

TREATMENT AND PREVENTION OF CREPTORCHISM

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Annotation: Cryptorchidism, also known as undescended testis, is the failure of one or both testes to descend into the scrotum. The word is from Greek κρυπτός (*kryptos*) 'hidden' and ὄρχις (*orchis*) 'testicle'. It is the most common birth defect of the male genital tract. About 3% of full-term and 30% of premature infant boys are born with at least one undescended testis. However, about 80% of cryptorchid testes descend by the first year of life (the majority within three months), making the true incidence of cryptorchidism around 1% overall. Cryptorchidism may develop after infancy, sometimes as late as young adulthood, but that is exceptional.

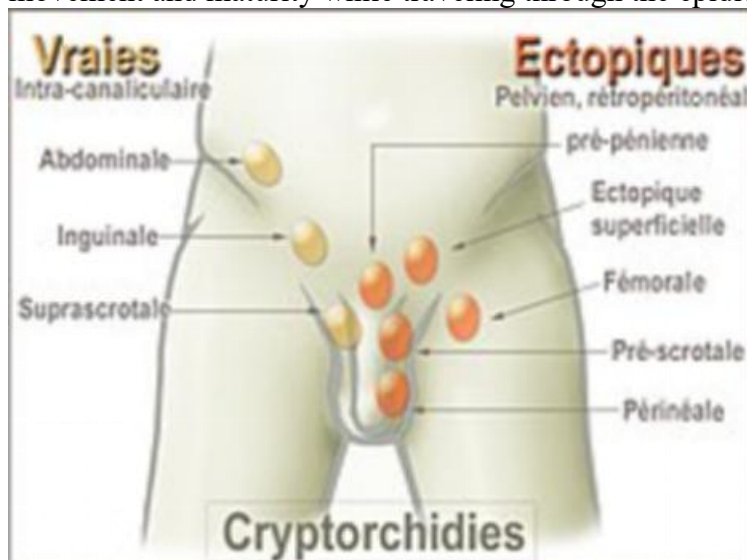
Different forms of cryptorchidism, depending on the position of the undescended testicle. Sometimes the retractile testicle is added.

Cryptorchidism is distinct from monorchism, the condition of having only one testicle. Though the condition may occur on one or both sides, it more commonly affects the right testis.

Key words: Glands, causes, sex, male, female, penis.

The male reproductive system* includes the penis, testicles and scrotal sac/scrotum. These organs make, store and transport sperm. A sperm is a very tiny male sex cell. The sperm cell is needed to fertilize a woman's egg (ova) to make a baby.

- The penis includes the glans (the head), the corona (the ridge between the head and the shaft) and the shaft (the long part of the penis). The urethra is the opening at the tip.
- The testicles are two organs that hang in a pouch-like skin sac (the scrotum) below the penis. These organs are where sperm and testosterone (the male sex hormone) are made.
- The scrotum is designed to keep the testicles cool, away from the body. This is because sperm can't grow at body temperature. Sperm start growing in the testicles and gain movement and maturity while traveling through the epididymis.



Normal testicles form early in a baby boy's growth, while still in the womb. They form in the lower belly (abdomen) and drop into the scrotum toward the end of pregnancy. Normal testicles attach themselves with stretchable tissue in the bottom of the scrotum. This is controlled by the baby's normal hormones.

“Undescended testicle” is the term used when one or both of the testicles fail to descend into the scrotum. Your baby's pediatrician will evaluate for this during a routine exam. The scrotum looks and feels empty.

About 3 or 4 out of 100 newborn boys (up to 21 out of 100 premature newborns) have this defect. Only 10 out of 100 infants who have undescended testicles have them on both sides. Most of the time there are no other symptoms besides an empty scrotum.

Testicles that don't descend into the scrotum won't work normally. Testicles sit in the scrotum, to be at slightly lower than body temperature in order to keep sperm healthy. While the testicles are in the abdomen, they are warmer than they should be. If they are at a higher temperature for too long, the sperm will not mature well. This can lead to infertility. This is a greater risk when both testicles remain within the abdomen.

Undescended testicles are also linked to a higher risk of:

- Testicular cancer in adulthood
- Testicular torsion (twisting of the blood vessels that bring blood to and from the testis)
- Inguinal hernia (a hernia that develops near the groin)

In about half of the boys born this way, the testicle will descend into place on its own. This often happens within the first 3-6 months of life. If they don't descend after 6 months, they should see a pediatric urologist and treatment may be needed.

It's important to note that this is different from retractile testicles. With retractile testicles, the testes are in the scrotum but they also move into the groin. They can pull up with a normal reflex to cold or fear, or with flexing of the abdominal muscles. But they can also be moved by hand from the groin to the scrotum. A pediatric urologist can tell the difference with a physical exam.

If undescended testicles appear in an older child, it is called an ascending testicle. This happens because the testicle isn't attached in the scrotum. It is noticed as the child grows. The testicles are descended normally at birth, but later in childhood they are diagnosed with an ascending testicle. About 1 out of 5 of these cases are found in older boys. These testicles need surgery to “fix” them into the scrotum. Sperm may not mature if the testicle stays ascended.

Only testicles that are truly undescended need treatment. To assure good genital health, boys should be checked during their yearly exam.

Causes

Why the testicles fail to descend is not clear. It could be because the baby is born early and the testicles didn't fully develop. Or, the testicles descend but miss the scrotum.

They may end up next to the scrotum instead (ectopic testicles). Or, the baby's hormones can't stimulate the testicles the way they should.

No studies have shown that this is from something the mother was exposed to or ate during pregnancy. Some studies have found that genetics can play a role, passed down from a male relative.

Diagnosis

An exam by a pediatrician or pediatric urologist will confirm that one or both testicles are not in the scrotum. The doctor may or may not be able to feel the testicle in the abdominal wall.

A testicle that cannot be felt in an exam is called "nonpalpable." Nonpalpable testicles may be in the abdomen (undescended), very small (atrophic) or not there at all.

It's important to find out if a testicle is there, but hasn't dropped. An undescended testicle left inside the abdomen could form a tumor later in life. Such a tumor might not be noticed until it becomes large or causes symptoms.

Although an ultrasound is sometimes able to show if the testicles are present, it is not a perfect test. Because it is not a perfect test, it should not be used to look for an undescended testicle before the patient is seen and examined by a pediatric urologist.

Treatment

If your baby's testicle doesn't descend into place by 6 months, you should take your baby to see a specialist. A pediatric urologist can talk with you about surgery. Surgery is required when testicles don't drop naturally. Drugs and hormone treatments have not been found to help.

The timing for surgery will depend on:

- Your child's age
- His general health
- His medical history
- His ability to tolerate anesthesia and surgery
- Your own comfort level and treatment goals

Surgery to move testicles into the scrotum is called an orchiopexy. Overall, this surgery is very successful (98 out of 100 cases are successful). The surgery involves a small cut in the groin area. This is done to find the testicles. Another small cut is done near the scrotum to put the testicles in the correct place. This surgery usually takes 45 minutes. In some cases, depending on the location of the testicles, a completely scrotal approach may be possible through a single scrotal cut.

To start, the child is given general anesthesia. Almost always, the child can go home the same day as surgery. Normal activities can be done within one to two days.

Pediatric urologists are experts in laparoscopic surgery. Laparoscopy is surgery done through a small cut on the abdomen with a special, tiny camera and tools to work inside your child's body. This surgery is done when your doctor cannot feel the testicles to look for them in the abdomen.

With laparoscopy, a cut is made in the belly-button area. Most often, no scar is seen later. The testicle(s) found in the abdomen are freed from nearby tissue. They can then be moved into the scrotum. There, the testicle is stitched into place.

If there is a hernia (a bulging of an organ or tissue through an abnormal opening), it is fixed at the same time. In some cases, the testicle is too high for this simple surgery. Other methods (and sometimes even two surgeries) may be needed to fully bring the testicle(s) into the scrotum.

Other Considerations

After Treatment

After treatment, most children grow normally and in good health. They can become fertile like all healthy men. The testicle often grows to regular size in the scrotum. However, if the testicle wasn't normal to start with, it may never grow the right way. Other times, sperm won't grow in a testicle that couldn't develop in the scrotum.

When the child becomes a teen, he should have routine physical exams. He should also learn to do testicular self-exams every month. This precautionary care is used to look for signs of testicular cancer. Even though the risk is small for testicular cancer, it is still important to do monthly self-exams.

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