

Physiology Assignment

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## 1. TESTOSTERONE

**Definition of testosterone:** It is the primary male sex hormone and anabolic steroid. It is found in humans as well as in other animals. The testicles primarily make testosterone in men.

Women's ovaries also make testosterone, though in smaller amounts. The production of testosterone starts to increase significantly during puberty. Testosterone is most often associated with sex drive and it plays a vital role in sperm production.

The most important role it plays include;

- The development of the penis and testis
- The deepening of the voice during puberty
- Muscle size and strength
- Sperm production
- The appearance of facial hair
- Testosterone may also help maintain normal mood

Adolescent boys with too little testosterone may not experience normal masculinization. For example, the genitals may not enlarge, facial and body hair may be scant and the voice may not deepen normally. Signals sent from the brain to the pituitary gland at the base of the brain control the production of testosterone in men. The pituitary gland then relays signals to the testes to produce testosterone. A "feedback loop" closely regulates the amount of hormone in the blood. When testosterone levels rise too high, the brain sends signals to the pituitary to reduce production. Testosterone is also produced in the ovaries and adrenal gland. It's one of several androgens (male sex hormones) in females. These hormones are thought to have important effects on:

- Ovarian function
- Bone strength
- Sexual behavior, including normal libido (although evidence is not conclusive)

## 2. SEMEN

**Definition of Semen:** Semen, also called seminal fluid, fluid that is emitted from the male reproductive tract and that contains sperm cells, which are capable of fertilizing the female eggs. Semen also contains other liquids, known as seminal plasma, which help to keep the sperm cells viable. People often use the terms interchangeably, but they aren't the same. "Semen is what's produced by the penis during ejaculation," F. Nicholas Shamma, M.D., a reproductive endocrinologist, infertility specialist, and founding member of IVF Michigan Fertility Center Tells. Sperm, which are included in semen, are the microscopic tadpole-shaped germ cells that are on a mission to fertilize an egg. They carry half the number of regular human chromosomes while eggs carry the other half so that a zygote will have a full set, says Shamma. If a sperm with an X chromosome fertilizes an egg, the zygote will be female, if the sperm carries a Y chromosome, it will be male.

Semen is typically whitish-gray in color with a jelly-like texture. This can vary slightly depending on a person's genes, diet, and overall health.

The substances primarily responsible for this color are produced by your prostate gland. This includes:

- Citric acid
- Acid Phosphatase

- Calcium
- Sodium
- Zinc
- Potassium
- Protein-splitting enzymes
- Fibrinolysin

Other components are derived from the seminal vesicles, the bulbourethral gland, and the urethral gland.

If a semen isn't healthy, it changes to other colors like Yellow, Brown, Orange, Pink, Red, Yellow, etc. The following are the reasons for the color change

- Yellow or Green: Diet
- Brown or Orange: Heavy metals
- Pink or Red: High Blood pressure
- Brown: Spinal cord injuries
- Pink or Red: Vigorous sex and masturbation
- Yellow: Leukocytospermia