



## Titre Testing

With regards to titre testing - Our aim is to ensure that all pets entrusted to our care are fully protected against several key infectious diseases, without subjecting them to unnecessary vaccination.

As part of this commitment we have adopted a vaccine schedule that limits the number of vaccines each pet receives: dogs are vaccinated against Distemper, Parvovirus and Hepatitis every 3rd year whilst the Leptospirosis and Infectious bronchitis vaccines are given every 12 months. Cats are vaccinated against panleucopenia every 3 years with the feline leukaemia & flu vaccines given every 12 months. By using a vaccine type with an extended duration of immunity we hope to limit the number of vaccines each pet receives.

The next key question is "do pre-vaccinal patient side tests provide an accurate and reliable reflection of immunity to disease?" The short answer to this is "we don't know". Dogs and cats are protected by two types of immunity:

1. Humoral immunity - [http://en.wikipedia.org/wiki/Humoral\\_immunity](http://en.wikipedia.org/wiki/Humoral_immunity)
2. Cell mediated immunity - [http://en.wikipedia.org/wiki/Cell-mediated\\_immunity](http://en.wikipedia.org/wiki/Cell-mediated_immunity)

It is the former that is tested with blood tests, although it is the latter that is important for protecting our pets against the diseases we vaccinate against. If the humoral immunity is good, it doesn't necessarily follow that the cell mediated immunity is also good. Thus, it is possible to be presented with dog for a pre-vaccinal blood test with good humoral immunity and therefore a high (good) serological titre on the blood test. However, this dog's cell mediated immunity could be poor, increasing the risk of fatal infectious diseases, if the booster vaccine is not provided.

Although long winded (apologies), below is a list of pros and cons for pre-vaccinal serological blood testing. Its use and interpretation is outwith the licence attached to each vaccine and is therefore not recommended by Woodcroft Veterinary Group. However, we would be happy to discuss (and support) this matter with any client who felt strongly and wished to pursue this option.

### Pros

1. Serological tests to test animal immunity are more convenient than they were previously since there are now kits that can be used relatively speedily in practices
2. Such serological tests can be used to confirm that an animal has responded adequately to vaccination for 3 of the diseases dogs are vaccinated routinely against: Distemper, Hepatitis, and Parvovirus.
3. This can be used to give reassurance of the level of immunity, when for some reason a booster vaccination has been advised against - for example in an individual which previously developed an

allergic reaction following vaccination.

## Cons

1. Serological assessment patient side tests are more expensive than vaccination.
2. Serological testing provides a snapshot of antibody levels at a particular time and gives no indication as to what future protection is likely to be.
3. Patient side testing kits provide semi-qualitative results and are likely to be inferior to laboratory based methods in terms of accuracy. Although the latter are more expensive.
4. The cut off minimum levels of antibodies that correlate with protection are well established for diseases like canine parvovirus, but less well established for canine adenovirus and distemper. For others like cat flu there is no set level of antibody which corresponds to protection so that the results are impossible to interpret properly.
5. Not all components of the vaccine e.g. leptospirosis, infectious bronchitis can be adequately assessed by taking a blood test prior to vaccination. In this situation, a vaccine still needs to be given to protect our pets against these disease.
6. Cell-mediated immunity plays a significant part in immunity for a variety of diseases and cannot be measured easily with a blood sample so that the blood sample only provides part of the picture- animals with low levels of antibody may in some cases be protected still
7. People should be aware there is not the same level of regulation around test quality as there is around vaccine development and authorisation. In practice a significant minority of animals tested will prove to be falsely negative for protective antibodies and more worryingly a few may also be falsely positive making everyone believe the animal is protected when it really isn't.
8. At the time a booster is needed it is estimated that in dogs as few as a third will have clear cut protective levels of antibodies on the blood test to all 3 viruses, and up to 17% may have no antibodies at all against at least one of the components. Given this a significant proportion of cases dogs given blood tests will also need a vaccine to be given making the overall cost of this preventative care unsustainable
9. There is no evidence or indeed precedent that the use of pre-vaccinal serological checks on routinely recommended vaccines would result in overall better welfare of pets - indeed if anything the cost implications and additional complexity risk lower levels of vaccination and increased susceptibility of pet populations to disease.