PROCEDURE

Testicular torsion repair

Testicular torsion repair is emergency surgery to untwist the spermatic cord and restore blood flow to a testicle.

PURPOSE
Restore blood flow and prevent further testicular damage

PROCEDURE TYPE
Therapeutic surgery through a scrotal incision

WHERE IT IS DONE
Operating theatre

ANAESTHESIA
General

HOW LONG IT TAKES
30-60 minutes, longer if additional surgery is needed

PREPARATION
Stop eating and drinking; report medicines and last intake

RECOVERY
Usually same day; no driving for at least 24 hours

MAIN RISKS
Testicle loss, bleeding, infection, persistent pain

RESULTS
Blood flow assessed immediately; pathology takes several days

Overview

Testicular torsion repair is emergency surgery for a twisted spermatic cord. The spermatic cord carries blood vessels to and from the testicle. When it twists, blood flow can be reduced or completely blocked.

During surgery, the surgeon untwists the cord and checks whether the testicle can recover. If it appears healthy enough, it is secured inside the scrotum with stitches. This is called orchiopexy . The other testicle is usually secured as well because it may have the same tendency to twist.

If the affected testicle has been without blood flow for too long and cannot recover, it may need to be removed. This is called orchiectomy . The surgical team should discuss this possibility with you or your parent or guardian before surgery whenever circumstances allow.

This procedure is time-sensitive. If you have sudden testicular pain and have not yet been assessed, seek emergency medical care rather than waiting for a routine appointment.

Why the procedure is performed

The operation is performed when testicular torsion is confirmed or strongly suspected. Its goals are to restore blood flow, save the testicle when possible, relieve the twisting, and reduce the chance of torsion happening again.

Doctors may recommend immediate exploration of the scrotum even if an ultrasound has not been performed. Tests can take time, and no scan can always rule out torsion when the symptoms and examination remain concerning.

Surgery may also be planned for intermittent torsion , in which the testicle twists and then untwists by itself. Securing both testicles can help prevent a future episode that does not resolve.

Who should and should not have it

Emergency surgery is generally recommended when torsion is confirmed or cannot safely be excluded. This may apply even if the pain has been present for many hours. The surgeon still needs to assess whether the testicle is viable, meaning able to recover.

The operation may not be appropriate if another diagnosis clearly explains the symptoms and torsion has been safely ruled out. Conditions such as infection, injury, a hernia, or twisting of a small testicular appendage may need different treatment.

There are few reasons to delay surgery when torsion is suspected. A serious medical problem affecting anaesthesia may need immediate stabilisation, but the team will balance this against the risk of continued loss of blood flow.

Repair cannot save a testicle that is already permanently damaged. In that situation, removing it is usually safer than leaving dead tissue in the scrotum. Your surgeon should explain what they expect to do and what decisions may need to be made during the operation.

How to prepare

This is often an unplanned emergency procedure, so you may have little time to prepare. The treating facility's own instructions take priority over general information.

Do not eat or drink once the emergency team tells you to stop. Tell them when you last ate or drank. Do not delay going to an emergency department because you have recently eaten; the anaesthesia team can manage this risk.

Tell the team about:

Do not stop a prescribed blood thinner like warfarin or apixaban unless the treating team instructs you to do so. You or your parent or guardian will be asked to consent to scrotal exploration, fixation of one or both testicles, and possible removal of the affected testicle.

Arrange for an adult to take you home and stay with you after a same-day operation.

- All medicines, supplements, and recreational drugs you use
- Blood thinners or medicines that affect clotting
- Allergies and previous reactions to anaesthesia
- Bleeding disorders, heart or lung conditions, and recent illness
- Any removable dental work or loose teeth

What happens during the procedure

You will usually receive a general anaesthetic, which means you are unconscious and do not feel the operation. Monitoring equipment will check your heart rate, blood pressure, breathing, and oxygen level.

The surgeon makes a cut in the scrotum and examines the affected testicle. The spermatic cord is untwisted. The team may warm the testicle and wait briefly while checking whether its colour and blood flow improve.

If the testicle appears able to recover, the surgeon secures it to the inside of the scrotum with stitches. The other testicle is commonly secured through a separate opening or the same surgical approach.

If the affected testicle is clearly nonviable, the surgeon removes it. A testicular implant may be discussed for cosmetic reasons, but it is often considered later rather than during emergency surgery.

The wound is closed, often with dissolvable stitches. A dressing and supportive underwear may be applied.

Recovery and what to expect afterward

Pain: Soreness, bruising, and swelling are expected for several days. The scrotum may feel tender when you walk or change position. Use pain medicine exactly as directed. Supportive underwear and a wrapped cold pack may help if your surgical team recommends them.

Eating: You can usually begin with fluids and light food once you are awake and not feeling sick. Return to your normal diet as tolerated.

Activity: Rest during the first few days, but take short walks. Avoid heavy lifting, running, cycling, contact sports, and sexual activity until the surgeon says the wound has healed. Follow instructions about bathing and keeping the dressing dry.

Driving: You cannot drive home. Avoid driving for at least 24 hours after general anaesthesia and longer if you are taking sedating pain medicine, have significant pain, or cannot perform an emergency stop safely.

Work or school: Many people need several days away. A physical job or sports participation may require a longer break. Your discharge instructions should give a more specific timeframe.

Some people go home the same day. Others stay overnight because of nausea, pain, the timing of surgery, or the need for observation.

Risks and possible complications

Possible complications include:

Damage to one testicle does not automatically mean infertility or low testosterone. One healthy testicle can often produce enough sperm and testosterone, but individual outcomes are not guaranteed. Follow-up may be offered if there are concerns about development, fertility, hormone levels, or the remaining testicle.

- Bleeding, bruising, or a collection of blood called a haematoma
- Wound or deeper infection
- Persistent pain, swelling, numbness, or an uncomfortable stitch
- Shrinkage of the testicle later if blood flow does not fully recover
- Loss of the testicle despite prompt surgery
- Torsion happening again, although fixation reduces this risk
- Reactions to anaesthesia or blood clots related to surgery

Results and follow up

The surgeon can usually tell you immediately whether the testicle was untwisted and preserved or had to be removed. Its long-term recovery may not be clear on the day of surgery.

A routine follow-up visit checks the wound, pain, swelling, and testicular position. The clinician may examine whether a preserved testicle is maintaining its size. Ultrasound is not needed after every repair but may be used if recovery is uncertain.

If tissue was removed and sent to a laboratory, pathology results usually take several days. Your team will explain how and when you will receive them.

Keep routine follow-up even when the wound seems to be healing well. Ask about future fertility or hormone testing if both testicles were affected, the remaining testicle is abnormal, or you have concerns later.

Alternatives

There is no equally effective non-surgical alternative when testicular torsion is suspected.

Manual detorsion means a clinician tries to untwist the testicle by hand. It may restore some blood flow while surgery is being arranged, but the direction and number of twists can be uncertain. It does not secure the testicle, so torsion can recur. It must not replace or delay surgery.

Ultrasound and observation may be reasonable when the assessment points strongly to another condition. They avoid an operation, but waiting can reduce the chance of saving the testicle if torsion is actually present.

Pain medicine alone may reduce discomfort but does not correct a twisted spermatic cord.

If a testicle must be removed, a testicular implant can later improve the appearance or balance of the scrotum. It does not produce sperm or hormones. Choosing no implant avoids another procedure but leaves the scrotum with one testicle.

When to call your healthcare team

Contact the surgical team promptly if routine recovery is not progressing, including pain that is not improving, continued vomiting, wound drainage, or questions about dressings and activity.

Seek urgent same-day medical advice for:

Call emergency services for trouble breathing, collapse, severe chest pain, or signs of a serious allergic reaction.

- Increasing redness, warmth, swelling, or pus from the wound
- Fever or feeling increasingly unwell
- Bleeding that soaks through the dressing
- Difficulty passing urine
- Severe or rapidly worsening scrotal pain
- Sudden pain in either testicle, even after fixation

Common questions

Will I be asleep?

Yes. Testicular torsion repair is usually performed under general anaesthesia, so you are unconscious during the operation.

Can I drive home?

No. An adult must take you home. Do not drive for at least 24 hours after general anaesthesia or while pain or medicine affects your reactions.

How painful is it?

You should not feel the surgery. Soreness and swelling afterward are common and usually manageable with prescribed or recommended pain relief. Severe or increasing pain needs urgent assessment.

When will I know whether the testicle was saved?

The surgeon will explain what they found soon after the operation. A preserved testicle can still shrink later, so follow-up helps assess its recovery.

Will losing one testicle affect fertility or sex?

One healthy testicle often makes enough testosterone and sperm for normal sexual function and fertility. Testing can be arranged later if there are concerns.

Can torsion happen again after surgery?

Fixation makes another twist less likely but does not make it impossible. Sudden new testicular pain should always be assessed urgently.

Sources

- European Association of Urology, EAU Guidelines on Paediatric Urology: Acute Scrotum and Testicular Torsion
- National Health Service, Testicular torsion
- Cleveland Clinic, Testicular Torsion Repair
- Kasivisvanathan V, et al. A BURST-BAUS consensus document for best practice in scrotal exploration for suspected testicular torsion: the FIX-IT study. BJU International. 2022;130(5):549-558