

## MONTHLY DEVELOPMENT

Month 2--The embryo increases in length to about 1 1/2 inches. Bones and muscles begin to form. The head grows rapidly at first, accounting for about half of the embryo's size. The face and neck begin to take on human form. The brain develops very rapidly. Leg and arm buds form and grow; the eyes begin converging toward the center of the face. The mouth and nose form. Major organs of the digestive system become differentiated. The heart has been beating for about a month now.

Month 3--The fetus measures about 3 inches from head to buttocks and weighs about 1/2 ounce. The fetus has all of its major systems, and they are functioning. However, it is still unable to survive independently. No new organs will need to be formed, but the ones that are present will need time to develop and mature. The digestive system is active. The liver and kidneys are functioning. The fetus practices swallowing and breathing amniotic fluid. Its vocal chords are developing. The roof of its mouth comes together and fuses. Taste buds appear, sex organs continue to develop, buds for all temporary teeth are formed, and bone formation begins. During this month, arms, legs, and fingers begin to make spontaneous movement. The eyelids close and are sealed shut at this time. They will reopen at about six months.

Month 4--The fetus grows to almost 6 inches in length and 4 ounces in weight. The skin is thin, loose, and wrinkled and appears red because of underlying blood vessels. The face acquires a human appearance. The body outgrows the head at this time. Hands and feet become well formed and finger closure is possible. The fetal reflexes become more brisk as it begins to stir and move the arms and legs. In males, the testes are in position for later descent into the scrotum, and in females, the uterus and vagina are recognizable.

Month 5--The fetus is now about 12 inches long and weighs about 8 ounces. During this month, the mother will probably feel the baby's movement, called quickening. The baby is suspended in a quart of amniotic fluid. The development seems so advanced that the baby could survive outside of the mother, but this is impossible because the lungs, skin, and digestive organs are not prepared to exist on their own. Also, there is no provision for regulating body temperature. The fetus grows a fine dark body hair called lanugo and collects vernix, which is a waxy coating to cover and protect the skin. The nose and ears begin ossification, the skeleton hardens, and the heartbeat can now be heard. Fingernails and toenails begin to appear, and the baby will wake and sleep. Sweat glands are formed and functioning.

Month 6--The fetus increases in weight and is now between 1 1/2-2 pounds. The eyelids, which have been fused shut, are now open and completely formed. The eyes look up, down, and sideways. Eyebrows and eyelashes are well defined, and taste buds appear on the tongue and in the mouth.

Month 7--The fetus is now about 15 inches long and weighs between 2 1/2-3 pounds. It can cry weakly and can suck its thumb. The fetus can make a variety of reflex movements: startle, grasp, and swim movements. The cerebral hemispheres cover almost the entire brain.

Month 8--The fetus will gain 2-3 pounds during this month, which it will need to stay warm following birth. The fingernails reach beyond the fingertips and much of the lanugo is shed. By the end of this month, the fetus will most likely settle into the head down position. However, the baby is capable of changing positions.

Month 9--The fetus reaches full growth. It measures 14-15 inches from head to buttocks and weighs 6-8 pounds. During this last month, the baby acquires antibodies from its mother that will give it temporary immunity against some diseases. The eyes are normally blue at birth because pigmentation is not normally formed until after a few weeks of exposure to light. Vernix is present over the entire body. The fetus will alternate between periods of activity and periods of quiet. The organs increase their activity; the fetal heart rate increases to a rapid rate. Birth usually occurs approximately 280 days after the first day of the mother's last menstrual period.