



Cryptorchidism

Undescended or Hidden Testicles

Table of contents

What is cryptorchidism	3
What causes cryptorchidism	3
Types of cryptorchidism	3
Symptoms and diagnosis	3
Symptoms	3
Diagnosis	4
Physical examination	4
Diagnostic laparoscopy	4
Treatment	4
Hormonal therapy	4
Surgery	4
Orchidopexy	4
Follow-up	4
Recommendation for cryptorchidism	4
FAQs	4
Glossary of terms	6

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This leaflet contains general information about cryptorchidism. If you have any specific questions about an individual medical situation you should consult your doctor or other professional healthcare provider.

This information was produced by the European Association of Urology (EAU) Patient Information Working Group.

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Cryptorchidism - Undescended or Hidden Testicles

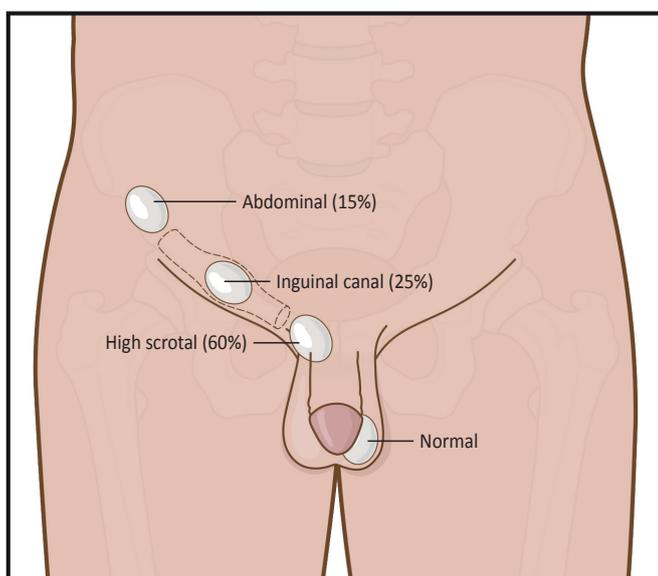
What is cryptorchidism?

The failure of the testicles (or “testes”) to descend into the scrotum (the skin sac below the penis) is called “cryptorchidism”. It is also called having hidden or undescended testicles. The condition is generally uncommon but often affects boys born prematurely.

As a male foetus grows, the testicles appear in the abdomen near the kidneys. During the seventh month of development, the testicles start to descend to the groin. They should reach their final position in the scrotum by 6 months after birth.

The testicles make sperm and testosterone, the male sex hormone. An undescended testicle may produce hormones, but the ability to make sperm is disrupted.

At 1 year of age, nearly 1% of all full-term male infants have cryptorchidism. This is the most common birth defect of the sex organs in newborn male infants. Usually, only one testicle is affected, but both testicles are undescended in about 10% of children with cryptorchidism.



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Fig. 1: Undescended testicles.

What causes cryptorchidism?

It is unknown why some testicles do not descend.

Risk factors include:

- Family history of cryptorchidism or other genital development problems
- Premature birth or low birth weight
- Conditions that affect foetal growth
- The mother’s use of alcohol or cigarettes during pregnancy
- Previous exposure of either parent to certain pesticide chemicals

Types of Cryptorchidism

Cryptorchidism is classified as “palpable” or “non-palpable”. A palpable undescended testicle can be felt on examination. A non-palpable testicle cannot be felt. Approximately 70% of all undescended testicles are palpable.

A palpable undescended testicle may have halted during a normal descent. Maybe the testicle grew in the wrong place and is outside of the scrotum (ectopic). Perhaps a muscle reflex causes the testicle move back and forth between the scrotum and the abdomen (retractile).

A non-palpable undescended testicle is located up inside the abdomen. It may be above the genital organs (inguinal ring), near a kidney, between the rectum and the bladder, or near the muscle wall that covers the stomach.

Treatment is based on the location and presence of the testicles. Ectopic palpable testicles require surgery. A retractile palpable testicle should be watched closely until puberty in case it returns to the abdomen (ascending). If both undescended testicles are non-palpable and sexual differentiation problems exist, an endocrinological and genetic evaluation should be done.

Symptoms and Diagnosis

Symptoms

The main indication of an undescended testicle is not feeling it in the scrotum. The testicle is typically discovered to be missing during an infant’s examination after birth. Regular

check-ups will be needed to monitor cryptorchidism for the first 6 months. If the testicle does not descend on its own, treatment will be needed.

Diagnosis

Physical examination

Physical examination is the only way to classify an undescended testicle as palpable or non-palpable. Imaging studies do not help. The doctor's examination will include a visual description of the scrotum with the child lying on his back and with crossed legs.

If one testicle is undescended and non-palpable and the other is enlarged, a testicle may be missing or undeveloped. The abdomen should be examined visually to make sure the undescended testicle is not ectopic.

Diagnostic laparoscopy

Internal examination using a fibre-optic tube-like instrument with a camera (endoscope) is the only way to reliably diagnose a non-palpable testicle. The surgeon inserts the endoscope through a small cut in the abdomen (laparoscopy). Examination under general anaesthesia before laparoscopic assessment is recommended because some originally non-palpable testes become palpable.

Treatment

If the testicle does not descend on its own, treatment will be needed. The goal of treatment is to prevent problems making sperm and hormones and to lower the risk of cancer developing. Treatment should be done at around 1 year of age or 18 months at the latest.

Hormonal therapy

In some cases, hormone injections may be used to try to prompt the testicle to move to the scrotum on its own. This treatment is not usually recommended because surgery is much more effective.

Surgery

Orchidopexy

The main treatment for cryptorchidism is surgery to move the testicle into the scrotum (orchidopexy). This surgery is nearly 100% successful. If a testicle has not fully descended by the age of 6 months, surgery should be performed within the subsequent year. Delaying treatment can increase the risk of testicular cancer or infertility later in life.

Surgery for a palpable testicle involves two incisions: one in the abdomen to locate and move the testicle and one in the scrotum to reposition the testicle.

Surgery for a non-palpable testicle includes an examination with laparoscopy. This is done with the boy under general anaesthesia. Laparoscopy is the best way to look for an undescended testicle in the abdomen. Removal or repositioning can be done during laparoscopy if needed.

Follow-up

Most men who had one undescended testicle in childhood are able to father children. Men who had orchidopexy before the age of 18 months have nearly the same ability to father children as other men.

Boys with an undescended testicle have an increased risk of developing testicular cancer. Screening both during and after puberty is recommended.

Boys with retractile testes do not need medical or surgical treatment but require close follow-up until puberty.

Recommendations for cryptorchidism

- Boys with retractile testes do not need medical or surgical treatment but require close follow-up until puberty.
- Surgery to move the undescended testicle to the scrotum should be done by 1 year of age or 18 months at the latest.
- For boys with non-palpable testes and no evident disorders of sex development, laparoscopy is the best way to find a testicle in the abdomen. The testicle can be removed or repositioned in the same session.
- Hormonal therapy is not a standard treatment.
- For a boy aged 10 years or older with one normal testicle and one testicle in the abdomen, removal of the non-palpable testicle can be considered because of the risk of developing testicular cancer later.
- Male newborn infants with two non-palpable testicles should be evaluated for possible disorders of sex development.

FAQs

The paediatrician did not find testicles in my son's scrotum after the birth. What should we do?

Your paediatrician will check your son's genitals regularly. The testicles may descend naturally by the age of 6 months. If they do not descend on their own, your doctor might send you to a paediatric surgeon or paediatric urologist who will examine your son and recommend further treatment.

* The underlined terms are listed in the glossary.

What age do the testicles drop?

The testicles should have finished descending by 6 months of age.

The doctor said I should observe the position of the testicles, but I cannot find them in the scrotum. What should I do?

Try to examine your boy when he is relaxed, for example, during a warm bath or after he is asleep. If you still cannot find the testicles, tell your doctor.

Our son has cryptorchidism confirmed by his paediatrician. Can we avoid the operation?

Raise your concerns with the paediatric surgeon or paediatric urologist. Your doctor will help decide whether the operation is needed. The paediatric surgeon or paediatric urologist can recommend the right treatment and, if necessary, type of operation.

Our son is 12 years old. During his last examination, the paediatrician felt the testicle in the abdomen, but it used to be in the scrotum. Is the testicle going to be damaged?

Generally, the conditions in the abdomen are not good for the testes, and they might lose function. The testicle might naturally move back and forth between the scrotum and the abdomen (retractile) and not need any operation or be undescended. Your knowledge of the position of your son's testicle when he is relaxed might play crucial role in deciding on further treatment.

Our son has had surgery to bring the testicle into the scrotum. Does surgery have an effect on his fertility?**Can he have children when he grows up?**

Men who had orchidopexy before the age of 18 months have nearly the same ability to father children as other men. Men who had two undescended testicles have a higher risk of infertility. Your son's sperm can be tested after the puberty to check his potential fertility.

Glossary of terms

Cryptorchidism

An absence of one or both testes in the scrotum

Ectopic testis

The testis descended outside the scrotum

Endocrinological evaluation

Measures of the levels of certain hormones produced by your body

General anaesthesia

The state when the patient is completely unconscious and unable to feel pain during medical procedures

Genetic evaluation

Investigation of the influence of genes on diseases

Laparoscopy

A surgical procedure used to examine and operate the organs in the abdominal cavity

Puberty

A natural process when a child's body changes into adult body that is able to have an intercourse and reproduce

Scrotum

The skin sac below the penis

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