

What happens to my blood sample?

When a doctor, nurse or phlebotomist (specialist blood collector) collects a blood sample from you, it is the first step in a process that will involve several hospital departments, many skilled scientists and the use of advanced diagnostic testing technology.

Blood samples are sent to pathology laboratories to help your doctor make a diagnosis and/or to check how your treatment is progressing. Increasingly, blood tests are also carried out to promote health and wellbeing, and disease prevention.

Blood collection

Blood samples are usually taken from a vein in your arm. The procedure is almost painless apart from a slight prick at the beginning.

The blood is collected into one or more tubes depending on which tests your doctor has requested and which labs the samples are sent to.

The different coloured tubes contain different chemicals and preservatives; these keep the sample fresh or stop the blood clotting.



Your doctor will fill in a request form that includes information on why the tests are needed and then the sample and request are sent to pathology. When they arrive in pathology the samples are sorted and sent to the correct laboratory.

Clinical biochemistry (chemical pathology)

When your blood sample is spun in a centrifuge, the cells sink to the bottom of the tube leaving behind a clear fluid on top. It is this 'plasma' which the clinical biochemistry lab uses for much of its testing.

The chemical composition of plasma can provide a lot of information about many conditions and diseases eg kidney disease, liver function and hormone imbalances.

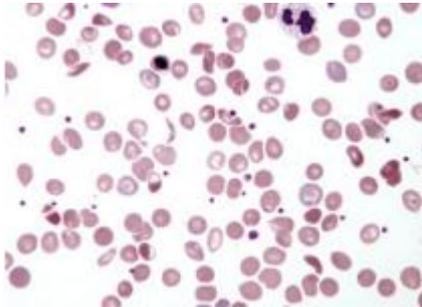
The laboratory may look for twenty or more different chemicals and substances in a single blood sample,

using both large automated analysers and specialist manual techniques carried out by skilled scientists.



Haematology

These laboratories carry out measurements on the blood cells such as red blood cells, white blood cells and platelets. Automated analysers count the numbers of cells, and measure their size and make up.



Sometimes a small amount of blood is smeared on to a thin glass slide so that the laboratory staff can examine the cells more closely under the microscope.

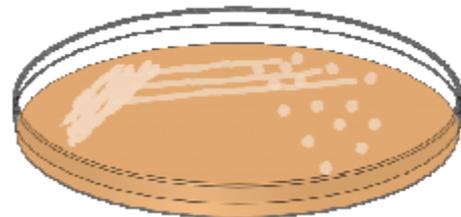
Microbiology (bacteriology)

These laboratories are particularly concerned with detecting infectious diseases and do specialist tests on blood or plasma to discover if bacteria or viruses are present. The results of the tests can then help in deciding what treatment may be needed.

Quality control

All the laboratories have very strict quality control procedures to prevent mix-up of specimens and ensure that results of tests are correct. Occasionally you may be asked to provide a second sample. There is no cause for alarm if this happens. It may be because there was not quite enough blood to do all the tests required or that the laboratory wants to confirm the results before they are sent back to your doctor.

Once the tests have been completed all the results are checked by a trained scientist or doctor. This is another part of the strict quality control process. Comments may also be added to the results to explain their meaning.



Reporting

The results are usually reported by direct electronic transfer to a computer in the GP surgery or hospital ward. Pathology laboratories often have a rule preventing them from giving the results to anyone other than the doctor or nurse who asked for them.

This is for your protection, but means that the laboratory cannot give results to the patient either over the telephone or in person. You should make any enquiries regarding your results to your doctor.

How long does it take?

This varies according to which tests have to be performed. The vast majority are completed on the same day the sample is received or by the following day. More complicated tests may take a few days, especially if the sample has to be sent to a specialist laboratory in another part of the country.

Finding out more

[Lab tests online](#) is a website developed by professionals who work in clinical laboratories. Whether you are a patient or carer, it will show how lab tests are used in healthcare. It also provides links to other services that can help answer questions about your health and treatment.