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Titer Testing in Puppies

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Most puppies are vaccinated several times at 6, 9 and 12 weeks, as it is known that maternally derived antibodies can cause a vaccination to fail. However, is that sufficient? How do you know whether your dog is protected?

Pups are given, right after birth, via the first mother's milk, (colostrum) antibodies, that will protect against infectious and fatal diseases. These so-called maternally derived antibodies are temporary and disappear gradually, but can be present in the blood of the pups for up to 20 weeks or longer. If, however, the mother dog has no, or too few antibodies, the pups will not get them through the colostrum and are unprotected! It is important to protect puppies at the right time by means of a vaccination that stimulates the body to produce antibodies. This ensures permanent immunity.

The goal of a vaccination is to make dogs immune to certain diseases. However, it is a misconception to think that all animals, that have been vaccinated, are actually protected. A vaccination does not automatically lead to protection in young animals, that are still protected by maternally derived antibodies. In the Netherlands and Belgium, pups are usually vaccinated at 6, 9 and 12 weeks. The last vaccine of the puppy vaccination schedule will be administered around the age of 1 year, and then every 3 years they are vaccinated against infectious hepatitis, parvo and distemper.

Most pups are vaccinated several times, because it is known that maternally derived antibodies can block a vaccination. By administering a vaccine regularly every 3 weeks, there is a chance that one will catch. The problem lies in the fact that most puppies get their last vaccination at 12 weeks. As maternal immunity can last up to 20 weeks, and sometimes even longer, there is a big chance that they will walk around unprotected for up to 1 year, the age at which they receive the last vaccination of the vaccination schedule. People mistakenly think that their dog is optimally protected by this vaccination, but there is still at risk of contracting and spreading diseases. The dogs will then go unprotected to dog schools, boarding kennels, shows, competitions, animal events, dog parks and so on.

Optimal vaccination schedules

It would be much better, and more responsible, to adjust the current vaccination schedule according to the vaccination guidelines of the WSAVA. The WSAVA is a scientific committee, which sets out

guidelines worldwide regarding the vaccinations of dogs and cats. In these guidelines, it is stated, that among other things, it is not wise to administer the last vaccination before the age of 16 weeks. There are two possibilities:

1. A titer determination at 20 weeks. If the result is positive, the dog does not need to receive extra vaccination and the animal can be tested again after a certain period, depending on the result.
2. To advance the vaccination normally given at 1 year, to 26 weeks. This is to prevent the animal from walking around unprotected until the age of 1 year.

Most puppy buyers receive a puppy that has been vaccinated once in the litter. Such a puppy can be tested 3 weeks after the vaccination. At that moment, it is not always clear whether the antibodies, that are being measured, come from the mother or from the vaccine. Therefore, a few weeks later, a new titer test is required. If the titers have dropped, then it is certain that these are maternally derived antibodies. Depending on the level of the antibodies (antibody titers) at that time, the pup can then be vaccinated or be retested at intervals of a few weeks, when they are sufficiently low to vaccinate successfully. If the titers remained the same, then this is a sign that the vaccination has been successful. Unfortunately, most puppies in the Netherlands and Belgium are usually only vaccinated against distemper and parvo, so they still have to be vaccinated with a cocktail that also contains infectious hepatitis.

Titer first

The best and most effective method is to titer test a pup, who has not yet been vaccinated, just before it leaves the litter. If the test shows that sufficient maternally derived antibodies are still present, vaccination is pointless, as the antibodies will neutralize the vaccine. You would then retest the pup, who is probably already with the new owner, after about 3 weeks. If the level of antibodies has declined below the protective level and the level at which a vaccination can immunize, a cocktail containing modified live viruses of infectious hepatitis, parvo and distemper has to be administered.

Subsequently, a titer test is performed about 3 to 4 weeks after this vaccination, to see if the puppy actually has enough antibodies in the blood, and is protected against the diseases mentioned. If this is the case, it means that the dog is immunized and fully protected against the mentioned diseases, by just one vaccination. As the animal is still very young and the immune system has not yet fully developed, a year later it makes sense to test it again to see if the protection is still good. If this is the case, titer testing can be performed triennially, according to the WSAVA guidelines.

The most commonly used titer test is VacciCheck. This is a reliable in-house test which can be performed by the veterinarian himself. Only a very small drop of blood is needed and the result is known within half an hour. The veterinarian must indicate in the vaccination pet passport how long the dog will be protected and thus, a validity period is linked to the declaration, according to Dibevo, KNMvD, NVWA and KMSH.



Hans van Brussel

As an animal lover with a previous career in the petfood industry, Hans has, since 2015, been an active, dedicated and passionate product specialist for NML Health. NML Health is a Dutch company that focuses on natural animal healthcare. For the last 2 years he has been intensively focused on VacciCheck, which has resulted in titer testing being accepted everywhere in the Netherlands and Belgium. This also includes dogs and cats at boarding kennels and also includes dogs that will attend dog training schools, or participate in dog shows and/or competitions. Hans educates, trains and supports veterinarians and veterinary assistants. He teaches them all the ins and out of VacciCheck in order for them to perform and interpret the test correctly. In addition, he gives a lot of lectures on this subject and also writes articles for magazines.

<http://www.biogal.co.il/blog/titer-testing-in-puppies>