Undescended Testicle (UDT)

What is an undescended testicle (UDT)? The testicles develop in the abdomen (near the kidneys) and usually descend into the scrotum by the time of birth. Cryptorchidism (Undescended testes) is one of the most common malformations in young boys and occurs in about 4 out of every 100 (4%) of newborn boys. However, 75% of these undescended testicles will eventually descend into the scrotum by 9 months of age. Therefore, 1 out of every 100 boys will require surgery for this condition. After 9 months it is very unlikely for a testicle to descend. An undescended testicle must be distinguished from a retractile testis: one that is normal but has temporarily pulled up out of scrotal sac into the groin area. Upon examination the testicle can be pulled into the scrotal sac. Remember that retractile testis are a normal variant and will most often drop into the scrotum by the time your child reaches puberty, rarely do these need surgery.

How do they occur? The exact reason that some testicles do not reach the scrotum is unknown. Their descent can arrest anywhere from the kidney to the scrotum. It is more common in premature infants.

How common is UDT
Rates:
- 30% of premature (> 37 weeks) infants
- 3-5% of full term males
- 1% at age 1
- 50% to 75% of UDT will drop in first year of life
- Very unlikely to drop after 9 months.

What is the difference between a palpable and a non-palpable testicle?
A Palpable testicle can be felt in the lower abdomen or groin—this usually means that there is a testicle that should be able to be surgically brought down into the scrotum. A Non-Palpable testicle cannot be felt in the groin or scrotum—this may mean one of a few different possibilities:
- A normal testicle may lie just inside the abdomen (inside the inguinal canal).
- Something happened to the testicle during development and it disappeared.
- The testicle descended normally into the scrotum but then lost its blood supply and disappeared.

Is an undescended testicle dangerous?
Testicles that do not fully descend into the scrotum can loose there function, which can effect fertility. These damaging effects on the testicle are seen by the first year of life.
- If a testicle is in abdominal location for 5 years or greater, it is very unlikely that it will have sperm production capabilities.
Also, there is a slightly higher risk of testis cancer in a true undescended testicle. Abdominal testicles are at even greater risk than inguinal testicles to develop cancer (these tumors typically occur after puberty but before age 40). In addition, most undescended testicles are associated with a congenital (present at birth) hernia and are more prone to injuries than a testicle located within the scrotal sac.

**What should be done?** An undescended testicle should be brought down into the scrotum preferably before the child is one-year-old. This is thought to preserve the function of the testicle with regard to fertility. A testicle that has not fully descended into the scrotum by age 9 months will not do so thereafter. Even if the testicle is not viable it is important to bring it down to the scrotum to perform regular physical exams starting in puberty because of the increased cancer risk. Note that is not the same for retractile testicles. Many of these testicles are down safely in the scrotum and do not require any surgery.

**How is the UDT repaired?**
The type of surgery that is needed depends on the location of the testicle. The majority of palpable testicles will be brought down through an inguinal incision. After all restricting fibers are released and any associated hernia repaired, a small incision is also made in the scrotum and the testicle is then sutured (stitched) into place. On rare occasions the testicle is already so far down that only a scrotal incision is required.

In the case of a non-palpable testicle, the abdomen will be explored laparoscopically. A small incision will be made in the belly button and a camera placed into the belly to look for a testicle. **If a testicle is seen in the abdomen**, then 2 more small incisions will be made for laparoscopic instruments (these are as a wide as a drinking straw). The surgeons will attempt to release any attaching fibers to get enough length to bring the testicle down to the scrotum. If so, there will be a small incision in the scrotum also. Sometimes it is too difficult to get enough length and the surgeon will stage the procedure (2 parts). One of the restricting arteries to the testicle is cut, the other smaller arteries are then given 3-6 months to dilate and the child then returns to the operating room and the process is repeated (this is uncommon).

As previously mentioned, an abdominal or scrotal testicle may not have developed normally in which case a non-viable remnant may be identified. These testicular remnants are removed.

**If a testicle is not seen in the abdomen**, the appearance of the blood vessels will tell the surgeon if the testicle disappeared (vanishing testicle) or if it made it to the scrotum but then shrunk down into a non-functioning remnant (nubbin).

Remember that only one normally functioning testicle is required for normal testosterone levels and near normal fertility.

**Results**
95% of inguinal testicles survive the procedure.
75% of abdominal testicles will survive the procedure.

Survival is determined by physical exam after the procedure. For those testicles that do not survive, no further procedures are needed.

**Before surgery**
No aspirin or ibuprofen for 7 days before surgery (review all medications with your surgeon prior to surgery).

**The day of surgery**
Check in at out-patient surgery 2 hours before your scheduled surgery time.
You will meet with your surgeon and anesthesiologist.
A general anesthetic will be used (with a pediatric trained anesthesiologist it is just as safe as for an adult).
You will be able to go home a couple of hours after the procedure is complete.

**What to expect after surgery**

**Inguinal incision**
There will be several small steri-strips over the groin incision with a clear plastic dressing over on top.
The stitches are under the skin and will dissolve on their own.
A small amount of blood or fluid collection under the dressing is not uncommon.
The dressing should come off on its own after about 7 days. If it has not come off completely, it is okay to remove it.
The scrotal incision will have stitches you can see, they will also dissolve on their own.
There may also be a thin film of glue over the scrotal incision that will come off by itself after a few days.

**Laparoscopic incision**
There will be some glue over the belly button incision that will come off on its own after several days.
The other 2 small incisions will have either small steri strips and clear plastic or a small amount of glue that will come off by itself after a few days.
The scrotal incision will have stitches you can see, which will also dissolve on their own.
Some swelling and even discoloration (turn black and blue) over the scrotum is to be expected and will resolve over several weeks.
Shower or bath 24 hours after surgery is permitted.
Constipation is very common after surgery, but it is important to try and avoid. High water intake and stool softeners will help avoid constipation.
NO straddling toys for 4 weeks after surgery (but place in car seats as usual).
**Medication**  Most children do well with **Ibuprofen** (and Tylenol for pain, we recommend that you alternate these every 2 hours for the first 24 to 48 hours (only when child is awake) to keep your child comfortable. **(Remember, never give the same medicine type more than once every 4 hours.)**

**Dosing chart (for Tylenol and Ibuprofen)**

<table>
<thead>
<tr>
<th>Weight Range</th>
<th>Dose</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-15 lbs</td>
<td>50 mg</td>
<td>8:00 am Tylenol</td>
</tr>
<tr>
<td>15-19 lbs</td>
<td>75 mg</td>
<td>10:00 am ibuprofen</td>
</tr>
<tr>
<td>20 lbs</td>
<td>100 mg</td>
<td>12:00 pm Tylenol</td>
</tr>
<tr>
<td>25 lbs</td>
<td>120 mg</td>
<td>2:00 pm ibuprofen</td>
</tr>
<tr>
<td>30 lbs</td>
<td>130 mg</td>
<td>4:00 pm Tylenol</td>
</tr>
<tr>
<td>35 lbs</td>
<td>150 mg</td>
<td></td>
</tr>
<tr>
<td>40 lbs</td>
<td>180 mg</td>
<td></td>
</tr>
<tr>
<td>50 lbs</td>
<td>220 mg</td>
<td></td>
</tr>
</tbody>
</table>

For children older than 1 year, you will have a prescription for **Tylenol with codeine** for more severe pain.

**Follow up**

3 to 6 weeks in the clinic

**Contact information**

University of Oklahoma Children’s Hospital  Out-patient surgery  405-271-4130
Weekdays 8am – 5pm  Pediatric Urology Clinic 405-271-3800
After 5 pm and weekends  Hospital operator 405-271-5656
(ask for pediatric Urology Doctor on-call)