

## Where Does it All Begin?

The changes we see around puberty are all first initiated by the brain. Specifically, it is the hypothalamus that communicates with the pituitary gland which will begin to release hormones that affect our whole body. The pituitary gland is responsible for releasing hormones that communicate with a woman's ovaries or a man's testicles.

## Female Anatomy & Physiology

The uterus is an upside-down pear shaped organ with a special lining called the endometrium. If conception occurs, the embryo will implant and develop in the endometrium. At the top of the uterus are two Fallopian tubes which extend on each side over one of our ovaries, which contain immature eggs. The neck of the uterus, just above a woman's vagina, is the cervix. The cervix is lined with mucosal glands that are hormone-dependent, creating a different type of fluid depending on the woman's hormonal blueprint on any given day. Below the cervix is the vagina, and the vagina is one of the two openings women have in the genital area (the other opening is the urethral opening where we release urine). The vagina is connected to the clitoris, a small mass of highly sensitive tissue on the outside of our vaginal opening.

## The Menstrual Cycle: A Hormonal Symphony

Did you know that the bleeding a woman experiences on her period is really the end of her previous cycle? A normal period lasts between 3 and 7 days, and the blood we see comes from the lining of the endometrium being shed, and the release is triggered by our hormone levels falling very low. The estrogen-dominant half of the cycle, the Pre-Ovulatory Phase, follows menstruation when Follicle Stimulating Hormone (FSH) is released from our pituitary gland and begins stimulating one of our ovaries to begin growing one of our immature eggs into a mature egg.

Next is the Ovulatory Phase, where Luteinizing Hormone (LH) causes the release of the egg which will then travel through the fallopian tube. The release of an egg—ovulation—is the main event of the cycle. The progesterone-dominant phase of the cycle that follows ovulation is called the Luteal Phase. In a healthy cycle, the Luteal Phase will be between 11 and 16 days. During the Luteal Phase, progesterone sustains the lining of the uterus, the endometrium, to prepare for possible pregnancy by making the lining thicker and adding nutrients to protect the developing life. If pregnancy does not occur, the corpus luteum begins to disintegrate and stops releasing progesterone. When progesterone levels fall, this triggers the onset of another menstruation and the whole cycle begins again.

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Male hormone levels



Men:



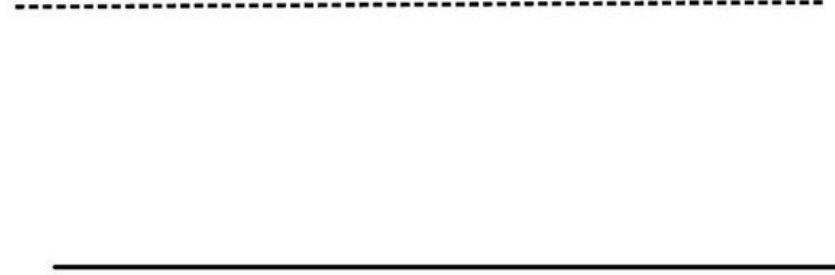
Women:



Key:

- Progesterone
- Estrogen
- LH
- FSH

Period



Ovulation



Day 1

Last day of cycle

Follicular Phase

Luteal Phase

Female hormone levels

# HORMONE GRAPH KEY

