



PREVENTATIVE HEALTH CARE BOOKLET



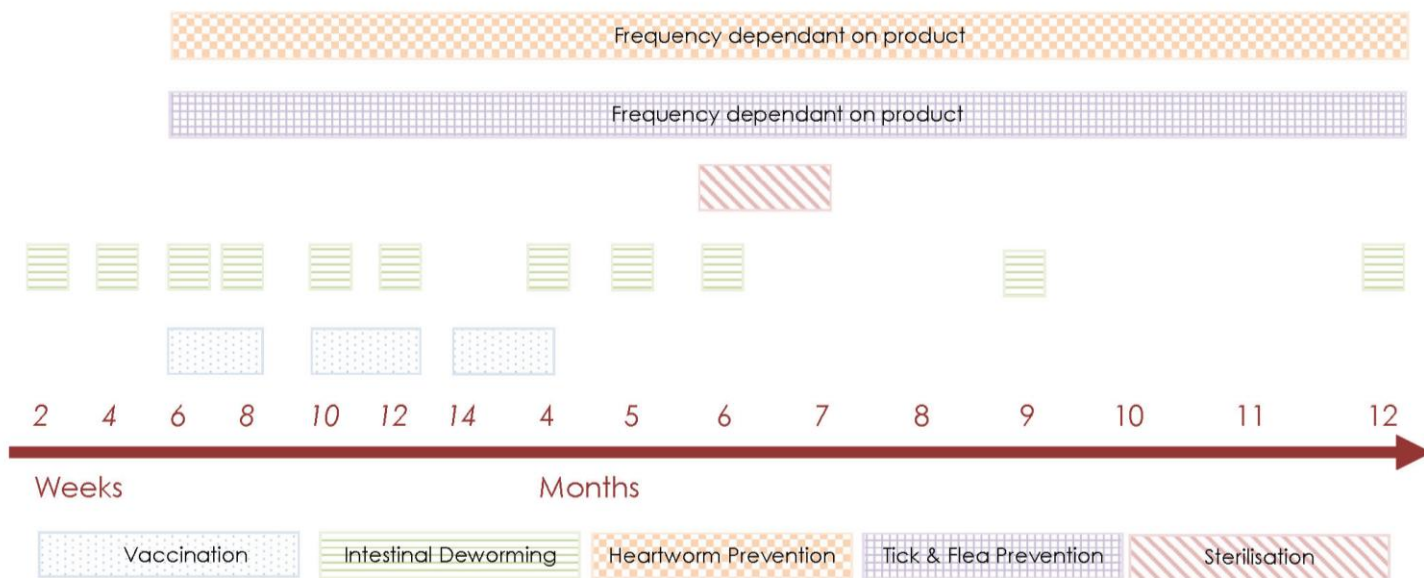
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Recommendations

At Apex Veterinary Clinic, we believe that prevention is crucial for all kittens and puppies. This consists of information to help you understand the recommendations we have for your pets.

1. Vaccinations
2. Deworming
3. Tick & Fleas
4. Heartworm
5. Sterilisation
6. Dental Care

The following timeline can guide you in understanding the recommendations for your pet.



We at Apex Veterinary Clinic, are able to help you with all of your puppies and kittens needs. Just give us a heads up and our vets will gladly go through it all step by step.



VACCINATIONS

Vaccinations stimulate antibody production to strengthen the body's immunity against potentially fatal and debilitating diseases.

Both dogs and cats have a scope of fatal diseases that can be protected against via routine vaccinations.

VACCINATION SCHEDULE

Puppies and kittens require more frequent vaccinations when they are young to ensure stimulation and boosting of their immunity.

The recommended schedule is for a series of 3 vaccination shots at the following times:

- a. 6 - 8 weeks old
- b. 10 - 12 weeks old
- c. 14 - 16 weeks old
- d. Annual vaccinations thereafter

In adult pets with an unknown vaccination status, 2 vaccination boosters are recommended, 1 month apart. This is followed by annual boosters after.

WHAT ELSE MUST I KNOW?

Your pet can come in for a vaccination at any time, unless they are feeling unwell. A quick check up is usually performed prior to ensure your pet is in a healthy state. Vaccinations involve an injection under the skin with a small needle and this is usually performed with you, unless in special circumstances.

As vaccinations are designed to stimulate the immune system, some patients can experience reactions. Common signs include lethargy, inappetence and swellings. As such, monitoring is recommended after the vaccination.

We do not recommend letting pets outside and meeting other unvaccinated pets until a week after their 3rd vaccination.

Apex Veterinary Clinic will be here to help you if you have any concerns or enquires.



The following is a list of common vaccinations for your pet:

DOGS	CATS
<u>CORE VACCINATIONS</u>	<u>CORE VACCINATIONS</u>
<p>Canine Parvovirus Even though puppies are the most vulnerable, dogs of all ages can be affected by this potentially deadly disease. The virus causes severe gastrointestinal disease, usually seen as profuse bloody diarrhoea and vomiting and it also affects the immune system. Transmission is via ingestion of faeces.</p>	<p>Feline Panleukopenia (Feline Parvovirus) A deadly disease that causes gastrointestinal signs, usually bloody diarrhoea and vomiting, and also compromises the immune system. Unvaccinated cats of all ages can be affected but kittens are the most susceptible. Transmission is via ingestion of affected faeces.</p>
<p>Canine Distemper Virus This virus is highly contagious and spreads via respiratory secretions, tears, saliva and faeces. The virus causes respiratory and neurological disease and can lead to permanent damage in these areas.</p>	<p>Feline Herpes Virus & Feline Calicivirus (Feline Respiratory Disease complex) These 2 viruses are commonly grouped together and referred to as "Cat Flu". This is a respiratory disease that causes symptoms such as nasal discharge and sneezing. Transmission is via contact with aerosolized secretions from affected cats.</p>
<p>Canine Adenovirus (Canine Hepatitis) This virus can lead to sudden liver failure and kidney disease. Pets can get infected through infected urine and nasal secretions.</p>	<p>Feline Chlamydia This bacteria causes conjunctivitis (tearing, eye discharge), which can become severe and persistent. Progression can lead to other respiratory symptoms.</p>
<u>NON-CORE VACCINATIONS</u>	<u>NON-CORE VACCINATIONS</u>
<p>Leptospira This bacteria can cause acute kidney failure and is transmitted via infected urine and contaminated water-bodies.</p>	<p>Feline Immunodeficiency Virus (FIV) FIV causes significant life-long immunosuppression. Transmission is via bite wounds from affected cats. This virus is not transmissible to humans but there is currently no cure for affected patients.</p>
<p>Canine Parainfluenza Virus This is a viral component of "Kennel Cough" which is a highly contagious respiratory disease that is transmitted via nasal secretions and aerosols.</p>	
<p>Bordetella bronchiseptica Commonly referred to as "Kennel Cough". This bacteria is a component to the contagious respiratory disease. Respiratory symptoms are usually a dry, hacking cough. Transmission is via contact with aerosolized secretions, especially in clustered environments.</p>	<p>Feline Leukaemia Virus (FeLV) FeLV causes significant immunosuppression. The virus cannot be cured but can be managed. Transmission is via secretions (saliva, tears, urine, nasal).</p>



INTESTINAL PARASITE PREVENTION

Gastrointestinal worms are the most common intestinal parasite. Common worms include roundworms, hookworms, tapeworms and whipworms. These worms are transmitted via the ingestion of faeces. They grow and infect the gastrointestinal tract, causing diarrhoea, weight loss and vomiting. However, some worm infestations can lay dormant in the body without any signs, if not signs only appear once the infestation gets too severe. Some worms can also be transmitted via other means, such as during pregnancy for roundworms, and via other carriers (e.g. fleas) for tapeworms.

Only some of these worms are visible to the naked eye (roundworms and tapeworms) if they are expelled in faeces or vomit. However some worms unfortunately cannot be seen without special testing.

Certain gastrointestinal worms can also pose a health risk to humans as they can spread from animal to human. Some of these worms can also cause significant disease in humans.

A regular deworming regime is recommended for all pets to minimise both the health risks for you and your pet.

DEWORMING SCHEDULE

The following is the recommended deworming regime to be followed.

- Every 2 weeks, starting from 2 weeks old to 12 weeks old
- Every month from 12 weeks old until 6 months old
- Every 3 months thereafter



At Apex Veterinary Clinic, we can help assist you with deworming and any other questions you have.

TICK & FLEA PREVENTION

FLEAS

Fleas are a type of small insect that feed on the blood of animals. Adult fleas can be visible to the naked eye but are not easily seen. Flea infestations can result in a loss of blood, itchiness, skin irritation and can elicit allergic reactions (flea allergy dermatitis) in some animals. Fleas can also spread tapeworms to dogs.

Flea infestations are usually identified by the presence of adult fleas or “flea dirt”. Adult fleas are visible to the naked eye as tiny moving dots in the fur. Flea dirt are the faeces of fleas which are usually seen as black dots/areas around the fur.



TICKS

Ticks are another common external parasite found in Singapore. Infestations usually cause skin related issues such as irritation, itch, loss of hair and discomfort. It is important to note that ticks are able to pierce through an animal's skin and suck on its blood. In severe infestations, they can contribute to a severe loss of blood. They are easily identified on the skin, and can vary in appearance depending on how long they have been present for.

Another concern to dogs in Singapore is that ticks can also transmit a fatal disease known as tick fever. This comprises of a group of various blood-borne parasites that are injected into the blood stream via an infected tick. These tick fever organisms lead to a breakdown in red blood cells (haemolysis) as well as a suppression of the immune system and destruction of platelets. All of which have severe effects such as a loss of blood, clotting disorders and vulnerability to infection. Many dogs infected with tick fever may require emergency blood transfusions for stabilisation.

Common signs seen with tick fever, include

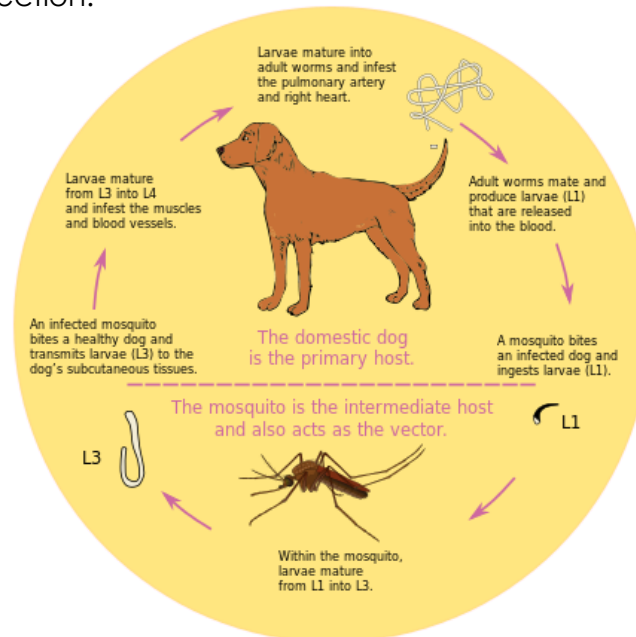
- Lethargy, weakness
- Inappetence
- Pale gums
- Fever
- Bleeding & bruising
- Jaundice (yellowish discolouration of skin), or discoloured urine.



Unfortunately, ticks are commonly found in Singapore due to our tropical climate. All dogs residing in Singapore are at risk to tick fever and should be placed on tick preventatives. Common preventatives are included in page 7.

HEARTWORM

Heartworm (*Dirofilaria immitis*) is another blood-borne parasite that can lead to a potentially fatal infection.



The worm is transmitted via mosquito bites. Immature heartworms can transmit into the blood stream when an animal gets bitten by an infected mosquito. They will circulate within the blood vessels of infected dogs and slowly mature over a period of 2-3 months. As they mature, they migrate and reside in the animals' hearts and lungs. They will continue to reproduce as well. By doing so, these large worms can eventually lead to an obstruction of blood flow and circulation, resulting in heart failure and possible death.

Clinical signs of a heartworm infection include:

- chronic coughing, shortness of breath, excessive panting
- lethargy, generalised weakness
- exercise intolerance, reduced stamina
- reduced appetite, weight loss
- pale gum (mucous membrane) colour
- collapse or loss of consciousness during exercise and hyperexcitability *in severe cases*






The severity of clinical signs can depend on several factors such as the amount of worms, their location and the duration of the infection. Many dogs can harbour an infection but do not present any clinical signs until the infection has reached a severe stage. As such, prevention is highly recommended.

COMMON PREVENTATIVES

Prevention of ticks/fleas and heartworm is recommended for all animals in Singapore. Due to the tropical climate in Singapore, mosquitos and ticks are endemic in our environment. This puts our pets at a higher risk of heartworm disease and tick fever, of which both are relatively common in our nation.

Recommended preventatives include a series of medications that provide a constant protection against parasites. Ticks & fleas will be killed if they latch on within a designated length of time, whereby heartworm preventatives work by killing any immature larvae to stop them from maturing into adult worms.

Most prevention can be commenced from 6-8 weeks of age and is recommended to be continued for life. The following table is a list of common preventatives stocked at Apex Veterinary Clinic.

PRODUCTS AVAILABLE	Nexgard Spectra 	Bravecto 	Heartgard 	Revolution 	Proheart SR12	Drontal 
Frequency	1 month	3 month	1 month	1 month	12 months	3 months depending on age
Application	Oral	Oral/ Spot-on available	Oral	Spot-On	Injection	Oral
Coverage						
Tick (Singapore)	√	√				
Flea	√	√		√		
Heartworm	√		√	√	√	
Roundworm/ Hookworm/	√		√	√		√
Tapeworm						√

Note on heartworm prevention

Any animal older than 6 months of age that has never been started on heartworm prevention before or any animal that has lapsed on their previous preventatives should consult their veterinarian before re-commencing prevention.

A heartworm test is required prior to re-commencement as using preventatives when an animal has an active infection can lead to a greater risk of a fatal obstruction in the blood vessels. A heartworm test is easily done in-house at Apex Veterinary Clinic with only a few drops of blood and result ready in 10 minutes.



STERILIZATION (DESEXING)

Sterilization is the surgical procedure of removing your pet's reproductive organs. This is the surgical removal of the testicles in a male and the surgical removal of the ovaries and uterus in a female.

Benefits of Sterilisation

- Prevent reproductive diseases:
 - Testicular tumours, torsion, infection
 - Ovarian & Uterine tumours
 - Pyometra (see page 9 for more information)
- Reduces the risks of other diseases
 - Prostate disease
 - Perineal hernias
 - Mammary tumours & cancer
(earlier sterilisation has shown a higher prevention of mammary cancer)
- Can help to reduce undesirable sex- driven behaviours
(e.g. humping, spraying)

What else do I have to know?

Surgery can be done at any time from 6 months of age. Your pet will need to be fasted the night before surgery with no food after dinner and no breakfast the next morning.

The procedure occurs within a day with no need to stay overnight. Your pet will be with us from morning to evening to ensure they are well prepared before and recovered well after anaesthesia.

What do I have to look out for after surgery?

- The surgical site needs to be monitored and cleaned twice a day and your pet will be on some medications.
- Your pet will have to wear an Elizabethan collar or "cone" at all times to prevent further trauma to the surgical site which increase the risks of infection.
- Strenuous activities and active exercise should be restricted to facilitate wound healing.
- A quick re-check is recommended at 10-14 days after surgery to ensure the surgical site has healed.

At Apex Veterinary Clinic, we provide you everything you need as part of our sterilisation packages so you don't have to.



An introduction into Pyometra

Pyometra is the infection of the uterus.

During heat cycles, the cervix will open as part of the process. This provides opportunity for the bacteria to enter. As repeated heat cycles continue and as patients age, their uterus changes whereby the environment becomes more favourable for bacteria to grow.

As such, the risk of bacteria proliferation and a pyometra occurring increases as your pet ages, making older dogs much more vulnerable.

Pyometra is a life-threatening disease that require medical and surgical attention. The bacteria in the uterus can spread to the bloodstream and infect all other vital organs. The infection also leads to pus accumulating in the uterus. This causes an expansion of the uterus. If the uterus expands significantly, it can rupture and cause a potentially fatal infection into the entire abdominal cavity.

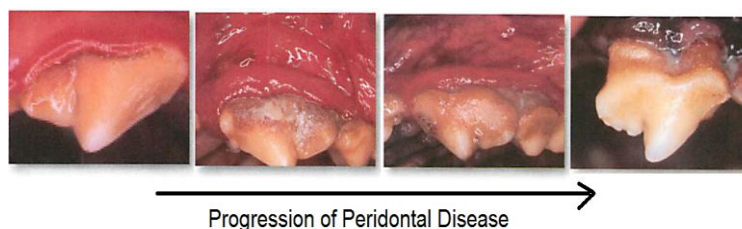
Common clinical signs noted include lethargy, vomiting and inappetence. Depending on the characteristic of the infection, there may be abdominal distension and vaginal discharge. However, in certain cases, if the cervix remains close during an infection, vaginal discharge may not be seen and these infections progress much faster.



DENTAL DISEASE

Dental disease is bound to occur and progress in our pets with time. During normal eating, food particles will accumulate in their mouth and around their teeth. This build up forms plaque (a mixture of bacteria, saliva and minerals).

Over time, plaque will harden and form a thick coating called calculus/tartar. This is firmly attached to the teeth and allows bacteria to proliferate, leading to an infection and inflammation of the gums. Bad breath, swelling and drooling are usually the first signs of these.



However, it is important to bear in mind that as dental disease progress, the bacteria can infect under the gum line and destroy the teeth. They also eventually can destroy the jaw bones and have access into the blood vessels where they spread to the rest of the organs in the body.

Other signs of dental disease can include

- Bad breath
- Drooling
- Swellings of the face
- Inappetence
- Bleeding and swollen gums

Dental disease can progress to something quite severe and it is important to note it can lead to many severe consequences of not just the teeth but surrounding structures. Preventing progression is very important to ensure the damage does not become irreversible.

Prevention tips

At the clinic

1. Dental Scaling & Polishing

This procedure removes calculus and plaque above and below the gumline via the usage of ultrasonic cleaning equipment. Polishing is followed after to smoothen the surface of the teeth, reducing further plaque formation. This procedure is routinely performed under general anaesthesia in pets to allow a thorough cleaning to be done under a stress free process for the patient. The procedure is recommended to be done every 1-2 years depending on the dental progression of each pet.

At home

2. Regular home tooth brushing

Tooth brushing at home should be performed regularly to prevent further plaque formation. By doing so, it can reduce dental progression and the frequency of the need for a full dental scale and polish. Flavoured animal-grade toothpastes are available to ease the process. Human toothpastes should not be used.

3. Dental Treats & Toys

Accumulation of plaque can be reduced with the help of dental treats and dental toys. When pets chew on these, it helps to scrape the teeth and reduce plaque accumulation. It is important to note that dental treats and toys are not a replacement of tooth brushing but have a complementary effect.

