The Undescended Testicle

What is an Undescended Testicle?
The undescended testicle is the most common birth abnormality involving the male genitalia. Any testicle that does not occupy a dependent scrotal position at birth is undescended.

Incidence of Undescended Testes

<table>
<thead>
<tr>
<th>Age</th>
<th>Incidence</th>
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</thead>
<tbody>
<tr>
<td>Premature Infant</td>
<td>10%</td>
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<tr>
<td>Full-term Infant</td>
<td>3%</td>
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<tr>
<td>6 Months</td>
<td>0.8%</td>
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<tr>
<td>Puberty</td>
<td>0.8%</td>
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The statistics above demonstrate that some undescended testes will descend during the first few months of life, and the diagnosis can be made with confidence by re-examination at 6 months of age. A retractile testicle represents a "normally" descended testicle that is pulled out of the scrotum by an overactive cremasteric muscle reflex. This commonly occurs between the ages of 2-7 in boys and can be confused with a truly undescended testicle. Proper physician exam allows accurate diagnosis, and further treatment is not required for retractile testes.

Problems associated with Undescended Testes

1. Infertility
2. Inguinal hernia
3. Testicular tumor
4. Psychological/cosmetic
5. Injury/torsion (twisting)

Where are Undescended Testes Located? (Please see Figure 1, Below)

Figure 1

Position of Testicle
1. High scrotal (gliding or prepupubic)
2. Superficial inguinal region
3. Inguinal canal
4. Intra-abdominal
5. Ectopic (outside line of normal descent)

Surgical Treatment
Surgery is performed at UCSF's outpatient surgery center. An incision will be made in the inguinal region (groin) on the affected
side. After the undescended testicle is found, fibrous bands are released, peritoneal attachments are divided, and the hernia sac associated with the testicle is removed. This allows the testicle to be pushed down into the scrotum and stitched into the proper position. Your son will have an additional incision in the scrotum as well. In the case of the non-palpable testes (ie, if the testicle is located in the abdomen), treatment may involve laparoscopy if deemed necessary. This involves looking inside the abdomen first to define the presence of a testicle. Then, with the use of laparoscopy, we will proceed with orchiopexy (surgical correction) to place the testicle in the scrotum. When indicated, laparoscopic-assisted orchiopexy avoids the need for an inguinal incision and is performed as an out-patient procedure.

Post-Operative Instructions

- Your child will usually be discharged from the hospital the same day of his surgery.
- Discomfort (soreness) is not uncommon for a couple of days in the area of the groin or scrotal incisions. Tylenol is most helpful.
- We recommend only sponge bathing for 3 days following surgery, and then regular baths or showers can resume.
- Your child should avoid strenuous activities such as wrestling, gymnastics, swimming or ball-playing for 2 weeks after surgery.
- He may return to school in 2 days if he feels up to it.
- If your child feels warm, please check his temperature. Should it be above 101 degrees F, call my office at 415 353 2200 for further advice.
- Please call my office at 415 353 2200 for an appointment 1 month after the surgery.

What are the treatment alternatives?
Hormonal therapy available in the United States requires anywhere from 3 to 9 intramuscular injections of human chorionic
gonadotropin (HCG) to stimulate testicular descent. This is not recommended routinely because of the necessarily painful mode of administration, trauma to child, and poor response noted in children (about 10% success rate). An alternate form of hormonal stimulation administered by nasal spray (LHRH) is at present considered experimental and is not approved for this use by the FDA.

We recommend surgical correction (orchiopexy) as the most effective treatment for this condition. The ideal timing for surgery is between 1 and 2 years of age, though there are often situations that are clearly identified at a later age and are corrected in older children. If the testicle has not descended by one year of age, it is highly unlikely to descend as the child gets older. There is no benefit in allowing a child to grow until puberty without correction of this condition, hoping for descent of the testicle.

Clinical Outcome Data

Program Description
The undescended testicle is the most common birth anomaly involving the male genitalia. Any testicle that does not occupy a dependent scrotal position at birth is considered undescended. The incidence of undescended testes is 3% in full-term male infants. The incidence then decreases to 0.8% at 6 months of age, and remains at 0.8% as these boys go through puberty. These statistics demonstrate that the majority of testes will descend during the first 6 months of age. Therefore, we recommend nonoperative management in the first year of life.

A retractile testes represents a normally descended testes that is pulled out of the scrotum by an overactive cremasteric muscle, which is the muscle that surrounds the blood vessels of the testes as well as the vas deferens. This is a normal finding and
commonly occurs in boys between the ages of 2 and 7 years. A retractile testes can be confused with the truly undescended testes. Proper physical exam allows accurate diagnosis and further treatment is not required for retractile testes.

The treatment for babies with a testicle that does not descend within the first year of life is surgery, because of the following issues associated with the undescended testes:

- Psychological or cosmetic
- Fertility or an increased chance of abnormal sperm production in undescended testes
- An associated inguinal hernia
- An increased incidence of the testicle twisting or testicular torsion
- A slightly higher chance of testicular tumor

**Components of Excellence**

**Faculty**

Dr. Laurence Baskin is board certified in all aspects of urology but limits his practice to pediatric patients. He is an active member of the American Academy of Pediatrics, Section on Urology, a Fellow of the Society of Pediatric Urology, a Fellow of the American College of Surgeons and a member and past president of the Society of Fetal Urology. Dr. Baskin is fellowship trained specifically in the field of Pediatric Urology at the Children's Hospital of Philadelphia and has extensive experience in all aspects of pediatric urological care.

Hiep "Bob" Thieu Nguyen, MD

Angie Hinds, CPNP is a certified pediatric nurse practitioner, an affiliate member of the American Academy of Pediatrics, Section on Urology, director of the UCSF Pediatric Continence Clinic.
She also coordinates the pre and post operative care of all patients with pediatric urologic diagnoses.

Dr. Baskin, Dr. Nguyen, and Angie Hinds, CPNP, treat exclusively pediatric urologic problems.

**Clinical Volumes and Outcome Measures**
From the period of July 1, 1997 through December 31, 1999, 275 outpatient surgeries were performed for undescended testes at the University of California, San Francisco Children's Medical Center. 65 of these patients were treated for bilateral undescended testes and the remaining 210 for unilateral undescended testes. There were no clinical complications in the care of any patient.

Patient-parent satisfaction questionnaires were mailed to 45 patients who received orchiopexy surgery between March 5, 1998 and January 14, 1999. Responses were obtained from 27%. Overall, the responding parents appeared to be quite satisfied with their experience. 83% of patients rated the care they received as excellent and the remaining 17% as very good, with no families describing their care as fair or poor. 100% of the families were very pleased with the amount and kind of information that they received from Dr. Baskin and Angie Hinds, CPNP concerning their child's diagnosis. 92% of the families were ready to leave the surgery center postoperatively and felt they had received sufficient explanation on how to care for their children. 100% of the families rated as good to excellent the availability of the physician for consultation either before or after surgery. All families would choose UCSF Medical Center if their children needed hospital care again, and would recommend UCSF Medical Center to friends and family members.

**Conclusion**
Undescended testes is one of the most common urologic problems treated by pediatric urologists. In the majority of patients, the
testicle descends without the need for surgery. In patients where the testicle does not descend, we recommend surgical intervention within the first year of life. Our experience in the last three years with over 250 children with undescended testes shows that outpatient surgery as safe and effective, with excellent outcome for both the patient and his family.

**Contact**
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