
Testicle injuries and conditions

Summary

- If you injure your testicles (during sport, for example), always seek urgent medical advice.
 - Perform testicular self-examination (TSE) regularly.
 - See your doctor if you experience any pain or unusual symptoms, or if you find a lump or swelling.
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There are various non-cancerous conditions that can affect the testicles. The testicles are also prone to injury because they are not protected by muscle or bone. It is important to seek prompt medical attention for any testicular complaint.

Testicle anatomy

Testicles are also known as testes (one is a testis) or 'balls'. They are two small, oval-shaped male sex glands that produce sex hormones and sperm. Each testicle is housed in a fibrous outer covering called the tunica albuginea, which is contained within a sac of skin called the scrotum.

Sperm production needs a temperature that is around 2 °C lower than the body, which is why the testicles are located outside the body in the scrotum.

Testicular torsion

The spermatic cord attaches the testicle to the body. Testicular torsion occurs when the spermatic cord twists and cuts off the blood supply to the testicle. This condition can occur at any age, but tends to be more common between the onset of puberty and the mid-20s. It requires urgent medical attention.

Hard physical activity can cause this twisting of the cord. In most cases, however, it is caused by abnormalities in a male's anatomy (body structure and organs) that make it easier for the testicle to twist or rotate around the cord.

Symptoms of testicular torsion

Symptoms of testicular torsion include:

- severe pain
- scrotal swelling
- nausea and vomiting.

These symptoms can often be confused with an infection of the testicles. An infection should not be considered until torsion has been ruled out.

Urgent medical attention is needed to save the testicle when torsion is diagnosed. Surgery must untwist the spermatic cord and restore blood flow to the testicle. A doctor uses physical examination and ultrasound scans to make the diagnosis. Sometimes, a doctor can only make a conclusive diagnosis at the time of surgical exploration.

The survival rate of the affected testicle is poor unless surgery is performed within four to six hours of the injury. Unnecessary investigations should not take place if torsion is suspected, as delays to surgery can affect the viability of the testis. If the blood supply has been disrupted for too long, the testis may not be viable or salvageable, and may need to be removed.

In many cases, the surgeon will also secure the spermatic cord on the unaffected side, to prevent future torsion of the other testicle. If the torqued (twisted) testicle has to be removed, then a surgeon can put a prosthesis or silicone testis into the scrotum for cosmetic reasons (usually at a later date).

Torsion of the appendix testicle

The appendix testicle is a small tissue structure located at the upper third of the testicle. It doesn't appear to have any particular function. Torsion of the appendix testicle means that the structure has twisted and cut off its blood supply.

This condition is easily confused with testicular torsion because the symptoms are so similar. However, the onset of pain is slower and the condition often presents with a noticeable blue dot on the surface of the scrotum. This blue dot is the darkened appendix testicle. Surgery is needed to correct the problem, but the testicle is not at risk.

Testicular cancer

Testicular cancer is an abnormal growth or tumour that appears as a hard and usually painless lump in either testicle. In most cases, testicular cancer can be cured if the person seeks medical treatment early. Surgical removal of the affected testicle (orchidectomy) is usually the first treatment for all testicular cancer.

Other testicular conditions

Other conditions that can affect the testicles include:

- **epididymitis** – the epididymis is a collection of small tubes located at the back of each testicle. It collects and stores sperm. Epididymitis is infection and inflammation of these tubes. Causes include urinary tract infections and sexually transmissible infections (STIs). Treatment is usually antibiotics
- **epididymo-orchitis** – this is infection of the epididymis, testicle or both, causing inflammation and pain. Treatment is usually antibiotics
- **varicocele or varicose veins** – 10 to 15 per cent of men have a varicocele, occurring where veins draw blood from the testicle. When a man stands up, blood in the veins has to move against gravity to return to the heart. Valves in the veins help this process. If the valves don't work, blood pools in the veins. This swells the veins and gives the appearance of 'varicose veins'. Varicoceles usually don't need treatment, unless the varicocele is severe enough to cause discomfort or impair fertility. The links between varicocele and infertility are not fully understood and research is ongoing. Treatment may include surgery or radiological techniques that can block the affected testicular veins, and redirect the blood flow into unaffected veins
- **haematocele** – this is a blood clot caused by trauma or injury to the testicles or scrotum. In some cases, the body is able to reabsorb the blood. If not, the person will need surgery to remove the clot
- **hydrocele** – this is an abnormal build-up of fluid that causes the affected testicle to swell. In some cases, the body can reabsorb the fluid. Even though the condition is painless, the hydrocele may become so large that the person will need surgery to remove it
- **spermatocele** – this is an abnormal build-up of sperm-filled fluid next to the epididymis, which feels like a separate lump on the testicle. This is harmless, but can be removed surgically if it becomes large or bothersome. It is more common after a vasectomy
- **undescended testicles** – either one or both testicles are missing from the scrotum and are lodged inside the lower abdomen. Premature and low-weight newborn boys are most prone to undescended testicles. This condition is a known risk factor for testicular cancer and strongly related to infertility. Unless the testicle is brought down into the scrotum by 12 months of age, there is a high risk of damage to sperm production in later life.

Trauma to the testicles

Testicles are easily injured because they are not protected by muscle or bone. The main types of possible injuries include:

- penetrating (for example, a bite or stab wound)
- impact from a moving object (for example, a kick to the testicles)
- impact from hitting an immovable object (for example, a fall onto a hard surface).

The result of such trauma could be ruptured blood vessels or tearing of the testicle.

A doctor can assess injuries to the testicles by physical examination and ultrasound. If the testicles seem normal, the doctor may prescribe pain-relieving medication. Even without an ultrasound, a surgeon may choose to explore the testicle, particularly in cases of possible testicular torsion.

Surgery is usually performed under a general anaesthetic. Significant injury to the testicles may require surgical

exploration and repair or, potentially, removal of the affected testis. A man's fertility is not affected if he still has one functioning testicle.

Reducing the risk of testicular problems

Suggestions on how to reduce the risk of testicular problems include:

- Take all reasonable precautions to prevent accidents. For example, drive safely and always wear a seatbelt.
- Protect yourself from **sexually transmissible infections (STIs)** by wearing a condom.
- Always use protective equipment such as a jockstrap or hard cup while playing sports.
- If you injure your testicles, always seek urgent medical advice.
- Perform **testicular self-examination (TSE)** regularly to become familiar with the look, feel and shape of your testicles so you will notice any abnormalities. See your doctor for further information on how to perform TSE.
- Always see your doctor if you experience any scrotal or testicular pain or unusual symptoms, or if you find a lump or swelling.

Where to get help

- In an emergency, call triple zero (000)
- Hospital emergency department
- Your **GP (doctor)**
- **Urologist**

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