**Vaccinations and the Health of Your Dog**

*Here are the answers to the most frequently asked questions regarding vaccines for your pet.*

* **What exactly are vaccines?**
* Vaccines help prepare the body’s immune system to fight the invasion of disease-causing organisms. Vaccines contain antigens, which are partially alive or killed bacteria, viruses, and other foreign substances that don’t cause disease but stimulate the immune system via the production of antibodies when introduced into the body. Antibodies are the body’s primary immune defense when faced with live disease-causing bacteria, viruses, foreign substances, etc. So if your dog is ever exposed to the real disease and is properly vaccinated, their immune system will be prepared to recognize and fight off the illness or reduce the severity of the illness.
* **How important are vaccines to the health of my dog?**
* Bottom line – vaccines are very important in managing the health of your dog.

That said, not every dog needs to be vaccinated against every disease. It is very important to discuss with your veterinarian a vaccination protocol that’s right for your dog. Factors that should be examined include age, medical history, environment, exposure, travel habits, and lifestyle. Most vets highly recommend administering core vaccines to healthy dogs.

* **What are core vaccines?**
* In 2011, the American Animal Hospital Association’s Canine Task Force published a revised version of guidelines regarding canine vaccinations. The guidelines divide vaccines into three categories – core, non-core, and not recommended.
* Core vaccines are considered vital to all dogs based on risk of exposure, severity of disease, or transmissibility to humans. Canine parvovirus, distemper, canine hepatitis, and rabies are considered core vaccines by the Task Force.
* Non-core vaccines are given depending on the dog’s exposure and risk. These include vaccines against Bordetella (kennel cough), Leptospirosis bacteria (Lepto), Lyme disease, and Coronavirus.
* **What vaccines should my puppy get?**
* Puppies should receive a series of vaccinations with a combination vaccine product that protects against parvovirus, distemper, and hepatitis (also known as DHPP). Your puppy must also be vaccinated against rabies. There are a variety of other vaccines that may or may not be appropriate for your pet. Based on age, lifestyle, exposure risk and will be discussed with your veterinarian.
* **When should my puppy be vaccinated?**
* If the mother has a healthy immune system, a puppy will most likely receive antibodies in the mother’s milk while nursing. Puppies should receive a series of vaccinations starting at six to eight weeks of age as this is when the maternal antibodies have started to decline.
* A veterinarian should administer DHPP vaccinations at **two to three** week intervals, at least 2 following 12 weeks of age.
* The final dose of DH(L)PP should be administered at or after 16 weeks of age.
* Rabies vaccination is administered once between 12-16 weeks of age or, at the last puppy visit.
* All vaccinations are boostered one year from the last set of initial puppy boosters. Rabies and Distemper Boosters are good for 3 years.
* **Are there risks associated with vaccines?**
* Immunizations mildly stimulate an animal’s immune system in order to create protection from specific infectious diseases. This stimulation can create mild symptoms, ranging from soreness at the injection site to fever and allergic reactions. Another less common side effect is the development of immune mediated disease following the vaccination.
* It is important to realize that vaccines have saved countless lives, and play a vital role in the battle against canine infectious disease. Additionally, rabies vaccinations have saved the lives of countless dogs – and many humans as well. In some developing countries, hundreds of people die each year due to rabies contracted from dog bites.
* As with any medical procedure, there is a small chance of side effects. In most cases, the risks are much smaller than the risks of the disease itself. But it is most important to talk to your veterinarian about your dog’s medical history before they are vaccinated.
* **What symptoms should I look for?**
* Most dogs show no ill effect from vaccination. Vaccine reactions may be minor and short-lived or require immediate care from a veterinarian. Clinical signs include:
* Fever
* Sluggishness
* Loss of appetite
* Facial swelling and/or hives
* Vomiting
* Diarrhea
* Pain, swelling, redness, scabbing, or hair loss around the injection site
* Lameness
* Collapse
* Difficulty breathing
* Seizures
* It is best to schedule your dog’s appointment so that you can monitor them for any side- effects following administration of the vaccines.
* If you notice any of the above clinical signs, please contact your veterinarian immediately.

Viruses for which dogs are routinely vaccinated are often combined into a single shot as a combination vaccine (except the rabies, which is given separately). There are several different types of combination vaccines available, and the individual components vary; they usually contain the core group of vaccines or the core with one or two other vaccines. Combination vaccines are often just called Distemper, Distemper/Parvo Vaccines, or DHPP, though there are more components than these. Each component is typically represented by an initial

**What do all these initials mean?**

* D = Distemper
* H or A2 = Adenovirus Type 2 (Also protects against Hepatitis, caused by Adenovirus Type 1)
* P = Parainfluenza (sometimes Pi)
* PV = Parvovirus (sometimes simply abbreviated as P)
* L = Leptospirosis
* C = Coronavirus

**Distemper**

Canine Distemper is a highly contagious and usually fatal disease that is seen in dogs worldwide, though its incidence has diminished due to increased awareness and vaccination of dogs. Canine Distemper is caused by the Canine Distemper Virus. The virus can also infect several other species including ferrets and wild animals. Animals usually become infected by direct contact with virus particles from the secretions of other infected animals (generally via inhalation). Indirect transmission (carried on dishes or other objects) is not common because the virus does not survive for long in the environment. The virus can be shed by dogs for several weeks after recovery.

 Puppies under four months of age (before vaccinations are fully protective) and unvaccinated dogs are most at risk. Because Canine Distemper also occurs in wild animals, contact with wild animals may contribute to the spread of Distemper in domestic dogs. Vaccination is effective at preventing distemper. Puppies are typically vaccinated starting at 6 to 8 weeks of age and at regular intervals (every 2-3 weeks) until they are at least 16 weeks old. As with other vaccines, the presence of antibodies received from the mother can interfere with vaccines, so a puppy is not considered fully protected until the final vaccine in the series has been given. This vaccination should be repeated a year later, then at regular intervals following this. Make sure to discuss an appropriate vaccination schedule for your dog based on your dog’s history and risk factors. Until puppies have received all the vaccinations in the series (at 16 weeks), it is important to consider not exposing them to unknown dogs to avoid exposure to the virus as much as possible.

**Infectious Canine Hepatitis**

This is a contagious disease that can be found worldwide, but is uncommon in areas where dogs are routinely vaccinated. Its severity ranges widely from very mild cases to very serious and sometimes fatal disease. Infectious canine hepatitis is caused by a virus called canine adenovirus type 1 (CAV – 1).

 Young dogs and unvaccinated dogs are at the highest risk of being infected with the virus. Very young puppies tend to develop the most serious illness.

**Canine Parvovirus**

Canine parvovirus (also called CPV or Parvo) is a very contagious and potentially fatal viral disease seen in dogs. Most commonly, parvovirus causes gastroenteritis, or inflammation of the stomach and intestines. Canine parvovirus is contagious and can survive for several months (some experts say as long as 2 years) in the environment, and is also resistant to many disinfectants. Vaccination is necessary to protect dogs, especially puppies.

**Leptospirosis**

Leptospirosis or Lepto is a deadly bacterial disease spread by all animals. Common Lepto carriers include raccoons, skunks, opossums, squirrels, and rats. Livestock can also carry the disease. Lepto bacteria can survive for long periods of time in water. Lepto should be considered if your dog has a fever, vomiting, loss of appetite, diarrhea, or lethargy. Early recognition is important for a full recovery.

 Lepto bacteria are shed in urine. Dogs become infected when they come into contact with fresh urine from infected carrier animals. Infection occurs when dogs wade through or drink from contaminated water sources. The bacteria can enter through a cut in the skin or mucous membranes, such as the eye, nose, or mouth. Because Lepto carriers reside in many locations, dogs living in urban, suburban, and rural areas can be at risk. Humans are also at risk for this disease.

**Rabies**

Rabies is a zoonotic disease, meaning it can be transmitted from animals to humans. Rabies is a virus known to affect all mammals, including humans. Most commonly, rabies is found in carnivores (meat-eating animals) and insect eating bats.

 Most often, the rabies virus is spread via bite wounds. The virus lives in the saliva of infected animals, and is passed into the tissues of a mammal after getting bitten. The virus can also be spread by getting the virus laden saliva in an open wound, splashed in the eye, or other mucous membrane, such as the mouth.

 Once signs of rabies develop, there is no cure and the disease is fatal. For this reason, reducing the potential risk of rabies in our companion pets is very important. \*\*It is so important, that vaccinating your pet for Rabies is *required by law*.

**Kennel Cough/Bordetella**

Kennel cough is a fairly common and highly contagious respiratory disease in dogs. It is also known as Infectious Tracheobronchitis or Bordetella (although the Bordetella organism is just one component of kennel cough). It is easily spread when dogs are in close contact with infected dogs, such as kennels, grooming facilities, or other boarding situations.

 Clinical signs appear anywhere from 5 to 10 days after exposure to affected dogs. While the cough may sound serious, this disease is often harmless and dogs recover uneventfully in a week or so. Symptoms may last as long as twenty days. Patients with kennel cough usually maintain their activity levels, appetite, and general attitude. The cough produced is harsh, dry, and can be quite loud and forceful; sometimes inducing dry heaves or retching. If nasal discharge, lethargy, anorexia, or other signs of illness are noticed, it may be something more serious than kennel cough and you should contact your veterinarian. In patients with kennel cough, the trachea is often very sensitive; a collar may initiate a coughing spasm, so care must be taken to avoid use of collars and leashes in dogs with kennel cough to prevent tracheal damage.

 Treatment for kennel cough is aimed at cough control. In some cases, antibiotics are necessary, but most often dogs will recover on their own in 5-20 days. The cough control, potentially using medications, is important because it reduces damage to the trachea.

**Lyme Disease**

Lyme disease is an infection caused by the bacteria, Borrelia burgdorferi. Lyme disease is transmitted through the bite of an infected tick and can affect many species, including dogs and humans. The disease is more common in certain areas of the United States, including the Northeast, Mid-Atlantic States, and upper Midwest.

 Ticks of the Ixodes species (called deer ticks) are known to transmit Lyme disease when they attach to a host and feed. It is recommended to inspect your pet frequently for ticks to reduce the risk of disease transmission as the tick must be attached for more than 24 hours to transmit Lyme disease.

 \*\*If you find a tick on your dog, contact your veterinarian to find out how to remove it.

 Keeping your dog on a topical flea and tick preventative such as Advantix is essential in helping to prevent ticks from staying attached to your dog after being exposed.