



Effective Health Care Program

Treatment Options for Children With Undescended Testicles

A Review of the Research for Parents and Caregivers



Agency for Healthcare Research and Quality

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Is This Information Right for Me?

If you meet all of the following, this information is for you:

- Your child's doctor* has told you that your child has an undescended testicle or testicles. This happens when one or both testicles do not drop down into the scrotum before birth. This condition is called "cryptorchidism" (pronounced crip-TOR-kid-iz-um).
- You want to know what researchers have found about treatment options for undescended testicles.
- Your child has not yet gone through puberty. The information in this summary is from research on boys before puberty.

What will this summary cover?

This summary will cover:

- What it means to have undescended testicles
- Treatment options for children with undescended testicles
- What researchers have found about how well the treatments work
- Possible side effects of the treatments

This summary can help you talk with your child's doctor about what treatment might be right for your child.

* In this summary, the term "doctor" refers to your child's health care professional, including your child's pediatrician, pediatric urologist (a doctor who treats children with conditions of the genitals or urinary tract), surgeon, nurse practitioner, or physician assistant.

Where did the information come from?

Researchers funded by the Agency for Healthcare Research and Quality (AHRQ), a Federal Government research agency, reviewed 60 studies on treatments for undescended testicles published between 1980 and February 2012. The report was reviewed by clinicians, researchers, experts, and the public. You can read the report at www.effectivehealthcare.ahrq.gov/undescended-testicle.cfm.



Understanding Your Child's Condition

What are undescended testicles?

Testicles are the two small ball-shaped organs inside the scrotum (the sac of skin below the penis) that make male hormones and sperm. An undescended testicle happens when one or both of a child's testicles do not drop down into the scrotum before birth. This condition is called "cryptorchidism."

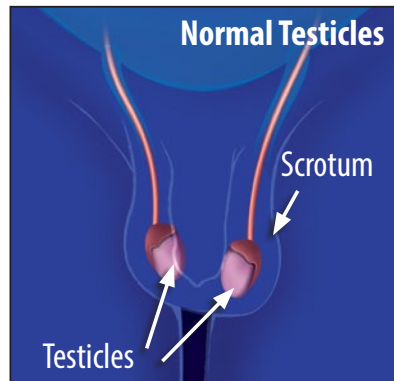
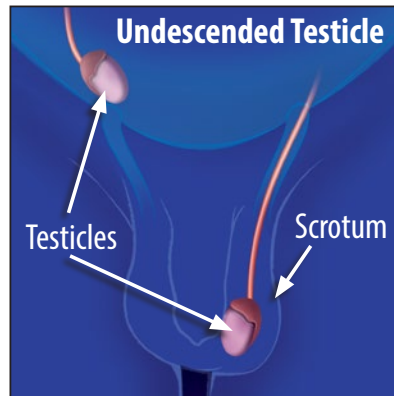
When a baby boy develops in his mother's womb, the testicles form in the infant's abdomen (belly). Right before birth, the testicles drop down (descend) into the scrotum.

In some babies, one or both testicles do not drop down like they should. Undescended testicles may be in the belly or groin area. It is also possible for a baby to be born without one or both testicles.

Undescended testicles could be healthy and work normally. Sometimes, however, undescended testicles do not develop correctly and do not work like they should.

Doctors do not know what causes undescended testicles. But, they are not caused by anything the mother did during pregnancy.

In 7 out of every 10 babies born with undescended testicles, the undescended testicles will drop down into the correct position before the baby is 6 months old. If your child's testicles do not drop by then, it is important to talk with your child's doctor about treatment options.





How common are undescended testicles?

- Out of every 100 full-term male babies, 3 are born with undescended testicles.
- Out of every 100 male babies born prematurely (too early), up to 30 are born with undescended testicles.
- Out of every 100 boys with undescended testicles, the undescended testicle cannot be found in up to 5.

What problems could an undescended testicle cause?

A testicle that does not drop into the correct place in the scrotum could become damaged. This could lead to infertility (not being able to have children) later in life or to other medical problems.

Men who have had undescended testicles (one or both and whether treated or not) may have an increased risk for testicular cancer. It is important for men and teenage boys who have had this condition to examine their testicles each month to feel for lumps or other signs of tumors or problems.

Understanding Your Options

How are undescended testicles treated?

The goal of treatment is to bring undescended testicles down into the correct place in the scrotum. If your child's testicle has not descended by the time your child is 6 months old, you should talk with your child's doctor about treatment options. The doctor will likely recommend surgery. Rarely, hormonal treatment may be an option.

It is best to treat undescended testicles while your child is still very young—between 6 months and 1 year of age.



Surgery

Your child's doctor will likely suggest surgery (either orchiopexy or FS orchiopexy) to move your child's undescended testicle down into the scrotum.

- **Orchiopexy:** If your child's undescended testicle is low in the belly or in the groin, the testicle can be moved to the scrotum in a surgery called an "orchiopexy" (pronounced OR-kee-oh-PEK-see).
- **FS Orchiopexy:** If your child's undescended testicle is high in the belly, the blood vessels attached to the testicle might not be long enough to reach down into the scrotum. In this case, the surgeon will need to do a different type of surgery. This surgery is called a "Fowler-Stephens" (or FS) orchiopexy. It can be done in two ways:
 - *One-step surgery:* a single surgery
 - *Two-step surgery:* two separate surgeries done at least 6 months apart

Open Surgery or Laparoscopic Surgery

Orchiopexy and FS orchiopexy can be done as either open surgery or laparoscopic (pronounced lah-puh-ruh-SKAHP-ik) surgery (see below for a description of each). If your child's undescended testicle is in the groin, the surgeon will do open surgery. If the surgeon is unsure of where the testicle is or cannot find it, laparoscopic surgery can be done to see if the testicle is in the belly. If the testicle is found in the belly, the surgeon may do either open or laparoscopic surgery to move it down into the scrotum.

- **Open surgery:** The surgeon makes a cut in your child's belly or groin and scrotum to do the surgery.
- **Laparoscopic surgery:** The surgeon uses a tool called a laparoscope (pronounced LAH-pruh-skohp) for the surgery. A laparoscope is a thin tube with a tiny camera that the surgeon puts through small cuts in your child's belly along with other small tools to do the surgery. The laparoscope lets the surgeon see inside your child's body to do the surgery without having to make big cuts.

The type of surgery your child needs depends on the location of the undescended testicle. Your child’s doctor can tell you which type of surgery your child needs.

Location of the undescended testicle:	Type of surgery:
Groin	Open orchiopexy
Low in the belly	Open or laparoscopic orchiopexy
High in the belly	One-step open or laparoscopic FS orchiopexy or Two-step open or laparoscopic FS orchiopexy

What have researchers found about how well surgery works to treat undescended testicles?

Researchers found that surgery works well to bring undescended testicles down into the scrotum. Sometimes though, the testicle can get damaged during surgery, causing it to no longer work.

The chart below shows how successful each type of surgery is. It also shows how often testicles get damaged in each type of surgery.

Surgery type:	This type of surgery is done when:	This surgery is successful in:	Testicles get damaged during this type of surgery in:
Orchiopexy	The undescended testicle is low in the belly or in the groin and the blood vessels are long enough to reach into the scrotum	96 of 100 boys	2 of 100 boys
One-step FS orchiopexy[†]	The undescended testicle is high in the belly and the blood vessels are not long enough to reach into the scrotum	78 of 100 boys	28 of 100 boys*
Two-step FS orchiopexy[†]		86 of 100 boys	8 of 100 boys*
Researchers also found:			
Open surgery and laparoscopic surgery appear to work just as well as each other for undescended testicles in the belly, but more research is needed to know for sure.			
[†] There is not enough research comparing one-step with two-step FS orchiopexy to know which might work best.			
* More research is needed to know this for sure.			

What are the possible side effects of surgery to treat undescended testicles?

Surgery to treat undescended testicles is generally safe, and complications are rare. But there are possible side effects with any surgery, including:

- Bleeding
- Infection
- Injury to blood vessels
- Injury to organs (such as the testicles, the spermatic cords attached to each testicle, the bladder, or others)
- Risks of general anesthesia, such as pneumonia, heart attack, or stroke, although these are rare

It is also possible for the testicle to go back up into the groin or belly after surgery. If this happens, another surgery may be needed to bring the testicle back down or to remove it.

Will surgery to treat undescended testicles affect my child's fertility?

Men who had surgery as a child to treat one undescended testicle usually do not have problems with fertility (the ability to have children). Men who had surgery as a child to treat two undescended testicles are more likely to have problems with fertility than men who had only one undescended testicle.

Hormonal Treatment

Hormonal treatment is another option to treat undescended testicles in particular cases, but it is rarely used. If your child's testicle is close to the scrotum, the doctor may suggest hormonal treatment to try to get the testicle to drop down. The hormone used is called hCG (human chorionic gonadotropin). This hormone comes as a shot that the doctor gives your child two to four times a week for 4 or more weeks.

What have researchers found about how well hormonal treatment works?

Researchers found that hormonal treatment with hCG may work slightly better than no hormonal treatment in boys whose testicles are near the scrotum. But, more research is needed to know for sure if hormonal treatment works. If hormonal treatment works, it is still possible for the testicle to go back up into the groin or belly. There is not enough research to know how often this happens.

Note: If hormonal treatment does not work or if your child's testicle is far from the scrotum, the doctor will likely suggest surgery to bring the undescended testicle down into the scrotum.

If your child has a hernia (when part of the intestine or belly fat pokes through an opening in the groin muscles) with his undescended testicle, he may need surgery.

What are the possible side effects of hormonal treatment?

Possible side effects of hCG hormonal treatment for undescended testicles are listed below. Not every child who is treated with hCG will have side effects. Side effects usually go away when treatment ends. But, researchers do not know if hormonal treatment may cause other problems as an adult such as not being able to have children.

- Headache
- Irritability
- Restlessness
- Depression
- Tiredness
- Swelling in the legs, ankles, and feet
- Breast growth
- Enlarged penis
- Pubic or armpit hair growth
- Erections
- Aggressive behavior
- Pain where the shot was given

What are the costs of treatments for undescended testicles?

The costs to you for surgery or hormonal treatments depend on your health insurance.

Making a Decision

What should I think about when deciding?

There are many things to think about when deciding which treatment might be best for your child. You may want to talk with your child's doctor about:

- Whether surgery or hormonal treatment could help your child
- The possible benefits and side effects of the treatment
- The costs of the treatment

Ask your doctor

- What would happen if my child receives no treatment?
- At what age should my child get treatment?
- What is the best treatment option for my child?
- If my child has surgery, which type of surgery would he need?
- Would open or laparoscopic surgery be better for my child?
- What possible side effects should I watch for?
- How will we treat any side effects my child has?
- How long will it take my child to recover from surgery?
- What activities should my child avoid right after surgery?

Other questions:

Write the answers here:

Sources

The information in this summary comes from the report *Evaluation and Treatment of Cryptorchidism*, December 2012. The report was produced by the Vanderbilt Evidence-Based Practice Center through funding by the Agency for Healthcare Research and Quality (AHRQ).

For a copy of the report, or for more information about AHRQ and the Effective Health Care Program, go to www.effectivehealthcare.ahrq.gov/undescended-testicle.cfm.

Additional information came from the MedlinePlus® Web site, a service of the National Library of Medicine and the National Institutes of Health. This site is available at www.nlm.nih.gov/medlineplus.

This summary was prepared by the John M. Eisenberg Center for Clinical Decisions and Communications Science at Baylor College of Medicine, Houston, TX. Parents or caregivers of children with undescended testicles reviewed this summary.

