Fertility Solutions
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Pre-IVF & IUI Blood Work Checklist

A complete guide to every test — what it is, why it is ordered, and when.

How to use this checklist

Your clinic will provide a specific blood work request form — this checklist covers everything that should be included across the full pre-IVF workup, with a plain-language explanation of what each test measures and why it matters. Use it to understand what has been requested, track what has been done, and ask informed questions at your consultation.

Not all tests listed here will apply to every patient. Tests marked as Required are standard across virtually all IVF clinics (aligned with SASREG Accreditation Standards 2023–2026 for SA; ASRM/ESHRE guidelines internationally). Tests marked as Conditional are ordered based on individual history, risk factors, or abnormal initial results. Always follow your RE's instructions.

Badge key:

Required	Conditional	Cycle-timed	SA — mandatory

Section 1 — Female Partner Blood Work

OVARIAN RESERVE

Timing: Day 2, 3 or 4 of menstrual cycle (except AMH — any day)

Ovarian reserve testing is the starting point of the female pre-IVF workup. These tests collectively tell your RE how many eggs remain, how the ovaries are likely to respond to stimulation, and what protocol to use. AMH is the most important single marker — it is cycle-day independent and can be tested at any time.

☐ **AMH — Anti-Müllerian Hormone** — *Any day of cycle*

The most important ovarian reserve marker. Reflects the remaining egg pool. Unlike FSH, AMH does not fluctuate significantly between cycles — a single measurement is generally reliable. Guides stimulation protocol and medication dosing. SA cost: R600–900 standalone; usually included in hormone panel.

Required

☐ **FSH — Follicle Stimulating Hormone** — *Day 2–4 only*

Elevated FSH indicates diminished ovarian reserve — the pituitary gland works harder as the follicle pool shrinks. Critically: FSH must be measured on Day 2, 3 or 4 of your cycle. An elevated FSH on Day 3 alongside a normal AMH is informative — both results together give a more complete picture.

Required **Cycle-timed**

☐ **LH — Luteinising Hormone** — *Day 2–4 only*

Baseline LH is measured alongside FSH. An elevated Day 3 LH, or an LH:FSH ratio greater than 2:1, may suggest PCOS — relevant to stimulation protocol selection.

Required **Cycle-timed**

☐ **Oestradiol (E2)** — *Day 2–4 only*

Baseline oestradiol contextualises your FSH result. Elevated Day 3 E2 can suppress FSH — creating a falsely normal FSH reading while actually masking poor ovarian reserve. Both must be assessed together.

Required **Cycle-timed**

☐ **Progesterone (Day 21 / mid-luteal)** — *Day 21 of 28-day cycle*

Confirms that ovulation occurred in a natural cycle. Timed to approximately 7 days after expected ovulation. Less central to IVF planning specifically (IVF bypasses natural ovulation) but forms part of the diagnostic workup in most clinics.

Conditional **Cycle-timed**

THYROID AND HORMONAL ASSESSMENT

Timing: Any day of cycle

Thyroid dysfunction is one of the most common and most treatable causes of IVF failure — and it is frequently missed because symptoms are subtle or absent. The TSH threshold for IVF is more stringent than the general population normal range. Most reproductive endocrinologists target TSH below 2.5 mIU/L before starting a cycle.

☐ **TSH — Thyroid Stimulating Hormone**

Non-negotiable component of every pre-IVF workup. Thyroid dysfunction impairs ovulation, implantation, and early pregnancy maintenance. TSH <2.5 mIU/L is the target for IVF — the general lab reference range of <4.5 is not sufficient for fertility patients.

Required

☐ **Free T4 (FT4)**

Ordered if TSH is abnormal. Characterises whether dysfunction is hypothyroid (low T4) or hyperthyroid (high T4), and establishes the severity. Should be treated and TSH stabilised before starting IVF.

Conditional

☐ **Free T3 (FT3)**
Ordered if TSH and T4 are abnormal, or if clinical symptoms suggest thyroid dysfunction despite borderline TSH. Provides a more complete picture of active thyroid hormone levels.
Conditional

☐ **TPO antibodies (thyroid peroxidase antibodies)**
Identifies autoimmune thyroiditis (Hashimoto's disease). Hashimoto's can present with a normal TSH while still impairing implantation and early pregnancy through immune mechanisms. Many clinics include this routinely. If positive, may indicate need for levothyroxine even with borderline TSH.
Conditional

☐ **Prolactin** — *Calm state — no prior exercise*
Elevated prolactin (hyperprolactinaemia) suppresses ovulation and can impair implantation. Critical: prolactin rises sharply with stress, physical exercise, and even a recent breast examination. The blood draw must happen in a calm resting state — no exercise beforehand. An elevated result may need to be repeated to confirm.
Required

☐ **DHEA-S (dehydroepiandrosterone sulphate)**
Adrenal androgen. Elevated DHEA-S can mimic or amplify PCOS symptoms and cause ovulatory dysfunction. Ordered if PCOS is suspected, if LH:FSH ratio is elevated, or if there are symptoms of androgen excess (acne, hirsuitism).
Conditional

☐ **Total testosterone**
Elevated testosterone may indicate PCOS or other androgen-excess conditions. Ordered alongside LH and DHEA-S if PCOS is suspected.
Conditional

☐ **Fasting insulin and glucose (HOMA-IR)** — *Fasting — nothing to eat or drink except water for 8–10 hours*
Assesses insulin resistance — the key metabolic driver of PCOS. Insulin resistance impairs ovulation, egg quality, and stimulation response. Treatable with lifestyle intervention and/or metformin. Order fasting. Many clinics include this routinely for PCOS patients.
Conditional **Cycle-timed**

INFECTIOUS DISEASE SCREENING — MANDATORY

Timing: Any time — required by all SA fertility clinics before any treatment

All SASREG-accredited IVF centres in South Africa are required to complete infectious disease screening before treatment. This is not optional. A reactive result does not prevent treatment in most cases — specialist protocols exist for HIV-positive patients, hepatitis carriers, and others. Disclose any known results to your clinic promptly.

☐ **HIV 1 & 2 (Ag/Ab combination test — 4th generation)**
Mandatory at all SASREG-accredited IVF centres. Required before any ART treatment in South Africa. A reactive result does not prevent IVF — most SA fertility clinics treat HIV-positive patients using specialist laboratory protocols. A confirmed diagnosis opens access to specialist care, not exclusion from it.
Required **SA — mandatory**

☐ **Hepatitis B surface antigen (HBsAg)**
Active Hepatitis B infection requires specialist management in an ART laboratory (dedicated equipment, separate processing protocols). Required before IVF in South Africa and internationally.

Required

☐ **Hepatitis B core antibody (anti-HBc total)**
Identifies past Hepatitis B exposure or occult infection — i.e., prior infection that has resolved but may still carry transmission risk. Ordered alongside HBsAg for the complete Hepatitis B picture.
Required

☐ **Hepatitis B surface antibody (anti-HBs)**
Confirms immunity to Hepatitis B — either from vaccination or past infection. Useful alongside HBsAg and anti-HBc to fully characterise Hepatitis B status.
Conditional

☐ **Hepatitis C antibody (HCV Ab)**
Active Hepatitis C requires specialist ART laboratory management. Required before all IVF treatment in South Africa and internationally.
Required

☐ **Syphilis serology (RPR screen + TPPA/TPHA confirmatory)**
Treponema pallidum serology. Syphilis is a notifiable disease and its prevalence is elevated in the SA context. Untreated syphilis in pregnancy causes serious congenital complications. Required before IVF. Treatable and curable before starting treatment.
Required SA — mandatory

☐ **Rubella (German measles) IgG immunity titre**
Rubella infection in the first trimester causes severe congenital birth defects (deafness, heart defects, cataracts). Confirms whether you are immune. If not immune: MMR vaccination is required before IVF — with a mandatory 1-month gap between vaccination and starting a treatment cycle.
Required

☐ **Chlamydia and gonorrhoea (NAAT test — urine or swab)**
Both infections are frequently asymptomatic in women. Chlamydia is the leading infectious cause of tubal damage and ectopic pregnancy in SA. Both are highly treatable but must be identified and cleared before IVF. STI rates are elevated in the SA context — routine testing is essential.
Required SA — mandatory

☐ **CMV — Cytomegalovirus (IgG and IgM)**
CMV is common and usually harmless in adults, but primary CMV infection during pregnancy can affect the foetus. Particularly relevant for donor egg or sperm recipients, and for patients who are seronegative (never exposed). Ordered by most SA fertility clinics.
Conditional

☐ **Varicella (chickenpox) IgG**
Varicella infection during pregnancy carries risk of congenital varicella syndrome. Ordered if prior infection or vaccination is not documented. If non-immune: vaccination recommended before IVF, with appropriate waiting period.
Conditional

HAEMATOLOGY, CLOTTING AND NUTRITION

Timing: Any time — ferritin and vitamin D best fasting

Anaemia, iron deficiency, and Vitamin D deficiency are highly prevalent in South African women of reproductive age and are associated with poorer IVF outcomes. All three are correctable before treatment — and identifying them before stims begin means they can be addressed in time.

☐ **Full blood count (FBC)**
Checks haemoglobin, haematocrit, platelet count, and white cell count. Anaemia is common and impairs ovarian stimulation response, implantation, and early pregnancy maintenance. Required before any IVF cycle.
Required

☐ **Ferritin (iron stores)**
The most sensitive marker of iron deficiency — detects depletion before anaemia develops. Iron deficiency without anaemia is extremely common in women of reproductive age in SA. Low ferritin should be corrected before stimulation begins — allow 6–8 weeks of supplementation to rebuild stores.
Required

☐ **Vitamin D (25-OH vitamin D)**
Vitamin D deficiency is widespread in SA despite high sun exposure — indoor work, sunscreen use, and skin pigmentation all reduce synthesis. Low Vitamin D is associated with poorer implantation rates and live birth rates. Test levels before supplementing: target 75–150 nmol/L going into treatment.
Required

☐ **Blood group and Rhesus factor**
Required before any invasive procedure. Rhesus-negative patients require anti-D immunoglobulin management if exposed to Rh-positive cells. Your clinic must have this on file before egg retrieval.
Required

☐ **Coagulation screen (PT, APTT, fibrinogen)**
Basic clotting function. Ordered if there is a personal or family history of abnormal bleeding or clotting, or before surgical procedures such as hysteroscopy.
Conditional

☐ **Antiphospholipid antibodies (ACA, lupus anticoagulant, anti-β2-glycoprotein 1)**
Antiphospholipid syndrome causes recurrent implantation failure and pregnancy loss through clotting abnormalities. Ordered if history of recurrent miscarriage (2+ losses), unexplained IVF failure, or known autoimmune conditions. Treatment (low-dose aspirin, heparin) is available.
Conditional

☐ **Thrombophilia screen (Factor V Leiden, prothrombin G20210A mutation)**
Inherited clotting disorders increase the risk of pregnancy loss and placental clotting. Ordered if personal or family history of deep vein thrombosis, pulmonary embolism, recurrent pregnancy loss, or previous unexplained IVF failure.
Conditional

☐ **Homocysteine (fasting)** — *Fasting*
Elevated homocysteine is associated with recurrent miscarriage and may indicate MTHFR gene mutation or folate/B12 deficiency. Ordered if recurrent pregnancy loss or family history of clotting disorders.
Conditional

IMMUNOLOGY AND AUTOIMMUNE ASSESSMENT
Timing: Any time

Autoimmune testing is ordered selectively — not routinely for every patient. It is most relevant for those with recurrent implantation failure, recurrent pregnancy loss, or a personal or family history of autoimmune conditions.

☐ **ANA — Antinuclear antibodies**

Screens for underlying autoimmune conditions (lupus, Sjögren's syndrome, mixed connective tissue disease) that can impair implantation and pregnancy maintenance. Ordered if personal or family history of autoimmune disease, recurrent IVF failure, or recurrent pregnancy loss.

Conditional

☐ **Anti-dsDNA (if ANA positive)**

Confirmatory test for systemic lupus erythematosus (SLE) if ANA is positive. SLE requires specialist management and specific IVF protocols.

Conditional

☐ **NK cell testing (uterine natural killer cells)**

Elevated natural killer cell activity is associated with recurrent implantation failure in some studies. Testing methodology and clinical interpretation are not yet standardised. This is a controversial area — ask your RE directly about their clinical position before requesting this test.

Conditional

GENETIC SCREENING

Timing: Any time — allow 2–4 weeks for results

Genetic testing is ordered based on personal and family history, ethnicity, or following abnormal IVF results. Allow sufficient time for results to return before your planned cycle start date — most panels take 2–4 weeks.

☐ **Karyotype (chromosomal analysis) — female partner**

Identifies chromosomal abnormalities (balanced translocations, inversions, Turner mosaicism) that cause recurrent pregnancy loss, implantation failure, or IVF cycle cancellation. Ordered if recurrent miscarriage (3+ losses), recurrent IVF failure, or family history of chromosomal abnormalities.

Conditional

☐ **Genetic carrier screening panel — both partners**

Tests for autosomal recessive conditions (cystic fibrosis, spinal muscular atrophy, fragile X, Gaucher's, and ethnicity-specific conditions). When both partners are carriers of the same condition, PGT-M (preimplantation genetic testing for monogenic disorders) may be recommended. Ask your RE about their standard panel.

Conditional

☐ **FMR1 premutation (fragile X carrier) — female**

Fragile X premutation in women is associated with premature ovarian insufficiency (POI) — early diminished ovarian reserve. Ordered if AMH is very low relative to age, or if there is family history of fragile X or early menopause.

Conditional

☐ **MTHFR gene mutation (C677T, A1298C)**

MTHFR variants affect folate metabolism and are associated with elevated homocysteine and possibly recurrent pregnancy loss. Clinically controversial — not all REs recommend routine testing. Discuss with your specialist whether this is appropriate for your history.

Conditional

ADDITIONAL PRE-TREATMENT TESTS (NON-BLOOD)

Timing: Scheduled by your clinic separately

The following are not blood tests but are part of the standard pre-IVF assessment and should be completed alongside your blood work — typically at your initial consultation or shortly afterwards.

☐ **Transvaginal ultrasound + Antral Follicle Count (AFC)** — *Day 2–5 of cycle*

Counts visible antral follicles in both ovaries combined — the ultrasound equivalent of AMH. Assesses ovarian structure, rules out cysts or polyps, and guides stimulation planning.

Required **Cycle-timed**

☐ **Uterine cavity assessment (saline sonogram / SIS, or hysteroscopy)**

Rules out uterine polyps, fibroids, or septum that can impair implantation. Saline infusion sonography (SIS) is less invasive and is the first-line investigation. Hysteroscopy is ordered if SIS is abnormal or inconclusive.

Required

☐ **Cervical smear (Pap smear) — if not up to date**

Not directly related to fertility but required to be current before IVF. Most SA clinics require a normal Pap smear within 3 years (or 5 years if HPV co-testing was done).

Required

Section 2 — Male Partner Reference (summary)

Male factor contributes to approximately 50% of fertility challenges. Both partners must be screened before IVF — the male workup is not optional and should be completed simultaneously with the female workup, not afterwards. This section provides a summary reference. A separate, full male partner checklist is available from Fertility Solutions.

PRIMARY SEMEN ASSESSMENT

Timing: 2–5 days sexual abstinence before sample

☐ **Semen analysis — full (WHO 2021 6th edition)** — *2–5 days abstinence*

The most important male fertility test. Assesses sperm count, concentration, total motility, progressive motility, normal morphology, and semen volume. Interpret against WHO 2021 6th edition reference values. If abnormal: repeat after 2–3 months of lifestyle changes before drawing conclusions. SA cost: R800–R1,500.

Required **Cycle-timed**

☐ **Sperm DNA fragmentation test (DFI)**

High DNA fragmentation (>25%) impairs fertilisation and embryo development even when standard semen parameters appear normal. Ordered for unexplained infertility, recurrent IVF failure, recurrent miscarriage, or elevated oxidative stress. SA cost: R2,500–R4,000.

Conditional

INFECTIOUS DISEASE SCREENING — MANDATORY

Timing: Required by all SA fertility clinics before any ART treatment

☐ **HIV 1 & 2**

Mandatory at all SASREG-accredited centres.

Required **SA — mandatory**

☐ **Hepatitis B (HBsAg and anti-HBc)**

Required before all IVF treatment.

Required

☐ **Hepatitis C antibody (HCV Ab)**

Required before all IVF treatment.

Required

☐ **Syphilis serology**

Required before IVF. Particularly relevant in SA context.

Required **SA — mandatory**

☐ **Chlamydia and gonorrhoea (NAAT)**

Often asymptomatic in men. Both are treatable but must be cleared before treatment.

Required **SA — mandatory**

HORMONE PANEL

Timing: Morning blood draw — before 10am for testosterone

☐ **Total testosterone** — *Morning — before 10am*

Testosterone is highest in the morning. Low testosterone may indicate hypogonadism — a treatable cause of poor sperm production.
Required **Cycle-timed**

☐ **LH**
Low LH alongside low testosterone suggests secondary (pituitary) hypogonadism.
Required

☐ **FSH**
Elevated FSH with low sperm count suggests testicular failure — the testes cannot respond to the signal.
Required

☐ **Prolactin** — *Calm state*
Elevated prolactin can suppress testosterone and impair sperm production. Draw in a calm resting state.
Required

GENETIC (IF SEMEN ANALYSIS IS SEVERELY ABNORMAL)
Timing: Any time — allow 2–4 weeks for results

☐ **Karyotype + Y chromosome microdeletion (AZF regions)**
Ordered for azoospermia or severe oligospermia. Y microdeletions are the second most common identifiable genetic cause of male infertility.
Conditional

☐ **CFTR mutation (cystic fibrosis gene)**
Congenital bilateral absence of the vas deferens (CBAVD) — obstructive azoospermia — is caused by CFTR mutations.
Conditional

Section 3 — SA Cost Reference & Practical Notes

Costs below are approximate ranges for South African private sector (cash-pay). Medical aid coverage varies significantly by plan — check with your scheme before testing. International patients: costs will vary by country and provider. Ask your clinic for a written cost estimate before ordering tests.

Approximate costs — SA private sector

Test	SA private cost (approx)
Ovarian reserve panel (AMH, FSH, LH, E2)	R2,500 – R4,000
Thyroid panel (TSH, T4)	R800 – R1,200
Prolactin	R500 – R800
Full infectious disease screen (6 tests)	R1,500 – R2,500
Full blood count	R300 – R600
Ferritin	R250 – R450
Vitamin D	R350 – R600
Blood group and Rhesus	R200 – R400
Antiphospholipid antibodies	R1,200 – R2,000
Genetic carrier screening	R3,000 – R8,000
Semen analysis (male partner)	R800 – R1,500
Sperm DNA fragmentation (male partner)	R2,500 – R4,000
Total basic female workup (approx)	**R8,000 – R15,000**

TIMING AND PREPARATION NOTES

Cycle-timed tests — FSH, LH, oestradiol, and AFC ultrasound must be done on Day 2, 3 or 4 of your menstrual cycle. Day 1 is the first day of full menstrual flow. Plan ahead: contact your clinic at the start of your period to book the Day 2–4 blood draw.

AMH — Can be tested on any day of your cycle. No fasting or timing required.

Prolactin — Must be drawn in a calm resting state. No strenuous exercise in the 24 hours beforehand. Arrive early and sit quietly for 20–30 minutes before the blood draw if possible.

Fasting tests — Fasting insulin/glucose and HOMA-IR require 8–10 hours of fasting (water only). Homocysteine is also best fasting. Group these together into one fasting blood draw to minimise visits.

Testosterone (male partner) — Testosterone is highest in the morning and declines through the day. Always draw before 10am for accurate results.

Semen analysis — 2–5 days sexual abstinence before the sample. Too short (<2 days) reduces count; too long (>7 days) increases DNA fragmentation. Produce the sample at the clinic or at home and deliver within 1 hour (keep warm — body temperature).

Genetic tests — Allow 2–4 weeks for genetic carrier screening and karyotype results. Order early if a treatment cycle is planned within 2 months.

MEDICAL AID PRE-AUTHORISATION (SA CLIENTS)

Many South African medical aids exclude fertility testing from standard benefits, or require pre-authorisation before they will cover any costs. Contact your medical aid before ordering tests to check: (1) whether infertility-related investigations are covered under your plan, (2) whether pre-authorisation is required, and (3) what the relevant benefit codes are. Your RE's rooms can usually assist with authorisation letters. Do not assume coverage — the absence of pre-authorisation is the most common reason for unexpected out-of-pocket bills.

FOR INTERNATIONAL CLIENTS

> If you are travelling to Cape Town for treatment, most fertility clinics can arrange for your pre-treatment blood work to be completed at an accredited laboratory in your home country and results sent ahead. Ask your clinic which tests they require and which must be repeated on arrival. Infectious disease tests (HIV, Hepatitis B/C, syphilis) are typically required to be completed within a specified number of months before treatment — confirm the exact timeframe with your clinic.

Sources and disclaimer

SASREG Accreditation Standards for IVF Centres 2023–2026 | ASRM Practice Committee Guidelines | ESHRE guidelines for pre-treatment workup | WHO Laboratory Manual for Semen Analysis 6th edition (2021)

This document provides educational guidance only. It does not constitute personalised medical advice. Your reproductive endocrinologist will determine which specific tests are required for your individual clinical situation. Not all tests listed here apply to every patient. Always follow your RE's instructions over this general guide. This document requires review by a reproductive endocrinologist before clinical or client-facing use.