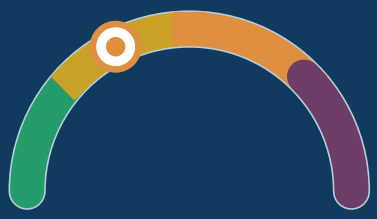
Comprehensive Wellness Report

A complete biochemical assessment with personalised recommendations

Patient information

Name	[redacted]
Sample ID	[redacted]
Age	51 years
Sex	Male
Date of Testing	[redacted]
Reporting Clinician	Your clinic

OVERALL HEALTH RISK



35/100
MODERATE
ACTION REQUIRED

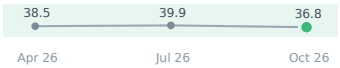
29	6	4	0
Within Range	Monitor	Above Range	Below Range

CLINICAL SNAPSHOT

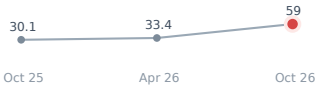
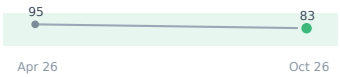
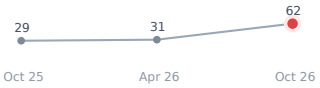
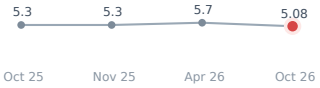
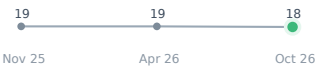
The main new finding is a rise in liver enzymes, with ALT 59 U/L and AST 62 U/L (previously 33.4 and 31 U/L), while GGT, ALP and bilirubin are normal. Haemoglobin 164 g/L and Hct 0.49 L/L are in range but at the upper end and rising during testosterone treatment, and PSA has risen modestly to 1.16 ug/L. The lipid profile has improved, with triglycerides 0.87 mmol/L and non-HDL cholesterol 3.35 mmol/L. Total and free testosterone are within range. Repeat liver tests and clinician review of treatment monitoring are the priorities.

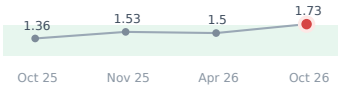
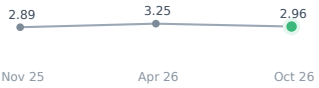
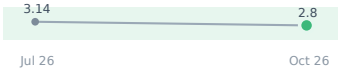
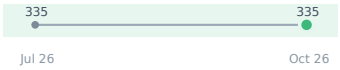
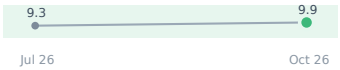
Test Results — Visual Summary

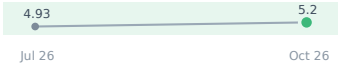
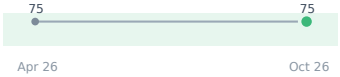
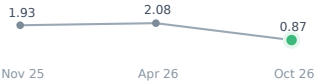
GENERAL BIOCHEMISTRY — ALL WITHIN RANGE

SHBG Ref: 20.6 - 76.7	36.8 nmol/L		WITHIN RANGE

OTHER RESULTS — 10 TO REVIEW

Alanine Transferase Ref: ≤ 45	59 U/L		ABOVE RANGE
Albumin Ref: 35 - 50	48 g/L		WITHIN RANGE
Alkaline Phosphatase Ref: 30 - 130	83 U/L		WITHIN RANGE
AST Ref: ≤ 45	62 U/L		ABOVE RANGE
Basophils Ref: 0 - 0.1	0 10^9/L		MONITOR
Basophils % Ref: N/A	0.1 %		MONITOR
Bilirubin Ref: ≤ 22	12 umol/L		WITHIN RANGE
Cholesterol Ref: ≤ 5	5.08 mmol/L		ABOVE RANGE
Eosinophils Ref: 0 - 0.4	0.05 10^9/L		WITHIN RANGE
Eosinophils % Ref: N/A	0.8 %		MONITOR
Free Androgen Index Ref: 24.3 - 72.1	47.6 %		WITHIN RANGE
Free Testosterone Ref: 0.163 - 0.473	0.3259 nmol/L		WITHIN RANGE
Gamma GT Ref: ≤ 55	18 U/L		WITHIN RANGE
Globulin Ref: 19 - 35	27 g/L		WITHIN RANGE

Haemoglobin (g/L) Ref: 130 - 180	164 g/L		WITHIN RANGE
Hct Ref: 0.4 - 0.52	0.49 L/L		WITHIN RANGE
HDL % of Total Ref: ≥ 20	34 %		WITHIN RANGE
HDL Cholesterol Ref: 0.9 - 1.7	1.73 mmol/L		ABOVE RANGE
LDL Cholesterol Ref: ≤ 3	2.96 mmol/L		WITHIN RANGE
Lymphocytes Ref: 1.5 - 4.5	2.8 10^9/L		WITHIN RANGE
Lymphocytes % Ref: N/A	48.7 %		MONITOR
MCH Ref: 27 - 32	31.5 pg		WITHIN RANGE
MCHC (g/L) Ref: 320 - 360	335 g/L		WITHIN RANGE
MCV Ref: 80 - 100	94.2 fL		WITHIN RANGE
Monocytes Ref: 0.2 - 0.8	0.54 10^9/L		WITHIN RANGE
Monocytes % Ref: N/A	9.4 %		MONITOR
MPV Ref: 7 - 13	9.9 fL		WITHIN RANGE
Neutrophils Ref: 2 - 7.5	2.4 10^9/L		WITHIN RANGE
Neutrophils % Ref: N/A	41 %		MONITOR
Non HDL Cholesterol Ref: ≤ 4	3.35 mmol/L		WITHIN RANGE
Platelets Ref: 150 - 450	221 10^9/L		WITHIN RANGE

PSA (Total) Ref: 0 - 3.5	1.16 ug/L		WITHIN RANGE
RDW Ref: 11.5 - 15	12.2 %		WITHIN RANGE
Red Cell Count Ref: 4.4 - 6.5	5.2 10^12/L		WITHIN RANGE
Testosterone Ref: 6.68 - 25.7	17.5 nmol/L		WITHIN RANGE
Total Protein Ref: 60 - 80	75 g/L		WITHIN RANGE
Triglycerides Ref: ≤ 2.3	0.87 mmol/L		WITHIN RANGE
White Cell Count Ref: 3 - 11	5.8 10^9/L		WITHIN RANGE

Clinical Findings

1. AST — 62 U/L — ABOVE RANGE

Reference: ≤ 45 U/L.

Deviation: about 38% above the upper reference limit (17 U/L over). Previous results were 29 U/L (Oct 25) and 31 U/L (Apr 26), so this is roughly a doubling.

AST is found in liver and also in skeletal muscle and red cells. This is a new rise from a stable baseline. Because GGT (18 U/L), ALP (83 U/L) and bilirubin (12 umol/L) are all normal, the pattern is not clearly cholestatic or alcohol-related. Common non-liver contributors include recent strenuous exercise, muscle injury and sample timing. Medicines and liver fat are also possible. These results alone cannot show the cause, so a clinician should interpret them alongside history and a repeat test.

2. ALT — 59 U/L — ABOVE RANGE

Reference: ≤ 45 U/L.

Deviation: about 31% above the upper reference limit (14 U/L over). Previous results were 30.1 U/L (Oct 25) and 33.4 U/L (Apr 26).

ALT is more liver-specific than AST, but it can also rise after heavy training. The AST and ALT rise together, with AST about the same as ALT, is consistent with a possible muscle contribution, although this cannot be confirmed from these results. The change is modest, and a repeat test after a period without strenuous exercise or alcohol will show whether it persists. A clinician may also wish to consider a creatine kinase measurement and a medication review.

3. Haematocrit (Hct) — 0.49 L/L — MONITOR

Reference: 0.4 – 0.52 L/L.

Deviation: within range, but 0.03 L/L (about 6%) below the ceiling. Haemoglobin is 164 g/L (130 – 180 g/L), up from 153 g/L in July 2026, and red cell count is 5.2 10^12/L (4.4 – 6.5).

Haemoglobin and Hct are rising towards the upper end during testosterone treatment, which is a recognised effect that needs routine monitoring. No value is outside range, and this is a trend observation, not a concern in itself. Hydration status, smoking and sleep quality can also influence these results.

4. PSA (Total) — 1.16 ug/L — MONITOR

Reference: 0 – 3.5 ug/L.

Deviation: within range, about 67% below the ceiling. It has risen from 0.83 ug/L in July 2026, an increase of about 40% in relative terms.

The value is reassuring in absolute terms. PSA can rise modestly with testosterone treatment, and

it is also affected by recent ejaculation, cycling and infection. The change from baseline is the useful signal, so a clinician will want to follow the trend using the same laboratory where possible.

5. Free Testosterone — 0.3259 nmol/L — MONITOR

Reference: 0.163 – 0.473 nmol/L.

Deviation: within range, in the mid-to-upper part of the interval. It has risen from 0.1983 nmol/L (Jul 26) and 0.262 nmol/L (Apr 26).

Total testosterone is 17.5 nmol/L (6.68 – 25.7), up from 11.9 nmol/L. SHBG is 36.8 nmol/L (20.6 – 76.7) and Free Androgen Index is 47.6 % (24.3 – 72.1), up from 29.8. All are within range, so hormone levels appear to be in the expected range for a man on treatment. Injection timing relative to the blood draw affects these values, so interpretation belongs with the prescribing clinician.

6. Total Cholesterol — 5.08 mmol/L — ABOVE RANGE

Reference: ≤ 5 mmol/L.

Deviation: about 1.6% above the ceiling, a marginal exceedance. It is lower than 5.7 mmol/L in Apr 26.

The small excess reflects a high HDL cholesterol (1.73 mmol/L, reference 0.9 – 1.7, about 2% above the upper limit), which is generally regarded as favourable. The clinically relevant fractions are LDL cholesterol 2.96 mmol/L (≤ 3) and non-HDL cholesterol 3.35 mmol/L (≤ 4), both within range and improved on earlier results (non-HDL 4.2 mmol/L in Apr 26).

Clinical Commentary

Normal Results

- **Full blood count:** Red cell indices (MCV 94.2 fL, MCH 31.5 pg, MCHC 335 g/L, RDW 12.2 %), platelets (221 10^9/L) and the white cell count with its differential (white cells 5.8 10^9/L, neutrophils 2.4, lymphocytes 2.8) are all within range.
- **Liver synthetic and cholestatic markers:** Albumin 48 g/L, total protein 75 g/L, globulin 27 g/L, ALP 83 U/L, GGT 18 U/L and bilirubin 12 umol/L are normal and stable.
- **Lipids:** Triglycerides have improved to 0.87 mmol/L (from 2.08 mmol/L in Apr 26). The total cholesterol to HDL ratio is about 2.9, and HDL makes up 34 % of total cholesterol.
- **Hormone profile:** Total testosterone, SHBG, Free Androgen Index and free testosterone are all within the laboratory intervals.

Abnormal Results / themes

SIGNIFICANT — Liver enzyme rise ALT and AST have both risen from stable baselines of around 30 U/L. The other liver markers are normal, which is reassuring and makes an isolated hepatocellular or muscle-related pattern more likely than a cholestatic one. Exercise, alcohol, medicines, weight change

and metabolic fat accumulation in the liver are all possibilities for a clinician to explore. A repeat test is the sensible first step, and nothing here is urgent.

BORDERLINE — Treatment-related monitoring Haemoglobin, Hct, PSA and free testosterone have all moved upwards since the previous result. All remain within range, and the pattern is consistent with the clinic context of testosterone treatment. Together they make a case for regular structured monitoring, which is a matter for the treating clinician.

BORDERLINE — Lipids Total cholesterol and HDL cholesterol sit only marginally above their intervals. Overall lipid risk looks lower than it did earlier in the year, with a better triglyceride level and lower non-HDL cholesterol.

Limits of this panel This panel did not include glucose or HbA1c (38 mmol/mol in Apr 26), kidney function or electrolytes. The clinician may wish to add these at the next draw to complete the metabolic picture, particularly with raised liver enzymes.

Recommendations & Action Plan

Immediate Clinical Actions

1 Repeat liver tests

• Arrange repeat ALT, AST, GGT and ALP in about 4 weeks.
• Avoid strenuous exercise and alcohol for 48–72 hours before the sample, and note any recent illness or new medicines.

2 Clinician review of the liver enzyme rise

• Ask a GP or the treating clinician to review the ALT 59 U/L and AST 62 U/L result against the history, alcohol intake, exercise and current medicines.
• The clinician can decide whether further tests, such as a muscle enzyme or a liver risk assessment, are appropriate if the rise persists.

3 Treatment monitoring review

• Share these results with the clinician managing the testosterone treatment, including the Hct 0.49 L/L, haemoglobin 164 g/L and PSA 1.16 ug/L trends.
• Any decision about the treatment plan or timing of blood tests relative to injections rests entirely with that clinician.

4 Complete the metabolic picture

• Request HbA1c, kidney function and electrolytes with the next blood draw, as they were not part of this panel.

Lifestyle Changes

- **Diet:** Follow a Mediterranean-style pattern with plenty of vegetables, pulses, wholegrains, oily fish and unsaturated fats, and limit ultra-processed foods and sugary drinks.
- **Alcohol:** Keep within UK low-risk guidance (no more than 14 units a week, spread over several days), and consider a few alcohol-free weeks before the repeat test.
- **Exercise:** Aim for at least 150 minutes of moderate activity a week plus resistance work. Allow rest days and avoid very heavy sessions in the 2–3 days before blood tests.
- **Hydration:** Drink fluids normally and avoid dehydration before blood tests, as this can

influence Hct and haemoglobin.

- **Sleep and stress:** Aim for 7–9 hours of regular sleep and use stress management techniques. Seek assessment if snoring or daytime tiredness is a problem.
- **Smoking:** Avoid smoking, which can raise haemoglobin and cardiovascular risk.

Surveillance reminders

- Keep tracking haemoglobin and Hct against previous results, and report symptoms such as headaches, flushing or visual disturbance to the clinician.
- Follow the PSA trend using consistent timing, avoiding ejaculation, cycling and vigorous exercise for 48 hours beforehand.
- Keep the lipid profile under routine review, particularly as cholesterol and triglycerides have varied between tests.
- Keep a record of new medicines, over-the-counter products and illnesses, as these can affect liver tests.

Monitoring & Follow-Up

Retest Schedule

Biomarker / panel	Retest interval	Rationale
Liver profile (ALT, AST, GGT, ALP, bilirubin)	4–6 weeks	Confirm whether the rise in ALT 59 U/L and AST 62 U/L persists after avoiding strenuous exercise and alcohol
Full blood count (haemoglobin, Hct, red cell count)	3 months	Follow the upward trend in haemoglobin 164 g/L and Hct 0.49 L/L during testosterone treatment
PSA	3 months, then per clinician protocol	Trend from 0.83 to 1.16 ug/L
Testosterone, SHBG, free testosterone, FAI	3 months, timed consistently with injections	Monitor treatment levels and keep a consistent sampling schedule
HbA1c, kidney function and electrolytes	8–12 weeks	Not included in this panel, and helpful context for the liver result
Lipid profile	3–6 months	Confirm improvement in triglycerides and non-HDL cholesterol
Full panel	12 months	Annual overview of treatment monitoring and cardiometabolic risk

Follow-Up Plan

1 – 3 Months
Repeat the liver profile at about 4 weeks and arrange clinician review of the findings. Add HbA1c, kidney function and electrolytes. At around 3 months, repeat the full blood count, PSA and hormone profile as part of treatment monitoring.

3 – 6 Months
Review the repeat results with the treating clinician. If the liver enzymes persist, the clinician can decide on further assessment. Repeat the lipid profile and review lifestyle progress.

6 – 12 Months
Perform a comprehensive annual review covering haematology, PSA, hormones, liver, lipids and glycaemic markers, with the monitoring schedule agreed with the treating clinician.

Overall Risk Assessment

Overall Health Risk — MODERATE

ACTION REQUIRED

The overall risk score is 35/100. This is driven mainly by the new rise in liver enzymes and by the need for ongoing monitoring during testosterone treatment, set against a generally reassuring profile.

Cardiometabolic: Lipids are favourable overall, with LDL cholesterol 2.96 mmol/L, non-HDL cholesterol 3.35 mmol/L and triglycerides 0.87 mmol/L all within range and improved. The marginal rises in total cholesterol (5.08 mmol/L) and HDL cholesterol (1.73 mmol/L) are of limited concern. Glycaemic status could not be assessed on this panel, but the last HbA1c was 38 mmol/mol.

Liver: ALT and AST are around 30–38% above the ceiling, with normal GGT, ALP, bilirubin and albumin. This is the main item needing follow-up, and repeat testing under controlled conditions should clarify it.

Hormonal and haematological: Testosterone levels are within range. Haemoglobin and Hct are higher than before but within the reference intervals, and PSA has risen modestly within range. These are routine monitoring points for a patient on treatment, and decisions about them belong with the clinician.

Reassuring factors: The full blood count, white cell differential, platelets, protein markers and cholestatic markers are all normal, which supports a favourable outlook if the liver enzymes settle on repeat testing.

Important Notice. This report is provided for informational purposes only and does not constitute medical diagnosis or treatment. All findings should be discussed with a qualified medical practitioner who can advise based on complete medical history and clinical examination. Your clinic — Comprehensive Health Analysis System.