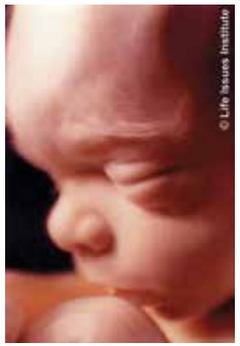
heard crying. The sex of the baby can be determined. She can now hear.

4 Months: The preborn baby can grasp with hands, swim, and turn somersaults. Her mother may feel her movements for the first time. Her eyelashes are now present. Rapid eye movement (REM), indicative of dreaming, can now be recorded. A very bright light shined on the mother's abdomen will cause the baby to slowly move her arms and cover her eyes. Loud music will cause the baby to cover her ears.

4 months.

5 Months: The preborn baby has formed her own unique sleeping habits by now. She responds to sounds that are of frequencies that exceed adults' audible range. She may be soothed to sleep by gentle music. Fine hair grows on her head and eyebrows.



5 months.

6 Months: Most babies are viable at this point (24 weeks, or about 60 percent of full gestation). Eyelashes appear. The baby's weight is about 22 ounces, and her height is about 9 inches.

7 Months: The baby's weight increases to over one kilogram or 2.2 pounds. The baby's eye teeth are now present. Her eyes open and close and she explores her surroundings. Her hands can support her entire weight at this time. She recognizes her mother's voice.

8 Months: The baby's weight increases to over two kilograms (4.4 pounds), and her quarters become cramped.

9 Months: In the final six weeks of gestation, the baby gains as much as an ounce of weight per day. The lightest baby ever born to survive healthily weighed 10 ounces. Of the 45 total generations of cell replication that will take place by mature adulthood, 41 have already taken place. The baby now has about two trillion cells. The remaining four generations of cell replication will occupy all of the person's childhood and young adulthood. In developmental terms as measured by cell replication, we spend 90 percent of our lives in utero.

3 Human development begins at fertilization and that baby is a human person.

Notes

1. "Fetal Development," *Taber's Cyclopedic Medical Dictionary*. Subsequent information on fetal development is also from this source.

PRO-LIFE TALKING POINTS

HUMAN LIFE INTERNATIONAL WAS FOUNDED IN 1981 BY FR. PAUL MARX, OSB

FOR THE GLORY OF GOD AND THE DEFENSE OF LIFE, FAITH AND FAMILY.

4 Family Life Lane • Front Royal, VA 22630

IS A BABY HUMAN FROM THE BEGINNING?

By standard biological definition, a new, unique human being is created at the moment of conception.

HUMAN LIFE INTERNATIONAL

Is a Baby Human from the Beginning?

1 **A new human being is created at conception:** From the instant the male gamete (sperm) fuses with the female gamete (egg), a unique human being with his or her own DNA, different from those of his or her mother and father, is present. After fertilization, there are 46 chromosomes (or 47 in the case of Down syndrome), the combination of one set of 23 chromosomes from the mother and another set from the father. The resulting being is genetically human and alive, and therefore, by standard biological definition, a human being. From fertilization to natural death, there exists an unbroken continuum of human development during which the person needs only oxygen, water, and nutrients to live and develop physically.

2 **Major benchmarks in fetal development reinforce the humanity of the unborn child:**

Fertilization: The father's sperm and the mother's egg unite. Genetic instructions from each of the two individuals combine to form a unique individual, barely visible to the human eye. *Taber's Cyclopedic Medical Dictionary* describes what happens next: "Following fertilization, cells multiply, which results in formation of a morula, which in turn develops into a blastocyst consisting of a trophoblast and inner cell mass."[1]

1st Day: The first four cell divisions take place as the blastocyst travels down the mother's fallopian tubes towards the uterus.

5-9 Days: The blastocyst now consists of about 256 cells and implants in the uterus.

14 Days: The mother's menstrual period is suppressed by her child's chemical signals.

20 Days: The baby's heart is in the advanced stages of formation. Her eyes begin to form. Her brain, spinal column, and nervous system are virtually complete.

24 Days: The preborn baby's heart begins to beat.

28 Days: The baby's muscles are developing. Her arm and leg buds are visible, and her first neocortical cells appear. The neocortex is the seat of complex thinking and reasoning, and it is present in no other mammal. The preborn child has grown in size by a factor of 10,000 since fertilization. Blood flows in the baby's own veins, separate from her mother's blood.

35 Days: The baby's pituitary gland, mouth, ears, and nose take shape.

42 Days: The baby's heart energy output is an incredible 20 percent of an adult's already. The cartilage skeleton is completely formed and ossification into bone begins. The baby's brain coordinates voluntary movement of muscles and the involuntary movement of organs. Reflex responses are present. The baby's mother misses her second menstrual period.

43 Days: The preborn baby's brain waves can be recorded.

45 Days: The baby begins spontaneous and voluntary body movements, and her milk teeth buds are present.

7 Weeks: The baby's lips are sensitive to touch, and her ears resemble her family's pattern. The first fully developed neurons (nerve cells) appear on the top of her spinal cord, beginning construction of the brain stem. This portion of the brain regulates vital functions such as breathing, heartbeat, and blood pressure.

7 weeks.

8 Weeks: The preborn baby is about 1-1/2 inches long and 1/30 of an ounce in weight. All organs are present, complete, and functioning except the lungs. Her stomach produces digestive juices, her liver makes blood cells, and her kidneys are functioning. Her taste buds are forming and her unique fingerprints are being engraved. Her eyelids and the palms of her hands are sensitive to touch. Of the 45 total generations of cell replication that will take place by mature adulthood, fully two-thirds have already taken place.

9 Weeks: The preborn baby can bend her fingers around an object placed in her palm. Her fingernails are forming and she sucks her thumbs.

10 Weeks: All sections of the preborn baby's body are sensitive to touch. She swallows, squints, frowns, and puckers up her brow. If her palm is stroked, she will make a tight fist.

11 Weeks: The preborn child makes all facial expressions, including a smile. She is now breathing amniotic fluid steadily and will continue to do so until birth. Her fingernails and toenails are present. Her taste buds are working; she will drink more amniotic fluid if it is artificially sweetened, and less if it is given a bitter taste.

11 weeks.

12 Weeks: Vigorous activity shows the baby's distinct personality. Some babies hiccup constantly, others may cry. The baby can kick, turn over, curl and fan her toes, make a fist, and open her mouth and press her lips tightly together.

13 Weeks: The preborn child's facial expressions resemble those of her parents. Her movements are vigorous and graceful. Her vocal chords are present, and, in rare cases when air enters the uterus temporarily, babies have been