Type of blood test	What does it mean	What could an abnormal level indicate
Haemoglobin	Haemoglobin is the protein which carries oxygen from your lungs to the rest of the body.	Abnormal levels may be a sign of anaemia, dehydration, or bleeding. In lots of patients in Leicester it could be low because you may be a carrier of beta thalassaemia.
White Blood Count	White blood cells are an important part of your immune system which is your body's first line of defence for fighting infections and diseases.	Abnormal white blood cell levels are most often caused by infection. They can also be a sign of an immune system disorder or a blood cancer.
Platelet Count	Blood platelets are blood cell fragments that help your blood clot. They stick together like glue to seal cuts or breaks on blood vessel walls, thereby allowing your body to stop minor bleeding.	Abnormal platelet levels are most often caused by a 'reaction' to a particular stressful event on the body. Commonly, this is infection or inflammation. Even a minor injury has the potential to cause abnormalities in platelet levels. High degrees of abnormalities which persist can be a sign of a clotting disorder (insufficient clotting) or a thrombotic disorder (too much clotting). These are not very common.
HbA1c	Your red blood cells have a life span of 120 days. HbA1c reflects the exposure of haemoglobin to glucose in your red cells. This test can	If you have diabetes, excess glucose can attach to your haemoglobin and raise your HbA1c.

	provide you with a 120-day review of your glucose levels. No fasting is required for this test.	The normal range is less than 6%. A HbA1c of 6-6.4% indicates pre-diabetes. A HbA1c of 6.5% or greater indicates a diagnosis of diabetes.
Haematocrit	This is a measure of how much space red blood cells take up in your blood.	A high haematocrit level might mean you are dehydrated. A low haematocrit level may mean you have anaemia.
Mean Corpuscular Volume (MCV)	This is a measure of the average size or your red blood cells.	If your MCV is greater than normal, it can be indicative of deficiencies within your blood including Vitamin B12, Folate, or a abnormality with your thyroid function tests. There are many other causes. A low MCV could be caused by anaemia, iron deficiency, or thalassaemia amongst other causes.
Blood Calcium Level	Calcium is an important mineral in the body.	Abnormal calcium levels are actually very common. The most common cause of a mildly low Calcium is Vitamin D deficiency which

		is very common in the population of Leicestershire. Other causes which are thankfully less common include kidney problems, bone disease, thyroid disease, cancer, or malnutrition.
Sodium	This is a mineral.	This is rarely abnormal, but when there is an abnormality of this it often requires further investigations and assessment. The most common factor is medication.
Potassium	This is a mineral which is measured when people area on medication, or have certain conditions (such as end stage kidney disease) which can go up or down	A true abnormal potassium result is thankfully uncommon. A high potassium level which is real can be very dangerous and cause abnormalities with the conduction system of the heart. For this reason, any significant elevated potassium level may require urgent re-assessment most commonly by repeating the blood sample. The most common cause of an abnormally raised potassium in General Practice is a 'haemolysed' blood sample – because of

		the way the blood was taken, or the length of time taken to get to the blood laboratory. A true high potassium is most often caused by medication which is why medication monitoring blood tests are important.
Kidney Function Tests	The blood has markers which act as an index for kidney function. These include creatinine and urea. Both compounds are waste products that your kidneys are supposed to filter out of the body.	Abnormal levels may be signs of a kidney disease or disorder.
Albumin	This is a protein produced by the liver and it helps keep fluid in your bloodstream so it doesn't leak into your other tissues.	A low albumin level could be sign of a liver or kidney problem.
ALP (Alkanine Phosphatase)	ALP assesses your liver function.	Abnormal values can be a sign of liver, gallbladder or bone disease.
ALT (alanine aminotransferase)	ALT assesses the function of your liver.	A raised ALT can be suggestive of liver damage. One of the most common causes of an elevation of the ALT is increased fat in the liver – a condition called '**N**on **A**lcoholic **S**teato-**H**epatitis' – NASH
Bilirubin	Bilirubin is a pigment.	Abnormal bilirubin levels can diagnose health

		conditions such as anaemia and liver disease.
Total Cholesterol	This test looks at substances in your blood that carry cholesterol which can cause cardiovascular disorders if high. This is the total amount of cholesterol in your blood including the 'good' and 'bad' cholesterol	A healthy level is 5 mmol/L or below. If you have pre-existing heart problems, or diabetes, we like this level to be below 2 mmol/L.
LDL 'bad' cholesterol	This is the main source of cholesterol build up and blockages	A healthy level is 3 mmol/L or below. If you have pre-existing heart problems, or diabetes, we like this level to be below 2 mmol/L.
Triglyerides	This is a fatty substance similar to bad cholesterol	A healthy level is below 2.3 mmol/L.
Thyroid Function Tests	The thyroid hormone is produced by a gland in your neck called the thyroid gland. The hormone helps regulate your metabolism and cause an effect in the cells of your entire body.	An underactive thyroid gland is common. Often this requires a repeated blood test to confirm the result. This can be easily treated with a medication which can be lifelong. An overactive thyroid gland is not as common. This often requires medication to stop the thyroid gland from over producing hormone.
C Reactive Protein (CRP)	This is a marker which is a marker of inflammation in the body.	This can be raised for lots of reasons including infection or inflammation. This marker can help monitor the progress of treatment in a disease. Most of the time

		when this is elevated, it is a marker that the body is in state of inflammation.
Vitamin D	Vitamin D blood tests are not permitted to be performed routinely on the NHS. Therefore, Doctors may not 'allow' a blood test to be ordered as we can often predict those groups who will have a low Vitamin D level. This is a Vitamin which is produced from sunlight in the skin. Research has shown this is can be low in South Asian and African Caribbean people in particular due to pigmentation of the skin.	A low Vitamin D is very common. We advise all patients of South Asian or African Caribbean backgrounds to take supplemental Vitamin D in Autumn and Winter months. This is recommended for older people too. This should not be obtained on prescription. Please speak to your pharmacist.