

Blood testing

Analysis of blood has long been a standard part of the investigation of a large number of illnesses, diseases and injuries. The number of available tests, along with their accuracy, is continuously expanding, as researchers and laboratories endeavour to make ever greater use of blood testing as a diagnostic tool. The procedure is generally very safe and well-tolerated by most horses and the results can yield important information about the health of a patient. Along with aiding in the diagnosis of disease, blood testing has a number of other uses, as described below.



COMMON USES OF BLOOD TESTING

1 Aiding in the investigation of illness

Many medical conditions affect the blood cells and circulating chemical levels, such as liver disease and infections. Depending on the clinical signs, blood screening tests are used to help rule in and out different problems.

2 Monitoring response to treatment

After diagnosing an illness, the response to therapy can be measured by repeating the tests periodically, to ensure that the tissues are healing or any infection is resolving. Any evidence of lasting tissue damage can also be assessed.

3 Screening normal animals

Apparently healthy patients can be screened to look for early signs of disease, particularly older patients or those which have recently been exposed to a contagious disease but might not yet have any signs.

4 Pre-purchase examinations

Samples collected prior to purchase allow future testing for medicines that might mask signs of illness or injury. Blood samples are collected and stored frozen for six months. If a problem such as lameness arises shortly after purchase, the sample can be tested for pain killer and anti-inflammatory medicines.

5 Confirming exposure to infectious diseases during an outbreak

Exposure to diseases such as influenza and strangles can be confirmed or ruled out.

6 Confirming the health status of an animal before export/import

Entry into many countries is dependent upon animals being free from certain diseases. Blood tests are used to rule out a number of serious diseases and maintain the disease-free status of a country.

7 Prior to breeding, confirming the health status of a mare or stallion

Certain diseases spread during breeding can affect mare and stallion fertility as well as causing illness.

8 Monitoring a patient prior to and during a general anaesthetic (GA)

To minimise the risks of a GA, bloods are often checked before and during surgery to identify patients at increased risk and to allow the anaesthetist to respond to any deterioration during the procedure.

9 During competition to identify banned substances

Professional equestrian competitions monitor for the presence of prohibited, performance enhancing drugs in the blood and urine of competitors, to prevent any unfair advantage.

What do we measure?

1 Blood cells

The number and concentration of red blood cells, along with each of the five types of white blood cells can be measured, helping to confirm the presence and type of disease or illness.

2 Blood chemicals

A. Enzymes/Proteins

Injured, inflamed or diseased organs and tissues release many different chemicals into the blood stream. Any elevation or reduction in their levels can be measured and used to help determine the nature, extent and severity of a problem.

B. Hormones

Many different hormones can be measured as an aid in the diagnosis of conditions such as Cushing's disease, identifying rigs and testing for ovarian problems in aggressive mares.

C. Pharmaceuticals

During vettings and among competition horses, drugs such as painkillers, steroids and tranquilisers can be detected, even at very low levels.

D. Antibodies

The presence of certain infections can be confirmed by an increase in the body's production of antibodies against the particular organism.

E. Bacteria and viruses

As well as detecting antibodies, certain infections can be confirmed by identifying the actual organisms causing the disease.



What happens to the samples?

Once collected, the samples are either analysed at the clinic or sent to a veterinary laboratory. Some tests are quick to run, while others can take several days or longer to complete before the results are available.

In-house laboratories

Many practices have in-house laboratories, where they can run a range of tests, depending on their equipment. These results are often available the same day.

External laboratories

There are numerous commercial veterinary laboratories, offering an extensive range of tests. These generally take longer to get the results depending on the particular tests being run.



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