

Undescended Testicle

Undescended testicle (cryptorchidism) is a testicle that hasn't moved into its proper position in the bag of skin hanging below the penis (scrotum) before birth. Usually just one testicle is affected, but about 10 percent of the time, both testicles are undescended.

An undescended testicle is uncommon in general, but quite common among baby boys born prematurely.

The vast majority of the time, the undescended testicle moves into its proper position on its own, within the first few months of life. If your son has an undescended testicle that doesn't correct itself, surgery can relocate the testicle into the scrotum.

Not seeing or feeling a testicle where you would expect it to be in the scrotum is the main sign of an undescended testicle.

Testicles form in the abdomen during fetal development. During the last couple of months of normal fetal development, the testicles gradually descend from the abdomen through a tube-like passageway in the groin (inguinal canal) into the scrotum. With an undescended testicle, that process stops or is delayed.

When to see a doctor

An undescended testicle is typically detected when your baby is examined shortly after birth. If your son has an undescended testicle, ask the doctor how often your son will need to be examined. If the testicle hasn't moved into the scrotum by the time your son is 4 months old, the problem probably won't correct itself.

Treating undescended testicle when your son is still a baby may lower the risk of complications later in life, such as infertility and testicular cancer.

Older boys — from infants to pre-adolescent boys — who have normally descended testicles at birth might appear to be "missing" a testicle later. This condition might indicate:

- A retractile testicle, which moves back and forth between the scrotum and the groin and may be easily guided by hand into the scrotum during a physical exam. This is not abnormal and is due to a muscle reflex in the scrotum.
- An ascending testicle, or acquired undescended testicle, which has "returned" to the groin and can't be easily guided by hand into the scrotum.

If you notice any changes in your son's genitals or are concerned about his development, talk to your son's doctor

The exact cause of an undescended testicle isn't known. A combination of genetics, maternal health and other environmental factors might disrupt the hormones, physical changes and nerve activity that influence the development of the testicles. Factors that might increase the risk of undescended testicle in a newborn include:

- Low birth weight
- Premature birth
- Family history of undescended testicle or other problems of genital development
- Conditions of the fetus that can restrict growth, such as Down syndrome or an abdominal wall defect
- Alcohol use by the mother during pregnancy
- Cigarette smoking by the mother or exposure to secondhand smoke
- Obesity in the mother
- Diabetes in the mother — type 1 diabetes, type 2 diabetes or gestational diabetes
- Parents' exposure to some pesticides

In order for testicles to develop and function normally, they need to be slightly cooler than normal body temperature. The scrotum provides this cooler environment. Until a boy is 3 or 4 years old, the testicles continue to undergo changes that affect how well they function later.

Complications of a testicle not being located where it is supposed to be include:

- **Testicular cancer.** Testicular cancer usually begins in the cells in the testicle that produce immature sperm. What causes these cells to develop into cancer is unknown. Men who've had an undescended testicle have an increased risk of testicular cancer. The risk is greater for undescended testicles located in the abdomen than in the groin. Surgically correcting an undescended testicle might decrease, but not eliminate, the risk of future testicular cancer.
- **Fertility problems.** Low sperm counts, poor sperm quality and decreased fertility are more likely to occur among men who've had an undescended testicle. A decrease in cells in the testicle that produce sperm has been found as early as 1 year old.

Other complications related to the abnormal location of the undescended testicle include:

- **Testicular torsion.** Testicular torsion is the twisting of the spermatic cord, which contains blood vessels, nerves and the tube that carries semen from the testicle to the penis. This painful condition cuts off blood to the testicle. If not treated promptly, it

might result in the loss of the testicle. Testicular torsion occurs 10 times more often in undescended testicles than in normal testicles.

- **Trauma.** If a testicle is located in the groin, it might be damaged from pressure against the pubic bone.
- **Inguinal hernia.** If the opening between the abdomen and the inguinal canal is too loose, a portion of the intestines can push into the groin.

An undescended testicle is usually detected at birth. Your family doctor or pediatrician will continue to monitor the condition during regularly scheduled exams, or well-baby visits, for your infant son.

To prepare for your appointment, write down a list of questions to discuss with your doctor. Questions might include:

- How often should I schedule appointments?
- How can I safely examine the scrotum at home to monitor any changes in the undescended testicle?
- When would you recommend seeing a specialist?
- What kinds of tests will my son need?
- What treatment options do you recommend?
- Are there any brochures or other printed material that I can take home with me? What websites do you recommend?

Don't hesitate to ask additional questions during your appointment.

What to expect from your doctor

Your doctor will examine your infant son's groin. If a testicle isn't in the scrotum, he or she will try to locate it by lightly pressing against his skin. Your doctor might use a lubricant or warm, soapy water for the exam.

If your doctor feels the testicle somewhere in the inguinal canal, he or she will attempt to move it gently into the scrotum. If it moves only partway into the scrotum, if the movement appears to cause pain or discomfort, or if the testicle immediately retreats to its original location, it may be an undescended testicle. If the testicle can be moved relatively easily into the scrotum and remain there for a while, it's most likely a retractile testicle.

If your son's testicle hasn't descended or can't be located by the time your son reaches 3 or 4 months of age, your doctor should refer you to a specialist in children's genital and urinary tract disorders (pediatric urologist) or a pediatric surgeon for further examination.

If your son has an undescended testicle, his doctor may recommend surgery for diagnosis and potential treatment:

- **Laparoscopy.** A small tube containing a camera is inserted through a small incision in your son's abdomen. Laparoscopy is done to locate an intra-abdominal testicle. The doctor may be able to fix the undescended testicle during the same procedure, but an additional surgery may be needed in some cases. Alternatively, laparoscopy may show no testicle present, or a small remnant of nonfunctioning testicular tissue that is then removed.
- **Open surgery.** Direct exploration of the abdomen or groin through a larger incision may be necessary in some cases.

The goal of treatment is to move the undescended testicle to its proper location in the scrotum. Early treatment (before 1 year of age) might lower the risk of complications of an undescended testicle, such as infertility and testicular cancer.

Surgery

An undescended testicle is usually corrected with surgery. The surgeon carefully manipulates the testicle into the scrotum and stitches it into place (orchiopexy). This procedure can be done either with a laparoscope or with open surgery.

When your son has surgery will depend on a number of factors, such as your son's health and how difficult the procedure might be. Your surgeon will likely recommend doing the surgery after your son is 3 to 6 months old and before he is 12 months old. Early surgical treatment appears to lower the risk of later complications.

In some cases, the testicle may be poorly developed, abnormal or dead tissue. The surgeon will remove this testicular tissue.

If your son also has an inguinal hernia associated with the undescended testicle, the hernia is repaired during the surgery.

After surgery, the surgeon will monitor the testicle to see that it continues to develop, function properly and stay in place. Monitoring might include:

- Physical exam
- Ultrasound exam of the scrotum
- Tests of hormone levels

Hormone treatment

Hormone treatment involves the injection of human chorionic gonadotropin (HCG). This hormone could cause the testicle to move to your son's scrotum. Hormone treatment is not usually recommended because it is much less effective than surgery.

Other treatments

If your son doesn't have one or both testicles — either missing or didn't survive after surgery — you might consider saline testicular prostheses for the scrotum that can be implanted during late childhood or adolescence. These prostheses give the scrotum a normal appearance.

If your son doesn't have at least one healthy testicle, your doctor will refer you to a hormone specialist (endocrinologist) to discuss future hormone treatments that would be necessary to bring about puberty and physical maturity.

Results

The most common surgical procedure for correcting a single descending testicle (orchiopexy) has a success rate of nearly 100 percent. Fertility for males after surgery with a single undescended testicle is nearly normal, but falls to 65 percent in men with two undescended testicles. Surgery may reduce the risk of testicular cancer, but it does not eliminate it.