CONDITION

Hypospadias

Hypospadias is a birth condition in which the urethral opening is underneath the penis rather than at its tip.

WHAT IT IS
Urethral opening on the underside of the penis

BODY SYSTEM
Urinary and reproductive systems

MAIN SYMPTOMS
Misplaced opening, downward curve, hooded foreskin, spraying urine

WHAT CAUSES IT
Genetic, hormonal, and developmental factors

HOW IT IS DIAGNOSED
Physical examination, with selected hormone or genetic tests

MAIN TREATMENT
Observation or reconstructive surgery

CAN IT BE CURED?
Yes - surgery can correct the anatomy

IS IT AN EMERGENCY?
No - unless urine cannot pass or severe bleeding occurs

LONG-TERM OUTLOOK
Usually good function, sometimes further surgery or follow-up

Overview

Hypospadias is a condition present from birth. The opening of the urethra-the tube that carries urine out of the body-is on the underside of the penis instead of at the tip.

The opening may be just below the usual position, farther down the shaft, or close to the scrotum. Its location is only one part of the condition. Some children also have a downward curve of the penis, called chordee , or foreskin that covers the top of the penis but not the underside.

Hypospadias can affect the direction of the urine stream. More severe forms may later affect erections, sexual function, or the delivery of semen. However, many people have mild hypospadias and few or no functional problems.

Treatment is not automatically necessary. A paediatric urologist-a doctor specialising in children's urinary and genital conditions-can assess the anatomy and explain whether observation or surgery is reasonable.

Symptoms

Hypospadias is usually noticed during a newborn examination. It generally does not cause pain.

Possible features include:

A child with a low opening may need to sit to urinate. A mild form near the tip may cause little or no difficulty.

The penis may also appear partly buried or twisted. In some children, the scrotum develops around the base of the penis in an unusual position.

Hypospadias is different from epispadias, a less common condition in which the urethral opening is on the upper surface of the penis.

- A urethral opening below the tip of the penis
- Foreskin that looks hooded because it is incomplete underneath
- A penis that bends downward, especially during an erection
- A urine stream that sprays, points downward, or is difficult to direct

Causes and risk factors

Hypospadias develops before birth while the penis and urethra are forming. This process involves genes, hormones, the body's response to hormones, and the function of the placenta. In most cases, there is no single identifiable cause.

The condition can run in families, suggesting that inherited factors sometimes contribute. It is also associated with premature birth, low birth weight, and certain differences in hormone development. Associations have been reported with some pregnancy-related and environmental factors, but an association does not prove that a particular exposure caused the condition.

Hypospadias is not caused by anything a child or parent did after birth. Parents should not assume that ordinary activities, foods, or a single decision during pregnancy were responsible.

Most children with hypospadias do not have a broader genetic or hormone condition. Further assessment becomes more important when the urethral opening is close to the scrotum, one

or both testicles have not descended, or the genital development is otherwise unclear.

Diagnosis

Hypospadias is usually diagnosed by examining the penis and scrotum. Blood tests, scans, and X-rays are not routinely needed for a straightforward case.

The examination looks at:

The apparent position of the opening does not always show how complex a repair would be. The amount of curvature and the quality of the surrounding tissue also matter. Curvature may be assessed more accurately during surgery.

If hypospadias is severe or occurs with undescended testicles, the healthcare team may recommend hormone tests, genetic testing, or imaging. These tests help evaluate differences of sex development, meaning variations in how chromosomes, hormones, and reproductive anatomy develop.

Routine pregnancy ultrasound may not detect hypospadias. A prenatal finding would still need confirmation after birth.

- The position and size of the urethral opening
- The shape of the urine channel near the opening
- Any downward curve or twisting
- The distribution of the foreskin
- The size of the penis and appearance of the scrotum
- Whether both testicles are in the scrotum

Treatment and management

Some mild cases can be observed without treatment. This may be reasonable when the child has a straight penis, can direct the urine stream, and is unlikely to have later functional difficulty. Appearance and the child's future ability to take part in decisions may also be considered.

When surgery is chosen, its main aims are to create an opening near the tip, straighten the penis, and achieve an appearance acceptable to the child and family. Surgery is commonly planned between 6 and 18 months of age, although repair can also be done later.

The exact operation depends on the anatomy. A surgeon may:

Many distal cases, where the opening is near the tip, can be repaired in one operation. Proximal hypospadias, with an opening nearer the scrotum, may require a more complex repair or more than one planned operation.

A temporary soft tube called a catheter or stent may remain in the urethra while it heals. The surgical team will explain wound care, bathing, pain relief, and how to protect the tube. Bladder spasms can cause brief discomfort or urine leakage around it.

Do not arrange circumcision before a surgical assessment. The foreskin may be useful during reconstruction. If circumcision has already happened, repair is often still possible, but the surgeon needs to assess the available tissue.

Follow-up checks healing, the urine stream, the position of the opening, and any curvature. Some problems appear only as the penis grows, so people with more severe hypospadias may benefit from review during childhood and puberty.

- Straighten the penis
- Build or extend the urethral channel
- Move the opening toward the tip
- Reconstruct the foreskin or perform circumcision
- Repair nearby skin and supporting tissue

Complications

Untreated hypospadias does not always cause complications. Possible concerns include spraying urine, difficulty urinating while standing, or dissatisfaction with appearance. Significant curvature may later make erections uncomfortable or sexual activity difficult.

A very low urethral opening can affect where semen is deposited. This may reduce fertility for some people, but hypospadias does not automatically cause infertility.

Surgical repair has recognised risks. These include:

Complications are more likely after complex proximal repairs than after simpler distal repairs. They can sometimes develop years later. A change in urine flow, new leakage, painful erections, or increasing curvature deserves assessment even if the original surgery was long ago.

Emotional concerns can also matter. Repeated examinations or procedures may affect privacy, confidence, or body image. Age-appropriate explanations and respectful care can help children take part in decisions as they mature.

- A urethral fistula, meaning a small channel that leaks urine through the skin
- Narrowing of the new opening or reconstructed urethra
- Partial separation of repaired tissue
- Persistent or returning curvature
- Scarring, uneven appearance, or trapped urine in a widened area
- Need for another procedure

Prevention

Hypospadias usually cannot be prevented. It forms early in pregnancy through a complex combination of developmental, genetic, hormonal, and placental factors.

There is no proven diet, supplement, or lifestyle change that specifically prevents it. During pregnancy, medications should be reviewed with a qualified healthcare professional, but prescribed treatment should not be stopped because of concern about hypospadias without medical advice.

If hypospadias has occurred in several family members, genetic counselling may help explain possible inherited factors and the chance of it occurring in another pregnancy. Testing will not always identify a cause.

Living with it and what to expect

Mild hypospadias may remain stable and cause little difficulty over time. It does not spread or turn into another illness. As the penis grows, however, curvature or concerns about the urine stream may become more noticeable.

Most children who have a successful repair can urinate normally and later have typical sexual function. A straight penis and a forward-directed stream are more important to function than achieving a perfectly uniform appearance.

Recovery after surgery usually involves a short period of swelling, bruising, and wound care. The penis may not look like its final result for several months. A small amount of crusting or unevenness can be part of healing, but the surgical team should assess changes that are worsening.

Some children need another operation for a fistula, narrowing, curvature, or cosmetic concern. This is more common after severe hypospadias or previous complications. The need for

another procedure does not necessarily mean the original care was inappropriate.

Puberty brings rapid genital growth and erections. Follow-up around this time can identify late curvature, narrowing, or concerns about appearance and sexual function. Older children and teenagers should be offered private opportunities to discuss their own priorities.

People repaired in childhood may seek assessment as adults if they develop a weak or spraying stream, repeated urinary infections, painful erections, difficulty with sexual activity, or fertility concerns. Help remains available even many years after the original treatment.

When to get medical help

Arrange routine medical assessment if hypospadias is noticed in a newborn or child. Avoid circumcision until a paediatric urologist has decided whether the foreskin might be needed for repair.

Seek prompt assessment if hypospadias occurs with one or both testicles not being in the scrotum, especially when the urethral opening is near the scrotum. This combination may require hormone and genetic evaluation.

After surgery, contact the surgical team urgently for:

Get emergency help if the child cannot pass urine and is becoming distressed, has severe or continuing bleeding, or appears seriously unwell. Hypospadias itself is not usually an emergency; these symptoms are related to blocked urine flow, bleeding, infection, or a surgical complication.

- Fever, increasing redness, worsening swelling, or pus
- Increasing pain that is not controlled as expected
- A catheter that falls out, stops draining, or appears blocked
- The wound opening or darkening tissue
- Persistent vomiting or inability to drink
- New urine leakage from an unexpected opening

Common questions

Is hypospadias the same as being circumcised?

No. Hypospadias often causes an incomplete, hooded foreskin, but this is part of the condition rather than circumcision. Circumcision should usually wait until after specialist assessment

because foreskin tissue may be used in repair.

Does every child with hypospadias need surgery?

No. A mild case may not need treatment if the penis is straight and urination is not affected. Surgery is more often considered when the urine stream is difficult to direct, the opening is far from the tip, or there is significant curvature.

Can someone with hypospadias have children?

Many people with hypospadias can have biological children. Fertility may be affected in some severe cases, particularly if the opening is very low, there are associated testicular or hormone conditions, or semen cannot be deposited effectively.

Will hypospadias affect erections or sex?

Mild hypospadias may have little effect. Significant downward curvature, scarring, or narrowing after repair can sometimes cause problems. These concerns can be assessed and treated during adolescence or adulthood.

Can hypospadias come back after surgery?

The original opening does not grow back, but complications can create new leakage, narrowing, or curvature. Some appear soon after surgery, while others become noticeable during growth or puberty.

Does hypospadias mean my child has a difference of sex development?

Usually not. Most children have isolated hypospadias. A difference of sex development is considered more strongly when hypospadias is severe, both testicles are undescended, or the genital development is otherwise unclear.

Sources

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