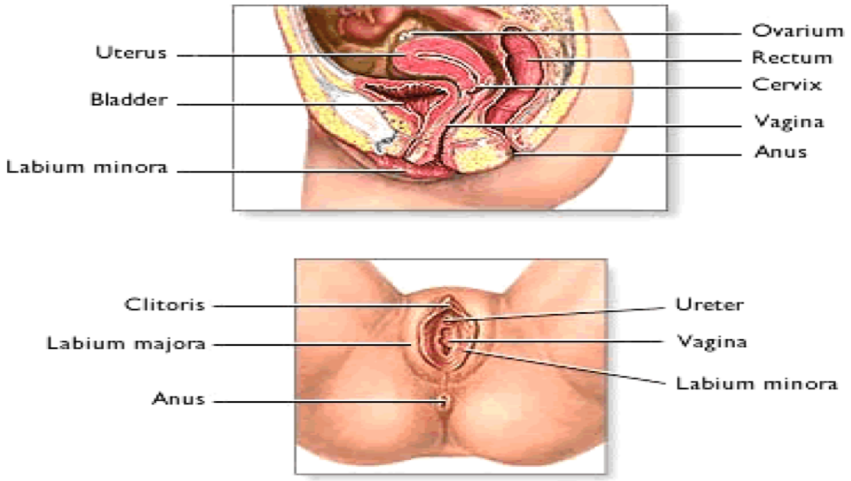
F. Vagina/Birth Canal

1. Muscular tube with mucosa lining
2. Makes 45° degree angle with small of back
3. Leads to the exterior from the cervix
4. Functions:
   a. Provides a receptacle for the male's penis
      i. Vaginal walls contain tissue that is erectile and will form closely to the penis during intercourse
      ii. This close fit will cause tactile stimulation of the glans to ensure ejaculation and deposition of the sperm at the cervix
   b. Serves as the birth canal during childbirth

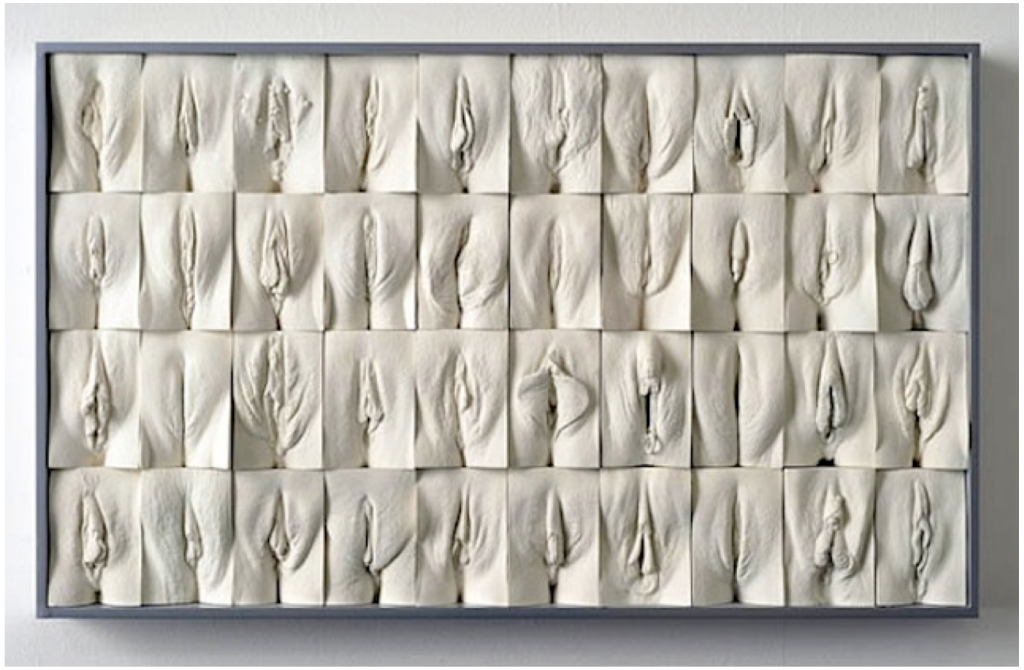


G. Vulva

1. External genitals
2. MONS PUBIS is the fatty prominence under the pubic hair
3. Labia are the two sets of skin folds
   a. LABIA MAJORA are the outermost pair of fat-padded skin folds
   b. LABIA MINORA are the smaller pair of skin folds enclosed within the labia majora

H. Clitoris

1. Located above the labia minora
2. Equivalent to the glans of the penis
3. Consists of erectile tissue and has many nerves going to it
4. Tactile stimulation of the clitoris results in the female orgasm



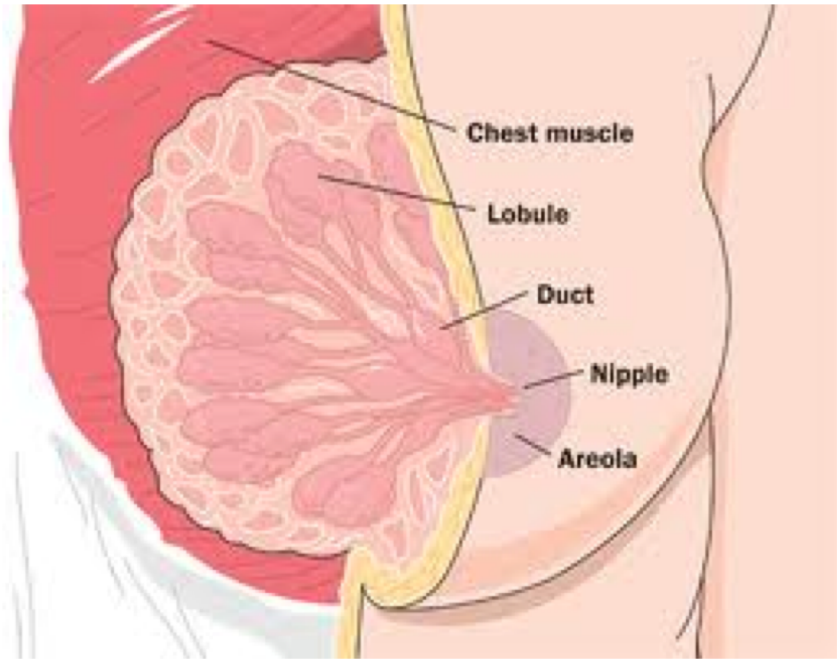
Link

I. Hymen

1. A ring of tissue that may partially close the vaginal opening
2. If unbroken as a child it is broken by the first sexual intercourse

H. Breasts

1. Develops under hormonal control
2. Most breast tissue in non-lactating women is adipose (fat) tissue
3. Amount of glandular tissue is about the same in all females



The Female Hormones Ted-Ed Period

I. Anterior Pituitary

A. Makes 2 Gonadotrophic hormones that act on ovaries

1. FSH - Follicle Stimulating Hormone

a. Stimulates the follicle to mature and cause it to produce estrogen

2. LH - Leutinizing Hormone

a. Maintains the corpus luteum and causes it to produce progesterone

B. Regulates the ovary's production of female sex hormones

II. Ovary

A. Makes 2 hormones that act on the endometrium

1. Estrogen

a. Made by the follicle

b. Stimulates:

i. Growth of uterus and vagina

ii. Secondary sex characteristics (body hair/fat distribution, increased pelvic girdle, breasts)

iii. Egg maturation

iv. Endometrium thickening

2. Progesterone

a. Made by the corpus luteum

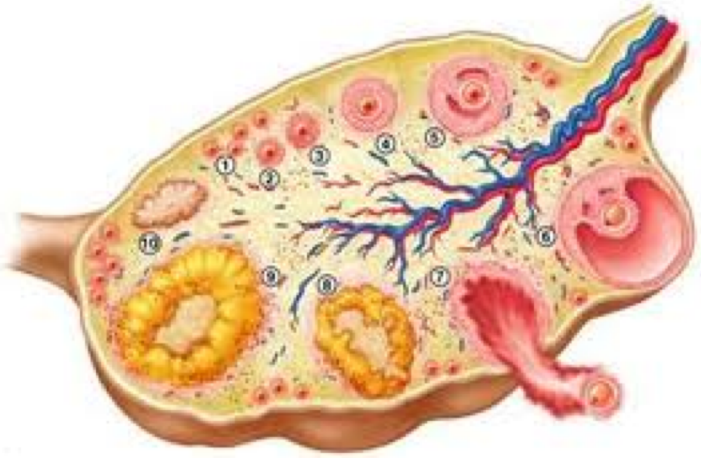
b. Causes endometrial glands to mature

The Female Cycles

I. Cycles and Phases

II. Ovarian cycle (ovaries point of view)

1. Follicular phase (before ovulation)
2. Luteal phase (after ovulation)



B. Uterine (Menstrual) cycle (uterus' point of view)

1. Menstruation
2. Proliferative phase (after menstruation but before ovulation)
3. Secretory phase (after ovulation)

II. Menstruation

A. Menstrual cycle about 28 days

B. Day 1 is first day of menstruation

C. During menstruation, some of the uterine lining, plus a small released through the vagina

D. Endometrium is the thinnest at this point

III. Ovarian cycle Animation Ted-Ed Menstruation

A. Days 1-13 (follicular phase)

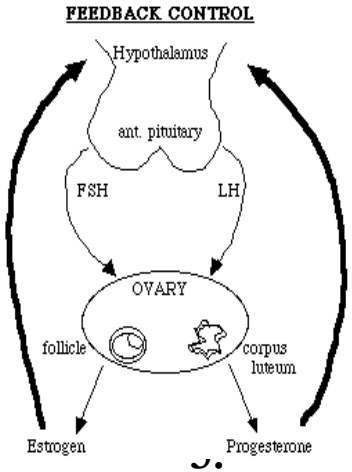
1. Day 1-5
   a. Low levels of female hormones detected by the hypothalamus, causes it to release GnRH
   b. GnRH is sent to the anterior pituitary gland
   c. Anterior pituitary gland releases FSH and LH
2. Day 6 –13
   a. A follicle matures with increasing FSH
   b. Follicle begins to secrete ESTROGEN
   c. As estrogen levels rise, this causes the release of more GnRH, which causes the release of more LH (positive feedback loop)
   d. Estrogen will
      i. Inhibit FSH production
      ii. Stimulate LH production
      iii. Cause thickening of uterine lining
   e. High levels of estrogen cause the hypothalamus to release a large amount of GnRH, which cause the release of a large amount of LH from the pituitary on day 13
   f. This "LH surge" causes ovulation

B. Day 14 (ovulation)

1. Mature follicle ruptures and releases the egg from the ovary
2. Follicle cells staying behind are called the corpus luteum

C. Day 15-28 (luteal phase)

1. Corpus luteum (under the influence of LH) secretes estrogen and progesterone
2. Estrogen and progesterone will inhibit FSH production and affect the uterus
3. Progesterone inhibits LH production
4. Progesterone levels controlled by a negative feedback loop
   a. When progesterone levels reach their highest levels, negative feedback to the anterior pituitary gland causes the release of less LH
   b. Corpus luteum requires high levels of LH to maintain itself
   c. As LH levels drop, the corpus luteum begins to degenerate
   d. As the corpus luteum degenerates, it makes less progesterone and estrogen



5. Without high levels of progesterone,
   a. Uterine lining will not be maintained and is lost
   b. FSH is not inhibited and levels will rise causing a new follicle to develop
   c. Cycle begins again!

IV. Uterine (Menstrual) Cycle Animation

A. Days 1-5
   1. Low level of estrogen and progesterone
   2. Thickened uterine lining degenerates and is shed in menstruation

B. Days 6-13
   1. Estrogen (from follicle) is increasing which causes a thickening of the endometrium
   2. Increase vascularization and mucus glands in the lining ("proliferate phase")

C. Day 14
   1. Ovulation: follicle becomes corpus luteum

D. Day 15-28
   1. Increased levels of progesterone causes endometrium to double its thickness
   2. Mucus glands begin secreting a thick, mucus material ("secretory phase")
   3. Endometrium is ready to receive fertilized egg (zygote)

E. Normally
   1. Egg is not fertilized therefore corpus luteum begins to degenerate therefore progesterone falls
   2. Low progesterone and estrogen cause endometrium to be shed