



Laboratory tests are used by vets to help them diagnose disease in sick animals. Increasingly they are also used as part of a routine health check to detect hidden disease before the development of obvious symptoms. This allows your horse to be treated earlier and more effectively. Tests may be used to show whether a horse is carrying infections that could pose a threat to other horses it comes into contact with. Samples may be taken before a general anaesthetic is administered to check for any problems that may increase the risks of the procedure.

Who carries out the test?

Many veterinary practices have their own small laboratory where a limited range of tests can be carried out. Results are obtained quickly which allows rapid decisions on treatment (often a quick test is carried out and a sample is then sent to the commercial laboratory to check that the results tally). If a broader range of tests is required samples will be sent to a commercial laboratory which will usually send results of routine tests back to your vet by fax, telephone or e-mail within 24 hours (although some tests may take 10 days or longer to complete). Commercial laboratories are able to advise your vet on how to interpret difficult test results. Occasionally, especially if samples are delayed in the post, they may deteriorate and your vet may need to repeat the test.

What is being tested and why?

There is a whole range of tests which can be undertaken on different types of sample, although not all are used to investigate every disease. Some samples are more easy to obtain than others and the effects that testing has on your horse will vary. Tests include:

- **Blood tests:** these are the most commonly performed laboratory tests because suitable samples are usually easy to obtain. It is possible to tell a great deal about your horse's health or disease from the concentration of different chemicals and the levels of various cells in the blood. Blood tests are particularly useful in the detection of liver or kidney dysfunction or pituitary or thyroid problems. The proportion of different types of blood cells and the presence of proteins, called antibodies (which are produced as part of the body's defence against disease), may tell your vet how well your horse is fighting the disease. Samples are usually taken from a vein in the neck using a hypodermic needle and syringe. A patch of coat over the vein may be clipped and disinfected with surgical alcohol to clean the skin and allow your vet to see the vein more easily. Blood is placed into special containers to prevent it clotting. Taking a blood sample does not hurt your horse although some horses do not like being restrained while the sample is being taken. The puncture hole will heal quickly unless your horse has a disorder that prevents the blood clotting.
- **Urine tests:** these are carried out to check for diseases of the endocrine system or urinary tract. The presence of proteins in the urine will indicate whether the kidneys are functioning properly. Your vet may be looking for signs of an infection in the kidneys or bladder. Urine samples can be collected by catching urine in a thoroughly cleaned container as the horse empties its bladder. The sample should be kept in a sealed bottle inside a refrigerator (to prevent it becoming contaminated) and tested as soon as possible. When it is not possible to wait for a naturally produced urine sample your vet may collect one using a catheter (a special tube) passed directly into the bladder through the urethra. It may be necessary to sedate the horse to collect samples in this way. This technique has few complications if carried out correctly.
- **Faeces (droppings):** samples of faeces often help to identify diseases of the digestive system. The sample can be tested to see if any unusual bacteria grow indicating an infection in the intestines. Further tests may be carried out to see if your horse is unable to digest certain foods or if its faeces contain eggs from parasitic worms.
- **Swabs:** a horse's eyes, ears and nose or skin can often become infected with disease-causing bacteria, viruses or fungi. Samples can be taken by gently rubbing the affected area with a sterile swab. The swab is then either transferred on to a glass slide for examination under a microscope or cultured in the same way as a sample of faeces. The results of a culture test may take a few weeks, or longer in the case of some slow growing bugs.
- **Skin scrapings:** horses with skin disease may require skin scrapings to test for parasitic or fungal infestations. The skin is scraped gently with the edge of a scalpel blade until bleeding occurs. This may cause minor discomfort to some horses although others tolerate it fairly well. A number of scrapings may have to be taken from several areas to assist in obtaining a positive result. The skin

Samples - how they help your vet



sample is transferred to a glass slide and examined under a microscope.

- **Tissue biopsies:** if a horse has a growth on its body it is normal to take a tissue biopsy - removing a small part of the lump which is examined under a microscope to see what sort of cells it contains. Your horse may have to be sedated for this, usually a local anaesthetic is used at the biopsy site. Fluid samples may be taken from the airways via a tube placed in the throat, the digestive system via an endoscope passed into the stomach or the abdomen via a needle puncture. In this way your vet can obtain more information without performing a full operation on your horse.

How many tests are needed to diagnose a disease?

With many diseases it is not possible for your vet to come up with an instant diagnosis. Your horse may have to undergo a number of tests so that the vet can rule out possible causes of the illness. While some diseases can be confirmed using a single test, others will need a large number (profile) or a sequence of tests on one or more tissues or body fluids. There are occasions when repeat tests may be needed, for example, looking for changes in antibody levels in the blood over time.

Your vet may need to perform diagnostic tests on your horse or on samples from your horse to help him provide the best possible care. If you are unsure what a test involves or why your vet needs to do it, please ask for more information.

If you want any other information on health issues concerning your horse please contact Hampden Veterinary Hospital on 01296 423666 and we will be happy to advise you.