HEALTH BASICS

Artificial urinary sphincter

An artificial urinary sphincter is an implanted device that helps control urine leakage.

WHAT IT IS
An implanted device that controls urine flow

WHERE IT COMES UP
Treatment discussions for severe stress urinary incontinence

WHY IT MATTERS
It may reduce leakage when other treatments have not helped

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
A urologist experienced in urinary sphincter implants

HOW IT IS CHECKED
Symptom review, examination, and device testing when needed

Overview

An artificial urinary sphincter is a fluid-filled device placed inside the body. It helps control urine leakage by gently closing the urethra, the tube that carries urine out of the bladder.

The device is mainly used for stress urinary incontinence . This means urine leaks when pressure rises in the abdomen, such as during coughing, lifting, walking, or exercise. In men, severe leakage can happen after prostate surgery or other treatment affecting the urinary sphincter.

An artificial urinary sphincter may also be considered in selected women or people with nerve-related bladder problems. Suitability depends on the cause of leakage, previous surgery, the condition of the urethra, and whether the person can operate the pump.

This is not a disease or diagnosis. It is a surgical treatment. It does not restore the body's natural sphincter, and it may not stop every leak.

Before recommending the device, a urology team usually assesses the type and severity of incontinence. This may involve a medical history, examination, urine testing, bladder measurements, or cystoscopy. Cystoscopy uses a thin camera to look inside the urethra and bladder.

How it works

Most artificial urinary sphincters have three connected parts:

The system contains fluid. Most of the time, fluid fills the cuff so that it closes the urethra. This helps keep urine in the bladder.

To urinate, you find and squeeze the pump through the skin. This moves fluid out of the cuff and into the balloon. With the cuff open, urine can pass through the urethra.

After a short period, fluid automatically returns to the cuff. The urethra closes again. You do not usually need to squeeze the pump a second time.

The device is implanted during an operation. It is normally left switched off, or deactivated, while the tissues heal. The surgical team activates it at a later appointment and teaches you how to use it. Do not operate a newly implanted device until your team says it is ready.

Using the pump requires enough hand strength, coordination, and understanding to find and squeeze it. If these are difficult, another treatment may be more practical.

- A cuff that fits around the urethra
- A small pump placed under the skin, usually in the scrotum
- A pressure-regulating balloon placed in the lower abdomen or pelvis

Why it matters for your health

An artificial urinary sphincter can reduce leakage and reliance on pads for some people with significant stress urinary incontinence. It is usually considered when pelvic floor exercises or other treatments have not provided enough control.

Results are not identical for everyone. Some people become dry or nearly dry, while others continue to need a pad. Leakage caused by a sudden, difficult-to-control urge to urinate may not improve because the device is designed mainly for stress leakage.

The implant does not need an external power source. However, it is a mechanical device and does not last indefinitely. Parts can wear out or stop working. Further surgery may eventually be needed to repair, replace, reposition, or remove it.

The device also affects future medical care. Passing a urinary catheter through a closed cuff can injure the urethra or damage the implant. A catheter is a tube placed through the urethra to drain the bladder.

Before catheter placement, cystoscopy, or another procedure involving the urethra, tell the

healthcare team that you have an artificial urinary sphincter. A clinician familiar with the device may need to deactivate it first.

MRI safety is specific to the device model. Some implants can be scanned only under stated conditions. Keep the implant identification card and show it before an MRI or other procedure.

What can go wrong

Artificial urinary sphincter surgery and long-term use can be associated with several conditions or situations:

Arrange routine follow-up if leakage gradually increases, the pump becomes harder to use, or you are unsure whether the device is opening and closing correctly. These changes need assessment, but they are not always emergencies.

Contact the surgical or urology service urgently if you develop fever, worsening wound redness, drainage, increasing genital swelling, severe pain, blood in the urine, or new difficulty passing urine.

An inability to urinate with increasing lower abdominal pain needs prompt emergency assessment. Tell emergency staff immediately that you have an artificial urinary sphincter. Do not try to dismantle the device or force repeated pumping.

- Infection: Bacteria can infect the wound or implanted parts. An infected device may need to be removed.
- Urethral erosion: The cuff can wear into the urethral tissue. This may cause pain, blood in the urine, infections, difficulty urinating, or renewed leakage.
- Mechanical failure: The pump, cuff, balloon, or connecting tubing can leak or stop working.
- Persistent or recurrent incontinence: Leakage may continue or return because of device problems, changes around the urethra, or another bladder condition.
- Urinary retention: The bladder may not empty properly, especially soon after surgery or if the cuff does not open as expected.
- Bleeding, swelling, or wound problems: These can occur after implantation, as with other operations.
- Device movement or pump difficulty: The pump may be hard to find, uncomfortable, or difficult to operate.

What you can do

Before surgery, ask what type of incontinence you have and whether the device is expected to address it. You can also ask how likely you are to keep needing pads and what alternatives are available.

Ask the surgical team to show you where the pump will sit and how much hand pressure is required. If possible, practise with a demonstration model before deciding.

After implantation:

A medical alert card or bracelet can help communicate that the device must be deactivated before urethral catheter placement. It does not replace explaining this directly when you are able.

There is no home test that can confirm whether the implant is damaged or whether the urethra has been affected. If its function changes, a urologist may examine the pump, test urine, measure bladder emptying, or use cystoscopy and imaging.

- Follow the wound-care and activity instructions from your surgical team
- Do not use the pump before the planned activation appointment
- Learn how normal pumping feels once the device is activated
- Keep the implant card with you
- Record the device model, operation date, and implanting hospital
- Tell healthcare professionals about the implant before catheterisation or procedures
- Attend planned follow-up and report changes in leakage or device operation

Common questions

Can other people see the device?

The working parts are inside the body. The pump sits under the skin and may be felt, but it is not usually visible through clothing.

Will I urinate normally?

You need to squeeze the pump before urinating. The cuff then opens temporarily. Your urinary stream may not feel exactly as it did before surgery.

Does the device treat urgency?

Not directly. Urgency is a sudden, strong need to urinate. An artificial urinary sphincter mainly treats leakage caused by physical pressure on the bladder. A person can have both stress leakage and urgency.

Can I have a urinary catheter?

A catheter can be used when medically necessary, but the sphincter generally needs to be deactivated first. Catheter size and timing also matter. Tell the healthcare team about the implant before they attempt catheterisation.

Can I have an MRI scan?

MRI conditions depend on the exact device and model. Show the radiology team your implant card so they can check the manufacturer's instructions.

How long does the implant last?

There is no guaranteed lifespan. Mechanical wear, infection, tissue changes, or injury can lead to revision or removal. Ask what long-term follow-up the implanting service provides.

What if I can no longer operate the pump?

Contact a urology service. Changes in hand strength, coordination, memory, or mobility can make the pump difficult to use. The team can assess the device and discuss available options.

Sources

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