i-screen

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Kelli Ponting

Your test results
Platinum Health Check - Female

Summary

Congratulations on taking the Platinum Health Check - Female which puts you in control of your health data!

Dr Raj Joshi

Collection Date: 20 Oct 2023

Female Hormone Panel

For the purposes of interpreting this test result, it is assumed that your sample was collected between 6 to 8 days after you ovulate (about day 21 of a 28 day cycle, or 17 of a 24 day cycle), and that you are not taking the contraceptive pill.

Progesterone levels typically rise following ovulation, peaking five to nine days later. If your progesterone level is greater than 25 nmol/L it typically means you ovulated this cycle. If your progesterone levels are less than 6 nmol/L (as is your situation) it means you are unlikely to have ovulated this cycle.

Obesity, insulin resistance, high levels of stress, poor diet and lack of exercise can all contribute to low progesterone levels.

Your SHBG (sex hormone binding globulin) levels are elevated. SHBG is a protein that is produced by the liver. It binds tightly to testosterone and oestradiol and transports them in the blood in an inactive form. Changes in SHBG concentrations can in turn affect the amount of testosterone that is available to be used by the body's tissues. The amount of SHBG in circulation is affected by age and sex, by decreased or increased testosterone or oestrogen production, and can be affected by certain diseases and conditions such as liver disease, thyroid disorders, and obesity.

Oestradiol < 43 pmol/L

Too much oestradiol (oestrogen) is linked to acne, constipation, loss of sex drive, depression, weight gain, PMS, period pain, and thyroid dysfunction. The effects of low oestradiol are evident in menopause and include mood swings, vaginal dryness, hot flashes, night sweats and osteoporosis.

< 43

low <205   205–790   high >790
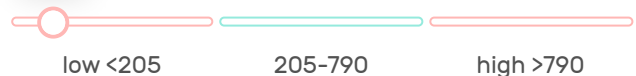
Progesterone < 1 nmol/L

The sex hormone produced mainly in the ovaries following ovulation and is a crucial part of the menstrual cycle. Progesterone helps to combat PMS and period pain issues, assists fertility and promotes calmness and quality of sleep.

< 1

low <5   >5

LH 1 IU/L

Governs the menstrual cycle, peaking before ovulation. Raised LH can signal that a woman is not ovulating, is menopausal or that the hormones are not in balance. A high LH/FSH ratio can indicate Polycystic Ovarian Syndrome (PCOS).

1

low <1   1–17   high >17

FSH 2 IU/L

Stimulates the ovary to mature an egg. High levels indicate poor ovarian reserves which means the quality and quantity of eggs may be low. This doesn't necessarily mean that pregnancy is impossible, but it may be more difficult to achieve.

2

low <1   1–9   high >9

LH to FSH Ratio 0.5

Normally this ratio is about 1:1 meaning FSH and LH levels in the blood are similar. In women with polycystic ovaries the LH to FSH ratio is often higher e.g. 2:1 or even 3:1

0.5

<2   high >2

Testosterone 0.4 nmol/L

High levels commonly seen in polycystic ovarian syndrome (PCOS) which can lead to difficulties in conceiving. Symptoms can include irregular periods, loss of hair from the head, excess facial and body hair, unexplained weight gain and acne.

0.4

low <0.4   0.4–2.1   high >2.1
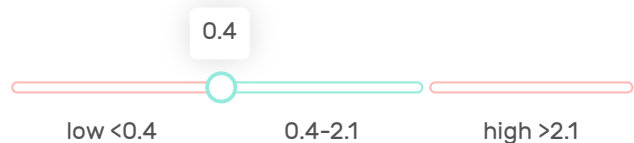
Free Testosterone 2 pmol/L

Most testosterone is strongly bound to sex hormone binding globulin (SHBG). This test measures the proportion of unbound testosterone which is available to the body's tissues.

2

low <4   4–21   high >21

SHBG 151 nmol/L

SHBG is a protein that binds tightly to testosterone and oestradiol. Changes in SHBG can affect the amount of hormone available for use by the body's tissues.

151

low <18   18–114   high >114

Insulin-like growth factor-1 (IGF-1)

Your IGF-1 levels are within the normal range for someone in your age bracket. IGF-1 is produced by the liver and skeletal muscles in response to growth hormone stimulation and stimulates the growth of bones and the production of lean muscle mass.

IGF-1 17 nmol/L

IGF-1 plays a role in maintaining tissue and organ function throughout adulthood. It helps regulate bone density, muscle mass, and cognitive function, and it has been implicated in the aging process.

17

low <11   11-37   high >37
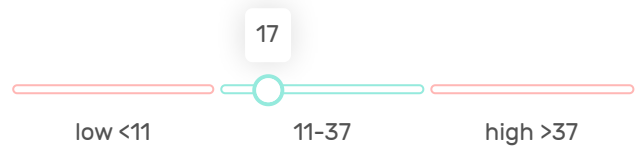
Adrenocortex Function (serum)

Your morning cortisol levels are elevated. High morning cortisol levels can reflect a hormone imbalance and morning hypoglycaemia (low blood sugar) or stress, but can also be indicative of a more significant underlying health issue such as Cushing's disease.

If you'd like further insight into your adrenal function, you may want to consider an Adrenal Stress Check https://www.i-screen.com.au/tests/adrenal-fatigue-test - this is a saliva test that measures your cortisol and DHEA-S adrenal hormone levels at 4 points over the course of the day and thus provides greater insight than a single point in time blood test.

Two of the most important hormones that impact athletic performance are cortisol and DHEA-S, the long-lasting stress hormones produced by the adrenal glands. Cortisol has a catabolic effect which mobilises the body's nutritional resources for fuel. DHEA-S has an opposing anabolic effect and converts food into living tissue. In order to achieve your fitness goals cortisol and DHEA-S must be in proper balance.

Cortisol 790 nmol/L

The cortisol test measures 'the stress hormone' cortisol which mobilises the body's nutritional resources in stressful situations. Prolonged elevation of cortisol can cause fatigue, immune dysfunction, and impact sex hormones.

790

low <145   145-619   high >619

DHEA-S 1.0 umol/L

A long-acting adrenal hormone which regulates energy production, the immune system, brain chemistry, bone formation, muscle tone and libido. DHEA-S is converted by the body into testosterone and other sex hormones.

1

low <0.5   0.5-7.3   high >7.3

Thyroid Function

Your thyroid hormones are all within the normal range which is typically a good indication that your thyroid is functioning as it should be. Thyroid hormones play a crucial role in regulating the body's metabolic rate, which is the rate at which the body converts food into energy. They also play a role in regulating body temperature, heart rate, and breathing rate.

TSH 2.51 mIU/L

Communicates with the thyroid gland to produce T3 and T4 which regulate metabolic functions. High TSH thyroid test levels indicates an underactive thyroid, and low levels an overactive thyroid.

2.51

| low <0.5 | 0.5-4 | high >4 |
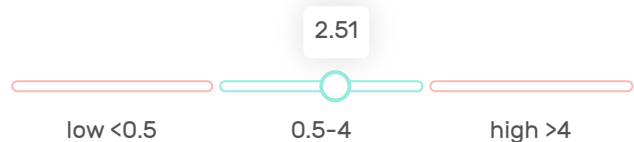
FT4 14 pmol/L

Measures the thyroxine that is freely circulating and able to regulate metabolism. High FT4 thyroid test levels indicate an overactive thyroid, and low levels an underactive thyroid.

14

| low <10 | 10-20 | high >20 |
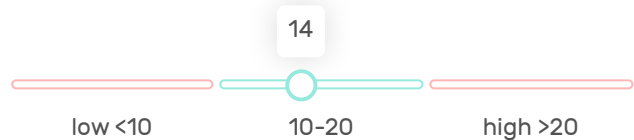
FT3 5.6 pmol/L

Measures the triiodothyronine that is freely circulating. High FT3 thyroid test levels indicate an overactive thyroid, and low levels an underactive thyroid.

5.6

| low <2.8 | 2.8-6.8 | high >6.8 |
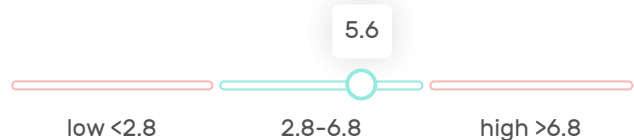
Metabolic

Your HOMA score is elevated and may show signs of insulin resistance. A HOMA-IR score greater than 3.1 can indicate severe insulin resistance.

Insulin resistance can significantly affect lipids by increasing triglycerides and LDL 'bad' cholesterol, and decreasing HDL 'good' cholesterol. The cause of insulin resistance isn't completely understood - it's thought to be due in part to genetic factors and partly due to lifestyle. Most people with insulin resistance don't have any symptoms and the effects on the body progress over several years. When the body's insulin production can't keep up, blood sugar increases and over time can progress to diabetes.

This said, your fasting glucose and (more insightfully) HbA1c here are not indicative of prediabetes or diabetes.

Fasting glucose 6.1 mmol/L

If you have diabetes your body doesn't process glucose effectively.

6.1

low <3   3-6   high >6

Insulin 13 mU/L

A hormone produced by the pancreas that helps to control blood glucose levels and plays a role in controlling the levels of carbohydrates and fats stored in the body.

13

low <3   3-25   high >25
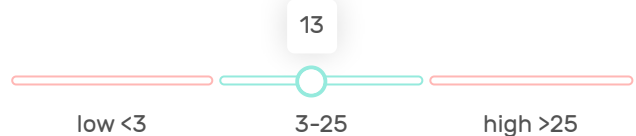
HOMA-IR Score 3.5 ratio

The HOMA-IR score is a calculation used to assess insulin resistance. A higher score indicates a greater degree of insulin resistance, and is associated with an increased risk of type 2 diabetes and cardiovascular disease.

3.5

<2.5   high >2.5

HbA1c (DCCT) 5.0 %

HbA1c measures the average blood sugar level over the past 2-3 months. The higher the percentage, the higher the average blood sugar level has been over the past 2-3 months.

5

low <3.5   3.5-6   high >6
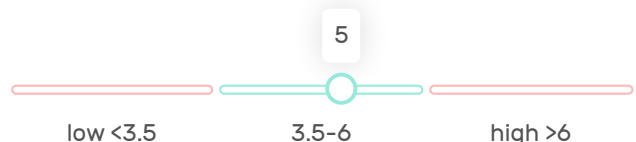
HbA1c (IFCC) 31 mmol/mol

HbA1c can be expressed as a percentage (DCCT unit) or as a value in mmol/mol (IFCC unit).

31

low <14   14-42   high >42

Cholesterol

Your lipid profile is within the normal range. Your LDL "bad" and non-HDL cholesterol levels are within the normal range, whilst your HDL "protective" cholesterol and triglyceride levels are also normal. This typically indicates you are at relatively low risk of developing cardiovascular disease (assuming you are not already in the high risk category).

Total Cholesterol 4.5 mmol/L

Total cholesterol includes both HDL cholesterol and LDL cholesterol. Cholesterol is essential for many processes in the body, including the formation of cell membranes, the production of hormones, and the metabolism of vitamin D.

4.5

low <3   3-5.2   high >5.2
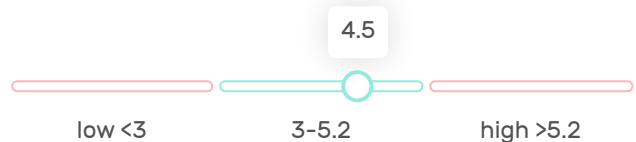
LDL 2.46 mmol/L

LDL cholesterol is often referred to as "bad" cholesterol, as it can contribute to the development of atherosclerosis, a condition where plaque builds up in the arteries and can increase the risk of heart disease.

2.46

low <1.5   1.5-3.4   high >3.4
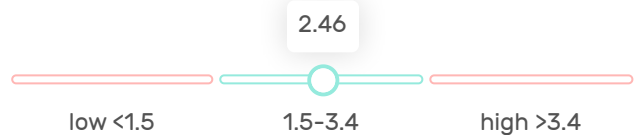
HDL 1.45 mmol/L

HDL cholesterol is often referred to as "good" cholesterol, as it helps remove excess cholesterol from the bloodstream and can protect against the development of heart disease.

1.45

low <1   >1
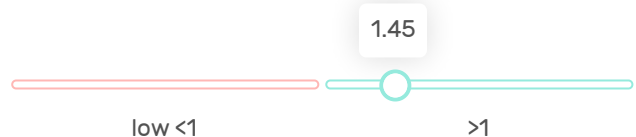
Triglycerides 1.3 mmol/L

Triglycerides are the main storage form of fatty acids in the body and a source of energy. High levels of triglycerides are associated with cardiovascular disease, obesity, type 2 diabetes, and metabolic syndrome.

1.3

low <0.3   0.3-1.7   high >1.7
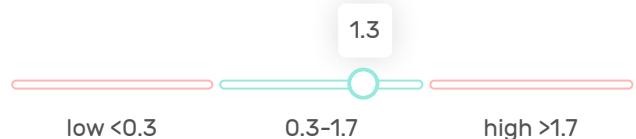
Non-HDL Cholesterol 3.1 mmol/l

Non-HDL cholesterol is considered an effective lipid measurement for assessing cardiovascular disease risk as it is believed to reflect levels of 'bad' cholesterol.

3.1

<4   high >4

Iron Studies

Despite your 'normal' ferritin, your iron levels are below the normal range, and also your transferrin saturation. This pattern typically indicates iron deficiency. During reproductive years, iron deficiency in women is usually due to heavy menstrual losses. I would recommend following up on this result with your GP.

*Note that ferritin levels may be falsely elevated where there is inflammation.

Iron 10 umol/L

An essential trace element is necessary for forming healthy red blood cells and for some enzymes.

10
low <10	10-33	high >33
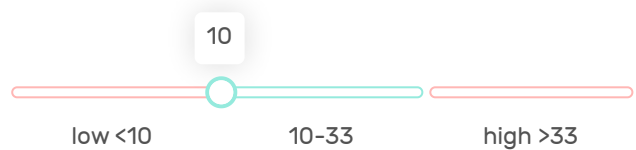
Transferrin 75 umol/L

A protein that binds iron and transports it around the body (also known as TIBC). High levels indicate iron deficiency.

75
low <45	45-70	high >70
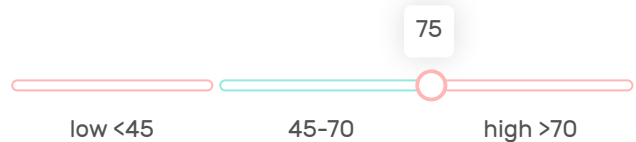
Transferrin Saturation 13 %

Low levels typically indicate iron deficiency, and high levels can indicate iron overload.

13
low <16	16-50	high >50

Ferritin 65 ug/L

Ferritin is a marker of iron stores in the body, and is used to assess iron status. Low levels can indicate iron deficiency, which is a common nutritional deficiency that can lead to anaemia, fatigue, and impaired immune function.

65
low <25	25-290	high >290

B Vitamins

Your vitamin levels are within the normal range and don't show signs of a deficiency. These water-soluble vitamins do not accumulate in the body to the same degree as fat soluble vitamins - the body absorbs what it needs and then usually excretes the excess in your urine. This means the body needs a continuous supply through a steady daily intake of B vitamins.

Active Vitamin B12 116 pmol/L

Active vitamin B12 is the biologically active form of vitamin B12 that is essential for many physiological processes in the body, including the production of red blood cells, DNA synthesis, and nerve function.

116

low <35   >35

Folate 28.4 nmol/L

Found naturally in food, such as green leafy vegetables. Folate (vitamin B9) plays a role in DNA creation and is important for the production of red blood cells.

28.4

low <8.4   8.4-55   high >55
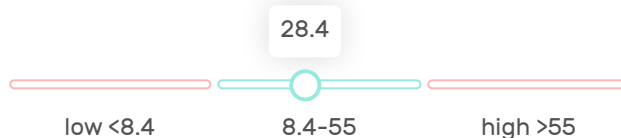
Trace Minerals

Selenium 1.47 umol/L

Found in vegetables, fish, shellfish, red meat, grains, eggs, chicken, liver, garlic, brewer's yeast, wheat germ, and enriched breads. Helps protect cells from damage, and is needed for thyroid gland function.

1.47

low <0.8   0.8-1.9   high >1.9
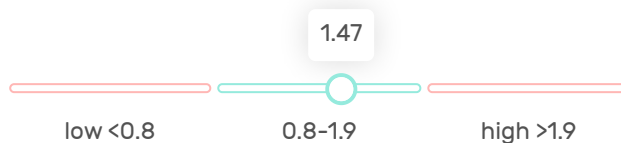
Copper 34 umol/L

Found in organ meats, shellfish, chocolate, mushrooms, nuts, beans, and whole-grain cereals. Helps protect cells from damage, and is needed for forming bone and red blood cells.

34

low <10   10-45   high >45
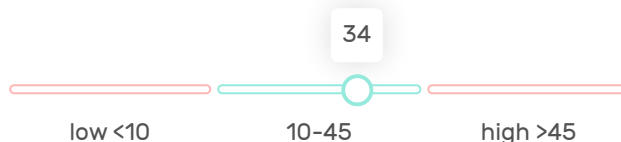
Zinc 10 umol/L

Found in liver, eggs, seafood, red meats, oysters, certain seafood, milk products, eggs, beans, peas, lentils, nuts and whole grains. Needed for healthy skin, wound healing, and helps fight illnesses and infections.

10

low <10   10-25   high >25
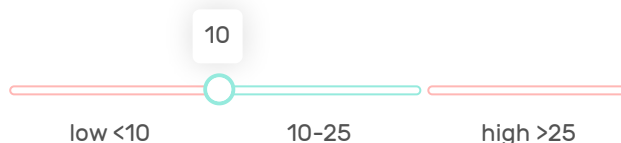
Copper to Zinc ratio 3.4

A commonly cited range for the copper to zinc ratio is 0.7 and 1.0. Studies have noted that ratios above 1.0 may be associated with higher levels of inflammation and oxidative stress.

3.4

low <0.7   0.7-1   high >1
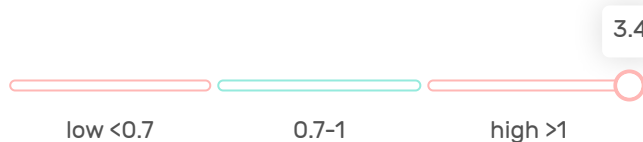
Bone Health

Your bone health markers are within the normal range and don't indicate a calcium or vitamin D deficiency.

Vitamin D 76 nmol/L

Although called a vitamin, vitamin D (25-OHD) is actually a steroid hormone which is activated by sunshine on the skin. It is essential for bone strength as it helps the intestines absorb calcium.

	76	
low <50	50-200	high >200
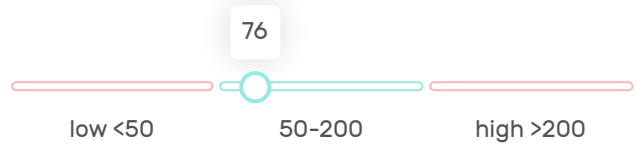
Calcium 2.31 mmol/L

Calcium is important in building strong bones and teeth, but it also plays a key role in other functions including muscle contraction, nerve function, blood clotting, and enzyme function.

|	2.31	
low <2.15	2.15-2.6	high >2.6
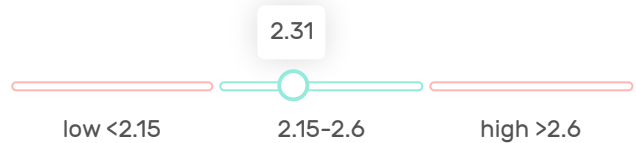
Calcium (corrected) 2.24 mmol/L

Corrected calcium adjusts for changes in serum albumin levels, providing a more accurate measure of the biologically active form of calcium, and is therefore a better reflection of the body's calcium status.

|	2.24	
low <2.15	2.15-2.6	high >2.6
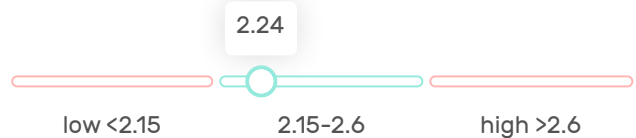
Urate 0.32 mmol/L

If too much urate is produced or not enough is excreted, it can accumulate and lead to gout – an inflammation that occurs in joints.

|	0.32	
low <0.14	0.14-0.35	high >0.35
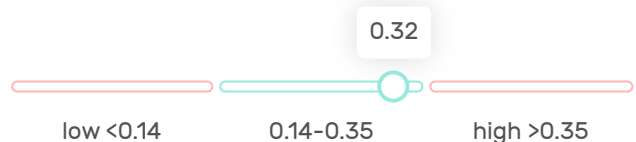
Phosphate 1.1 mmol/L

Phosphate is a mineral which is essential for the formation of bones and teeth. It is also essential for many other cellular processes including energy metabolism and the formation of DNA and RNA.

	1.1	
low <0.8	0.8-1.5	high >1.5
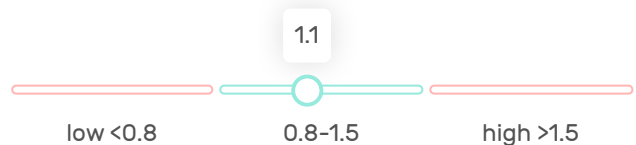
Magnesium 0.8 mmol/L

Magnesium and calcium work together closely to maintain strong bones, and magnesium deficiency has been associated with an increased risk of osteoporosis.

	0.8	
low <0.7	0.7-1.1	high >1.1
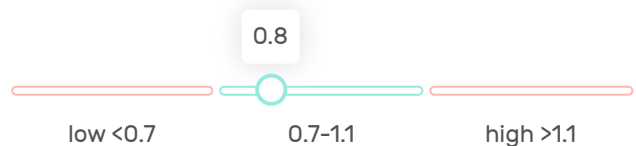
Inflammation

hsCRP levels above 2mg/L can be an indicator of increased cardiovascular disease risk. However note that elevated CRP it is often the first evidence of inflammation or an infection in the body - its concentration increases in the blood within a few hours after the start of infection or other inflammatory injury. The average of two CRP tests, ideally taken two weeks apart, produces a more stable estimate of this marker.

Your ESR levels are mildly elevated - this commonly occurs with inflammatory arthritis, anaemia and ageing. A rising ESR can mean an infection or inflammation.

High sensitivity CRP 10 mg/L

A high-sensitivity C-reactive protein (hs-CRP) test measures low levels of CRP and may be used to help evaluate an individual for risk of cardiovascular disease

10
low <0	0-2	high >2

ESR 26 mm/hr

Erythrocyte Sedimentation Rate (ESR) is an indirect measure of the degree of inflammation present in the body. Increased blood levels of certain proteins (such as fibrinogen or immunoglobulins, which are increased in inflammation) increase the ESR.

26
low <1	1-20	high >20

Lactate Dehydrogenase 124 U/L

LDH is an enzyme required during the process of turning sugar into energy for your cells. Only a small amount is usually detectable in the blood, however, when cells are damaged they release LDH into the bloodstream.

124
low <80	80-250	high >250
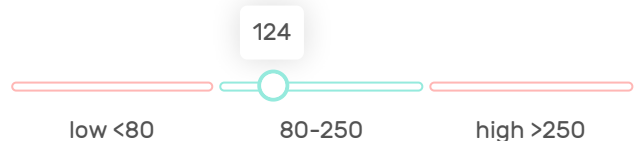
Creatine Kinase 25 U/L

When muscle cells are injured creatine kinase enzymes leak out of the cells and enter the bloodstream. Prolonged elevated creatine kinase after periods of rest can be a sign of overtraining.

25
low <0	0-140	high >140
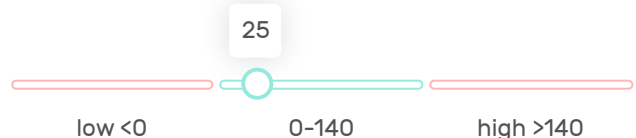
Homocysteine 11.8 umol/L

An amino acid normally present in very small amounts in all cells of the body. Homocysteine is a product of methionine metabolism – one of the 11 'essential' amino acids that must be derived from the diet.

11.8

low <0   0–15   high >15
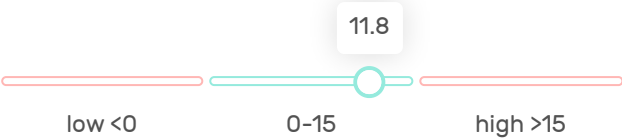
Full blood count with differential

## Your blood counts are all within the normal range and don't indicate anaemia or recent infection.

Red Blood Cell Count 4.7 x10*12/L

Responsible for carrying oxygen around the body. A high count can increase the risk of heart attack or stroke, whilst a low count can mean your body isn't getting the oxygen it needs.

| 4.7 |
| low <3.6 | 3.6-5.2 | high >5.2 |
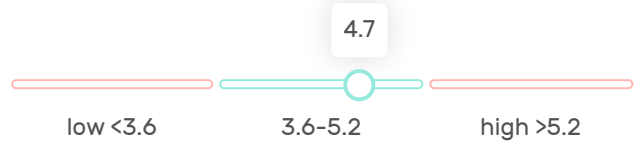
Haemoglobin 132 g/L

A good measure of your blood's ability to carry oxygen throughout your body. Elevated haemoglobin can be an indicator of lung disease, whilst a low result indicates anaemia.

| 132 |
| low <115 | 115-160 | high >160 |
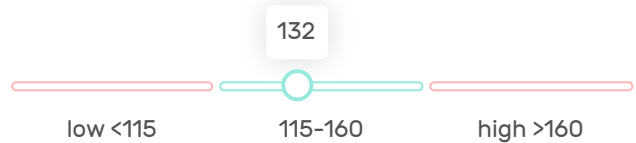
Haematocrit 0.41

A measure of the percentage of red blood cells in the total blood volume. Elevated haematocrit can increase the risk of heart attack or stroke.

| 0.41 |
| low <0.33 | 0.33-0.46 | high >0.46 |
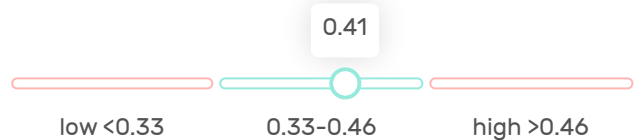
MCV 88 fL

MCV is a measure of the average size of the red blood cells. The MCV may be elevated in anaemia caused by vitamin B12 or folate deficiency. Whereas decreased MCV may be seen in iron deficiency anaemia for example.

| 88 |
| low <80 | 80-98 | high >98 |
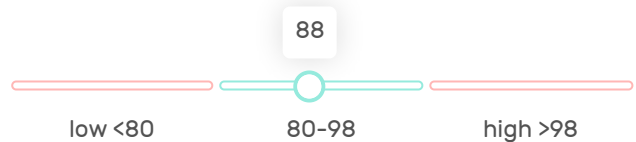
MCH 28 pg

MCH is a calculation of the average amount of oxygen-carrying haemoglobin inside a red blood cell. Large red blood cells tend to have a higher MCH, while small red cells would have a lower value.

| 28 |
| low <27 | 27-35 | high >35 |
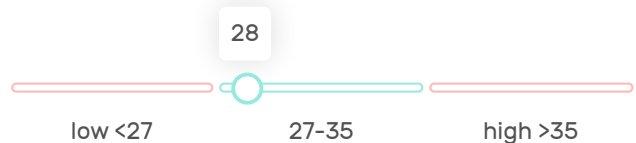
MCHC 324 g/L

MCHC is a calculation of the average concentration of haemoglobin inside a red cell. Decreased MCHC is seen in iron deficiency anaemia and conditions such as thalassaemia.

| 324 |
| low <310 | 310-365 | high >365 |

RDW 12.6 %

RDW is a calculation of the variation in the size of your red blood cells. A high RDW value may indicate the presence of certain medical conditions, such as anaemia, liver disease, or vitamin B12 or folate deficiency.

| 12.6 |
| low <11 | 11–15.5 | high >15.5 |
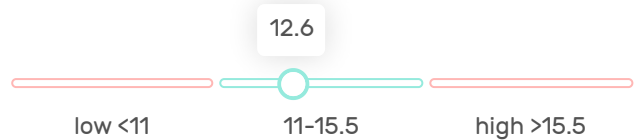
White Blood Cell Count 9.6 x10*9/L

Responsible for fighting infection. A high count can indicate recent infection and even stress, whilst a low count can result from vitamin deficiencies, liver disease and immune diseases.

| 9.6 |
| low <4 | 4–11 | high >11 |
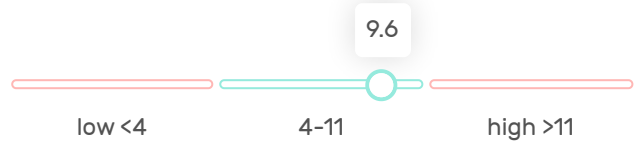
Eosinophils 0.19 x10*9/L

A type of white blood cell. Can increase in response to allergic disorders, inflammation of the skin and parasitic infections. They can also occur in response to some infections or to various bone marrow malignancies.

| 0.19 |
| low <0.04 | 0.04–0.4 | high >0.4 |
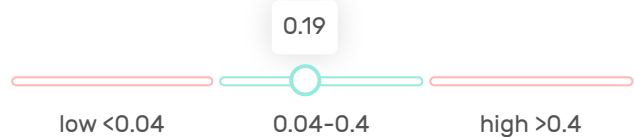
Monocytes 0.5 x10*9/L

A type of white blood cell. Can increase in response to infection as well as inflammatory disorders, and occasionally with some types of leukaemias. Decreased monocyte levels can indicate bone marrow injury or failure and some forms of leukaemia.

| 0.5 |
| low <0.2 | 0.2–1 | high >1 |
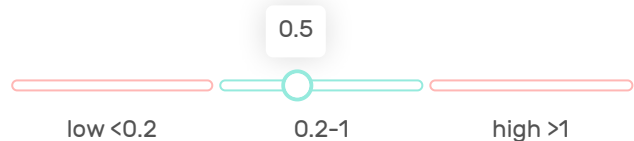
Lymphocytes 2.2 x10*9/L

A type of white blood cell. Can increase with bacterial or viral infection, leukaemia, lymphoma, radiation therapy or acute illness. Decreased lymphocyte levels are common in later life but can also indicate steroid medication, stress, lupus and HIV infection.

| 2.2 |
| low <1.1 | 1.1–4 | high >4 |
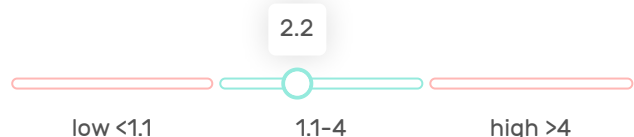
Neutrophils 6.7 x10*9/L

A type of white blood cell. Can increase in response to bacterial infection, inflammatory disease, steroid medication, or more rarely leukaemia. Decreased neutrophil levels may be the result of severe infection or other conditions.

| 6.7 |
| low <2 | 2–7.5 | high >7.5 |
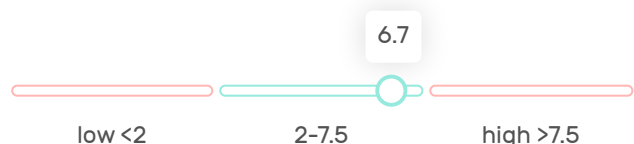
Platelet Count 379 x10*9/L

Responsible for blood clotting and healing. A high count can indicate a risk of thrombosis, whilst a low count can lead to easy bruising.
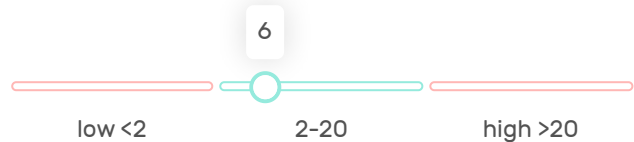
| 379 |
| low <150 | 150–450 | high >450 |
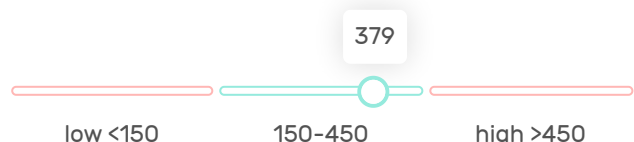
Liver Function (LFTs)

Your liver function results are within normal range which is a good indication that your liver is working as it should be.
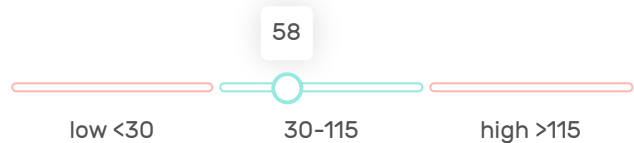
Bilirubin 6 umol/L

Bilirubin tests are use to screen for or to detect and monitor liver disorders or haemolytic anaemia.

	6	
low <2	2–20	high >20

ALP 58 U/L

Alkaline phosphatase (ALP) is an enzyme located mainly in the liver and the bones. High levels can indicate liver disease.

	58	
low <30	30–115	high >115

AST 19 U/L

Aspartate aminotransferase (AST) is an enzyme created mainly by the liver and the heart. High levels can indicate damage to your liver caused by alcohol, drugs or hepatitis.
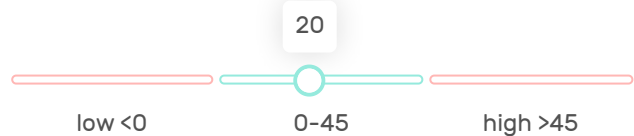
	19	
low <0	0–41	high >41
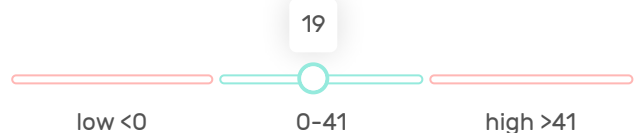
ALT 35 U/L

Alanine aminotransferase (ALT) is an enzyme mainly produced by the liver. A good indicator of liver damage caused by alcohol, drugs or hepatitis.

	35	
low <0	0–45	high >45
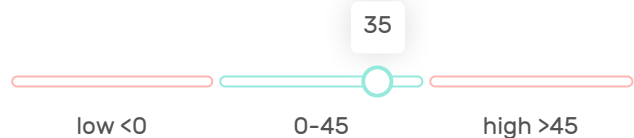
GGT 20 U/L

Gamma-glutamyl transferase (GGT) is a liver enzyme which can be used to diagnose alcohol abuse as it is typically raised in long term drinkers.

	20	
low <0	0–45	high >45

Albumin 45 g/L

Albumin is a protein which keeps fluid from leaking out of blood vessels, nourishes tissues, and carries hormones, vitamins, drugs, and ions like calcium throughout the body. Low levels can indicate malnutrition or other health problems.

	45	
low <35	35–50	high >50
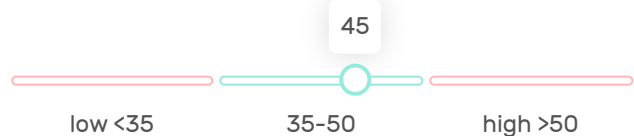
Total Protein 73 g/L

A measure of all of the proteins in the plasma portion of your blood. Proteins are important building blocks of all cells and tissues - they are important for body growth and health.

	73	
low <60	60–82	high >82
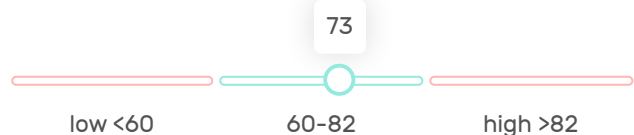
Kidney Function

Your bicarbonate levels are lower than normal, which is of uncertain significance given your other test results are within the normal range. Low bicarbonate levels may be seen with chronic diarrhoea, diabetic and kidney issues. A repeat test may be reassuring, however we do sometimes see these isolated bicarbonates as 'artefacts' of the blood sampling and analysis process e.g if the sample were a little tricky to obtain.
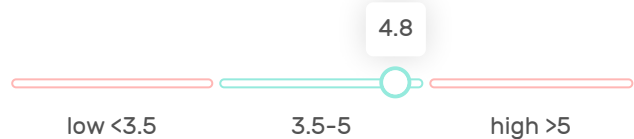
Sodium 142 mmol/L

Sodium is important for maintaining fluid balance in the body and for proper nerve and muscle function.

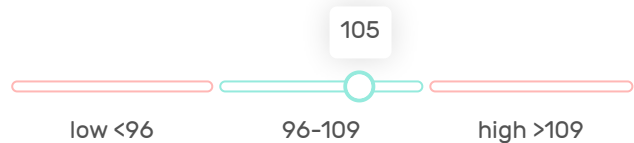|	142	
low <137	137-147	high >147
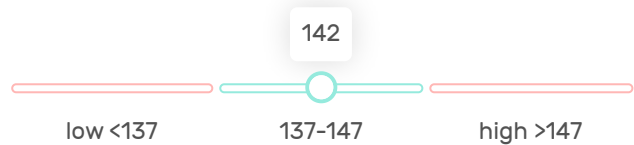
Potassium 4.8 mmol/L

Potassium is important for nerve and muscle function, including regulating heart rhythm, and is also involved in fluid balance.

	4.8	
low <3.5	3.5-5	high >5

Chloride 105 mmol/L

Chloride is important for maintaining fluid balance and for the proper functioning of the digestive system.

|	105	
low <96	96-109	high >109

Bicarbonate 24 mmol/L

Higher than normal levels suggests trouble maintaining pH balance either by failing to remove carbon dioxide or because of an electrolyte imbalance. Elevations may be seen with severe vomiting, chronic lung problems and some hormonal disorders. Low levels may be seen with chronic diarrhoea, diabetic ketoacidosis and kidney failure.

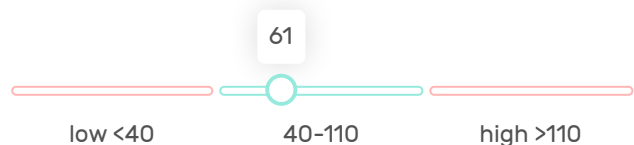| 24		
low <25	25-33	high >33

Urea 4.8 mmol/L

A high concentration of this waste product can indicate dehydration or that your kidneys aren't working properly.

	4.8	
low <2	2-7	high >7
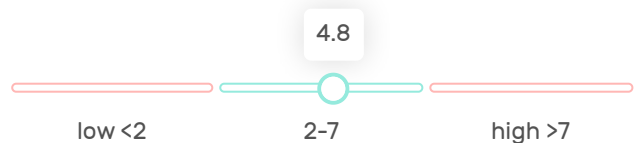
Creatinine 61 umol/L

A waste molecule generated from muscle metabolism, and an accurate marker of kidney function.

	61	
low <40	40-110	high >110

eGFR 90 mL/min/1.73 sqm

The estimated glomerular filtration rate (eGFR) measures how well your kidneys filter the wastes from your blood and is the best overall measure of kidney function.

90

low <60   >60

Pancreatic Function

Your pancreatic enzymes are within the normal range and don't show evidence of pancreatic inflammation.
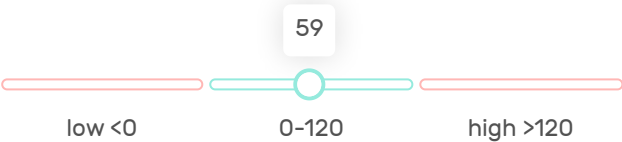
Lipase 42 U/L

An enzyme produced by the pancreas which is released into the digestive tract to help digest fatty foods.

42

<70   high >70

Amylase 59 U/L

An enzyme made mainly by the pancreas which is released from the pancreas into the digestive tract to help digest starch in our food.

59

low <0   0-120   high >120

Recommendations

Take your blood pressure

Blood pressure is an important cardiovascular disease risk factor, and taking your blood pressure regularly is recommended. High blood pressure puts extra strain on your arteries and heart which over time can cause the arteries to become thicker and less flexible (making them more likely to become clogged up), or to become weaker. This can lead to a heart attack, a stroke, kidney disease or dementia.

Optimise your iron

Consider increasing the amount of iron rich food in your diet. Iron-rich food sources include meats, eggs, green leafy vegetables, (such as spinach, collard greens and kale), wheat germ, whole grain breads, cereals and raisins.

Elevated cortisol

Please consider repeating your morning cortisol test to determine whether diet or stress may have contributed to your elevated cortisol results. This test can be ordered from the personalised tests area of our website: https://www.i-screen.com.au/app/personalised-test. You may also want to follow up these results with your GP as a precaution.

Consider Clinical Nutrition

There is evidence that physical activity and losing weight if you need to may help your body respond better to insulin. Taking small steps, such as eating healthier foods and moving more to lose weight, can help reverse insulin resistance.

As such you may want to consider a teleconsult with our Clinical Nutritionist to discuss your health history and goals, and to develop a personalised treatment plan.

Awaiting further results

It is noted that you are awaiting the results of the stool test component of this health check which may provide insights into any health issues you may be experiencing. In the meantime, as always, please visit your GP to discuss your results. Laboratory investigations are an important aspect of healthcare, however they must be viewed in the wider context of your medical history, current health and concerns, physical examination findings and other investigations. These results do not replace the need for face-to-face medical consultation or regular visits to your local GP. Please contact us if you would like a copy of your lab report.