

**Dr. Prashant Jain**  
**Understanding Common  
Paediatric Urological Problems**

## Inguinal Hernia

### What is Inguinal Hernia?

**Inguinal hernia is one of the most common surgical problem among children.** It results from a small sac that comes out through a ring in the groin. This ring normally closes at the time of birth and if for some reasons if it does not close in some babies, then it makes a pathway for abdominal organs (usually intestine) to come out through the ring into the groin. This is a diagnosis made through clinical examination and no investigations are required. The hernia first appears as a bulge in the groin when a child cries or strains, and may appear or disappear, or may be present all the time. Hernia can be present on one side or may appear on both sides at the same time. In few percentage of cases bulge can appear later on the opposite side.

### What is the treatment available?

**Inguinal hernias never go away without a surgery.** This is a condition in which surgery is advised to be done as early as possible. The reason being, if the sac is left open, there is high risk of a loop of intestine or other organ getting entrapped (incarcerated) in the sac which can swell and compress the blood supply. Without adequate blood supply, the organ trapped in the hernia sac can become damaged or even die. This condition becomes an emergency and then the child needs an urgent surgery. If your child has an incarcerated hernia, he or she may have a hard, red, painful lump, may vomit, and may be unwilling to eat.

### What does the surgery involve?

The surgery can be done by open or laproscopic technique. The surgery takes about 30-40 minutes. It is a day care procedure. The hernia sac will need to be closed through a very small (about one inch) incision in the groin. There will be no stitches to be removed from the skin later because the stitches will all be under the skin and will dissolve on their own. The incision area of the skin will be covered with a small water proof dressing.

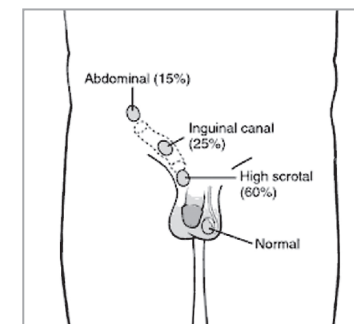
Hernia in children unlike adults does not require mesh.

## Undescended Testes

### What are Undescended Testes (UDT)?

An undescended testicle (or "testis") is when it fails to drop into the normal place in the scrotum. This is found in about 3 or 4 out of 100 newborns (and up to 21 out of 100 premature newborns). Luckily, about half of these testicles will drop on their own during the first 6 months of life.

Testicles that don't drop into the scrotum won't work normally. The longer the testicles are too warm, the lower the chances are that the sperm in that testicle will mature normally and also it will have tendency to get damaged. This can be a cause of infertility, especially when both testicles are affected. UDT are also linked to a higher risk of testicular cancer in adulthood, testicular torsion and developing a hernia near the groin.



*Undescended Testes (UDT)*

## Normal development of testes

The testicles (or "testes") are two organs (male gonads) that hang in a pouch-like skin sac (the scrotum) below the penis. The testicles are where sperm and testosterone (the male sex hormone) are produced. The scrotum keeps the testicles in a cooler setting than the body. This is because sperm can't grow at body temperature. Normal testicles are formed in the lower belly (abdomen), but descend, or "drop," into the scrotum towards the end of pregnancy.

### How are Undescended Testes Diagnosed?

A good clinical examination is required to diagnose UDT. If the testicle is palpable in the groin then it is known as a Palpable UDT.

A testes that can't be felt in a physical exam is called "nonpalpable." Nonpalpable testis may be in the abdomen (undescended), absent, or very small ("atrophic").

A UDT left inside the abdomen could form a tumor later in life. Unfortunately, there's no test, such as an ultrasound, that can definitively show whether a testes is there. **Laparoscopy is the only ideal way to locate the non-palpable testis.**

### How are Undescended Testes Treated?

If the testes won't drop till 6 months of age, the only treatment of choice is surgery. **Surgery is recommended after 6 months of age.**

#### ◆ *Management of UDT which can be felt (Palpable):*

This surgery is called "orchidopexy". The surgery is done as a day care procedure. A cut of about 1 inch long is made in the groin area (hardly be seen later). The testicles is freed from all nearby tissues so that it moves easily into the scrotum. Then it is stitched into place.



◆ **Management of undescended testis which cannot be felt (Non-Palpable)**

**For a nonpalpable undescended testicle Laparoscopic Surgery is the treatment of choice.** Laparoscopic surgery is done through thin tubes put into a child's body through a small cut. The surgeon uses a special camera to see inside the child's body. By laparoscopy, surgeon can not only locate the testis but can also confirm the size.

Also the testis can be easily brought down at the same time. If testis is atrophied it can be removed. Some cases of undescended testis in which the testis is lying high up in the abdomen requires two stage surgery.

## What is the care plan after Hernia Surgery and Orchidopexy

The child is discharged on the same day. Once the child is fully awake he/she can be started on liquid diet after 2-3 hrs of surgery followed by normal diet. Most children will only require mild pain killers after surgery.

Dressing will be removed 5 days after the surgery. These stitches are under the skin and doesn't need to be removed. For children who are not toilet trained, loose diapers should be used to avoid dressing getting wet. In case the dressing comes out, one can contact for dressing change. There will be some swelling at the incision site and may take few days to go away completely. The child may take a bath 5 days after the surgery once the dressing has been removed. Before then, he or she may take a sponge bath. There are no specific physical activity restrictions.

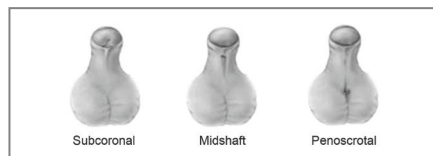
One can report to the OPD after 5 days after discharge to get the dressing removed.

## Hypospadias

### What is Hypospadias?

Hypospadias is a birth defect in boys in which the opening of the urethra is not located at the tip of the penis. The abnormal opening can be anywhere, from just below the end of the penis to the scrotum. The normal urethra is a tube through which urine flows out of the bladder and passes through the penis. The opening of the urethra (meatus) is normally at the end of the penis, partly covered by the foreskin.

Depending on the site of the opening they are classified as distal (minor type) and proximal (major type).



Types of Hypospadias

### What are the types of Hypospadias?

The types of hypospadias a boy has depends on the location of the opening of the urethra.

**Subcoronal:** The opening of the urethra is located somewhere near the tip of the penis.

**Midshaft:** The opening of the urethra is located along the shaft of the penis.

**Penoscrotal:** The opening of the urethra is located where the penis and scrotum meet.

**Hypospadias may also include the following:**

- ◆ A hooded appearance of the foreskin.
- ◆ Tightening of the tissues on the underside of the penis (called 'chordee'). This pulls the penis down and causes bending. This is commonly seen in severe hypospadias.

### What problems can Hypospadias cause?

Problems are likely to occur if hypospadias is left untreated. The further back the opening of the urethra is, the more severe the problems are likely to be.

- ◆ Passing urine is different to normal. A baby in nappies will have no problem. However, when older, the urine stream may not be able to be directed forward into a urinal. Chordee causes bending of the penis. This is more noticeable when the penis is erect. Sexual intercourse may be difficult or impossible in severe cases.
- ◆ Psychological problems about being 'different' to normal are common.

### What is the treatment for Hypospadias?

If the hypospadias is mild, with the opening of the urethra just a little down from normal and with no bending of the penis, no treatment may be needed. However, in most cases an operation is required to correct the hypospadias. This can usually be done in one operation. However, if the hypospadias is more complicated, two operations may be necessary. The operation is usually done when the child is around 12-24 months old.

**The aims of treatment are:**

- Urine should pass in a forward way
- The penis should be straight when erect
- The penis should look as normal as possible



This surgery is known as urethroplasty, if chordee is present then this is corrected to straighten the penis. After the surgery a catheter will be inserted in bladder, which will be kept for 8-10 days. The success of the operation and the 'normality' that can be achieved depends on the severity of the hypospadias.

### What happens after the operation?

The patient will be able to eat and drink after 3 hours. The patients are usually kept for 1 or 2 days in the hospital. The dressing and tube needs to stay in place for 8-10 days. In small kids the tube will go in double diapers.

### What are the risks of Hypospadias repair?

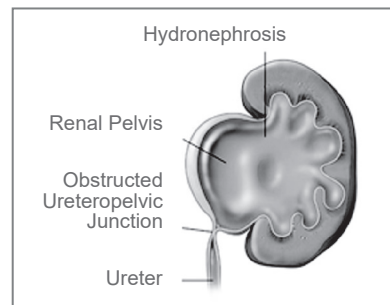
All surgery carries a small risk of bleeding during or after the operation.

For about one in ten boys, the original hole opens up again (fistula), and the patient passes urine through two holes. If this happens, the patient will need the operation again. The drainage tube can irritate the inside of the bladder, which is painful. This is called 'bladder spasm'. To reduce this, the patient will be given bladder spasm medicine along with analgesics. The patient will go home with the catheter and dressing in place and will be given instructions to take care of the same. He will be on antibiotics and analgesics.

## Pelviureteric Junction Obstruction (PUJO)

### What is Pelviureteric Junction Obstruction ?

It is a blockage or narrowing between the kidney pelvis and the ureter. PUJO impairs drainage of urine and this causes the urine to remain collected in the kidney causing swelling (Hydronephrosis). If it increases progressively then it causes back pressure on kidneys and subsequently affects the renal functions and may lead to a non functioning kidney.



### How common is PUJ obstruction?

About 1 in 1500 children have PUJ obstruction from birth (congenital). PUJ obstruction is one of the conditions that can cause hydronephrosis, which is the most common condition found in prenatal ultrasound.

### What are the symptoms of PUJ obstruction?

Sometimes there aren't any outward symptoms of PUJ obstruction and it is only found when an ultrasound shows that the kidneys are swollen. This is called hydronephrosis. Some children may experience back or side (flank) pain, or a urinary tract infection (UTI). Some children experience pain that comes and goes.

### How diagnosis of PUJ obstruction is confirmed ?

The diagnosis of PUJ obstruction is confirmed by a study called a DTPA scan. A DTPA scan shows how well the kidneys are working and also about the severity of blockage.

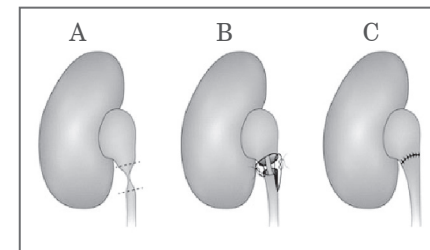
### How is PUJ obstruction treated ?

The treatment for a PUJ obstruction depends on severity of the blockage. Blockages that are mild, appear to be stable or are improving over the time, will be monitored with ultrasound.

Blockage that are more severe or worsening can cause permanent kidney damage. These obstruction require a surgery to remove the portion of the blocked ureter. The surgery is called as pyeloplasty.

### What is Pyeloplasty?

Pyeloplasty is the procedure of choice for PUJ obstruction. The surgery involves removing the PUJ obstruction and joining the kidney pelvis onto the ureter (pyeloplasty). It has good results. **This can be achieved through a traditional surgery ('open pyeloplasty') or by keyhole surgery ('laparoscopic pyeloplasty').**



Pyeloplasty Procedure

### What can I expect after surgery?

The child needs to stay in the hospital for 1 to 2 days and then is called after 5 days for removal of the dressing. A tube called stent is placed in the ureter at the time of surgery to keep the ureter open and draining while it heals. Stents are temporary and need to be removed after 4-6 weeks after the surgery. Removing the stent is a day care surgery and is removed with a scope passed through the urethra into the bladder.

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