

FERTILIZATION

Ovulation occurs when an egg is released from the ovary. After being released, the egg travels through the fallopian tube and enters the uterus. Conception occurs when an egg is fertilized by one sperm. This normally occurs in the fallopian tube. The egg and the sperm each contain 23 chromosomes. During conception, these chromosomes combine to provide the 46 chromosomes needed to produce a human being. This newly formed cell begins to divide and is referred to as a zygote. As the cells continue to divide, the zygote makes its way through the fallopian tube and enters into the uterus.

The zygote has divided many times by now and is a group of cells. This group of cells bounces around on the uterine wall until it finds an appropriate area to implant itself and begin forming what will soon become the placenta, umbilical cord, amniotic sac, and fetus. This process is very complex, and if any step of this process is disrupted, the progression will cease and all will be expelled. This expulsion is called menstruation. The menstrual cycle is a continuous process that begins at puberty. It continues through the childbearing years and ends with menopause. The average menstrual cycle is 28 days but may vary from 17-35 days and still be normal. There are four phases in this cycle. (Refer to transparency, "MENSTRUAL CYCLE")

Phase I (Days 1-5) MENSTRUAL PHASE: The actual shedding of the unused uterine lining. This happens when pregnancy has not occurred and another cycle begins. The menstrual flow continues for about 4-5 days. After menstruation stops, preparation for possible reproduction begins again.

Phase II (Days 10-14) POST MENSTRUAL PHASE: Following menstruation, the endometrium or uterine lining is thin. This is the resting stage. At this time, low levels of estrogen and progesterone signal the pituitary to send large amounts of follicle stimulating hormone (FSH) to the ovaries. This causes one egg, or ovum, to begin to mature.

Phase III (Days 10-14) INTERMENSTRUAL PHASE AND OVULATION: The ovaries release estrogen, which causes the endometrium to thicken. A matured egg breaks from the egg sac and leaves the ovary. This is called ovulation. Then the egg enters the fallopian tube and is on its way to the uterus. If male sperm cells have been deposited in the vagina near the time of ovulation, pregnancy can occur. The egg is usually fertilized while it is in the fallopian tube. Male sperm cells swim into the fallopian tubes.

Phase IV (Days 15-28) PREMENSTRUAL PHASE: The uterus continues to thicken. The ovary supplies progesterone, which prepares the lining of the uterus to receive and care for a fertilized egg. If it is not fertilized, the egg disintegrates. The uterine lining is not needed and is ready to be shed. Menstruation and another cycle will begin.