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**SEMEN**

Semen, also called seminal fluid, that is emitted from the male reproductive tract and that contains sperm cells, which are capable of fertilizing the egg. Semen also contains other liquids, known as seminal plasma, which helps to keep the sperm cells viable. In the sexually mature human male, sperm cells are produced by the testes, they constitute only about 2 to 5 percent of the total semen volume. As sperm travel through the male reproductive tract, they are bathed in fluids produced and secreted by the various tubules and glands of the reproductive system. After emerging from the testes, sperm are stored in the epididymis, in which secretions of potassium, sodium, and glycerylphosphorycholine ( an energy source for sperm) are contributed to the sperm cells. Sperm mature in the epididymis. They then pass through a long tube, called the ductus deferens, or vas deferens, to another storage area, the ampulla secretes a yellowish fluid, ergothioneine, a substance that reduces chemical compounds, and the ampulla also secretes fructose, a sugar that nourishes the sperm. During the process of ejaculation, liquids from the prostate gland and seminal vesicle are added, which help dilute the concentration of sperm and provide a suitable environment for them. Fluids contributed by the seminal vesicle are approximately 60% of the total semen volume; the fluids contains fructose, amino acids, citric acids, phosphorous, potassium and hormones known as prostaglandins. The prostate gland contributes about 30% of the seminal fluid; mainly citric acid, acid phosphatase, calcium, sodium, zinc, potassium, protein-splitting enzymes, and fibrolysin. A small amount of fluid is secreted by the bulbourethral and urethral glands; this is a thick, clear, lubricating protein commonly known as mucus.

Essential to sperm motility are small quantities of potassium and magnesium, the presence of adequate amounts of oxygen in the plasma, proper temperature, and a slightly alkaline pH of 7 to 7.5. Sulfate chemicals in semen help prevent the sperm cells from swelling; and fructose is the main nutrient to sperm cells. The total volume of semen for each ejaculation of a human male averages between 2 and 5ml. In human being each ejaculation contains normally 200 to 300 million sperm. Semen frequently contains degenerated cells sloughed off from the network of tubules and ducts through which the semen has passed.

**MALE ORGASM**

The male orgasm is a complex system involving multiple hormones, organs, and nerve pathways. The hormone testosterone, produced in the testicles, plays a central role by enhancing the sexual desire (libido) that leads to arousal, erection, and ultimately orgasm. By contrast, low testosterone not only decreases a man’s energy and mood, it makes him less responsive to sexual stimuli, both physical and mental. The male ejaculate, semen, is comprised of sperm cells and seminal fluid, the latter of which contains phosphorylcholine and fructose. The average volume of semen expelled by a healthy man is around a teaspoon

The route to ejaculation in men is actually delineated by 4 distinct phases, of which orgasm is the third. While the duration and intensity of these phases can vary, the experience will proceed in a strictly specific way.

* **Arousal**: Arousal is the stage in which physical, sensory, and emotional cues prompt the brain to release a neurotransmitter known as acetylcholine, This, in turn, triggers the release of nitric oxide into the arteries of the penis, causing them to expand and rapidly fill with blood. The resulting erection is generally accompanied by changes in respiration, increased overall muscle tension, and the retraction of the scrotal sac
* **Plateau**: The phase immediately preceding orgasm in which the voluntary thrusts of the body, specifically the pelvis, suddenly become involuntary, increasing both in intensity and speed. It is at this stage that the heart rate increases to between 150 and 175 beats per minute, accompanied by a marked rise in blood pressure and body temperature. Traces of seminal fluid may leak from the urethra. The release of pre-ejaculatory fluid is more than just incidental; it alters the pH of the urethra so that the sperm has a better chance of survival. The plateau phase lasts between 30 seconds and 2 minutes
* **Orgasm**: The orgasm itself occurs in two phases, emission and ejaculation. In emission, the man reaches ejaculatory inevitability, the ‘point of no return’. Semen is deposited near the top of the urethra, ready for ejaculation. Ejaculation occurs in a series of rapid-fire contractions of the penile muscles and around the base of the anus. Involuntary pelvic thrusting may also occur. The nerves causing the muscle contractions send messages of pleasure to the man’s brain.
* **Resolution and refraction**: Resolution is the phase following orgasm where the penis starts to lose its erection. This is often accompanied by feelings of extreme relaxation or even drowsiness. Refraction, also known as the refractory period, is the stage following climax when a man is unable to achieve another erection even with stimulation. In younger men, the refractory period maybe as short as 15 minutes. In older men, it may last as long as an entire day

**Male orgasm disorders**

Orgasm disorders differ from ejaculation disorders in that the latter refers to the actual emission of semen. Common ejaculation disorders include premature ejaculation, retrograde ejaculation ( in which semen is redirected to the bladder) and anejaculation (inability to ejaculate). Retrograde ejaculation should not be confused with dry orgasm, a condition in which very little semen is expelled during climax. Also known as orgasmic anejaculation, dry orgasm commonly occurs after bladder or prostate surgery, or as a result of low testosterone, sperm duct blockage, high blood pressure, or an enlarged prostate.

By contrast, anorgasmia is a condition in which a man is unable to achieve orgasm. It maybe caused by psychological problems, such as stress, trauma, and performance anxiety, or physical ones, such as diabetes, hypertension, and hypogonadism (low testosterone). Prostate surgery (prostatectomy) is also common cause, as are certain medications such as selective serotonin reuptake inhibitors (SSRIs) used to treat depression.

The treatment of anorgasmia depends on the underlying cause and may include psychotherapy, a change of medications, a dopamine promoter that can alter the hormonal response in men with anorgasmia. Unfortunately, erectile dysfunction drugs like Viagra (sildenafil) Cialis (tadalafil) cannot treat orgasm problems, as their only function is to increase blood flow to the penis. They do not enhance libido amd typically fail to work in the absence of sexual stimulation.

On the other hand, some men are able to enhance both an erection and orgasm with digital prostate massage. This is a technique in which a finger is inserted into the rectum prior to and/or during sex to manually stimulate the prostate gland. Location on the front wall of the rectum, the walnut-sized gland is considered by some to be the male G-spot