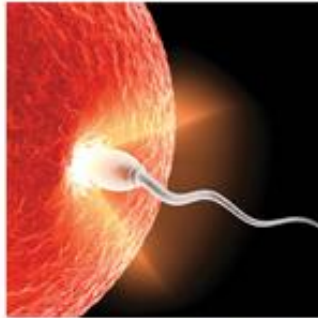


When Does Life Begin?

Day 1: Fertilization

The sperm joins with the egg to form one cell. This single cell contains the complex genetic makeup for every detail of a new human being. After fertilization, nothing new is added but oxygen, nutrition and time.¹



1st Month: 1–4 Weeks

The first cell divides in two, and cell division continues as it travels down the fallopian tube to the uterus. Foundations of the brain, spinal cord, and nervous system are already established and by day 21 the heart begins to beat in a regular fashion.² Muscles are forming, and arms, legs, eyes, and ears have begun to show.



2nd Month: 5–8 Weeks

By six weeks, brain waves can be detected.³ The jaw forms, including teeth and taste buds.⁴ The baby begins to swallow amniotic fluid, and sometimes hiccups.⁵ Fingers and toes are developing and at seven weeks the chest and abdomen are fully formed.⁶ Swimming in the amniotic fluid, she now looks like a miniature human infant.^{7,8}



3rd Month: 9–12 Weeks

Unique fingerprints are evident and never change.⁹ The baby now sleeps, awakens, and exercises her muscles. The baby is very active. The gender can be visually determined and family resemblances may appear.¹⁰ By the end of the month all the organs and systems of her body are functioning.¹¹



4th Month: 13–16 Weeks

By the end of the fourth month, the baby is 8–10 inches in length and weighs about one-half pound. Her ears are functioning and she hears her mother's heartbeat, as well as external noises like music.¹² Lifesaving surgery has been performed on babies at this age.



5th Month: 17–20 Weeks

If a sound is especially loud, the baby may jump in reaction to it. Thumb-sucking has been observed during the fifth month.¹³



6th Month: 21–24 Weeks

Oil and sweat glands are functioning. She grows rapidly in size and strength while her lungs become more developed.¹⁴



7th Month: 25–28 Weeks

The baby can now recognize her mother's voice. She exercises by stretching and kicking. She uses the senses of hearing, touch and taste, and she can even look around with open eyes.¹⁵



8th Month: 29–32 Weeks

The baby swallows a gallon of amniotic fluid per day and often hiccups.¹⁶ The baby's kicks are stronger and mom may be able to feel an elbow or heel against her abdomen.¹⁷



9th Month: 33–36 Weeks

Gaining one half pound per week, the baby is getting ready for birth. The bones in her head are soft and flexible to more easily mold for the journey down the birth canal.¹⁸ Of the 45 generations of cell divisions before adulthood,

41 have already taken place. Only four more come before adolescence. Ninety percent of a person's development happens in the womb.¹⁹

Image credits: Months 1-2 by Steven O'Connor M.D. / Months © 4-7 Life Issues Institute.

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¹ "The Drama of Fetal Development", *American Baby*. Jan. 1989. p. 45. Print.

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⁴ Sadler, T.W. *Langman's Medical Embryology*. 7th ed., Baltimore: Williams & Wilkins, 1995. p. 341 Print.

⁵ deVries, J.I.P. et al, "The Emergence of Fetal Behavior." *Early Human Development*. Vol 12. 1985, p. 108 Print.

⁶ *Mayo Clinic Family Health Book*. 3rd ed. Harper Resource, 2003. p. 268 Print.

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⁹ Moore, Keith L., Persaud, T.V.N. *The Developing Human. Clinically Oriented Embryology* p.

¹⁰ Flanagan, Geraldine Lux, *Beginning Life*, DK Publishing, 1996 pp. 59-65.

¹¹ Cunningham, MacDonald, Grant, *Williams Obstetrics*. 18th ed., p. 90 & 103 Print.

¹² Flanagan, Geraldine Lux, *Beginning Life* DK Publishing , 1996 Limited p. 68.

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¹⁴ Gordon, Debra MD. "Pregnancy." *The Gale Encyclopedia of Medicine*. 2nd ed., pp. 2694-2695.

¹⁵ *ibid.*

¹⁶ *ibid.*

¹⁷ *ibid.*

¹⁸ *ibid.*

¹⁹ Sassone, Robert L. "Interview with Prof. Sir A William Lilliey." *The Tiniest Humans*.

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