Introduction to the Human Reproductive System

A) Other organ systems continuously contribute to homeostasis, but reproductive system isn’t ‘active’ until puberty

B) Structure:
   1) Gonads:

C) Function

Male reproductive system:

A) Structure and function(s):
   1) Testes
      (a) Seminiferous tubules:
      (b) Interstitial cells
   2) Scrotum
      (a) Function:

3) Duct System: accessory organs that involved with transporting sperm from testis to body exterior
   (a) 3 ducts:
      (1) Epididymis
      (2) Vas deferens
      (3) Urethra
   (b) Epididymis
      (1) Structure:
      (2) Function:
(c) **Vas deferens**

(1) **Structure:**

(2) **Function**

(d) **Urethra**

(1) **Structure:**

(a) Three regions:
   1. prostatic urethra
   2. membranous urethra
   3. spongy or penile urethra

(2) **Function:**

   (a) urinary system:

   (b) reproductive system:

4) **Accessory glands**

(a) **List**

   (1) Seminal vesicles
   (2) prostrate gland
   (3) Bulbourethral glands or Cowpers glands

(b) **Seminal vesicles** (pair)

   (1) **Volume**

   (2) Secretion composition includes:

   (3) **function:**

(c) **Prostate gland** (one)

   (1) **Structure:**

   (2) **Function:**

(d) **Cowper’s glands or bulbourethral glands** (pair)

   (a) **Function:**
B) Sperm:

(a) Structure and function(s)
(1) **Head**:
   (a) DNA

(b) **Acrosome**:

(2) **Mid piece or middle piece**:

(3) **Flagella**:

C) **Gametogenesis** in human male:

1) Location:

2) **Spermatogonia**:

3) **Primary spermatocyte**:

4) **Secondary spermatocytes**:

5) **Spermatids**

6) Entire process 64-72 days
D) Reproductive hormones of the male

1) Gonadotropin-releasing hormone (GnRH):
   (a) Produced by: 
   (b) Function:

2) Follicle-stimulating hormone (FSH):
   (a) Produced by: 
   (b) Function:

3) Luteinizing hormone (LH)
   (a) Produced by: 
   (b) Function:

4) Testosterone: The main male sex hormone
   (a) Function(s)
      (1) Development and functioning of the sex organs of the male
      (2) Helps regulate the testosterone levels in the blood
      (3) Development and maintenance of the secondary sex characteristics of the male
         (a) note: features of nonreproductive system organs!
         (b) Greater height than females
         (c) Greater muscle mass
         (d) Broad shoulders
         (e) Longer legs relative to trunk length
         (f) Deeper voices
         (g) More pronounced Adam’s apple (part of the larynx); 
         (h) Distribution of body hair 
         (i) Receding hair line 
         (j) Male pattern baldness
III Female reproductive system

A) Overall Function:

B) Ovary(s):

1) Structure:

2) Function:

C) Female duct system:

1) List
   (a) Uterine tubes/fallopian tubes
   (b) Uterus
   (c) (cervix)
   (d) Vagina

2) Uterine tubes or fallopian tubes

   (a) Structure:

   (b) Function:

3) Uterus:

   (a) Structure:
      (1) Size and shape of a pear
      (2) Myometrium:

      (3) Endometrium:

   (b) Function:
4) **Cervix**: narrowed/neck between uterus and vagina

5) **Vagina**: The female organ of sexual intercourse

D) **Gametogenesis**:

1) Oocytes are formed before birth
**E) Reproductive hormones of the female (ovarian cycle)**

1) **Gonadotropin-releasing hormone (GnRH):**
   (a) Produced by
   (b) Function:

2) **Follicle-stimulating hormone (FSH)**
   (a) Produced by
   (b) Function:

3) **Luteinizing hormone (LH)**
   (a) Produced by
   (b) Function:

4) **Estrogen**
   (a) Produced by
   (b) Function:

5) **Progesterone:**
   (a) Produced by
   (b) Function:
F) **Uterine cycle**: Average cycle lasts 28 days.

(a) Days 1-5

(b) Days 6-13

(c) Day 14

(d) Days 15-28
G) Fertilization and pregnancy:

1) fertilization must occur within 24 hours of ovulation
   (1) Occurs in the upper fallopian tube

   (b) The dividing mass of cells travels down the fallopian tube
       (1) 3-4 days are required for the fertilized egg to reach the uterus

   (c) The embryo enters the uterus and 3-4 days later starts to implant in the endometrium

   (d) Implantation is completed 3-4 days later
       (1) NOTE: 60% of all fertilized eggs fail to implant

   (e) The placenta develops from fetal and maternal tissue

   (1) Human chorionic gonadotropin (HCG):

       (a) Produced by

       (b) Function: