



Vaccinations for dogs first became available in the 1950s, and since then, the community has been educated that they need to have their dogs vaccinated to protect them from diseases, some of which can be fatal. Young animals and those animals that are elderly or are immune-suppressed are most at risk of infection.

How does vaccination work?

The vaccination process involves exposing an animal to a modified version of a dangerous disease (in dogs, most commonly via injection or intra-nasal dosing). The modification means the virus or bacteria can no longer trigger the full-blown illness, but will still stimulate the body's immune response, causing the production of antibodies.

By vaccinating an animal, we can prepare the body for the time where it may be exposed to the real disease. If exposure happens, the body fights off the infection much quicker and more effectively than an animal that has no vaccination protection because the antibodies are already there, ready to counter-attack.

Over time, if the dog is not exposed a disease, the body's levels of antibodies to that disease will drop off, usually not altogether, but to a level where the animal is no longer protected should it be infected with the disease. The time taken for this to happen varies widely between individual animals – just like it does in humans – due to a host of factors. For this reason, booster vaccinations are given to keep immunity high enough to combat the disease.



What diseases do we vaccinate against?

Australia is very lucky, as many of the serious canine diseases found in other parts of the world are not present in this country – diseases such as Rabies and Canine Influenza Virus.

In Australia, at present, there are seven (7) different canine diseases that can potentially be vaccinated against, and, according to the World Small Animal Veterinary Association Vaccination Guidelines (link below), they are either classified as 'Core', 'Non-Core' or 'Not Recommended'.

- Canine Parvovirus (Core Vaccine)
- Canine Infectious Hepatitis (Core Vaccine)
- Canine Distemper (Core Vaccine)
- Canine Parainfluenza (Non-Core)
- Bordatella Bronchiseptica (Non-Core)
- Leptospirosis (Non-Core)
- Canine Coronavirus (Not Recommended)

What are the symptoms of these diseases?

Canine Parvovirus, Canine Distemper and Canine Infectious Hepatitis are considered the three 'killer' diseases of dogs and make up the 'C3' vaccine (often called a 'DHP' vaccine).

Probably the most common one seen these days is **Canine Parvovirus**, which causes a very nasty gastroenteritis with foul-smelling, bloody diarrhoea.

It most commonly affects young puppies and dogs under 12 months of age. Although some animals survive and recover from the disease, it is often fatal and, if contracted at a very young age, has been known to kill entire litters.

Canine Distemper was commonly seen in Australia twenty or more years ago but is rarely seen these days thanks to vaccination. Signs include weepy eyes and nose (thick yellow pus), vomiting and diarrhoea, and it can lead to central nervous system damage that is irreversible.

Canine Infectious Hepatitis is a disease that causes damage to the dog's liver. Symptoms include jaundice, vomiting and loss of appetite.



Canine Cough (or Kennel Cough) is a highly contagious disease contracted when a dog inhales air containing the virus or bacteria, usually coughed out by an infected dog.

The main symptom seen is a dry, hacking/honking cough. Canine Cough does not kill the dog as a rule, but it can be severely debilitating and can take a few weeks for the symptoms to resolve. In stressed or older dogs (where the immune system is weakened), it can spread to a chest infection or even pneumonia.

There are several different viruses and bacteria that can cause Canine Cough. Unfortunately, we only have vaccines against the two leading causes – Parainfluenza virus and Bordetella bronchiseptica (a bacterial contributor). This explains why some dogs who have been vaccinated may still show signs of Canine Cough. At least in these cases, the disease is usually relatively mild, and the recovery time is much quicker.

The two vaccine parts of Canine Cough, when added to the C3 vaccine make a C5 Vaccine. The Canine Cough vaccine is often formatted to be given intra-nasally (a small amount of fluid placed directly into the nose) or orally (via the mouth and gums) as it has been found that the response to the vaccine, when given this way, is quicker.

Leptospirosis is a bacterial disease that affects humans, dogs, and other animals. It is usually contracted when a dog (or person) eats food or drinks water that has been contaminated with urine from an infected rat. Symptoms can be initially quite vague with lethargy, fever, vomiting or diarrhoea. The disease then progresses and can cause symptoms of kidney or liver failure.

Canine Coronavirus has symptoms that are not dissimilar to Canine Parvovirus, causing severe diarrhoea in affected animals.

Vaccination protocols

Both the World Small Animal Veterinary Association and the Australian Veterinary Association have policy or guideline documents concerning vaccination of dogs and cats. These policies are regularly reviewed and updated and are based on current scientific findings and research.

<https://wsava.org/global-guidelines/vaccination-guidelines/>

<https://www.ava.com.au/policy-advocacy/policies/companion-animals-health/vaccination-of-dogs-and-cats/>

The Australian Veterinary Association policy states:

‘Every dog and cat should be appropriately immunised, and each individual animal should be vaccinated as frequently as considered necessary by their veterinarian to provide protection.’

‘The vaccination protocol to be followed and the vaccines to be used should be determined within a veterinarian-client-patient relationship.’

The Victorian Government has set minimum standards in relation to vaccination levels for dogs going to training classes and into boarding kennels to protect congregating animals from the risks of disease.

Vaccination of puppies

All puppies receive antibodies from their mother in the important first milk, called ‘colostrum’. The amount of protection this provides will vary based on the mother’s health and immunity status, the amount of colostrum each pup ingests, and other factors which affect the puppy’s ability to absorb the antibodies through their gut (only possible for approximately the first 24 hours of life).





Regardless of the initial level of protection, there is a point in time when puppies become at risk of contracting disease. Their maternally derived antibodies are decreasing, but the pup has not yet had sufficient exposure to disease to begin to develop their own antibody protection.

The timing of this 'cross-over' of immunity is different for every puppy, but studies have shown that it occurs around 8-12 weeks of age in most puppies (a little later in some individuals and in certain breeds). If we add to this the stresses of moving away from their litter into a new home environment, increased exposure to other dogs, visits to the dog park etc., you can see this could spell disaster if the pup is exposed to disease at this time.

Although it is a wonderful, protective thing, the presence of maternal antibodies actually works 'against' vaccines. For this reason, puppy vaccine protocols often involve multiple doses over time.

Puppies are usually first vaccinated at 6-8 weeks of age with further doses given at about four-week intervals. The total number of doses and the vaccines given will depend on the brand and type of vaccine that is used, the local risk of disease, and the breed of dog.

Your vet will be able to advise you which protocol is best for your puppy.

Adult dog vaccination

Up until recently, the advice given has been that your adult dog should receive a health check every year and with this a vaccination booster.

As our understanding of immunity has increased, vaccines have improved, and tests have become available to assess the dog's duration of immunity, it has become apparent that many adult dogs develop immunity that lasts longer than a year, and it may not be necessary (or wise) to vaccinate them every year.

These days, most vets recommend that all dogs receive a 'yearly check-up' (and this is a requirement under all Victorian Government Codes of Practice), but not all vaccines will be required each year.

In fact, most vets now recommend that the core vaccines (the three killer diseases – Parvovirus, Distemper and Hepatitis) are only given every **three** years. Other, 'non-core' diseases will vary from animal to animal, but Canine Cough vaccines are usually required every year to maintain protection.

There is also the option to have '**titre testing**' done to assess your dog's current level of immunity, and only vaccinate if the test indicates the amount of antibodies have dropped below a protective level.

It is important that you discuss your dog's vaccination program with your vet so you can decide the best course of action for your individual circumstances.

Your vet can best advise you on what is required for your circumstances, the area in which you live, and will discuss any potential side effects of vaccination with you.

If you are a breeder, you can also discuss the best timing for vaccines to ensure that the mother of the litter passes on a good amount of immunity to her pups.