
RANDOX
HEALTH

| | |
|---|---|
| PID | 166130 |
| Name | Catherine Hill |
| DOB | 29-Sep-1991 |
| Date | 17-Nov-2022 |
| Programme | Everywoman |

# Personal Health Plan

Your Personal Health Plan is outlined below to guide you through your results.

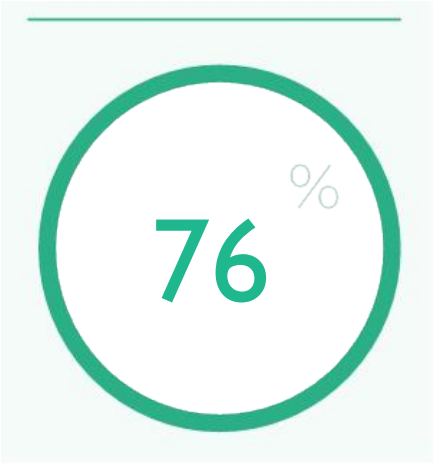
- Health Status
- Health Performance
- Your Results

Randox Health Scientists report upon your complete set of results and the information provided in your Physical Medical Lifestyle Questionnaire (PMLQ).

If we can be of any further assistance, please contact your Personal Coordinator.

# Health Status

Track and improve your Health Status each time you visit Randox Health.



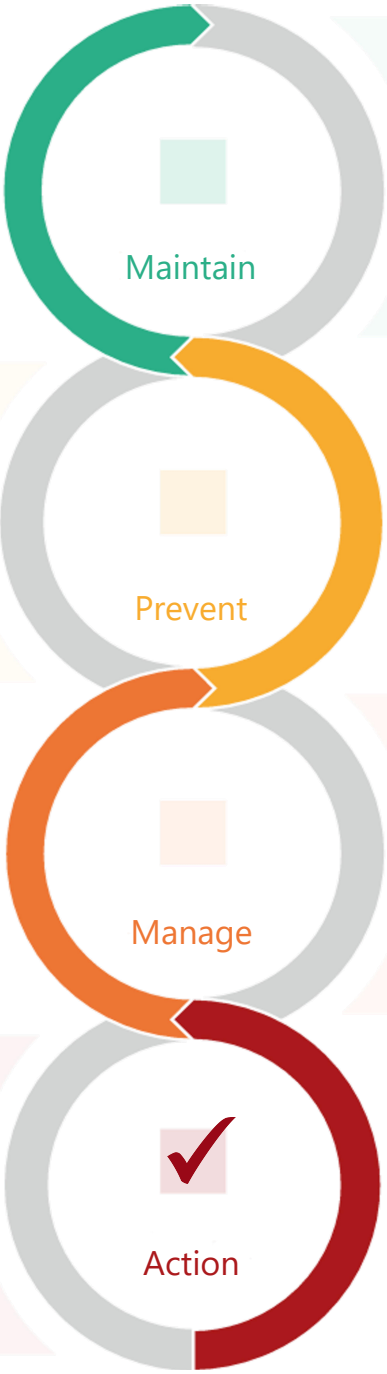

Green - In Range


Amber - In Between


Red - Out of Range

# Health Performance

Your Randox Health Performance has been assigned within one of these four categories, Maintain, Prevent, Manage & Action




Your Randox Health results are excellent and require little intervention but should be tracked regularly to keep this standard

Your Randox Health results are good, although there are minor abnormalities that should benefit from lifestyle modification, supplements, personal attention and tracking.

Your Randox Health results highlight specific health issues that require necessary management and monitoring

Your Randox Health results highlight numerous or significant abnormalities that require medical intervention and/or further investigation

# Exercise Guide

Weight loss and maintenance is unlikely to be achieved through diet alone. Therefore, we advise that you incorporate physical activity into your daily routine to aim for a healthier lifestyle.

## Exercise

There are many health benefits associated with physical activity including weight maintenance, ability to concentrate and perform everyday tasks, reducing risk of coronary heart disease, stroke and type 2 diabetes, improving mood and self-esteem and reducing symptoms of depression and anxiety.

Adults should aim to be active every day. Current guidelines recommend 150 minutes of moderate intensity physical activity per week, in bouts of 10 minutes or more. This can be achieved by exercising for 30 minutes, 5 days a week, through activities such as brisk walking, cycling, running or swimming. Alternatively, carrying out 75 minutes of a vigorous intensity activity, (e.g. football, rugby, skipping) throughout the week will provide similar benefits.

Strength exercises (at least 8-10 different exercises / 8-12 repetitions of each exercise) are also recommended at least twice a week to work the major muscle groups. This involves using your body weight or working against a resistance, e.g. exercising with weights.

Everyday activities can contribute to your weekly activity levels, for example taking the stairs, parking further from the door, cutting the grass, etc. It is recommended that each person should take at least 10,000 steps per day in order to be `active.' However, this should be built up gradually, by working out your average weekly steps and setting a target each week. You can use a pedometer to record the amount of steps you take.

# Nutrition Guide

Following your results from your Preventive Health Programme, please find enclosed your personalised nutrition guide to help you make adjustments to your diet and lifestyle.

## Choosing a Healthy, Balanced Diet

Current guidelines recommend a daily calorie intake of 2,500kcal for males and 2,000kcal for females (from all food and drinks). To start, we suggest you opt for a healthy, balanced diet by following the `Eatwell Guide'. This includes the five main food groups in the correct proportions:

1. Fruit and vegetables should make up just over a third of your overall diet. You should aim for at least 5 portions of a variety of fruit and vegetables each day. A portion is 80g or any of the following: 1 apple, 1 banana, 3 heaped tablespoons of vegetables, a dessert bowl of salad, 30g of dried fruit or a 150ml glass of fruit juice or smoothie. Fresh, frozen, dried and canned all count towards your total 5-a-day.

2. Potatoes, bread, rice and other starchy carbohydrates (e.g. wholegrain cereal, oats) should make up just over a third of your overall diet. You should opt for higher fibre, wholegrain versions of these foods, where possible.

3. Dairy and alternatives (i.e. soya) e.g. milk, cheese, yogurts. Some of these should be included in your diet each day. Try to choose lower fat, lower sugar options.

4. Beans, pulses, fish, eggs, meat and other proteins, including at least 2 portions (a portion is approximately 140g) of fish (1 oily) per week and reduce your intake of red and processed meat (e.g. sausages, bacon, cured meats and reformed meat products.

5. Oil and spreads, e.g. olive oil, butter, margarine. Try to limit the amount used and choose unsaturated varieties (e.g. vegetable oil, rapeseed oil and olive oil).

Reduce the frequency and portions of chocolate, crisps, cakes, buns etc. that you consume. Aim to drink 6-8 glasses of fluids each day. Good sources of fluids include plain drinking water, tea or coffee (be aware of the amount of caffeine you are consuming) and fruit juices. Try to limit the amount of fizzy drinks in your diet, as they contain large amounts of sugar. In addition, excessive alcohol consumption can cause dehydration.

**These guidelines do not apply to infants under the age of 2 years, or to anyone with special dietary requirements / medical needs, who should seek advice from a dietitian.*

## Cholesterol

There are two main types of cholesterol within our diet – LDL ('bad') and HDL ('good'). One of the main causes of raised cholesterol in the UK is a diet rich in saturated fat (LDL cholesterol), found primarily in full fat dairy foods, meat and meat products, biscuits, cakes and savoury snacks. UK guidelines recommend that the average man should consume no more than 30g of saturated fat per day and the average woman should consume no more than 20g of saturated fat per day. To help reduce total and LDL cholesterol levels, it is recommended that you should replace foods high in saturated fat with foods high in unsaturated fat. HDL ('good') cholesterol is found in unsaturated fat and is important to help remove LDL ('bad') cholesterol from the arteries. Examples of foods containing unsaturated fat include; oily fish (e.g. mackerel and salmon), nuts and seeds (e.g. almonds, sunflower seeds), avocados, vegetable oils and spreads (e.g. rapeseed or vegetable oil). Oats, oat bran, linseeds (e.g. flaxseeds), barley, fruit, vegetables and vegetable proteins (e.g. nuts, beans, and pulses) contain soluble fibre, which helps to soak up cholesterol. Try to include these foods regularly within your diet.

## Omega 3

Omega 3 is a family of fats that are useful for regulating 'bad cholesterol' and maintaining healthy joints, as well as having anti-inflammatory properties. Good sources of Omega 3 include oily fish, such as mackerel, salmon, sardines and fresh tuna. It is recommended that you should eat two portions of fish per week; however, in the UK there is no specific recommendation for how much Omega 3 we should consume. If you do not eat fish, other dietary sources of Omega 3 include nuts and seeds (e.g. walnuts and pumpkin seeds), vegetable oils (e.g. rapeseed and linseed oils), soya and soya products (e.g. beans, milk and tofu) and green leafy vegetables.

## Iron

Iron is an essential mineral required for healthy growth and development, as well as the formation of haemoglobin in red blood cells. Haemoglobin is a protein responsible for the transport of oxygen from the lungs to vital organs and muscles. Dietary iron is found in two basic forms – haem iron (animal sources) and non-haem iron (plant and iron-fortified food sources). A regular supply of iron from our diet is required, as it is not easily absorbed.

# Nutrition Guide

## Low Iron

Iron deficiency is the most common nutritional deficiency worldwide and can lead to a condition known as iron deficiency anaemia. The main risk factors for iron deficiency anaemia are low dietary intake (especially vegans and vegetarians), poor iron absorption, infection or heavy blood loss, e.g. as a result of menstruation. Good sources of iron include meat, fish, eggs, fortified breakfast cereals, bread, vegetables (dark green), tofu, pulses, beans and nuts. It is important to note that certain factors can inhibit the absorption of iron from plants sources, e.g. tannins (present in tea, coffee and wine). Additionally, vitamin C found in fruit and vegetables aids the absorption of iron, e.g. try breakfast cereal with a glass of orange juice.

## Uric Acid

High uric acid increases your risk for developing kidney stones and/or gout. Uric acid is formed from the breakdown of purines, natural components found in specific foods; alcohol (particularly beer), kidney, liver and meat extracts. We therefore recommend that you limit the amount of purines in your diet, in an attempt to bring your uric acid level down.

## Vitamin D

Optimal levels of vitamin D are essential for the maintenance of healthy bones and calcium levels, with vitamin D deficiency leading to rickets in children and osteoporosis in adults. The majority (90%) of vitamin D in the human body is made when skin is exposed to sunlight; however, between October and March each year in the UK, there is insufficient sunlight to allow our bodies to make vitamin D. During these months, we rely on foods containing vitamin D, such as oily fish (e.g. salmon and mackerel), eggs, liver and wild mushrooms; fortified foods (e.g. margarines, bread and cereal) and dietary supplements to maintain optimal levels of vitamin D. Recent guidelines suggest an intake of 10µg (400IU) of vitamin D per day for the UK population, throughout the year.

## Hydration

Our bodies are approximately two thirds water; therefore, it is important that you keep your body hydrated. Recommendations state that you should consume 2-2.5 litres of fluids per day and you may require more in hot climates or during/following intense exercise. Good sources of fluids include plain drinking water, tea or coffee (be aware of the amount of caffeine you are consuming) and fruit juices. Try to limit the amount of fizzy drinks in your diet, as they contain large amounts of sugar. In addition, excessive alcohol consumption can cause dehydration.

RANDOX HEALTH

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|---|---|
| PID | 166130 |
| Forename | Catherine |
| Surname | Hill |
| Fasted For | 13 hours and 18 minutes |
| DOB | 29-Sep-1991 |

# CONTENTS

# Your Results of Interest

The results presented in this section are a summary of all the tests that are either positive or fall outside the reference ranges. What does this mean? A reference range is a term used to determine if your results are within what is considered to be the 'normal' range of the population.If your results are outside the range for a test, it does not automatically mean the result is abnormal. Depending on each person's individual medical history, current medications and ongoing conditions or diseases, the results must be interpreted in this context to fully understand what these results mean to you. Therefore, in this section those results that are either positive or fall outside the reference range are highlighted so that they can be reviewed by a GP / Consultant to understand the relevance to your health. These results will also appear again throughout the report alongside the other results for that profile.

## Personal Health Measurements

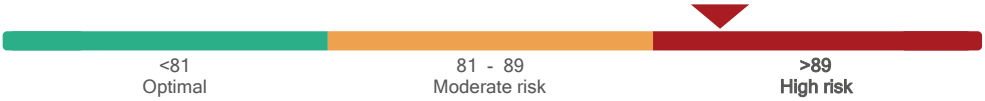
### Body Mass Index (BMI)

Body Mass Index (BMI) calculated from an individual's weight and height, is an indicator of body fat and can identify weight problems, in terms of whether an individual is underweight, overweight or obese. Such weight problems are risk factors for conditions such as heart disease, high blood pressure, metabolic syndrome, diabetes, cancer and respiratory problems.


**37.2 kg/m²**

### Waist Circumference

Waist Circumference relates closely to body mass index (BMI) and is part of the waist to hip ratio measurement. Waist circumference is a measure of central or abdominal fat and provides additional information on disease risk and other long-term health problems. Increased weight around the abdomen can increase the risk of developing conditions such as type 2 diabetes, metabolic syndrome, coronary heart disease and high blood pressure.

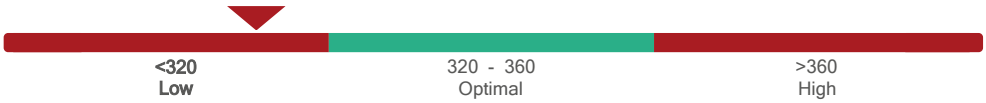



**91 cm**

## Full Blood Count

### Mean Cell Haemoglobin Concentration (MCHC)

Mean Cell Haemoglobin Concentration (MCHC) is the average concentration of haemoglobin present in red blood cells (RBCs). Low MCHC is a feature of conditions such as iron-deficiency anaemia, anaemia of chronic disease and thalassaemia (a group of hereditary blood disorders that impair haemoglobin production). Red blood cells that contain high concentrations of haemoglobin (increased MCHC) are observed in conditions such as hereditary spherocytosis (a rare hereditary condition in which RBCs are ball-shaped and more fragile than usual), sickle cell disease (a group of conditions in which RBCs are abnormally shaped) and autoimmune haemolytic anaemia (anaemia caused by premature destruction of RBCs).

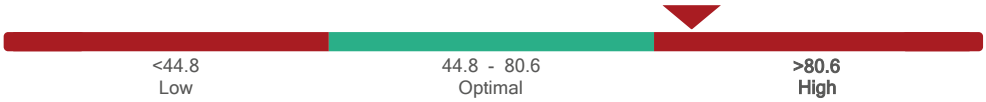



**317 g/l**

# Iron Status

## Total Iron Binding Capacity (TIBC)

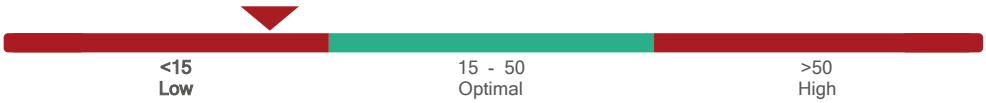
Total Iron Binding Capacity (TIBC) is a measurement of the ability of the blood to transport iron. Transferrin represents the major iron binding protein in the blood and therefore TIBC is an indirect yet accurate measurement of transferrin. Increased TIBC levels can be associated with iron-deficiency, late pregnancy and the use of oral contraceptives. Decreased TIBC levels can be associated with disorders of excessive iron storage (e.g. haemochromatosis), certain types of anaemia in which iron accumulates, poor nutrition, inflammation, liver disease and kidney disease.




**85.7 µmol/l**

## Transferrin Saturation

Transferrin Saturation represents the percentage of transferrin saturated with iron and is determined by dividing the iron level by the total iron binding capacity (TIBC). Calculation of transferrin saturation is helpful in determining the cause of abnormal iron and TIBC levels. A decrease in transferrin saturation can be associated with iron-deficiency anaemia and chronic illnesses. An increase in transferrin saturation can be associated with disorders of excessive iron storage (e.g. haemochromatosis), increased iron intake or other types of anaemia, such as haemolytic anaemia (anaemia caused by premature destruction of red blood cells) and megaloblastic anaemia (anaemia due to vitamin B12 or folic acid deficiency).




**14.1 %**

# Heart Health

## Total Cholesterol

Total Cholesterol refers to the measurement of all cholesterol circulating in the blood. Cholesterol is essential for various body functions such as the formation of bile acids, which facilitate digestion and absorption of nutrients, and production of hormones, which are vital for normal growth and development. Elevated total cholesterol levels are associated with increased risk of cardiovascular disease and stroke, as accumulation of cholesterol and fat can narrow blood vessels and impair blood flow. Low total cholesterol levels are associated with decreased risk of cardiovascular disease; however, low total cholesterol may also be associated with other problems, such as malnutrition, malabsorption disorders (conditions that affect the ability of the intestine to absorb nutrients) and liver disease.


**5.31 mmol/l**

## LDL Cholesterol

LDL Cholesterol describes cholesterol that is bound to low-density lipoprotein (LDL). Lipoproteins are responsible for transporting cholesterol in the blood. LDL cholesterol deposits excess cholesterol in the walls of blood vessels, which can narrow blood vessels or lead to blockage of blood flow to organs such as the heart and brain (a process known as atherosclerosis). Increased LDL cholesterol levels are associated with increased risk of atherosclerosis, cardiovascular disease, stroke and liver disease.


**4.24 mmol/l**

## HDL Cholesterol

HDL Cholesterol describes cholesterol that is bound to high-density lipoprotein (HDL). Lipoproteins are responsible for transporting cholesterol in the blood. HDL cholesterol is 'protective' as it removes cholesterol from the peripheral tissues and transports it back to the liver for removal from the body. A low HDL cholesterol level is undesirable and is associated with increased risk of atherosclerosis (accumulation of cholesterol and fatty material within blood vessel walls) and cardiovascular disease. Obesity, metabolic syndrome (a set of risk factors for diabetes and cardiovascular disease occurring simultaneously), uncontrolled diabetes, smoking, malnutrition and lack of exercise are associated with low HDL cholesterol levels.


**0.99 mmol/l**

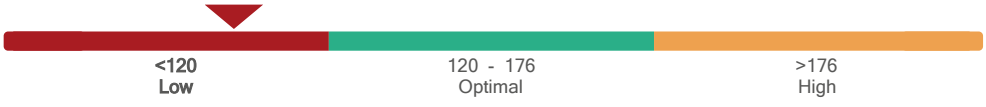
## Total Cholesterol / HDL Cholesterol Ratio

Total Cholesterol / HDL Cholesterol Ratio is an indicator of cardiovascular risk. As HDL cholesterol is a 'protective' form of cholesterol, a greater proportion of HDL cholesterol as part of the total cholesterol is beneficial. The ratio of total cholesterol to HDL cholesterol should be less than 5.0. If the ratio is greater than 5.0, intervention may be necessary, either with lifestyle modification and / or with cholesterol lowering medications.


**5.36**

## Apolipoprotein A-I

Apolipoprotein A-I is the main protein component of HDL cholesterol ('good' cholesterol). Apolipoprotein A-I (apo A-I) and HDL cholesterol transport cholesterol to the liver where it is processed and subsequently removed from the body. For this reason, a higher apo A-I level is desirable and deficiency is associated with increased risk of developing cardiovascular disease. Low apo A-I levels may be associated with uncontrolled diabetes, kidney or liver disease, obesity, smoking, high triglyceride levels or certain medications (e.g. beta-blockers). Increased levels of apo A-I may not be clinically significant but can be associated with familial hyperalphalipoproteinaemia (a rare genetic disorder), alcohol consumption, physical exercise, pregnancy, weight loss and certain prescribed drugs (such as oestrogens, oral contraceptives and statins).




**111.2 mg/dl**

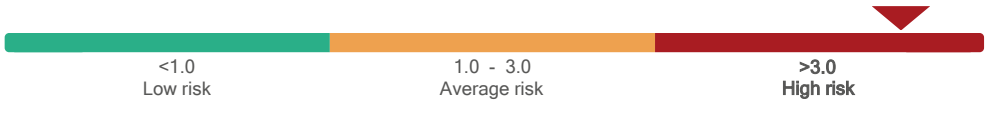
## Apolipoprotein B / A-I Ratio

Apolipoprotein B / A-I Ratio is useful when determining cardiovascular risk. Apolipoprotein B (apoB) in combination with LDL cholesterol is damaging to the body as it transports and deposits cholesterol in the blood vessels and increases risk of cardiovascular disease. Apolipoprotein A-I (apo A-I) in combination with HDL cholesterol helps the body to lower cholesterol levels, thus reducing risk of cardiovascular disease. Evidence suggests that apo B / A-I ratio may be a more effective predictor of increased risk of cardiovascular disease. The risk of cardiovascular disease is greater when the apo B/A-I ratio is higher (less apo A-I, more apo B).


**0.95**

## High Sensitivity C-Reactive Protein (hs-CRP)

High Sensitivity C-Reactive Protein (hs-CRP) is an extra sensitive test that can detect very low levels of CRP, an acute phase protein produced primarily by the liver. Acute phase proteins are proteins that increase or decrease in the blood in response to inflammation. Elevated hs-CRP indicates the presence of inflammation, which many research studies have indentified as a contributing factor to the development of atherosclerosis (accumulation of cholesterol in the blood vessels), a major feature of heart disease. Therefore, increased levels of hs-CRP are associated with greater risk of developing heart disease. However, before evaluating hs-CRP in this context, consideration of infection or inflammation is essential, as many conditions can raise hs-CRP, including infection, arthritis and inflammatory bowel disease. Obesity, pregnancy and oral contraceptives may also increase hs-CRP.




**4.81 mg/l**

# Metabolic Syndrome

## Body Mass Index (BMI)

Body Mass Index (BMI), calculated from an individual's weight and height, is an indicator of body fat and can identify weight problems, in terms of whether an individual is underweight, overweight or obese. The National Cholesterol Educational Program (NCEP) Adult Treatment Panel III (ATP III) states that individuals who have a BMI above 30 kg/m2 are at risk of metabolic syndrome. BMI does not take into account age, gender or muscle mass; therefore, an individual with a high muscle mass may be classified as overweight or obese.


**37.2 kg/m²**

## Waist Circumference

Waist Circumference relates closely to body mass index (BMI) and is part of the waist to hip ratio measurement. Waist circumference is a measure of central or abdominal fat and provides additional information on disease risk. The National Cholesterol Educational Program (NCEP) Adult Treatment Panel III (ATP III) states that individuals who have central obesity (defined as waist circumference greater than or equal to either 94 cm or 90 cm for males (depending on ethnicity) and greater than or equal to 80 cm for females) are at risk of metabolic syndrome.


**91 cm**

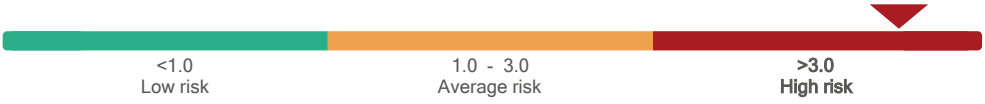
## HDL Cholesterol

HDL Cholesterol describes cholesterol that is bound to high- density lipoprotein (HDL). Lipoproteins are responsible for transporting cholesterol in the blood. HDL cholesterol is considered to be 'good' or to have a 'protective effect' as it removes cholesterol from the peripheral tissues and transports it back to the liver for removal from the body. According to the National Cholesterol Educational Program (NCEP) Adult Treatment Panel III (ATP III), a low HDL cholesterol level (less than 1.03 mmol/l in males or less than 1.29 mmol/l in females) is associated with metabolic syndrome. Additionally, individuals receiving treatment for high cholesterol are at risk of metabolic syndrome irrespective of HDL cholesterol levels.


**0.99 mmol/l**

## High Sensitivity C-Reactive Protein (hs-CRP)

High Sensitivity C-Reactive Protein (hs-CRP) is an extra sensitive test that can detect very low levels of CRP, an acute phase protein produced primarily by the liver. Acute phase proteins are proteins that increase or decrease in the blood in response to inflammation. Elevated hs-CRP indicates the presence of inflammation, which many research studies have indentified as a contributing factor to the development of atherosclerosis (accumulation of cholesterol in the blood vessels), a major feature of heart disease. Therefore, increased levels of hs-CRP are associated with greater risk of developing heart disease. However, before evaluating hs-CRP in this context, consideration of infection or inflammation is essential, as many conditions can raise hs-CRP, including infection, arthritis and inflammatory bowel disease. Obesity, pregnancy and oral contraceptives may also increase hs-CRP.

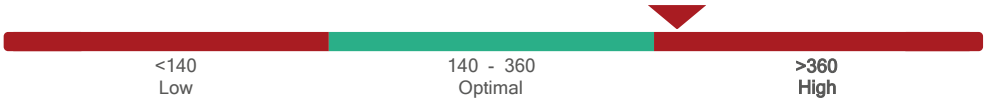



**4.81 mg/l**

# Kidney Health

## Uric Acid

Uric Acid is a waste product formed from the breakdown of purines (the building blocks of DNA). The kidneys are responsible for excretion of 75% of the uric acid produced by the body. Accumulation of uric acid, which may be due to increased production or impaired removal by the kidneys, can cause crystals to form in the joints, leading to a type of arthritis called gout. In addition to gout, elevated uric acid levels may be associated with kidney disease, hypothyroidism (an underactive thyroid gland), alcohol consumption or a high protein diet. Decreased uric acid levels may be associated with coeliac disease (gluten sensitivity), Wilson's disease (a rare hereditary disorder in which the body accumulates copper) or Fanconi syndrome (a disorder of the kidneys).

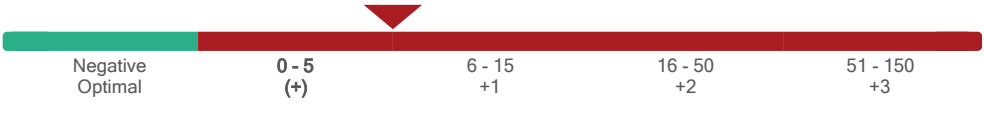



**379.6 µmol/l**

# Urinalysis

## Ketones (Urine)

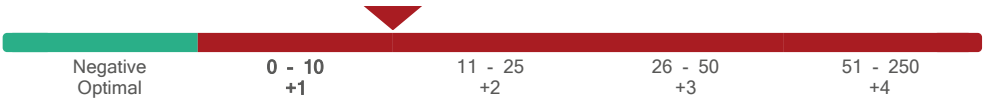
Ketones (Urine) are breakdown products of fatty acid metabolism and are not normally present in the urine. Fatty acid breakdown is required to provide energy and is more likely to occur when the body does not get enough glucose or carbohydrates. As a result, the levels of ketones in the blood will rise and spill into the urine. The presence of ketones in the urine (ketonuria) can be associated with poorly controlled diabetes, nutritional conditions (e.g. fasting, anorexia and high protein or low carbohydrate diets), frequent vomiting, alcoholism, hyperthyroidism (an overactive thyroid gland) and severe stress or illness.




**5 mg/dl**

## Red Blood Cells (Urine)

Red Blood Cells (Urine) in urine can be associated with kidney and urinary tract diseases or infection, menstrual bleeding, blood clotting disorders, chronic diseases (e.g. diabetes, high blood pressure), strenuous exercise and use of certain medications.




**10 RBC/µl**

## White Blood Cells (Urine)

White Blood Cells (Urine) are an essential part of the immune system, which help to protect the body against infection. Normally, urine is sterile and contains no WBCs. The presence of WBCs in a urine sample may suggest a urinary tract infection such as cystitis (bladder infection) or pyelonephritis (kidney infection).


**500 Leuk/µl**

# Digestive Health

## *H. pylori*

H. pylori is a type of bacteria that infects the stomach and intestine. A positive H. pylori antibody test may indicate a current or previous H. pylori infection. Infection with H. pylori is the most common cause of stomach ulcers, where the protective lining of the stomach is damaged, leading to gastritis (inflammation of the stomach) and symptoms such as indigestion and heartburn.


**0.91 U/ml**

## Anti-Tissue Transglutaminase Antibodies (Coeliac Disease)

Anti-tissue Transglutaminase (Anti-tTG) Antibody (IgA) is a sensitive marker for coeliac disease. Coeliac disease is an autoimmune disorder in which the body's immune system reacts to gluten in the diet causing inflammation of the intestine. This damage to the intestine impairs the ability of the body to digest food and absorb nutrients. The anti-tTG antibody test is a useful screening tool for coeliac disease; however, testing is only appropriate in individuals who continue to consume gluten. A positive anti-tTG antibody test can indicate that a person has coeliac disease; however, people with other autoimmune conditions (such as thyroid disease and type 1 diabetes) can also test positive for anti-tTG antibodies, as can those with genetic risk of coeliac disease


**Positive**

# Nutritional Health

## Vitamin D

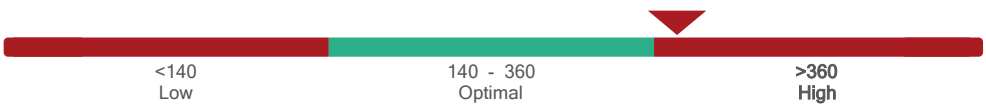
Vitamin D regulates calcium and phosphate levels in the blood and is important for good health, growth and strong bones. Low vitamin D levels are commonly due to inadequate sunlight exposure or dietary intake but may occur with malabsorption disorders (conditions that affect the ability of the intestine to absorb nutrients, e.g. Crohn's disease), liver disease or kidney disorders. Low vitamin D levels can increase the risk of bone disorders such as osteoporosis (weakening of the bones) and osteomalacia (softening of the bones), and may increase the risk of certain cancers, immune diseases and cardiovascular disease. Increased vitamin D levels may be associated with excessive supplementation, hyperparathyroidism (increased production of parathyroid hormone) or sarcoidosis (a rare disease in which areas of the body are inflamed). High levels of vitamin D can cause calcium levels in the blood to rise, which can be damaging to the body.


**28 nmol/l**

# Muscle & Joint Health

## Uric Acid

Uric Acid is a waste product formed from the breakdown of purines (the building blocks of DNA). The kidneys are responsible for excretion of 75% of the uric acid produced by the body. Accumulation of uric acid, which may be due to increased production or impaired removal by the kidneys, can cause crystals to form in the joints, leading to a type of arthritis called gout. In addition to gout, elevated uric acid levels may be associated with kidney disease, hypothyroidism (an underactive thyroid gland), alcohol consumption or a high protein diet. Decreased uric acid levels may be associated with coeliac disease (gluten sensitivity), Wilson's disease (a rare hereditary disorder in which the body accumulates copper) or Fanconi syndrome (a disorder of the kidneys).

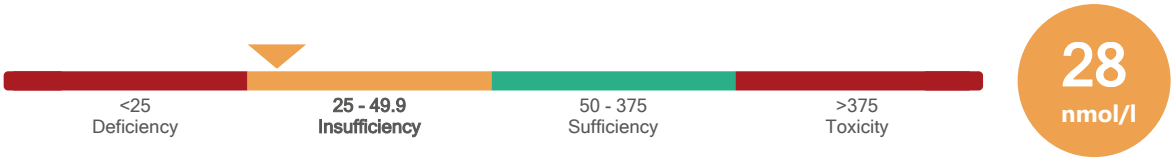



**379.6 µmol/l**

# Bone Health

## Vitamin D

Vitamin D regulates calcium and phosphate levels in the blood and is important for good health, growth and strong bones. Low vitamin D levels are commonly due to inadequate sunlight exposure or dietary intake but may occur with malabsorption disorders (conditions that affect the ability of the intestine to absorb nutrients, e.g. Crohn's disease), liver disease or kidney disorders. Low vitamin D levels can increase the risk of bone disorders such as osteoporosis (weakening of the bones) and osteomalacia (softening of the bones), and may increase the risk of certain cancers, immune diseases and cardiovascular disease. Increased vitamin D levels may be associated with excessive supplementation, hyperparathyroidism (increased production of parathyroid hormone) or sarcoidosis (a rare disease in which areas of the body are inflamed). High levels of vitamin D can cause calcium levels in the blood to rise, which can be damaging to the body.




# Thyroid Health

## Anti-Thyroglobulin Antibody (Anti-Tg)

Anti-Thyroglobulin Antibody (Anti-Tg) is a protein produced by the immune system that attacks thyroglobulin (a precursor of thyroid hormones). Elevated anti-Tg levels are associated with Hashimoto's thyroiditis, an autoimmune condition that causes hypothyroidism (an underactive thyroid gland) and Graves' disease, an autoimmune condition that causes hyperthyroidism (an overactive thyroid gland).


## Anti-Thyroid Peroxidase Antibody (Anti-TPO)

Anti-Thyroid Peroxidase Antibody (Anti-TPO) is a protein produced by the immune system that attacks thyroid peroxidase (an enzyme found in the thyroid gland). Elevated anti-TPO levels are associated with Hashimoto's thyroiditis, an autoimmune condition that causes hypothyroidism (an underactive thyroid gland) and Graves' disease, an autoimmune condition that causes hyperthyroidism (an overactive thyroid gland).

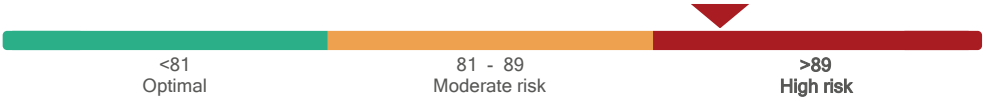
# Personal Health Measurements

Measurements include pulse, blood pressure, waist circumference and calculation of body mass index (BMI). Various lifestyle and hereditary factors can influence these parameters, which are useful in the overall assessment of an individual's risk of developing conditions such as cardiovascular disease or diabetes. The measurement of oxygen saturation by pulse oximetry is also included. A low blood oxygen level, or hypoxaemia, may be associated with airway obstruction, which occurs in conditions such as asthma, emphysema and chronic obstructive pulmonary disease.

## Body Mass Index (BMI)


**37.2** kg/m²

## Waist Circumference




**91** cm

## Waist / Hip Ratio

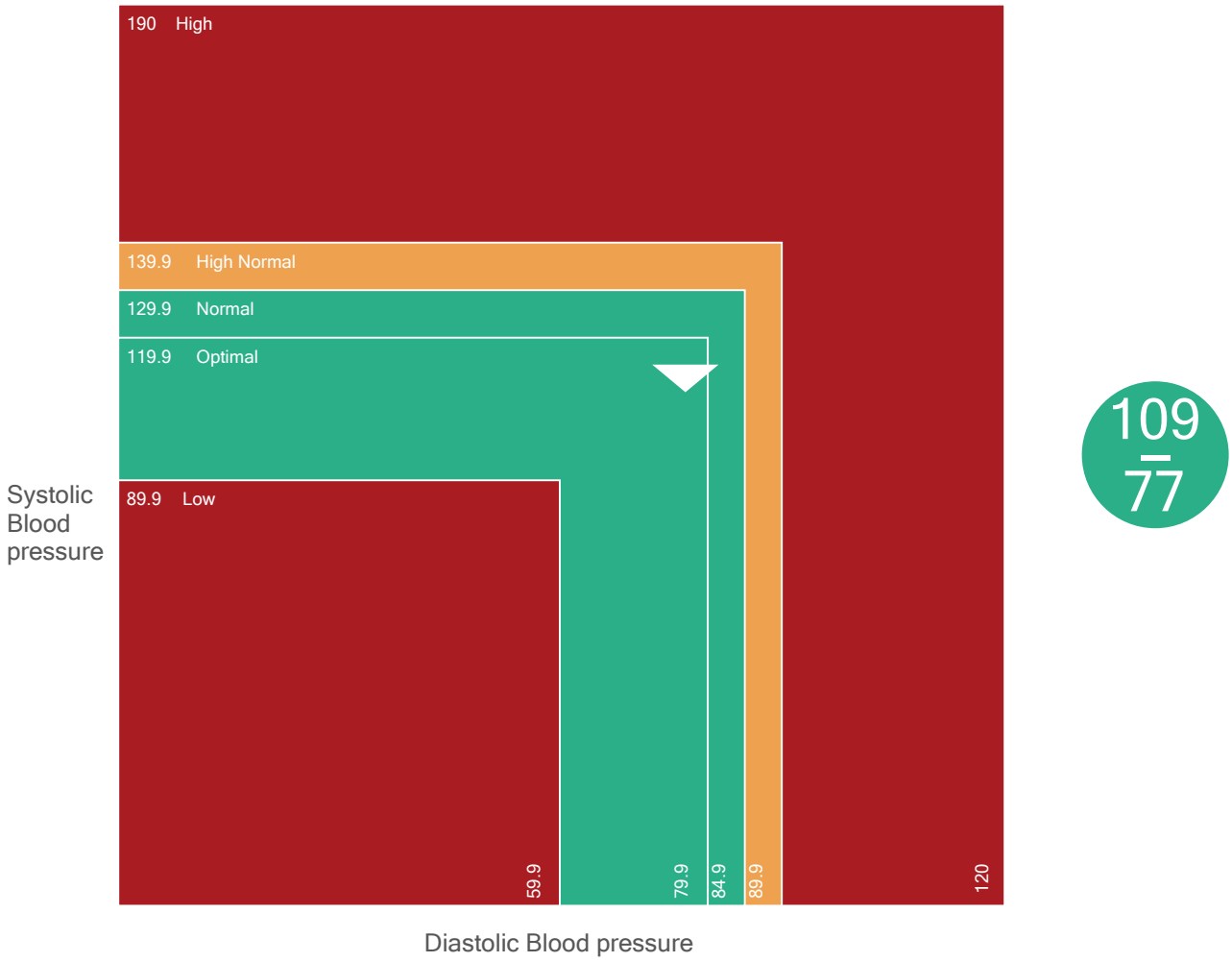

**0.734**

## Pulse


**69** BPM

## Blood Pressure

Blood Pressure is a measurement of the force applied to the walls of the arteries as the heart pumps blood through the body. Systolic blood pressure refers to the pressure of blood as your heart contracts. Diastolic blood pressure refers to the pressure of blood as your heart rests between beats. High blood pressure is a significant risk factor for the development of heart disease, stroke, kidney disease and metabolic syndrome. Dehydration, bleeding, inflammation, infection, heart disease, pregnancy and various medications can cause low blood pressure. Physically fit individuals may have low blood pressure and in some individuals, blood pressure is naturally low.




## Oxygen Saturation


| Height | Weight | Hip circumference |
|---|---|---|
| 1.62 m | 97.6 kg | 124 cm |

# Full Blood Count

This panel provides information about the type and number of cells in the blood, including red blood cells, white blood cells and platelets. Red blood cells contain haemoglobin, a protein that carries oxygen from the lungs to all the tissues of the body and carbon dioxide back to the lungs. White blood cells form part of the immune system and help to defend the body against infection from foreign substances such as bacteria, fungi and viruses. The major types of white blood cells are neutrophils, lymphocytes, monocytes, eosinophils and basophils, with each having their own role in protecting the body from infection. Platelets are important for blood clotting. Their sticky surface enables them, along with other substances, to help wounds heal by forming clots to stop bleeding. The Full Blood Count is useful for evaluating general health status and as a screening tool for a variety of conditions, such as anaemia, infection, inflammation and other blood disorders.

## Haemoglobin


**132 g/l**

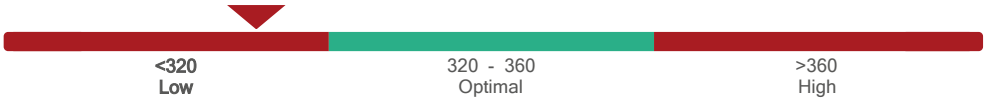
## Haematocrit


**0.417 l/l**

## Mean Cell Haemoglobin (MCH)


**27.4 pg**

## Mean Cell Haemoglobin Concentration (MCHC)




**317 g/l**

## Red Blood Cell Mean Cell Volume (MCV)


**86.5 fl**

## Red Blood Cell Count


**4.82 $10^{12}$/l**

## Basophil Count


**0.04 $10^{9}$/l**

## Eosinophil Count


**0.18 $10^{9}$/l**

## Lymphocyte Count


2.35
$10^9$/l

## Monocyte Count


0.66
$10^9$/l

## Neutrophil Count


5.28
$10^9$/l

## White Blood Cell Count


8.51
$10^9$/l

## Platelet Count


366
$10^9$/l

# Iron Status

Iron is essential for red blood cell formation. Most of the body's iron, approximately 70%, is present in red blood cells, where its primary role is to carry oxygen from the lungs to all the tissues of the body. Additionally, iron facilitates energy production and release from cells and participates in the functioning of the immune and central nervous systems. Iron Status is useful for evaluating conditions such as iron-deficiency, which can cause anaemia, and iron overload, which can cause organ damage, particularly to the liver.

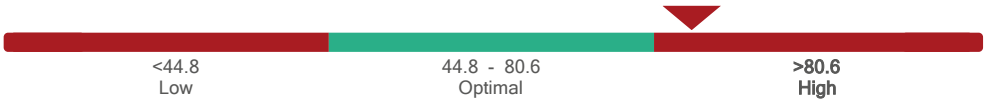
## Iron


12.1 µmol/l

## Ferritin


10.2 µg/l

## Total Iron Binding Capacity (TIBC)

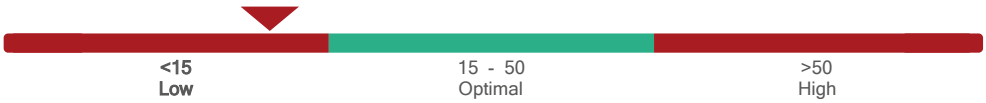



85.7 µmol/l

## Transferrin


3.76 g/l

## Transferrin Saturation




14.1 %

# Heart Health

A major contributing factor to heart disease is the gradual accumulation of fat and cholesterol within blood vessel walls, a process known as atherosclerosis. Cholesterol is a fatty substance that is vital for the normal functioning of the body. However, too much cholesterol is damaging and the risk of developing heart disease is greater in individuals with high cholesterol levels. Heart Health helps assess an individual's risk of developing cardiovascular diseases such as heart disease and stroke.

## Total Cholesterol


**5.31 mmol/l**

## LDL Cholesterol


**4.24 mmol/l**

## HDL Cholesterol


**0.99 mmol/l**

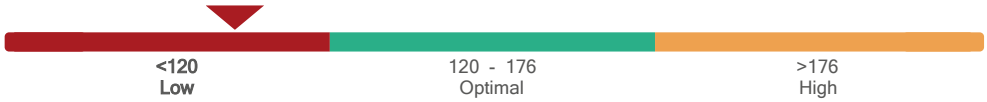
## Total Cholesterol / HDL Cholesterol Ratio


**5.36**

## Triglycerides


**1.23 mmol/l**

## Apolipoprotein A-I

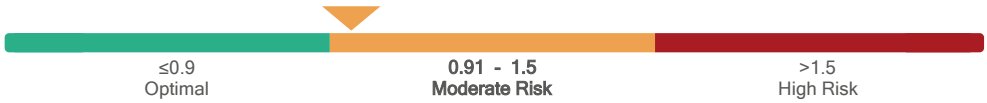



**111.2 mg/dl**

## Apolipoprotein B


**106 mg/dl**

## Apolipoprotein B / A-I Ratio




**0.95**

## Apolipoprotein CII


3.71 mg/dl

## Apolipoprotein CIII


6.52 mg/dl

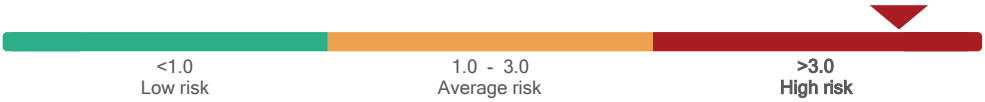
## Small LDL Cholesterol


24.99 mg/dl

## Lipoprotein (a)

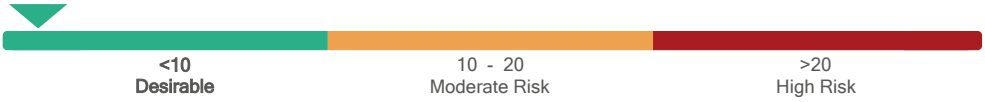

45.1 mg/l

## High Sensitivity C-Reactive Protein (hs-CRP)




4.81 mg/l

## Cardiovascular Risk Score




<1% for same age and gender

1.3 %

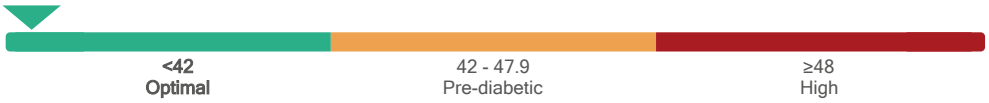
# Diabetes Health

Diabetes mellitus is a chronic condition that is characterised by a high blood glucose level. Normally, insulin (a hormone produced by the pancreas) regulates blood glucose levels. Type 1 diabetes is a condition in which the insulin producing cells of the pancreas are destroyed resulting in very little or no insulin production. Type 2 diabetes is a condition in which the pancreas continues to produce insulin but blood sugar levels remain high due to an insufficient amount of insulin or insulin resistance. Although glucose provides an essential fuel for the body, long-term high levels of glucose are destructive, causing damage to blood vessels, nerves and organs. This damage can increase the risk of developing high blood pressure, heart disease, kidney disease and loss of vision. The Diabetes Health panel includes measurement of glucose and HbA1c levels in the blood, which is useful for the diagnosis and monitoring of diabetes. Higher than normal levels can be associated with a greater risk of developing diabetes in the future ('high risk' or 'pre-diabetes').

## Glucose


**4.67 mmol/l**

## HbA1c




**27.1 mmol/mol**

## Insulin


**161.0 pmol/l**

## C-peptide


**3.68 ng/ml**

# Metabolic Syndrome

Metabolic syndrome refers to a collection of risk factors occurring simultaneously that together increase the risk of developing cardiovascular disease, type 2 diabetes and stroke. The National Cholesterol Educational Program (NCEP) Adult Treatment Panel III (ATP III) has defined metabolic syndrome as the presence of three or more of the following five factors: central obesity (increased body mass index (BMI) or waist circumference), high blood pressure, high fasting blood glucose, low HDL cholesterol, and elevated triglycerides. Previous diagnosis of type-2 diabetes, treatment for high blood pressure, or specific treatments for low HDL cholesterol and high triglycerides also count as factors. The risk of future heart disease, stroke or diabetes increases with the number of risk factors acquired. The Metabolic Syndrome panel includes the measurement of the five factors mentioned above and is indicative of an individual's risk of future cardiovascular disease and type-2 diabetes.

## Body Mass Index (BMI)


37.2 kg/m²

## Waist Circumference


91 cm

## Systolic Blood pressure


109 mmHg

## Diastolic Blood pressure


77 mmHg

## Glucose


4.67 mmol/l

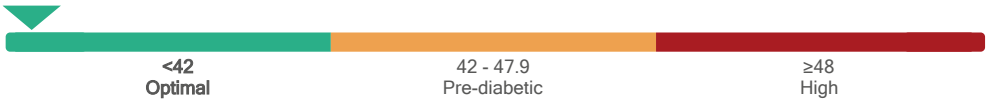
## HDL Cholesterol


0.99 mmol/l

## Triglycerides


1.23 mmol/l

## HbA1c




27.1 mmol/mol

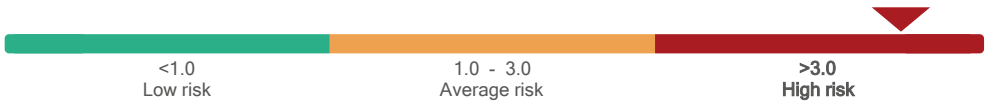
## Insulin


161.0 pmol/l

## C-peptide


3.68 ng/ml

## High Sensitivity C-Reactive Protein (hs-CRP)




4.81 mg/l

| Height | Weight |
|---|---|
| 1.62 m | 97.6 kg |

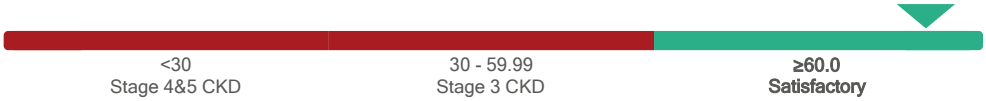
# Kidney Health

The kidneys are responsible for the production of urine and regulation of water and salt levels in the blood. The kidneys filter blood to remove waste products, water and salts. The fluid containing these waste products travels through kidney tubules where re-absorption of water and salts takes place. This absorption process is crucial to the maintenance of fluid balance in the body, which is also important for blood pressure regulation. Many conditions can impair the filtering ability of the kidney or lead to destruction of kidney tissue, including urinary tract obstruction, glomerulonephritis and acute kidney injury. Kidney Health helps evaluate the filtering ability of the kidneys and can indicate how well the kidneys are functioning.

## Creatinine


66.1 µmol/l

## Estimated Glomerular Filtration Rate (eGFR)




96.1 ml/min/1.73m²

## Cystatin C


0.78 mg/l

## Calcium (adjusted)


2.23 mmol/l

## Chloride


102 mmol/l

## Magnesium


0.84 mmol/l

## Phosphate


0.860 mmol/l

## Potassium


4.14 mmol/l

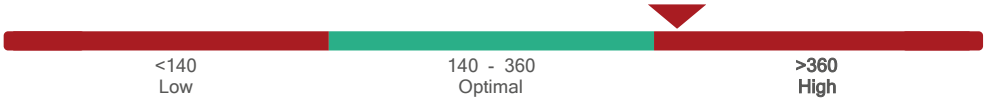
## Sodium


133.4 mmol/l

## Urea


2.64 mmol/l

## Uric Acid




379.6 µmol/l

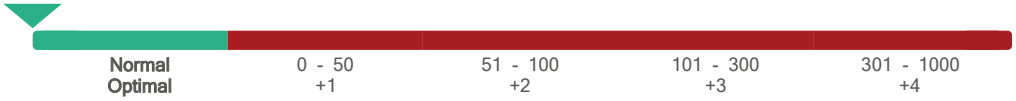
# Urinalysis

Urinalysis is part of routine diagnostic and screening evaluations. It can reveal a significant amount of preliminary information about the kidneys and other metabolic processes. Urinalysis tests for substances that are normally not present or are present at low concentrations in the urine. In addition, pH measurement helps determine the acidity of urine and is indicative of acid-base balance in the body.

## Bilirubin (Urine)

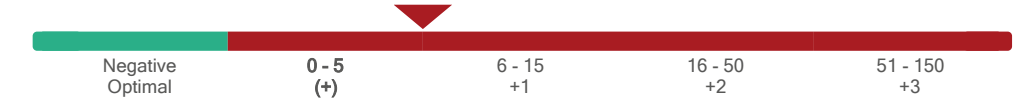

Negative mg/dl

## Glucose (Urine)




Normal mg/dl

## Ketones (Urine)




5 mg/dl

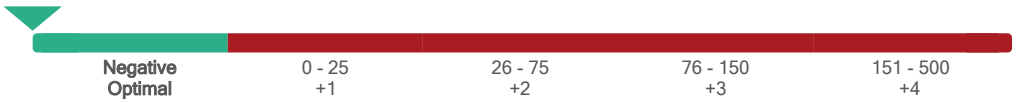
## Nitrite (Urine)


Negative mg/dl

## pH (Urine)

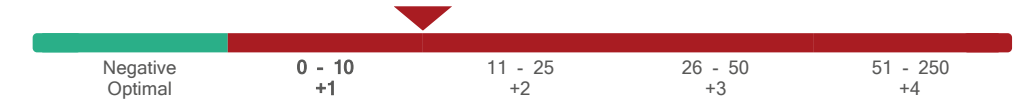

6.5 pH

## Protein (Urine)



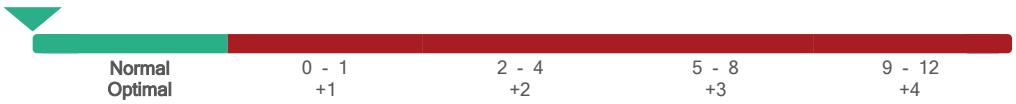

Negative mg/dl

## Red Blood Cells (Urine)



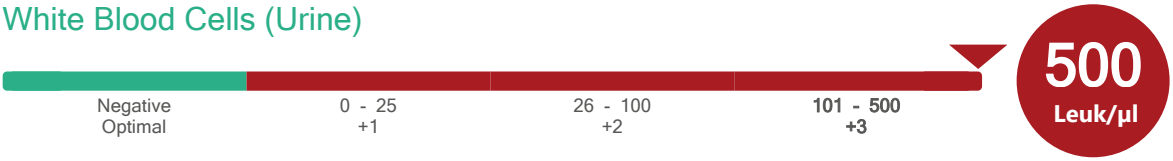

10 RBC/µl

## Urobilinogen (Urine)




Normal mg/dl

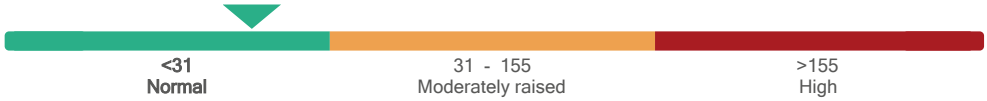
## White Blood Cells (Urine)



# Liver Health

The liver is a vital organ that plays a major role in the regulation of metabolism. The liver performs many complex functions, which include processing of carbohydrates, proteins and fats, breakdown of harmful or toxic substances, decomposition of red blood cells, removal of waste products from the blood and the production and secretion of bile. Bile is a fluid, which aids in the digestion of fats. Once secreted from the liver, bile travels through a series of ducts to the small intestine or to the gallbladder for storage. Liver disease encompasses many conditions that can cause damage to the liver, such as cirrhosis (irreversible scarring of liver tissue), hepatitis (inflammation of the liver), fatty liver disease, gallbladder disease and bile duct obstruction. The Liver Health panel consists of tests that evaluate the function of the liver.

## Alanine Aminotransferase (ALT)

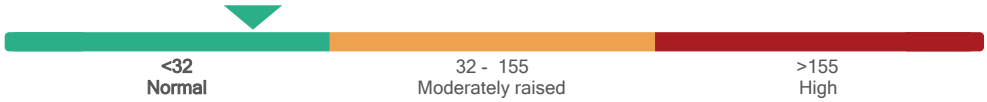



19.2 U/l

## Alkaline Phosphatase (ALP)


49 U/l

## Aspartate Aminotransferase (AST)




20.8 U/l

## Gamma-Glutamyltransferase (GGT)


37.5 U/l

## Total Bilirubin


8.94 µmol/l

## Albumin


44.5 g/l

## Ferritin


10.2 µg/l

# Pancreatic Health

The pancreas is a gland that produces hormones, pancreatic juice and digestive enzymes. Digestive enzymes (e.g. amylase) pass from the pancreas into the small intestine where they contribute to digestion. These enzymes help to further breakdown carbohydrates, proteins and fats in chyme (the partially digested mass of food). Pancreatic Health is useful for evaluating pancreatitis (inflammation of the pancreas) and other disorders that can affect the function of the pancreas.

## Pancreatic Amylase


28
U/l

## Lipase


36.0
U/l

# Digestive Health

The process of digestion occurs in the gastrointestinal tract, which encompasses the stomach and intestine. The stomach is responsible for the storage and breakdown of ingested food. Food and fluids enter the stomach via the oesophagus and mix with stomach acids and digestive enzymes to begin the process of digestion. Partially digested food then enters the intestine where digestion continues and absorption of nutrients occurs. A protective layer of mucus coats the lining of the stomach to prevent damage by digestive acids and enzymes. Anti-inflammatory drug use (such as aspirin) and infection with H. pylori bacteria can disrupt this protective layer and lead to gastritis (inflammation of the stomach) and stomach ulcers. Damage to the intestine impairs the ability of the body to digest food and absorb nutrients. Coeliac disease is an autoimmune disorder in which the body's immune system reacts to gluten in the diet causing inflammation of the intestine. Anti-tissue Transglutaminase (Anti-tTG) Antibody is a sensitive marker for coeliac disease; however, testing is only appropriate in individuals who continue to consume gluten. The Digestive Health panel contains markers that are useful for the evaluation of health issues such as heartburn, acid reflux and coeliac disease.

## *H. pylori*


0.91 U/ml

## Anti-Tissue Transglutaminase Antibodies (Coeliac Disease)


Positive

# Nutritional Health

Nutrition is the supply of materials (in the form of food), which are necessary to allow the body to function normally. Vitamins and minerals support normal growth, and help organs and cells to function. Therefore, good nutrition is vital for health and wellbeing. A poor diet or malabsorption disorders (conditions caused by an impaired ability to digest and/or absorb nutrients from food) may lead to nutritional deficiency. The Nutritional Health panel evaluates the levels of various nutrients and can help identify whether an individual's nutritional status is adequate.

## Total Antioxidant Status (TAS)


**1.88 mmol/l**

## Albumin


**44.5 g/l**

## Calcium (adjusted)


**2.23 mmol/l**

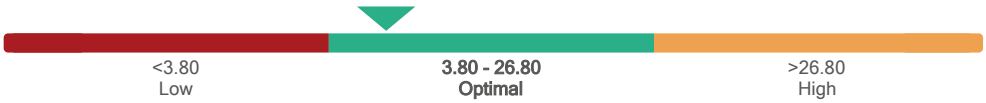
## Magnesium


**0.84 mmol/l**

## Iron


**12.1 µmol/l**

## Folic acid




**7.9 µg/l**

## Vitamin B12


**243 ng/l**

## Vitamin D


**28 nmol/l**

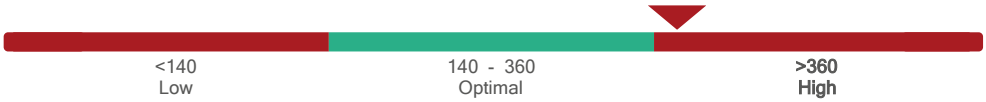
# Muscle & Joint Health

Muscles, which are composed of bundles of contractile fibres, are responsible for the movement of various parts of the body. When muscle fibres contract, movement occurs. Damage to muscles occurs in conditions such as myopathies (muscle disorders that cause muscle weakness) and myositis (inflammation of the skeletal muscles). In addition, muscle damage can arise from injury and excessive use of muscles during exercise. Joints form the connections between bones and permit movement and flexibility in various parts of the body. Arthritis is a condition characterised by inflammation, pain and stiffness of the joints and many types exist, including rheumatoid arthritis and gout. The Muscle & Joint Health panel includes markers associated with muscle damage and joint problems such as arthritis and gout.

## Creatine Kinase


88
U/l

## Uric Acid




379.6
µmol/l

## Rheumatoid Factor (RF)


<6.72
kU/l

# Bone Health

Bones provide structural support for the body and offer protection to delicate organs and tissues (e.g. the ribs protect the heart and lungs and the skull protects the brain). Bones are subject to a continuous remodelling process where old bone tissue is replaced with new tissue. For bones to remain strong and healthy, various factors are required, including calcium and vitamin D. Osteoporosis is a condition in which bones lose density and become weak. Risk factors for osteoporosis include oestrogen deficiency (post-menopause), vitamin D deficiency, calcium deficiency and an inactive lifestyle. Bone Health helps evaluate the levels of these important bone-strength factors, which can be useful for identifying individuals at risk of future bone-related health problems.

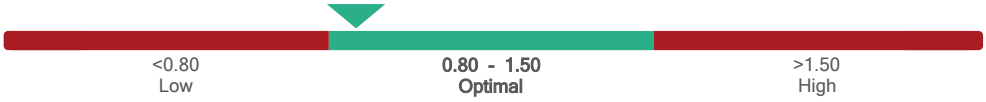
## Alkaline Phosphatase (ALP)


**49 U/l**

## Calcium (adjusted)


**2.23 mmol/l**

## Phosphate




**0.860 mmol/l**

## Vitamin D


**28 nmol/l**

## Parathyroid Hormone (PTH)


**5.3 pmol/l**

# Allergy Evaluation

Allergies are increasingly common, with estimates suggesting that allergies will affect 25% of the population at some stage in life. An allergy is the immune system's response to a particular food or environmental substance (allergen). This response occurs in predisposed individuals and results in the production of a particular type of immune system protein (antibody) called immunoglobulin E (IgE). Subsequent exposure to the allergen generates IgE, which in turn causes the release of chemicals into the body. This chemical release causes the characteristic symptoms of allergies such as coughing, sneezing and itching. The Allergy Evaluation measures the total IgE level in the blood. However, generation of IgE is dependent on recent exposure to an allergen. The Allergy Evaluation may prove inconclusive in individuals who have limited their exposure to suspected allergens (e.g. removal of wheat from diet or avoidance of pets).

## Immunoglobulin E (IgE)

# Infection & Inflammation

Inflammation is the body's natural response to infection, irritation or injury and is characterised by pain, swelling, warmth and redness of the affected area. Inflammation is a protective mechanism that occurs in an attempt to remove the cause of the injury or irritation and to initiate healing and repair. The Infection & Inflammation panel can indicate the presence of infection or inflammation in the body.

## C-Reactive Protein (CRP)


**4.81 mg/l**

## Rheumatoid Factor (RF)


**<6.72 kU/l**

## Albumin


**44.5 g/l**

## Complement Component 3 (C3)


**1.342 g/l**

## Complement Component 4 (C4)


**0.295 g/l**

## Ferritin


**10.2 µg/l**

## Immunoglobulin A (IgA)


**1.23 g/l**

## Immunoglobulin G (IgG)


**10.24 g/l**

## Immunoglobulin M (IgM)


**0.96 g/l**

## Antistreptolysin O (ASO)


**75.1 IU/ml**

# Thyroid Health

The thyroid gland plays an important role in controlling the body's metabolism by producing hormones. The thyroid hormones help the body to use energy, stay warm and keep the heart, brain, muscle and other organs functioning properly. Thyroid Health consists of tests that can be used to help diagnose an 'underactive thyroid' (hypothyroidism) or an 'overactive thyroid' (hyperthyroidism), or to monitor the treatment of these conditions.

## Thyroid Stimulating Hormone (TSH)


3.09 mIU/l

## Free Thyroxine (FT4)


17.28 pmol/l

## Free Tri-iodothyronine (FT3)


5.37 pmol/l

## Anti-Thyroglobulin Antibody (Anti-Tg)


>4000 IU/ml

## Anti-Thyroid Peroxidase Antibody (Anti-TPO)


94.6 kU/l

# Female Hormonal Health

A hormone is a chemical substance that is produced in response to certain changes in the physiological processes that occur in the body. They carry information between cells allowing metabolism, growth, reproduction and mood alteration. In this panel, hormones that regulate the reproductive cycle are measured. These tests can be helpful in the evaluation of infertility, menstrual disorders or to assess if a woman is menopausal. Interpretation of the test results for females requires knowledge of the menstrual history, namely the first day of the last menstrual period (LMP), the length of cycle and the duration of menstruation. Other important factors include whether the woman is menopausal or post-menopausal, the previous obstetric history (e.g. if pregnant), current medication (such as infertility treatments, hormone replacement therapy (HRT) or contraception), and previous surgical history (such as hysterectomy).

## Oestradiol

**Your Result: 97.0 pmol/l**

322 - 637 Follicular Phase
1598 - 3338 Ovulation
760 - 1334 Luteal Phase
<505 Post Menopausal

## Follicle Stimulating Hormone

**Your Result: 5.0 U/l**

3.5 - 12.5 Follicular Phase
4.7 - 21.5 Mid Cycle
1.7 - 7.7 Luteal Phase
25.8 - 134.8 Post Menopausal

## Luteinising Hormone

**Your Result: 4.5 U/l**

2.4 - 12.6 Follicular Phase
14.0 - 95.6 Mid Cycle
1.0 - 11.4 Luteal Phase
7.7 - 58.5 Post Menopausal

## Progesterone

**Your Result: 0.37 nmol/l**

<0.616 Follicular Phase
0.175 - 13.20 Mid Cycle
13.10 - 46.30 Luteal Phase
<0.401 Post Menopausal

## Prolactin

**Your Result: 295 mIU/l**

<102 Low
102 - 496 Optimal
>496 High

## Testosterone

**Your Result: 5.22 nmol/l**

<0.29 Low
0.29 - 1.67 Optimal
<1.67 High

## Sex Hormone Binding Globulin

**Your Result: 14.10 nmol/l**

<32.4 Low
32.4 - 128 Optimal
>128 High

## Free Androgen Index

**Your Result: 37**

<0.30 Low
0.30 - 5.6 Optimal
>5.6 High

# Results for your Doctor

This section contains all your test results. Your doctor may prefer to see your test results in this format. The results that are either positive or fall outside the reference range are highlighted in red.

| Test | Result | Units | Reference Range |
|---|---|---|---|
| **Personal Health Measurements** | | | |
| Height | 1.62 | m | N/A |
| Weight | 97.6 | kg | N/A |
| Body Mass Index (BMI) | 37.2 | $kg/m^2$ | <18.5 Underweight<br>18.5 - 24.9 Optimal<br>25 - 29.9 Overweight<br>≥30 Obese |
| Waist Circumference | 91 | cm | <81 Optimal<br>81 - 89 Moderate risk<br>>89 High risk |
| Hip circumference | 124 | cm | N/A |
| Waist / Hip Ratio | 0.734 | | <0.80 Low risk |
| Pulse | 69 | BPM | 60 - 100 Optimal |
| Systolic Blood pressure | 109 | mmHg | 90 - 119.9 Optimal |
| Diastolic Blood pressure | 77 | mmHg | 60 - 79.9 Optimal |
| Oxygen Saturation | 98 | % | 95 - 100 Optimal |
| **Full Blood Count** | | | |
| Haemoglobin | 132 | g/l | 115 - 165 Optimal |
| Haematocrit | 0.417 | l/l | 0.37 - 0.47 Optimal |
| Mean Cell Haemoglobin (MCH) | 27.4 | pg | 27.0 - 32.0 Optimal |
| Mean Cell Haemoglobin Concentration (MCHC) | 317 | g/l | <320 Low<br>320 - 360 Optimal<br>>360 High |
| Red Blood Cell Mean Cell Volume (MCV) | 86.5 | fl | 76 - 100 Optimal |
| Red Blood Cell Count | 4.82 | $10^{12}/l$ | 3.8 - 5.8 Optimal |
| Basophil Count | 0.04 | $10^9/l$ | 0.01 - 0.1 Optimal |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Eosinophil Count | 0.18 | $10^9$/l | 0.04 - 0.4 Optimal |
| Lymphocyte Count | 2.35 | $10^9$/l | 1.0 - 3.5 Optimal |
| Monocyte Count | 0.66 | $10^9$/l | 0.2 - 0.8 Optimal |
| Neutrophil Count | 5.28 | $10^9$/l | 2 - 7.5 Optimal |
| White Blood Cell Count | 8.51 | $10^9$/l | 4.0 - 10.0 Optimal |
| Platelet Count | 366 | $10^9$/l | 150 - 450 Optimal |
| **Iron Status** | | | |
| Iron | 12.1 | µmol/l | 5.8 - 34.5 Optimal |
| Ferritin | 10.2 | µg/l | 10 - 120 Optimal |
| Total Iron Binding Capacity (TIBC) | 85.7 | µmol/l | <44.8 Low<br>44.8 - 80.6 Optimal<br>>80.6 High |
| Transferrin | 3.76 | g/l | 2.0 - 3.8 Optimal |
| Transferrin Saturation | 14.1 | % | <15 Low<br>15 - 50 Optimal<br>>50 High |
| **Heart Health** | | | |
| Total Cholesterol | 5.31 | mmol/l | <5 Desirable<br>≥5 High |
| LDL Cholesterol | 4.24 | mmol/l | <3 Desirable<br>≥3 High |
| HDL Cholesterol | 0.99 | mmol/l | <1.55 Low<br>≥1.55 Desirable |
| Total Cholesterol / HDL Cholesterol Ratio | 5.36 | | <5 Desirable<br>≥5 High |
| Triglycerides | 1.23 | mmol/l | <2.3 Desirable |
| Apolipoprotein A-I | 111.2 | mg/dl | <120 Low<br>120 - 176 Optimal<br>>176 High |
| Apolipoprotein B | 106 | mg/dl | 63 - 114 Optimal |
| Apolipoprotein B / A-I Ratio | 0.95 | | ≤0.9 Optimal<br>0.91 - 1.5 Moderate Risk<br>>1.5 High Risk |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Apolipoprotein CII | 3.71 | mg/dl | 1.6 - 4.2 Optimal |
| Apolipoprotein CIII | 6.52 | mg/dl | 5.5 - 9.5 Optimal |
| Small LDL Cholesterol | 24.99 | mg/dl | ≤60.8 Optimal |
| Lipoprotein (a) | 45.1 | mg/l | <300 Optimal |
| High Sensitivity C-Reactive Protein (hs-CRP) | 4.81 | mg/l | <1.0 Low risk<br>1.0 - 3.0 Average risk<br>>3.0 High risk |
| Cardiovascular Risk Score<br><br><1% for same age and gender | 1.3 | % | <10 Desirable |
| **Diabetes Health** | | | |
| Glucose | 4.67 | mmol/l | 4.0 - 5.59 Optimal |
| HbA1c | 27.1 | mmol/mol | <42 Optimal |
| Insulin | 161.0 | pmol/l | 17.8 - 173.0 Optimal |
| C-peptide | 3.68 | ng/ml | 1.1 - 4.4 Optimal |
| **Metabolic Syndrome** | | | |
| Height | 1.62 | m | N/A |
| Weight | 97.6 | kg | N/A |
| Body Mass Index (BMI) | 37.2 | $kg/m^2$ | ≤30 Optimal<br>>30 Risk |
| Waist Circumference | 91 | cm | <80 Optimal<br>≥80 Risk |
| Systolic Blood pressure | 109 | mmHg | <130 Optimal |
| Diastolic Blood pressure | 77 | mmHg | <85 Optimal |
| Glucose | 4.67 | mmol/l | <5.6 Optimal |
| HDL Cholesterol | 0.99 | mmol/l | <1.29 Risk<br>≥1.29 Optimal |
| Triglycerides | 1.23 | mmol/l | <1.7 Optimal |
| HbA1c | 27.1 | mmol/mol | <42 Optimal |
| Insulin | 161.0 | pmol/l | 17.8 - 173.0 Optimal |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| C-peptide | 3.68 | ng/ml | 1.1 - 4.4 Optimal |
| High Sensitivity C-Reactive Protein (hs-CRP) | 4.81 | mg/l | <1.0 Low risk<br>1.0 - 3.0 Average risk<br>>3.0 High risk |
| **Kidney Health** | | | |
| Creatinine | 66.1 | µmol/l | 44 - 80 Optimal |
| Estimated Glomerular Filtration Rate (eGFR) | 96.1 | ml/min/1.73m² | ≥60.0 Satisfactory |
| Cystatin C | 0.78 | mg/l | 0.57 - 1.05 Optimal |
| Calcium (adjusted) | 2.23 | mmol/l | 2.20 - 2.60 Optimal |
| Chloride | 102 | mmol/l | 95 - 108 Optimal |
| Magnesium | 0.84 | mmol/l | 0.7 - 1.1 Optimal |
| Phosphate | 0.860 | mmol/l | 0.80 - 1.50 Optimal |
| Potassium | 4.14 | mmol/l | 3.5 - 5.3 Optimal |
| Sodium | 133.4 | mmol/l | 133 - 146 Optimal |
| Urea | 2.64 | mmol/l | 2.5 - 7.8 Optimal |
| Uric Acid | 379.6 | µmol/l | <140 Low<br>140 - 360 Optimal<br>>360 High |
| **Urinalysis** | | | |
| Bilirubin (Urine) | Negative | mg/dl | Negative Optimal |
| Glucose (Urine) | Normal | mg/dl | Normal Optimal |
| Ketones (Urine) | 5 | mg/dl | Negative Optimal<br>0 - 5 (+)<br>6 - 15 +1<br>16 - 50 +2<br>51 - 150 +3 |
| Nitrite (Urine) | Negative | mg/dl | Negative Optimal |
| pH (Urine) | 6.5 | pH | 5 - 7.5 Optimal |
| Protein (Urine) | Negative | mg/dl | Negative Optimal |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Red Blood Cells (Urine) | 10 | RBC/µl | Negative Optimal<br>0 - 10 +1<br>11 - 25 +2<br>26 - 50 +3<br>51 - 250 +4 |
| Urobilinogen (Urine) | Normal | mg/dl | Normal Optimal |
| White Blood Cells (Urine) | 500 | Leuk/µl | Negative Optimal<br>0 - 25 +1<br>26 - 100 +2<br>101 - 500 +3 |
| **Liver Health** | | | |
| Alanine Aminotransferase (ALT) | 19.2 | U/l | <31 Normal |
| Alkaline Phosphatase (ALP) | 49 | U/l | 30 - 120 Optimal |
| Aspartate Aminotransferase (AST) | 20.8 | U/l | <32 Normal |
| Gamma-Glutamyltransferase (GGT) | 37.5 | U/l | 8 - 42 Optimal |
| Total Bilirubin | 8.94 | µmol/l | <21 Optimal |
| Albumin | 44.5 | g/l | 35 - 50 Optimal |
| Ferritin | 10.2 | µg/l | 10 - 120 Optimal |
| **Pancreatic Health** | | | |
| Pancreatic Amylase | 28 | U/l | 13 - 53 Optimal |
| Lipase | 36.0 | U/l | 5 - 65 Optimal |
| **Digestive Health** | | | |
| H. pylori | 0.91 | U/ml | <0.9 Negative<br>0.9 - 1.1 Indeterminate<br>>1.1 Positive |
| Anti-Tissue Transglutaminase Antibodies (Coeliac Disease) | Positive | na | Positive Negative |
| **Nutritional Health** | | | |
| Total Antioxidant Status (TAS) | 1.88 | mmol/l | ≥1.3 Optimal |
| Albumin | 44.5 | g/l | 35 - 50 Optimal |
| Calcium (adjusted) | 2.23 | mmol/l | 2.20 - 2.60 Optimal |
| Magnesium | 0.84 | mmol/l | 0.7 - 1.1 Optimal |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Iron | 12.1 | µmol/l | 5.8 - 34.5 Optimal |
| Folic acid | 7.9 | µg/l | 3.80 - 26.80 Optimal |
| Vitamin B12 | 243 | ng/l | 197 - 771 Optimal |
| Vitamin D | 28 | nmol/l | <25 Deficiency<br>25 - 49.9 Insufficiency<br>50 - 375 Sufficiency<br>>375 Toxicity |
| **Muscle & Joint Health** | | | |
| Creatine Kinase | 88 | U/l | 25 - 200 Optimal |
| Uric Acid | 379.6 | µmol/l | <140 Low<br>140 - 360 Optimal<br>>360 High |
| Rheumatoid Factor (RF) | <6.72 | kU/l | <20 Optimal |
| **Bone Health** | | | |
| Alkaline Phosphatase (ALP) | 49 | U/l | 30 - 120 Optimal |
| Calcium (adjusted) | 2.23 | mmol/l | 2.20 - 2.60 Optimal |
| Phosphate | 0.860 | mmol/l | 0.80 - 1.50 Optimal |
| Vitamin D | 28 | nmol/l | <25 Deficiency<br>25 - 49.9 Insufficiency<br>50 - 375 Sufficiency<br>>375 Toxicity |
| Parathyroid Hormone (PTH) | 5.3 | pmol/l | 1.6 - 6.9 Optimal |
| **Allergy Evaluation** | | | |
| Immunoglobulin E (IgE) | 67.3 | kU/l | ≤100 Optimal |
| **Infection & Inflammation** | | | |
| C-Reactive Protein (CRP) | 4.81 | mg/l | ≤5 Optimal |
| Rheumatoid Factor (RF) | <6.72 | kU/l | <20 Optimal |
| Albumin | 44.5 | g/l | 35 - 50 Optimal |
| Complement Component 3 (C3) | 1.342 | g/l | 0.8 - 1.6 Optimal |
| Complement Component 4 (C4) | 0.295 | g/l | 0.16 - 0.46 Optimal |
| Ferritin | 10.2 | µg/l | 10 - 120 Optimal |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Immunoglobulin A (IgA) | 1.23 | g/l | 0.9 - 4.5 Optimal |
| Immunoglobulin G (IgG) | 10.24 | g/l | 6 - 16 Optimal |
| Immunoglobulin M (IgM) | 0.96 | g/l | 0.7 - 2.8 Optimal |
| Antistreptolysin O (ASO) | 75.1 | IU/ml | ≤200 Optimal |
| **Thyroid Health** | | | |
| Thyroid Stimulating Hormone (TSH) | 3.09 | mIU/l | 0.35 - 5.5 Normal |
| Free Thyroxine (FT4) | 17.28 | pmol/l | 11.9 - 21.6 Normal |
| Free Tri-iodothyronine (FT3) | 5.37 | pmol/l | 3.1 - 6.8 Normal |
| Anti-Thyroglobulin Antibody (Anti-Tg) | >4000 | IU/ml | ≤115 Optimal<br>>115 High |
| Anti-Thyroid Peroxidase Antibody (Anti-TPO) | 94.6 | kU/l | ≤34 Optimal<br>>34 High |
| **Female Hormonal Health** | | | |
| Oestradiol | 97.0 | pmol/l | 322 - 637 Follicular Phase<br>1598 - 3338 Ovulation<br>760 - 1334 Luteal Phase<br><505 Post Menopausal |
| Follicle Stimulating Hormone | 5.0 | U/l | 3.5 - 12.5 Follicular Phase<br>4.7 - 21.5 Mid Cycle<br>1.7 - 7.7 Luteal Phase<br>25.8 - 134.8 Post Menopausal |
| Luteinising Hormone | 4.5 | U/l | 2.4 - 12.6 Follicular Phase<br>14.0 - 95.6 Mid Cycle<br>1.0 - 11.4 Luteal Phase<br>7.7 - 58.5 Post Menopausal |
| Progesterone | 0.37 | nmol/l | <0.616 Follicular Phase<br>0.175 - 13.20 Mid Cycle<br>13.10 - 46.30 Luteal Phase<br><0.401 Post Menopausal |
| Prolactin | 295 | mIU/l | <102 Low<br>102 - 496 Optimal<br>>496 High |
| Testosterone | 5.22 | nmol/l | <0.29 Low<br>0.29 - 1.67 Optimal<br><1.67 High |

| Test | Result | Units | Reference Range |
|---|---|---|---|
| Sex Hormone Binding Globulin | **14.10** | nmol/l | <32.4 Low<br>32.4 - 128 Optimal<br>>128 High |
| Free Androgen Index | **37** | | <0.30 Low<br>0.30 - 5.6 Optimal<br>>5.6 High |