

**Biology 48 - Human Physiology**  
Lecture Summary Sheet - Norris

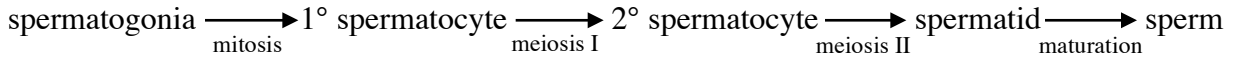
Reproductive Physiology

I. Definitions

- A. Growth
- B. Reproduction

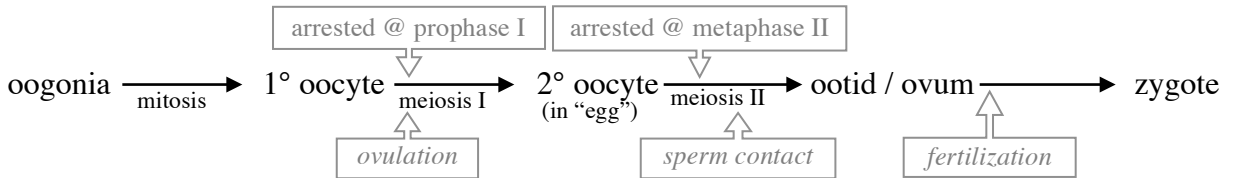
II. Gamete Development

A. Male (Spermatogenesis)

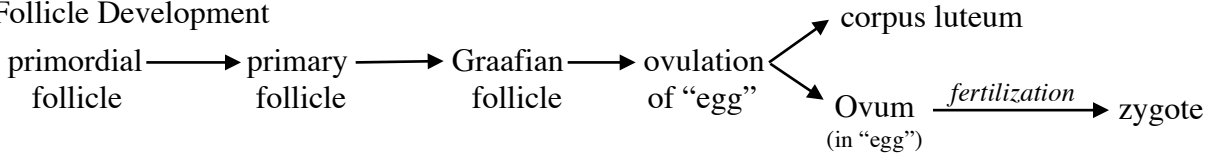


B. Female

1. Oogenesis (gamete development)



2. Follicle Development



III. Hormonal Regulation / Menstrual Cycle

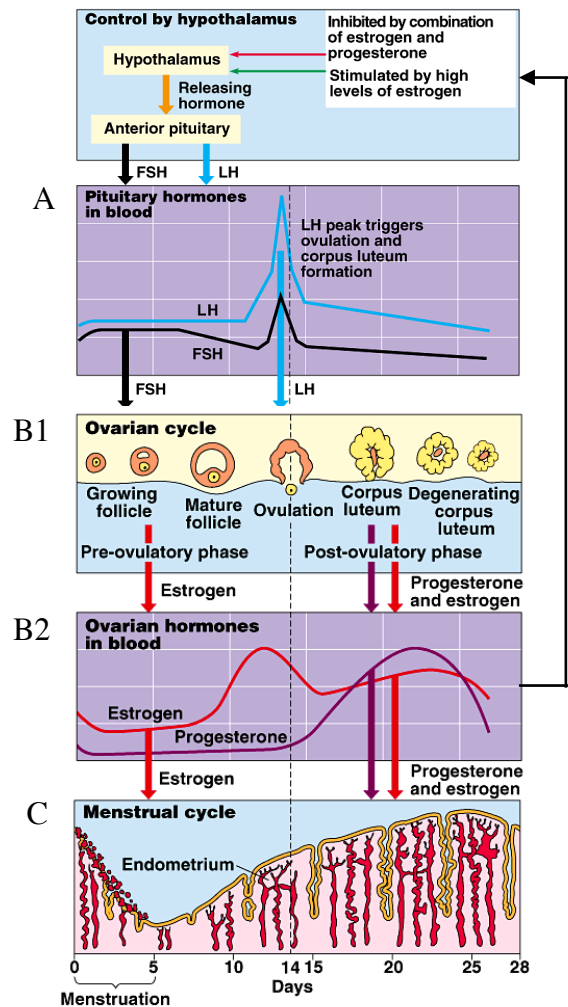
A. Pituitary Cycle (hormone secretion)

B. Ovarian Cycle

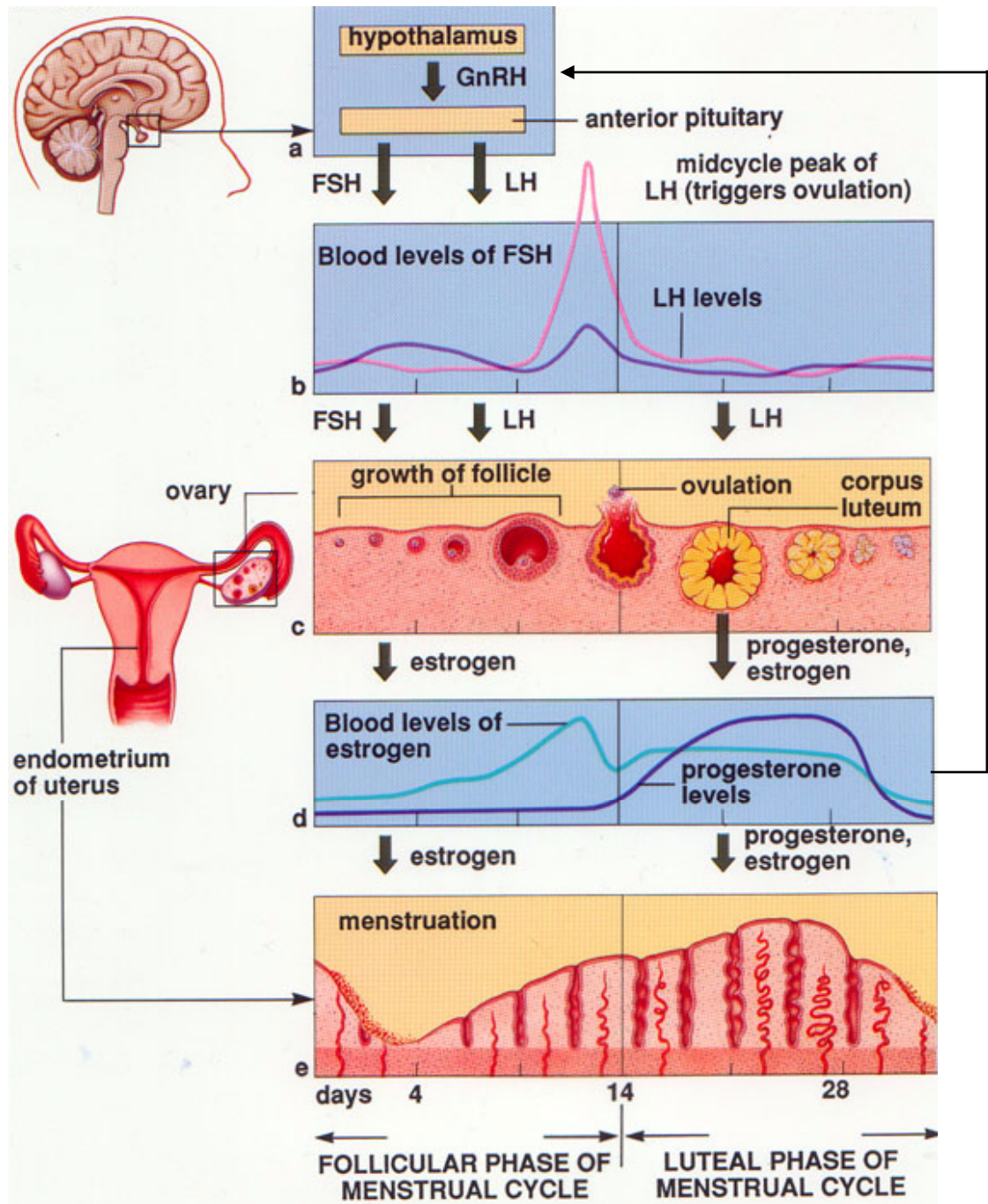
- 1. Follicular Development
  - a. Follicular Phase (days 1-13)
  - b. Ovulatory Phase (day 14)
  - c. Luteal Phase (days 15-28)
- 2. Hormone Secretion

C. Uterine (Menstrual) Cycle

- 1. Menstrual Phase (days 1-4)
- 2. Proliferative Phase (days 5-14)
- 3. Secretory Phase (days 15-28)



## D. Illustration of Female Reproductive Cycle



## IV. Fertilization

## V. Pregnancy & Childbirth

- a. Development
- b. Maintenance
- c. Parturition (childbirth)

## V. Additional Key Terms / Topics

atresia      blastula / blastocyst      fertilization      gametogenesis      gastrula  
 human chorionic gonadotropin (hCG)      zygote

### **Study Questions – Reproductive Physiology:**

1. Define “growth”.
2. Define “reproduction”.
3. Name and describe the stages of spermatogenesis.
4. Describe the relationship between sertoli cells and developing sperm.
5. Describe the location and function of Leydig cells.
6. Name and describe the stages of oogenesis
7. Describe the timing of oogenesis. When does it start, at what point is it arrested, what restarts arrested development?
8. Name and describe the stages of follicular development. How are follicular development and oogenesis related?
9. Compare and contrast spermatogenesis and oogenesis.
10. Describe the composition of the “egg”. What prevents multiple sperm from fertilizing a single “egg”?
11. Describe the origin and function of FSH and LH.
12. Identify the three phases of the ovarian cycle. What characterizes each phase?
13. Describe the relationship between FSH and LH and the stages of follicular development.
14. Describe the relationship between the stages of follicular development and the production of ovarian hormones.
15. Describe the relationship between estrogen and LH secretion.
16. Describe the function of the ovarian hormones (estrogen and progesterone).
17. Why is progesterone sometimes referred to as the hormone of pregnancy?
18. Identify the three phases of the uterine cycle. What characterizes each phase?
19. What is the significance of hCG?