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**Questions.**

**1.** Spermatogenesis

**2.** Testosterone

**3.** Semen

**4.** Male Orgasm

**5.** Male infertility

**Answers.**

**1. Spermatogenesis:** Spermatogenesis is the process by which haploid spermatozoa develop from germ cells in the seminiferous tubules of the testis. This process starts with the mitotic division of the stem cells located close to the basement membrane of the tubules. These cells are called spermatogonial stem cells. The mitotic division of these produces two types of cells. Type A cells replenish the stem cells, and type B cells differentiate into primary spermatocytes. The primary spermatocyte divides meiotically (Meiosis I) into two secondary spermatocytes; each secondary spermatocyte divides into two equal haploid spermatids by Meiosis II. The spermatids are transformed into spermatozoa (sperm) by the process of spermiogenesis. These develop into mature spermatozoa, also known as sperm cells. Thus, the primary spermatocyte gives rise to two cells, the secondary spermatocytes, and the two secondary spermatocytes by their subdivision produce four spermatozoa and four haploid cells

Spermatozoa are the mature male gametes in many sexually reproducing organisms. Thus, spermatogenesis is the male version of gametogenesis, of which the female equivalent is oogenesis. In mammals it occurs in the seminiferous tubules of the male testes in a stepwise fashion. Spermatogenesis is highly dependent upon optimal conditions for the process to occur correctly, and is essential for sexual reproduction. DNA methylation and histone modification have been implicated in the regulation of this process. It starts at puberty and usually continues uninterrupted until death, although a slight decrease can be discerned in the quantity of produced sperm with increase in age.

**2. Testosterone:** Testosterone is the primary male sex hormone and anabolic steroid.s In male humans, testosterone plays a key role in the development of male reproductive tissues such as testes and prostate, as well as promoting secondary sexual characteristics such as increased muscle and bone mass, and the growth of body hair. In addition, testosterone is involved in health and well-being, and the prevention of osteoporosis. Insufficient levels of testosterone in men may lead to abnormalities including frailty and bone loss.

**3.** **Semen:** Semen, also known as seminal fluid, is an organic fluid that contains spermatozoa. It is secreted by the gonads (sexual glands) and other sexual organs of male or hermaphroditic animals and can fertilize the female ovum. In humans, seminal fluid contains several components besides spermatozoa: proteolytic and other enzymes as well as fructose are elements of seminal fluid which promote the survival of spermatozoa, and provide a medium through which they can move or "swim". Semen is produced and originates from the seminal vesicle, which is located in the pelvis. The process that results in the discharge of semen is called *ejaculation*.

**4. Male Orgasm:** An orgasm is a sexual climax (or high point). An orgasm happens because of continued sexual touching. During an orgasm, there is a strong feeling of excitement and pleasure. Sexual touching may be sexual intercourse, rubbing or squeezing by hand (called masturbation), or other actions that make the sex organs feel good. During an orgasm, a person's body sometimes spasms (shakes or trembles), and the person may appear to be in pain or get a strange look on his or her face. The person's brain activity changes quickly. The parts of the brain responsible for fear, worry and self-control become less active. Many people moan, shout or say strange things during orgasm. Usually, people's minds focus almost completely on the pleasure of the orgasm, and become less aware of what is going on around them than usual. Orgasms may happen when people are asleep. When men orgasm while sleeping, it is often called a "wet dream".

**Male Orgasm.**

The penis usually becomes erect (hard) before an orgasm, and flaccid (soft) again after. When a man has an orgasm, his penis spasms and undergoes a series of rhythmic contractions, during which he feels a very strong and enjoyable feeling in his penis and groin, and sometimes in all of his body. In a man, an orgasm usually happens at the same time as an ejaculation, which is a release of semen through the penis that can't be stopped. Young boys can orgasm, but there may be no semen because semen release usually occurs only after puberty has started. After an orgasm, men usually have a deep sense of relaxation, usually felt in the groin and the thighs. Usually the stronger the orgasm, the deeper the relaxation and the longer the relaxation will last.

**5. Male infertility:** Male infertility refers to a male's inability to cause pregnancy in a fertile female. In humans it accounts for 40–50% of infertility. It affects approximately 7% of all men. Male infertility is commonly due to deficiencies in the semen, and semen quality is used as a surrogate measure of male fecundity.

**Causes**

* Immune infertility
* Klinefelter Syndrome
* Genetics
* Immune infertility
* Y chromosome deletions

**Prevention**

* Avoid smoking as it damages sperm DNA
* Avoiding smoking as it damages sperm DNA
* Avoiding heavy marijuana and alcohol use.
* Avoiding excessive heat to the testes.
* Maintaining optimal frequency of coital activity: sperm counts can be depressed by daily coital activity and sperm motility may be depressed by coital activity that takes place too infrequently (abstinence 10–14 days or more)
* Wearing a protective cup and jockstrap to protect the testicles, in any sport such as baseball, football, cricket, lacrosse, hockey, softball, paintball, rodeo, motorcross, wrestling, soccer, karate or other martial arts or any sport where a ball, foot, arm, knee or bat can come into contact with the groin.
* Diet: Healthy diets