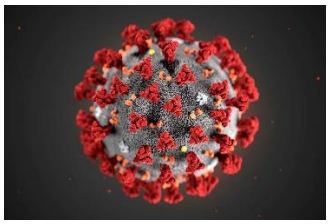
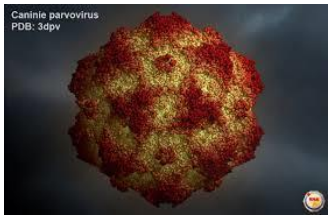
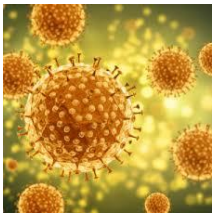
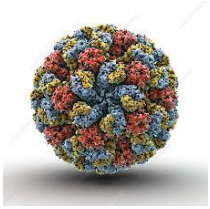
WATCH OUT THERE ARE VIRUSES ABOUT …… and not just COVID 19

Viruses are microscopic parasites. They cannot multiply by themselves but must invade cells and then by cleverly utilising the cells internal structures, they are able to replicate. The cells burst open and release the newly replicating virus. Without cell invasion they cannot replicate and all virus particles in the environment will eventually die. Those viruses within cells will continue to survive and replicate and continue to act as a source of infection.

In the world of our pet dogs and cats, there are several serious viruses.

In dogs, PARVOVIRUS is one of the most recognisable.

In cats, the HERPES and CALICIVIRUS make up the Feline Respiratory Viruses.

Parvovirus emerged in Europe in 1976 and by 1978 it had spread worldwide. All dogs were initially susceptible as the vaccination did not exist, and I remember as a young child living in Bondi Junction in the late 1970s taking my dog to the vet with the most dramatic bloody diarrhoea. It was an event, that thankfully my dog survived but highlights how a viruses can enter a community; spread, then through a combination of immunity developed through exposure and widespread vaccination programs become a much rarer disease and fatalities reduced.

Parvovirus now is seen mainly as a disease in puppies. Puppies immune systems are weak and in the very early stages of their lives, they rely on protection through antibodies in their mother's early milk called colostrum. The amount of protection they get will depend on their mothers level of antibodies (this is why it's so important to make sure pregnant bitches are vaccinated) and how much colostrum they consume (affected by birth order and how well they suckle). Not all puppies leave home with the same level of protection. Vaccinations against the Parvovirus ensure the safety of your puppies in the outside world.

The virus enters the body through the mouth as a puppy cleans itself or eats something off the ground – a miniscule amount of infected stool is all it takes. Incubation is 3-7 days. The virus enters lymph nodes, the bone marrow, and the intestinal tract. The immunity is suppressed as white cell count drops and the bowels become damaged, leading to bloody diarrhoea, nausea, vomiting, fever, and loss of appetite. Puppies can survive, but intensive therapy is often required including IV fluids, anti-nausea medications, assisted feeding, plasma, or blood transfusions. Although antibiotics WILL NOT kill the virus, they are often used in severe Parvovirus infections because of the damaged bowel and bone marrow suppression lead to secondary bacterial invasion.

Infected dogs can shed 35 MILLION viral particles in just 30g of stool. The average infective dose is only 1000 viral particles. Indoors, warmer temperatures will kill the exposed viral particles in about one month. Bleach 1 part to 30 parts water will kill the virus on bowls, bedding, and flooring with at

least 10 minutes contact time. In the backyard, shaded areas can be infective for up to 7 months and sunny areas for 5 months. Freezing or extremely cold environments mean the virus survives for longer.

How can we protect out precious pets?

Vaccinations, vaccination, vaccination!!

As mentioned, the virus survives for a long time in the environment and can be transported easily on surfaces, shoes, toys, and bedding.

Initially, puppies obtain their immunity from their mother's first milk, the colostrum, on the first day of life. This special milk contains the mother's antibodies against all the infections she has experienced or been immunized against, parvovirus included, and until these antibodies wane to ineffective levels, they will protect the puppy.

The problem is that they will also inactivate vaccine.

There will be a period of about a week when there is not enough maternal antibody to protect the puppy but too much to allow a vaccine to work. (This period is called the window of vulnerability.) After this period, vaccine can be effective.

To get around this, we vaccinate puppies in a series, giving a vaccine every 4 weeks until age 16 weeks. By giving vaccine at intervals we are trying to catch the puppy's immune system after their window of vulnerability has closed. We know that by age 16 weeks, we should be able to get a vaccine to take but we still begin at a younger age to provide immunization as soon as possible.

The Feline Respiratory Viruses (herpes and calicivirus) was first identified in Australia in the early 1970s and since then has become a ubiquitous virus in the environment. Viruses are spread by the wet sneezes of infected or carrier individuals. The herpesvirus is fragile, surviving only 18 hours outside its host; calicivirus is tougher, lasting up to 30 days. Bleach will readily inactivate either virus but calicivirus is able to withstand unbleached laundry detergents.

Getting infected is easy; a cat simply must socialize with an infected cat or share the same human caretaker, toys, or food bowls. It is important to realize how common upper respiratory infection is. In some areas, the infection rate is felt to be 60 percent or more. This means that there is an excellent chance that any cat or kitten is already infected at the time of adoption regardless of whether the cat is showing any symptoms. Kittens are predisposed due to their immature immune systems and are usually hit the hardest. When these kittens grow up, they are still infected, and symptoms may come out whenever stress suppresses their immune system. Symptoms can include all or some of the following: sneezing, nasal discharge, runny eyes, coughs, hoarse voice, oral, nasal, or ocular ulcers and fever.

Most cats infected are symptomatic for 7-10 days but it must be realised that the infection is permanent and that Herpesvirus will reoccur and symptoms will recur about 7 days after stressful events e.g. boarding, surgery, introduction of a new feline house member. The virus will continue to shed for several weeks. These episodes will continue for the life of the cat, but the severity of symptoms tend to reduce as the cat ages.

The Calicivirus is contagious in most cats for several months after infection but symptoms are rarely recurrent. Rarely, the virus continues to shed despite the cat being asymptomatic.

Again, vaccination is the best way to protect your cat. If your cat has previously been exposed to the viruses before vaccination, then the vaccination will not be protective, but it will reduce the severity of the clinical signs and the amount of virus shed. Therefore, it is imperative that all cats be vaccinated prior to boarding.

Hopefully with time, the COVID 19 virus will undergo a similar fate and a vaccination will become available that will protect us from infection, or at least reduce the severity of signs in the most vulnerable. In the meantime, remember viruses are small and hang around on surfaces and people, they are spread by bodily fluids and secretions and spread like glitter at a kid's party! Stay safe, wash your hands before playing with a new kitten or puppy and straight after to keep everyone safe.

At Vet HQ we routinely use a special disinfectant that kills viruses and bacteria on contact in cages, examination surfaces and hands. During COVID-19 we are sanitising the clinic several times during the day and regularly disinfecting all touch points. All staff and people entering the building are asked to disinfect their hands regularly whilst on the premises.

Dr Caryn Wun