

APPENDIX A

Fetal Development – “How You Began”

The human embryo at 4th week after fertilization*

- Heart beats at 18 days, pumps blood at 21 days—blood type can differ from mother
- Basic structure of all major organs forming (stomach, lungs, eyes, ears)
- Brain, spinal cord and nerves begin to form
- May measure 1/8th inch

The human embryo at 6th week after fertilization

- Brain waves can be measured
- Eyes and arm and leg buds can be seen
- May measure 1/2 inch

The human fetus at 10th week after fertilization

- Squints, sucks, kicks, swallows, moves tongue
- Fingers and toes are present- will seize an object placed in the hand
- All 5 major areas of adult brain are present
- Body is sensitive to touch, feels pain
- Every organ and body system is present
- May measure over 2 inches and weigh 1 ounce

The human fetus at 14th week after fertilization

- Fingerprints are formed and only change in size
- Fingernails are present, toenails are developing
- Can hear mother's voice
- Taste buds are working, all body systems are working
- Maternal smoking is shown to adversely affect baby's breathing in the womb
- May measure 5 inches and weigh 8 ounces

The human fetus at 18th week after fertilization

- Exhibits startled reaction to loud, sudden noises
- Sucks thumb; strokes own body, uterine wall, or umbilical cord
- Thin layer of skin is present and fine, downy hairs cover body
- Eyebrows and eyelashes begin to form
- Mother may feel kicking
- In some cases, may survive outside the womb
- May measure 9 inches and weigh 1 pound

* A pregnancy normally covers 40 weeks counted from the first day of the mother's last menstrual period. Fertilization takes place about two weeks into her cycle. The dates shown in this appendix are from the time of fertilization, not the onset of the mother's last menstrual period.

References: Keith L. Moore, M.D. The Developing Human. W. B. Saunders Co., 1988. J.C. Willke, M.D. Why Can't We Love Them Both?, Hayes Pub., 1997, Jamie E. Bolane. "Life Unto Life." Childbirth Graphics, 2000. Shettles and Rorvik, Rite of Life, p.55. H. B. Valman and J.F. Pearson, "What the Fetus Feels," British Medical Journal (January 26, 1980), p. 234.