

Understanding an Abnormal Semen Analysis

What Low Sperm Count, Poor Motility, Abnormal Morphology, Low Semen Volume and Other Semen-Test Results Really Mean

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One of the most common situations I see in male infertility practice is a frightened patient arriving with a semen-analysis report in his hand.

He may say:

“Doctor, my sperm count is low. Am I infertile?”

Another patient may say:

“My morphology is only 3%. Does that mean 97% of my sperm are defective?”

Someone else sees the word:

Azoospermia

and immediately assumes that biological fatherhood is impossible.

Another man may have completely normal sperm concentration but poor movement.

And sometimes a couple has been trying for pregnancy for years even though the man's routine semen report appears to be within the laboratory reference ranges.

This is why semen analysis needs **interpretation—not simply reading numbers from a laboratory report.**

The World Health Organization's current laboratory manual provides standardized methods for semen examination, while the 2025 WHO infertility guideline provides updated recommendations regarding when an abnormal semen analysis should be repeated.

Current European guidance makes another crucial point:

A semen analysis by itself cannot divide all men into “fertile” and “infertile.”

The WHO lower reference values are derived from men whose partners conceived naturally, but they are not hard biological borders. A man slightly below a reference value may still contribute to a natural pregnancy, while a man whose routine values fall within the reference range may still be part of an infertile couple.

My first message to patients is therefore:



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Do not panic because one value is printed in red. And do not assume everything is perfect simply because every value is printed in black.

A semen report must be interpreted as a whole and in the context of the couple.

What Is a Semen Analysis?

Semen analysis is the basic laboratory test used to assess male reproductive function.

It provides information about:

- semen volume,
- sperm concentration,
- total sperm number,
- sperm motility,
- progressive movement,
- sperm morphology,
- sperm vitality where required,
- semen pH,
- inflammatory cells and other findings in selected cases.

The WHO Sixth Edition laboratory manual remains the principal international standard for semen examination and emphasizes standardized methods because differences in collection and laboratory technique can significantly affect results.

Semen analysis is therefore not simply a “sperm count test.”

It is a multidimensional examination of the ejaculate.

A Semen Report Is Not a Fertility Certificate

This is perhaps the most important concept in the entire article.

Current AUA/ASRM guidance states that male fertility or infertility cannot reliably be diagnosed from a **single semen parameter**.

It also explains that the clinical concern rises when **several parameters are abnormal simultaneously**, but even then the semen analysis does not predict with certainty whether an individual man will or will not contribute to pregnancy.

For example:



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A man with 14 million sperm/mL may naturally father a child.

Another man with 35 million sperm/mL may experience infertility because movement is poor, sexual intercourse is infrequent, sperm DNA quality is abnormal, or the female partner has an important fertility problem.

That is why I tell patients:

We treat the couple and the cause—not a laboratory number in isolation.

Current WHO Reference Values

The WHO Sixth Edition data used in current EAU guidance provide the following approximate lower reference limits:

Semen Parameter	Current Lower Reference Value
Semen volume	1.4 mL
Total sperm number	39 million per ejaculate
Sperm concentration	16 million/mL
Total motility	42%
Progressive motility	30%
Vitality	54% live sperm
Normal morphology	4% normal forms
Semen pH	>7.2

Peroxidase-positive leukocytes **<1 million/mL**

These figures are based largely on the lower fifth percentile among men from multiple countries whose partners conceived naturally within 12 months. They are **reference values, not absolute fertility cut-offs**.

This distinction is essential.

A value of:

15 million/mL

does not suddenly make a man infertile while:

16 million/mL



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makes him fertile.

Human fertility does not change at a single numerical boundary.

Why WHO Reference Values Should Not Be Called “Normal Versus Abnormal” Too Rigidly

The word “normal” can be misleading.

WHO reference limits describe the statistical distribution of semen parameters in a fertile reference population.

Current EAU guidance explicitly states that the lower fifth percentile **does not represent the border between fertile and infertile men.**

A better way to interpret the report is:

“This parameter is above or below the current reference range, and now we need to understand what that means in this man's reproductive situation.”

That is much more scientifically accurate.

Understanding Semen Volume

Semen volume is the total amount of fluid ejaculated.

The current lower reference value is approximately:

1.4 mL.

Most semen volume does not come directly from the testicles.

It comes largely from:

- seminal vesicles,
- prostate,
- accessory reproductive glands.

Therefore, low semen volume does **not automatically mean low sperm production.**

What Can Cause Low Semen Volume?

Low semen volume can result from:

- incomplete sample collection,

- short abstinence interval,
- retrograde ejaculation,
- ejaculatory-duct obstruction,
- congenital absence of the vas deferens,
- abnormalities of the seminal vesicles,
- androgen deficiency in selected cases.

One of the simplest explanations is incomplete collection.

The earliest portion of the ejaculate is particularly sperm-rich.

If some of the sample is lost, the laboratory may report both:

- low volume,
- unexpectedly low sperm concentration or total count.

The patient should therefore always tell the laboratory if any part of the sample was missed.

Low Volume Plus Azoospermia Deserves Special Attention

A man with:

- azoospermia,
- very low semen volume,
- acidic semen

may have an obstructive reproductive-tract condition such as congenital bilateral absence of the vas deferens or ejaculatory-duct obstruction.

Current EAU guidance specifically advises further investigation in low-volume, acidic azoospermia because obstruction and congenital reproductive-tract abnormalities become important considerations.

This is an excellent example of why semen volume is more than an unimportant number.

What Is Sperm Concentration?

Sperm concentration means:



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the number of sperm present in each millilitre of semen.

The current WHO lower reference level is approximately:

16 million sperm/mL.

A sperm concentration below this reference level is commonly described as:

Oligozoospermia

Patients frequently call this:

“Low sperm count.”

Total Sperm Number Can Be More Informative Than Concentration Alone

Suppose two men each have:

10 million sperm/mL.

The first produces 5 mL of semen.

His total sperm output is approximately:

50 million sperm.

The second produces only 0.8 mL.

His total sperm output is:

8 million sperm.

Their concentration is identical.

Their total sperm production is very different.

Current EAU guidance emphasizes that **total sperm number per ejaculate may have greater diagnostic value than concentration alone**, which is why accurate semen-volume measurement matters.

What Is Severe Oligospermia?

When sperm concentration becomes very low—particularly below approximately:

5 million/mL

the probability of significant testicular, genetic or reproductive-tract abnormalities increases.



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Current EAU guidance notes an increased incidence of obstruction and genetic abnormalities among men with severe oligozoospermia.

These patients should not simply be advised to:

“Take vitamins for three months.”

They deserve proper male-fertility evaluation.

Extremely Low Sperm Count

The lower the sperm concentration becomes, the more important it is to investigate:

- testicular function,
- FSH and testosterone,
- genetic causes,
- previous undescended testes,
- chemotherapy,
- testicular injury,
- anabolic-steroid use,
- other serious spermatogenic disorders.

The **2024 AUA/ASRM guideline** recommends karyotype testing in selected men with primary infertility and azoospermia or sperm concentrations below 5 million/mL when findings suggest impaired sperm production.

It recommends Y-chromosome microdeletion testing particularly when sperm concentration is **≤1 million/mL** in the appropriate clinical setting.

This is why very low sperm count deserves investigation—not simply stronger supplements.

What Is Azoospermia?

Azoospermia means:

no sperm are detected in the ejaculate after appropriate laboratory examination.

It is one of the most important findings in male infertility.

But azoospermia itself does not tell us the cause.



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There are two major categories.

Obstructive Azoospermia

In **obstructive azoospermia**, sperm production may remain relatively normal.

The problem is that sperm cannot reach the ejaculate.

Possible causes include:

- congenital absence of the vas deferens,
- epididymal obstruction,
- previous infection,
- previous surgery,
- vasectomy,
- ejaculatory-duct obstruction.

Current EAU guidance describes obstructive azoospermia as absence of sperm from the centrifuged ejaculate because of reproductive-tract obstruction; men often have relatively normal testicular volume and FSH.

Non-Obstructive Azoospermia

In **non-obstructive azoospermia**, the main problem is severe impairment of sperm production inside the testes.

Possible causes include:

- Klinefelter syndrome,
- Y-chromosome microdeletions,
- previous undescended testes,
- chemotherapy,
- radiotherapy,
- severe primary testicular failure,
- some hormonal conditions.

Treatment and prognosis are completely different from obstructive azoospermia.

Therefore, I never consider the word “azoospermia” to be a complete diagnosis.



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Cryptozoospermia

Sometimes routine examination appears to show zero sperm, but after the semen is centrifuged and the laboratory examines the concentrated pellet, a very small number of sperm are identified.

This is called:

Cryptozoospermia

Current EAU guidance recommends careful centrifugation and microscopic pellet examination when distinguishing absolute azoospermia from cryptozoospermia.

This distinction can be extremely important because even rare viable sperm may sometimes be:

- cryopreserved,
 - used for ICSI.
-

Understanding Sperm Motility

Sperm motility describes how sperm move.

Current WHO reference values include approximately:

42% total motility

and

30% progressive motility.

Progressive movement is particularly important because sperm normally need to travel through the female reproductive tract toward the egg.

What Is Asthenozoospermia?

Reduced sperm motility is called:

Asthenozoospermia

The report may show that many sperm are moving but only a small proportion are moving effectively forward.

Potential causes include:

- varicocele,



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- oxidative stress,
- testicular dysfunction,
- infection or inflammation,
- fever,
- smoking,
- some medications,
- idiopathic male infertility.

Poor motility is a laboratory finding.

It does not tell us the cause by itself.

Progressive Versus Non-Progressive Movement

A sperm moving in circles or merely vibrating in one place is technically moving.

But that does not mean it is progressing effectively toward an egg.

This is why laboratories distinguish:

progressive motility

from:

non-progressive motility.

Progressive sperm move forward.

Non-progressive sperm move without effective forward progression.

What Does 30% Progressive Motility Mean?

It does not mean:

“Only 30% of your sperm work.”

It means 30% met the laboratory definition for progressive movement under the testing conditions.

Fertility depends on:

- total sperm number,
- semen volume,



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- progressive motility,
- morphology,
- female factors.

One percentage should never be interpreted alone.

What If No Sperm Move?

If motility is extremely low or absent, another question becomes important:

Are the sperm alive but immotile, or are they dead?

This is where sperm vitality testing becomes useful.

Current EAU guidance, following WHO methodology, notes that vitality assessment is particularly appropriate when a very large proportion of sperm are immotile.

What Is Sperm Vitality?

Vitality determines what proportion of sperm are alive.

The current lower reference value is approximately:

54% live sperm.

Low vitality may be referred to as:

necrozoospermia when a substantial proportion of sperm are dead.

This must be distinguished from complete immotility with viable sperm because the implications for assisted reproduction differ.

Understanding Sperm Morphology

Morphology means:

sperm shape and structure under the microscope.

The current WHO lower reference value is approximately:

4% normal forms

using strict morphological criteria.

This is one of the most misunderstood numbers in male fertility.



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“My Morphology Is 4%. Does That Mean 96% of My Sperm Are Bad?”

No.

Strict sperm morphology is a highly demanding microscopic classification.

A sperm is called normal only when its:

- head,
- midpiece,
- tail,
- overall proportions

meet narrow laboratory criteria.

Therefore, even fertile men may have a relatively small percentage of sperm classified as morphologically normal.

The 4% reference figure should **not** be interpreted as meaning that the remaining 96% carry genetic abnormalities.

Morphology is not a chromosome test.

What Is Teratozoospermia?

Reduced normal sperm morphology is called:

Teratozoospermia

Current EAU terminology commonly uses:

<4% normal forms

as the conventional threshold.

However, isolated abnormal morphology should be interpreted cautiously.

Its significance becomes greater when concentration and motility are also abnormal.

Morphology Does Not Predict the Health of a Future Baby by Itself

This is another common fear.

Patients may see abnormal heads or tails described in their semen report and worry:

“My child will have abnormalities.”

Ordinary semen morphology does not provide that information.



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Genetic abnormalities require specific genetic assessment.

Morphology is mainly a laboratory description of sperm structure.

Certain rare and highly specific sperm-morphology syndromes can have genetic causes, but routine teratozoospermia is not equivalent to genetic disease.

Combined Sperm Abnormalities

Sometimes several parameters are abnormal simultaneously.

For example:

- low concentration,
- poor motility,
- abnormal morphology.

This is called:

Oligo-Asthenoteratozoospermia — OAT

Current EAU guidance recognizes that these abnormalities commonly occur together.

AUA/ASRM guidance also emphasizes that the likelihood of clinically important male-factor infertility rises as more semen parameters fall below their reference ranges.

Therefore:

one mildly abnormal value is different from severe abnormalities in all three major sperm parameters.

Understanding Semen pH

Semen is normally slightly alkaline.

Current consensus guidance uses approximately:

pH >7.2.

An unusually acidic sample, particularly when accompanied by:

- low semen volume,
- azoospermia,

may raise suspicion of:

- seminal-vesicle absence,



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- congenital absence of the vas deferens,
- ejaculatory-duct obstruction.

The pH therefore becomes particularly useful when interpreted alongside other abnormalities.

Understanding Liquefaction

Fresh semen initially forms a coagulated or gel-like material.

It normally liquefies after ejaculation.

Laboratory evaluation therefore includes liquefaction characteristics.

Delayed liquefaction can sometimes occur with abnormalities involving accessory gland secretions.

But delayed liquefaction alone does not diagnose infertility.

It must be interpreted alongside:

- concentration,
 - motility,
 - viscosity,
 - clinical history.
-

What Does Increased Semen Viscosity Mean?

Semen may sometimes remain unusually thick after liquefaction.

Excess viscosity can interfere with laboratory assessment and may occasionally affect sperm movement.

Potential associations include:

- accessory gland dysfunction,
- inflammation,
- collection-related variation.

Again, this is not a diagnosis by itself.

What Are Round Cells?



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A semen report may mention:

“round cells.”

These are not always white blood cells.

Round cells can include:

- leukocytes,
- immature germ cells.

Current AUA/ASRM guidance specifically emphasizes differentiating white blood cells from immature germ cells because their meanings differ.

This distinction is very important before assuming that the patient has infection.

Leukocytes in Semen

The current consensus threshold for peroxidase-positive leukocytes is approximately:
less than 1 million/mL.

A higher level may be called:

leukocytospermia or pyospermia.

It indicates inflammation.

But inflammation is **not automatically bacterial infection.**

White Blood Cells Do Not Automatically Mean Antibiotics

This is an area where unnecessary treatment is common.

Current EAU guidance states that leukocytospermia is a marker of inflammation but is not a reliable indicator that a bacterial or viral infection is present.

It also notes that treating leukocytospermia alone, without evidence of an infective organism, has not been shown to improve conception rates.

AUA/ASRM similarly recommends evaluating men with pyospermia for an infectious or inflammatory cause rather than automatically assuming infection.

Therefore:

do not repeatedly take antibiotics only because white cells appear on a semen report.



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The cause should be investigated.

Blood in Semen

A semen report or patient may occasionally note blood.

This is called:

hematospermia.

It is usually evaluated separately according to:

- age,
- whether it is recurrent,
- urinary symptoms,
- infection symptoms,
- other clinical findings.

It does not automatically mean infertility.

Semen Colour

Normal semen varies somewhat in appearance.

Colour alone is usually less informative than:

- sperm concentration,
- motility,
- morphology,
- volume.

However:

- obvious blood,
- persistent yellow-green discharge with symptoms,
- other marked changes

may justify clinical assessment.

Sample Collection Can Change the Report



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Before interpreting an abnormal result, I first ask:

Was the sample collected correctly?

A high-quality semen analysis begins before the sample reaches the microscope.

ASRM laboratory guidance recommends approximately **2–7 days of sexual abstinence** before a complete semen analysis and stresses standardized sample collection in an appropriate sterile container without ordinary lubricants or spermicides.

Laboratory instructions should be followed carefully.

Does Abstinence Affect Sperm Count?

Yes.

Longer abstinence generally increases:

- semen volume,
- sperm concentration.

But excessive abstinence does not necessarily improve fertility.

ASRM notes that very long intervals may negatively affect some semen characteristics, while frequent ejaculation does not necessarily reduce fertility in men with normal semen quality.

For diagnostic testing, consistency matters.

That is why the laboratory's abstinence instructions should be followed.

What Happens if Part of the Sample Is Lost?

The result may become misleading.

The first fraction of the ejaculate can contain a large proportion of the sperm.

Losing that portion may artificially reduce:

- concentration,
- total sperm number,
- semen volume.

The laboratory should always be told when collection was incomplete.



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Sometimes repeating the sample under proper conditions is more useful than investigating a falsely abnormal result.

Recent Fever Can Temporarily Damage Semen Parameters

One of the first questions I ask a patient with an unexpectedly poor report is:

“Did you have a high fever during the previous two or three months?”

Sperm production takes many weeks.

A significant febrile illness can temporarily reduce:

- concentration,
- motility,
- morphology.

The new WHO infertility guideline specifically recognizes febrile illness among transient factors capable of producing abnormal semen results.

This is one reason abnormal findings often require confirmation.

Recent Illness and Surgery

Major systemic illness, hospitalization and significant surgery can also temporarily affect reproductive function.

Therefore, a semen analysis obtained shortly after major illness may not represent the patient's long-term baseline.

Context matters.

One Abnormal Semen Test Is Not Always Enough

This is an important change to understand.

Historically, clinicians often obtained two samples within a relatively short period.

The **2025 WHO infertility guideline now specifically suggests repeating semen analysis after a minimum of 11 weeks when one or more parameters fall outside WHO reference ranges.**

WHO chose this interval because it approximately aligns with a spermatogenic cycle and allows transient influences such as:

- fever,
- medication effects,
- collection variation

time to change.

The certainty of evidence behind this recommendation is low, so clinical circumstances still matter.

What If the First Semen Analysis Is Completely Within Reference Ranges?

The 2025 WHO guideline suggests that, in couples undergoing infertility evaluation, a routine repeat is generally **not necessary when all semen parameters fall within current reference ranges**.

However, further male assessment may still be appropriate when there is:

- significant male reproductive history,
- recurrent pregnancy loss,
- repeated ART failure,
- sexual dysfunction,
- unexplained infertility.

A routine semen report is not the entirety of male fertility.

EAU and WHO Recommendations Should Be Understood Together

Current EAU guidance recommends obtaining at least two semen analyses when the baseline test is abnormal.

The newer WHO 2025 guideline adds practical timing by suggesting the repeat after a **minimum of 11 weeks**.

In clinical practice, a physician may repeat earlier when there is a specific urgent reason—for example:

- to confirm apparent azoospermia before a major decision,
- to determine whether a sample was incomplete,
- when fertility treatment cannot reasonably wait.

Guidelines support clinical judgement rather than replacing it.



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Common Causes of an Abnormal Semen Analysis

An abnormal report can arise from many different causes.

Important possibilities include:

- varicocele,
- primary testicular dysfunction,
- hormonal disorders,
- genetic abnormalities,
- undescended testes,
- obstruction,
- genital infection,
- fever,
- chemotherapy or radiotherapy,
- medications,
- testosterone or anabolic steroids,
- metabolic disease,
- obesity,
- smoking,
- environmental exposures,
- unexplained male infertility.

The semen report tells us **what is abnormal**.

The medical evaluation tries to identify **why**.

Varicocele

Varicocele is enlargement of veins around the testicle.

It can be associated with abnormalities involving:

- sperm concentration,
- progressive motility,



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- morphology.

Current EAU guidance recognizes varicocele as one of the common male-infertility-associated conditions.

However, a varicocele seen only on ultrasound should not automatically be blamed for every abnormal semen report.

Clinical examination matters.

Undescended Testes

A history of childhood cryptorchidism can reduce adult sperm production, particularly when:

- both testes were affected,
- treatment was delayed.

A patient may have forgotten childhood orchiopexy until asked specifically.

A good reproductive history is therefore essential.

Testicular Injury or Torsion

Severe testicular injury can impair sperm-producing tissue.

Testicular torsion can cause permanent damage when blood supply is interrupted.

These events may have occurred many years before infertility becomes apparent.

Hormonal Causes

Sperm production depends upon communication between:

- hypothalamus,
- pituitary,
- testes.

Important hormones include:

- FSH,
- LH,
- testosterone.



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An abnormal semen report—particularly oligozoospermia or azoospermia—may justify hormonal investigation.

The current AUA/ASRM male-infertility algorithm recommends initial FSH and testosterone assessment in men with oligozoospermia and uses FSH, examination and testosterone when classifying azoospermia.

What Does a High FSH Mean?

FSH stimulates the sperm-producing environment within the testes.

If sperm production is severely damaged, the pituitary often responds by increasing FSH.

Therefore:

very low sperm count + small testes + high FSH

can suggest significant primary testicular dysfunction.

However, FSH is not a perfect measurement of sperm production.

Normal FSH does not guarantee normal spermatogenesis.

What Does Low FSH Mean?

Very low or inappropriately normal FSH together with:

- low LH,
- low testosterone

may suggest a hypothalamic or pituitary disorder.

This is clinically important because some forms of **hypogonadotropic hypogonadism** are treatable with appropriate endocrine therapy.

Testosterone and Semen Analysis

Low testosterone may occur with reproductive disorders.

But external testosterone should never automatically be used as a fertility treatment.

Testosterone injections, gels and anabolic hormones suppress FSH and LH.

They can markedly reduce intratesticular testosterone and sperm production.



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Some men develop:

- severe oligospermia,
- azoospermia.

Current male-infertility guidelines caution against testosterone monotherapy in men who want current or future fertility.

Gym Steroids Are an Important Cause of Abnormal Semen Reports

Many young men do not tell their doctor they are using:

- testosterone injections,
- anabolic steroids,
- bodybuilding hormones.

They may consider them supplements rather than medicines.

I ask specifically.

A semen report showing severe oligospermia or azoospermia in a muscular young man should always prompt a careful hormone and steroid history.

Genetic Causes

Genetic investigation becomes particularly important when sperm production is severely impaired.

Important conditions include:

- Klinefelter syndrome,
- Y-chromosome microdeletions,
- chromosomal structural abnormalities,
- CFTR-related reproductive-tract disorders.

The 2024 AUA/ASRM guideline recommends targeted genetic testing according to semen severity, FSH, testicular findings and whether infertility reflects impaired sperm production or obstruction.

Genetic testing is **not required for every mildly abnormal semen report**.



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Smoking

Smoking has been associated with poorer sperm quality and increased oxidative stress.

Stopping smoking is reasonable reproductive-health advice.

However, smoking cessation should not be presented as a guaranteed treatment for severe male infertility caused by a genetic or anatomical disorder.

Alcohol

Heavy alcohol intake can adversely affect general health, hormones and semen characteristics.

Reducing excessive alcohol consumption forms part of reproductive-health optimization.

Again, the effect of lifestyle should be interpreted relative to the actual cause.

Obesity and Metabolic Health

Obesity, diabetes and metabolic syndrome may affect:

- testosterone,
- reproductive hormones,
- erectile function,
- sperm health.

I therefore assess the patient as a whole person rather than treating sperm concentration independently of general health.

Heat Exposure

The testes function best at a temperature slightly below body temperature.

Repeated substantial occupational heat exposure may adversely affect spermatogenesis in some men.

However, ordinary daily exposure should not become a source of excessive anxiety.

The clinical significance depends upon intensity and duration.



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Medications

Some medicines can influence:

- spermatogenesis,
- hormone levels,
- ejaculation,
- sexual function.

A fertility assessment should therefore include all:

- prescription medicines,
- over-the-counter drugs,
- hormones,
- supplements,
- herbal products.

The patient should not stop an essential medicine without medical advice merely because a semen result is abnormal.

Chemotherapy and Radiotherapy

Cancer treatment can produce:

- temporary oligospermia,
- prolonged azoospermia,
- permanent spermatogenic failure.

The effect depends upon drug class, cumulative dose and radiation exposure.

A history of cancer treatment should therefore always be included when interpreting semen analysis.

Genital Infection

Certain infections can impair sperm function or damage the reproductive tract.

But an abnormal semen analysis **does not prove infection**.

Antibiotics should not be prescribed repeatedly just because:

- motility is low,



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- morphology is abnormal,
- leukocytes appear on one report.

When infection is clinically suspected, appropriate microbiological testing is more rational. Current EAU guidance notes that treatment of confirmed male accessory-gland infection may improve sperm quality but does not necessarily improve conception rates.

Does Pus in Semen Mean Infection?

Not always.

Leukocytospermia indicates inflammation.

The inflammation may be:

- infectious,
- noninfectious.

A semen culture or molecular testing may be appropriate when clinical findings suggest infection.

Treat the demonstrated condition, not simply the word “pus cells.”

Sexual Frequency and Fertility

Some men deliberately avoid ejaculation for very long periods because they believe:

“More days means stronger sperm.”

This is not necessarily correct.

Long abstinence can increase sperm concentration but may negatively affect motility or other characteristics.

ASRM notes that intercourse every one to two days during the fertile period provides good opportunity for natural conception and that very frequent ejaculation does not usually deplete fertility in a healthy man.

Sperm DNA Fragmentation

A routine semen analysis evaluates:

- count,



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- movement,
- morphology.

It does not directly assess sperm DNA integrity.

Sperm DNA fragmentation testing evaluates breaks or damage within sperm DNA.

Higher fragmentation has been associated with poorer reproductive outcomes in selected patient groups.

However:

DNA fragmentation testing is not automatically required for every abnormal semen analysis.

When Is Sperm DNA Fragmentation Testing More Useful?

Current EAU guidance supports considering SDF testing particularly in selected situations such as:

- recurrent pregnancy loss,
- repeated ART failure,
- unexplained male infertility.

It should not be sold to every patient as an essential first-line test.

Reactive Oxygen Species Testing

Oxidative stress is scientifically relevant to male infertility.

However, current EAU guidance recommends **against routine reactive-oxygen-species testing** during standard male-infertility evaluation because its clinical utility is insufficiently established.

Not every technically available test improves patient care.

Antisperm Antibody Testing

Likewise, AUA/ASRM recommends **against routine antisperm-antibody testing during the initial evaluation.**

It may be useful in selected situations when the result would change management.

Testing should be purposeful.



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Does Every Abnormal Semen Report Need Ultrasound?

No.

Scrotal ultrasound may be useful when:

- examination is difficult,
- a testicular abnormality is suspected,
- varicocele assessment is uncertain,
- obstruction is suspected.

But current male-infertility guidance does not support using every possible imaging test automatically for every abnormal report.

Clinical examination should guide testing.

Low Volume, Acidic Semen and Azoospermia

This combination is particularly important.

It can suggest:

- congenital absence of the vas deferens,
- seminal-vesicle abnormality,
- ejaculatory-duct obstruction.

Current EAU guidance recommends targeted imaging such as scrotal ultrasound and transrectal ultrasound when severe oligospermia or azoospermia occurs with low volume and acidic pH and obstruction is suspected.

This is targeted investigation—not routine scanning.

How I Interpret an Abnormal Semen Analysis

When a patient brings me a report, I do not look only at sperm concentration.

I look at the pattern.

For example:

Pattern A



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Volume 3 mL

Concentration 14 million/mL

Progressive motility 48%

Morphology 5%

This represents a relatively mild isolated count abnormality.

Pattern B

Volume 2.5 mL

Concentration 3 million/mL

Progressive motility 12%

Morphology 2%

This represents severe combined male-factor impairment and deserves much deeper investigation.

Pattern C

Volume 0.6 mL

Azoospermia

Acidic pH

This raises concern for obstruction or congenital reproductive-tract abnormalities.

Pattern D

Azoospermia

Small testes

FSH markedly elevated

This raises concern for severe sperm-production failure.

The word “abnormal” is therefore not enough.

The pattern tells the story.

When Should a Man See a Male-Fertility Specialist?

A specialist evaluation becomes particularly important with:

- azoospermia,
- sperm concentration below 5 million/mL,
- persistent combined abnormalities,
- markedly abnormal hormones,



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- very small testes,
- absent vas deferens,
- significant varicocele,
- history of undescended testes,
- chemotherapy or radiotherapy,
- suspected genetic infertility,
- sexual or ejaculatory dysfunction,
- infertility despite apparently normal routine semen parameters.

The goal is not to order every available test.

It is to identify the most likely cause efficiently.

Physical Examination Is Important

Semen analysis should not replace physical examination.

Current EAU guidance recommends examining men seeking help for fertility problems and assessing:

- testicular size and consistency,
- epididymis,
- vas deferens,
- varicocele,
- genital abnormalities,
- secondary sexual characteristics.

A simple physical finding may explain a laboratory pattern more effectively than several unnecessary blood tests.

Female Fertility Must Be Assessed at the Same Time

Male semen results should never be interpreted in isolation from the female partner's reproductive situation.

Current EAU guidance strongly recommends evaluating both partners in parallel.

Suppose a man has mildly abnormal semen.



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If his wife is:

25 years old with normal ovarian reserve,

there may be time for conservative treatment and reassessment.

If she is:

40 years old with significantly reduced ovarian reserve,

waiting a year simply to improve a semen number may reduce the couple's overall chance of pregnancy.

The correct treatment is therefore **couple-centred**.

Does an Abnormal Semen Analysis Always Need Treatment?

No.

Treatment depends on:

- severity,
- persistence,
- underlying cause,
- duration of infertility,
- female partner's age and fertility,
- couple's reproductive goals.

A mildly abnormal semen parameter may not require direct treatment if the couple's fertility prognosis is otherwise favourable.

A severe persistent abnormality requires more investigation.

Treatment Should Target the Cause

There is no single medicine for every abnormal semen report.

Examples include:

Varicocele

→ selected patients may benefit from repair.

Hypogonadotropic hypogonadism

→ appropriate gonadotropin treatment may restore spermatogenesis.

External testosterone suppression

→ testosterone generally needs to be stopped under appropriate medical guidance, with fertility-oriented management.

Genital infection

→ treat the demonstrated infection.

Obstruction

→ reconstruction or sperm retrieval may be appropriate.

Severe genetic infertility

→ genetic counselling and ART may be required.

Idiopathic abnormal semen

→ individualized supportive therapy and reproductive planning may be reasonable.

This is why cause-based treatment is superior to simply prescribing a “sperm booster.”

Antioxidants and Fertility Supplements

The market contains many products claiming to increase:

- sperm count,
- motility,
- morphology.

Some studies report improvements in individual semen parameters.

However, current international evidence remains inconsistent regarding which men benefit and whether these supplements reliably improve pregnancy or live-birth outcomes.

Therefore, a supplement should not replace evaluation for:

- varicocele,
- hormone abnormality,
- genetic disease,
- obstruction,
- anabolic-steroid use.

The question should always be:

Why is the semen abnormal?



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When IUI May Be Considered

Intrauterine insemination may be useful in selected couples with relatively mild male-factor abnormalities.

The probability of success depends partly on the number of motile sperm remaining after laboratory processing.

If the usable sperm population is very low, IVF/ICSI may offer a more efficient pathway.

Treatment should therefore depend on both:

- semen severity,
- female reproductive factors.

IVF and ICSI

For severe male-factor infertility, assisted reproduction may be necessary.

IVF

Eggs and sperm are brought together in the laboratory.

ICSI

One selected viable sperm is injected directly into an egg.

ICSI is particularly useful when sperm concentration or motility is extremely low or when sperm have been surgically retrieved.

However, ICSI does not guarantee pregnancy.

Egg quality, embryo development, female age and uterine factors remain important.

The Unani Perspective on an Abnormal Semen Analysis

As a physician trained in Unani medicine and working particularly in **Sexual Disorders & Infertility**, I believe a semen report should be interpreted within the health of the whole patient.

Traditional Unani medicine approaches reproductive health through concepts involving:

- reproductive strength,
- quality and quantity of reproductive material,



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- **Mizaj** or constitutional temperament,
- nutrition,
- digestion,
- physical activity,
- sleep,
- psychological wellbeing,
- sexual function.

Classical Unani discussions of reduced semen or sperm-related reproductive capacity include terms such as:

Qillat-e-Huwaniya and Qillat-i Mani.

These traditional concepts do not map perfectly onto modern laboratory classifications such as:

- oligozoospermia,
- asthenozoospermia,
- teratozoospermia.

Therefore, I use modern semen analysis for objective diagnosis while considering Unani principles as part of individualized supportive care.

Why Modern Semen Testing Is Valuable in Integrative Unani Practice

A patient may say after treatment:

“Doctor, I feel stronger.”

That is useful information.

But infertility care needs objective measurement.

We should also know:

- Did concentration change?
- Did total sperm number improve?
- Did progressive motility improve?
- Did morphology remain abnormal?
- Is azoospermia still present?



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Modern semen analysis therefore allows traditional supportive treatment to be evaluated objectively rather than only by symptoms.

What Does Published Unani Research Show?

There is published clinical literature examining Unani treatment in men with **idiopathic oligospermia**.

A CCRUM-associated retrospective analysis reviewed earlier studies involving **126 men with idiopathic oligospermia** and reported improvement in selected semen parameters among different treatment groups, including sperm count and motility in some groups.

Another small Unani clinical study reported improvements in selected sperm count and motility measures after a traditional formulation but also acknowledged the need for larger and longer-term studies.

This suggests a legitimate area for further research.

However, the evidence has important limitations.

What Unani Evidence Does Not Prove

These studies do not prove that one Unani formulation can correct every abnormal semen report.

They generally involved:

- small patient groups,
- older sperm-count definitions,
- limited controls,
- semen-parameter outcomes rather than robust pregnancy or live-birth outcomes.

They also do not establish treatment for conditions such as:

- Klinefelter syndrome,
- complete AZFa deletion,
- congenital absence of the vas deferens,
- permanent post-radiation azoospermia.

Therefore, the responsible conclusion is:

Unani medicine may have a supportive role in selected forms of male infertility, particularly after important anatomical, hormonal and genetic causes have been evaluated, but it should not be presented as a universal cure for abnormal semen.

Where Unani Medicine May Be Particularly Useful

An individualized Unani approach may be considered in selected men with:

- idiopathic oligospermia,
- selected combined semen abnormalities,
- nutritional and lifestyle concerns,
- metabolic problems,
- associated sexual-health complaints,
- general reproductive-health concerns.

But the treatment must remain diagnosis-led.

A Genetic Abnormality Is Not the Same as “Weak Sperm”

Suppose one man has:

12 million sperm/mL with no identified cause.

Another has:

500,000 sperm/mL and a Y-chromosome AZFc deletion.

Their reports both show low sperm count.

But they should not receive identical counselling.

Similarly:

a man with obstructive azoospermia due to absent vas deferens

and:

a man with non-obstructive azoospermia from Klinefelter syndrome

both have zero sperm in semen.

Their biology and treatment are completely different.

This is why I do not treat laboratory terminology alone.



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My Approach at Saira Health Care

At **Saira Health Care**, when a man brings an abnormal semen report, I first ask:

Was the test collected properly?

Then:

Is this the first abnormal result?

Was there recent fever or illness?

What exactly is abnormal—volume, count, motility, morphology or several parameters?

How severe is the abnormality?

Is sperm absent completely?

Are hormone tests required?

Is there a varicocele?

Are the testes normal?

Is the vas deferens present?

Is the patient using testosterone or anabolic steroids?

Is genetic evaluation needed?

What is the fertility status of his wife or female partner?

That is how a semen analysis becomes meaningful.

Special Treatment Planning by Dr. Nizamuddin Qasmi

My focused practice in **Sexual Disorders & Infertility** means that I assess both reproductive laboratory findings and associated sexual-health problems.

A patient with an abnormal semen report may simultaneously experience:

- erectile dysfunction,
- premature ejaculation,
- low libido,
- painful ejaculation,
- varicocele,
- chronic pelvic symptoms,



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- infertility-related anxiety.

These conditions may require separate treatment.

Depending on the findings, evaluation may include:

- repeat semen analysis,
- FSH,
- LH,
- testosterone,
- examination of testes and varicocele,
- assessment of vas deferens,
- targeted infection testing,
- genetic testing where appropriate,
- selected ultrasound,
- fertility counselling,
- referral for IUI/IVF/ICSI when necessary.

Where appropriate, individualized Unani management may be integrated with modern fertility care.

What “Special Treatment” Means

For me, special treatment does not mean that every patient receives the same secret formula.

It means:

finding the reason behind the report and designing treatment around the individual patient.

Consider four patients.

Patient One

Sperm concentration 14 million/mL after a severe fever six weeks ago.

The first priority may be:

repeat assessment after appropriate recovery.

Patient Two



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Sperm concentration 2 million/mL, very small testes and FSH 24.

He requires:

evaluation for serious sperm-production failure and possible genetic causes.

Patient Three

Azoospermia, low semen volume, normal testes and absent vas deferens.

He likely has:

obstructive infertility requiring a completely different pathway.

Patient Four

Azoospermia after using testosterone injections for bodybuilding.

The first treatment is not another sperm supplement.

The suppressive hormonal exposure must be addressed.

These four reports cannot be managed identically.

Saira Health Care's Contribution to Sexual Disorders and Infertility

At **Saira Health Care**, one of our central aims is to help patients understand male fertility in clear language.

Men are frequently told:

“Your sperm are weak.”

That phrase is medically inadequate.

What exactly is weak?

Is the sperm concentration low?

Is movement poor?

Is morphology abnormal?

Is there no sperm at all?

Is sperm being produced but blocked?

Is there a hormonal disorder?

Is the condition genetic?

Precise diagnosis protects patients from years of unnecessary treatment.



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An Abnormal Semen Report Is Not a Judgment About Masculinity

This message is extremely important.

Sperm concentration does not measure:

- masculinity,
- sexual strength,
- erectile ability,
- personality,
- personal worth.

A man can have:

azoospermia and completely normal erections.

Another can have:

excellent semen parameters and severe erectile dysfunction.

Sexual function and fertility overlap but are not the same biological process.

I encourage patients to separate the laboratory result from their sense of identity.

Frequently Asked Questions

What is a semen analysis?

It is a laboratory examination of semen that measures sperm number, movement, shape and other ejaculate characteristics.

WHO's Sixth Edition provides the international standardized laboratory framework currently used for semen examination.

What is the current normal sperm count?

The current WHO lower reference level for sperm concentration is approximately:

16 million/mL.

But this is not a hard line separating fertility from infertility.

What is a normal total sperm count?



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The current lower reference value is approximately:

39 million sperm per entire ejaculate.

Total sperm output can sometimes be more clinically informative than concentration alone.

What is normal sperm motility?

Current lower reference values are approximately:

42% total motility

and

30% progressive motility.

What is normal morphology?

The current lower reference level is approximately:

4% normal forms using strict criteria.

Does 4% morphology mean 96% genetically abnormal sperm?

No.

Morphology measures microscopic appearance.

It is not a genetic test.

Can a man with 3% morphology father a child naturally?

Yes, natural conception may still occur.

The significance depends upon sperm count, motility, duration of infertility and female fertility.

What does oligospermia mean?

The preferred term is **oligozoospermia**, meaning reduced sperm concentration.

Current WHO-based reference data use approximately 16 million/mL as the lower reference value.

What does asthenozoospermia mean?

It means reduced sperm motility.

What does teratozoospermia mean?

It means a reduced proportion of sperm meeting strict normal morphology criteria.

What is OAT?

OAT means:

oligo-astheno-teratozoospermia

where concentration, movement and morphology are all abnormal.

Current EAU guidance recognizes this as a common combined abnormality.

What is azoospermia?

Azoospermia means no sperm are detected in semen after appropriate laboratory assessment.

It may result from:

- obstruction,
- severely impaired sperm production.

The distinction is essential.

Does azoospermia mean a man can never become a biological father?

No.

Some men have obstructive azoospermia with excellent sperm production.

Others with non-obstructive azoospermia may still have isolated sperm-producing areas within the testes.

Treatment depends on the cause.

What is cryptozoospermia?

It means sperm are extremely rare and may only be found after concentrating and carefully examining the semen sample.

What does low semen volume mean?

Possible causes include:

- incomplete collection,
- retrograde ejaculation,
- reproductive-tract obstruction,
- congenital absence of the vas deferens,
- accessory gland abnormalities.

It does not automatically mean poor testicular sperm production.

What is normal semen volume?

The current lower WHO reference level is approximately:

1.4 mL.

Does a low sperm count mean infertility?

Not automatically.

It may reduce the probability of natural conception, especially when severe or accompanied by other abnormalities.

But no single sperm number proves infertility.

Can an abnormal semen report become normal later?

Yes.

Semen parameters fluctuate.

Temporary abnormalities can follow:

- fever,
- illness,
- medication exposure,



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- incomplete collection.

The underlying cause determines whether improvement occurs.

When should an abnormal semen analysis be repeated?

The **2025 WHO infertility guideline suggests repeating it after a minimum of 11 weeks** when one or more parameters fall outside WHO reference ranges.

Clinical circumstances can sometimes justify earlier confirmation.

Why 11 weeks?

Because it broadly corresponds to the duration required for spermatogenesis and allows temporary influences such as fever or medication effects time to resolve.

If my semen analysis is normal, should I repeat it?

The 2025 WHO guideline generally suggests **not routinely repeating** the test when every parameter is within the reference ranges in an infertility evaluation.

Further investigation may still be appropriate in selected clinical situations.

How many days should I avoid ejaculation before the test?

Standard laboratory guidance commonly uses approximately:

2–7 days of abstinence.

Follow the instructions given by the laboratory performing your test.

Can fever affect sperm?

Yes.

Significant fever can temporarily lower sperm concentration and movement and affect other semen parameters.

WHO specifically recognizes febrile illness as a reason a first abnormal semen test may not represent the patient's long-term baseline.



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Can testosterone cause a low sperm count?

Yes.

External testosterone can markedly suppress sperm production and may cause azoospermia.

Men interested in fertility should never use testosterone as an ordinary sperm treatment.

Can anabolic steroids cause zero sperm?

Yes.

They suppress the hormonal system required for spermatogenesis.

Recovery after stopping can take months and varies between individuals.

Can varicocele cause an abnormal semen report?

Yes.

Varicocele may affect concentration, motility and morphology in selected men.

Do pus cells mean I need antibiotics?

Not automatically.

Leukocytes indicate inflammation, but inflammation is not necessarily bacterial infection.

Further evaluation is required.

Do I need sperm DNA fragmentation testing?

Not routinely for every abnormal semen analysis.

It may be considered particularly in recurrent pregnancy loss, unexplained infertility and some repeated ART failures.

Do I need ultrasound?

Not automatically.



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Imaging is selected according to examination and the semen pattern.

Do I need hormone testing?

Hormonal evaluation is particularly relevant in:

- significant oligozoospermia,
- azoospermia,
- small testes,
- symptoms of testosterone deficiency,
- suspected endocrine disease.

FSH and testosterone are commonly among the initial tests.

Do I need genetic testing?

Not everyone does.

It becomes particularly relevant in:

- azoospermia,
- extremely low sperm concentrations,
- testicular atrophy,
- elevated FSH suggesting impaired sperm production,
- congenital obstruction.

The test should match the clinical situation.

Can Unani medicine help an abnormal semen analysis?

Published Unani research has reported improvements in selected semen parameters in some men with idiopathic oligospermia.

However, direct evidence remains limited, and Unani treatment cannot be expected to correct every cause.

Its most appropriate role is within an **individualized, diagnosis-led integrative plan** after major anatomical, hormonal, genetic and treatment-related causes have been considered.



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Can Unani medicine cure azoospermia?

Azoospermia has many different causes.

A man with an obstruction requires a completely different approach from a man with:

- complete AZFa deletion,
- severe Klinefelter-related testicular failure,
- hormone deficiency.

No responsible treatment should promise that one Unani formulation will cure every type of azoospermia.

A Message From Dr. Nizamuddin Qasmi

When a patient brings me a semen analysis, I do not begin by asking:

“Which medicine will increase this number?”

I first ask:

“What does this pattern mean?”

If sperm count is slightly low but motility and morphology are good, the situation may be relatively mild.

If count, movement and morphology are all severely abnormal, I investigate more deeply.

If semen volume is very low with azoospermia, I think about obstruction.

If FSH is very high and testes are small, I think about severe testicular dysfunction.

If the patient uses testosterone injections, that may explain the entire report.

If he recently had dengue, influenza or another high-fever illness, I consider whether the result may be temporary.

That is why semen analysis should be interpreted by a clinician—not simply compared against an internet chart.

What I Tell Patients About the Word “Abnormal”

I tell my patients:



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An abnormal semen analysis is a clue, not a final diagnosis.

Its purpose is to help us ask better questions.

Why is sperm concentration reduced?

Why is motility poor?

Is morphology abnormal alone or together with other parameters?

Is there obstruction?

Is sperm production failing?

Could this be temporary?

Is the wife or female partner also being evaluated?

Once those questions are answered, treatment becomes much more rational.

My Clinical Philosophy

I prefer the following sequence:

Correct semen test → Confirm persistent abnormality → Identify the cause → Assess both partners → Treat reversible factors → Reassess objectively → Use assisted reproduction when appropriate.

Unani medicine can fit responsibly within this sequence.

It should not replace the sequence.

This allows traditional whole-patient care and modern reproductive diagnostics to work together rather than compete with each other.

Current Medical Understanding

Our understanding of semen analysis has changed significantly.

First, reference values are not fertility cut-offs.

The current WHO-derived values are statistical reference points—not a boundary separating fertile from infertile men.

Second, several abnormalities together matter more.

AUA/ASRM emphasizes that the probability of male-factor infertility rises as more semen parameters become abnormal.



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Third, an abnormal first test should be confirmed.

The **2025 WHO infertility guideline** now suggests repeating an abnormal semen analysis after a minimum of **11 weeks**.

Fourth, routine semen analysis does not answer every fertility question.

Advanced testing should be selected for particular clinical indications rather than automatically ordered for everyone.

Fifth, male fertility evaluation extends beyond sperm.

Current EAU guidance recommends medical and reproductive history, physical examination, semen assessment and directed hormonal or additional investigations.

This is the modern approach to an abnormal semen analysis.

Conclusion

An **Abnormal Semen Analysis** is not a single disease.

It is a laboratory signal that tells us one or more aspects of semen or sperm fall outside current reference ranges.

The abnormalities may involve:

- low semen volume,
- low sperm concentration,
- reduced total sperm number,
- poor motility,
- abnormal morphology,
- low vitality,
- azoospermia,
- inflammatory cells,
- combinations of several abnormalities.

Current WHO-based lower reference values include approximately:

1.4 mL semen volume

16 million sperm/mL concentration

39 million sperm per ejaculate

42% total motility

30% progressive motility

54% vitality

4% normal morphology.

These are reference values—not absolute borders between fertile and infertile men.

An isolated mildly abnormal result should therefore not create panic.

At the same time, persistent severe abnormalities deserve proper investigation.

Potential causes include:

- varicocele,
- hormonal disorders,
- genetic abnormalities,
- undescended testes,
- obstruction,
- infection or inflammation,
- fever,
- chemotherapy,
- radiotherapy,
- testosterone or anabolic-steroid use,
- testicular disease,
- metabolic and lifestyle factors,
- unexplained infertility.

The **2025 WHO infertility guideline recommends repeating a semen analysis after at least 11 weeks when one or more parameters are outside WHO reference ranges**, because temporary factors and natural biological variability can affect the first result.

The investigation should then be guided by the pattern.

A man with mild isolated oligozoospermia requires different evaluation from a man with azoospermia.

A man with low-volume acidic semen may require evaluation for obstruction.

A patient with severe oligozoospermia and small testes may require hormonal and genetic testing.

A man using anabolic testosterone may require treatment of hormonal suppression.



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From the **Unani perspective**, male reproductive health can be approached through a whole-person framework involving:

- Mizaj,
- nutrition,
- digestion,
- lifestyle,
- sleep,
- physical wellbeing,
- sexual health.

Published Unani clinical studies have reported improvement in selected semen parameters among some men with idiopathic oligospermia, although the available evidence remains limited and does not establish treatment for every cause of abnormal semen.

At **Saira Health Care**, my approach is therefore integrative but diagnosis-led:

interpret the entire semen report, confirm significant abnormalities, identify reversible and serious causes, assess the man's sexual and general reproductive health, evaluate the female partner simultaneously, integrate individualized Unani supportive management where clinically suitable, and use contemporary fertility treatment when required.

The most important message I give patients is:

Never judge your fertility from one number on one semen report.

A semen analysis is the beginning of understanding male fertility—not the end of the diagnosis.

About the Author

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

His approach to abnormal semen analysis emphasizes understanding sperm concentration, total count, movement, morphology and semen characteristics as a complete pattern rather than treating one laboratory number in isolation.

Depending upon the findings, evaluation may include repeat semen testing, hormonal investigation, assessment for varicocele and testicular disease, reproductive-tract evaluation, targeted genetic investigation and couple-based fertility planning.

Where clinically appropriate, individualized principles of Unani medicine may be integrated as supportive care alongside contemporary male-fertility investigation and treatment.

Medical Disclaimer

This article is intended for health education and public awareness. It does not provide an individual diagnosis and does not replace consultation with an appropriately qualified andrologist, reproductive urologist, fertility specialist or other healthcare professional.

Semen reference values are statistical reference limits and should not be interpreted as absolute boundaries between fertility and infertility.

One abnormal semen analysis does not necessarily establish permanent male infertility.

Men should not begin testosterone, anabolic steroids, prescription fertility hormones, antibiotics, supplements or herbal/Unani medicines solely because one semen parameter is outside the laboratory reference range.

Persistent azoospermia, severe oligozoospermia, very small testes, significant hormonal abnormalities, suspected genetic infertility, congenital reproductive-tract abnormalities or a testicular lump require appropriate specialist evaluation.

Infertility should generally be evaluated as a **couple**, because female reproductive age, ovarian reserve and other female factors can substantially influence treatment choice and timing.



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