

# Menopause Problem Solving pt I

A Biogenetix Clinical Presentation

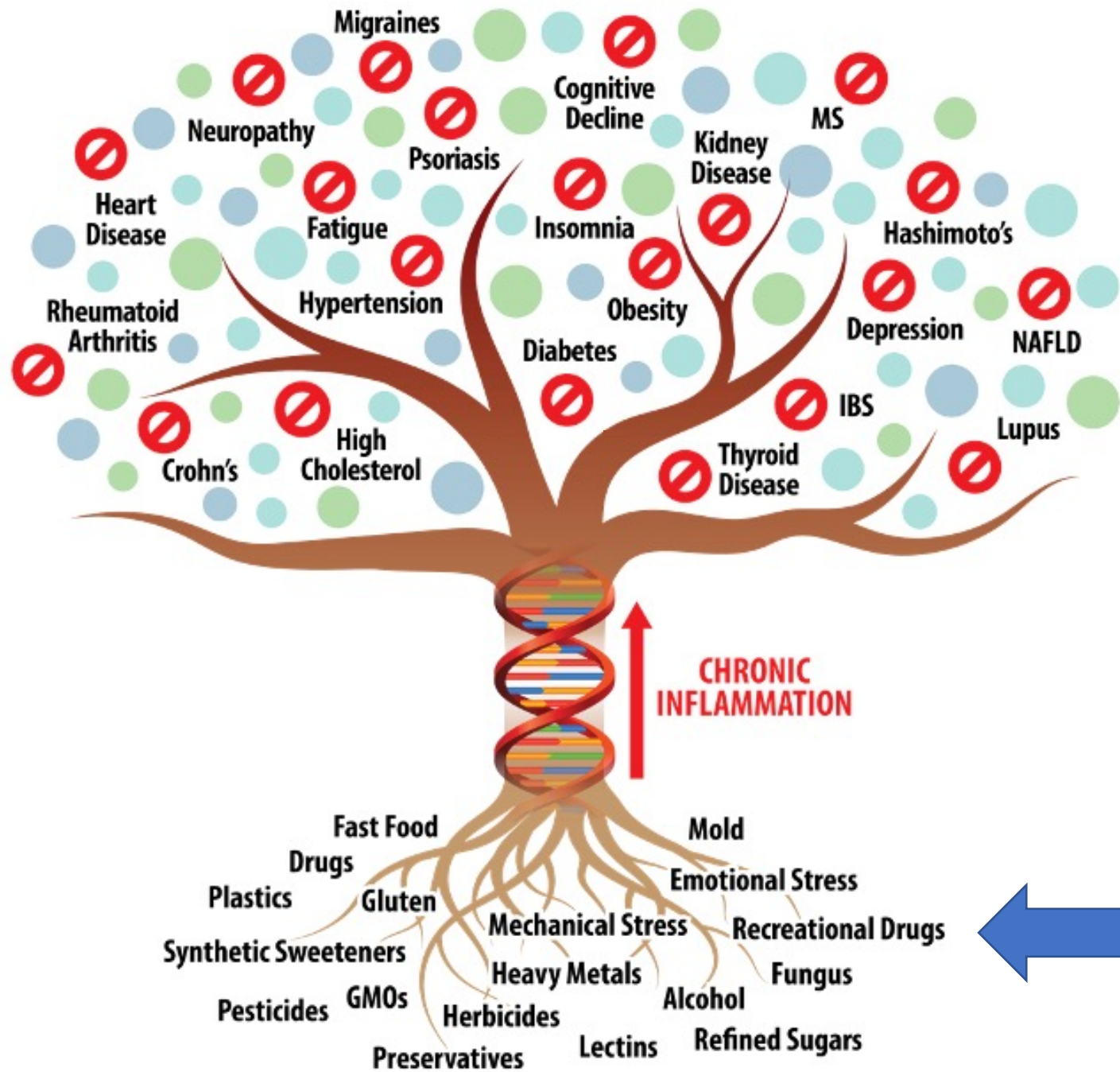
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# Disclaimer

- *Information in this presentation is not intended to diagnose, treat, reverse, cure, or prevent any disease. While this presentation is based on medical literature, findings, and text, The following statements have not been evaluated by the FDA.*
- *The information provided in this presentation is for your consideration only as a practicing health care provider. Ultimately you are responsible for exercising professional judgment in the care of your own patients.*







Menopause is the time that marks the end of your menstrual cycles. It's diagnosed after you've gone 12 months without a menstrual period. Menopause can happen in your 40s or 50s, but the average age is 51 in the United States.

Menopause is a natural biological process. But the physical symptoms, such as hot flashes, and emotional symptoms of menopause may disrupt your sleep, lower your energy or affect emotional health. There are many effective treatments available, from lifestyle adjustments to hormone therapy.

## Symptoms

In the months or years leading up to menopause (perimenopause), you might experience these signs and symptoms:

- Irregular periods
- Vaginal dryness
- Hot flashes
- Chills
- Night sweats
- Sleep problems
- Mood changes
- Weight gain and slowed metabolism
- Thinning hair and dry skin
- Loss of breast fullness



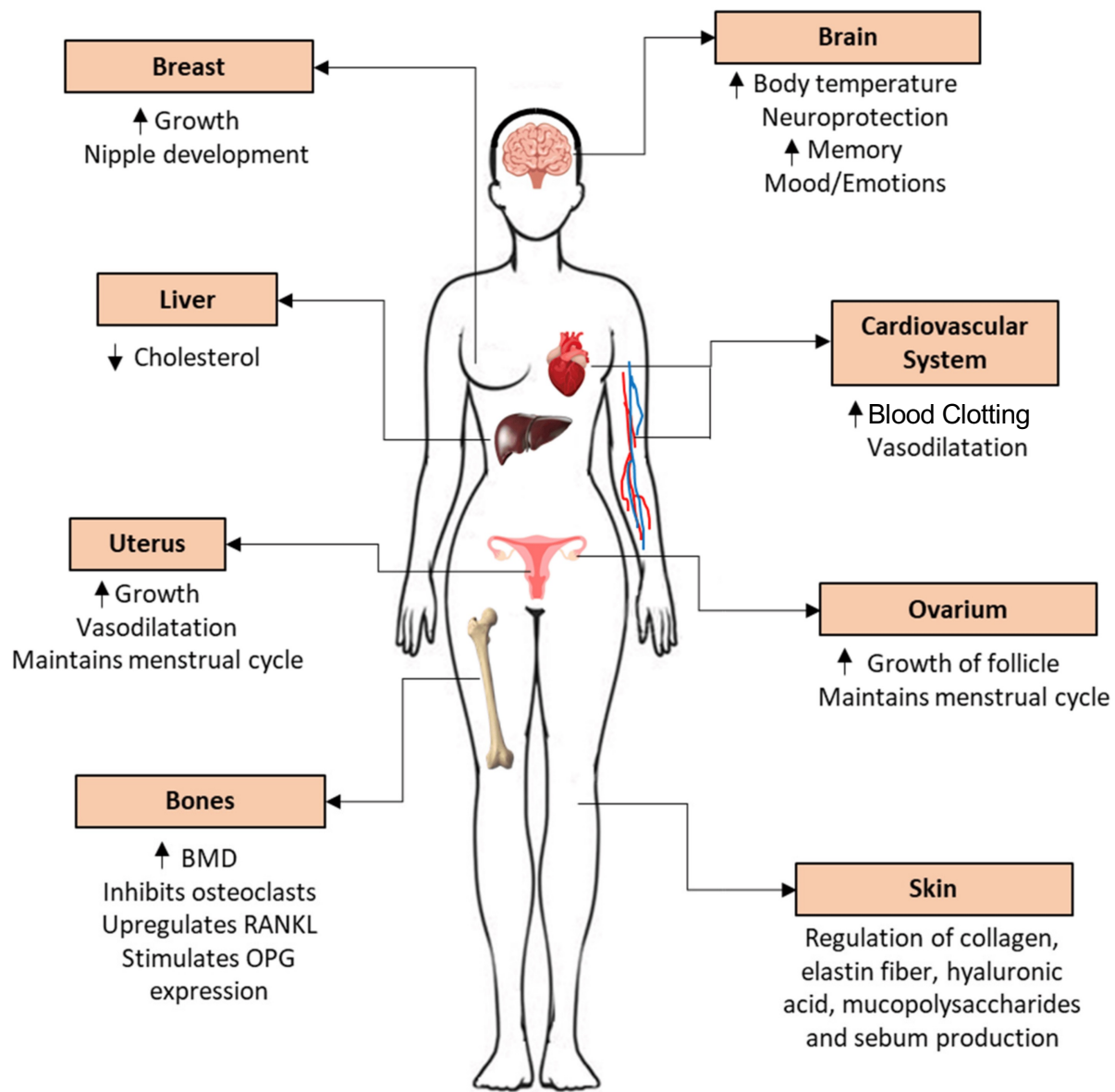
## Complications

After menopause, your risk of certain medical conditions increases.

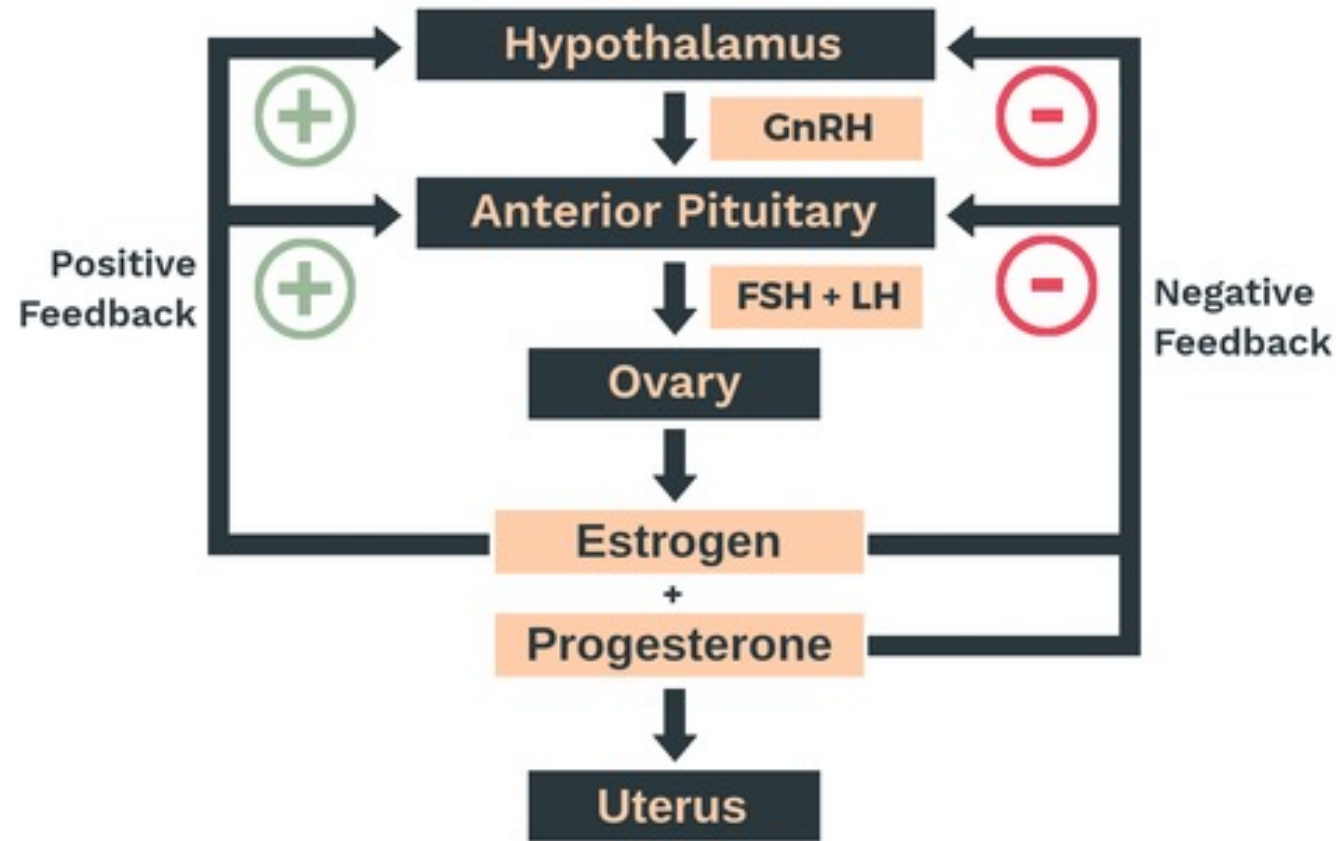
Examples include:

- **Heart and blood vessel (cardiovascular) disease.**
- **Osteoporosis.**
- **Urinary incontinence.**
- **Sexual function.**
- **Weight gain.**

# Estrogenic Function in the Female Body



# Cycling Female Hormone Pathway



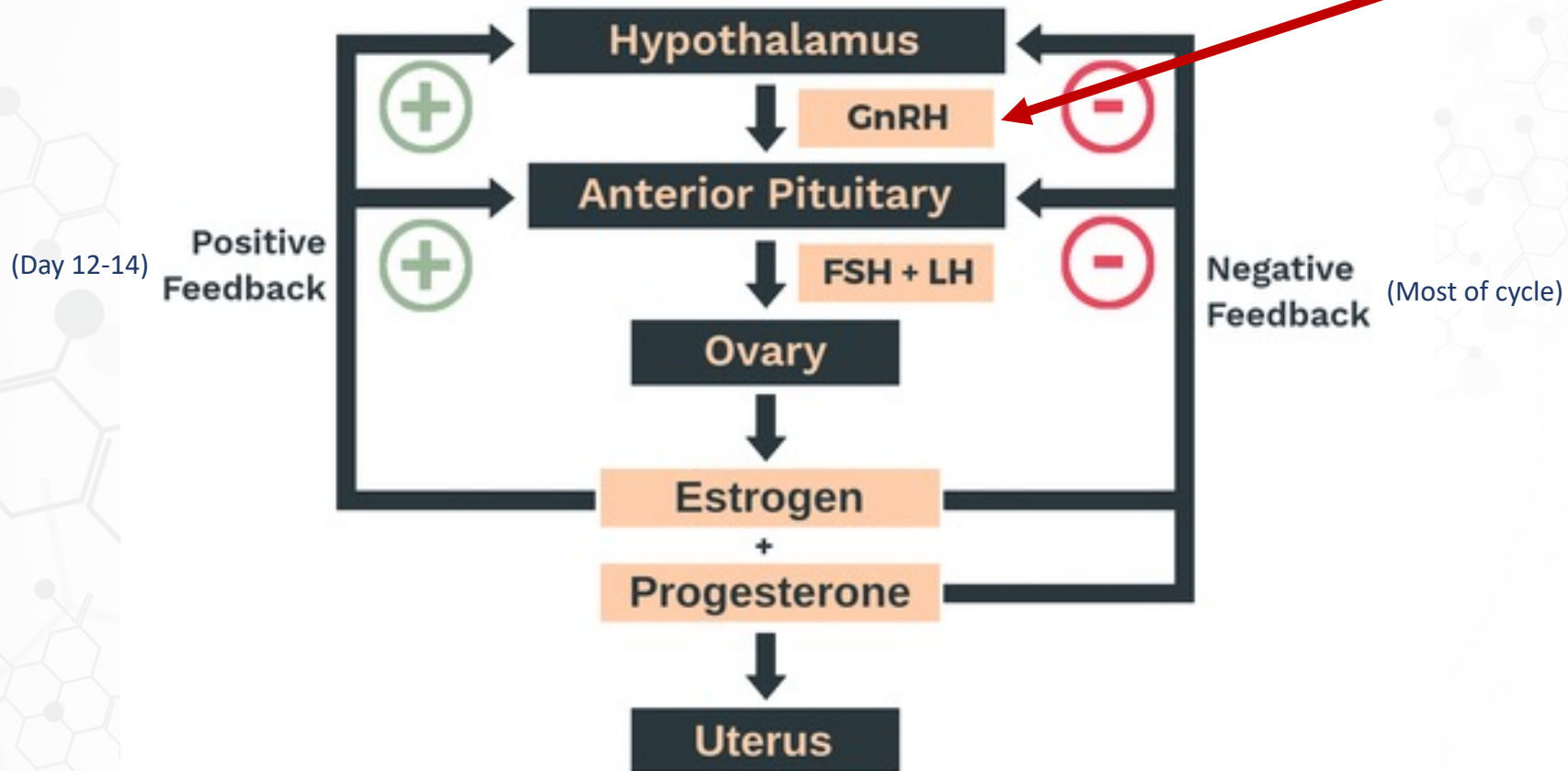
Day 12-14

Most of cycle



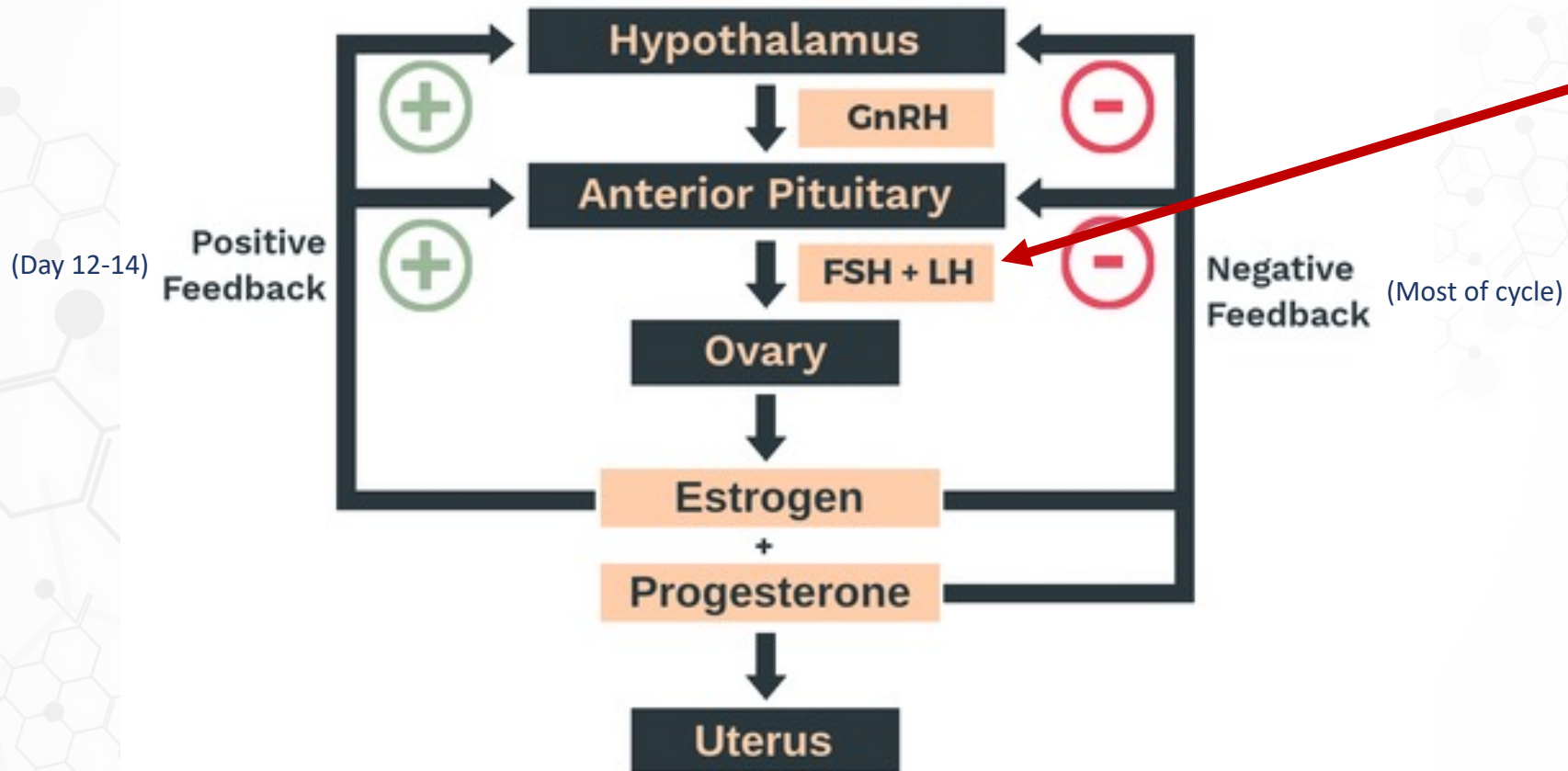


## Cycling Female Hormone Pathway



The hypothalamus secretes gonadotropin-releasing hormone (GnRH) to stimulate the production of follicle-stimulating hormone and luteinizing hormone from the pituitary. These gonadotropins make the sex hormones testosterone, estrogen and progesterone. GnRH is vital to your sexual maturity, sex drive and fertility.

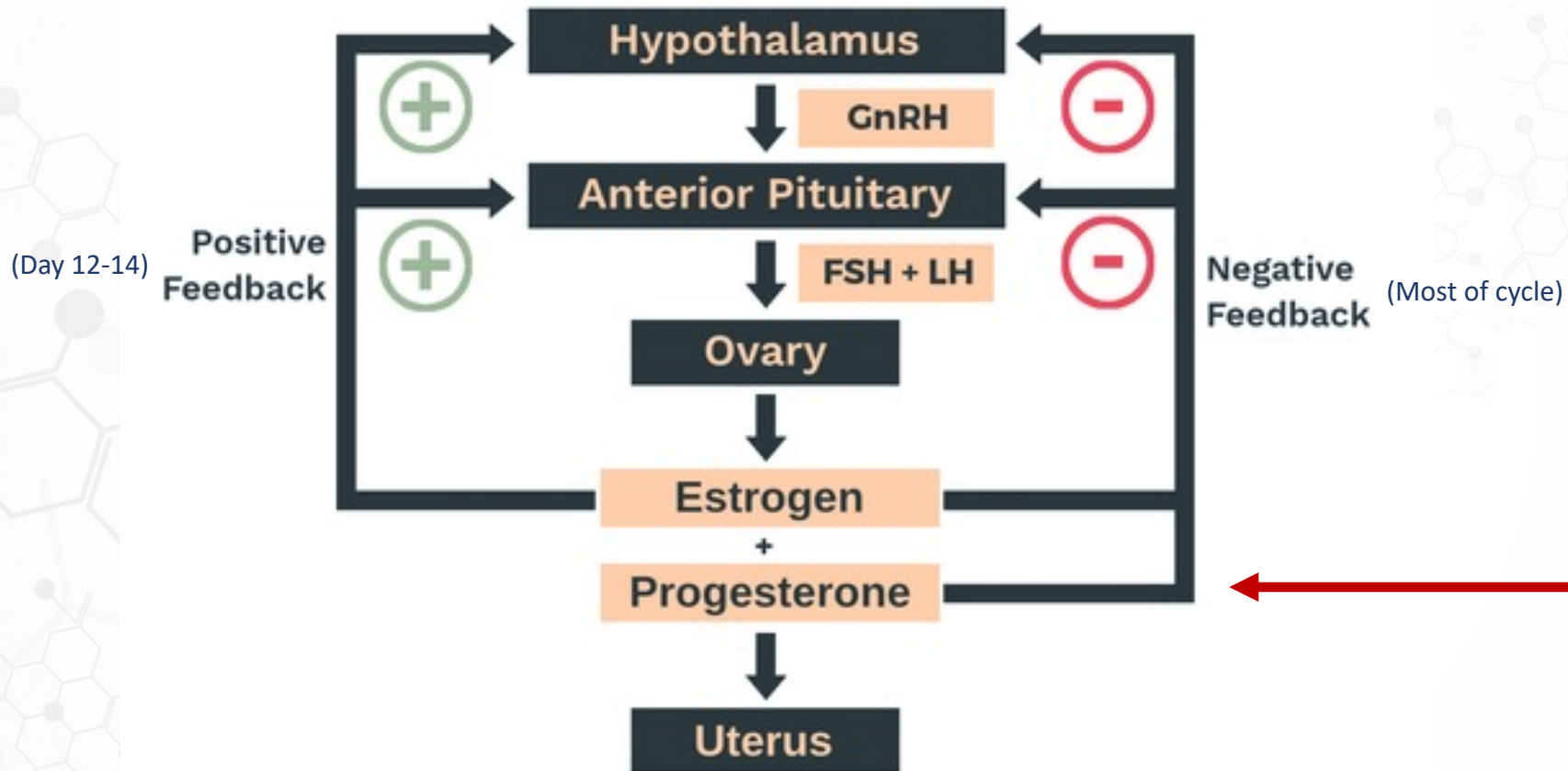
## Cycling Female Hormone Pathway



FSH helps manage the menstrual cycle and stimulates the ovaries to produce eggs.

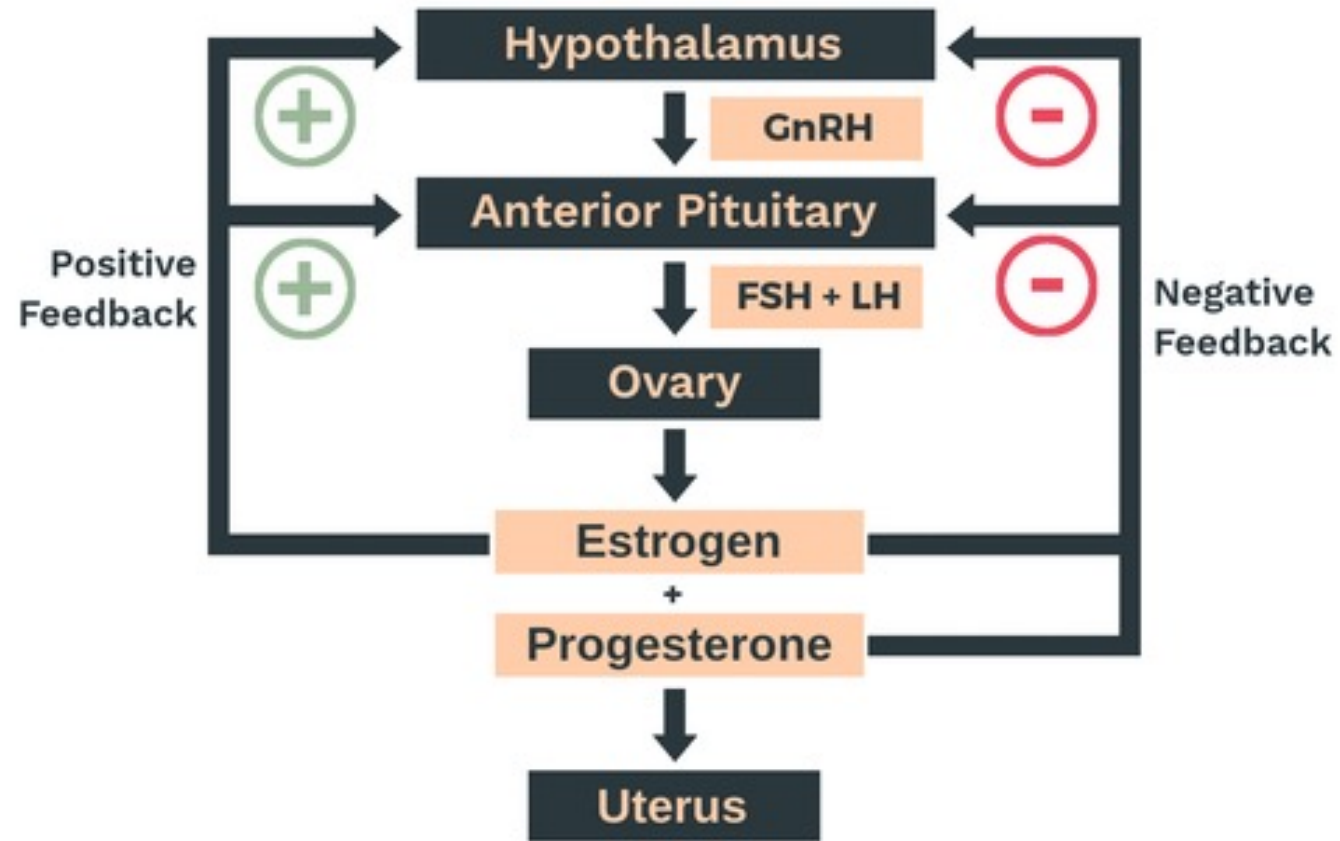
LH stimulates steroid release from the ovaries, ovulation, and the release of progesterone after ovulation.

## Cycling Female Hormone Pathway



Progesterone is an endogenous steroid hormone that is commonly produced by the adrenal cortex as well as the ovaries. Progesterone is also secreted by the ovarian corpus luteum during the first ten weeks of pregnancy, followed by the placenta in the later phase of pregnancy.

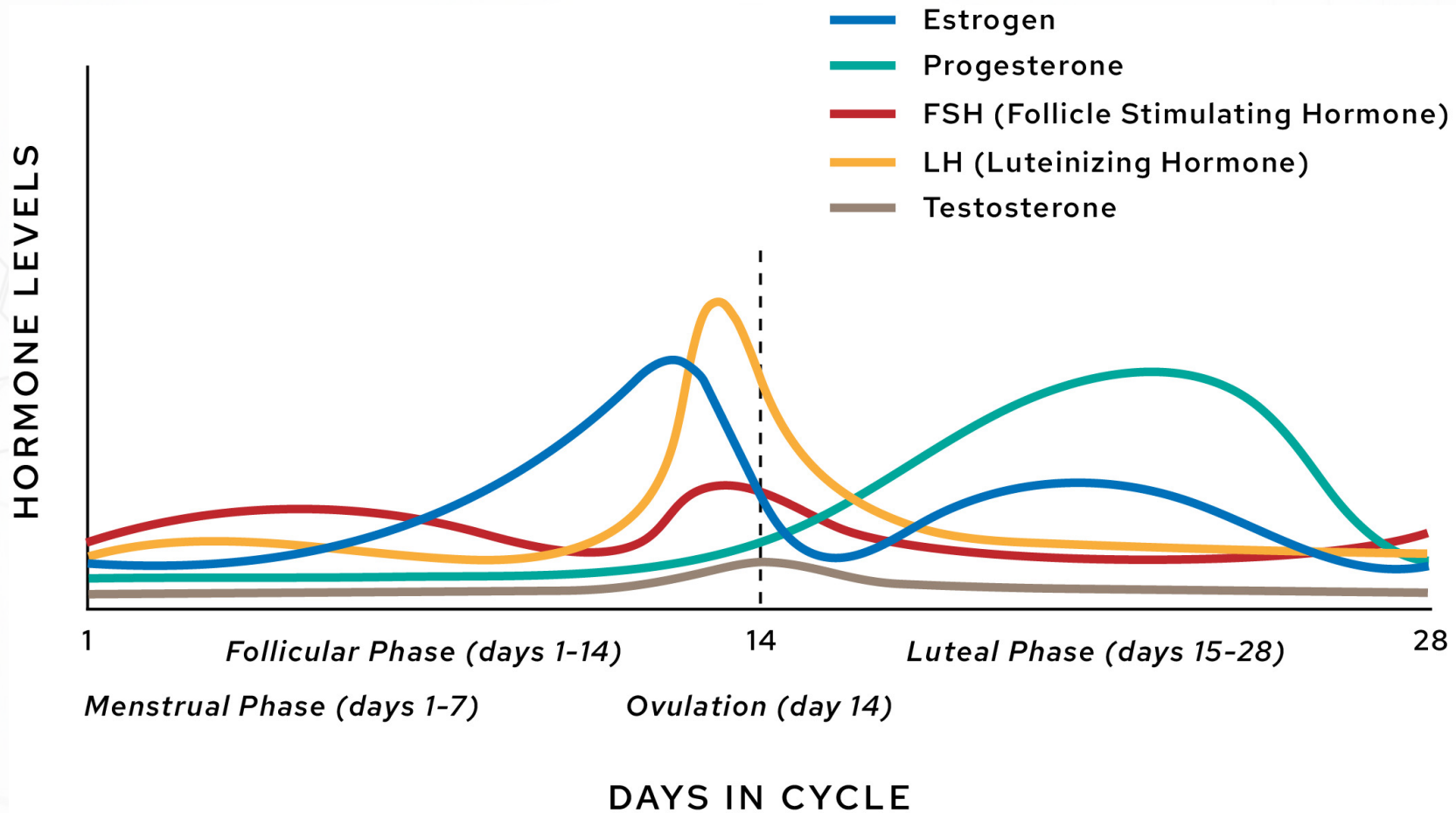
# Cycling Female Hormone Pathway



Day 12-14

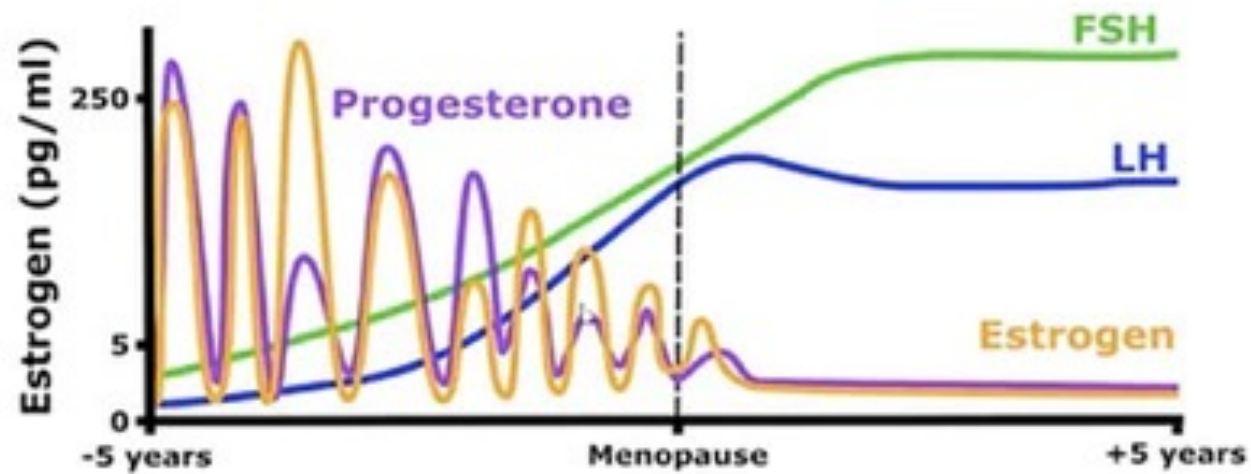
Most of cycle





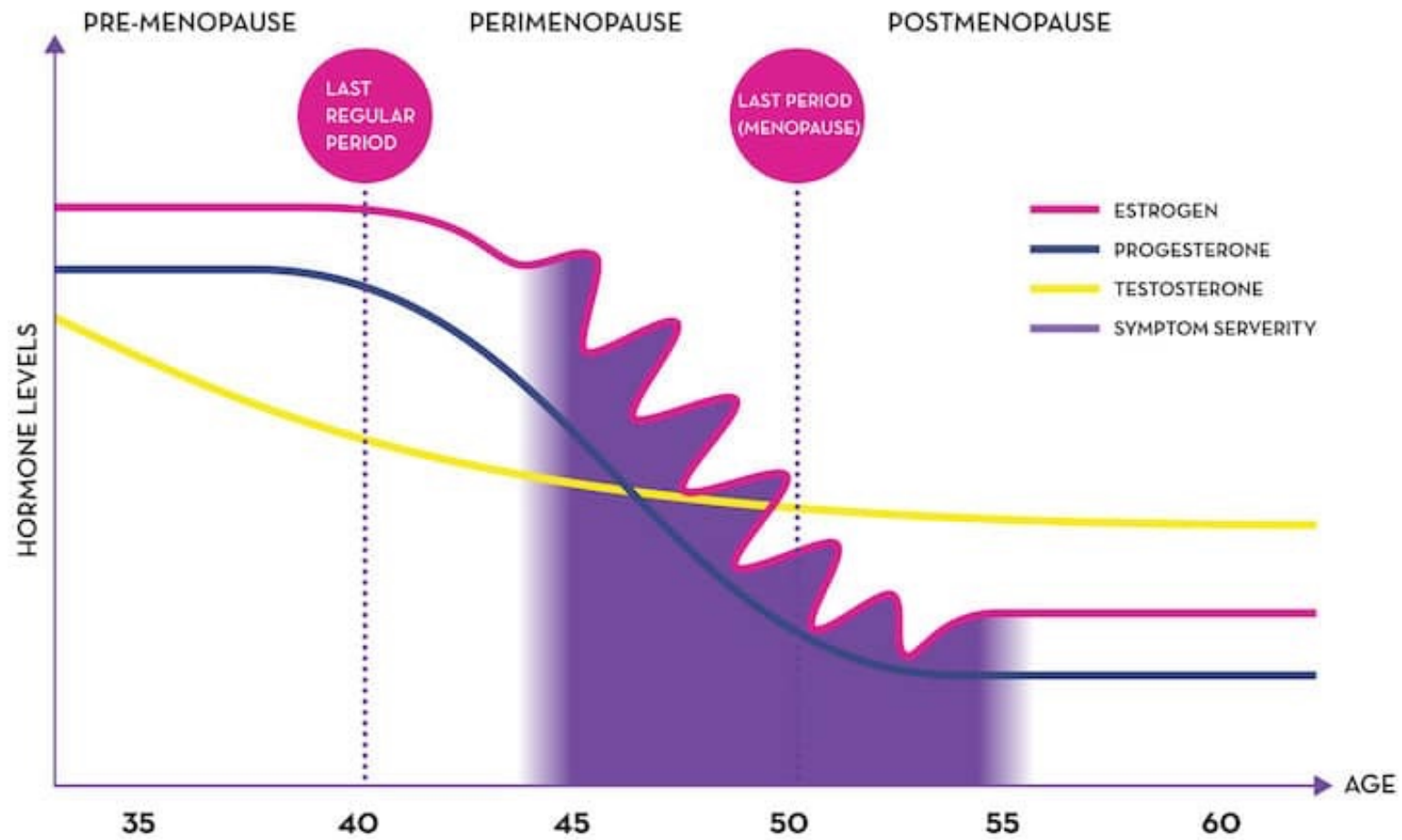
# HORMONAL FLUCTUATIONS

In the years before and after menopause.



*Chidi-Ogbolu N and Baar K (2019) Effect of Estrogen on Musculoskeletal Performance and Injury Risk. Front. Physiol. 9:1834.*





## Symptoms

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But *WHY?*



# Unopposed estrogens: current and future perspectives

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[Affiliations](#) + [expand](#)

Estrogens and progestogens act on female reproductive tissues in opposite ways. As they counteract each other actions, the correct balance between these two classes of hormones is pivotal to avoid dangerous states. Unopposed estrogens occur when progestogen levels do not balance estrogens, primarily deriving from overproduction of estrogens via aromatase enzyme. In the endometrium, unopposed estrogens induce proliferative or invasive phenomena, which represent the first step toward different diseases. These pathologies include endometrial hyperplasia, endometrial polyps, endometriosis and adenomyosis. Endometrial hyperplasia and polyps are proliferative pathologies, while endometriosis and adenomyosis are characterized by the invasion of other tissues by endometrial cells. Current pharmacological treatments include Gonadotropin-Releasing-Hormone analogs, aromatase inhibitors and progestogens, either alone or in combination with estrogens. As these drugs usually lead to burdensome undesired effects, researchers seek to find new therapeutical molecules. Recent literature highlights the positive effects of metformin, an insulin sensitizing drug that reduces the insulin proliferative stimulus on the endometrium. d-chiro-inositol is an insulin second messenger with insulin sensitizing and mimetic properties, recently described as an aromatase down-regulator. Based on current evidence, d-chiro-inositol may be useful to treat the pathologies responsive to unopposed estrogens.



# What causes high estrogen levels?

Your estrogen levels may be high because:

- Your body is making too much estrogen.
- You're getting too much estrogen in the medicine you're taking.
- Your body's not breaking down estrogen and removing it from your body as it should.

A variety of factors can contribute to high estrogen, including:

- **Medications:** [Hormone therapy](#) to boost low estrogen levels may cause your levels to become too high at first. It may take some time to get the dosage right. (high-dose oral contraceptives/birth control pills)
- **Body fat:** Fat tissue ([adipose tissue](#)) secretes estrogen. Having a high percentage of body fat can lead to high estrogen levels.
- **Stress:** Your body produces the hormone [cortisol](#) in response to stress. Producing high amounts of cortisol in response to stress can deplete your body's ability to produce progesterone. The estrogen in your body is left unchecked by progesterone.

- **Alcohol:** Drinking too much alcohol can increase your estrogen levels and reduce your body's ability to break down (metabolize) estrogen.
- **Liver problems:** Your liver breaks down estrogen and eliminates it from your body. If your liver's not functioning correctly, too much estrogen can accumulate. Too few digestive enzymes, too much bad gut bacteria (dysbiosis), low magnesium levels and too little fiber in your diet can prevent your liver from removing excess estrogen.
- **Synthetic xenoestrogens:** Synthetic xenoestrogens are chemicals found in the environment that act like estrogen once they're inside your body. They can increase your estrogen levels. Xenoestrogens include bisphenol A (BPA) and phthalates. Both of these chemicals are used in various plastics. Xenoestrogens can also be found in pesticides, household cleaning products and some soaps and shampoos.

## What conditions are associated with high estrogen?

High estrogen levels are associated with a variety of conditions. Estrogen doesn't necessarily cause these conditions. Instead, estrogen may worsen a condition or symptom you already have, including:

- [Breast cancer.](#)
- [Ovarian cancer.](#)
- [Endometriosis](#) pain.
- [Insulin resistance.](#)
- Polycystic ovarian syndrome (PCOS)
- [Uterine cancer](#) (endometrial cancer).
- Tumors on your ovaries and adrenal glands.

