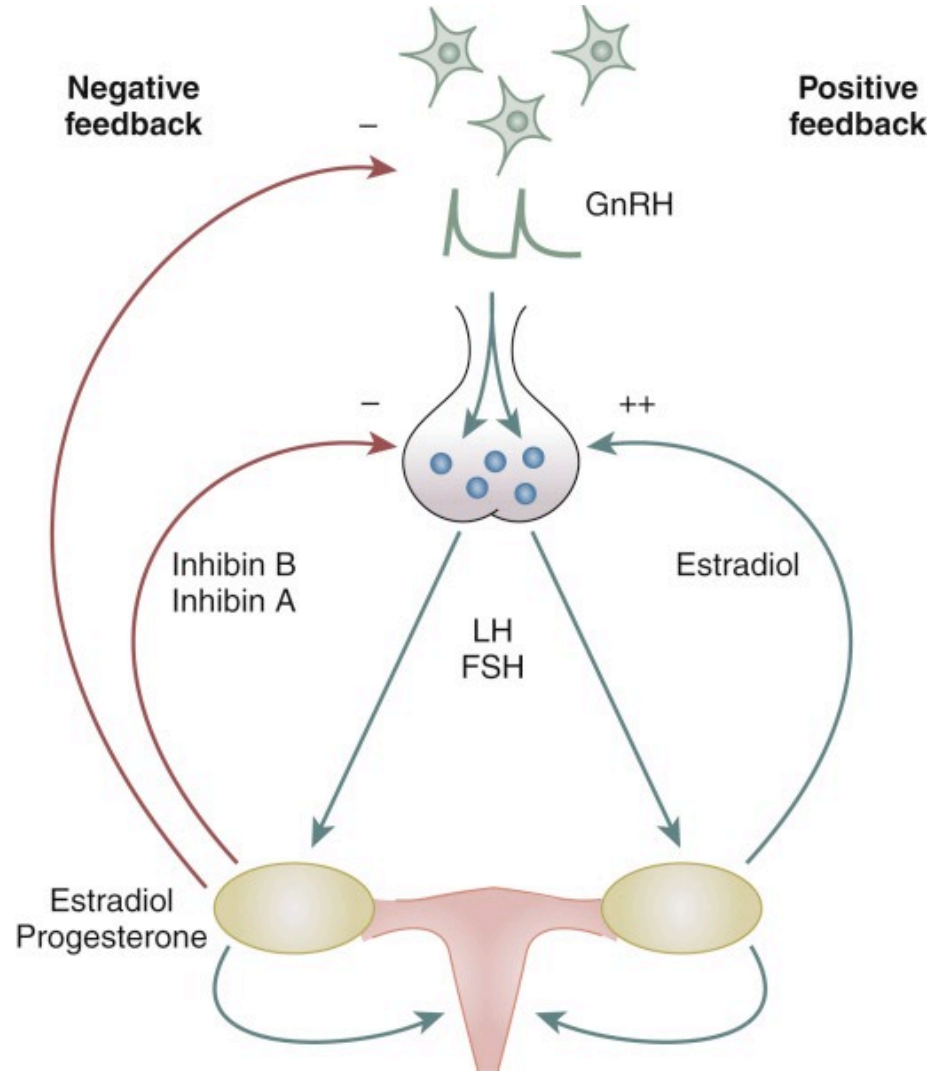


The Menstrual Cycle

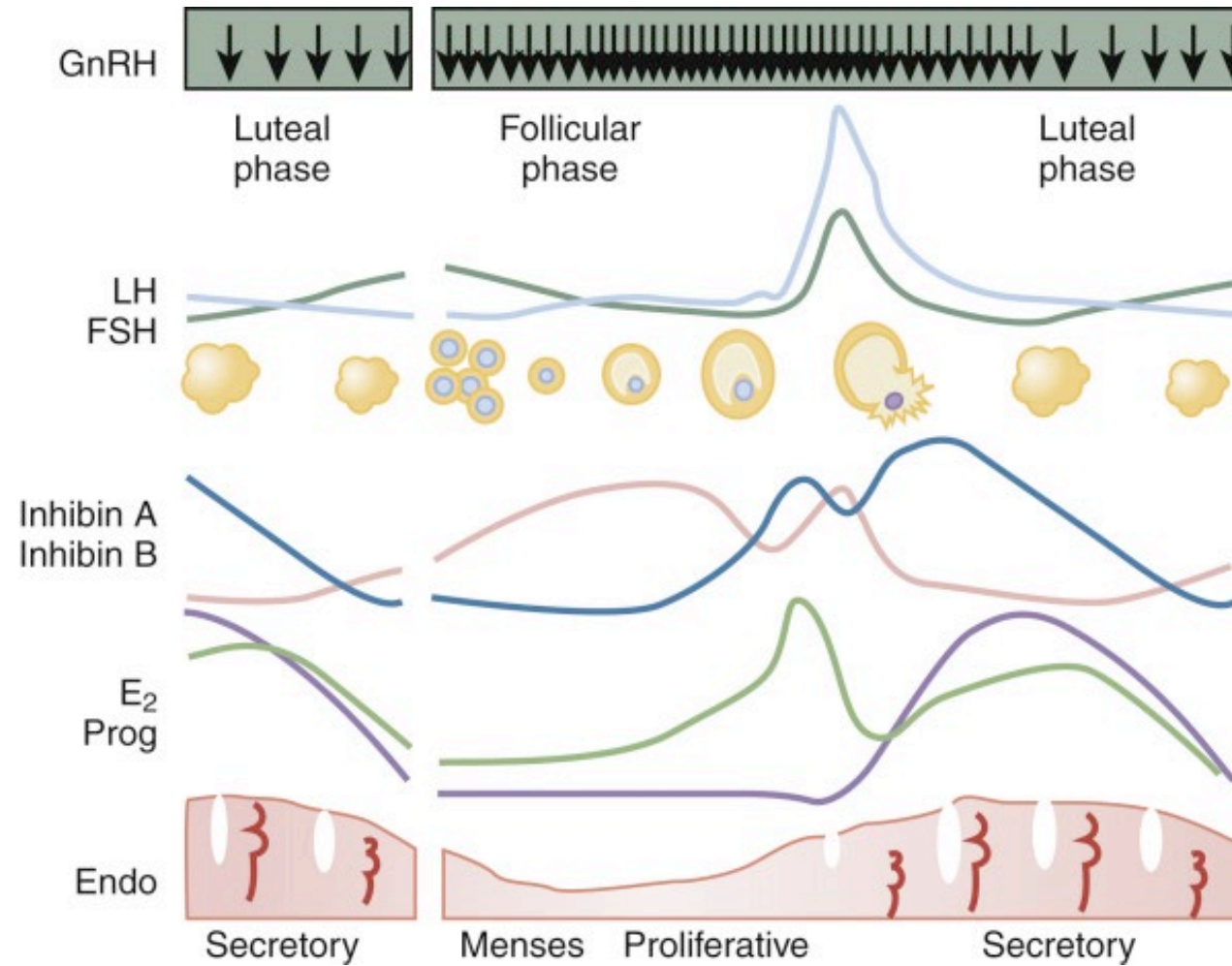
A brief review

Overview

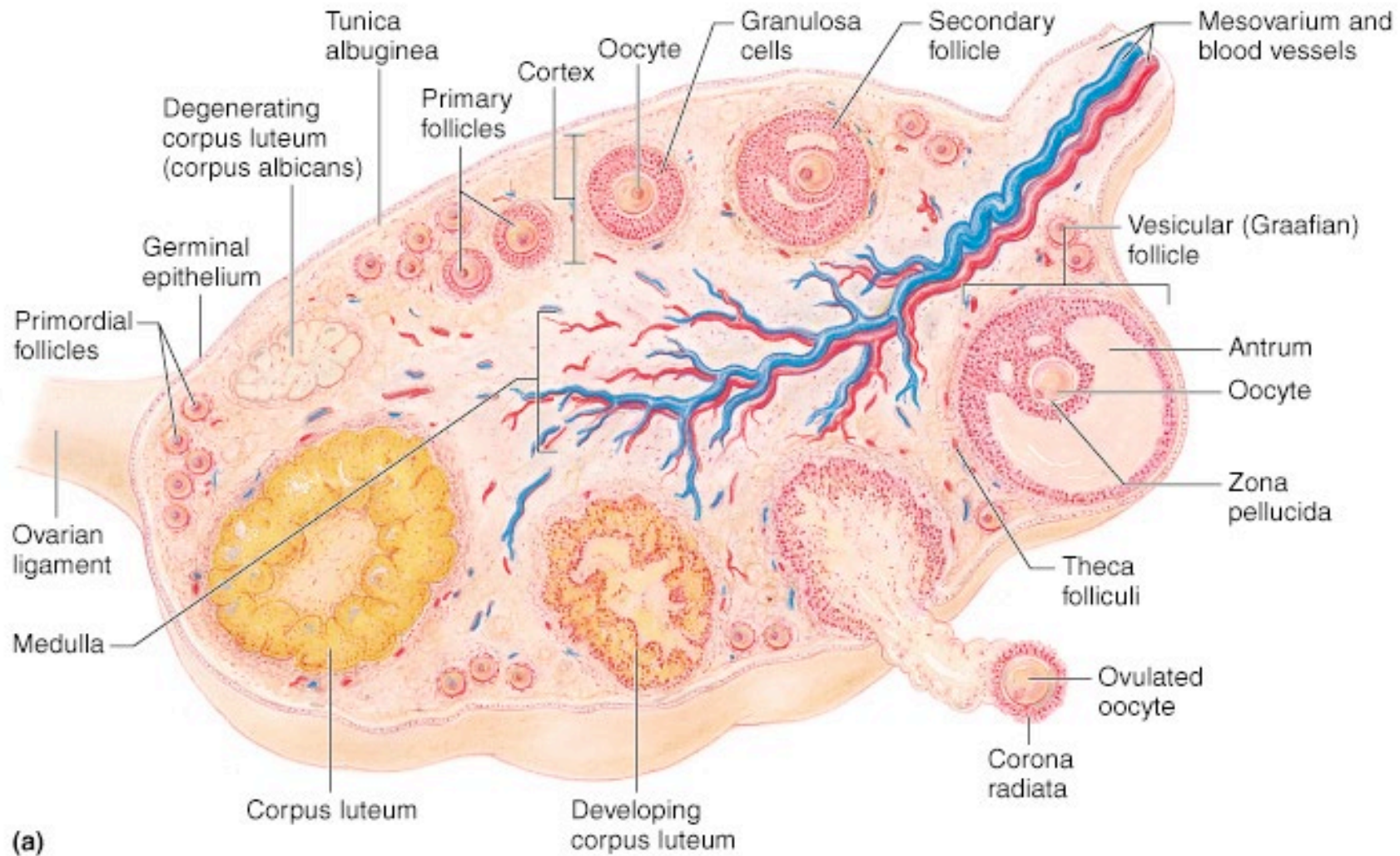


Hall, J.E. 2019. Yen and Jaffe's Reproductive Endocrinology

The Menstrual Cycle



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Follicular Phase

- The first day of the menstrual period is counted as Day 1 of the cycle, and the start of the follicular phase.
- As the name implies, the follicular phase is the phase of the cycle when the next egg is getting ready to mature and release.
- Estradiol begins to rise around cycle day 7.
- Follicular phase length: days 1-13
- Primary hormone activity
 - FSH from pituitary stimulates estrogen production and follicle development
 - Estradiol begins to rise, reaching a peak around day 14 (of a 28-day cycle)

Ovulation

- A strong estradiol surge with positive feedback to the brain signals LH release and ~ 10-12 hours after the LH peak, ovulation occurs signaling the recently matured follicle's release.
- Length: 1 day, around day 14 (of a 28-day cycle)
- Primary hormone
 - LH is produced in the anterior pituitary from the strong estrogen positive feedback signal, triggering LH release, ovulation, and the release of an egg.

Luteal Phase

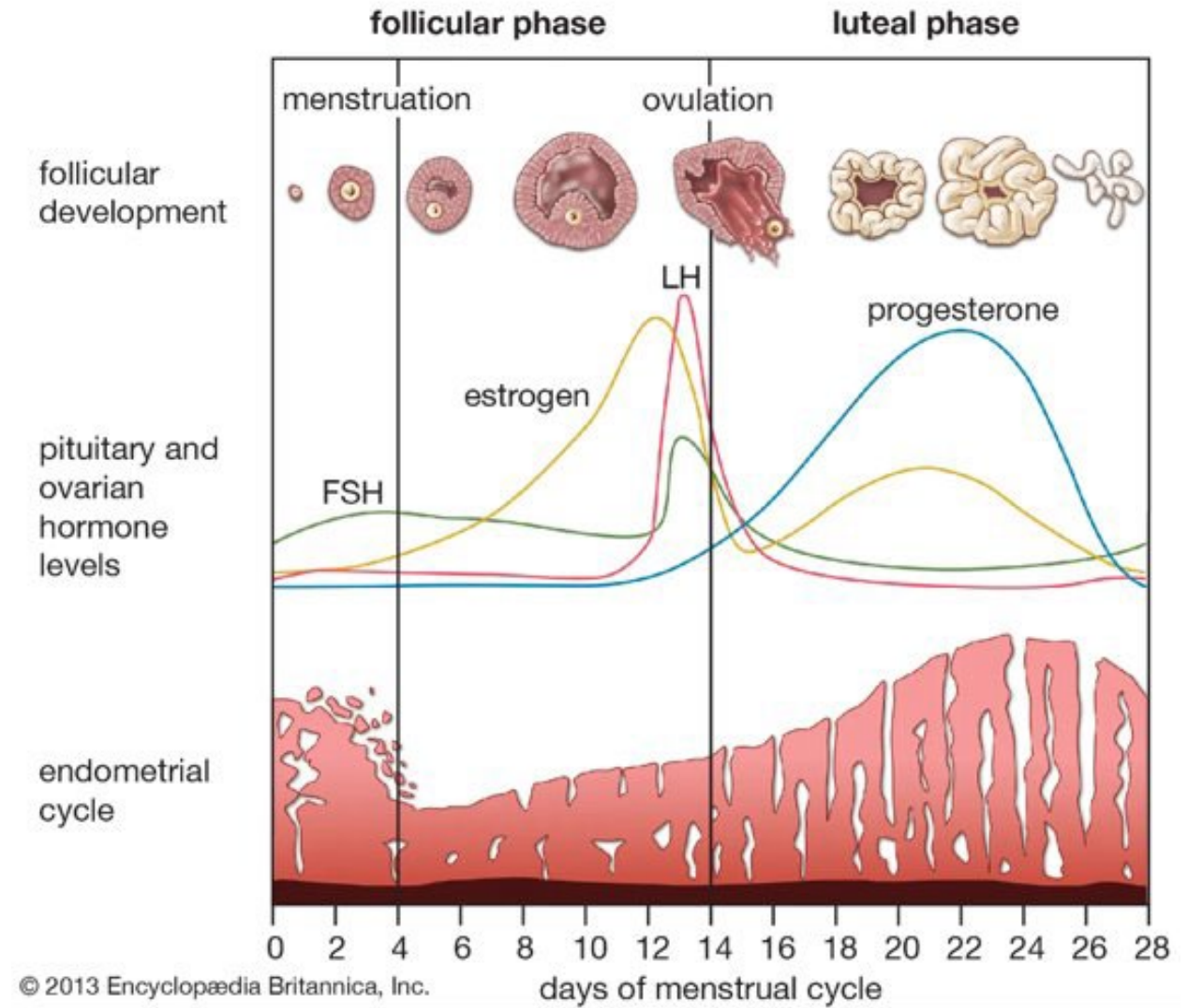
- Once the egg ruptures from the follicle, the residual sac, called the **corpus luteum**, will begin to produce a large progesterone bolus, triggered by LH
- **Estradiol** begins a slight rise, complimented by the surge in progesterone to help support the proliferation and integrity of the endometrial lining.
- **Length:** days 15-28
- **Primary hormones**
 - Progesterone
 - Slight rise in estradiol is also expected

Menstruation

- If no fertilization occurs, then estradiol and progesterone levels rapidly decline.
- This sudden decrease in progesterone results in an increase in prostaglandin levels that causes uterine contractions and the uterine lining to shed.
- Menstruation begins, marking the beginning of a new cycle.

Putting it all Together

- FSH stimulates about 15-20 follicles to mature. These follicles produce estrogen (what cells?) which support growth of endometrium
- Eventually (about d7), one follicle will become dominant
- When estrogen threshold is reached, LH surge occurs
- This LH surge causes swelling of follicle until it ruptures. Ovum is released and corpus luteum remains in ovary.



Thank You!

If you are interested in learning more about hormones, each week we hold one-hour long mentorship sessions! Once you are a registered DUTCH provider, you can book these through our online scheduling link. Please call to get registered today.

For questions, contact:

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