

Hormone Replacement Therapy in Females

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March 16, 2019

Disclosures

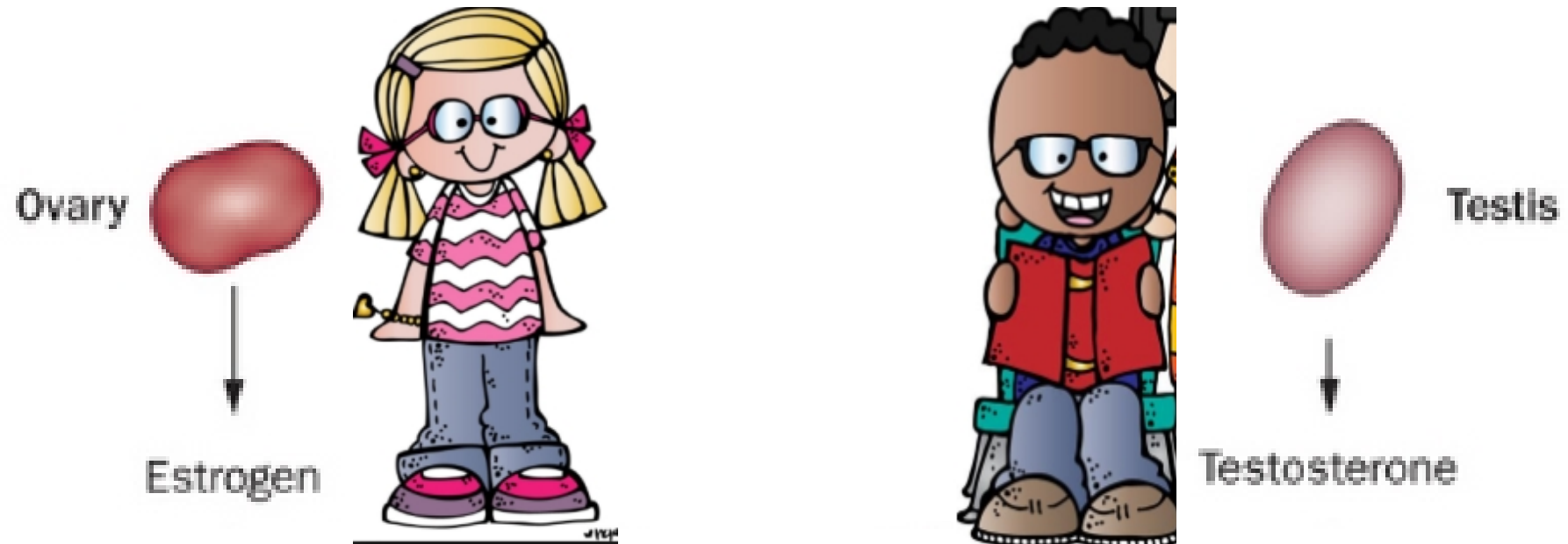
- As a pediatric endocrinologist, my expertise is limited to the pediatric and adolescent age range

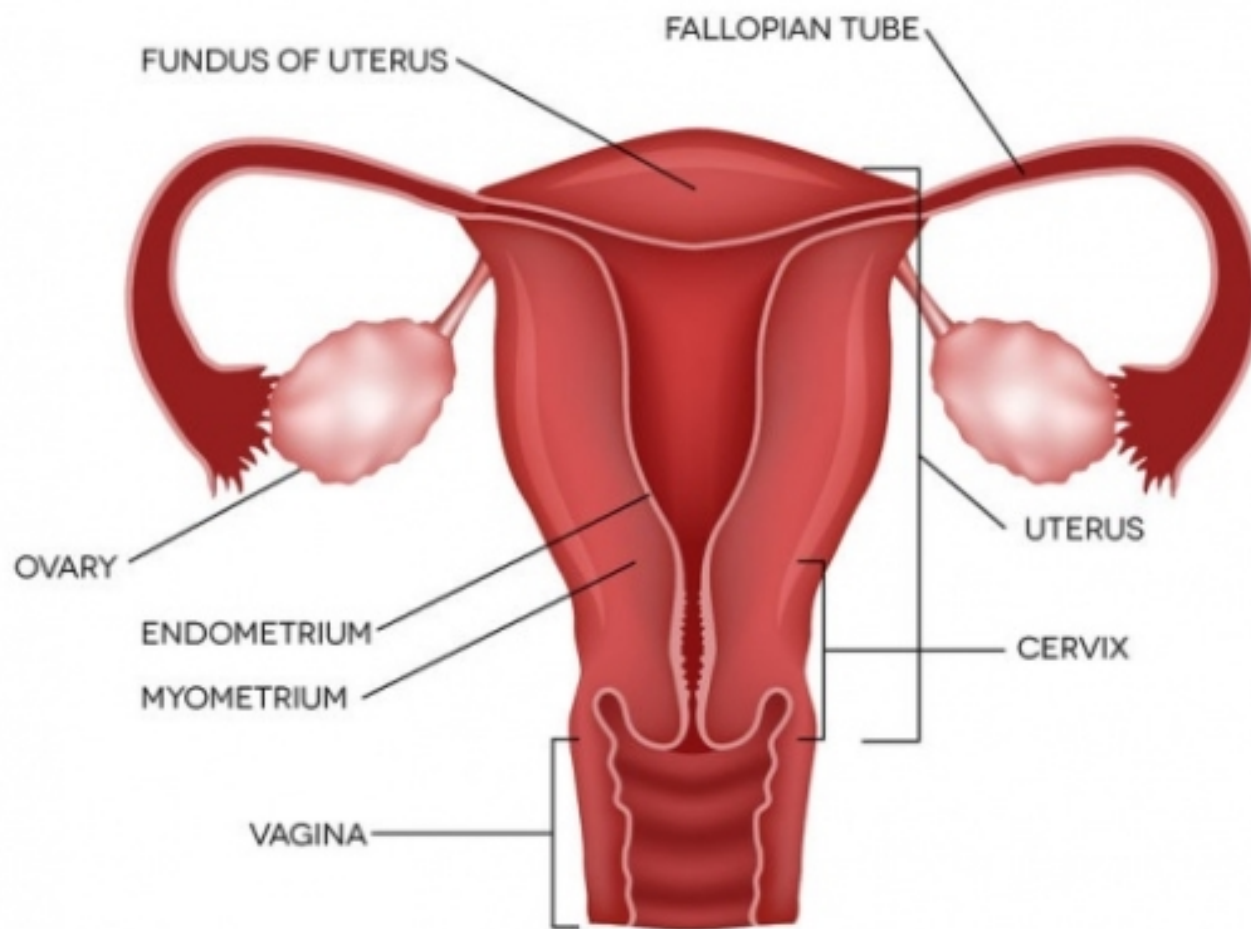


- This discussion will focus on hormone replacement, not contraceptive nor non-contraceptive therapies beyond physiologic replacement

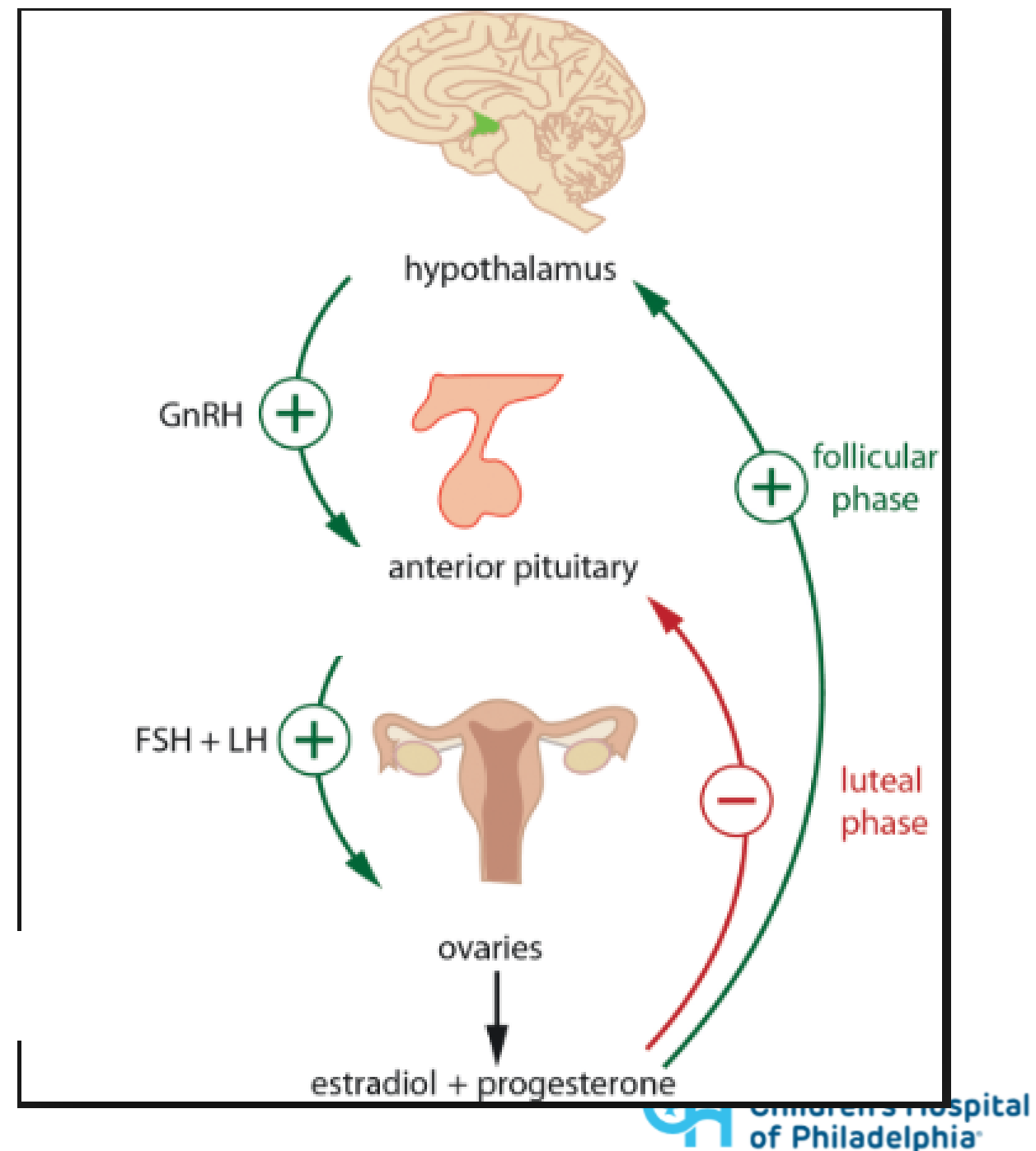
Terms to know

Gonads





- Hypothalamus
- Pituitary

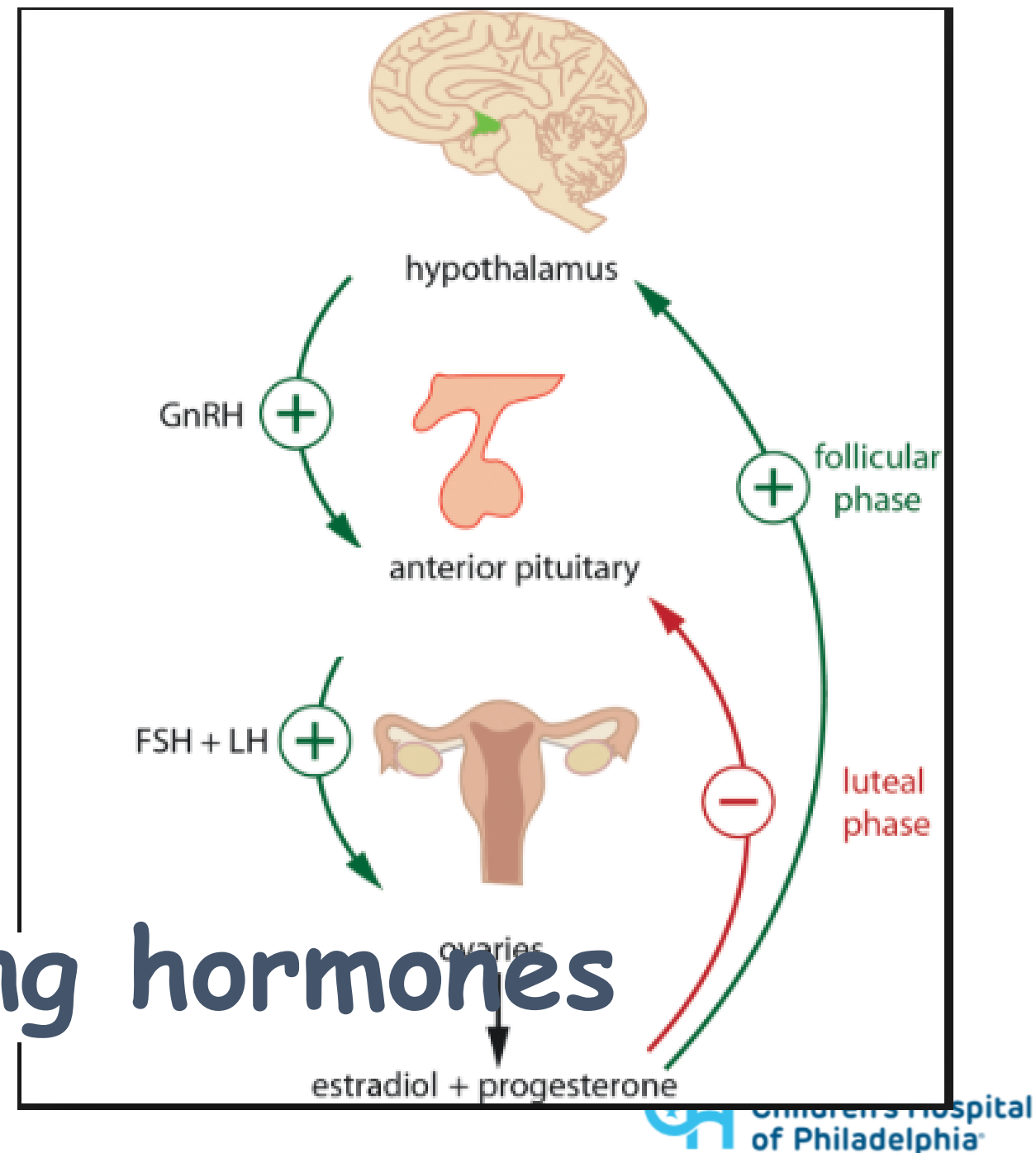


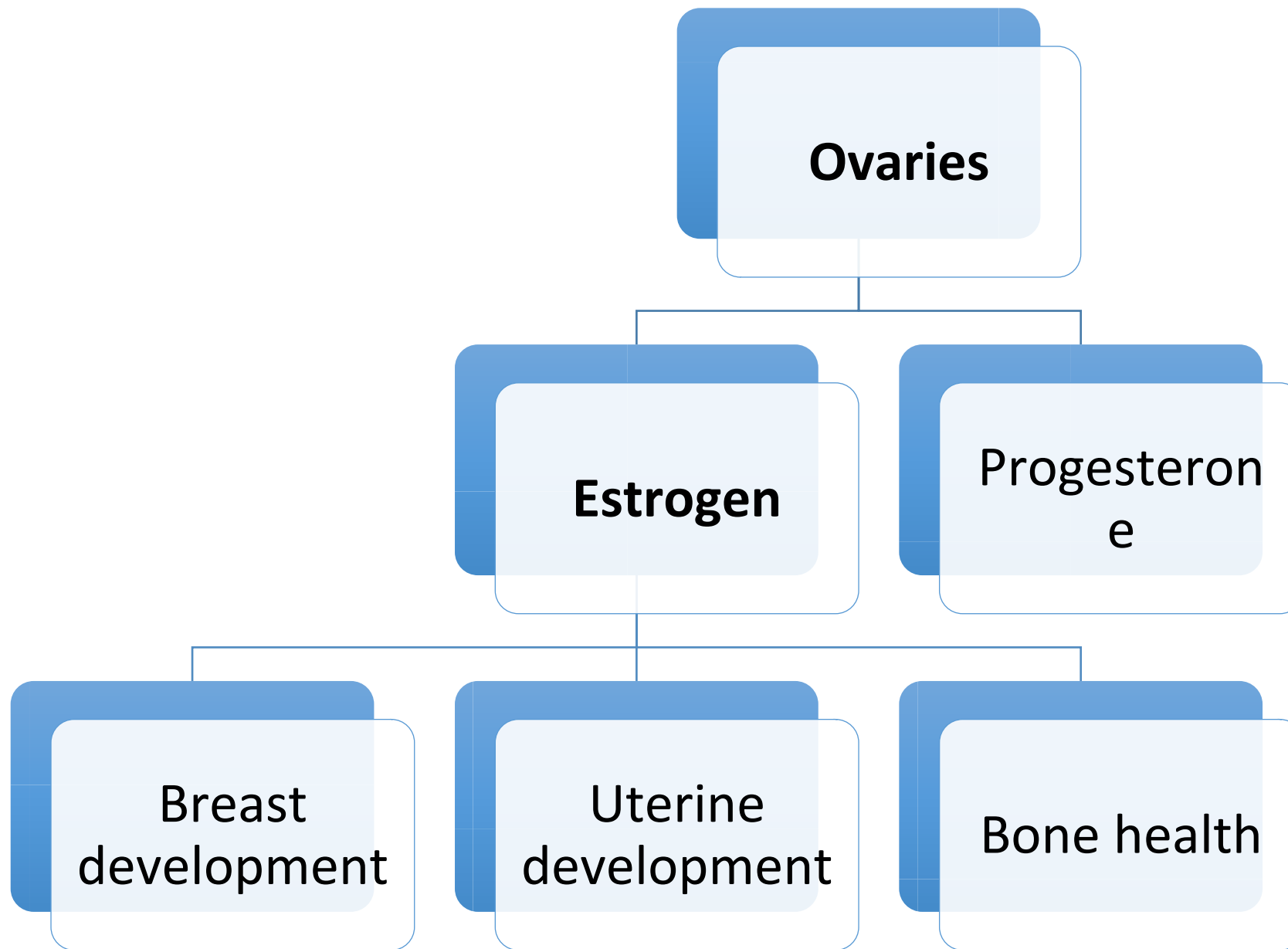
Gonadotropins

- Gonad
- Tropin

- LH, FSH -

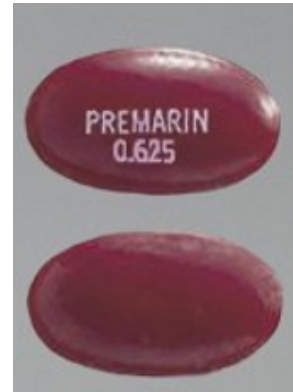
- gonad-stimulating hormones





Pituitary Dysfunction and Puberty

- Puberty may not occur or may stall in the setting of Pituitary disease or hypofunction.
- Estrogen therapy necessary in this case
- Can be administered as a patch or pill



Benefits to Estrogen patches

- Able to start with low dose
- More similar to natural estrogen
- Fewer systemic effects



Estrogen dosing

- Start with a low dose patch/pill
- Escalate dose every 6-9 months
- Goal is to mimic normal pubertal development.



Choosing your patch site

- Do not apply on or near the breasts or on pubic region.
- Popular sites = lower abdomen or upper buttocks.
 - Avoid the waistline and other areas where sitting may disrupt the patch adhesion.
- Make sure the skin is clean, dry and intact.
 - Application site should not be oily, damaged, or irritated (no cuts, rashes, etc).
- Rotate
 - Use a new site every week.

Application

- Patch should be applied immediately after opening the pouch and removing the protective lining.
- Press firmly in place with the fingers for at least 10 seconds, making sure there is good contact, especially around the edges.
- If patch falls off, you can either try to reapply in a new site or apply a new patch in a new application site.
- Patches should not be exposed to sunlight for prolonged periods of time.

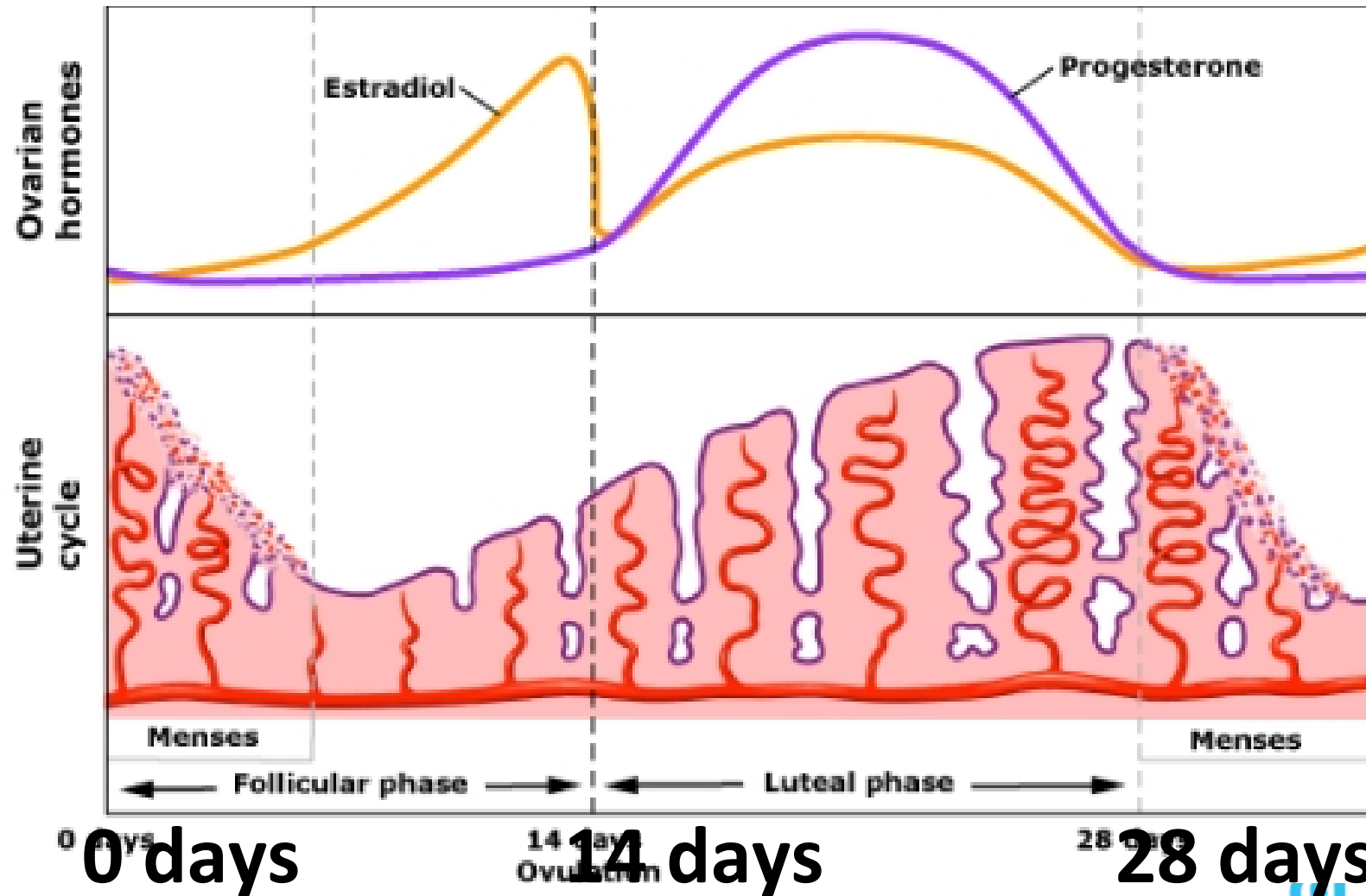
Removal

- Removal should be done carefully and slowly to avoid irritation of the skin.
- For residual adhesive, allow the area to dry for 15 minutes.
- Gently rub the area with an oil-based cream or lotion to remove the adhesive residue.
- Used patches still contain some active hormones. Each patch should be carefully folded in half so that it sticks to itself before throwing it away.
- Do not reuse patches

Adding in Progesterone

- After 2 years of estrogen therapy, or vaginal bleeding occurs, start progesterone therapy
- 5-10 mg daily for 10-12 days every month
- Expect periods (menses) to occur during or after progesterone days.





0 days

14 days
Ovulation

28 days

Long term outcomes

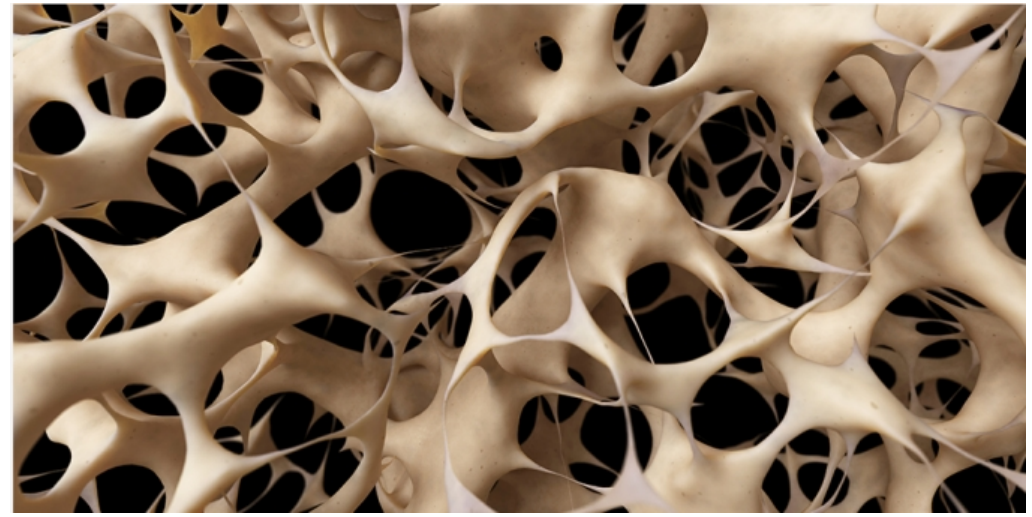
- We expect girls to have monthly menses like their peers
- Long term, they remain on hormone replacement.
- Over time, some may choose to switch to an oral contraceptive for ease of dosing.





Bone maturation

- Until about 25 years of age, our bodies are developing peak bone mass.
- As we age, new bone formation slows down, and we begin to lose bone.
- Severe loss of bone mass results in osteoporosis.
- Women who have long term poor compliance with estrogen therapy are at risk.



Prevention of osteoporosis

- Estrogen therapy
- Vitamin D (sunlight)
Or Vitamin D 2000
units daily
- Calcium 3-4 servings
daily
- Regular Exercise



Thank you!!!



