Youth Revisited
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Grimsby
DN32 9AS
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Report Explanation

Surname :
Forename :
Date of birth :20/08/1972
Sample Number:14418
Sex :Male
Lab No :14418
Sample Dated :29/10/2025 10:00
Sample Received :29/10/2025 11:48
Result Reported :29/10/2025 15:01
Sample Type :V - EDTA / V - Yellow

ℹ️ Note that the summary provided regarding the patient's blood results has been generated using advanced artificial intelligence technology. This approach ensures that the information is based on comprehensive data analysis, allowing for reliable and informed insights. While the summary is AI-generated, it is intended to assist in understanding the results and should be considered alongside professional medical advice.

Overall Summery - Next Steps

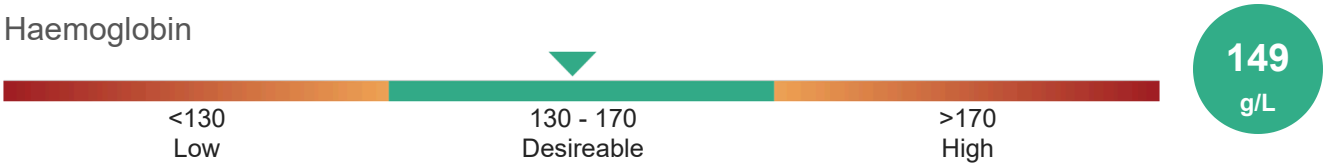
Most of your basic health tests look reassuring and show generally normal kidney, liver, sugar control, immune cells and vitamin D, but there are a few findings to focus on. Your haemoglobin is normal but the blood tests show small red blood cells, more variation in cell size, and low iron and low iron stores (ferritin), which usually means early iron deficiency even before anaemia develops. Your muscle enzyme (creatine kinase) is mildly raised, which commonly happens after heavy exercise or muscle strain. Your cholesterol levels are within acceptable ranges but the cholesterol to good cholesterol ratio is slightly above the recommended target. The hormone pattern is the most notable concern because total and free testosterone are high, the protein that carries sex hormones is very low, the pituitary hormones that normally stimulate testosterone production are low, and both prolactin and oestrogen are high. This combination is often seen with use of external testosterone or anabolic steroids and can also occur with certain pituitary problems, so it needs prompt review. Your vitamin B12 and folate are higher than the listed range, which commonly reflects supplementation.

Action summary and next steps. Start oral iron therapy unless your GP advises otherwise, for example an iron tablet providing about 60–65 mg elemental iron once daily and continue for at least 8–12 weeks, then recheck iron, ferritin and a full blood count at 8–12 weeks to see improvement. Book a GP appointment within 2 weeks to discuss the abnormal hormone tests and high prolactin; if you are using testosterone or anabolic steroids stop

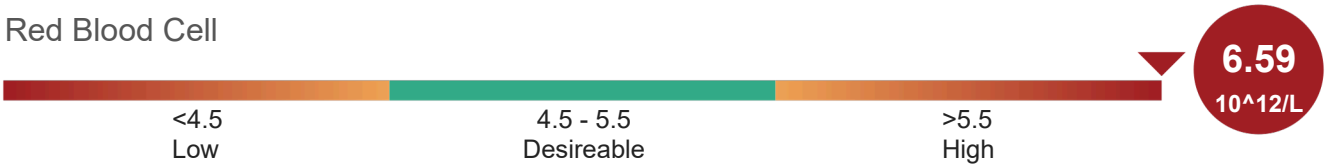
them now and tell your GP, and if you are not using these substances the GP may arrange urgent endocrine review and a pituitary scan. If you have any signs of blood loss such as dark stools or unexplained fatigue ask your GP about testing for internal bleeding. Reduce very heavy exercise for a few days and repeat the muscle enzyme if symptoms continue. Continue any prescribed supplements or medications unless your GP tells you otherwise. Consider modest diet and activity changes to lower cardiovascular risk and recheck blood lipids in 3–12 months. If you develop headaches, visual changes, breast swelling, new sexual problems or black stools seek medical attention promptly.

Complete Blood Count

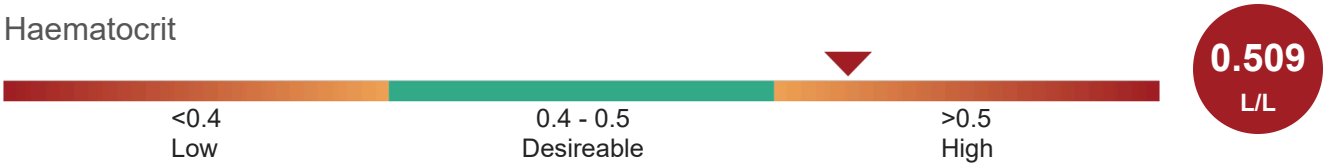
Haemoglobin



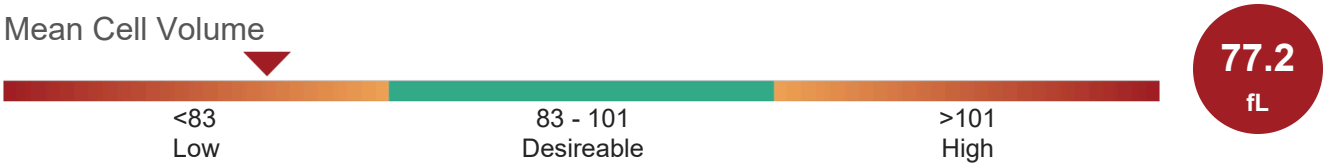
Red Blood Cell



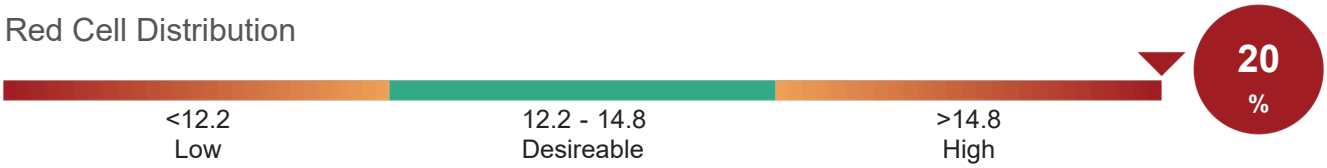
Haematocrit



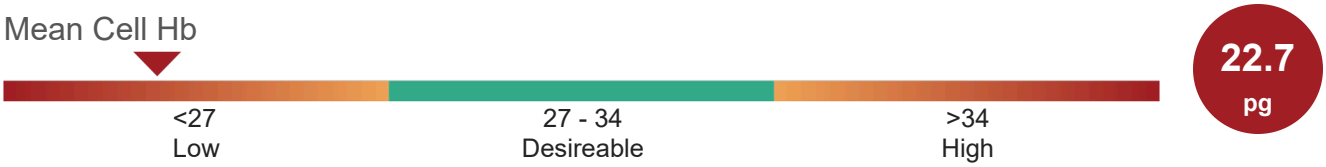
Mean Cell Volume



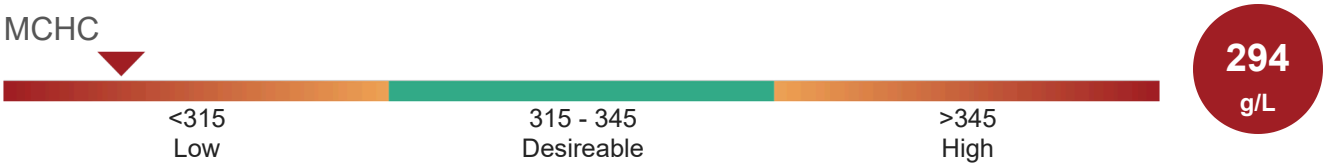
Red Cell Distribution



Mean Cell Hb



MCHC

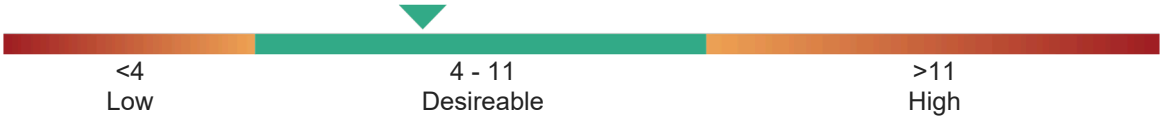


Platelets

MPV

9.6 fL

White Blood Cells



6.48 10^9/L

Neutrophils

4.15 10^9/L

Monocytes

0.54 10^9/L

Basophils

0.01 10^9/L

Eosinophils

0.16 10^9/L

Lymphocytes

1.62 10^9/L

What the Complete Blood Count is

This Complete Blood Count measures numbers and sizes of blood cells: red blood cells and haemoglobin (carry oxygen), platelets (help blood clot), and white blood cells (fight infection). It looks at cell size and variation to detect anaemia, infection, clotting problems and other blood-related issues.

What the result means

🟩 Green – All Good

- Haemoglobin (the oxygen-carrying protein) is within the normal range, suggesting your blood is carrying oxygen well.
- Platelet count and platelet size (cells that help clot blood) are within the normal range, indicating clotting cells are at expected levels.
- White blood cell count and main types — neutrophils, monocytes, eosinophils and lymphocytes — are within normal ranges, suggesting no obvious ongoing infection or major immune imbalance.

⚠️ Amber – Slightly Outside the Normal Range

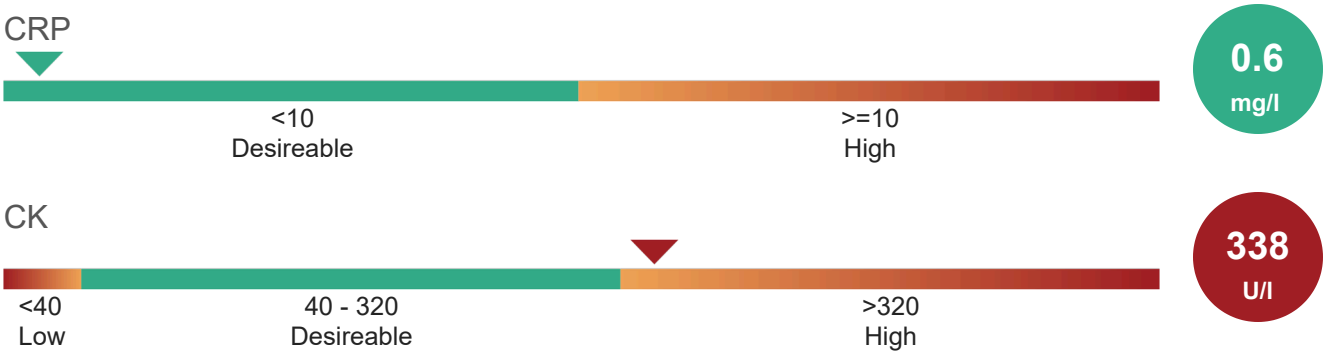
- Haematocrit (the proportion of blood made up of red cells) is just above the upper limit; this small change can happen with mild dehydration or a relative increase in red cells.
- Basophils (a very small type of white blood cell) are slightly below the usual range; small falls in this cell type often have little direct effect on health.
- I'd recommend reviewing these small shifts with your clinician; simple checks such as ensuring good hydration and basic iron-related blood tests or a repeat full blood count can help clarify them.

🔴 Red – Needs Attention

- Red blood cell count is higher than expected while the red cells are smaller than normal (low mean cell volume) and contain less haemoglobin per cell (low mean cell haemoglobin and low mean cell haemoglobin concentration); there is also increased variation in red cell size (high red cell distribution). These linked changes commonly point to problems with red cell production such as low iron or an inherited red cell pattern and warrant further attention.
- I would suggest discussing these results with your clinician so they can consider iron studies (for example ferritin) and possibly repeat testing to find the cause and guide any treatment.

● Good ● Moderate ● Action Recommended

Inflammatory Markers



What the Inflammatory Markers is

This panel checks signs of inflammation and muscle stress. It measures C-reactive protein (a blood marker of inflammation) and creatine kinase (an enzyme released when muscle is damaged). These help show whether there's active inflammation or recent muscle injury and how your body is responding.

What the result means

🟩 Green – All Good

- C-reactive protein (blood inflammation marker): 0.6 mg/L, well within the normal range (<10 mg/L). This indicates no active inflammation detected.

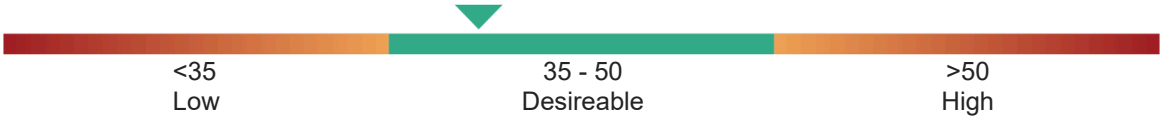
⚠️ Amber – Slightly Outside the Normal Range

- Creatine kinase (muscle enzyme): 338 U/L (normal 40–320 U/L), slightly above the range. Mild rises can follow recent hard exercise, muscle strain or some medicines; if you were recently active this may explain it. I'd recommend resting and avoiding intense exercise for a few days, and repeating the test or discussing it with your clinician if it remains raised or you have muscle pain.

● Good ● Moderate ● Action Recommended

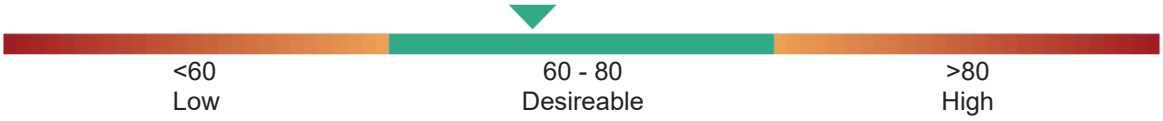
Metabolic and Liver Function Panel

Albumin



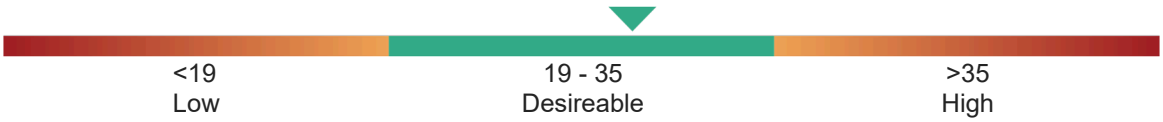
38.4 g/l

Total Protein



67.4 g/l

Globulin



29 g/l

GGT

9 U/l

ALP

45 U/l

ALT

18.3 U/l

Total Bilirubin

5.1 umol/l

What the Metabolic and Liver Function Panel is

This panel checks liver health and basic metabolism by measuring blood proteins (albumin, total protein, globulin), liver-related enzymes (gamma-glutamyl transferase, alkaline phosphatase, alanine aminotransferase) and bilirubin. Together these markers show how well the liver is working, how the body makes and stores proteins, and if there is bile or liver cell stress.

What the result means

Green – All Good

- Blood proteins (albumin, total protein, globulin) are all within the normal range, which suggests good protein balance, nutrition, and normal protein-making function in the body.

- Liver enzymes (gamma-glutamyl transferase, alkaline phosphatase, alanine aminotransferase) are within normal limits, indicating no current sign of liver irritation, injury, or blockage of bile flow.
- Total bilirubin is normal, suggesting the liver is processing and clearing bile pigments properly and there is no sign of jaundice.

Good Moderate Action Recommended

Iron Studies

Iron

5.14 umol/l

Ferritin

67.02 ug/l

What the Iron Studies is

This panel measures the amount of iron in the blood and the amount stored in the body (ferritin). Iron helps carry oxygen and supports energy and muscle function, while ferritin shows your iron reserves. Together they indicate whether iron levels are adequate for overall body function.

What the result means

⚠ Amber – Slightly Outside the Normal Range

- Ferritin (iron stores) is a bit low at 67.02 ug/l (normal 100–340). This means your stored iron is below the usual range, which can be an early sign that your iron reserves are falling even if you do not yet have strong symptoms.

🔴 Red – Needs Attention

- Iron (blood iron) is low at 5.14 umol/l (normal 14–31). This is clearly below the typical range and can reduce the oxygen available to your body, which may lead to tiredness, weakness or other symptoms. I'd recommend discussing these results with a healthcare professional who can review them with you and consider tests or treatments to restore iron, such as diet changes or supplements if appropriate.

Good Moderate Action Recommended

Diabetic Screening Panel

HbA1c-(IFCC)

33.34 mmol/mol

What the Diabetic Screening Panel is

Diabetic Screening Panel measures long-term blood sugar control by checking glycated haemoglobin (HbA1c). It shows average blood glucose over the past 2–3 months and helps detect prediabetes or diabetes. Knowing this helps assess risk for complications related to high blood sugar such as damage to nerves, kidneys, eyes and blood vessels.

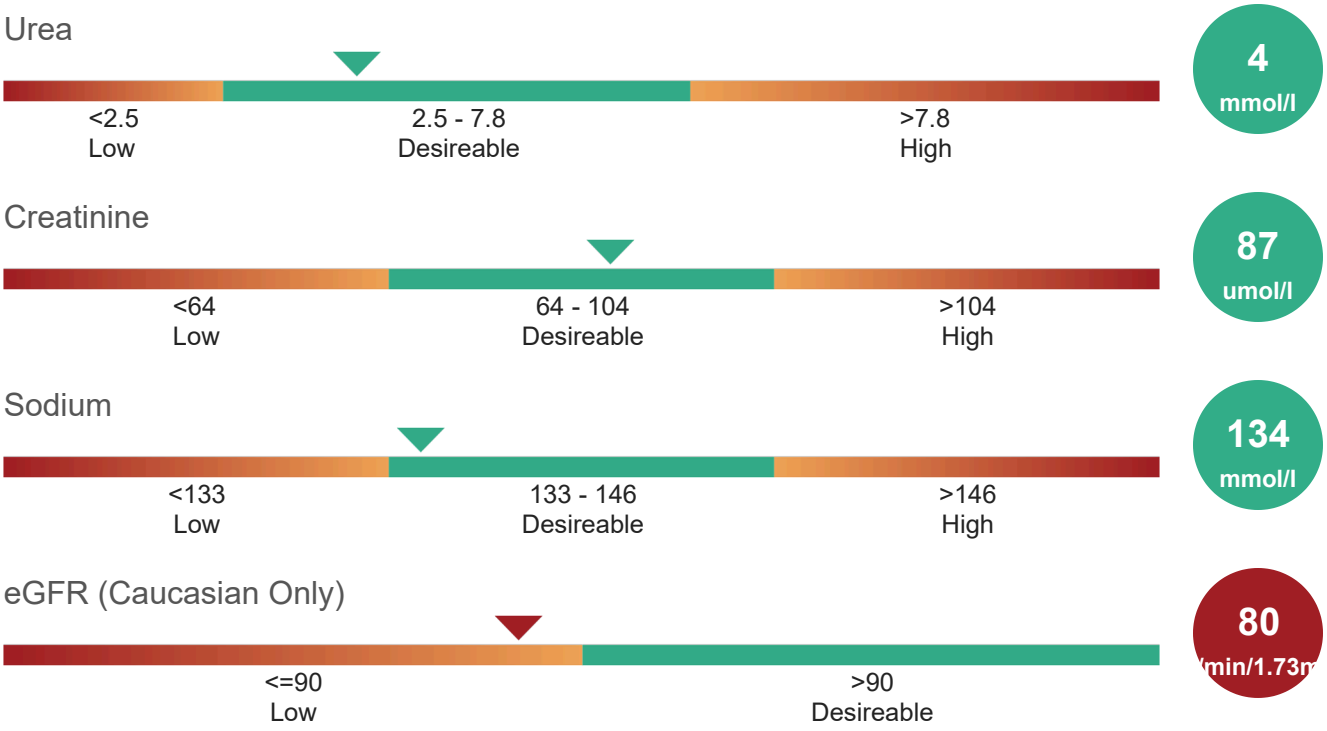
What the result means

Green – All Good

- Glycated haemoglobin (HbA1c): 33.34 mmol/mol — this falls within the non-diabetic range, so your average blood sugar over the past 2–3 months is in the normal range and does not meet criteria for prediabetes or diabetes.

Good Moderate Action Recommended

Kidney Function Test



What the Kidney Function Test is

Kidney function tests check how well the kidneys remove waste and balance salts and fluids. They measure blood waste level (urea), a waste-filtering chemical (creatinine), salt level (sodium), and an estimate of kidney filtering speed (eGFR). These help spot reduced kidney function early.

What the result means

Green – All Good

- Urea 4 mmol/l — within the normal range, indicating normal removal of waste from the blood.
- Creatinine 87 µmol/l — within the normal range, suggesting typical levels of waste from muscle use and normal kidney handling.
- Sodium 134 mmol/l — within the normal range, showing balanced blood salt and fluid control.

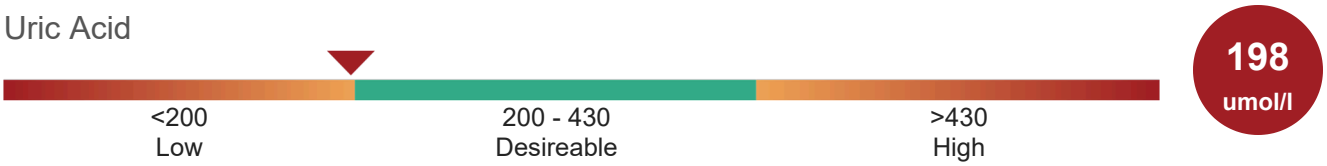
⚠ **Amber – Slightly Outside the Normal Range**

- Estimated kidney filtering rate (eGFR) 80 ml/min/1.73m² — below the expected cutoff (>90). This points to a mild decrease in filtering ability compared with the usual level and may warrant follow-up. I'd recommend mentioning this to your doctor so they can review it and consider repeating the test or checking for other causes.

● Good ● Moderate ● Action Recommended

Chemistry Panel

Uric Acid



What the Chemistry Panel is

This chemistry panel measures common chemicals in the blood such as salts, sugars, liver and kidney-related substances and waste products like uric acid. These markers show how well organs that control fluids, energy use and waste removal are working and help detect imbalances that can affect overall health.

What the result means

⚠ **Amber – Slightly Outside the Normal Range**

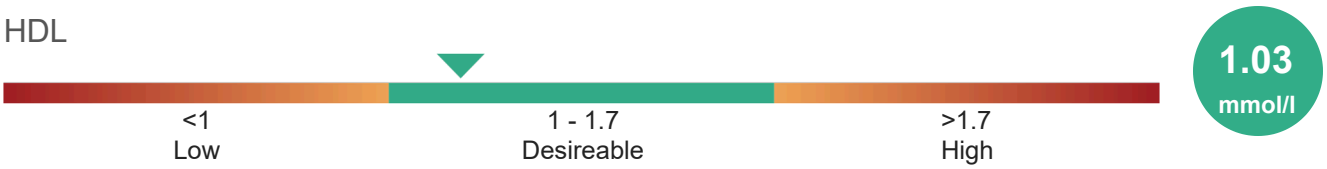
- Uric acid (a waste chemical made when the body breaks down certain foods and body cells) is slightly low at 198 umol/l (normal 200–430). A small decrease like this is often not serious and can happen with changes in diet, recent illness, or certain medicines. I would suggest discussing this mild decrease with your healthcare provider; they may repeat the test or review medicines and diet.

● Good ● Moderate ● Action Recommended

Lipid Panel

Cholesterol

HDL



LDL

2.44 mmol/l

Triglycerides

1.28 mmol/l

Non HDL Cholesterol

3.2 nmo/l

Chol: HDL ratio

4.11 ratio

What the Lipid Panel is

This lipid panel checks blood fats: total cholesterol, 'good' cholesterol (HDL), 'bad' cholesterol (LDL), triglycerides, and related ratios. These fats carry energy in the body and affect heart and blood vessel health; their balance influences long-term risk of heart disease.

What the result means

🟩 **Green – All Good**

- All measured fats are within the expected ranges: total cholesterol 4.23 mmol/L, good cholesterol (HDL) 1.03 mmol/L, bad cholesterol (LDL) 2.44 mmol/L, triglycerides 1.28 mmol/L, and non-HDL cholesterol (total minus good cholesterol) 3.20 mmol/L. These values suggest current blood fat levels are generally in a healthy range.

⚠️ **Amber – Slightly Outside the Normal Range**

- The total cholesterol to good cholesterol (cholesterol:HDL) ratio is 4.11, slightly above the target of less than 4.0. This ratio checks the balance between total and protective cholesterol and being just over the limit is a small area to watch. I would suggest reviewing diet and physical activity and discussing this result with your doctor to see if any changes are needed.

● Good ● Moderate ● Action Recommended

Hormone Panel

Testosterone

38.78 nmol/l

Cortisol

242.6 nmol/l

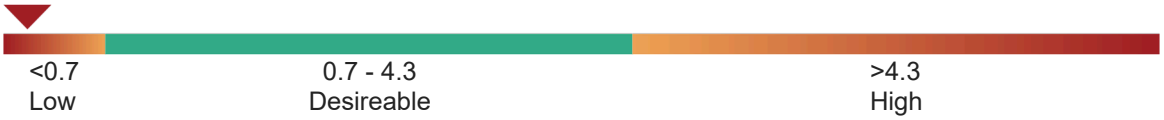
Prolactin

587 mU/L

Oestradiol

400 pmol/l

Progesterone



0.159 nmol/l

LH

0.1 IU/l

FSH

0.3 IU/l

DHEA-S

2.38 umol/l

SHBG

7.53 nmol/l

Free Testosterone

1.623 nmol/l

What the Hormone Panel is

This hormone panel measures key sex and stress hormones such as testosterone, oestradiol, prolactin, cortisol, progesterone and the brain hormones that control reproduction. These chemicals influence energy, mood, sex drive, muscle and bone health, and how the body responds to stress and fertility.

What the result means

🟩 **Green – All Good**

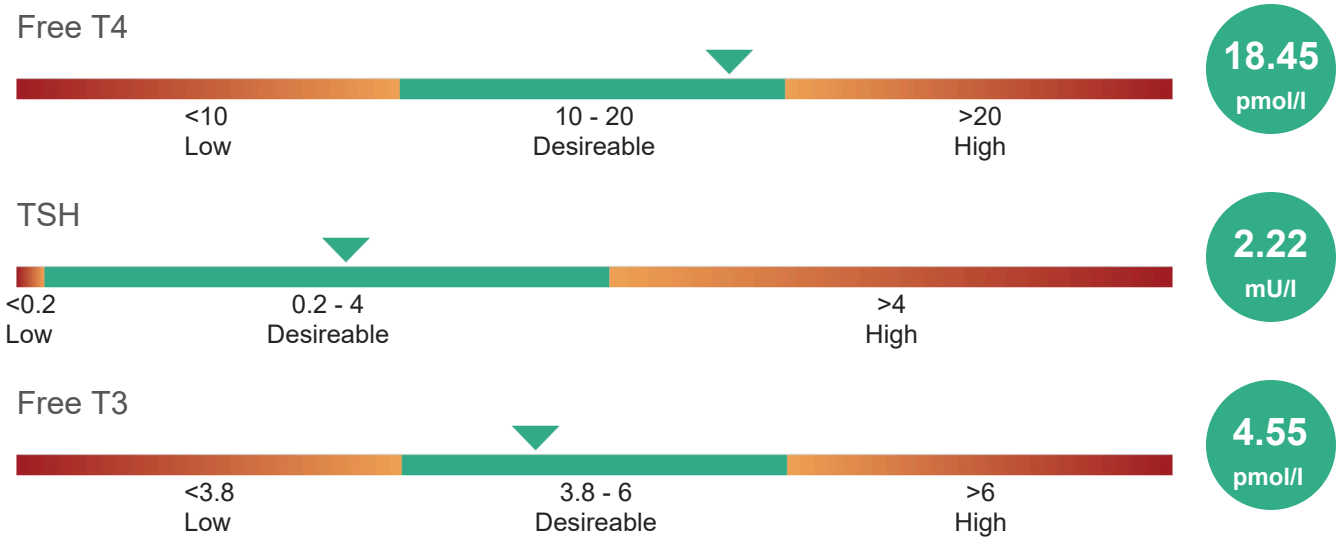
- Cortisol (morning level) is within the expected range, which suggests your stress hormone level at the time of testing is normal.
- DHEA-S, an adrenal hormone linked to energy and mood, is within the expected range.

🔴 **Red – Needs Attention**

- High total testosterone and high active (free) testosterone with low sex hormone binding globulin: Your total and free testosterone are above the usual range while the protein that normally binds testosterone is low. This increases the amount of active testosterone and can affect mood, sleep, sexual function and other hormones. High oestradiol (a form of oestrogen) and high prolactin: Both oestradiol and prolactin are higher
- than expected. Oestradiol can rise when excess testosterone changes into oestrogen, and higher prolactin can affect sexual drive and reproductive function. Very low luteinising hormone and very low follicle-stimulating hormone, and low progesterone: The brain hormones that tell the testes to make sperm and
- testosterone are very low, and progesterone is below the typical range. This pattern suggests the normal hormonal control system is suppressed, which can reduce natural testosterone production and affect fertility. I would suggest discussing these results with your doctor, especially if you use hormonal medications or supplements; they can help find the cause and arrange any follow-up testing or treatment if
- needed.

Good Moderate Action Recommended

Thyroid Function Panel



What the Thyroid Function Panel is

This panel measures how well the thyroid gland is working by checking three blood hormones: free thyroxine (T4), free triiodothyronine (T3), and thyroid-stimulating hormone (TSH). These hormones control body energy use, temperature, weight, and overall metabolism. They help regulate heart rate, digestion and how your body uses calories.

What the result means

Green – All Good

- All three thyroid measurements are within the stated normal ranges: free thyroxine 18.45 pmol/l (normal 10–20), thyroid-stimulating hormone 2.22 mU/l (normal 0.20–4.0), and free triiodothyronine 4.55 pmol/l (normal 3.8–6.0). This indicates your thyroid is functioning normally and is unlikely to be causing problems related to low or high thyroid activity.

Good Moderate Action Recommended

Prostate Screening

Total PSA

What the Prostate Screening is

This prostate screening panel measures total prostate specific antigen (PSA), a protein produced by the prostate gland. PSA levels help indicate prostate health and can rise with prostate growth, inflammation, or other prostate changes. It is used as one part of assessing prostate condition alongside symptoms and other checks.

What the result means

Green – All Good

- Total prostate specific antigen (PSA) — 0.823 ng/ml (normal: <3.5 ng/ml). This value falls within the expected range, which suggests the test did not detect PSA levels commonly linked to prostate concern.

Good Moderate Action Recommended

Thyroid Autoantibody Panel

Anti-Thyroglobulin Abs

Anti-Thyroidperoxidase abs

What the Thyroid Autoantibody Panel is

Measures antibodies that target the thyroid gland: antibodies to thyroglobulin and to thyroid peroxidase. These antibodies show if the immune system is attacking the thyroid, which can affect how well the thyroid makes hormones that control energy, weight, and daily temperature.

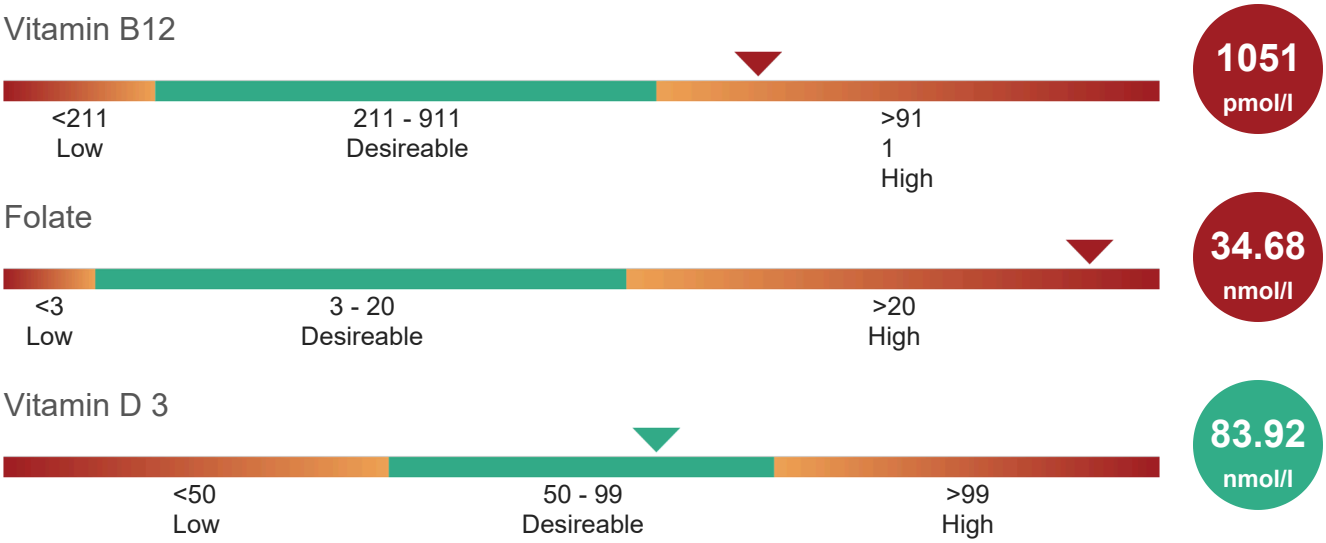
What the result means

🟩 Green – All Good

- Both antibody tests are within the normal range: antibodies to thyroglobulin 17.57 IU/ml (normal <115) and antibodies to thyroid peroxidase 5 IU/ml (normal <35). This means there is no clear sign from these tests that the immune system is attacking the thyroid at this time.

● Good ● Moderate ● Action Recommended

Vitamin Panel



What the Vitamin Panel is

This vitamin panel measures levels of vitamin B12, folate (vitamin B9) and vitamin D3. These vitamins help the body make energy, support nerve and blood cell health, aid DNA and cell growth, and keep bones and the immune system working well.

What the result means

🟩 Green – All Good

- Vitamin D3 is within the adequate range (83.92 nmol/L). This level supports bone strength and normal immune function.

⚠️ Amber – Slightly Outside the Normal Range

- Vitamin B12 (1051 pmol/L) and folate (34.68 nmol/L) are higher than the listed ranges. Elevated levels commonly come from supplements or fortified foods; high folate can sometimes hide the effects of low vitamin B12, though here both are elevated. I would suggest reviewing any vitamin supplements or high-fortified food
- intake with your doctor to see if the

  doses should be adjusted before repeating the tests.

● Good ● Moderate ● Action Recommended