HEALTHY MALE
ANDROLOGY AUSTRALIA

Male reproductive & sexual health

A User's Guide

Good health is vital for a happy and full life. But as life gets busy, sometimes it's easy to overlook what's happening in your body.

Reproductive and sexual health plays a key role in your wellbeing. Knowing more about your body, how it works, and the conditions that can affect you is the first step to a healthier life.

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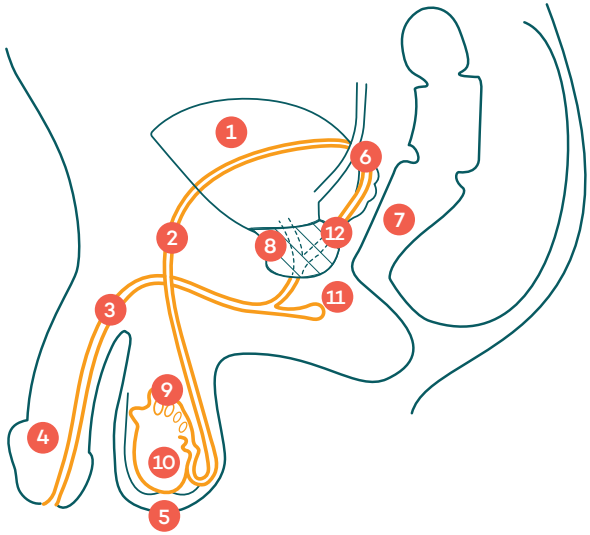
The male reproductive system

The male reproductive system is made up of many individual organs acting together. Some are visible, such as the penis and the scrotum. Some are hidden inside your body. The brain also has an important role in controlling your reproductive function.



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Penis

The penis is made up of two erectile cylinders (corpora cavernosa) that swell with blood during erection. A tough, fibrous, partially elastic outer casing surrounds the two cylinders. Your urethra sits below the two cylinders and is surrounded by a spongy tissue (called the corpus spongiosum). If you're uncircumcised, the head of the penis (glans penis) is covered by foreskin.

Urethra

The urethra (you-ree-thrah) is a tube that runs from your bladder to the end of the penis. It carries urine and semen from your bladder to the outside of your body.

Scrotum

The scrotum is a loose pouch of skin that hangs outside your body from your lower abdominal region behind the penis. Your scrotum holds your testicles in place, and helps to keep them cooler than your core body temperature.

Testicles

The testes, or testicles, are a pair of egg shaped glands that sit in your scrotum, next to the base of the penis on the outside of the body. You need testicles for your reproductive system to work normally.

The testicles have two related, but separate roles:

- To make sperm
- To make testosterone.

The testicles develop inside the abdomen when you're an unborn baby. They then move down (descend) into your scrotum before or just after birth. The descent of your testicles is important for your fertility, because your testicles need to be in a cooler temperature to make sperm and to work normally. In the scrotum, testicles are about 2°C cooler than normal core body temperature.

This is why, in cold weather, the scrotum contracts and brings the testicles closer to the body, and relaxes in hotter weather.

Epididymis

Your epididymis (ep-ee-did-ee-miss) is a thin, coiled tube that lies at the back of each testicle and connects the testicle to another single tube, called the vas deferens.

Vas deferens

The vas deferens (vaas def-er-ens) is a muscular tube, about 30 cm long, that connects the epididymis to the urinary tract (urethra) at the back of the bladder. The main job of the vas deferens is to transport mature sperm and semen to the urethra.

Ejaculatory duct

The ejaculatory duct is a tube that joins the vas deferens and the seminal vesicle. The ejaculatory duct empties mature sperm and semen into the urethra.

Seminal vesicles

The seminal vesicles (sem-in-al vess-ick-ells) are two small glands that sit directly above your prostate gland, near the base of your bladder. These glands are very active, and create a fluid that makes up more than half of your semen.

Prostate

The prostate is a small but important gland. The main role of your prostate is to make fluid that protects and gives nutrients to sperm. Your prostate makes about one third of the fluid that is ejaculated from the penis when you orgasm.

Cowper's glands

Cowper's glands are a pair of pea-sized glands that sit near your prostate. These glands produce clear mucus that's released before ejaculation to neutralise any urine that might be left in your urethra. This fluid also acts as a lubricant.

Bladder

The bladder is a muscular sac that stores urine. The bladder receives urine from the kidneys. When the bladder is full, urine is released into the urethra, the tube that carries the urine out of the body.

Rectum

The rectum is the final 20 cm strip of the large intestine. Bowel motions (faeces) are stored in the rectum before being passed out during a bowel movement.

Sperm

Sperm are male reproductive cells that contain the father's genetic information (DNA) that will be passed on to his children. Each sperm takes about three months to mature. Mature sperm have a tail, allowing them to move inside the female reproductive tract to meet the egg (female reproductive cell).

Semen

Semen is the fluid that transports the sperm during ejaculation. During an orgasm, sperm are released from the epididymis, and are mixed with fluid released by the prostate gland and the seminal vesicles. This creates semen. The semen fluid protects and provides nutrients to the sperm.

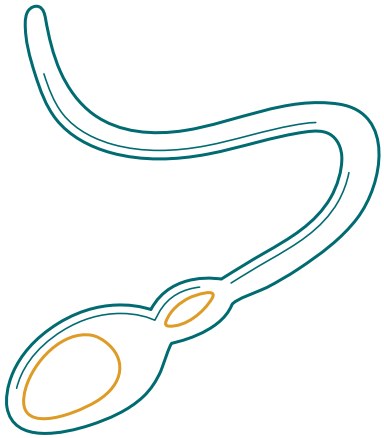
DID YOU KNOW?

Every day your body makes around 70 million sperm!

The sperm's journey

When released from the testicles, the sperm spend two to 10 days passing through the epididymis that lies at the back of each testicle. At orgasm (sexual climax), waves of muscle contractions transport the sperm, with a small amount of fluid, from the epididymis through the vas deferens (the tube that connects the vas deferens to the urethra) to the seminal vesicles, and then to the ejaculatory ducts in the prostate.

During this journey, fluid is added to the sperm to make semen. The semen, containing the sperm, is released from the ejaculatory ducts into the urethra, which carries the sperm out of the tip of the penis.



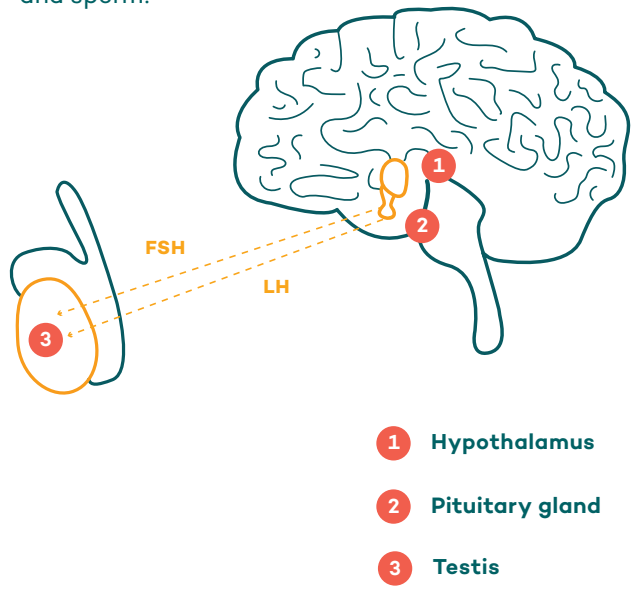
Male hormones

The brain also plays an important part in the functioning of your reproductive system.

The pituitary gland and the hypothalamus, located at the base of your brain, control the production of your male hormones and sperm.

The hypothalamus makes gonadotropin-releasing hormone (GnRH), which controls the release of other hormones from your pituitary gland.

The pituitary gland makes two important 'messenger' hormones, the luteinising hormone (LH) and the follicle stimulating hormone (FSH). These hormones travel in the blood to the testicles and signal them to make testosterone and sperm.



What are hormones?

Hormones are chemical messengers made by glands in your body, which are carried in your blood to act on other organs in the body. You need hormones for growth, reproduction and well-being.

What are androgens?

Androgens are male sex hormones that increase at puberty. You need them to develop into a sexually mature adult who can reproduce.

What is testosterone?

Testosterone is the most important androgen (male sex hormone). You need it to have normal reproductive and sexual function. Testosterone is important for the physical changes that happen during puberty, such as the development of the penis, testicles, facial and body hair, and muscle growth. Testosterone acts on cells in your testicles to make sperm. Testosterone is also important for overall good health. It helps the growth of bones, and affects your mood and sex drive. Some testosterone is changed into oestrogen, the female sex hormone, and this is important for your bone health.

Where is testosterone made?

Testosterone is mainly made in your testicles. A small amount of testosterone is also made by your adrenal glands, which are small glands that sit on top of your kidneys.

What happens to testosterone in the blood?

As testosterone moves through your body in your blood, it's changed or metabolised into other sex hormones, oestradiol and dihydrotestosterone (DHT). Oestradiol, known as the female sex hormone, is also important for your bone health and for preventing osteoporosis. DHT is a powerful androgen that's made from testosterone in some parts of your body, such as your skin and prostate.

How do testosterone levels change over the day?

The levels of testosterone in your blood change across the day. Your testosterone is at its highest early in the morning, and at its lowest late in the evening. This pattern across the day is called a 'circadian rhythm' and happens normally in many of your body's hormonal systems.

Common conditions that men may face

Infertility

Often, men can be shocked to be told that they're the reason why they and their partner are having problems conceiving. But, in fact, about one in 20 men in Australia are infertile.

Male infertility can have many causes, but problems with the number, or quality, of sperm are the most common. Sometimes treatment can restore natural fertility. But often doctors can't find a reason for sperm not being made properly, which can make coping with male infertility difficult. Fertility specialists can treat some male infertility problems using assisted reproductive treatment. For men without sperm, couples may consider donor sperm, adoption or foster parenting.

Prostate enlargement

Most common in older men, about one in seven Australian men over 40 years of age have problems with their prostate.

The most common prostate disease is a non-cancerous enlargement of the prostate called benign prostatic hyperplasia (BPH). While not usually life-threatening, for some men BPH can have a major effect on quality of life because of problems with urination.

Medicines, and sometimes surgery, can help the symptoms of prostate disease. However, not all urination problems are caused by the prostate, so it's important to see your doctor to find the cause.

Prostate cancer

Each year, about 20,000 Australian men are told they have prostate cancer. Prostate cancer often causes no symptoms, so as men get older, it's a good idea to talk to a doctor about tests. Common tests for prostate cancer include the prostate specific antigen (PSA) blood test, or specialist referral for a digital rectal examination, ultrasound or MRI scans, and prostate biopsy.

There's much debate about the PSA test, so talk it over with a doctor to see if it is appropriate for you and to make sure you understand all the benefits and risks of testing.

Early prostate cancer can be treated with surgery, radiation therapy or active surveillance.

Erectile dysfunction

Sexual problems in men are more common than you might think. About one in five Australian men over the age of 40 have problems getting or keeping an erection (erectile dysfunction or impotence). In some cases, erectile dysfunction is a sign of a serious health problem such as diabetes or heart disease.

There are many treatments for erectile dysfunction, including medicines, but talking to your partner and your doctor is the most important first step. Even if the cause of erectile dysfunction is a physical one, getting some counselling or emotional support is an important part of treatment.

Androgen (testosterone) deficiency

Lower energy levels, mood swings, bad temper (irritability), poor concentration, reduced muscle strength or a lack of interest in sex can be a sign of androgen deficiency (low testosterone levels). About one in 200 men in Australia have androgen deficiency, but not all are diagnosed.

Androgen (testosterone) deficiency affects men of all ages and can be caused by a genetic or medical problem, or by damage to the testicles. In some men, testosterone levels fall with older age mostly often due to illness or weight gain.

Androgen deficiency is diagnosed by a doctor such as your GP, or by a specialist (usually an endocrinologist). Testosterone treatment can be given by a doctor in the form of injections, capsules, creams or gels.

Testicular cancer

Testicular cancer is the second most common cancer in men aged from 18 to 39, with about 700 Australian men diagnosed each year. But it's easy to treat and more than 95 per cent of men are cured.

A hard, painless lump in the testicle is the most common symptom, but the testicle may also feel painful and tender. In a few men, constant backache, coughing or breathlessness, and enlarged or tender nipples can mean the cancer has spread to other parts of the body. Surgical removal of the cancerous testicle is the first treatment for all testicular cancer. This surgery almost never affects sexual performance.

It is important to consider sperm banking before starting treatment for testicular cancer.

How to find out more

The most important step is to see your doctor.

If you would like more information about a range of male reproductive and sexual health issues, visit the Healthy Male website at healthymale.org.au.

You can also download or order resources on male reproductive and sexual health issues from the Healthy Male website.

Healthy Male is supported by funding from the Australian Government Department of Health.

Australian Government
Department of Health

Date Reviewed: November 2018 (2nd edition)

For more information, go to healthymale.org.au