Digestive and Reproductive Study Sheet

Digestive System
1. Basic function of the digestive system
2. Basic 4 layers of the GI tract (mucosa, submucosa, muscularis, adventitia)
   a. What’s in the layers along with any nervous control of layers?
   b. Which layers have muscle, blood vessels, glands?
   c. How are these layers modified in specific organs (ex. Plicae circularis, tenia coli, etc.)
3. Know the name and location of the 3 sets of salivary glands.
   a. What do they add to the saliva?
   b. What cranial nerve controls them?
4. The phases of getting food to the stomach (buccal, pharyngeal and esophageal)
   a. What’s occurring during each phase?
   b. Is it voluntary or involuntary?
5. Know the chemicals, enzymes and hormones produces throughout the digestive tract and their function.
   a. Mouth (ptyalin)
   b. Stomach (pepsin, renin, intrinsic factor, gastric lipase, gastrin, HCL)
   c. Small intestine (brush border enzymes, pancreatic enzymes, bile) and hormones (CCK and secretin and their effects on the stomach, pancreas, gall bladder, sphincter of Oddi and liver)
6. Know how various nutrients are absorbed and where they are distributed.
   a. Glucose (active transport into cells and diffuse into blood)
   b. Amino acids (active transport into cells and diffuse into blood)
   c. Fatty acids and monoglycerides (formation of micelles, formation of chylomicrons, diffusion into lacteals)
7. Know the phases and hormones that control the distribution of nutrients
   a. Absorption phase and insulin
   b. Post-absorption phase and glucagon, epinephrine
   c. Fasting phase and glucagon, glucocorticoid and growth hormone
   d. The use of thyroxine in controlling metabolism
8. Know the stimulus for the release of the hormones and which glands produce Them.
9. Know any abnormalities of the digestive system we had time to discuss.

Reproductive System
10. Gametogenesis in males and females.
    a. Know the names of the cells after a mitotic division.
    b. What are the final cells produced and how many?
11. Know the parts of the testes.
    a. What do the Sertoli cells and Interstitial cells produce?
12. How does the structure of the scrotum assist in maintaining the appropriate temperature for sperm production?
    a. Abnormalities of the scrotum (cryptorchidism and varicocele).
13. Know the path that the sperm take after development and what each of the glands contributes along the pathway (Bulbourethral gland, prostate gland, seminal vesicles).
14. Know the structures that comprise the penis.
15. Know the 3 penile reflexes (Erection, emission and ejaculation)
   a. What is occurring?
   b. Which portion of the Nervous System are they controlled by?
16. What roles do FSH and LH have in sperm and testosterone production? Where are these hormones released?
17. What effect does testosterone have upon male sexual characteristics?
18. Know the external structures of the female anatomy: vulva, hymen, clitoris, vestibular bulbs. Also know the glands (paraurethral and Bartholen’s) and what each gland produces.
19. Know the parts of the internal organs (vagina, uterus, uterine tubes, ovaries).
   a. Know the 3 layers of the uterus and what they are composed of.
   b. What hormones are produced by the ovaries?
20. Know hormones involved in breast development and milk production.
   a. Which one stimulates development of glandular tissue?
   b. Ducts and nipples?
   c. Milk production?
   d. Ejection of the milk?
21. Know any disorders of the female system we had time to discuss.
22. Know the hormones that regulate the female reproductive system (FSH, LH, Estrogen and Progesterone).
   a. What glands produce them?
   b. What is their target?
   c. Which ones regulate the menstrual cycle?