifies if cells around the cervix are normal

Gonorrhea Culture: Checks for bacteria that causes: gonorrhea and chlamydia

Wet Count: Tests for yeast



## Fetal Development: Second Trimester

### **Weeks 14 thru 16- Gestational Age (Fetal age- Weeks 12 thru 14)**

The fetus's skin is transparent and a fine hair called *lanugo* begins to form on the head. The fetus begins sucking and swallows bits of amniotic fluid. Fingerprints which individualize each human being have now developed on the tiny fingers of the fetus. *Meconium* is made in the intestinal tract and will build up to be the baby's first bowel movement. Flutters may be felt in the mom's growing abdomen as the fetus begins to move around more. Sweat glands have developed, and the liver and pancreas produce fluid secretions. The fetus has reached 6 inches in length and weighs about 4 oz.

### **Weeks 17 thru 20- Gestational Age (Fetal Age- Weeks 15 thru 18)**

The baby has reached a point where movements are being felt more often by the mom. The eyebrows and eyelashes grow in and tiny nails have begun to grow on the fingers and toes. The skin of the fetus is going through many changes and begins to produce *vernix* at the twentieth week. *Vernix* is a white pasty substance that covers the fetus's skin to protect it from amniotic fluid. A fetal heartbeat could be heard by a stethoscope now. The fetus has reached a length of 8 inches and weighs about 12 oz.

### **Weeks 21 thru 23- Gestational Age (Fetal Age- Weeks 19 thru 21)**

*Lanugo* now covers the fetus's entire body. The fetus is beginning to have the look of a newborn infant as the skin becomes less transparent while fat begins to develop. All the components of the eyes are developed. The liver and pancreas are working hard to develop completely. The fetus has reached about 10-11 inches in length and weighs about 1 - 1 ¼ lbs.

### **Weeks 24 thru 26- Gestational Age (Fetal Age- Weeks 22 thru 24)**

If your baby was delivered now, it could survive with the assistance of medical technology. The fetus has developed sleeping and waking cycles and mom will begin to notice when each of these takes place. The fetus has a startle reflex, and the air sacs in the lungs have begun formation. The brain is developing rapidly over the next few weeks. The nervous system has developed enough to control some functions. The fetus has reached about 14 inches in length and weighs about 2 ¼ lbs.

Ultrasound:	Checks for babies growth
Material Serum Genetic Testing:	Checks for Downs Syndrome
Diabetes Screen:	Tests for baby diabetes



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## Fetal Development: Third Trimester

### **Weeks 27 thru 32 - Gestational Age (Fetal Age - Weeks 25 thru 30):**

The fetus really fills out over these next few weeks, storing fat on the body, reaching about 15-17 inches long and weighing about 4-4 ½ lbs by the 32nd week. The lungs are not fully mature yet, but some rhythmic breathing movements are occurring. The bones are fully developed but are still soft and pliable. The fetus is storing its own calcium, iron and phosphorus. The eyelids open after being closed since the end of the first trimester.

### **Weeks 33 thru 36 - Gestational Age (Fetal Age - Weeks 31 thru 34):**

This is about the time that the fetus will descend into the head down position preparing for birth. The fetus is beginning to gain weight more rapidly. The lanugo hair will disappear from the skin, and the skin will become less red and wrinkled. The fetus is now 16-19 inches and weighs anywhere from 5 ¾ lbs to 6 ¾ lbs.

### **Weeks 37 thru 40 - Gestational Age (Fetal Age - Weeks 35 thru 38):**

At 38 weeks the fetus is considered full term and will be ready to make its appearance at any time. Mom may notice a decline in fetal movement as the fetus is now filling the uterus with little room to move. The fingernails have grown long and will need to be cut soon after birth. Small breast buds are present on both sexes. The mother is supplying the fetus with antibodies that will help protect against disease. All organs are developed, with the lungs maturing all the way until the day of delivery. The fetus is about 19 - 21 inches in length and weighs anywhere from 6 ¾ lbs to 10 lbs.