

# FEMALE HORMONES and their activity

**Estrogen dominance** is a primary cause of almost all female health problems, including:

1/ fibrocystic breast disease, PMS, mood swings, excessive bleeding, endometriosis, fibroids, infertility, and ovarian cysts.

**Peri-menopause** is the time when hormone levels begin to shift in preparation for **menopause**. It is not so much the decrease in hormones that produces the uncomfortable symptoms associated with peri-menopause, but rather the changing ratio between estrogen and **progesterone**. Chronic or episodic depression, severe mood swings, and anxiety are frequent manifestations of these midlife fluctuations.

**Estrogen** refers to a group of female "sex" hormones, produced primarily in the **ovaries**, and to a lesser extent in the **body's fat cells**. It is important for adolescent sexual development and for regulating the menstrual cycle.

**Estrogen prepares the uterus for receiving the fertilized egg by stimulating the uterine lining to grow.**

During days 10 - 14 in a woman's cycle, the uterus is mainly under the influence of estrogen, which **begins to climb right before ovulation, which is usually between days seven to fourteen**, peaking at ovulation in preparation for a fertilized egg.

**Estrogen** also improves **skin tone** and reduces **vaginal dryness**. There are three main types of estrogen that a woman makes: Estradiol (E1), which accounts for 80% of her estrogen, Estriol (e2), and Estrone (E3), each accounting for 10% of the remaining estrogen.

**Signs of estrogen deficiency** include:

1/ hot flashes, night sweats, dry eyes, vaginal dryness, sagging breasts and loss of breast fullness, mental fogginess, depression, changes in mood, decreased sense of sensuality and sexuality.

**Progesterone** is another female "sex" hormone, produced in the ovaries, that prepares the uterus for a fertilized egg.

**Its sudden withdrawal causes the uterus to shed its lining if pregnancy does not occur.**

**While Estrogen is high (during days 7-14 of the menstrual cycle), progesterone is at its lowest level.**

**Progesterone**: Its levels climb to **a peak between days 14 - 24**, and then dramatically drop off again just before the start of menstruation. Ideally, women should have five to ten times more progesterone than estrogen in the blood and 40 to 150 times in the saliva.

The lower the ratio of progesterone to estrogen, the higher the risk of health problems. Progesterone has the unique ability to change its structural form to become other hormones, allowing it to be converted and utilized by the body to the point of depletion.

It is also devoured by fungus overgrowth.

**Testosterone** is responsible for much more than defining sexual characteristics in men or influencing sex drive. Testosterone is essential for life since it helps to regulate basic metabolism. Testosterone also facilitates protein synthesis and the building of body tissues. Testosterone is produced by small groups of specialized cells within the testicles and is also secreted, to a lesser extent, by the ovaries. The production of testosterone is triggered by luteinizing hormone (LH), produced in the pituitary gland. In the absence of LH, testosterone production ceases. With age, blood levels of testosterone slowly decreases. Research conducted by the National Institute of Health has shown a 2% reduction per year from age 30 to age 70.

## **Indocrine System**

- **Pineal gland:** Cone-shaped gland at the base of the brain that secretes the hormone melatonin, which may help to synchronize biorhythms and mark the passage of time.
- **Pituitary gland:** A gland that signals other glands to put forth hormones. The pituitary also secretes growth hormone, and anti-diuretic hormone, prolactin, and oxytocin, a hormone which causes contractions of the uterus during labor.
- **Thyroid gland:** Produces the hormones thyroxin, triiodothyronine and calcitonin, which stimulate metabolism, body heat production and bone growth.
- **Parathyroid glands:** Endocrine glands whose hormones regulate the use and function of calcium and phosphorus in the body.
- **Pancreas:** The abdominal organ which secretes insulin and glucagon, which control the utilization of sugar, the body's chief source of energy.
- **Adrenal glands:** The adrenals are two small glands which sit on top of each kidney. They release hydrocortisone, which effects metabolism. They also produce androgens such as DHEA and aldosterone, which maintains blood pressure and the body's salt and potassium balance.
- **Ovaries:** Female glands which produce the hormones estrogen and progesterone, produce eggs in the ovaries and influence female characteristics.
- **Testes:** Male glands which secrete testosterone, which stimulates sperm production and development of male characteristics.

