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**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. **Spermatogenesis is** 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 cell, 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. Sperm cells are continually being produced by the testes, but not all areas of the seminiferous tubules produce sperm cells at the same time. One immature germ cell takes as long as 74 days to reach final maturation, and during this growth process there are [intermittent](https://www.merriam-webster.com/dictionary/intermittent) resting phases.

The immature cells (called spermatogonia) are all derived from cells called stem cells in the outer wall of the seminiferous tubules. The stem cells are composed almost entirely of nuclear material. (The nucleus of the cell is the portion containing the chromosomes.) The stem cells begin their process by multiplying in the process of cell duplication known as mitosis. Half of the new cells from this initial crop go on to become the future sperm cells, and the other half remain as stem cells so that there is a constant source of additional germ cells. Spermatogonia destined to develop into mature sperm cells are known as primary sperm cells. These move from the outer portion of the seminiferous tubule to a more central location and attach themselves around the Sertoli cells. The primary sperm cells then develop somewhat by increasing the amount of cytoplasm (substances outside of the nucleus) and structures called organelles within the cytoplasm. After a resting phase the primary cells divide into a form called a secondary sperm cell. During this [cell division](https://www.britannica.com/science/cell-division) there is a splitting of the nuclear material. In the nucleus of the primary sperm cells there are 46 chromosomes; in each of the secondary sperm cells there are only 23 chromosomes, as there are in the egg. When the egg and sperm combine and their chromosomes unite, the characteristics of both individuals blend and the new organism starts to grow.

The secondary sperm cell still must mature before it can fertilize an egg; maturation entails certain changes in the shape and form of the sperm cell. The nuclear material becomes more condensed and oval in shape; this area develops as the head of the sperm. The head is covered partially by a cap, called the acrosome, which is important in helping the sperm to gain entry into the egg. Attached to the opposite end of the head is the tailpiece. The tail is derived from the secondary sperm cell’s cytoplasm. In the mature sperm, it consists of a long, slender bundle of filaments that propel the sperm by their undulating movement. Once the sperm has matured, it is transported through the long seminiferous tubules and stored in the [epididymis](https://www.britannica.com/science/epididyme) of the testes until it is ready to leave the male body.

**MALE ORGASM**

Orgasm is the sudden discharge of accumulated sexual excitement during the [sexual response cycle](/wiki/Human_sexual_response_cycle%22%20%5Co%20%22Human%20sexual%20response%20cycle), resulting in rhythmic [muscular contractions](/wiki/Muscle_contraction%22%20%5Co%20%22Muscle%20contraction) in the [pelvic](/wiki/Human_pelvis%22%20%5Co%20%22Human%20pelvis) region characterized by sexual pleasure.

The male orgasm is a complex experience. The major function of the male orgasm is to ejaculate sperm, although not all men will ejaculate during an orgasm. Beyond delivering pleasure, the role of the female orgasm is less clear, although it may help move the sperm closer toward the ovum (egg).

Ejaculation is the discharge of [semen](/wiki/Semen%22%20%5Co%20%22Semen) (normally containing [sperm](/wiki/Sperm%22%20%5Co%20%22Sperm)) from the [male reproductory tract](/wiki/Male_reproductive_system%22%20%5Co%20%22Male%20reproductive%20system)as a result of an [orgasm](/wiki/Orgasm%22%20%5Co%20%22Orgasm). It is the final stage and natural objective of male [sexual stimulation](/wiki/Sexual_stimulation%22%20%5Co%20%22Sexual%20stimulation), and an essential component of natural [conception](/wiki/Fertilisation%22%20%5Co%20%22Fertilisation). In rare cases, ejaculation occurs because of [prostatic](/wiki/Prostate%22%20%5Co%20%22Prostate) disease. Ejaculation may also occur simultaneously during [sleep](/wiki/Sleep%22%20%5Co%20%22Sleep) (a [nocturnal emission](/wiki/Nocturnal_emission%22%20%5Co%20%22Nocturnal%20emission) or "wet dream"). [Anejaculation](/wiki/Anejaculation%22%20%5Co%20%22Anejaculation) is the condition of being unable to ejaculate. Ejaculation is usually very pleasurable for men; [Dysejaculation](/wiki/Painful_ejaculation%22%20%5Co%20%22Painful%20ejaculation) is an ejaculation that is painful or uncomfortable.

**Types of male orgasm**

## Ejaculatory or ‘standard’ orgasm

The ejaculatory orgasm can happen during both sex and masturbation, and is essentially the bog-standard climax that most men know and love. But have you ever wondered what actually happens in the penis when a man comes? When a man is stimulated physically or psychologically, he gets an erection. Blood flows into the corpora (the spongy tissue running the length of the penis) causing the penis to grow in size and become rigid. The testicles are drawn up toward the body as the scrotum tightens.

Semen – a mixture of sperm (5%) and fluid (95%) – is forced into the urethra by a series of contractions of the pelvic floor muscles and prostate gland and then leaves the penis in a process called ejaculation.’

## Blended Orgasm or whole body orgasm

A blended orgasm is essentially when you climax while several areas of your body are being stimulated simultaneously. They can occur when you’re in the middle of fast-paced sex, or when you’re slowly building up to the main event. This is a great way to get loads of erogenous zones lighting up all at once.

## Wet Dream orgasm

There is a myth that wet dreams only happen to teenage boys during puberty. While this is usually the case, adults – both women and men – can have them too. The dream does not need to be erotic for this to happen (only 8% of dreams feature sexual content) so don’t be alarmed if you wake up in a small puddle of sperm after having a dream about running through a field, dressed as a flamingo.

## Multiple Orgasms

There are two types of multiple orgasms and not all men have had them. The first version is where you climax, take a break (to hydrate, most likely) and then do it again. However, if your tank is dry, you might find that you orgasm without a release of semen, which is completely normal. The second variation is the holy grail of orgasms, as they just keep on coming with no resting period required.

The refactory period (resting period) when the male body recovers post-orgasm, this time lapse increases as men get older and enjoy the extra oxytocin (known as the love hormone, it is secreted during sex) flooding the brain.

## Pelvic orgasm

To achieve a pelvic orgasm, you’ll need to work for it. This can be done through a method known as edging, where you bring yourself to the, well, edge and then stop. The aim is two-fold; to gain better control of your orgasms and to increase the intensity for when you finally do decide to let go.

## Prostate orgasm

Both men and women have a G-spot that can be stimulated for extra pleasure. The male G-spot is the prostate gland. This pleasurable point is a small walnut-sized gland that is accessed through the anus.

**The male orgasm**:Steps to orgasm

The steps that lead a man to successful orgasm include:

1. ****Arousal**:** The man perceives something or someone that prompts sexual interest. That perception prompts the brain to send a signal down the spinal cord to the sex organs, causing an erection. The penis becomes erect when blood fills spongy tissue inside its shaft, brought by arteries that have expanded to allow blood to race in at up to 50 times its normal speed. The veins in the penis that normally drain blood out squeeze shut so that more blood remains inside, producing a firm erection. The scrotum pulls toward the body, and muscles throughout the body increase in tension.
2. ****Plateau**:**The male body prepares for orgasm in this phase, which can last from 30 seconds to 2 minutes. Muscle tension increases even more and involuntary body movements, particularly in the pelvis, begin to take over. The man's heart rate increases to between 150 and 175 beats per minute. A clear fluid may begin to flow from the urethra. This pre-ejaculatory fluid is meant to change the pH balance of the urethra, to improve the chances of sperm survival.
3. ****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**After ejaculation, the penis begins to lose its erection. About half of the erection is lost immediately, and the rest fades soon after. Muscle tension fades, and the man may feel relaxed or drowsy. Men usually must undergo a refractory period, or recovery phase, during which they cannot achieve another erection. This period is variable in men. In an 18-year-old, this is typically less than 15 minutes. In elderly men, it can be up to 10 to 20 hours. The average refractory period is about half an hour. Men differ from women in that men usually are satiated after one orgasm. Women can experience more than one orgasm with no loss of sexual arousal, and do not have to undergo a refractory period.

## ****Male Orgasm**: When There's a Problem**

Some men can have problems reaching orgasm. These most often stem from psychological factors; for example, they are still affected by a traumatic event or a restrictive upbringing, or they have fallen into [masturbation](//www.everydayhealth.com/sexual-health/masturbation.aspx) patterns that could have conditioned the body to take longer to orgasm. However, the problem also can be caused by certain medications or by a neurological or cardiovascular disease, or by having surgery where nerves are cut.