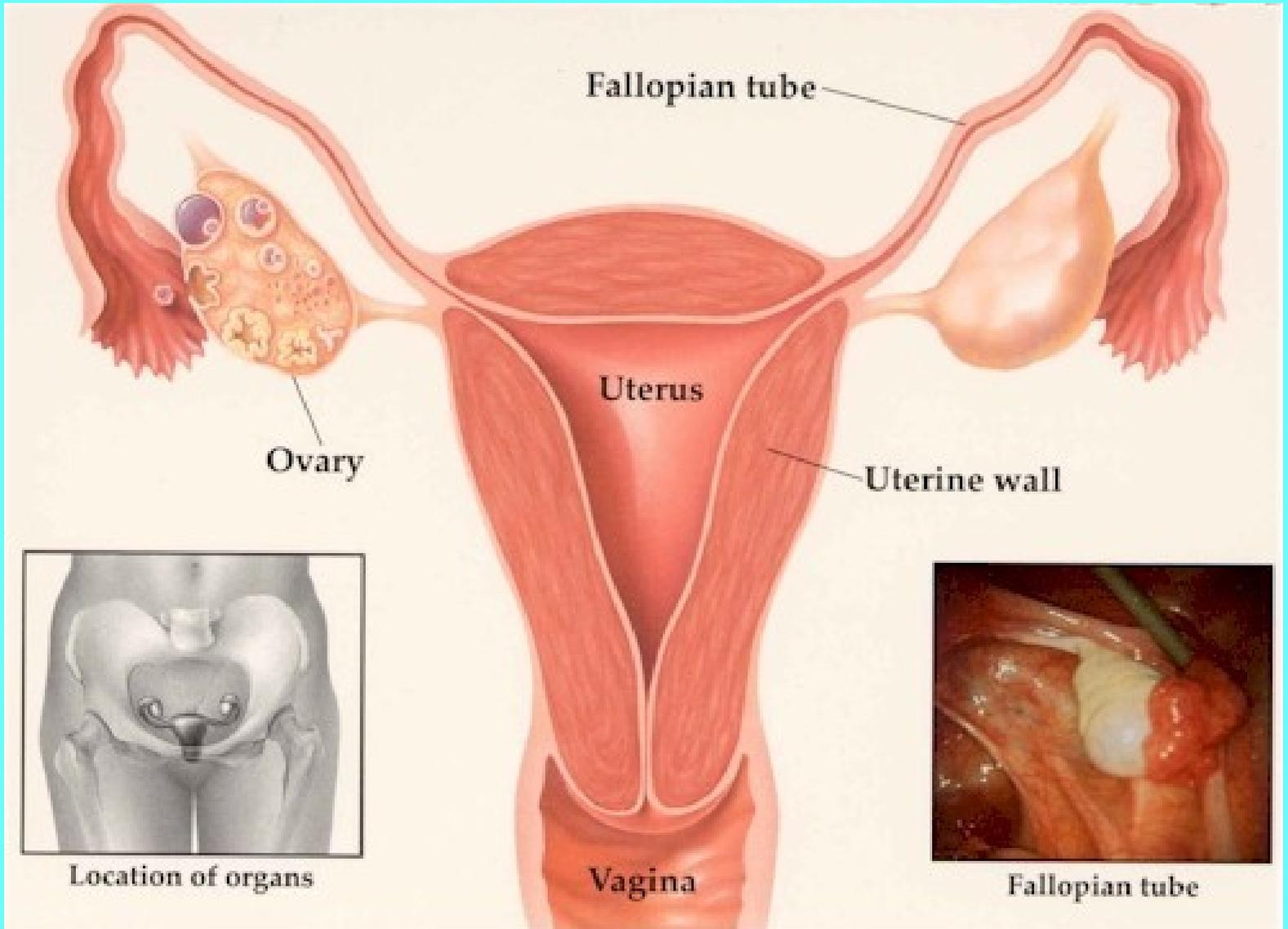


CONCEPTION

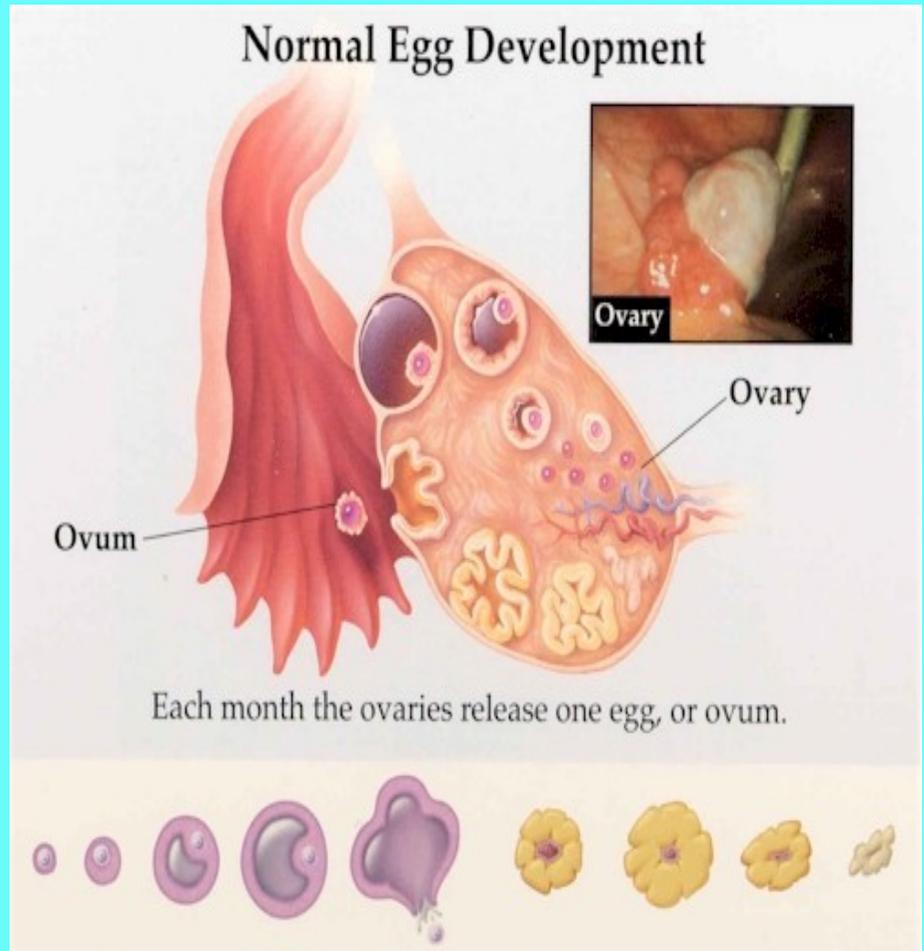


NORMAL OVULATION

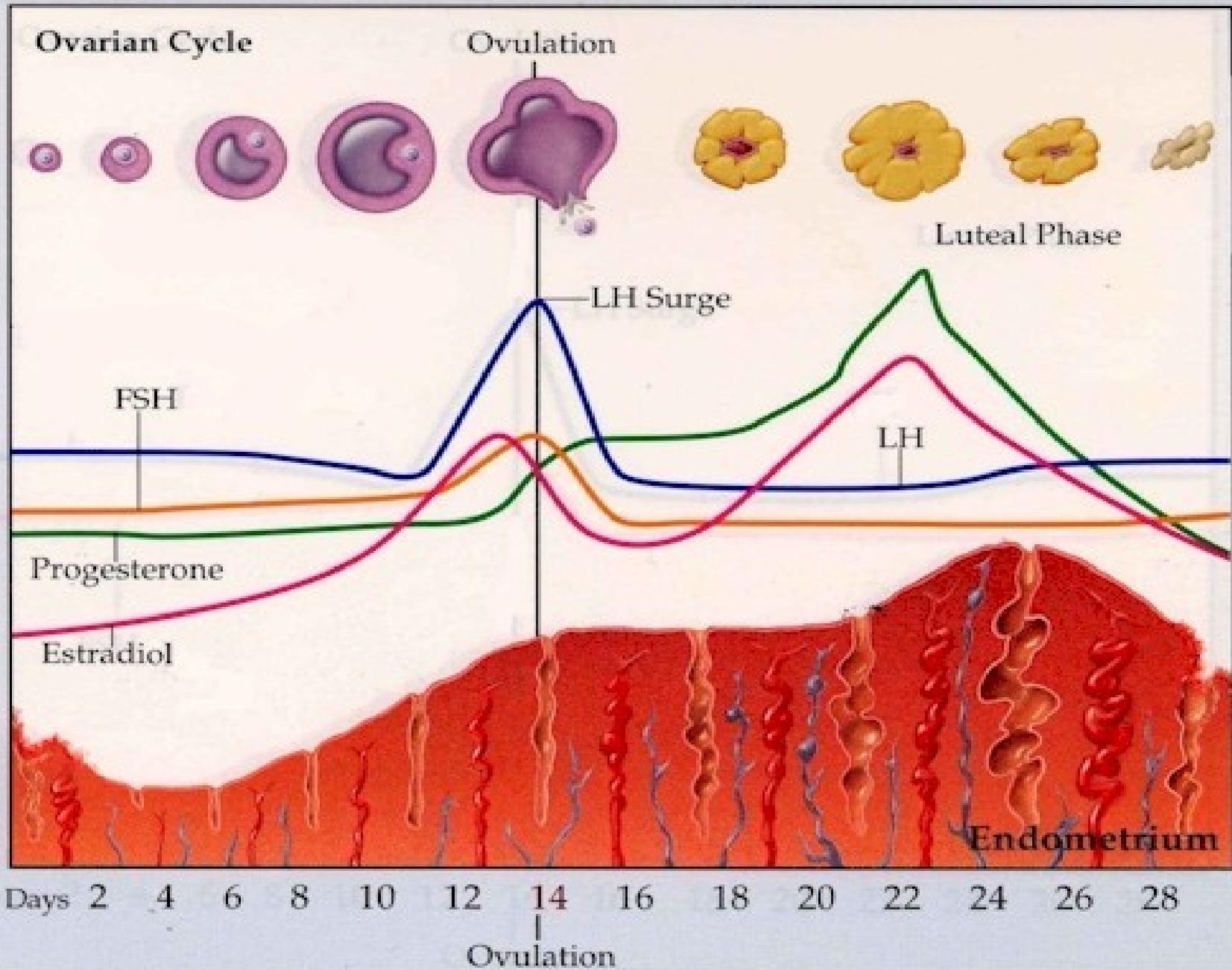


OVULATION (continued)

- Release of FSH → primary follicle matures to become a Graafian follicle
- Mid-cycle the Graafian follicle breaks open and releases the egg into the abdominal cavity.

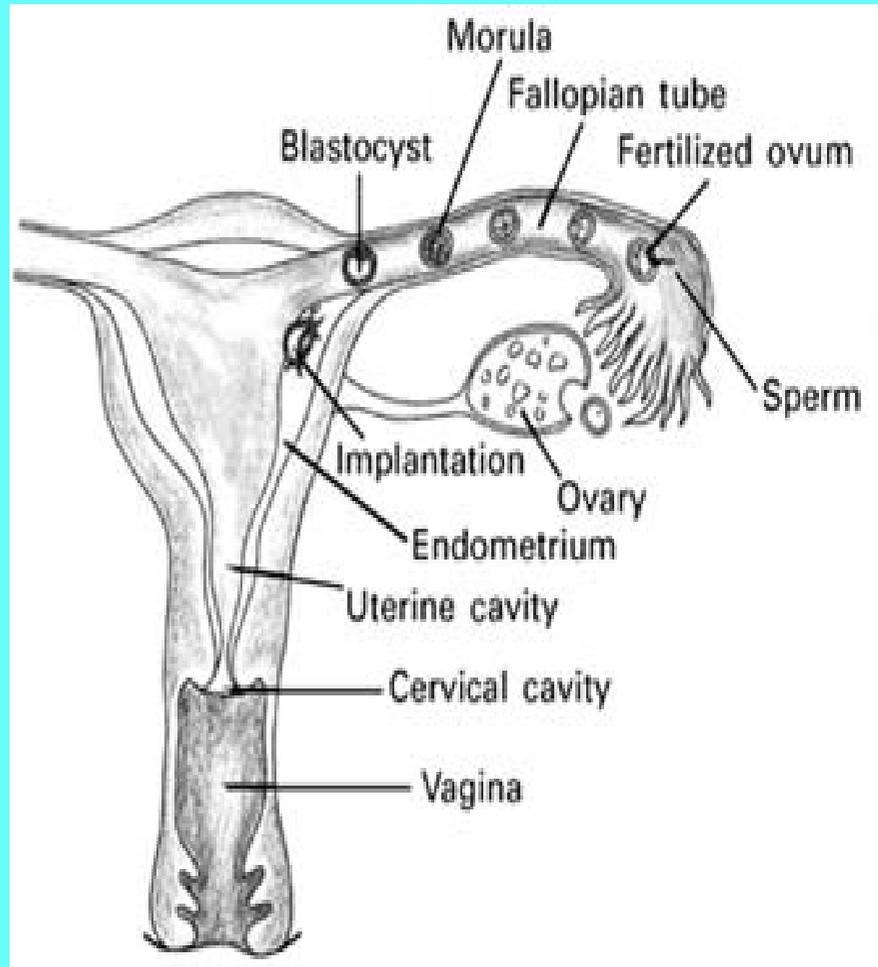


Menstrual Cycle



OVULATION (continued)

- Egg moves through Fallopian tube to the uterus ← 3-7 day trip
- Fertilization is only possible for 24-28 hours after the egg leaves the ovary.



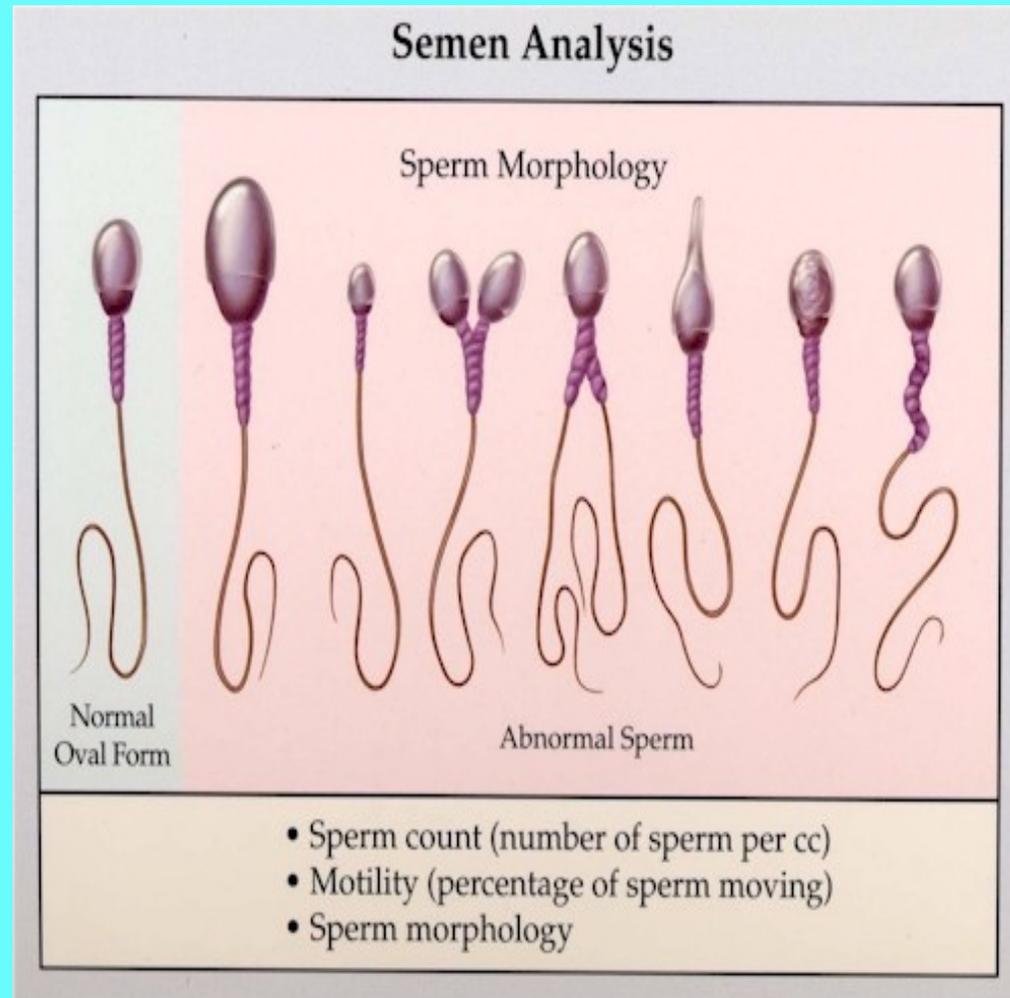
PRE-FERTILIZATION

- Male ejaculates 200-300 million sperm into the vagina.
- 20% die immediately due to acidic environment of woman's vagina



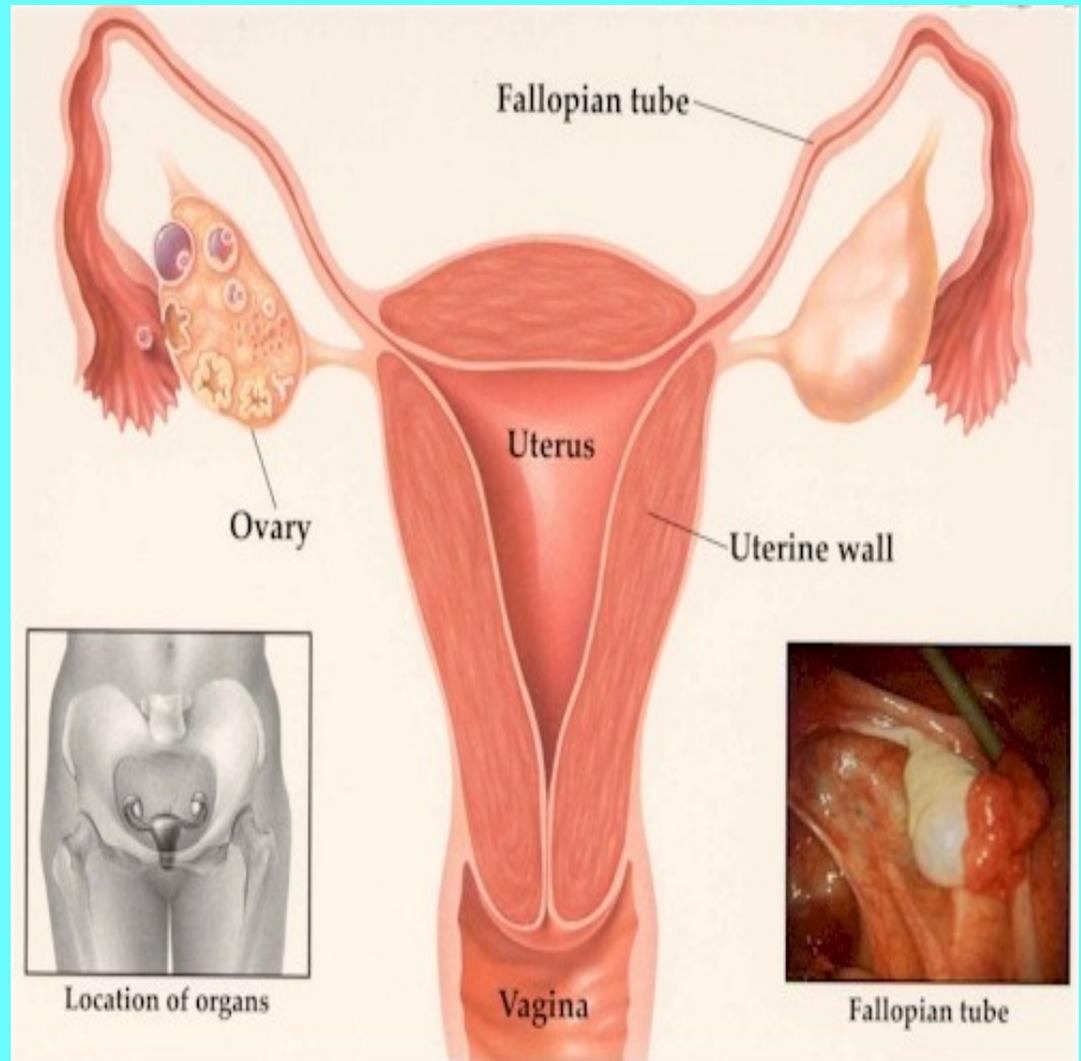
SPERM COUNT

- Sperm count affected by . .
- Stress
- Alcohol
- Smoking
- Marijuana
- Diet
- Testicular temperature



PRE-FERTILIZATION

- Sperm pass through the cervix and uterus into the Fallopian tubes.



PRE-FERTILIZATION

- Fewer than 50 sperm survive to meet the egg in the Fallopian tubes. Live 3-5 days.
- Sperm undergo capacitation in which their membranes thin so that they can release an enzyme to soften the egg's outer layers.



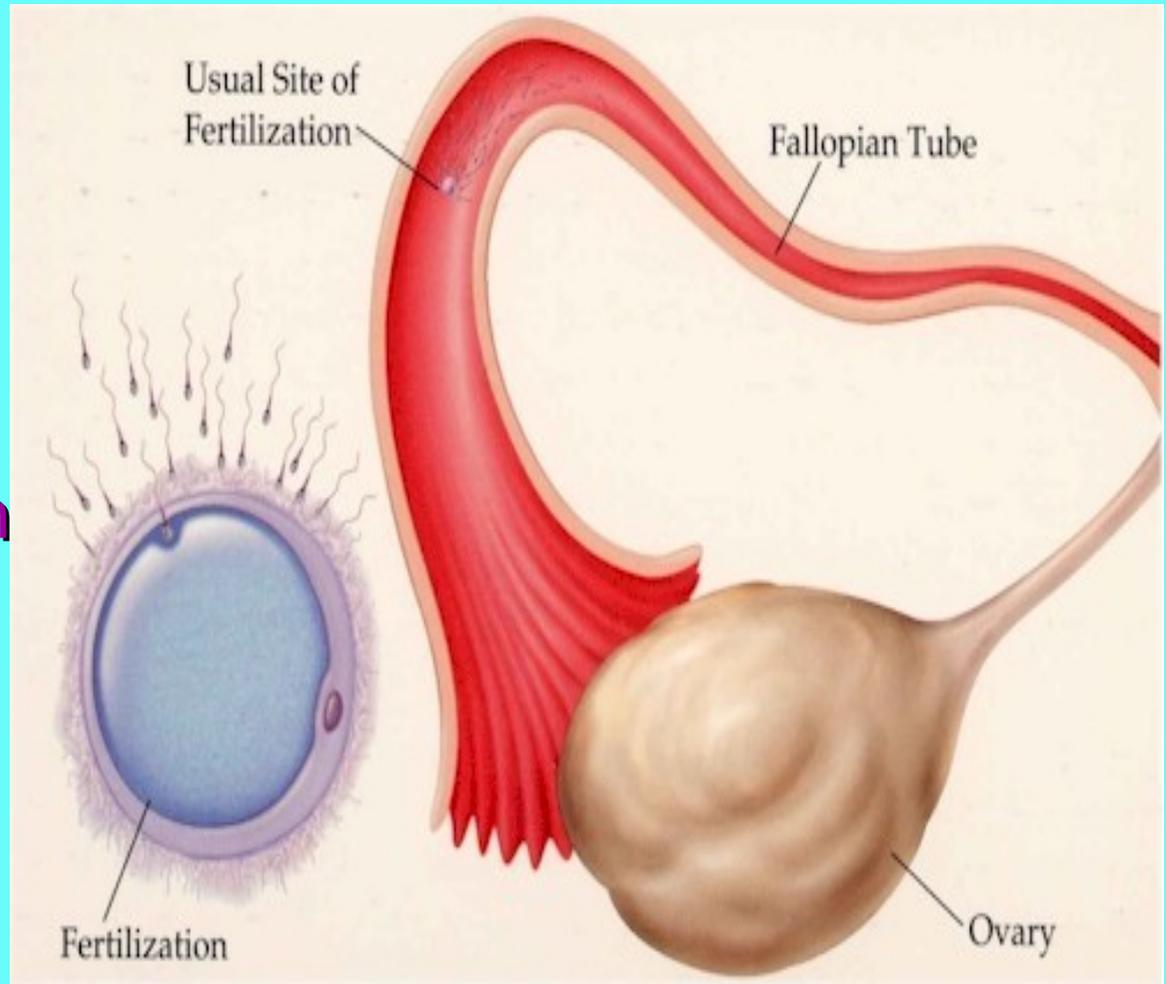
FERTILIZATION

- Egg then pulls one sperm to its surface.
- Sperm releases enzyme and penetrates the egg's softened surface.
- No other sperm are allowed in.

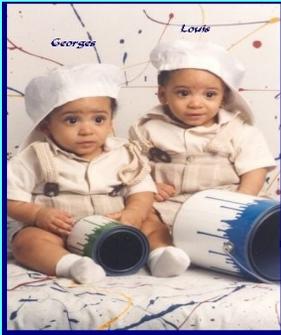


FERTILIZATION (continued)

- Within 24-30 hours the nuclei of sperm and ovum fuse to form a zygote.



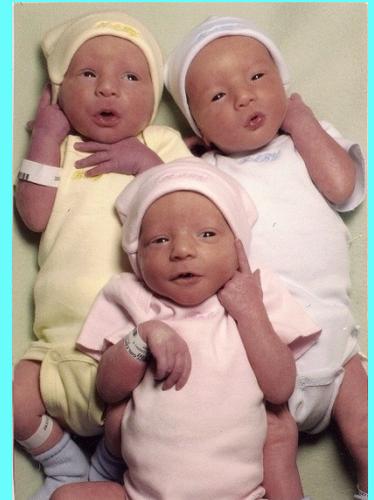
MULTIPLE CONCEPTIONS



- Without the use of fertility drugs
 - Twins-
 - in women of Caucasian descent- 1/89
 - in women of African descent- 1/71
 - in women of Asian descent- 1/160
 - Identical Twins (monozygotic)- 4/1000
 - Proportion of twins who are identical- 1/3

MULTIPLE CONCEPTIONS

- Without the use of fertility drugs
 - Triplets-
 - in women of Caucasian descent-
1/9200
 - in women of African descent-
1/5100
 - Quadruplets-
 - in women of Caucasian descent-
1/570,000
 - in women of African descent-
1/240,000

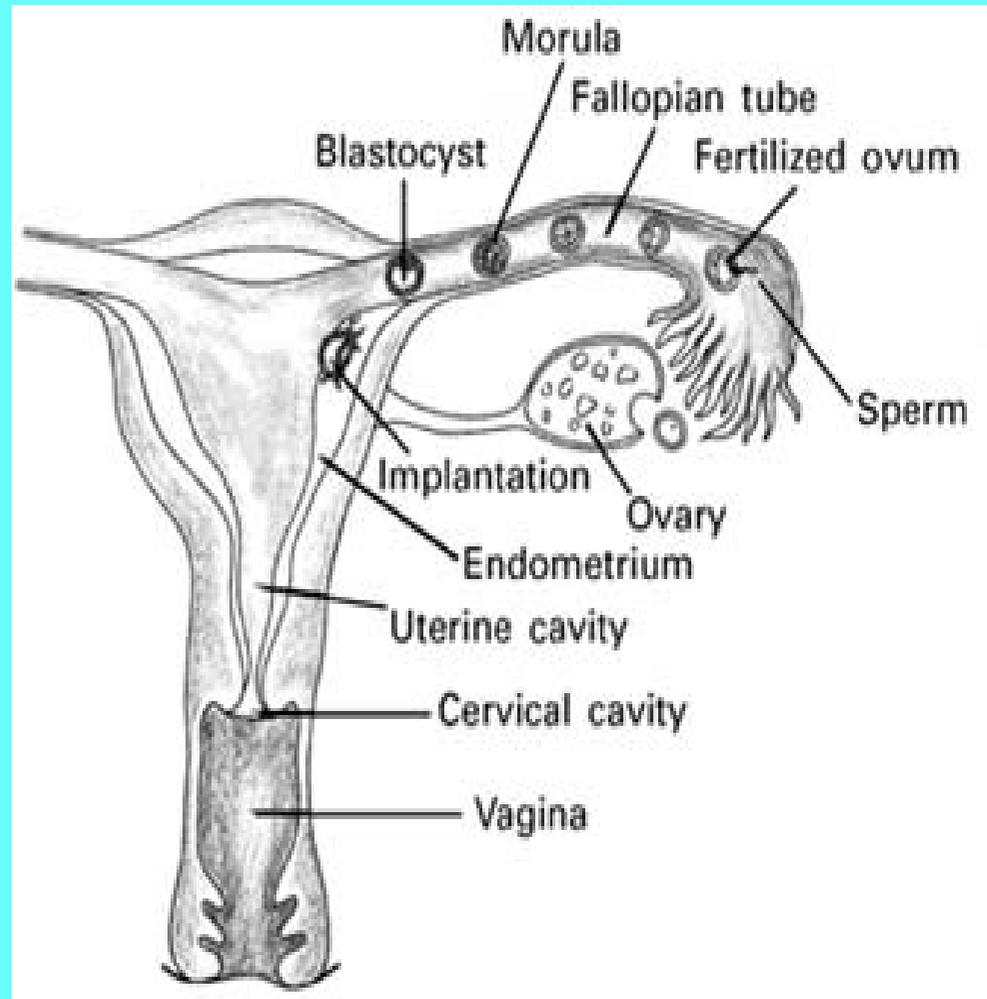


MULTIPLE CONCEPTIONS

- With the use of fertility drugs
 - When clomiphene (Clomid, Serophene) is used to induce ovulation
 - 1/15
 - When hMG or FSH (Pergonal, Humegon, Repronex, Fertinex, Follistim, Gonal-F) is used to induce ovulation
 - 1/3

GERMINAL STAGE

- Zygotes then undergo cell division.
- The resulting morula continues to travel to the uterus.



GERMINAL STAGE

- At 100 cells with fluid filled center → blastocyst
- May float in uterus for several days.
- Size: Smaller than the head of a pin.

