Undescended Testis and Fertility

Cryptorchidism: Understanding Testicular Descent, Sperm Production, Male Infertility, Cancer Risk, Treatment and an Integrative Unani Approach

By Dr. Nizamuddin Qasmi
Founder & Chief Physician, Saira Health Care
Focused Practice in Sexual Disorders & Infertility

When I evaluate a man for infertility, one question I always consider is whether both testicles developed and descended normally.

A patient may tell me:

“Doctor, one of my testicles was operated on when I was a child.”

Another may say:

“One testicle has always seemed smaller.”

Occasionally an adult man discovers for the first time that one testicle is not present in the scrotum.

Others come with a semen report showing severe oligospermia or azoospermia and only then remember that they underwent surgery for an undescended testicle many years earlier.

The medical term for an undescended testis is **cryptorchidism**.

It is one of the most important developmental conditions associated with future male fertility because a testicle that remains outside the scrotum can gradually lose germ cells—the cells ultimately responsible for sperm production.

Cryptorchidism is also associated with an increased risk of testicular cancer later in life.

Current European Association of Urology guidance recommends that when spontaneous descent has not occurred by approximately six months of corrected age, treatment should proceed so that orchiopexy is ideally completed between **6 and 12 months of age and by 18 months at the latest**. The reason is not cosmetic. Early treatment is intended to protect fertility potential, reduce progressive testicular damage and facilitate future examination of the testicle.

My first message to patients and parents is therefore:

An undescended testis should not be viewed simply as a testicle that is “in the wrong place.” Its position can influence its future function.

At the same time, having had an undescended testis does **not automatically mean that a man will be infertile**.

The fertility outlook differs greatly between unilateral and bilateral disease, between early and late treatment, and according to how well the affected testis ultimately developed.

What Is an Undescended Testis?

During fetal development, the testicles initially develop inside the abdomen.

As pregnancy progresses, they normally descend through the groin and enter the scrotum.

The scrotum is the natural location of the testes after birth.

When a testis does not complete this journey and remains outside the scrotum, the condition is called:

undescended testis, or **cryptorchidism**.

The testicle may be located:

inside the abdomen, near the internal groin ring, within the inguinal canal, just above the scrotum, or occasionally in an ectopic position outside the normal path of descent.

Approximately 80% of undescended testes are clinically palpable, while the remainder are non-palpable and may be intra-abdominal, very small, absent or located in another position.

How Common Is Cryptorchidism?

Cryptorchidism is one of the most common congenital abnormalities affecting male newborns.

Current EAU paediatric-urology guidance reports that it affects approximately **1.0–4.6% of full-term male newborns**, with substantially higher rates among premature infants. Many testes descend spontaneously during the first few months of life, so by approximately one year of age the prevalence in full-term boys is around 1%. Bilateral cryptorchidism can occur in up to roughly 30% of affected boys.

Prematurity is important because the final phase of testicular descent normally occurs relatively late in pregnancy.

A baby born prematurely therefore has had less time for normal descent to occur.

Why Are the Testicles Located in the Scrotum?

The scrotum is not simply a pouch that holds the testes.

It helps maintain the testicles at a temperature slightly below the temperature inside the abdomen.

This cooler environment is important for normal sperm development.

If a testicle remains for years in the abdomen or high in the groin, the warmer environment can interfere with development and maturation of sperm-producing cells.

However, temperature is only one part of the explanation.

Modern research suggests that cryptorchidism is associated with several abnormalities, including loss of germ cells, impaired germ-cell maturation, changes in Leydig cells and progressive testicular fibrosis.

This is why simply moving a severely damaged testicle into the scrotum very late in life cannot necessarily restore sperm production that has already been lost.

What Is Orchiopexy?

Orchiopexy, also spelled orchidopexy, is the operation used to bring an undescended testis into the scrotum and secure it there.

It is the standard treatment for most persistent undescended testes.

For a palpable testicle, surgery is usually performed through the groin or scrotum depending upon its position.

For a non-palpable testicle, diagnostic laparoscopy may be required to determine whether the testicle is intra-abdominal, severely atrophic or absent.

Current EAU guidance considers surgical positioning of the testis within the scrotum the treatment of choice for persistent undescended testes.

When Should Orchiopexy Be Performed?

Timing is extremely important.

Some testicles descend spontaneously during the first months after birth.

However, once a boy reaches approximately six months of corrected age, further spontaneous descent becomes increasingly unlikely.

Current European guidance recommends beginning treatment after six months and completing orchiopexy by **12 months whenever possible and no later than 18 months**.

A 2025 systematic review and meta-analysis likewise noted that contemporary guidelines recommend orchiopexy during approximately the first 6–18 months of life to optimize fertility-related outcomes.

This represents a major change from decades ago, when boys were often operated on much later in childhood.

Today we understand that the sperm-producing tissue is already undergoing important developmental changes during infancy.

Why Earlier Surgery Is Preferred

Early orchiopexy is not guaranteed to create perfect fertility.

However, it gives the testis a better opportunity to develop in the appropriate environment before progressive loss of germ cells becomes more advanced.

Current EAU evidence shows that early orchiopexy is associated with greater testicular volume and more spermatogonia—the precursor cells important for future sperm production—than later surgery.

The 2025 systematic review of paternity after cryptorchidism also concluded that earlier intervention is preferable and found higher use of assisted reproductive treatment when surgery had been delayed beyond approximately 18 months.

For parents, therefore, the message is simple:

Do not delay a recommended orchiopexy because the child has no pain. Fertility protection is one of the reasons treatment is performed early.

Orchiopexy Improves the Opportunity for Fertility—but Does Not Guarantee It

This distinction is very important.

An orchiopexy relocates the testicle.

It cannot always reverse developmental abnormalities that occurred before surgery.

Even when surgery is performed appropriately during infancy, a proportion of boys remain at increased risk of reduced future sperm production.

EAU guidance notes that even after early successful orchiopexy, fertility-related hormonal or histological abnormalities may remain in some boys, particularly those with bilateral cryptorchidism.

Therefore, when a man with a childhood history of orchiopexy later presents with infertility, I do not assume:

“The operation failed.”

The surgery may have preserved considerably more testicular function than would have remained without treatment.

Unilateral and Bilateral Cryptorchidism Are Very Different for Fertility

This is one of the most important distinctions.

Unilateral Undescended Testis

Only one testicle was undescended.

The other developed normally in the scrotum.

In many of these men, the normal testis can provide enough sperm production for natural fertility.

EAU guidance states that although fertility measures may be somewhat reduced after unilateral cryptorchidism, **paternity rates are generally similar to men without bilateral undescended testes**.

A classic long-term study found successful paternity in approximately 90% of men who had been treated for unilateral cryptorchidism, similar to the comparison group.

Therefore, one childhood undescended testicle does not mean that a man should assume infertility.

Bilateral Undescended Testes

Both testes were undescended.

This situation carries a considerably greater fertility risk because there is no normally descended testis to compensate.

Current EAU guidance states that both fertility and paternity are impaired in men with previous bilateral cryptorchidism.

The 2025 systematic review of paternity outcomes likewise found better paternity rates following unilateral disease than bilateral disease.

Why Bilateral Cryptorchidism Is More Serious

Sperm production depends upon the total amount of functioning germinal tissue within both testes.

If one testicle was exposed to an abnormal environment while the other remained healthy in the scrotum, the healthy testicle may compensate.

If both were affected, the total reserve of sperm-producing cells can be substantially lower.

Men with previous bilateral cryptorchidism are therefore more likely to develop:

oligospermia, severe oligospermia, azoospermia and the need for assisted reproduction.

This does not mean fatherhood is impossible.

Modern sperm-retrieval techniques and ICSI have significantly expanded reproductive options for these patients.

What Is Acquired or Ascending Cryptorchidism?

Not every undescended testicle was undescended at birth.

Occasionally a testicle that was previously in the scrotum moves upward and remains in a higher position.

This is called:

ascending testis or **acquired cryptorchidism**.

EAU guidance reports ascending testes in approximately 1–2% in population studies and notes that acquired cryptorchidism can also affect fertility potential.

Parents should therefore continue to have testicular position checked during childhood even if both testes were documented as descended during infancy.

What Is a Retractile Testis?

A retractile testis is different.

The testicle has descended normally but is pulled temporarily upward by an active cremasteric reflex.

When examined properly, it can usually be moved into the scrotum and stays there at least temporarily.

A retractile testis generally does not require immediate surgery.

However, EAU guidance notes that retractile testes can later ascend and recommends regular follow-up until puberty.

This is why the terms:

“retractile testis” and “undescended testis”

should not be used interchangeably.

Can Hormonal Medicine Make an Undescended Testis Descend?

Hormonal treatment has historically been attempted using substances such as:

hCG and GnRH analogues.

However, success at producing permanent testicular descent is limited.

EAU guidance notes an overall success rate of only around 20% with hormonal treatment for descent, with some testes subsequently reascending. It does not recommend hormonal therapy alone for ordinary unilateral testicular descent.

Therefore:

a persistent undescended testis should not be left untreated for months or years while relying on medicines or herbal remedies to bring it down.

The anatomical problem requires appropriate paediatric urological assessment.

Hormonal Therapy and Bilateral Cryptorchidism

This area is more complex.

EAU guidance gives a weak recommendation that selected boys with bilateral undescended testes may be offered GnRH-based endocrine treatment in an attempt to preserve fertility potential.

However, newer evidence remains uncertain.

A recent systematic review and meta-analysis found that adding hormonal therapy to surgery improved some early germ-cell markers but did **not demonstrate clear long-term improvement in sperm counts, inhibin B or testosterone**.

Therefore, hormonal therapy should be viewed as a specialist decision—not a substitute for timely orchiopexy.

How Does an Undescended Testis Affect Sperm Production?

Sperm are produced within structures called **seminiferous tubules** inside the testis.

Within these tubules, germ cells gradually mature into sperm.

Cryptorchidism can interfere with:

germ-cell survival, maturation of germ cells, Sertoli-cell function and eventually the total sperm-producing capacity of the testis.

This damage can later appear on semen analysis as:

low sperm concentration, poor sperm motility, abnormal morphology or complete absence of sperm.

Oligospermia After Cryptorchidism

Oligospermia, more accurately called oligozoospermia, means a reduced sperm concentration.

Men with previous bilateral cryptorchidism have a much greater risk of reduced sperm concentration.

Men with unilateral disease may have normal semen parameters or relatively mild abnormalities.

Therefore, the history of which side was affected is important.

Combined Sperm Abnormalities

Some men with previous cryptorchidism show several abnormalities simultaneously:

low concentration, poor motility and abnormal morphology.

This pattern is often called:

oligo-astheno-teratozoospermia, or OAT.

The presence of several abnormalities generally indicates a greater male-factor fertility burden than one mildly abnormal semen parameter.

Azoospermia After Undescended Testes

Azoospermia means that no sperm are found in the ejaculate after appropriate laboratory examination.

Bilateral cryptorchidism is a recognized risk factor for non-obstructive azoospermia because sperm-producing tissue may be severely impaired.

However, azoospermia in a man with previous cryptorchidism does **not automatically mean that no sperm exist anywhere within the testes**.

Sperm production can sometimes occur in isolated areas.

This concept is crucial because testicular sperm may sometimes be retrieved surgically for ICSI.

Testicular Sperm Retrieval After Cryptorchidism

Recent evidence provides meaningful hope for selected men.

A 2025 systematic review and meta-analysis involving **1,496 patients** with non-obstructive azoospermia and a history of cryptorchidism treated by orchiopexy found an overall surgical sperm-retrieval rate of approximately **61%** across the included studies.

Among subsequent ICSI cycles, pooled clinical-pregnancy and live-birth rates were approximately 38% and 33%, respectively.

These are pooled study figures—not guarantees for an individual couple—but they show that azoospermia after cryptorchidism does not necessarily eliminate the possibility of biological fatherhood.

Another meta-analysis focused on microdissection testicular sperm extraction reported an overall sperm-retrieval rate of approximately 57% in post-orchiopexy men with azoospermia.

What Is Micro-TESE?

Microdissection testicular sperm extraction, usually called **micro-TESE**, is a microsurgical technique used primarily in selected men with non-obstructive azoospermia.

Using an operating microscope, the surgeon searches for seminiferous tubules that appear more likely to contain active sperm production.

If viable sperm are found, they can potentially be used for ICSI.

Micro-TESE should not be performed simply because a childhood history of cryptorchidism exists.

It becomes relevant when:

azoospermia has been confirmed, the infertility evaluation suggests severely impaired sperm production and assisted reproduction is being pursued.

ICSI and Fertility After Cryptorchidism

ICSI stands for:

Intracytoplasmic Sperm Injection.

During ICSI, an embryologist injects a selected sperm directly into a mature egg.

This technique is extremely important for severe male-factor infertility because large numbers of motile sperm are no longer required to reach and penetrate the egg naturally.

Men with:

severe oligospermia, cryptozoospermia or surgically retrieved sperm

may therefore have reproductive options that did not exist a generation ago.

Does Early Orchiopexy Guarantee Normal Semen in Adulthood?

No.

It improves the opportunity to preserve fertility.

It does not guarantee normal semen.

Cryptorchidism may result from a broader developmental abnormality affecting the testis even before birth.

This means some testicles already have intrinsic developmental abnormalities independent of their abnormal location.

The best way to understand orchiopexy is:

early orchiopexy reduces avoidable additional damage; it cannot always erase the original biological problem.

Does Late Orchiopexy Still Have Value?

Yes, but the objectives change according to age and clinical circumstances.

In a child, orchiopexy aims to preserve as much future function as possible while enabling examination and reducing certain later risks.

After puberty, treatment becomes more individualized.

A viable palpable undescended testis may sometimes be placed in the scrotum.

In other situations—particularly a severely atrophic intra-abdominal testis with a normal opposite testis—removal may be considered because of malignancy risk.

Current EAU guidance recommends individualized management after puberty and specifically distinguishes palpable testes from intra-abdominal testes.

An adult with an undescended testicle should therefore be assessed by a urologist rather than assuming that childhood management rules can simply be applied unchanged.

Adult Undescended Testis

Occasionally an adult man presents with an untreated undescended testicle.

The management depends upon:

age, testicular position, size, appearance, fertility goals, function of the opposite testicle and cancer risk.

An intra-abdominal testis that has remained outside the scrotum for decades may have poor reproductive potential.

However, decisions about orchiopexy versus orchiectomy should be individualized.

This is not a condition that should be managed solely with fertility medicines.

Undescended Testis and Testosterone

The testes have two major functions:

producing sperm and producing testosterone.

These functions are related but not identical.

A man may have significantly impaired sperm production while maintaining a normal testosterone level.

This is especially possible when one normally functioning testis remains.

Therefore, normal beard growth, libido and erections do **not** prove that sperm production is normal.

Likewise, a man with a childhood history of bilateral cryptorchidism deserves endocrine assessment if he has symptoms suggesting low testosterone.

Sexual Function Can Be Completely Normal

Many men with a history of cryptorchidism have normal:

libido, erections, ejaculation and orgasm.

Infertility and sexual function are separate aspects of male reproductive health.

A man may have severe oligospermia with completely normal sexual performance.

This distinction is psychologically important.

A low sperm count should never be described to a patient as a loss of masculinity.

Cryptorchidism and Testicular Cancer

Undescended testis is a recognized risk factor for testicular germ-cell cancer.

This does not mean that most men with cryptorchidism will develop cancer.

Most will not.

However, the relative risk is higher than in men without this history.

A 2023 updated systematic review and meta-analysis involving more than 370,000 patients confirmed an increased adult testicular-cancer risk after congenital cryptorchidism, with an overall pooled odds ratio close to four compared with the general population.

Therefore, long-term awareness remains important even after successful childhood orchiopexy.

Does Orchiopexy Eliminate the Cancer Risk?

No.

Early orchiopexy reduces risk but does not completely return the risk to that of a man without cryptorchidism.

An important Swedish cohort study involving nearly 17,000 surgically treated men found a relative testicular-cancer risk of approximately **2.2** when orchiopexy was performed before age 13, compared with approximately **5.4** when performed at age 13 or later.

Current EAU guidance therefore recommends informing patients that malignancy risk remains elevated and encourages testicular awareness and self-examination during and after puberty.

Why Moving the Testicle Into the Scrotum Helps Cancer Surveillance

Orchiopexy does more than potentially protect fertility.

A testicle located in the scrotum can be:

examined by the patient, examined by the physician and assessed more easily if a lump develops.

An intra-abdominal testis cannot be examined in the same way.

Therefore, positioning the testis in the scrotum also facilitates future surveillance.

Testicular Self-Awareness

Men with a history of cryptorchidism should know what their testes normally feel like.

This does not mean repeatedly examining the scrotum with anxiety.

It means being aware of persistent changes such as:

a new lump, progressive enlargement, unusual firmness, unexplained persistent testicular discomfort or a clear new asymmetry.

Any such change deserves medical assessment.

A Smaller Testicle After Orchiopexy

Some men notice that the previously undescended testis is smaller than the other one.

This is not uncommon.

Cryptorchid testes often have reduced volume because their development was impaired.

A small operated testicle can still sometimes contribute endocrine or sperm-producing function.

Its size alone does not tell us exactly how much sperm it produces.

Fertility assessment therefore requires semen and, where indicated, hormonal testing.

Can the Testis Shrink After Surgery?

A rare complication of orchiopexy is testicular atrophy caused by inadequate blood supply.

Overall risk after standard primary orchiopexy is low, although it is higher in complex intra-abdominal procedures that require division or staged management of testicular vessels. EAU guidance reports substantially different atrophy rates depending upon surgical technique.

This is one reason complex high undescended testes should be managed by experienced paediatric urological surgeons.

How I Evaluate Fertility in an Adult With Previous Undescended Testis

When a man comes to me with infertility and a history of cryptorchidism, I begin by understanding the childhood condition.

I ask:

Was one testicle affected or both?

Was the testis in the groin or inside the abdomen?

At what age was surgery performed?

Did the testicle remain healthy after surgery?

Was repeat surgery required?

Is one testicle now considerably smaller?

Was there another genital abnormality?

This history helps estimate the likelihood of impaired sperm production.

Physical Examination

The testes should be examined for:

position, size, consistency, major asymmetry, varicocele and any suspicious mass.

The epididymis and vas deferens may also be examined when infertility is present.

A previous history of cryptorchidism should not cause the physician to ignore additional modern fertility problems.

A man can have both:

a history of undescended testis and a present-day varicocele.

Semen Analysis

Semen analysis is one of the most important investigations.

It evaluates:

semen volume, sperm concentration, total sperm number, motility and morphology.

Possible findings after previous cryptorchidism range from completely normal semen to severe oligospermia or azoospermia.

The severity cannot be predicted solely from childhood surgical history.

Repeat Testing

An abnormal semen analysis should generally be confirmed appropriately because sperm parameters fluctuate naturally.

A severe abnormality should not be ignored, but major conclusions should not depend unnecessarily upon one poorly collected sample.

The 2025 WHO infertility guideline continues to emphasize evidence-based semen assessment as part of modern infertility care.

FSH

Follicle-stimulating hormone, or FSH, provides useful information about the sperm-producing function of the testes.

If germ-cell function is severely impaired, FSH may rise because the pituitary gland is attempting to stimulate the testes more strongly.

A man with:

very low sperm count, small testes and markedly elevated FSH

is more likely to have significant primary spermatogenic failure.

Normal FSH does not guarantee that sperm production is completely normal.

LH and Testosterone

LH stimulates testosterone production by Leydig cells.

Testing LH and testosterone can help assess endocrine testicular function.

This becomes particularly useful when the patient also has:

low libido, erectile difficulty, poor secondary sexual characteristics or symptoms of androgen deficiency.

Inhibin B

Inhibin B is produced primarily by Sertoli cells and has been used in research and selected clinical settings as a marker related to spermatogenic function.

Studies of men treated for cryptorchidism have found that earlier orchiopexy can be associated with more favourable inhibin B and FSH profiles in adulthood.

However, inhibin B does not replace semen analysis as the main practical test of adult sperm output.

Scrotal Ultrasound

Ultrasound may help evaluate:

testicular volume, suspicious lesions, uncertain examination findings and other scrotal abnormalities.

But ultrasound is not the primary method used to locate a non-palpable undescended testis in children.

Current EAU guidance notes that ultrasound cannot reliably prove whether an intra-abdominal testis is present or absent, which is why clinical assessment and, where required, surgical exploration remain more important.

Genetic Testing

A history of undescended testes does not automatically mean genetic testing is required.

However, if an infertile adult also has:

severe oligospermia, azoospermia, very small testes or significant endocrine abnormalities,

current male-infertility guidelines may justify karyotype or Y-chromosome testing according to the clinical picture.

The fertility evaluation should therefore consider the **current semen phenotype**, not cryptorchidism alone.

Bilateral Non-Palpable Testes in an Infant Require Special Attention

This situation is different from one typical inguinal undescended testis.

When both testes cannot be palpated, especially if there are genital abnormalities such as hypospadias or atypical genital development, endocrine and genetic evaluation may be urgently required to assess for disorders/differences of sex development.

EAU guidance specifically recommends endocrinological and genetic evaluation for bilateral non-palpable testes in relevant clinical settings.

Can an Undescended Testis Cause Infertility Even After Surgery?

Yes.

Orchiopexy improves the opportunity to preserve testicular function but does not guarantee completely normal spermatogenesis.

The original developmental disorder and the period spent outside the scrotum can both influence adult function.

Risk is particularly significant when:

both testes were undescended, surgery was substantially delayed or the testes remained small or atrophic.

The 2025 systematic review of paternity outcomes confirmed that bilateral cryptorchidism and delayed surgery are associated with poorer fertility outcomes and greater use of assisted reproductive technology.

Can a Man With One Healthy Testicle Father a Child?

Yes.

One normally functioning testicle can often produce sufficient:

testosterone and sperm

for normal male sexual function and natural fertility.

This is why men with successfully treated unilateral cryptorchidism frequently achieve paternity.

The presence of one smaller testicle should therefore not automatically cause fear of infertility.

If pregnancy is not occurring, the semen should be tested rather than fertility being guessed from anatomy alone.

Can a Man With Bilateral Cryptorchidism Become a Father?

Yes, in some cases.

The chances vary widely.

Some men have sperm in the ejaculate.

Others have severe oligospermia.

Some have azoospermia but still have isolated sperm production within the testes.

Modern fertility options may include:

natural conception when semen is adequate, IVF/ICSI when sperm numbers are very low, and surgical sperm retrieval plus ICSI in selected azoospermic men.

The 2025 meta-analysis showing sperm retrieval in approximately 61% of studied azoospermic post-orchiopexy men demonstrates why a history of bilateral cryptorchidism should not automatically be interpreted as absence of reproductive options.

Does Orchiopexy in Adulthood Restore Fertility?

Usually we cannot promise this.

The major fertility-preserving value of orchiopexy comes from **early childhood treatment**.

Moving a long-standing adult undescended testicle into the scrotum does not automatically regenerate germ cells that have already been lost.

Adult treatment may still be indicated for anatomical, surveillance or other urological reasons, but expectations regarding sperm recovery should be realistic.

Does Removing an Abnormal Undescended Testis Make a Man Infertile?

Not necessarily.

If one severely damaged undescended testis is removed and the opposite testis is healthy, the remaining testis may provide adequate testosterone and sperm production.

The fertility impact therefore depends largely upon the function of the remaining testis.

This is particularly important when discussing post-pubertal intra-abdominal testes.

What About Fertility Preservation?

Fertility preservation becomes relevant in selected high-risk adolescents or adults.

For an adult or post-pubertal male with severely reduced but still detectable sperm production, sperm cryopreservation may sometimes be considered.

This can be especially relevant if sperm numbers are declining or future treatment could further compromise fertility.

The decision should be individualized with an andrology or reproductive-medicine team.

Natural Conception

A man with unilateral treated cryptorchidism and reasonable semen parameters may still have a good opportunity for natural conception.

The chance depends on the couple as a whole.

Female age, ovulation, ovarian reserve and tubal function remain very important.

Infertility should therefore never be approached from the man's history alone.

IUI

Intrauterine insemination may be considered in selected couples when sufficient motile sperm are available.

However, severe sperm impairment after bilateral cryptorchidism may make IUI less effective.

In such situations, IVF/ICSI can sometimes provide a more realistic reproductive pathway.

IVF and ICSI

IVF means **in vitro fertilization**.

ICSI means **intracytoplasmic sperm injection**.

With ICSI, a single selected sperm is injected directly into an egg.

This makes ICSI particularly useful when only small numbers of sperm are available.

The technique has greatly changed fertility prospects for men with severe testicular sperm-production disorders.

Do Sperm From a Previously Undescended Testis Cause Birth Defects?

A history of cryptorchidism itself does not mean that every sperm is genetically abnormal.

However, severe male infertility can occasionally coexist with genetic abnormalities.

When sperm concentration is extremely low or azoospermia is present, genetic evaluation may be advised according to current male-infertility guidelines before assisted reproduction.

This is based upon the infertility phenotype—not simply the fact that orchiopexy was performed.

The Psychological Impact of Cryptorchidism

The condition can affect more than fertility.

Boys and men may become concerned about:

testicular size, scrotal appearance, masculinity, sexual development or future fatherhood.

Some men feel embarrassed because one testicle is smaller.

Others assume that they are sexually weak.

I explain clearly:

The size or childhood position of a testicle does not determine a man's worth or masculinity.

Sexual performance and sperm production are separate biological functions.

A patient can have normal libido, erection and orgasm despite impaired spermatogenesis.

The Unani Perspective on Undescended Testis and Fertility

As a physician trained in Unani medicine and focused clinically on sexual disorders and infertility, I consider the man's reproductive health in a broader context.

Traditional Unani medicine gives attention to reproductive-organ function, general constitution or **Mizaj**, nutrition, digestion, sleep, physical activity and associated sexual-health conditions.

This holistic perspective can be useful **after the anatomical condition itself has been correctly managed**.

However, I want to make a very important distinction:

An undescended testis is an anatomical developmental disorder. Herbal or Unani medicines cannot be relied upon to physically move a persistent undescended testicle into the scrotum.

A child with persistent cryptorchidism after the appropriate period of observation should receive paediatric urological care and timely orchiopexy when indicated.

Unani treatment should never be used to delay that surgery.

Where Unani Medicine May Have a Supportive Role

The potential role of Unani medicine becomes more relevant later when an adolescent or adult with a history of cryptorchidism develops associated male reproductive problems such as:

reduced sperm concentration, poor sperm motility, broader nutritional or metabolic concerns or associated sexual-health complaints.

In such situations, individualized Unani management can be considered as part of broader fertility care.

But the anatomical history must still guide investigation.

A man with azoospermia and bilateral childhood cryptorchidism should not simply receive repeated “sperm-building” medicines without:

semen confirmation, hormonal evaluation and appropriate andrological assessment.

Unani Concepts Relevant to Male Infertility

Classical Unani literature describes reduced semen or sperm-related reproductive capacity through concepts including **Qillat-i Mani** and **Qillat-e-Huwaniya**, although traditional terminology does not map perfectly onto modern laboratory diagnoses.

The Central Council for Research in Unani Medicine has published standard Unani treatment material describing Qillat-i Mani and approaches emphasizing nutrition, digestive health and individualized constitutional management.

These concepts can be relevant to the broader management of male infertility.

They are **not substitutes for the modern diagnosis of cryptorchidism**.

What Does Unani Research Say About Male Infertility?

There is published Unani research examining men with idiopathic oligospermia.

For example, a CCRUM-associated retrospective analysis involving 126 men reported improvements in selected semen parameters with different Unani formulations.

CCRUM publications have also described Unani formulations traditionally used for oligospermia and male reproductive weakness.

This demonstrates that male infertility is an established area of Unani clinical interest.

However, this evidence must be interpreted properly.

These studies did **not** demonstrate that Unani medicines can correct an undescended testicle.

Nor do they prove that herbal treatment reverses severe germ-cell loss caused by bilateral cryptorchidism.

Direct high-quality evidence specifically evaluating Unani therapy for fertility impairment caused by cryptorchidism remains limited.

Why This Scientific Distinction Matters

Suppose two men both have a sperm concentration of 4 million/mL.

One has idiopathic oligospermia with normal testes.

The second had bilateral intra-abdominal testes corrected late in childhood and now has very small testes and a very high FSH.

Although their sperm count is similar, the biology is completely different.

The second patient may have substantial loss of sperm-producing tissue.

It would be misleading to treat both men identically.

This is why my clinical approach combines:

traditional whole-patient assessment with modern andrological diagnosis.

Special Treatment Planning by Dr. Nizamuddin Qasmi

At **Saira Health Care**, I approach fertility after cryptorchidism by first understanding the childhood condition and then evaluating present reproductive function.

I want to know whether one or both testes were affected, when orchiopexy was performed, how the testes developed afterward, whether sperm are currently present, whether hormones suggest remaining testicular function, whether another condition such as varicocele is also present and what the fertility status of the female partner is.

Only after that assessment can an individualized treatment strategy be developed.

Where appropriate, Unani supportive management may be incorporated for general reproductive health and selected semen abnormalities.

Where sperm production is severely impaired, I do not delay referral for modern fertility treatment simply to continue empirical medicines.

What "Special Treatment" Means in My Practice

Specialized care does not mean promising one secret formula.

For me, it means identifying the exact reproductive situation.

A man with normal semen after unilateral orchiopexy may need no male infertility treatment at all.

A man with moderate oligospermia may benefit from investigation and targeted supportive management.

A man with severe oligospermia may require hormonal and genetic evaluation.

A man with azoospermia after bilateral cryptorchidism may need assessment for micro-TESE and ICSI.

An adult with a still-undescended intra-abdominal testicle may require urological surgery primarily because of anatomical and malignancy considerations.

These are completely different patients.

They should not receive identical treatment.

Saira Health Care's Contribution to Sexual Disorders and Infertility

At **Saira Health Care**, our work in sexual disorders and infertility allows us to look beyond a simple childhood surgical history.

A man with previous cryptorchidism may simultaneously have:

oligospermia, azoospermia, varicocele, low testosterone, erectile dysfunction, reduced sexual confidence or infertility-related psychological stress.

Our objective is to connect these findings rather than treating every complaint separately.

When necessary, management may involve coordination with:

urologists, andrologists, reproductive-medicine specialists, genetic counsellors and IVF/ICSI centres.

Unani medicine may be integrated responsibly where appropriate, but it should never separate the patient from surgery, genetic investigation or assisted reproduction when these are medically indicated.

What Parents Should Know

When a baby is diagnosed with an undescended testicle, parents often worry immediately about future infertility.

Most importantly, parents should know that modern treatment is designed specifically to reduce future risk.

Spontaneous descent commonly occurs during the first months of life.

If descent has not occurred by about six months corrected age, waiting for several additional years is no longer considered appropriate.

Current European guidance recommends treatment beginning at six months and completing orchiopexy by 12 months, or 18 months at the latest.

The parent should therefore follow the paediatric urologist's timetable rather than waiting for symptoms.

What Adult Men Should Know

If you had childhood orchiopexy, do not assume that you are infertile.

If you are trying for pregnancy and conception is not occurring, obtain a semen analysis.

If one testicle is smaller but the other is healthy, fertility can still be normal.

If both testes were affected, fertility assessment becomes especially important.

If you have never had an undescended testicle treated and one testicle is not in the scrotum, obtain urological assessment even if there is no pain.

And remain aware of changes in your testes because cryptorchidism carries a lifelong increase in testicular-cancer risk.

Frequently Asked Questions

What is cryptorchidism?

Cryptorchidism is the medical term for one or both testes failing to remain in their normal position within the scrotum.

How common is an undescended testis?

Current European guidance estimates it in roughly **1–4.6% of full-term male newborns**, with much higher rates among premature babies. Many testes descend spontaneously during the first months after birth.

Can an undescended testis come down naturally?

Yes, particularly during the first few months of life.

However, spontaneous descent becomes unlikely after approximately six months corrected age, which is why persistent cases should be treated rather than observed indefinitely.

What is the best age for surgery?

Current EAU guidance recommends orchiopexy ideally between **6 and 12 months**, and by **18 months at the latest**.

Why should surgery be done so early?

Because progressive germ-cell loss can occur in undescended testes.

Earlier surgery gives the testicle a better chance of preserving future fertility potential and also assists cancer surveillance.

Can hormones replace surgery?

Generally not.

Hormonal treatment has relatively limited success for testicular descent and is not recommended as a substitute for orchiopexy in ordinary unilateral cryptorchidism.

Does one undescended testis cause infertility?

Not necessarily.

Many men with successfully treated unilateral cryptorchidism achieve normal paternity rates because the opposite testicle functions normally.

Are two undescended testes more serious?

Yes.

Bilateral cryptorchidism carries a substantially greater risk of impaired sperm production and reduced paternity.

Can a man with bilateral cryptorchidism still become a father?

Yes.

Some have sperm in the ejaculate.

Others with azoospermia may still have small areas of sperm production within the testes that can potentially be retrieved surgically and used for ICSI.

Can orchiopexy completely restore fertility?

Not always.

The operation aims to preserve as much function as possible.

It cannot necessarily reverse developmental damage or germ-cell loss that has already occurred.

Does a smaller operated testicle mean it is useless?

No.

A smaller testicle may still provide some hormonal or sperm-producing function.

Its contribution cannot be determined simply by looking at its size.

Does cryptorchidism cause low testosterone?

It can in some men, especially when both testes were significantly affected, but many men maintain normal testosterone levels.

Sperm production can be impaired even when testosterone is normal.

Can sexual function remain normal?

Yes.

Libido, erection, ejaculation and orgasm can be completely normal despite reduced sperm production.

Can an undescended testis cause cancer?

Cryptorchidism increases the long-term risk of testicular cancer, but most men with the condition do not develop cancer.

The risk is lower when orchiopexy is performed earlier, though it does not fall completely to the population baseline.

Does orchiopexy prevent testicular cancer completely?

No.

Early surgery reduces risk and makes examination easier, but continued testicular awareness remains important.

Should men who had orchiopexy examine their testes?

Yes.

Current EAU guidance recommends testicular self-awareness/self-examination after puberty for patients treated for undescended testis because cancer risk remains elevated.

What tests are needed if I had cryptorchidism and cannot conceive?

Depending upon the situation, assessment may include semen analysis, repeat semen analysis when abnormal, FSH, LH, testosterone, testicular examination, selected ultrasound and genetic testing in men with severe sperm-production abnormalities.

Can sperm still be found if my semen shows azoospermia?

Sometimes.

A 2025 meta-analysis of men with non-obstructive azoospermia and previous cryptorchidism reported testicular sperm retrieval in around 61% overall, although individual results vary substantially.

What is micro-TESE?

Micro-TESE is microsurgical testicular sperm extraction.

It allows a specialist to search within the testicle for small areas where sperm production may still be occurring.

What is ICSI?

ICSI is intracytoplasmic sperm injection.

One selected sperm is injected directly into an egg.

It is particularly useful in severe male-factor infertility when only limited numbers of viable sperm are available.

Can an adult undescended testis be treated?

Yes, but management differs from infancy.

Treatment depends upon testicular location, size, age, fertility goals and the health of the opposite testicle.

A persistent adult undescended testis requires urological evaluation.

Can medicine bring an adult undescended testis into the scrotum?

No reliable herbal, Unani or conventional medication should be expected to correct a persistent anatomical adult cryptorchid testis.

Surgical/urological evaluation is required.

Can Unani medicine help fertility after cryptorchidism?

Unani medicine may be used supportively in selected men with associated male-factor infertility, nutritional or lifestyle concerns and selected semen abnormalities after proper evaluation.

However, direct high-quality evidence specifically proving that Unani medicine reverses fertility damage caused by cryptorchidism is currently insufficient.

It should not replace orchiopexy, cancer surveillance, hormonal/genetic investigation or assisted reproductive treatment when those are indicated.

A Message From Dr. Nizamuddin Qasmi

When a man tells me:

“Doctor, one of my testicles was operated on when I was a child. Does that mean I cannot have children?”

my answer is:

No—do not assume infertility simply from that history.

If one testicle was undescended and the other developed normally, many men have excellent fertility.

But if pregnancy is not occurring, we should test rather than guess.

On the other hand, when a man with bilateral childhood cryptorchidism comes with azoospermia, I also do not immediately tell him:

“There is no possibility of biological fatherhood.”

Modern reproductive medicine has changed that conversation.

In selected men, testicular sperm can still be recovered and used for ICSI.

The correct approach is neither false reassurance nor hopelessness.

It is accurate diagnosis.

My Clinical Philosophy

I look at three periods in the life of a patient with cryptorchidism.

During Infancy and Childhood

The priority is timely anatomical treatment.

Persistent cryptorchidism should not be allowed to remain untreated for years.

During Adolescence

The priorities include ensuring that the testes remain in the scrotum, monitoring development and teaching appropriate testicular awareness.

During Adult Reproductive Life

The priority becomes measuring actual testicular function.

Does the man produce sperm?

Are sperm numbers normal?

Are hormones normal?

Is fertility treatment needed?

That life-course approach makes much more sense than treating every patient identically.

Current Medical Understanding

Several important points are now well established.

First, timing matters.

Current guidelines recommend orchiopexy between approximately 6 and 12 months and no later than 18 months because germ-cell changes occur early.

Second, unilateral and bilateral disease have different fertility implications.

Unilateral cryptorchidism often permits normal paternity, while bilateral disease significantly increases infertility risk.

Third, cancer risk remains elevated.

Early orchiopexy lowers the risk but does not eliminate it, making long-term testicular awareness important.

Fourth, even azoospermia does not always eliminate reproductive options.

Recent systematic-review evidence shows meaningful sperm-retrieval and ICSI outcomes among selected azoospermic men with previous cryptorchidism.

Fifth, complementary treatment cannot replace correction of the anatomical abnormality.

Cryptorchidism is fundamentally a surgical developmental condition.

Conclusion

Undescended Testis, or Cryptorchidism, is an important developmental condition with lifelong implications for male reproductive health.

The testis normally needs to descend into the scrotum during early life.

When descent remains incomplete, prolonged abnormal positioning can contribute to:

loss of germ cells, impaired sperm production, testicular underdevelopment, oligospermia, azoospermia and increased testicular-cancer risk.

Modern guidelines therefore recommend orchiopexy **during infancy—ideally between 6 and 12 months and by 18 months at the latest**.

The future fertility outlook depends strongly upon whether one or both testes were affected.

Men treated for unilateral cryptorchidism often retain good paternity prospects.

Men with bilateral disease have a substantially greater risk of reduced sperm production and infertility.

Early surgery improves the opportunity to preserve fertility but does not guarantee normal sperm production.

Adult assessment may therefore include:

semen analysis, reproductive hormones, testicular examination, evaluation of testicular volume and, where severe male-factor infertility is present, appropriate genetic investigation.

Men with azoospermia should not automatically assume that biological fatherhood is impossible.

Recent evidence indicates that sperm can be surgically retrieved in a meaningful proportion of carefully selected azoospermic men with previous cryptorchidism, allowing possible use with ICSI.

Cryptorchidism is also associated with a lifelong increase in testicular-cancer risk.

Early orchiopexy reduces this risk and enables easier examination, but it does not eliminate the need for future testicular awareness.

From the **Unani perspective**, male infertility can be approached holistically with attention to reproductive health, Mizaj, nutrition, digestion, sleep, general wellbeing and associated sexual-health concerns.

Published Unani research provides preliminary evidence regarding selected semen abnormalities such as oligospermia, but there is currently insufficient direct evidence that Unani medicines reverse testicular damage caused by cryptorchidism.

For this reason, my approach at **Saira Health Care** is intentionally integrative and diagnosis-led:

treat the anatomical condition at the correct time, evaluate actual reproductive function in adulthood, identify associated hormonal or sperm abnormalities, support general reproductive health through individualized Unani principles where appropriate, and use modern fertility technologies when required.

My most important message is:

An undescended testis should be treated early—but a history of undescended testis should never automatically be interpreted as the end of fertility.

Modern andrology allows us to assess what function remains and, in many cases, provides meaningful pathways toward biological fatherhood.

About the Author

Dr. Nizamuddin Qasmi

Founder & Chief Physician, Saira Health Care
Focused Practice in Sexual Disorders & Infertility

Qualifications & Professional Training

BUMS — Hamdard University, Delhi
MD
CGO
Certificate in Infertility — MGBIMS, Delhi
Certificate in Urology — London, UK
Masters in Male Infertility — MasterHealthPro (HealthPro)
Integrated Sexual and Reproductive Health (ISRH) — UNFPA

Dr. Nizamuddin Qasmi's clinical work at **Saira Health Care** focuses on sexual disorders, male reproductive health and infertility.

His approach to men with a history of cryptorchidism emphasizes detailed reproductive history, semen evaluation, hormonal assessment, recognition of severe male-factor infertility and appropriate use of contemporary fertility options.

Where clinically suitable, individualized Unani principles are integrated with modern andrological investigation, urological care and assisted reproductive planning.

Medical Disclaimer

This article is intended for health education and general public awareness. It does not establish an individual diagnosis and does not replace evaluation by a paediatric urologist, adult urologist, andrologist, reproductive-medicine specialist or other appropriately qualified healthcare professional.

A persistent undescended testis is an anatomical condition and should not be treated solely with herbal, Unani or other medicines in place of indicated orchiopexy.

Parents should obtain appropriate specialist evaluation when a testis remains undescended beyond early infancy.

Adults with an untreated undescended testis, a new testicular lump, testicular enlargement or significant testicular abnormality should seek urological assessment.

Men with infertility and a history of cryptorchidism may require semen analysis, hormonal testing and additional investigations according to the severity of present reproductive abnormalities.

Patients should not begin testosterone, fertility hormones, prescription medicines or herbal/Unani infertility treatment without appropriate professional assessment.