

Testis twists

Testicular torsion — sudden bad pain in the scrotum, one testicle sits high, and you have 6 hours to untwist it in surgery before the testicle dies.

THE ONE-LINE TRUTH

The spermatic cord twists, cutting off blood to the testicle so it starts to die.

The chain — how it unfolds

1. Bell-clapper deformity lets the spermatic cord twist. — why: The tunica vaginalis (the sac that normally wraps around the testicle and anchors it to the scrotal wall) attaches too high on the cord instead, so the testicle hangs free and can rotate on the cord like a clapper inside a bell.
2. The twisted cord squeezes shut the testicular artery and pampiniform veins. — why: When the cord twists (usually 180° to 720°), it acts like twisting a garden hose — the artery and veins collapse, so blood cannot flow in or out of the testicle anymore.
3. The testicle becomes blood-starved (ischemic) (starved of blood and oxygen). — why: Without blood, the testicle does not get oxygen or nutrients, and waste products (like lactic acid) build up. Cells start to die within 4 to 6 hours.
4. The body reacts with sudden, severe scrotal pain, nausea, and vomiting. — why: Starved blood flow (Ischemia) triggers pain nerves immediately, and the pain is so intense it activates the vagus nerve (a nerve that connects the gut and brain), which makes you feel sick and throw up.
5. The testicle pulls up high toward the belly, and the cremasteric reflex disappears. — why: The cremasteric muscle (a thin muscle around the cord) contracts in spasm from pain and starved blood flow (ischemia), yanking the testicle upward. The cremasteric reflex (the normal reflex where stroking the inner thigh makes the testicle jump up) vanishes because the nerves in the twisted cord are squeezed and cannot send signals anymore.
6. The scrotum swells and turns red or blue. — why: Dying tissue leaks fluid and inflammatory chemicals into the scrotum, causing swelling (edema) (swelling). Trapped blood in the veins turns the skin dark blue or purple.

7. If the cord is not untwisted within 6 hours, the testicle dies (infarction). — why: After 6 hours of starved blood flow (ischemia), most testicular cells are dead and cannot recover, even if you restore blood flow. After 12 hours, almost all testicles are lost. You must operate within 6 hours to save it.
8. Even if the testicle is saved, it may not work normally. — why: Starved blood flow (Ischemia) can damage the cells that make sperm (Sertoli and germ cells) and testosterone (Leydig cells), so fertility and hormone production may be lower even after successful surgery.

Spot it — what you see, and why

- Sudden, severe pain in one testicle that starts quickly and doesn't go away: The spermatic cord (the rope-like bundle of blood vessels and tubes feeding the testicle) twists around itself like a twisted garden hose, cutting off the blood supply so the testicle isn't getting the oxygen it needs — this causes immediate, sharp pain.
- The painful testicle sits higher than the other one or is turned at an odd angle: When the spermatic cord twists, it shortens and pulls the testicle upward, making it hang higher in the scrotum and often rotate to a strange position compared to the normal side.
- Swelling and redness of the scrotum (the skin sac holding the testicles): Without fresh blood flowing in and old blood draining out, fluid leaks into the tissue around the testicle, causing the scrotum to puff up, turn red, and feel tender to touch.
- Nausea and vomiting: The sudden, intense pain triggers signals to the brainstem (the part deep in the brain that controls automatic body responses) which activates the vomiting center, making the person feel sick to their stomach.
- Belly pain or lower stomach pain on the same side: The nerves from the testicle share pathways with nerves from the lower belly, so the brain can mistake the testicle pain as coming from the stomach area — this is called referred pain.
- The cremasteric reflex is missing (when you stroke the inner thigh, the testicle on that side normally pulls up slightly but it doesn't in torsion): The twisted spermatic cord pinches the genicofemoral nerve (the nerve that runs along the cord and controls the cremaster muscle), so the muscle that lifts the testicle can't respond to the stroking test anymore.

Red flags — act now

- Sudden testicle pain lasting more than one hour — this is a race-against-time emergency because the testicle starts dying after four to six hours without blood
- Testicle pain with vomiting or severe belly pain — means the pain is bad enough to upset the whole nervous system and raises the chance of true torsion

- A testicle that looks higher, swollen, very red, or positioned oddly compared to the other side — these are visible clues the cord has twisted
- No improvement or worsening pain even after rest or pain medicine — torsion pain doesn't ease until the twist is fixed

Treat it — in this order

1. Call urology immediately and go straight to the operating room — do not wait for ultrasound if exam is convincing → Gets the surgeon who can untwist the spermatic cord and restore blood flow before the testis dies. The 6-hour window is critical — delaying for tests wastes precious time and kills tissue.
2. Manual detorsion at the bedside (rotate testis outward, like opening a book, usually 1–2 full turns) if surgery will be delayed → Can untwist the cord immediately and restore blood flow without waiting. Success brings instant pain relief. This is a bridge to surgery, not a replacement — the testis must still be surgically fixed in place to prevent re-twisting.
3. Start an IV line, give strong pain medicine (opioid like morphine or fentanyl), and give anti-nausea medicine (ondansetron) → Stops suffering, calms vomiting, and keeps the patient hydrated while preparing for surgery. A calmer body helps maintain steady blood pressure, which supports the small amount of blood that might still reach the testis.
4. In surgery: untwist the spermatic cord, check if the testis turns pink and healthy, then stitch both testicles to the inside of the scrotum (orchiopexy) → Untwisting restores blood immediately. Stitching both sides prevents future torsion, because the bell-clapper deformity (loose attachment) is usually on both sides. Fixing both cuts re-twist risk to near zero.
5. Remove the testis (orchiectomy) only if tissue is clearly black, does not pink up after untwisting, and is obviously dead → Removing dead tissue prevents infection, abscess, and the immune attack that dead tissue can trigger. Keeping a damaged testis that might recover preserves fertility and testosterone production.

Your top priorities at the bedside

1. Call the urology surgeon and operating room team immediately upon suspicion of testis twist — why: The spermatic cord (the bundle of blood vessels and tubes feeding the testicle) is twisted and blocking blood flow, so the testicle tissue dies within 4 to 6 hours without emergency surgery
2. Keep the patient from eating or drinking anything (NPO, nothing by mouth) — why: The patient needs emergency surgery with general anesthesia (sleep medicine), and food or liquid in the stomach increases the risk of vomiting and breathing stomach contents into the lungs during anesthesia

3. Start an IV line with normal saline running to keep the vein open — why: The IV allows quick delivery of pain medicine, anti-nausea medicine, and anesthesia drugs, and prevents dehydration since the patient cannot drink