



St. Michael Veterinary Clinic

312 East Central Avenue
St. Michael MN 55376
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Canine Vaccines: Benefits and Risks

What is the immune system: Why is it important?

The immune system plays a pivotal role in maintaining your dog's health. One of the most important functions of the highly complex system of specialized cells and molecules is to protect dogs from disease and infection caused by foreign invaders or abnormal cells. These invaders can include bacteria, viruses, cancer cells, parasites, etc.

What does vaccination accomplish?

Vaccines are given to prepare the body's immune system against invasion by a particular disease-causing organism. Vaccines contain antigens, which to the immune system "look" like the organism but don't cause disease. When the vaccine is introduced by injection or some other means, the immune system responds by mounting a protective response. When the dog is subsequently exposed to the organism, the immune system is prepared, and either prevents infection or reduces the severity of disease.

Does my dog need every vaccine available?

No. The choice of which vaccines your dog should receive is dependent on several factors including:

- Your dog's risk of exposure to the disease-causing organism (in part dependent on the health of the other animals to which your dog is exposed, and the environment in which your dog lives)
- The consequence of infection
- The risk an infected dog poses to human health (i.e. Rabies)
- The protective ability of the vaccine
- The frequency or severity of reactions the vaccine produces, based on previous experiences
- The age and health status of your dog

Distemper

Canine distemper is a contagious, incurable and often fatal viral disease that affects the respiratory, gastrointestinal and central nervous systems, and can lead to pneumonia and seizures. It can be found in dogs and other wildlife such as foxes, wolves, coyotes, raccoons, skunks, mink and ferrets. It is picked up by airborne exposure (sneezing or coughing) or through shared food/water bowls, or nose to nose contact. This is a CORE vaccine. Puppies should be vaccinated at 8, 12, and 16 weeks of age. A booster is given at 1 year, then every 3 years after that.

Adenovirus-2

Canine adenovirus type 2 (CAV-2) is related to the hepatitis virus (CAV-1). CAV-2 is used in vaccines to provide protection against canine infectious hepatitis. It can cause fever, vomiting and diarrhea. The virus is found in feces, blood, nasal discharge and saliva and can be transmitted through these routes. Even with aggressive fluid therapy, the disease is often fatal. Puppies should be vaccinated at 8, 12, and 16 weeks of age. A booster is given at 1 year, then every 3 years after that. It can also affect the respiratory system.



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Parvovirus

Canine Parvovirus is a highly contagious viral infection that affects all members of the dog family. It can cause severe vomiting and diarrhea, and often requires hospitalization to treat. Dogs under 4 months/unvaccinated dogs are most likely to be affected. It is transmitted by exposure to contaminated feces. Puppies should be vaccinated at 8, 12, and 16 weeks of age. A booster is given at 1 year, then every 3 years after that.

Rabies

Rabies is a 100% fatal viral disease once symptoms appear. The virus is secreted in saliva and is usually transmitted to people and animals by a bite from an infected animal. Less commonly, rabies can be transmitted when saliva from a rabid animal comes in contact with an open cut on the skin or the eyes, nose, or mouth of a person or animal. Rabies is a zoonotic disease that is transmittable and lethal to humans. Animals with rabies may show a variety of signs, including fearfulness, aggression, excessive drooling, difficulty swallowing, staggering, paralysis and seizures. Rabid wild animals may lose their natural fear of humans, and display unusual behavior; for example, an animal that is usually only seen at night may be seen wandering in the daytime. Rabies should be considered in all cases of unexplained neurological disease. There is no treatment once the clinical signs of rabies appear. Rabies infection of an animal can only be confirmed after death, through microscopic examination of the animal's brain. Puppies should be vaccinated between 12 and 16 weeks of age, 1 year later, and every 3 years thereafter. Rabies vaccine is a CORE vaccine and is required for licensing in certain counties.

Leptospirosis

Leptospirosis is a bacterial infection that can cause severe infections in the kidneys, liver, and sometimes lungs. It is picked up from water contaminated by infected urine or from a bite. Common carriers include from raccoons, deer, rodents etc. This disease is zoonotic which means humans are at risk of contracting the disease as well. Many infections go unnoticed, severe infections are often fatal. Puppies should be vaccinated at both ~12 and 16 weeks of age and yearly thereafter.

Lyme

Borrelia burgorferi is the scientific name of bacteria that causes lyme disease. The majority of lyme disease transmissions are due to the bite of a very small tick commonly called the deer tick. The most common symptoms are fever, shifting leg lameness, swelling in the joints and lymph nodes, and refusal to move or walk. Treatment with antibiotics (doxycycline) is usually successful. Less commonly this disease can affect the kidneys leading to kidney failure. Anaplasmosis is another common tick born disease seen in MN, however there is not a vaccine available. Puppies should be vaccinated at both ~12 and 16 weeks of age and yearly thereafter.

Bordetella

Bordetella is a bacterial illness that is the most common cause of tracheobronchitis (kennel cough) in dogs. Symptoms include coughing, sneezing, and hacking goose-honking type of cough. Antibiotics are not always needed but may help control symptoms. There is an injectable form or an oral form of the vaccine which can help limit clinical signs if exposed. This vaccine should be given annually, depending on the dog's exposure risks. This vaccine may be given at 8 weeks of age and annually thereafter.