

Vaccinations for Your Pet

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A vaccination is actually a killed or weakened form of the disease causing organism, weak enough that it cannot cause the disease, but in such a form to stimulate a protective response to prevent the disease. This response is to produce specific antibodies against the specific diseases it was vaccinated against. Antibodies are elements in the bloodstream that recognize the specific disease organisms they were produced to fight and destroy them before they can cause disease. This type of protection is called 'immunity.' When an animal is vaccinated and produces its own antibodies in the bloodstream against the disease it is called 'active immunity.' Active immunity produces antibodies that persist in the bloodstream but the levels begin to decrease over time. That is why yearly booster vaccinations are given to stimulate antibody production and improve protection. Active immunity can also be produced by the non-vaccinated animal actually contracting the disease. However, the diseases we protect against are deadly diseases and unfortunately may lead to its death before its ability to fight the disease through antibody production is effective. Therefore, protection with vaccination is life saving for your pet!

Another form of immunity that plays a role in the protection of young animals is provided through the mother's colostrum (first milk) which is rich in antibodies. It is essential for puppies/kittens to nurse the first day to receive this benefit as the antibodies can be easily absorbed through the intestinal wall at this time. After the first day this ability diminishes and they will receive no protection. It is also of utmost importance to be sure that the mother was properly vaccinated before pregnancy, for if she was not, there will be inadequate levels of antibodies in the colostrum. The type of immunity provided from the maternal antibodies is termed 'passive immunity,' as the puppy/kitten do not actually produce their own antibodies, rather they receive short term protection from those they receive in the colostrum. These antibodies begin to decrease at approximately 8-9 weeks and are gone in most animals at 16 weeks of age, as the young animal's system was never stimulated to produce its own antibodies.

Puppies and kittens are at great risk to pick up disease (just like children and elderly during influenza outbreaks) so it is recommended that vaccinations begin at 8-9 weeks (if the mother was properly vaccinated) as this is the time when the maternal antibodies wane. Vaccinations given before this time are ineffective because, if given, the maternal antibodies will react to them, inactivate them, and the puppy/kitten would not be stimulated to produce antibodies. However, if the mother was not properly vaccinated (or if you are uncertain), a 'temporary' vaccination is given at approximately 5-6 weeks, followed by the first of the 'permanent' series at 8-9 weeks.

Following the initial vaccination in the permanent series, booster vaccinations are given every few weeks until 16 weeks of age, when the maternal antibodies are gone. Boosters are needed as it is critical to maintain high levels of antibodies by stimulating the puppy's/kitten's immune system during this high risk period of diminishing maternal antibodies and increased risk of disease. Booster vaccinations given every 2-4 weeks stimulate production of protective antibodies which increases the necessary protection.

The good news is that after going through the vaccination series the puppy/kitten will be well protected against many serious diseases. The bad news is that nothing is 100%, so depending upon the state of the young animal's immune system, it may not entirely develop adequate protection and in a very rare instance if exposed to the disease may become sick. However, by following your veterinarian's prescribed vaccination schedule, the best possible protective levels will be achieved. Another bit of bad news is that even though active immunity is a tremendous means of protection, it also begins to wane over a long period of time. Booster vaccinations are necessary to stimulate the cells in the body that produce antibodies to achieve elevated protective levels again. Certain varieties of vaccinations may be given yearly or at three year intervals.

Check out our website for other articles describing the diseases the various vaccinations are used to prevent.