Anatomy & Physiology Study Guide
Chapter 28 / Tortora

Male Reproduction

1. What are the human primary sex organs and where are they located?

2. What are the secondary sex organs?

3. What is the advantage of sexual reproduction?

4. What are the sex cells called?

5. What is a zygote?

6. How many chromosomes are in the human nucleus?

7. How many autosomes are in the human nucleus?

8. What symbols are used to describe the sex chromosomes?

9. Which parent determines the sex of the embryo?

10. During meiosis, what happens during a process known as crossing-over?

11. How is meiosis different than mitosis?

12. During a male orgasm, 2 to 5 mL of fluid is expelled. Define this volume in terms the percentage of its content:

13. Which is the structure of the spermatic cord?

14. What are the two main structures found within a testis' lobule? What is the significance of each structure?

15. Trace the pathway a sperm will travel from its origin to the exit of the male reproductive system:

16. How many days does it take to form a mature sperm? How long is a sperm viable? How many sperm are formed in a day?

17. What cells form the blood-testis barrier? Why is it needed?

18. What are the three cylindrical bodies of erectile tissue in the penis? What structure is located in the center of each erectile tissue?

19. What hormones regulate spermatogenisis?

20. Spermatogonia produce two type of daughter cells. What are they called and how are they different from each other? Which daughter cell becomes the primary spermatocyte? Are they 2n or n?

Female Reproductive System

1. What are the primary female sex organs?

2. How do the eggs develop within the ovary?

3. Why is it important to position the ovary close to the infundibulum?

4. What are the secondary sex organs in the female reproductive system?

5. How does the egg "travel" from the ovary to the fallopian tube?

6. How does the egg travel to the uterus following ovulation?

7. Explain the anatomy of the uterine wall and include the function of the stratum functionalis and stratum basalis in your answer.

8. What are the spiral arteries? What will happen if the spiral arteries constrict?

9. What triggers puberty? Is the "trigger" different for boys and girls?

10. Define the following words: thelarche, pubarche, menarche, parturition.

11. How does nutrition affect the fertility of women?

12. What role do these hormones play in the female reproductive system (estrogens, progesterone, inhibin, FSH, LH, human chorionic godadotropin, gonadotropin releasining hormone, aldosterone, parathyroid hormone)?

13. As the pregnancy nears full term, what role does oxytocin play in parturition? How is fetal oxytocin implicated in parturition?

14. What is lactation? What hormones "prime" the tissue for lactation? What hormone is required to "deliver" the product of lactation to the end user?

Hot List Questions:

1. What is the relationship between the spiral arteries and the endometrium?
2. In general terms, how is the female reproductive system compared to the male reproductive system?
3. How is the corpus luteum formed and what is its function?
4. What hormones are produced by the corpus luteum and what are their function(s)?
5. What is the significance of the blood-testis barrier?
6. What hormone initiates puberty?
7. What is a blastocyst? When do they form? What do they secrete? Significance?
8. What allel pair produces males? Females?
9. When do sperm become motile? Why? And what do they need?
10. What substances are produced by the Nurse Cells in male physiology? Their functions?
11. What cells produce testosterone in male physiology?
12. How is sperm production started and stopped?
13. What hormones are produced by the ovary?
14. What is the sperm volume? Fractional volume contributors?
15. How long is the sexual cycle? When does ovulation occur? Responsible hormone?
16. What organ supports fetal development?
17. What is the significance of progesterone? Made by?
18. What are the stages of the male sexual response?
19. What is a zygote?
20. What are the different layers of uterus?