CONDITION

Priapism

Priapism is a persistent erection that continues without sexual stimulation and may require emergency treatment.

WHAT IT IS
Persistent erection unrelated to sexual stimulation

BODY SYSTEM
Penis and blood circulation

MAIN SYMPTOMS
Prolonged erection, penile pain, rigid shaft, soft tip

WHAT CAUSES IT
Medicines, blood disorders, injury, or sometimes unknown

HOW IT IS DIAGNOSED
Examination, penile blood testing, and Doppler ultrasound

MAIN TREATMENT
Restoring blood flow and treating the underlying cause

CAN IT BE CURED?
Sometimes - prompt treatment may prevent lasting damage

IS IT AN EMERGENCY?
Sometimes - painful or rigid erection lasting four hours

LONG-TERM OUTLOOK
Often good early; delayed treatment risks erectile dysfunction

Overview

Priapism is an erection that lasts longer than expected and is not caused by ongoing sexual stimulation. It usually affects the penis. Unlike a typical erection, it may not go away after orgasm.

Although priapism is sometimes called a painful erection, not every episode causes pain. The symptoms and urgency depend on how blood is moving through the penis.

There are three main forms:

Ischemic priapism matters because trapped blood contains less oxygen over time. Without prompt treatment, the tissue responsible for erections can become damaged. This may lead to erectile dysfunction, meaning difficulty getting or keeping an erection.

- Ischemic priapism: Blood becomes trapped in the penis and cannot drain away. The shaft is usually rigid and painful. This is the most common form and is a medical emergency when it lasts four hours.
- Nonischemic priapism: Too much arterial blood flows into the penis, often after an injury. The erection is usually less rigid and less painful. It is not usually an immediate emergency, but it still needs medical assessment.
- Recurrent or stuttering priapism: Episodes repeatedly appear and then settle. They are often ischemic and may eventually develop into a prolonged emergency.

Symptoms

The main symptom is an erection that continues without sexual stimulation or lasts much longer than expected.

Ischemic priapism commonly causes:

Nonischemic priapism may cause:

Recurrent priapism causes repeated unwanted erections, often during sleep. Episodes may last from minutes to several hours. They may settle without treatment, but a later episode can last longer.

Priapism is different from a normal erection that happens during sleep or with sexual arousal and then goes away. Pain, increasing rigidity, or an erection approaching four hours should not be ignored.

- A rigid penile shaft
- A softer glans, which is the head of the penis
- Pain or tenderness that may become stronger over time
- An erection lasting several hours
- A partly rigid erection
- Little or no pain
- Symptoms beginning after an injury to the penis, groin, pelvis, or area between the genitals and anus
- An erection that continues but does not feel fully hard

Causes and risk factors

Priapism develops when blood flow into and out of erectile tissue becomes unbalanced. The cause is not always found.

Blood disorders are important causes of ischemic and recurrent priapism. Sickle cell disease can interfere with normal blood flow because red blood cells become rigid and can block small blood vessels. Other possible blood-related causes include leukemia and some disorders that increase blood clotting or blood cell numbers.

Medicines can sometimes contribute. These include injected treatments for erectile dysfunction and, less commonly, certain antidepressants like sertraline or fluoxetine , antipsychotics like olanzapine or risperidone , blood pressure medicines, and other drugs. Priapism is uncommon with most of these medicines, but the risk may be higher when several contributing factors are present.

Do not stop a prescribed medicine without medical advice. A clinician can review whether it may be involved and discuss alternatives when appropriate.

Other possible causes or risk factors include:

Nonischemic priapism usually follows an injury that damages an artery. This can create an abnormal connection that sends too much blood into erectile tissue. Symptoms may begin soon after the injury or appear later.

In some people, no clear cause is identified. This is called idiopathic priapism.

- Cocaine and some other recreational drugs
- Heavy alcohol use
- Injury to the penis, pelvis, groin, or perineum
- Some cancers affecting the pelvis or blood
- Spinal cord injury or neurological disease
- Rare metabolic or inflammatory conditions

Diagnosis

A clinician first asks how long the erection has lasted, whether it is painful, and whether it followed an injury. They may also ask about sickle cell disease, medicines, erectile dysfunction treatments, recreational drugs, and previous episodes.

A physical examination helps show whether the shaft is fully rigid and whether the head of the penis remains soft. These findings can suggest the type of priapism, but further testing may be needed.

A cavernosal blood gas test can confirm how much oxygen is in blood trapped inside the penis. A small blood sample is taken from the erectile tissue. Dark blood with low oxygen supports ischemic priapism. Brighter, oxygen-rich blood suggests nonischemic priapism.

Doppler ultrasound uses sound waves to show blood flow through the penile arteries. It can help distinguish restricted drainage from excessive arterial flow and may identify an injured blood vessel.

Blood tests may be used to look for sickle cell disease, leukemia, infection, or other possible causes. Urine or toxicology testing may occasionally be helpful. Testing should not delay treatment when ischemic priapism is strongly suspected.

Treatment and management

Treatment depends on the type of priapism and how long it has lasted.

Ischemic priapism requires emergency treatment to remove trapped blood and restore circulation. Pain relief or local anaesthetic may be given first.

A clinician usually places a needle into the erectile tissue and withdraws trapped blood. This is called aspiration. The area may also be gently rinsed with sterile fluid. A medicine that narrows blood vessels may then be injected into the penis while heart rate and blood pressure are monitored.

If these measures do not work, surgery may be needed. A surgeon may create a temporary pathway, called a shunt, that allows trapped blood to drain. When severe tissue damage has already occurred after a long delay, a specialist may discuss other options, including a penile implant.

People with sickle cell disease still need standard emergency treatment for ischemic priapism. Fluids, oxygen when medically needed, pain control, and treatment of other sickle cell complications may be provided at the same time. Sickle cell treatment should not delay restoring blood flow from the penis.

Nonischemic priapism does not usually cause the same immediate oxygen shortage. Some cases settle with observation. If it continues or affects quality of life, a radiologist may block the injured artery temporarily through a procedure called embolization. Surgery is less commonly required.

Recurrent priapism needs a plan aimed at preventing longer episodes. A urology or blood-disorder specialist may consider medicines or treatment of an underlying condition. The best approach depends on the cause, episode pattern, and possible effects on sexual function.

Home measures such as exercise, cold showers, masturbation, or applying ice have not been shown to reliably treat ischemic priapism. They should not delay emergency care.

Complications

The main complication of ischemic priapism is damage to erectile tissue from lack of oxygen. The risk rises as the erection continues.

Possible complications include:

Procedures used to restore blood flow can also have risks. These may include bruising, bleeding, infection, or temporary problems with erections. Embolization for nonischemic priapism can occasionally affect erectile function, although techniques are designed to limit this risk.

Priapism can be embarrassing or distressing. These feelings are understandable, but delaying care because of embarrassment can increase the chance of complications.

- Erectile dysfunction
- Scarring inside the penis
- Changes in penile shape or firmness
- Infection or bleeding after procedures
- Repeated episodes
- Anxiety about sleep, sex, or recurrence

Prevention

Priapism cannot always be prevented. It may happen because of an inherited blood condition, an unexpected medicine reaction, an injury, or no identifiable cause.

If a medicine may have contributed, a clinician can review it and discuss whether a change is appropriate. Do not adjust prescribed medicines or erectile dysfunction injections on your own.

Following the recommended technique and dose for prescribed injectable erectile dysfunction treatment can reduce avoidable risk. Seek specific instructions about what to do if an erection lasts longer than intended.

People with sickle cell disease or recurrent priapism may be offered a prevention plan. This can include management of the underlying condition and, in selected cases, preventive medicine. Evidence for some preventive treatments is limited, so specialist follow-up is important.

Avoiding cocaine and other recreational drugs linked with priapism may reduce risk. Protective equipment can lower the chance of some sports-related pelvic injuries, although not every injury is preventable.

Living with it and what to expect

A single episode treated early may resolve without lasting problems. Recovery depends mainly on the type of priapism, how long blood flow was restricted, the underlying cause, and whether episodes return.

Soreness, swelling, or bruising can occur after aspiration, injections, or surgery. Your care team should explain what is expected after a procedure and when sexual activity can safely resume.

Some people continue to have normal erections after treatment. Others develop changes in erection quality, especially after a prolonged ischemic episode. If erectile dysfunction occurs, treatments are available, although the suitable options depend on the amount of tissue damage.

Recurrent priapism may continue over months or years. Episodes can be unpredictable and may interrupt sleep, work, travel, or sexual relationships. Keeping a record of when episodes happen, how long they last, and possible triggers can help during follow-up.

Routine follow-up may involve a urologist, and people with sickle cell disease may also see a hematology team. Follow-up can address recurrence, medicine changes, sexual function, and emotional effects.

Concerns about intimacy or future erections are common. A clinician, sexual health therapist, or counsellor can provide support if these concerns affect your relationships or well-being.

When to get medical help

Go to an emergency department if you have an erection lasting four hours, especially if the shaft is rigid or painful. Do not wait for it to go away during travel, sleep, or sexual activity.

Seek emergency help sooner if pain is severe, the erection is becoming more rigid, or you have sickle cell disease and the episode is not settling. Follow any emergency plan already provided by your sickle cell or urology team, but do not let home measures delay assessment.

An erection after a major pelvic or genital injury also needs prompt medical assessment. Call emergency services if the injury is accompanied by heavy bleeding, fainting, severe swelling, difficulty passing urine, or other signs of serious trauma.

Arrange routine medical follow-up if:

Repeated short episodes are not necessarily emergencies each time, but they can warn of a future prolonged episode. A specialist can help you make a clear plan for when to seek emergency care.

- You have repeated unwanted erections that settle within four hours
- An episode ended but pain, swelling, or bruising continues
- Your erections have changed after treatment
- You think a prescribed medicine may be contributing

Common questions

Can priapism go away on its own?

Some episodes do, particularly nonischemic or short recurrent episodes. It is not safe to assume that a rigid or painful erection will settle. An erection lasting four hours needs emergency assessment because ischemic priapism can damage erectile tissue.

Does having sex or masturbating make priapism go away?

Usually not. Priapism is caused by abnormal blood flow rather than unresolved sexual arousal. Orgasm, exercise, showers, and ice should not be used to delay medical care.

Will I still be able to have erections afterward?

Many people retain erectile function, especially when ischemic priapism is treated early. A long period without oxygen increases the risk of scarring and erectile dysfunction. Follow-up can assess recovery and discuss treatment if erection problems develop.

Is priapism always painful?

No. Ischemic priapism is usually painful, while nonischemic priapism is often painless or mildly uncomfortable. Lack of pain does not identify the type with certainty, so a prolonged erection still needs assessment.

Can erectile dysfunction medicine cause priapism?

It can, particularly medicine injected directly into the penis. Tablets cause priapism much less often. Use treatment only as directed, and make sure you know what action to take if an erection lasts longer than intended.

Why does priapism happen with sickle cell disease?

Sickle-shaped red blood cells can interfere with circulation and trap blood in erectile tissue. Episodes may recur and can become prolonged. An erection reaching four hours remains an

emergency and needs treatment to restore penile blood flow.

Sources

- American Urological Association and Sexual Medicine Society of North America: Diagnosis and Management of Priapism Guideline , 2022
- Bivalacqua TJ, Allen BK, Brock G, et al. "Diagnosis and Management of Priapism: AUA/SMSNA Guideline." The Journal of Urology . 2022;208(1):43-52
- European Association of Urology: Priapism, Sexual and Reproductive Health Guidelines
- Salonia A, Eardley I, Giuliano F, et al. "European Association of Urology Guidelines on Priapism." European Urology . 2014;65(2):480-489
- NHS: Priapism