



Women's Hormones: Bio-identical vs. Synthetic

What Are Hormones?

- Natural substances produced in the body to help relay messages between cells and organs affecting many bodily functions. Everyone has both "male" and "female" sex hormones.

Types of Female Hormones

- Two main types-*estrogen and progesterone*
- Testosterone, though generally thought of as a male sex hormone, is produced by women in small amounts.

Role of Estrogen

- Major female hormone produced in the ovaries with a small amount being produced in the adrenal glands, fat cells, and the placenta during pregnancy. Plays a major role in reproductive and sexual development, including:
 - Puberty
 - Menstruation
 - Pregnancy
 - Menopause

Estrogen Has An Affect On Several Organs:

- Brain
- Cardiovascular system
- Hair
- Musculoskeletal system
- Skin
- Urinary tract

Role of Progesterone

Ovaries produce the female sex hormone progesterone after ovulation as well as in the placenta during pregnancy.

- Prepare the lining of the uterus for a fertilized egg
- Support pregnancy
- Suppress estrogen production after ovulation

Role of Testosterone

Small amounts of testosterone come from the adrenal glands and ovaries. This hormone plays a role in several bodily functions, including:

- Sexual desire
- Regulation of the menstrual cycle
- Bone and muscle strength
- Brain and memory
- Energy
- Body Composition

Testing Hormone Levels

- All sex hormone levels can be determined with a simple blood test.

Hormone Roles Change Over Time

- Female sex hormones are integral to many body functions. Hormonal needs change a great deal entering puberty.
- They also change dramatically if you become pregnant, give birth, or breastfeed. They continue to change as you near menopause.

Sexual Desire & Contraception

- Estrogen, progesterone, and testosterone all play a role in female libido and sexual functioning. Hormonal fluctuations for females generally cause them to reach their peak of sexual desire just before ovulation.
- Less fluctuation in libido occur if you're using hormonal birth control methods or after menopause.
- Undergoing surgery to remove your adrenal glands or ovaries cuts down on testosterone production, which can cause a drop in your libido.

When Hormones Become Unbalanced

Your hormones will naturally fluctuate throughout your lifetime. This is usually due to expected changes such as:

- Puberty
- Pregnancy
- Breastfeeding
- Perimenopause
- Menopause
- Use of Hormonal contraception

Hormonal Imbalances Can Be The Sign Of Something More Serious

- Polycystic Ovary Syndrome (*PCOS*)
- Hirsutism
- Hypergonadism
- Miscarriage or Abnormal pregnancy
- Multiple pregnancy (*twins, triplets or more*)
- Ovarian tumor

Peri-menopause & Menopause

- During perimenopause, the period leading up to menopause, hormone production in your ovaries slows down. Estrogen levels begin to fluctuate while progesterone levels start a steady decline.
- As your hormone levels drop, your vagina may become less lubricated. Some people experience a decrease in their libido and their menstrual cycle becomes irregular.
- When you've gone 12 months without a period, you've reached menopause. By this time, both estrogen and progesterone are holding steady at low levels. This typically happens around age 50 but varies from person-to-person.
- Decreased hormones after menopause may increase your risk of conditions such as thinning bones, osteoporosis, and cardiovascular disease.

When To See A Doctor

- Decreased sexual desire
- Vaginal dryness or pain during sex
- Skipped periods or increasingly irregular cycles
- Difficulty conceiving
- Pelvic pain
- Hair-loss or hair growth on your face or trunk
- Prolonged menopause symptoms that interfere with your life

Advantages of Bio-identical Hormones

- They are exact copies of your natural hormones.
- Are more effective following the same biological pathways as your real hormone because they are the same as the hormones created naturally in your body. Your body cannot tell the difference, reducing side effects and significantly increasing the benefits.
- They have few or no side effects.
- Can be customized for each individual patient with a combination of hormones at the appropriate strength.
- Can be administered as a pellet placed under the skin or subcutaneous injection. This is called bio-identical hormone replacement therapy (BHRT).

Disadvantages of Synthetic Hormones

- Synthetic hormones usually derive from *natural* sources such as pregnant horse urine.
- They are not natural for humans.
- Scientists manipulate these hormones in a lab to mimic the biological paths a human hormone would take, but they lack the correct structure to offer the same benefits and more likely to be linked to significant risks, including some forms of cancer.

Bio-identical hormone replacement therapy restores optimum testosterone levels, relieving symptoms caused by low testosterone, leading to a multitude of benefits:

Benefits of Bio-identical Testosterone Replacement

- Increase sex drive (*libido*)
- Support a healthy heart
- Decreases risk of obesity
- Improves mood
- Rebuild weak muscles and lean muscle mass
- Strengthen your bones, reducing osteoporosis risk
- Feel energized, reduce stress, and regain mental capacity and memory
- Improved concentration, clears brain fog, and improves performance at work