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**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.

With that being said, a man often only requires physical stimulation to achieve arousal, while women typically need physical and mental stimulation to achieve the same.

Men differ from women in that their orgasms—the climax of the sexual response—come on faster and are shorter than women's. By and large, the male orgasm will last for five to 10 seconds. Women will last 10 to 15 seconds on average, although some have reported orgasms that last as long as a minute (a virtual impossibility for men).

The male ejaculate, semen, is comprised of sperm cells and seminal fluid, the latter of which contains phosphorylcholine (an enzyme that aids in fertility) and fructose (which provides fuel for sperm). The average volume of semen expelled by a healthy man is around a teaspoon.

4 Phases of the Male Orgasm

The route to ejaculation in men is actually delineated by four 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.

The model was first outlined by William Masters and Virginia Johnson in their 1966 book, Human Sexual Response.

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

Plateau is 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.2﻿ 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 ("pre-cum") 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.

All told, the plateau phase lasts between 30 seconds and two minutes.

Orgasm

The orgasm phase is divided into two parts. The first, known as emission, is the stage where ejaculation is inevitable. This is immediately followed by the second stage, ejaculation, in which strong contractions of the penile muscle, anus, and perineal muscles help propel the semen from the body.4﻿

During orgasm, the reward center of the brain (specifically the cerebellum, amygdala, nucleus accumbens, and ventral tegmental area) is flooded with neurochemicals, inciting the intense emotional response associated with an orgasm.

At the same time, the lateral orbitofrontal cortex located behind the left eye shuts down entirely. This is the part of the brain that plays a central role in judgment and self-control. The effect explains why people often describe an orgasm as a state where "nothing else matters."

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 may be as short as 15 minutes. In older men, it may last as long as an entire day.

**SEMEN**

Semen is a greyish white bodily fluid that is secreted by the gonads of male animals. It carries sperm or the spermatozoa and fructose and other enzymes that help the sperm to survive to facilitate successful fertilization.

The whitish opalescence is due to the large amount of protein that it contains and its slightly turbid appearance is due to the spermatozoacontained within it.

The semen travels through the ejaculatory ducts and mixes with fluids from the seminal vesicles, the prostrate, and the bulbourethral glands.

The seminal vesicles produce a viscous, fructose-rich fluid forming around 65-70% of the semen base.

The white color of the semen is due to secretion from the prostate glands containing enzymes, citric acid, lipids, and acid phosphatase. This forms around 25-30% of the semen base.

At each ejaculation around 200-500 million sperms are released by the testes. This forms about 2-5% of the semen composition.

Apart from these, the bulbourethral glands produce a clear secretion. This helps in mobility of the sperm cells in the vagina and cervix. The glands’ secretion contribute less than 1% to the overall semen composition.

The semen comprises of:

fructose

ascorbic acid

zinc

cholesterol

protein

calcium

chlorine

blood group antigens

citric acid

DNA

Magnesium

vitamin B12

phosphorus

sodium

potassium

uric acid

lactic acid

nitrogen

other nutrients

Semen per ejaculation

Ejaculation is a complex process and the compositions of the final semen come together in the posterior urethra and only become mixed after ejaculation is complete.

The volume of semen released per ejaculate varies. Approximately an average around 3.4 milliliters is ejaculated at one time. It can be as high as 4.99 milliliters or as low as 2.3 milliliters.

If there is a prolonged gap between ejaculations, the number of sperm in the semen increases but there is no overall increase in the semen.