

A medical illustration of a fetus in the womb, viewed from the side. The fetus is curled in a fetal position, with its head towards the top left and its feet towards the bottom right. The surrounding environment is a reddish-pink, textured surface representing the uterine wall and placenta. The lighting is soft and focused on the fetus.

Female reproductive system 3

Placental functions:

- **Exchange:**

1. Nutrition
2. Waste products
3. Gases (O₂, CO₂)

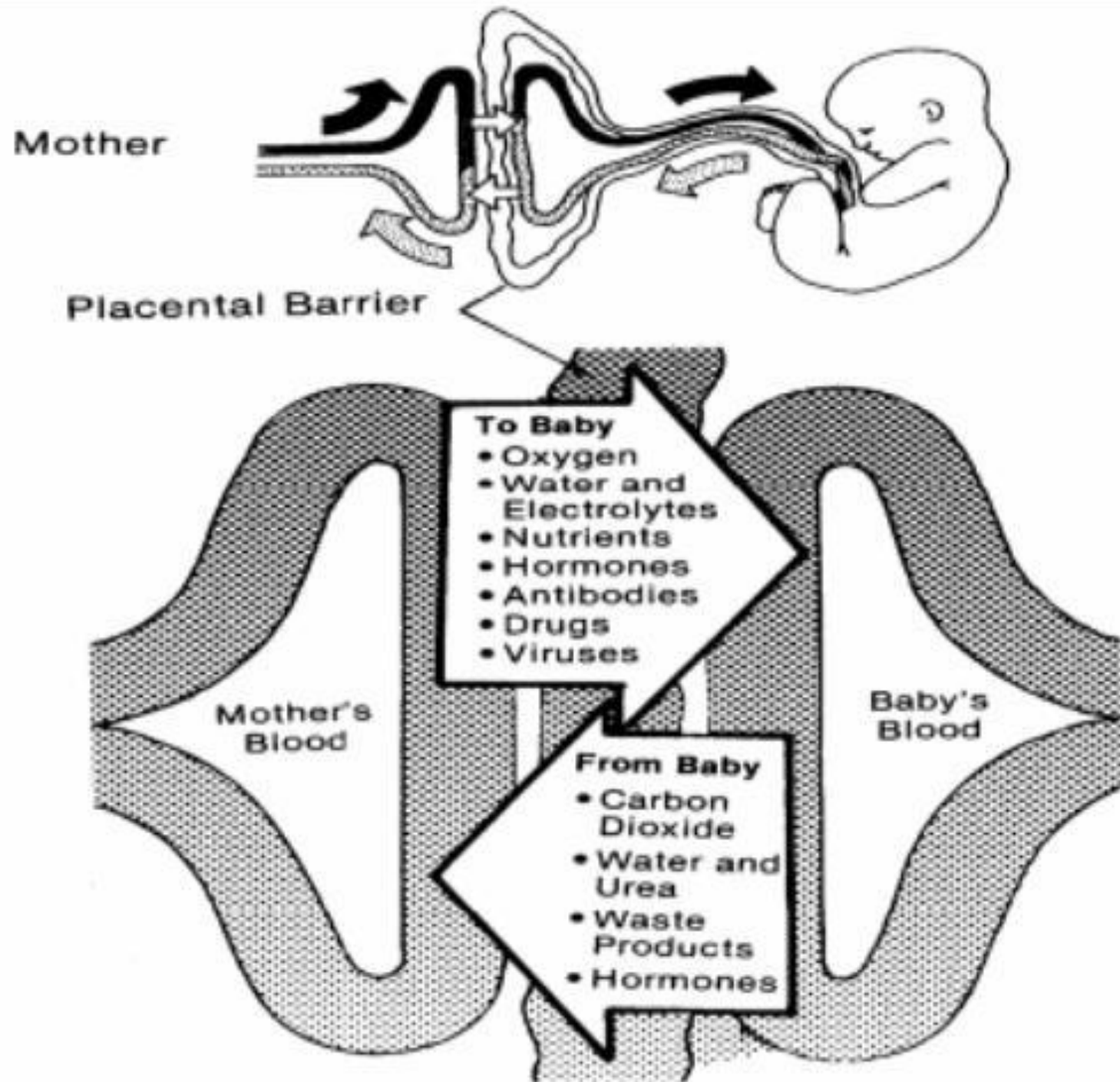
- **Protection: (placental barrier)**

- i. Drugs, viruses
- ii. IgG

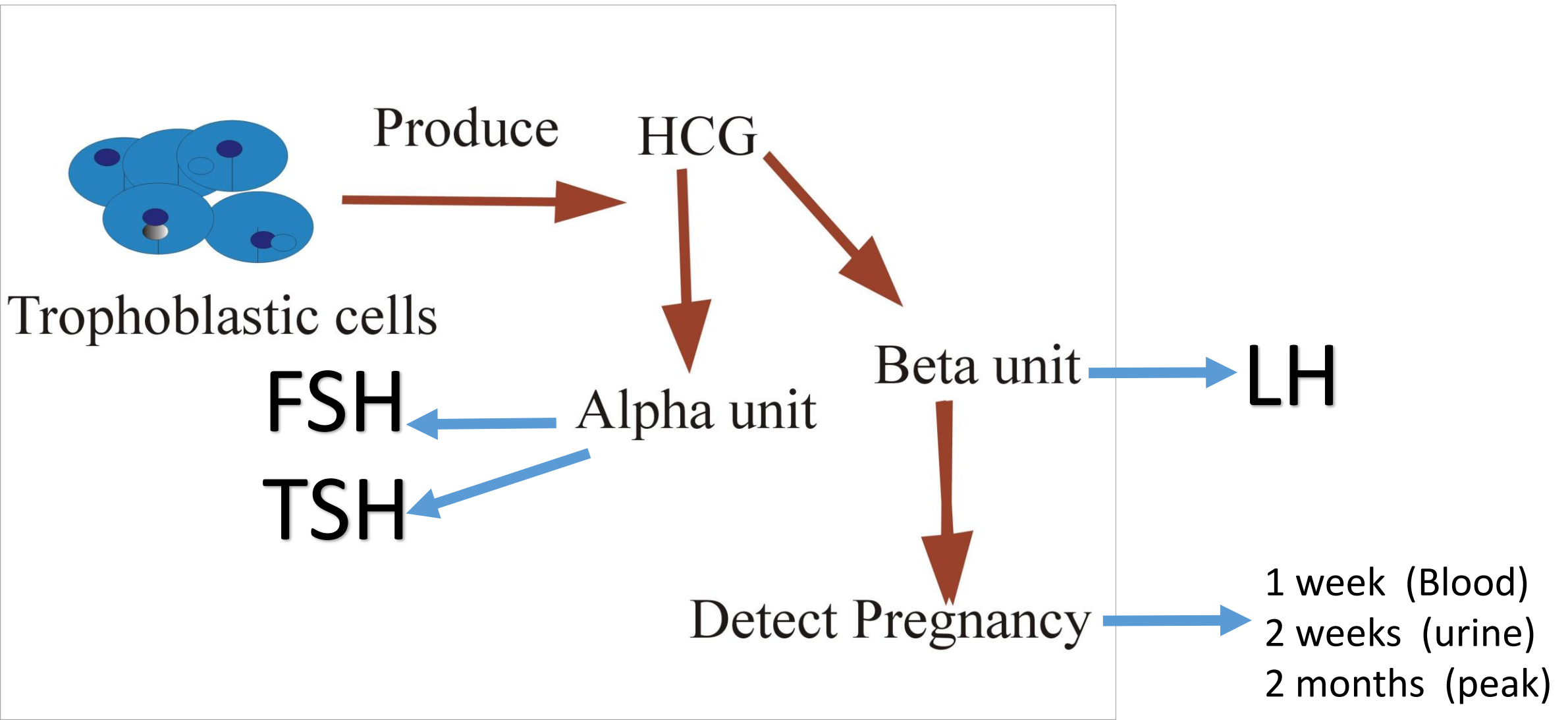
- **Endocrine:**

1. HCG
2. Estrogen
3. Progesterone
4. HCS
5. relaxin

❖ The pituitary hormones

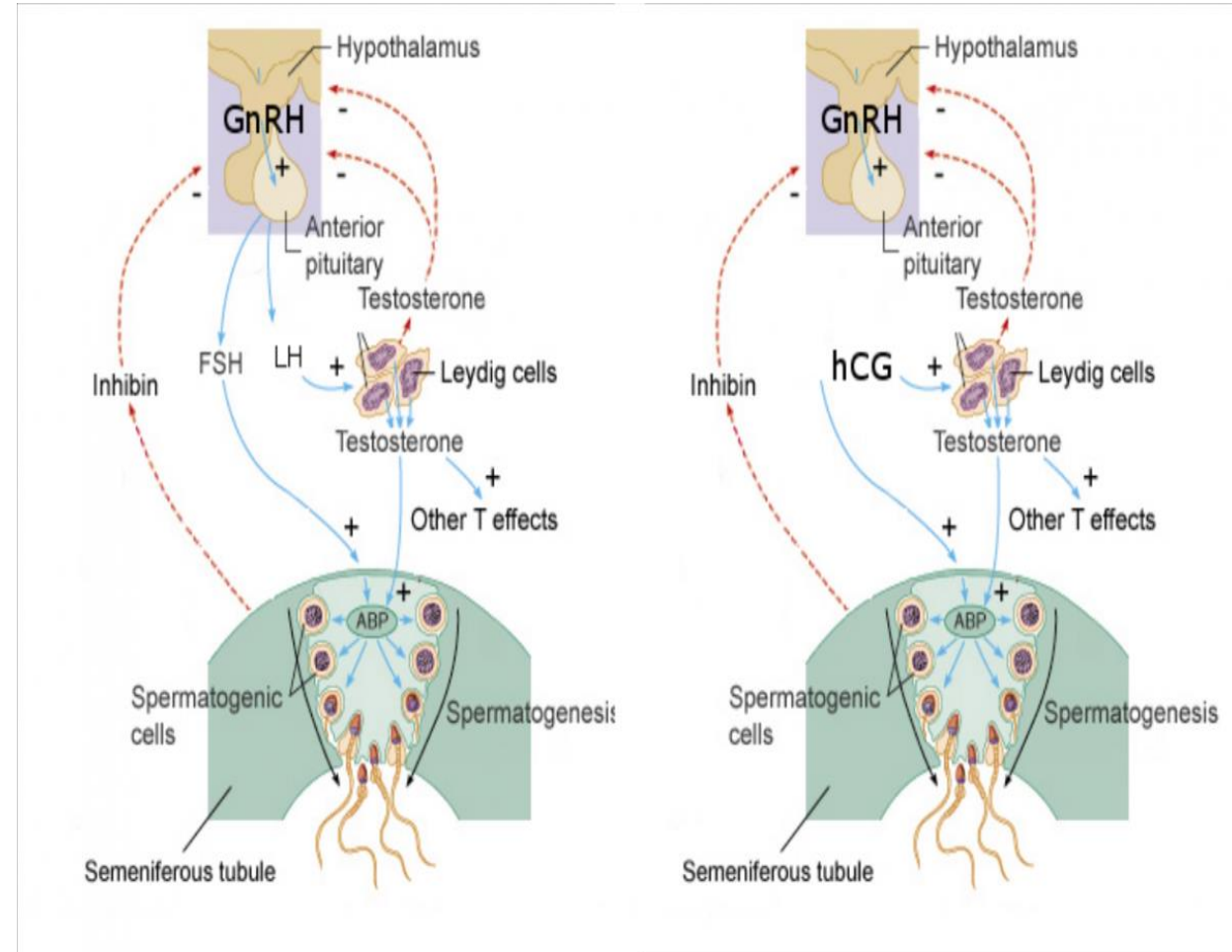


Human Chorionic Gonadotropin (HCG)



Actions of HCG:

1. Growth of corpus luteum (not inhibited by sex hormones)
2. Growth of endometrium
3. IN MALES: secretion of testosterone → descent of testicles

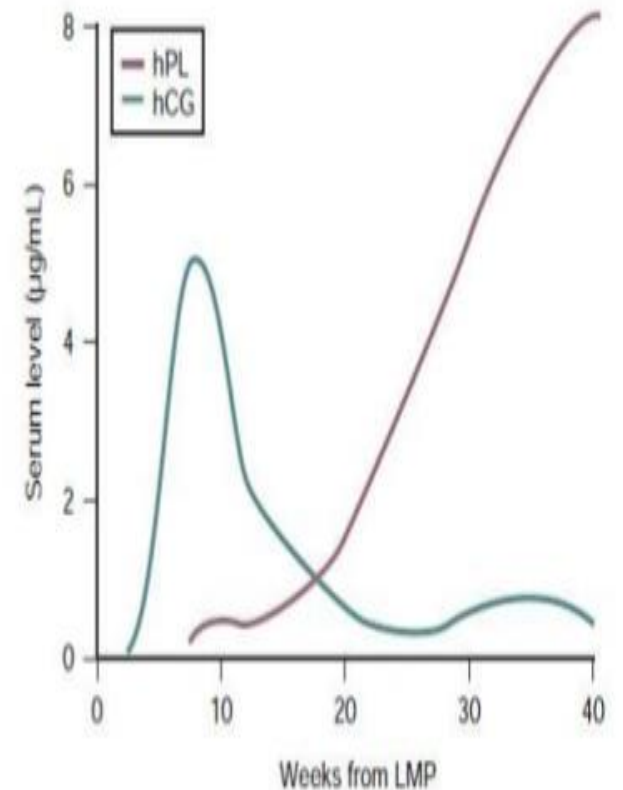


ESTROGEN	PROGESTERONE
Growth of uterus	Decidualization Increase fallopian tube secretions
Growth of mammary glands	Growth of breast alveoli Prepare breast for lactation
Increase number and sensitivity of oxytocin Relaxation of pelvic ligaments	Decrease uterine contractions

Human chorionic somatotropin

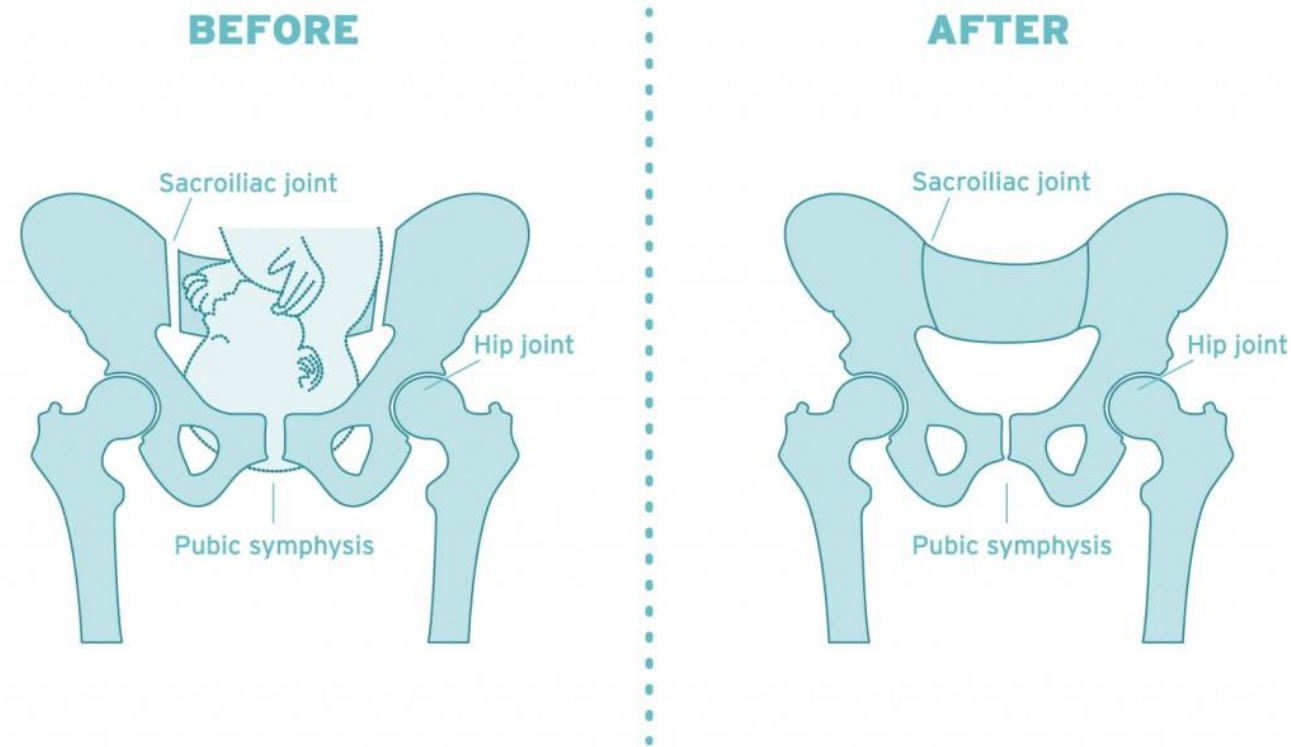
- Human chorionic somatotropin **5th week**
 - ❑ Deposition of protein in tissues
- Human placental lactogen
 - ❑ Partial development of breast
- Chorionic growth hormone prolactin
 - ❑ Provides great amount of glucose from mother to fetus
 - Decrease insulin sensitivity and glucose utilization
 - Increase release of FA from fat stores (energy alternative)

hCG and Human chorionic somatotropin



Relaxin

- Secreted by: CL, placenta, endometrium, mammary gland AND prostate
- ✓ Inhibit uterine contractions
- ✓ Relaxes pelvic joints
- ✓ Softens and dilate cervix
- ✓ Play a role in development of mammary gland
- ✓ Sperm motility



Anatomical changes associated with pregnancy
Artist's depiction. Results may vary.

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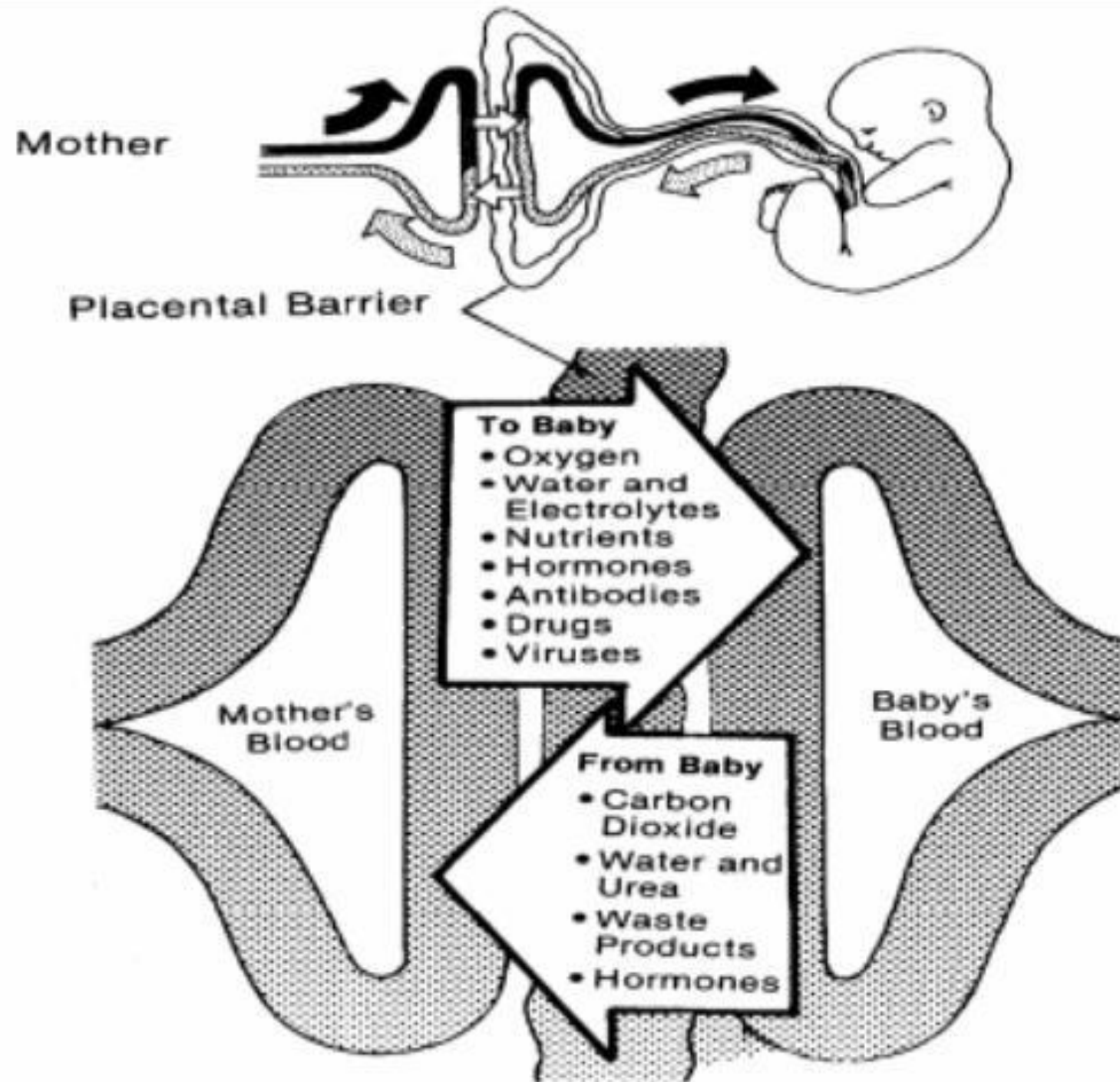
- **Endocrine:**

1. HCG
2. Estrogen
3. Progesterone
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5. relaxin

- ❖ **The pituitary hormones**

All increased **EXCEPT**

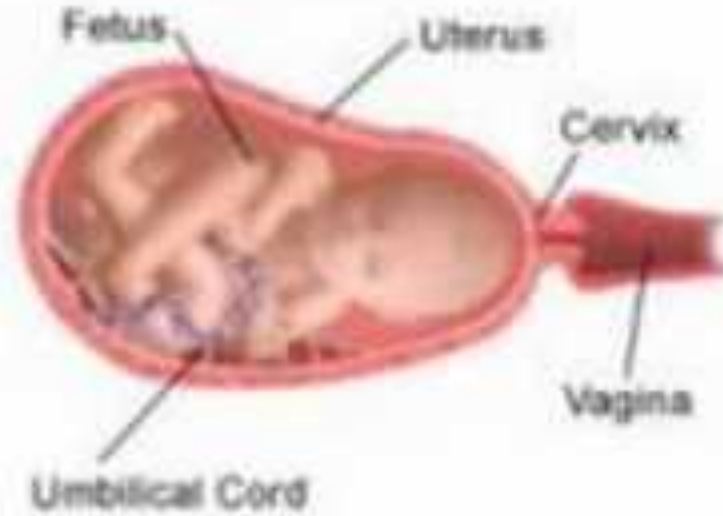
- FSH&LH greatly suppressed
- GH unincreased



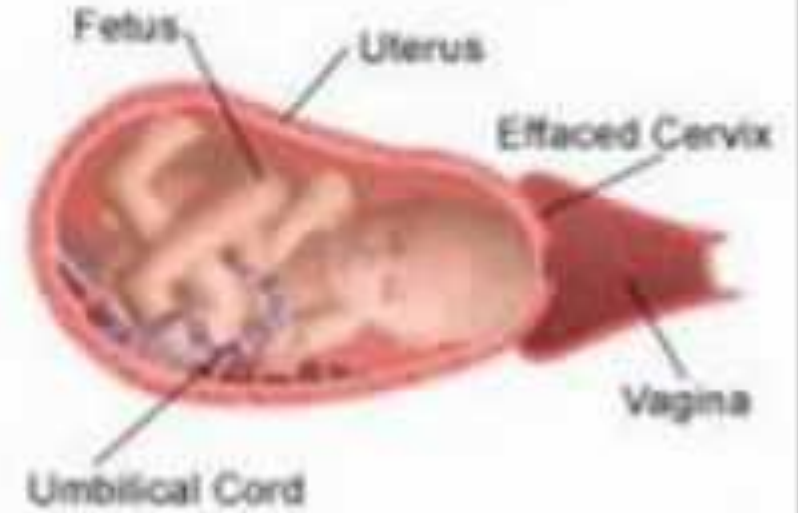
LABOR

Stage 1

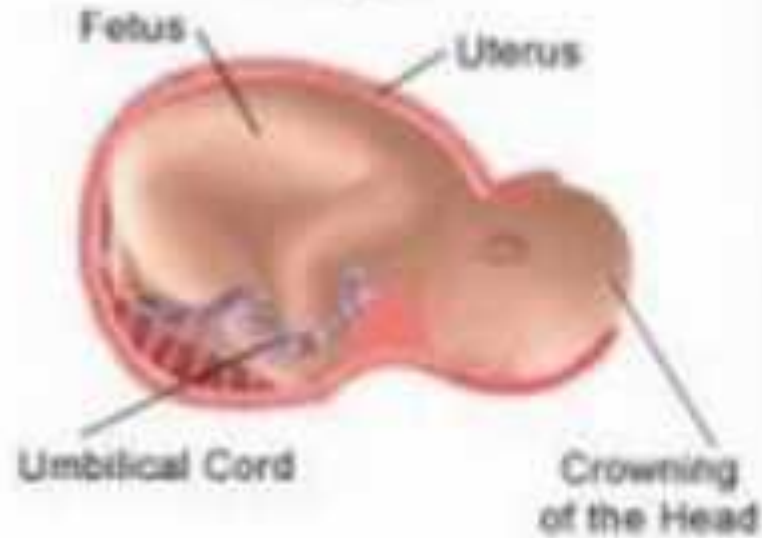
Initial (Latent) Phase



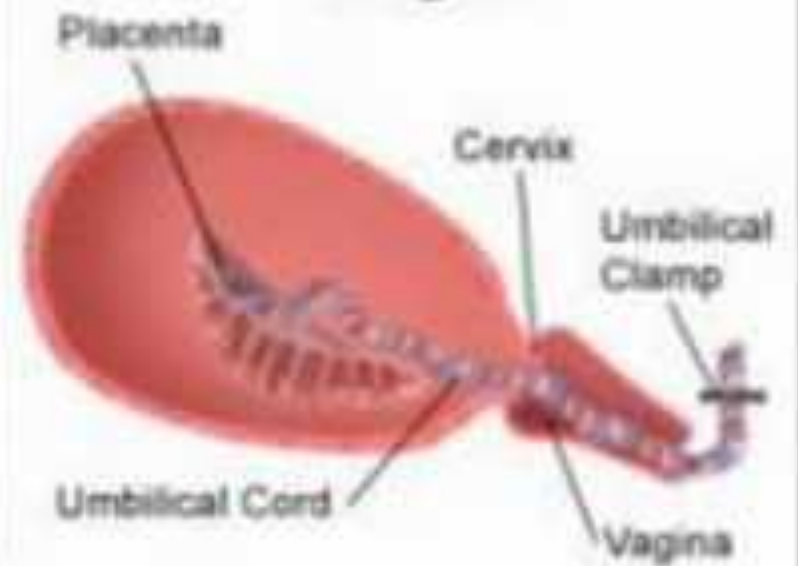
Active Phase



Stage 2



Stage 3



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graph TD; LABOR[LABOR] --- Hormonal[Hormonal]; LABOR --- Mechanical[Mechanical]
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LABOR

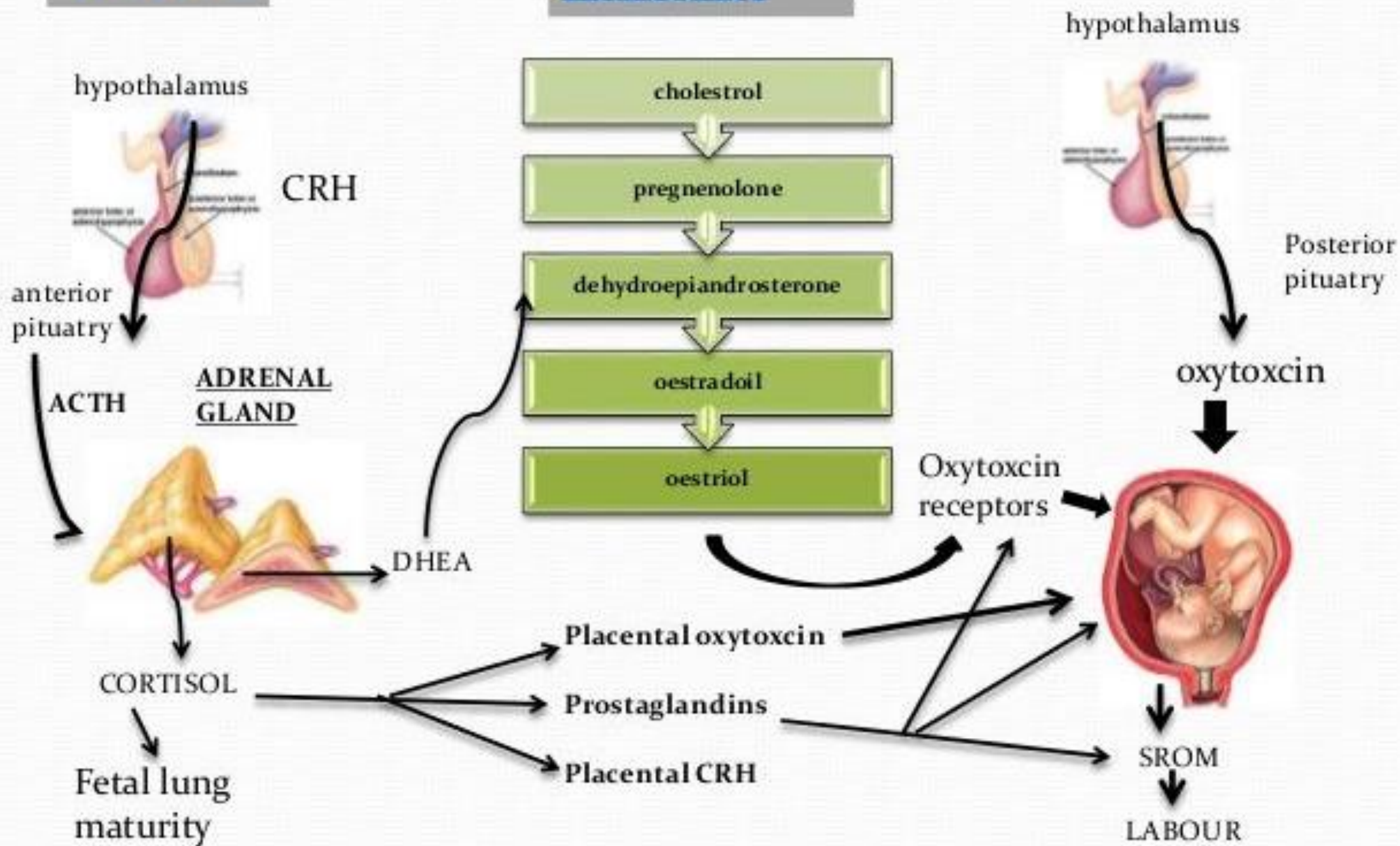
Hormonal

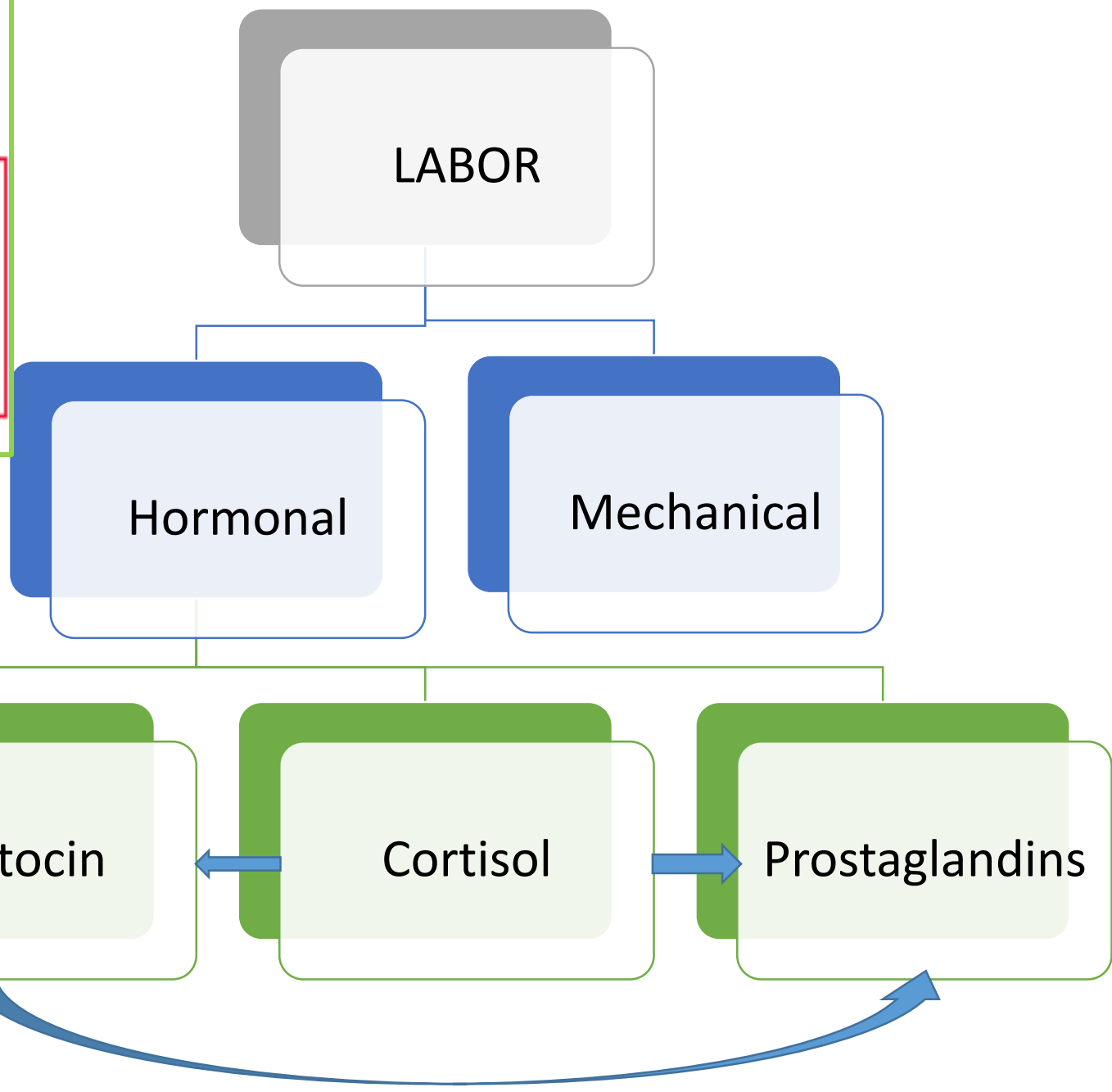
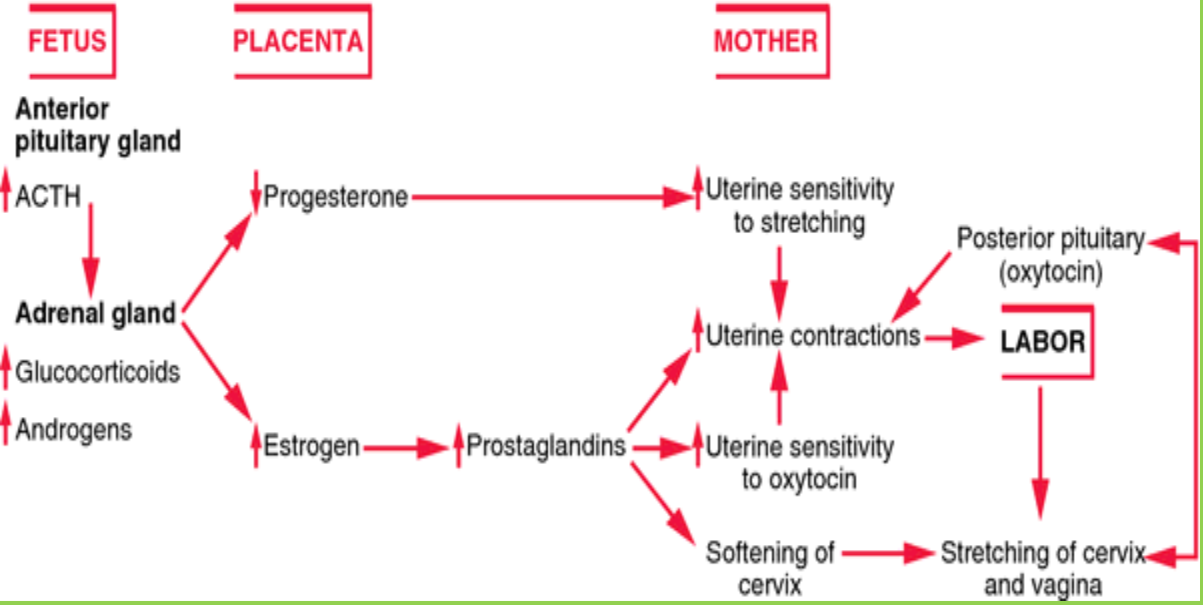
Mechanical

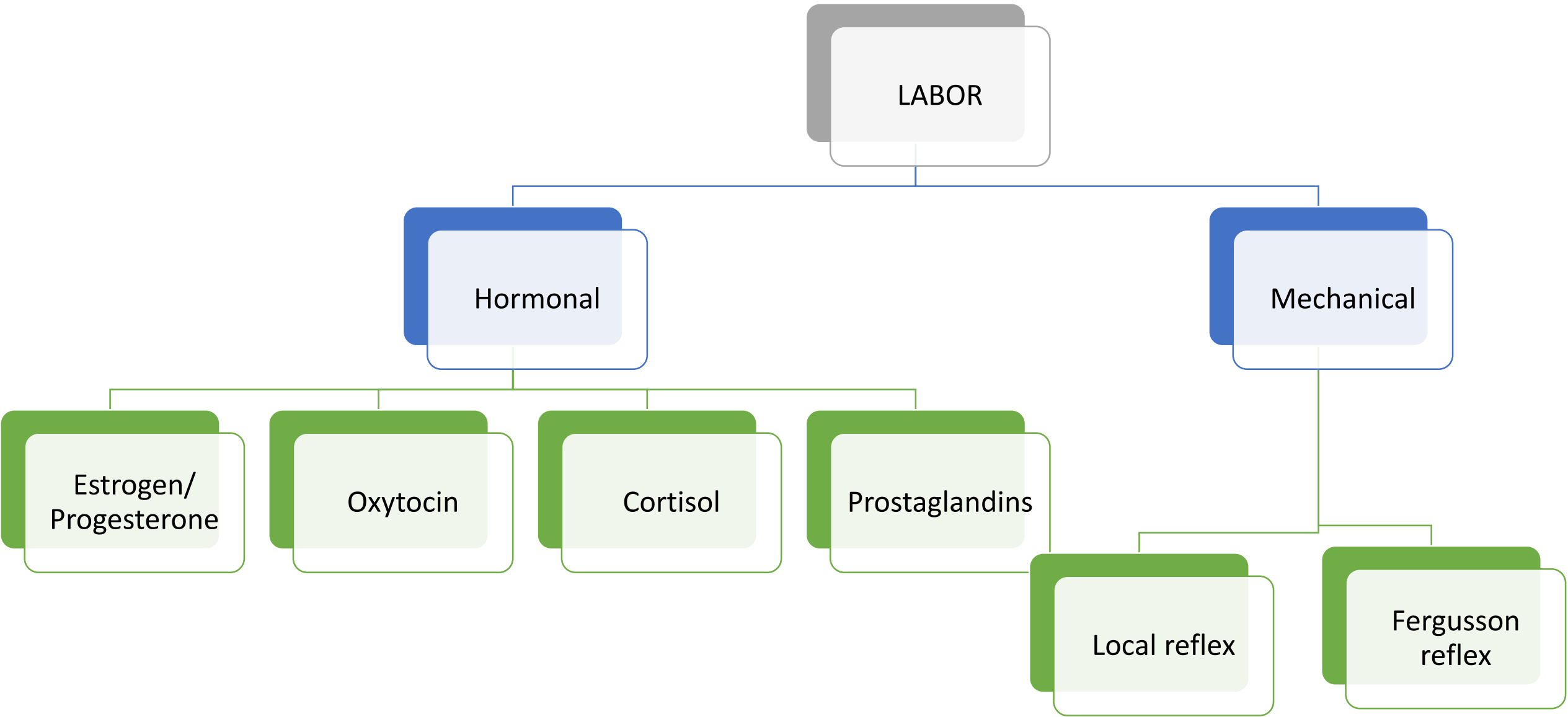
fetus

Placenta & membranes

mother

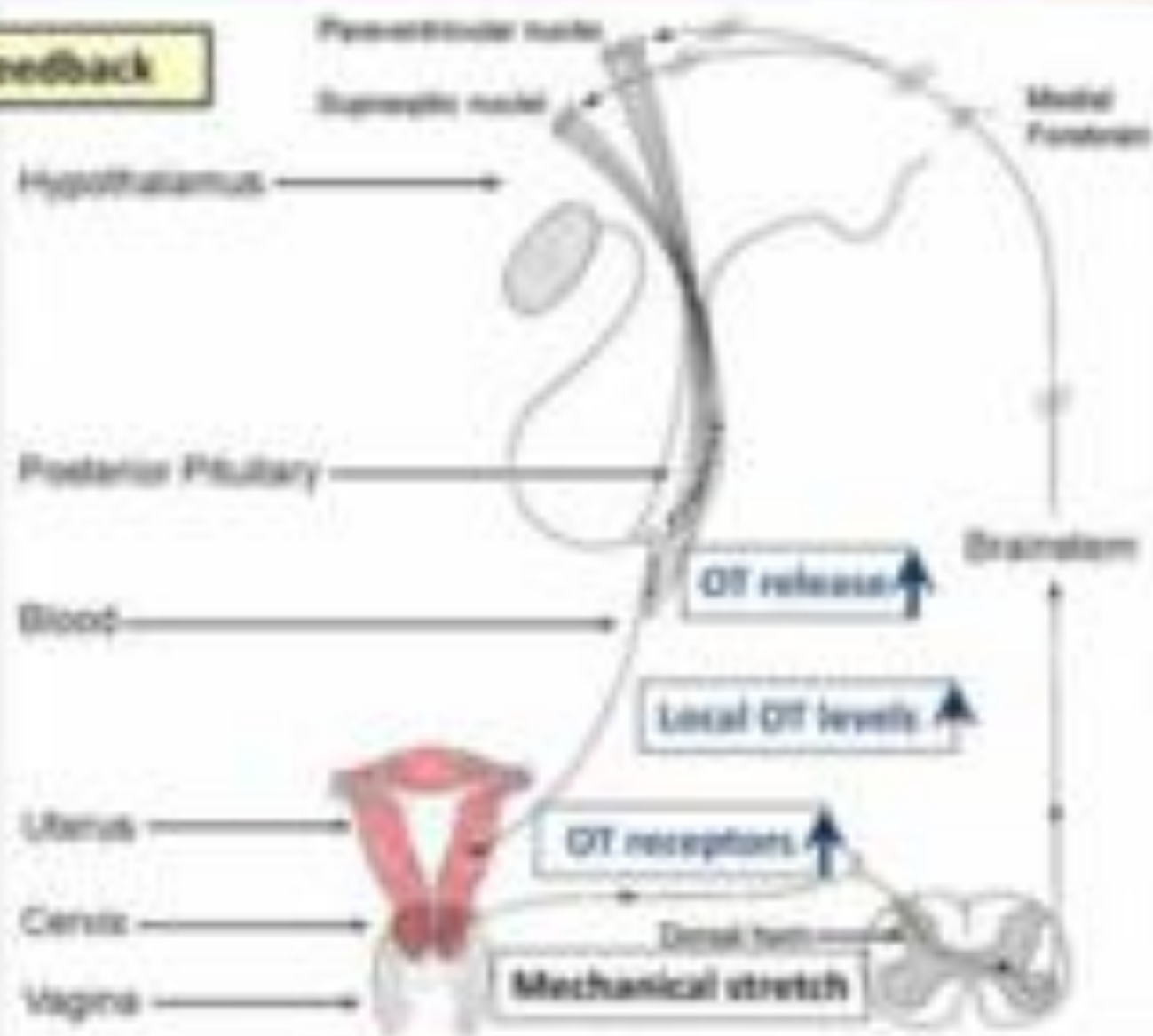




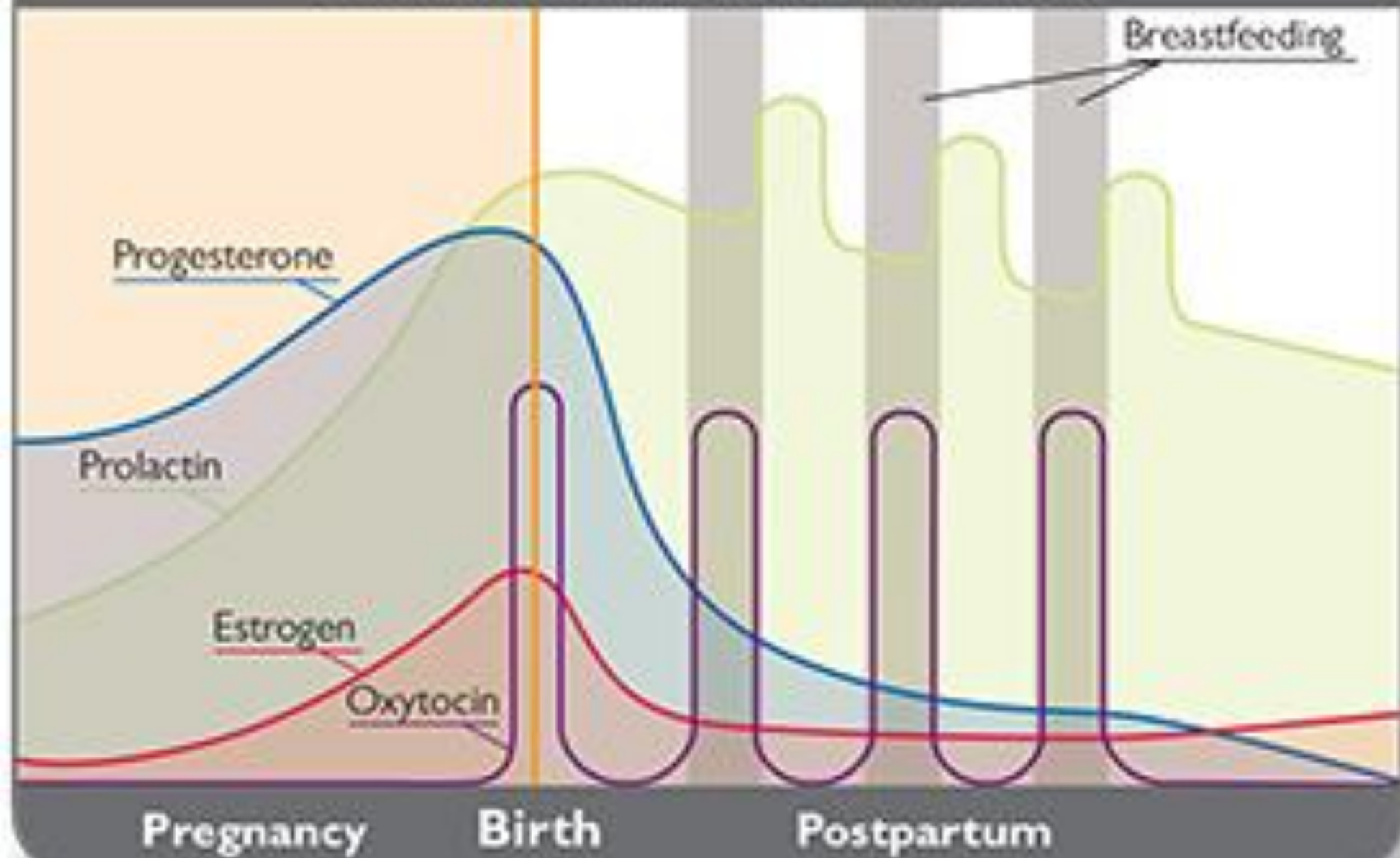


Ferguson Reflex: The Neuroendocrine positive feedback loop that regulates parturition

Positive Feedback



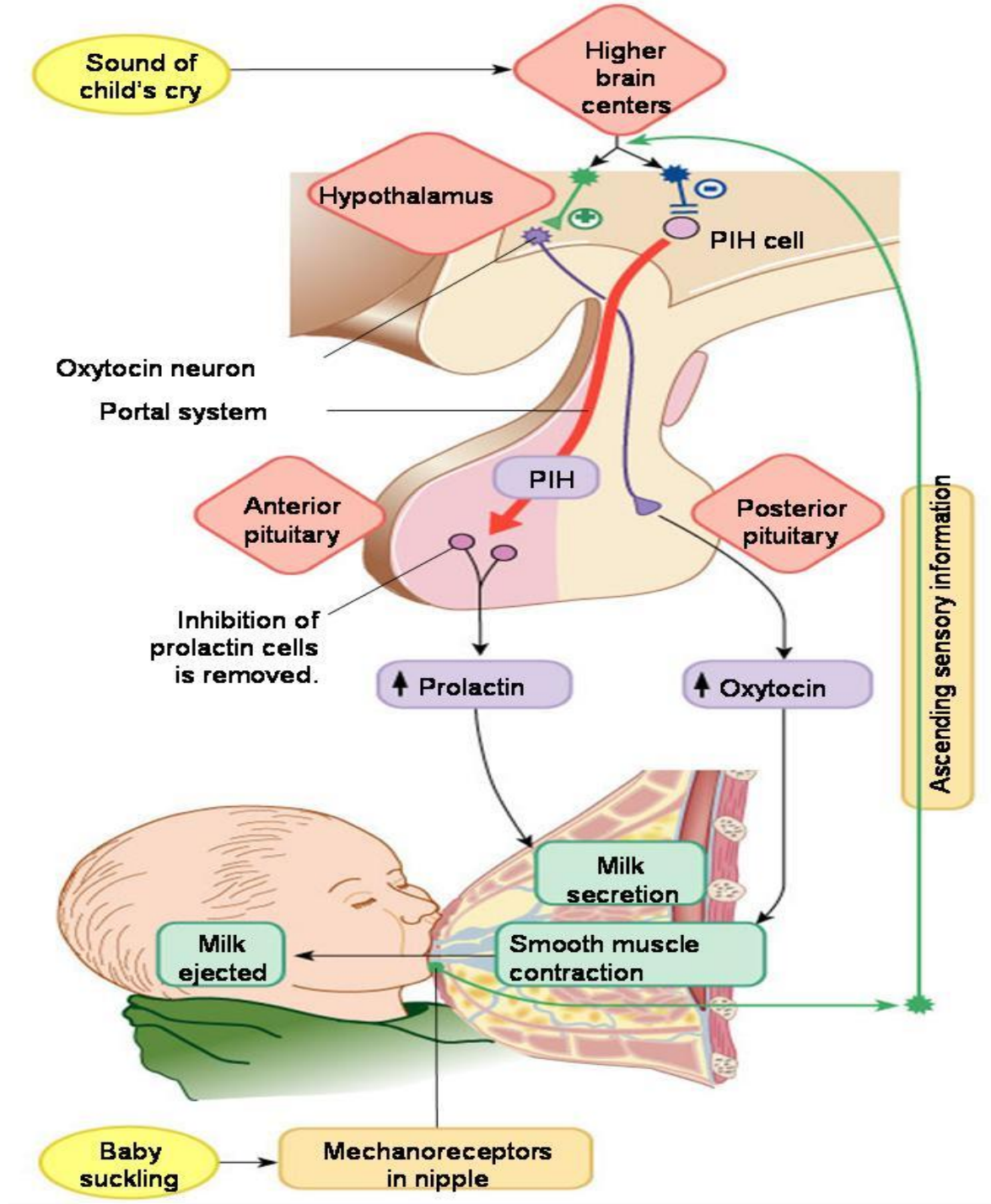
Hormone Levels of Lactation



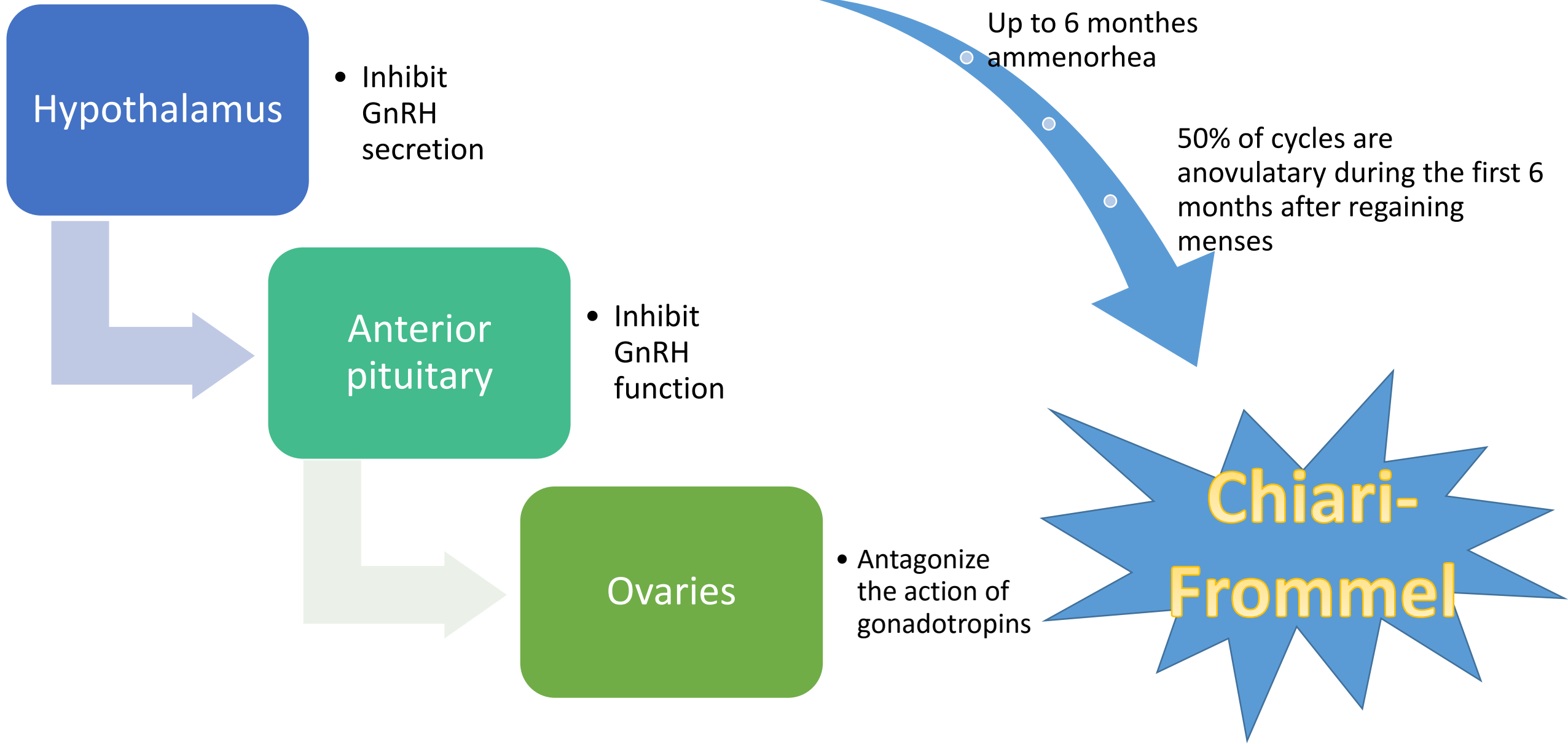
Adapted from Love, 1990

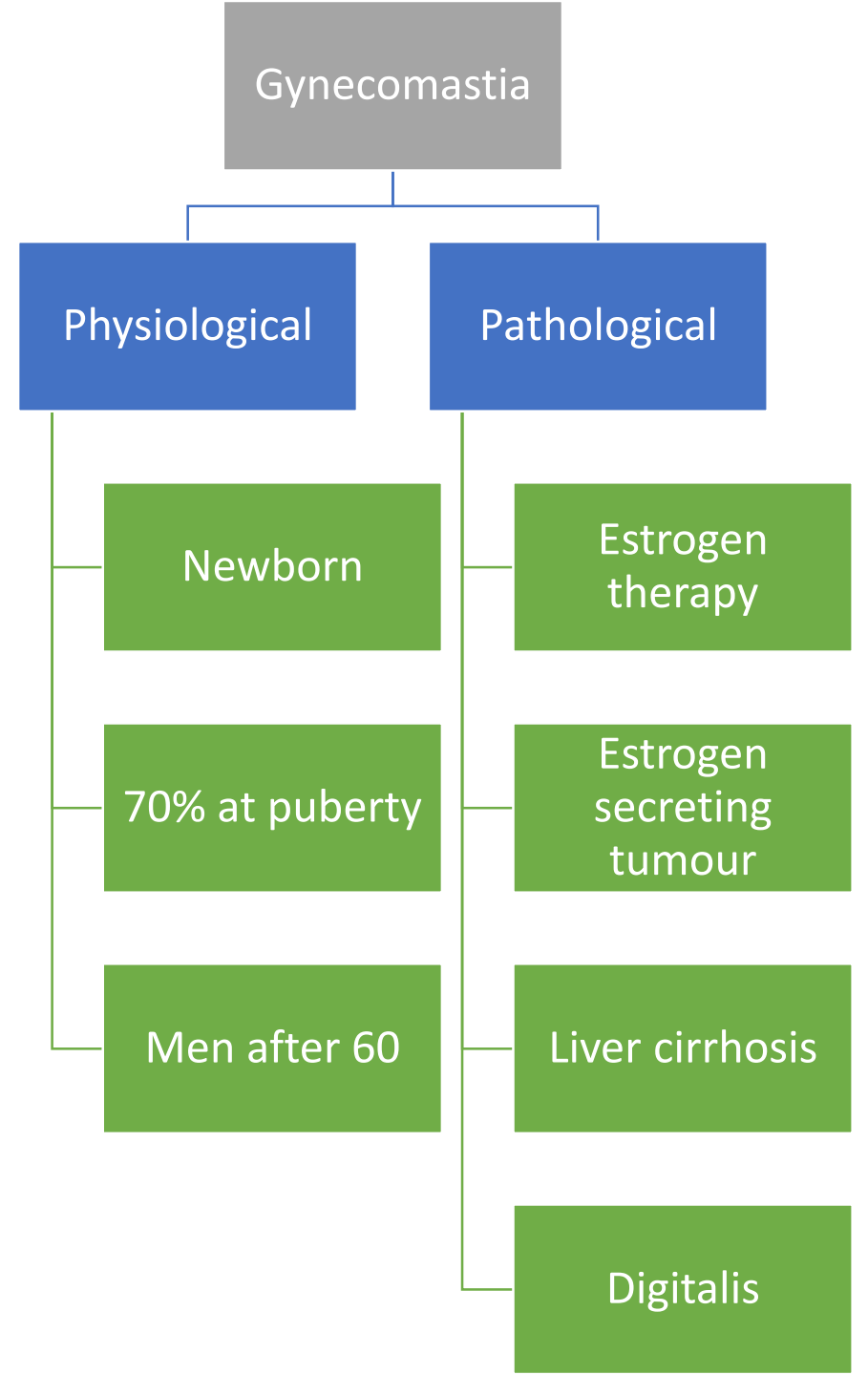
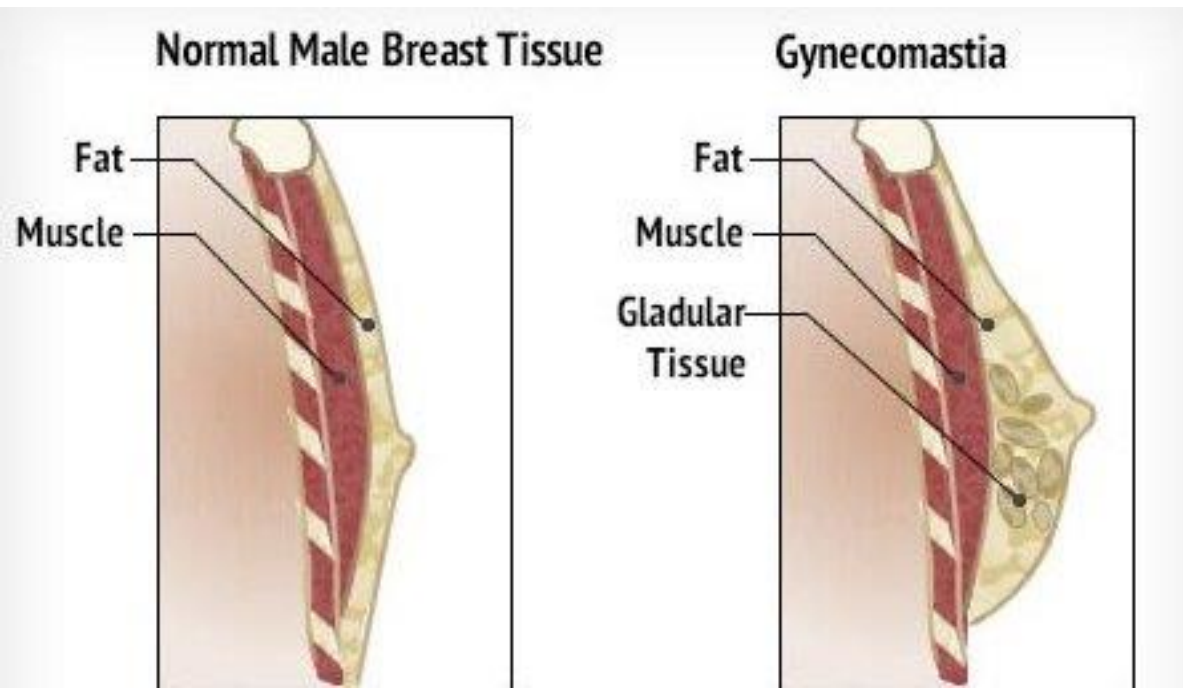
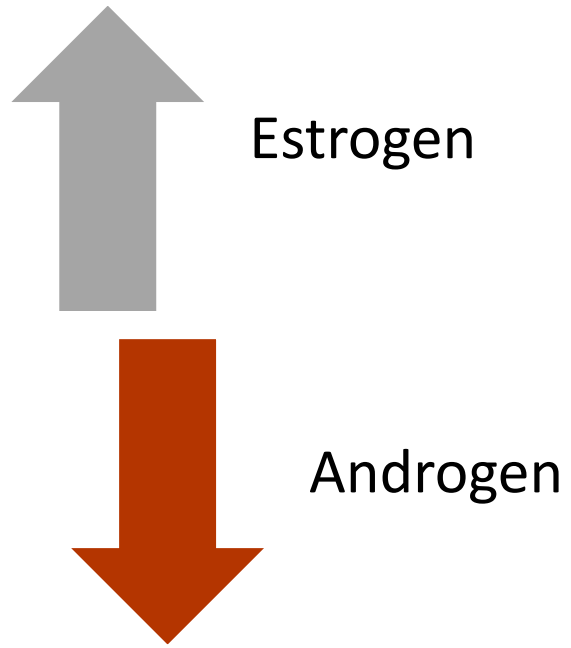
Milk ejection

Milk letting down



Prolactin





THANK YOU!

