chippingnorton
VETERINARY HOSPITAL

Vaccination of dogs and blood antibody-titre testing

We routinely vaccinate dogs against four diseases – parvovirus, distemper, infectious canine hepatitis and leptospirosis. We very strongly advise vaccinating all dogs as puppies twice (usually at 8 weeks old and again at 10-12 weeks old), and then giving a booster vaccination one year later. Some advise an additional vaccination at 16 weeks old, but we rarely believe this to be necessary.

The protection provided by the vaccine for leptospirosis is known to be fairly short lived, so we advise 'booster' vaccinations yearly. The protection provided by the vaccines for the other three diseases lasts much longer, but is not always life-long and, after the first year, we advise booster vaccinations every fifth year for most dogs.

Other vaccines are available that do not need to be given routinely, but are advisable for some dogs. For example, for those dogs that regularly go to kennels, attend dog shows or frequently travel around the country, we advise vaccinating annually for kennel cough. For those dogs travelling abroad under the PETS passport scheme, vaccination against rabies is a legal requirement.

The duration of protection provided by each vaccine for its disease varies from dog to dog and many dogs will still have sufficient protection against one or more of the diseases when the next booster vaccination is due to potentially allow vaccination for that disease(s) to be delayed. Very occasionally we are asked if it is worth finding that out – by measuring the antibody 'titre' – so that the vaccination can be postponed. While we are happy to run a titre test for you if that is what you want, in almost all circumstances our advice is that it is not worth doing so, for the following reasons:

1. For parvovirus, distemper and hepatitis there are blood tests that measure antibody levels that can be used to indicate whether an animal has protective levels of antibody. However, there is no such test for leptospirosis or kennel cough (antibodies in blood play little part in immunity against theses diseases), which are the diseases that require annual booster vaccinations. So, even if a test shows your dog to be adequately protected against the three diseases that can be tested for, your dog would still need vaccination against leptospirosis (+/- kennel cough) that year.

2. It is not always simple to interpret the test results. For instance, a high antibody titre for a disease suggests that the dog is immune to that disease and does not need vaccination against that disease, but a low titre does not provide reliable information about whether or not the dog is protected, because factors other than antibody levels are also involved in providing protection. We advise vaccinating any dog with a negative titre-test result, because it may not be immune, but in reality many of these dogs will be immune – we just have no way of telling that. Furthermore, all such tests can produce 'false-positive' and 'false-negative' results, i.e., they can sometimes indicate higher or lower levels of antibodies than are truly present. In this

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circumstance, 'false-negative' results are relatively unimportant, because a negative result is not very useful in any case. However, a false-positive result could lead you to believe your dog is immune when in fact it is not, and so your dog would not receive a vaccination when it should do. For the 'gold-standard' laboratory tests for antibody titres, false-positive results are relatively uncommon. However, those tests are relatively expensive. Cheaper tests are available, and while they are reasonably accurate, they do appear to be less accurate than the gold-standard tests.

3. From past research, by five years after the last booster vaccination a third or more of dogs tested are likely to have a negative result on the 'gold-standard' laboratory tests for one or more of the three diseases, indicating that vaccination should be given. With the cheaper in-house test kits, partly because they define a lower 'threshold' titre as being protective, far fewer will be negative for one or more of the three diseases, but still approaching 10%. Because the vaccines for the viral diseases are mixed together, if a vaccine is needed for one of these diseases, your dog will be vaccinated against all of them in any case. (It is possible to get a separate vaccine for parvovirus, but it is not something we routinely keep in stock in our practice.)

4. The test provides a snapshot of antibody levels at that time and does not give a reliable indication as to what future protection is likely to be. So, even in dogs in which the test indicates that there is adequate protection against all three diseases at the time the vaccine is due, we cannot guarantee that protection will be adequate until the next vaccination would have been due in five years time. Thus, your dog will need more frequent blood tests than it would need vaccinations, thereby increasing the expense.

5. Even the cheaper in-house tests are more expensive than vaccination. Because vaccination is so safe and effective, because a substantial proportion of dogs that have this test prior to vaccination have a negative result for one or more of the diseases indicating that they should be vaccinated in any case, and because dogs not vaccinated require more frequent titre testing than vaccination for those diseases in the following years, we regard antibody-titre testing as very poor value for money.

6. The titre tests require a blood sample to be taken. Dogs prefer having a vaccination injection to having a blood sample taken.

If you have any questions, or would like this test to be done, please ask one of our vets.

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