

ADVICE FOR VETERINARIANS ABOUT ROUTINE PROPHYLACTIC VACCINATION DURING THE COVID-19 PANDEMIC

In recent weeks, veterinarians across the world have had to confront major and rapidly escalating changes in practice related to the COVID-19 pandemic. WSAVA has provided upto-date advice to our community about key scientific facts related to SARS-COV-2 and COVID-19 and how veterinary practices should respond. This information is centralised on a resources page on the WSAVA website (https://wsava.org/news/highlighted-news/the-new-coronavirus-and-companion-animals-advice-for-wsava-members/).

Every country in the world has been impacted by COVID-19, but it is clear that the stage of the pandemic is at different levels in different regions and countries. While in some countries, life may be continuing relatively normally, elsewhere there is total 'lock down' with people and their pets confined to the indoor home environment.

The WSAVA Vaccination Guidelines Group (VGG) has given clear advice to veterinarians about use of the canine enteric coronavirus vaccine, which is available in some regional markets. This advice is to be found on the resources page, but it is worth reiterating here that there is **absolutely no scientific basis** for suggesting that this vaccine (which the VGG categorizes as 'not recommended' for protection against enteric infection) can provide any cross-protection against SARS-COV-2. Veterinarians **must NOT** be recommending or using vaccines containing canine enteric coronavirus in the mistaken belief that they may induce immunity to SARS-COV-2 in dogs. The same comment applies to use of the feline infectious peritonitis (FIP) vaccine (also 'not recommended' by WSAVA) that is available in some countries. It should also be remembered that there is **no evidence** that pets can become sick with COVID-19 or spread the virus to people or other animals.

As the pandemic has escalated and veterinary practices in many countries are restricting their services to essential or emergency care, many pet owners are now asking whether there are issues with their pets not being able to receive prophylactic vaccines on due revaccination dates and whether immunological protection continues beyond the advised revaccination dates.

In practical terms, in countries at more advanced stages of the pandemic, there is now restriction on the public movement of people and, therefore, pets. The population is

encouraged to remain at home, to travel only if essential and to maintain 'social distancing' when in public places. Schools, shops, bars and restaurants are closed and public transport is restricted. In many countries, dogs may still be walked on a lead outdoors, while maintaining the recommended 2-metre distance between owners. Because of restrictions on national and international travel, pets are much less likely to be placed into boarding kennels or catteries and it is very unlikely that pets will be travelling internationally. This relative confinement of pets (particularly dogs) will also reduce the risk of the animals to contact with animal pathogens.

In many countries, therefore, there is no discussion about 'whether it is safe for me to take my pet to the veterinarian to receive routine preventive healthcare, including vaccinations'. This option simply does not exist at this time in many regions.

The more important question is 'whether my vaccinated pet is protected from infectious disease by its current vaccines and at what stage after the 'due date' for vaccination, any protection might lapse'.

The advice in this document relates to the family-owned pet animal and not to animal shelters.

At this point it is worth remembering that pet vaccines are categorized by the WSAVA VGG (and all other expert groups) as **core** (all animals must receive) and **non-core** (only animals with an at-risk lifestyle need receive) vaccines. WSAVA also categorizes some vaccines as **not recommended** where there is insufficient scientific evidence to justify their use. Both the canine enteric coronavirus vaccine and FIP vaccine are within the not recommended category. While there is some national and regional variation in the non-core vaccines, the table below summarises the most important global pet vaccines into these categories:

	Core vaccines	Non-core vaccines
Dog	Canine distemper virus (CDV)	Leptospira interogans
	Canine adenovirus type 2 (CAV)	Bordetella bronchiseptica (Bb)
	Canine parvovirus type 2	Canine parainfluenza virus
	(CPV2)	(CPiV)
	Rabies in endemic countries	Canine influenza viruses (CIV)
		Borrelia burgdorferi
Cat	Feline parvovirus (FPV)	Feline leukaemia virus (FeLV)
	Feline herpesvirus type 1	Feline immunodeficiency virus
	(FHV1)	(FIV)
	Feline calicivirus (FCV)	Chlamydia felis
	Rabies in endemic countries	Bordetella bronchiseptica (Bb)

CORE VACCINES

Canine modified-live virus core vaccines (CDV, CAV and CPV2) and FPV vaccines need be given 'no more frequently than every 3 years'. Although many veterinarians deliver these vaccines triennially according to license, there is substantial evidence that protection is for much longer and probably the lifetime of the pet. Adult animals that have been previously well vaccinated will, more than likely, be solidly protected until after COVID-19 dies down and can then be revaccinated once access to veterinary practices returns to normal.

Feline core FHV1 and FCV vaccines may also be given triennially to 'low-risk' cats or annually to 'high-risk' cats. There is evidence that these vaccines also provide long-term protection to most cats and that protection is likely to persist until after COVID-19 dies down and cats can be revaccinated.

The more challenging situation in the face of COVID-19 is in implementing primary courses of core vaccination for puppies and kittens. Current WSAVA recommendations are for multiple core vaccines to be given to puppies and kittens, with the final in the early-life series being given at 16 weeks of age or older. Owners of puppies and kittens might find themselves at various points in the early-life core vaccination protocol when they have restricted access to veterinary attention. Puppies and kittens that have not yet received a 16 week of age or older core vaccine may be unprotected against one or more antigens. Wherever possible, a sensible precaution would be to limit contact of such animals with the outdoor environment. As soon as access to veterinary practices resumes, those animals should receive core vaccine according to guidelines advice. This would mean a single dose of trivalent core vaccine at 16 weeks of age or older, with a follow-up vaccine at 6 or 12 months for puppies. For kittens, a single dose of FPV vaccine at 16 weeks of age or older, with follow-up vaccine at 6 or 12 months is also appropriate. WSAVA guidelines would recommend two doses of FHV1/FCV core vaccine (given 2–4 weeks apart), with follow-up vaccine at 6 or 12 months.

RABIES VACCINES

Rabies vaccines are used in countries in which the disease is endemic and for purposes of pet travel in other countries where the disease does not exist.

In endemic countries, rabies vaccination is generally mandated by law for dogs (and sometimes cats) and the legal revaccination interval is either 3-years (e.g. in North America and Europe) or 1-year (in many Asia, African and Latin American countries). Vaccination is delivered by the veterinary practice or by governmental schemes and non-governmental organizations in the developing world. Vaccines produced by the major international vaccine manufacturers have a licensed duration of immunity of 3 years (even though the same product might carry a 1-year license in some countries). In the majority of animals it is unlikely that vaccinal protection does not continue for a period beyond 3 years. Where

access to rabies vaccination is curtailed by the current COVID-19 restrictions, owners will have no choice but to delay revaccination until the next available opportunity that access becomes available. At this time we are unaware of any official governmental advisories on rabies revaccination for pets in endemic countries.

It is very unlikely that pets will be travelling internationally in the current circumstances, and rabies vaccination for pet travel will likely be unavailable from most veterinary practices.

CANINE NON-CORE VACCINES

All canine non-core vaccines have a licensed 1-year duration of immunity and are administered on an annual basis.

Non-core vaccines designed to protect against elements of the canine infectious respiratory disease complex (i.e. Bb, CPiV and CIV) would generally be administered to highly social dogs attending, for example, boarding kennels, groomers, dog parks or doggy day care. These products should be given annually to the at-risk population. Given current restrictions on human movement (as outlined above), it is unlikely that many dogs will continue to access such group situations during the COVID-19 pandemic. Once the pandemic has cleared and access to routine preventive healthcare resumes, at-risk dogs should be revaccinated according to manufacturer's recommendations for these products.

Vaccines designed to protect against *Leptospira* infections are given to many dogs deemed at-risk throughout the world. Although these products also have a 1-year licensed duration of immunity, there is some leeway in this. The VGG recommends that a dog that has missed an annual booster by a period of up to 3 months, can be given a single booster vaccine; however, for periods of over 3 months, two vaccines given 2 – 4 weeks apart should be administered. If the COVID-19 restrictions prevent access to vaccination, veterinarians should use this advice to reimplement *Leptospira* vaccination once the pandemic has resolved. Puppies deemed to have an at-risk lifestyle must receive a similar primary course of *Leptospira* vaccine, and may need to start the course again, if, for example, they had only received one vaccine before restrictions were put in place.

FELINE NON-CORE VACCINES

FeLV vaccine is widely used globally in adult cats and WSAVA recommendations are for revaccination only every 2 – 3 years. If an adult cat is due revaccination on a 2-year cycle, then there is likely to be protection for at least another year. Once access to the veterinary practice is available after the pandemic, a single booster vaccine may be given to restart the regular protocol. Kittens that have not received two doses of FeLV vaccine may need to start the primary course again once there is access to the practice for non-essential healthcare.

Other feline non-core vaccines have a licensed 1-year duration of immunity and in order to maintain protection, cats should receive these as soon as possible after the COVID-19 pandemic abates and according to manufacturer's recommendations.

CONCLUSIONS

The advice in this document takes into account the 'worst case scenario' that is currently in play in many countries at an advanced stage of the COVID-19 pandemic, with restrictions on public movement and availability of all but emergency veterinary healthcare. Veterinarians should be able to reassure owners that failure to revaccinate their pets on the precise anniversary of the last vaccination does not mean (especially for CORE vaccines) that their pet is unprotected and that individual pets with 'lapsed' vaccination will be revaccinated, according to advice from guidelines groups and manufacturers to ensure immunity is maintained at the earliest opportunity.