Hypospadias

What is it?

Hypospadias is the name used to describe a variation in the way the penis has developed, where the opening of the urethra (the tube that allows urine to pass from the bladder out of the body) may be located on the underside of the penis rather than at the tip (glans).

It is present from birth (congenital).

Hypospadias varies in severity and may change the appearance of the penis. It sometimes causes problems with the passing of urine or, later, sexual function.

There are usually 3 main changes involved

1. The tube that drains urine from the bladder (urethra) does not open on the tip of the penis but on the underside of the penis.

2. The penis may be bent or curved downwards, called “chordee”. This is usually most evident during erection of the penis.

3. The foreskin (prepuce) may have developed mainly at the top of the penis. This is called a dorsal hood. There may be little or no foreskin on the undersurface of the penis, giving an incomplete appearance.

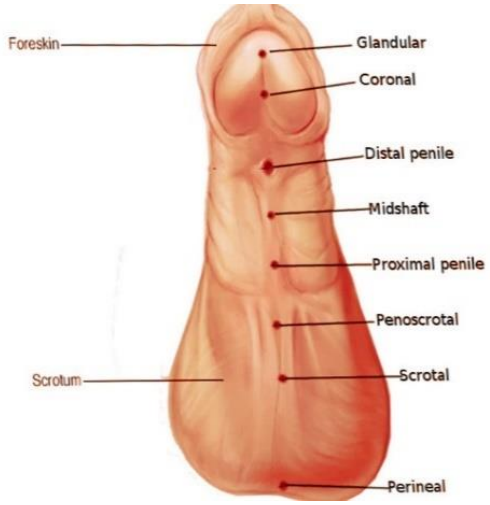
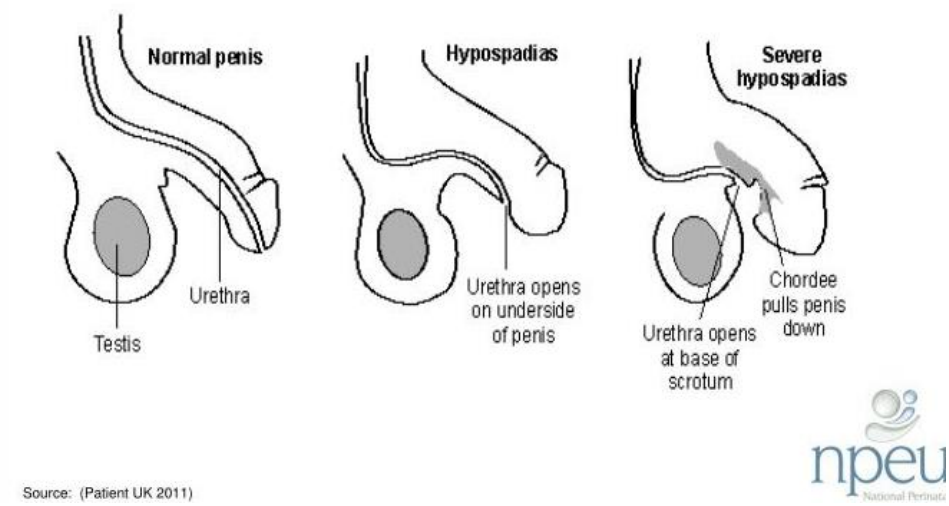


Image courtesy S Bhimji MD

Mild to moderate differences of the penis, where the urethral opening is placed nearer to the tip of the penis, are called ‘**distal’ hypospadias**.

Those that are more complicated, where the urethra opens closer to the body, are called ‘**proximal’ hypospadias**. The urethral opening can occur from low on the penile shaft, near or in the scrotum or on the skin between the penis and the anus (perineal hypospadias). The presence and amount of curvature of the penis or chordee add to the severity of the hypospadias.



General information

How often does it happen?

Hypospadias is quite common. It occurs in about 1/250-1/300 boys. It is more common in In vitro fertilization (IVF) babies. There is increased risk in those with a family history. There is about a 1 in 30 chance that a second son will have hypospadias.

What causes hypospadias?

The exact cause of hypospadias is usually unknown. It hasn't been linked to anything the mother did or didn't do during pregnancy. However, it can be passed down in some families or be part of a genetic condition. Most cases occur on their own, without other health issues. In more complicated cases, especially when the testes are not in their usual position in the scrotum, there may be underlying hormonal, genetic, or chromosomal differences.

How is it diagnosed?

Hypospadias is usually diagnosed during newborn examination, which includes examination of the penis. The severity is partly determined by the position of the urethral opening, as well as the degree of bend of the penis, or chordee, and the position of the testes.

Is testing required?

In most cases, no investigations are necessary. In complicated cases, hormone and genetic tests and ultrasounds to assess for other problems may be advised.

What are the treatment options?

In the mildest forms of hypospadias, where the urethral opening is near the tip of the penis, treatment might not be necessary.

If treatment is advised, it usually involves surgery. This decision is based on possible future problems such as the ability to urinate while standing, and whether the degree of bend or chordee might affect sexual function in adulthood. An operation may also be considered to manage concerns about appearance.

Key points about hypospadias surgery

- **Types of surgery:** There are various surgical techniques with different success rates and potential complications.
- **Use of foreskin:** The foreskin is often used in the reconstruction, so circumcision should be avoided before surgery.
- **Specialist care:** The surgery should be performed by a Specialist, such as a Paediatric Surgeon or Urologist, due to its complexity.

The aims of the operations are to:

- Move the urinary opening to near the tip of the penis to allow urination whilst standing.
- Change any curvature so that the penis is straight enough for erections and intercourse.
- Revise the cosmetic appearance of the penis.

Some children will need more than one operation to complete their repair and to achieve the desired result. This can sometimes only be decided at the time of surgery itself. The surgery may also involve grafting using tissue from the foreskin or the lining of the mouth. If surgery is undertaken in multiple stages, each stage is typically spaced at least six months apart. This approach allows for healing between procedures.

In addition to surgical treatments, some patients may require medical hormonal treatments, such as testosterone, before or between operations, to increase the size of the head of the penis (glans) and to improve the surgical outcome. This decision is made by the Specialist Paediatric Surgeon or Urologist.

What are the complications of surgery?

Complications from hypospadias surgery can include general surgical risks like bleeding and infection, as well as specific issues such as:

- Fistula: a connection between the urethra and skin, causing urine leakage or a second stream.
- Dehiscence: a breakdown in the repair, partial or complete.

- Stricture or stenosis: narrowing or scarring in the urethra, making passing urine difficult.
- Excess or asymmetric skin: affecting appearance of the penis.
- Altered sensation: a consequence of possible nerve damage.
- Persistent or recurrent chordee: continued or recuring bend of the penis, which might require additional surgeries.

Patients with more severe forms of hypospadias, such as proximal hypospadias, have higher rates of complications. Up to 50% of these patients may need further surgeries after the initial reconstruction. **Long-term follow up is recommended**.

Timing of surgery

If an operation is recommended for functional reasons, it is often done between 6 and 24 months of age. After surgery, children can usually go home the same day or the next. A catheter may be required after surgery, which may be more easily managed when children are still in nappies.

If an operation is considered for appearance (cosmetic) reasons, this may be chosen to be delayed until the child is old enough to be involved in the decision-making process.

It is important for parents to realise that unless there are urgent medical issues such as urinary obstruction or repeated urinary tract infections needing surgery, the **option and timing of surgery are decisions that they should make together with their care team.**

Consideration of surgery in the infant/toddler years must also balance factors such as:

- The age at which the least psychological trauma is caused by surgical intervention. Although it is widely believed that it is better to perform surgery before children are conscious of their genitals and can form verbal memories, some experts believe that medical and surgical procedures can cause psychological trauma for babies and children at any age.
- Possible psychosocial benefit of normal urination and penis whilst growing up versus possible psychosocial harm if surgical correction is not performed early.
- In some cultures, and families, the ability to urinate while standing during childhood is not considered a significant issue. This can allow for decisions regarding treatment to be delayed until the individual reaches the age of consent, enabling them to participate in the decision-making process.
- The importance of informed consent on the part of the infant/child, especially bearing in mind the high risk of complications as given above.

- Some infants/children have other health conditions which may influence decision-making about hypospadias repair.
- Decision-making about hypospadias repair is difficult because of the scarcity of long-term studies looking at outcomes in those with early surgical repair and those who did not have repair, with the need to consider the differing severity of hypospadias in each group.
- Sometimes, **rarely**, a severe hypospadias is complicated by hormonal and chromosomal factors, together making it hard to predict how the child will develop in puberty, future gender identity and whether to raise the child as a boy or girl. In these situations, waiting to gather as much information as possible over time before deciding about surgery is advisable.

Government of **Western Australia**
Child and Adolescent Health Service

Child and Adolescent Health Service
15 Hospital Avenue, Nedlands, WA, 6009.
Telephone: (08) 6456 2222
Produced by: Endocrinology and Diabetes
Ref: 1909 © CAHS 2025

This document can be made available in alternative formats on request for people with disability.