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BIOMEDICAL ENGINEERING
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PHS 212

- ① Spermatogenesis: The origin and development of the sperm cells within the male reproductive organs, the testes. The testes are composed of numerous thin, tightly coiled tubules known as the seminiferous tubules; the sperm cells are produced within the walls of the tubules. Within the walls of the tubules also, are many randomly scattered cells, called Sertoli cells. That function to support and nourish the immature sperm cells by giving them nutrients and blood products. As the young germ cells grow, the Sertoli cells help to transport them from the outer surface of the seminiferous tubule to the central channel of the tubule.
- ② Testosterone: Testosterone is the primary male sex hormone and anabolic steroid. 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.
- ③ Semen: Semen, also known as seminal fluid, is an organic fluid which 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: The typical result of a male orgasm is ejaculation of sperm through muscle contractions. Although it seems simple enough, the male orgasm is actually a complex process. Men achieve orgasm through a series of steps involving a number of organs, hormones, blood vessels, and nerves working together. The typical result is ejaculation of fluid that may contain sperm through strong muscle contractions.

⑤ Male Infertility :- refers to 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.