

THE FIRST NINE MONTHS

(Focus on the Family)

The following is a step-by-step journey through the first chapter of human life. During the short nine months from conception to birth, a microscopic single cell evolves with amazing speed into a seven-pound, 20-inch, fully formed infant.

Not long ago, the first nine months of human life were a mystery to all. Only in recent years have scientific and technological advances allowed us to directly observe life as it develops within the womb. We now know in great detail how the unborn fetus looks, acts and grows.

Day 1

Sperm joins with ovum (egg) to form one cell – smaller than a grain of salt. The new life has inherited 23 chromosomes from each person, 46 in all. This one cell contains the complex genetic blueprint for every detail of human development – the child's sex, hair and eye colour, height, skin tone.



Days 3-4

The fertilised egg travels down the fallopian tube into the uterus, where the lining has been prepared for implantation.

Days 5-9

During this time, the fertilised egg implants itself in the rich lining of the uterus and begins to draw nourishment.

Days 10-14

The developing embryo signals its presence through placental chemicals and hormones, preventing the mother from menstruating.

Day 20

Foundations of the brain, spinal cord and nervous system are already established.

Day 21

The heart begins to beat.

Day 28

The backbone and muscles are forming. Arms, legs, eyes and ears have begun to show.

Day 30

At one month old, the embryo is 10,000 times larger than the original fertilized egg – and developing rapidly. The heart is pumping increasing quantities of blood through the circulatory system. The placenta forms a unique barrier that keeps the mother's blood separate while allowing food and oxygen to pass through to the embryo.

**Day 35**

Five fingers can be discerned in the hand. The eyes darken as pigment is produced.

Day 40

Brain waves can be detected and recorded.

Week 6

The liver is now taking over the production of blood cells, and the brain begins to control movement of muscles and organs. The mother is about to miss her second period and has probably confirmed that she is pregnant.

Week 7

The embryo begins to move spontaneously. The jaw forms, including teeth buds in the gums. Soon the eyelids will seal to protect the embryo's developing light-sensitive eyes, and will reopen at about the seventh month.

**Week 8**

At a little more than an inch long, the developing life is now called fetus – Latin for “young one” or “offspring”. Everything is now present and will be found in a fully developed adult. The heart has been beating for more than a month, the stomach produces digestive juices and the kidneys have begun to function. Forty muscle sets begin to operate in conjunction with the nervous system. The fetus' body responds to touch, although the mother will not be able to feel movement until the fourth or fifth month.



Week 9

Fingerprints are already evident in the skin. The fetus will curve its fingers around an object placed in the palm of its hand.



Week 10

The uterus had now doubled in size. The fetus can squint, swallow and wrinkle its forehead.

Week 11

At this time, the fetus is about two inches long. Urination occurs. The face has assumed a baby's profile, and muscle movements are becoming more coordinated.

Week 12

The fetus now sleeps, awakens and exercises its muscles energetically – turning its head, curling its toes, and opening and closing its mouth. The palm, when stroked, will make a tight fist. The fetus breathes amniotic fluid to help develop its respiratory system.

Week 13

Fine hair has begun to grow on the head, and sexual differentiation has become apparent.

MONTH 4

By the end of this month, the fetus is eight to ten inches in length and weighs a half a pound or more. The mother will probably start to "show" now. The ears are functioning, and there is evidence that the fetus hears quite a bit: the mother's voice and heartbeat as well as external noises. The umbilical cord has become an engineering marvel, transporting 300 quarts of fluids per day and completing around-trip of fluids every 30 seconds.



MONTH 5

Half the pregnancy has now passed, and the fetus is about 12 inches long. The mother has definitely begun to feel movement by now. If a sound is especially loud or startling, the fetus may jump in reaction to it.



MONTH 6

Oil and sweat glands are functioning. The delicate skin of the growing baby is protected from the fetal waters by a special ointment called “vernix”. If the baby were born in this month and given the proper care, he would survive.

MONTH 7

The baby now uses the four senses of vision, hearing, taste and touch. He can recognise his mother’s voice.

MONTH 8

The skin begins to thicken, with a layer of fat stored underneath for insulation and nourishment. Antibodies increasingly build up. The baby absorbs a gallon of amniotic fluid per day; the fluid is completely replaced every three hours.

MONTH 9

Toward the end of this month, the baby is ready for birth. The average duration of pregnancy is 280 days from the first day of the mother’s last menstrual period, but this varies. Most babies (85% to 95%) are born somewhere between 266 and 294 days. By this time the infant normally weighs 6 to 9 pounds, and his heart is pumping about 250 gallons of blood a day. He is fully capable of life outside the womb.



The growth pattern described in this article is recognised by medical information and documented by scientific research. Slight variations in developmental days may exist from individual to individual.

For further information

**Contact
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