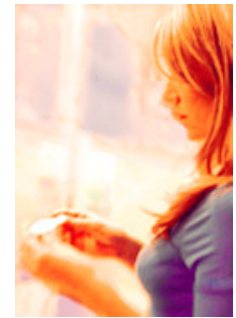


Growth Milestones of Your Baby

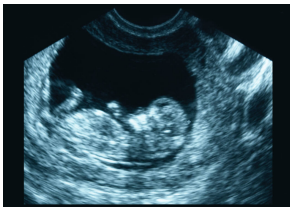
At no time in your baby's life does more growth and change occur than in the first nine months before birth. Here are the amazing milestones of that time in his or her life.

1st Day: Conception. Of the 200,000,000 sperm that try to penetrate the mother's egg cell, only one succeeds.¹ At that very moment, a new and unique individual is formed. All of the inherited features of this new person are already set - whether it's a boy or a girl, the color of the eyes, the color of the hair, the dimples of the cheeks and the cleft of the chin.



18-20 Days: The foundations of the brain, spinal cord and nervous system are laid.^{2a}

21 Days: The heart begins to beat, unsurely at first, gaining strength day by day. The heart beats 70 times per minute at first, reaching a maximum of 170-190 at seven weeks, and slowing a bit to 160-180 at 9 weeks.^{4a} A day later the eyes begin to develop. The earliest stages of the ears are now present.^{2b}



28-32 Days: Two tiny arms make their appearance and budding legs follow two days later.^{3a} The beginnings of the mouth take shape.^{4b} The nose starts to develop.^{3b} Blood flows in the baby's veins but stays separate from the mother's blood. The tongue now begins to form. The face now makes its first appearance.^{4c}

42 Days: The brain is now divided into three parts – one to experience emotion and understand language, one for hearing and one for seeing.^{5a} Joints begin to form. Mother now misses her second period.

44 Days: Facial muscles develop.^{4d} Eyelids begin to form, protecting the developing eyes.^{3d} Elbows take shape. Internal organs are present, but immature. 99% of muscles are present; each with its own nerve supply.^{5b} Electrical activity is detectable in the brain.^{4e}

7 Weeks: Spontaneous movement begins. The baby begins to develop a whole collection of moves over four weeks including hiccupping, frowning, squinting, furrowing the brow, pursing the lips, moving individual arms and legs, head turning, touching the face, breathing (without air), stretching, opening the mouth, yawning, and sucking.^{2c}



8 Weeks: The baby is now well-proportioned, about the size of a thumb. Every organ is present. The liver is making blood, the kidneys function and the heart beats steadily. The skull, elbows and knees are forming. Of 4500 structures in the adult body, 4000 are already present.^{5c} The skeleton of the arms and legs and the spine begins to stiffen as bone cells are added.^{3c}

10 Weeks: The number of connections between nerves and muscles has tripled since last week. ^{5d}

12 Weeks: The baby swallows and responds to skin stimulation. ⁶

4 Months: The child can grasp with hands, make a fist, swim, and turn somersaults. ⁷



7 Months: Eyelids open and close, eyes look around. ^{2d} Hands grip strongly. Mother's voice can be heard and recognized.

9 Months: The child triggers labor and birth occurs, an average of 264-270 days after conception. ^{2e} And not until the baby has gone through all these events on the inside do we see the new child on the outside

¹ "Life Before Birth," Life Magazine, Apr. 30, 1965, p.13

² Carlson, B., Human Embryology & Developmental Biology, Toronto; Mosby Publication; 3rd Edition, 2004, ^a: p. 97, ^b: 292, ^c: 483, 484, ^d: 305, ^e: 88-92

³ Moore, K. and Persuad, T., The Developing Human, Clinically Oriented Embryology, 6th Edition, Philadelphia: W.B. Sanders, 1998, ^a: p. 435-437, ^b: 236-243, ^c: 408-422, ^d: 502, ^e: 409-414

⁴ O'Rahilly, R. and Muller, F. Human Embryology and Teratology, 3rd Edition, New York; John Wiley and Sons, Inc. 2001, ^a: p183, ^b: 235-236, ^c: 346-348, 183, 236, 107, ^d: 238, ^e: 428.

⁵ Tsiaras, A. and Werth, B., From Conception to Birth, a Life Unfolds, New York; Doubleday, 2002, ^a: p. 102, 114, 118, ^b: 140, ^c: 178, 183, 185, ^d: 206.

⁶ Valman, H. and Peason, J., "What the foetus feels," British Medical Journal, January 26, 1980.