

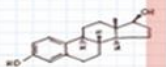
WHAT IS ESTROGEN?

- Estrogen is a sex hormone that's necessary for maintaining your sexual and reproductive health.
- One of two sex hormones usually linked with AFABs, including cisgender women, transgender guys, and nonbinary persons with vagina.

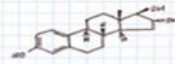
THREE MAJOR FORMS OF ESTROGEN

Estrogen

Estrone (E1)
 $C_{18}H_{22}O_2$



Estradiol (E2)
 $C_{18}H_{24}O_2$



Estriol (E3)
 $C_{18}H_{26}O_3$

- Estrone (E1) is the primary form of estrogen that your body makes after menopause.
- Estradiol (E2) is the primary form of estrogen in your body during your reproductive years. It's the most potent form of estrogen.
- Estriol (E3) is the primary form of estrogen during pregnancy.

- Estrogen, like all hormones, is a chemical messenger.
- The development of secondary sex characteristics (breasts, hips, etc.), menstruation, pregnancy and menopause are all possible, in part, because of estrogen.

WHAT IS TESTOSTERONE?

- Testosterone is a hormone that is produced primarily in the testicles for men and the ovaries and adrenal glands for women.
- It retains nitrogen and is an essential ingredient in the development and maintenance of muscle mass
- Testosterone has stimulatory effects on bones, muscles, erythropoietin, libido, mood and cognition centers in the brain, penile erection. Has two major effects on bones: (a) through conversion to estradiol by way of the enzyme, aromatase, testosterone inhibits osteoclastic activity and hence bone resorption; and (b) through conversion to DHT via 5- α -reductase, it stimulates osteoblastic activity and so enhances the laying down of bone

Klinefelter's Syndrome

WHAT IS KLINEFELTER'S SYNDROME?

- is a genetic condition that results when a boy is born with an extra copy of the X chromosome.
- Also a genetic condition affecting males, and it often isn't diagnosed until adulthood.
- Klinefelter syndrome is caused by an additional X chromosome
- Life expectancy for patients with Klinefelter syndrome is reduced by five to six years.
- Men with Klinefelter syndrome are more likely to have low self-esteem or shyness, which can complicate matters.
- Counselors and therapists can teach men practical skills that will help them feel more comfortable in social situations.
- Despite physical differences and other issues, men with Klinefelter syndrome can live a normal, healthy, and productive life with the right medical care, early intervention, and ongoing support.



• Disease Association

- Hypertension
- Autoimmune diseases
 - Rheumatoid Arthritis
 - Thyroid disease
 - Type I Diabetes
 - Lupus
- Type II Diabetes
- Hypertriglyceridemia
- Gynecomastia
 - breast growth in male
- Seizure disorders
- Breast cancer
- Learning disabilities
- Osteoporosis



LABORATORY WORK-UP AND DIAGNOSIS

Your doctor will almost certainly perform a thorough physical examination and ask detailed questions about your symptoms and health. Examining the genital area and chest, performing reflex tests, and assessing development and functioning are all possible.

The main tests used to diagnose Klinefelter syndrome are:

Physical examination

physical signs may help to screen for Klinefelter syndrome may include undescended testicles, as well as tall stature with long legs, short torso and broader hips and enlarged breast tissue (gynecomastia).

Hormone Testing

physical signs may help to screen for Klinefelter syndrome may include undescended testicles, as well as tall stature with long legs, short torso and broader hips and enlarged breast tissue (gynecomastia).

Chromosome Analysis

also called karyotype analysis, this test is used to confirm a diagnosis of Klinefelter syndrome. A blood sample is sent to the lab to check the shape and number of chromosomes. Diagnostic testing during pregnancy and after birth

Semen Examination

Prenatal screening or fetal cytogenetic analyses on chorionic villi or amniocytes.

Noninvasive prenatal tests (NIPT)

used to analyze cell-free fetal DNA circulating in maternal blood 47,XXY karyotype that may exhibit a variety of subtle, age-related clinical signs that would necessitate diagnostic testing.

Treatments:

Hormone replacement therapy (testosterone)

Surgery

Speech and physical therapy

-breast tissue removal

Psychological counseling

Fertility treatment

Educational evaluation and support (for children)

Examples: Elementary school-aged boys

Infants Older boys and adolescent males

Toddlers Adults

CLINCHEM2 PREFINAL PROJECT
GROUP 7 - BMLS10-3C
CUADRASAL
FABROS
MATILLOSA
UGNAY