

PCR test kit may also be used. This diagnostic tool uses detection through the polymerase chain reaction.

Currently, while not widely used yet by vet clinics in the country, it is, for now, more time-consuming and costly.

## TREATMENT

Parvo is a viral infection so antibiotics are not expected to be effective against the treatment of the disease. However, the administration of antibiotics is commonly done with Parvo patients to treat or prevent the occurrence of secondary bacterial infection.

Because Parvo leaves the patient in severely immunocompromised state, it is not uncommon for secondary infections to occur. **Immunoglobulins** may be given to help fight off the infection directly.



**CANGLOB P** is the brand commonly found in the Philippines. This is given through a daily injection for around 7 days while prophylaxis for patients not showing signs of the disease is given every 3 days.

The use of immunomodulators and immunostimulants are commonly part of the treatment regimen as well.

Pendragon prefers the use of an **immunomodulator** called **IMMUNOCIDE**. This is given every hour for full blown cases while may also be given to exposed pups before symptoms start every 4-6 hours to prevent progression of the disease.



In severe cases, when the WBC is extremely low, Pendragon includes in the treatment regimen the administration of blood plasma which may be given to help the patient fight off the infection.



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## PREVENTION

- Eliminating exposure to the virus
- Proper vaccination of your pet against the disease

*\*Vaccination against the Parvo virus is done yearly, although adults are seldom affected by the virus and often have protective antibodies against it.*

## HOW TO DISINFECT?

Although very resilient even without a host, the Parvo virus is susceptible to most of the common disinfectants such as hypochlorite (i.e. Zonrox, Lysol). NOTE: These types of disinfectants are inactivated by organic material. As such, it is crucial that the area to be disinfected is first properly scrubbed, soaped and washed prior to disinfection.



## CORONA VIRUS

Corona virus is a viral infection that causes similar symptoms as that of Parvo virus. In this article we will not be elaborating on this disease since more often than not, corona virus infections are self-limiting and usually resolve without any need for treatment.

However, when coupled with Parvo, the two can become FATAL.

**Paying close attention to your pet, seeking prompt professional veterinary advice and availing of the right diagnostic test help with EARLY DETECTION and TREATMENT of Parvo but PREVENTION is still the best defense!**



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## MY PET IS HAVING DIARRHEA. WHAT SHOULD I DO?



## THERE ARE NUMEROUS REASONS WHY YOUR PET MAY BE SUFFERING FROM DIARRHEA.

DISCLAIMER: THIS ARTICLE IS NOT INTENDED TO REPLACE OR SUBSTITUTE THE EXPERT ADVICE OF A VETERINARY PROFESSIONAL.

THIS MERELY AIDS PET OWNERS IN ASSESSING WHETHER OR NOT THE DIARRHEA PROBLEM SHOULD BE CONSIDERED AN EMERGENCY REQUIRING IMMEDIATE VETERINARY ADVICE AND ATTENTION OR WHEN ONE MAY SIMPLY APPLY FIRST AID WHILE KEEPING THE PET UNDER CLOSE OBSERVATION.

## WHEN IS DIARRHEA CONSIDERED AN EMERGENCY?

- In case of bloody diarrhea
- When pet is bloated and is unresponsive.
- When pet is in lateral recumbency and refuses to get up.
- In cases of *melena* (black stool) which is indicative of bleeding. (Black stool may also occur if you have been feeding your pet liver or food with blood components.)
- If diarrhea has been persistent for over 24 hours. (May not be an emergency but medical advice from a professional must be sought.)
- When high worm density is a possibility due to non-updated deworming schedule.
- When there is a history of foreign object ingestion.

Should your pet not fall under the above conditions, you may attempt to do the following: (Assuming that your pet is merely experiencing a stomach upset or has eaten something that is not agreeing with his/her system.)

**THE FIRST AID PROTOCOL** includes (assuming the pet is active and has a healthy appetite)

1. DO NOT FEED your pet for 12-24 hours.
2. LIMIT WATER INTAKE. Give electrolyte ice cubes for the duration of 24 hours.  
 Mix electrolyte sachet or hydrite tablet in 1 glass of water, pour into ice tray and freeze.
3. Once your pet has undergone the off-feed regimen, PROCEED WITH THE RECOMMENDED FEEDING REGIMEN indicated in the next table.
4. Gradually remove prescription and RETURN TO REGULAR FEEDING.

*\*Should diarrhea recur during the recommended feeding regimen, return to Step 1. Repeat process only once. If diarrhea is persistent consult your vet.*



## RECOMMENDED FEEDING REGIMEN AFTER OFF-FEED REGIMEN

	Body Wt. ( kg)	Amount of wet Food	Amount of usual diet
<b>Day 1</b> Give food every 2 hrs	0-2 kg	1/8 tbsp	0
	2.1 kg - 5 kg	1/4 tbsp	0
	5.1 kg - 10 kg	1/2 tbsp	0
	10.1 kg - 15 kg	1 tbsp	0
	15.1 kg - 20 kg	1 1/2 tbsp	0
	Above 20 kg	2 tbsp	0
<b>Day 2</b> Give food every 2 hrs	0-2 kg	1/8 tbsp	0
	2.1 kg - 5 kg	1/4 tbsp	0
	5.1 kg - 10 kg	1/2 tbsp	0
	10.1 kg - 15 kg	1 tbsp	0
	15.1 kg - 20 kg	1 1/2 tbsp	0
	Above 20 kg	2 tbsp	0
<b>Day 3</b> Give food every 2 hrs	0-2 kg	1/4 tbsp	0
	2.1 kg - 5 kg	1/2 tbsp	0
	5.1 kg - 10 kg	1 tbsp	0
	10.1 kg - 15 kg	1 1/2 tbsp	0
	15.1 kg - 20 kg	2 tbsp	0
	Above 20 kg	3 tbsp	0
<b>Day 4</b> Give food every 4 hrs	0-2 kg	1/2 tbsp	0
	2.1 kg - 5 kg	1 tbsp	0
	5.1 kg - 10 kg	2 tbsp	0
	10.1 kg - 15 kg	3 tbsp	0
	15.1 kg - 20 kg	4 tbsp	0
	Above 20 kg	6 tbsp	0
<b>Day 5</b> Give food every 6 hrs	0-2 kg	1/2 tbsp	1/8 tbsp
	2.1 kg - 5 kg	1 tbsp	1/4 tbsp
	5.1 kg - 10 kg	2 tbsp	1/2 tbsp
	10.1 kg - 15 kg	3 tbsp	3/4 tbsp
	15.1 kg - 20 kg	4 tbsp	1 tbsp
	Above 20 kg	6 tbsp	1 1/2 tbsp
<b>Day 6</b> Give food every 6 hrs	0-2 kg	1/2 tbsp	1/4 tbsp
	2.1 kg - 5 kg	1 tbsp	1/2 tbsp
	5.1 kg - 10 kg	2 tbsp	1 tbsp
	10.1 kg - 15 kg	3 tbsp	1 1/2 tbsp
	15.1 kg - 20 kg	4 tbsp	2 tbsp
	Above 20 kg	6 tbsp	3 tbsp
<b>Day 7</b> Give food every 8 hrs	0-2 kg	1/4 tbsp	1/2 tbsp
	2.1 kg - 5 kg	1/2 tbsp	1 tbsp
	5.1 kg - 10 kg	1 tbsp	2 tbsp
	10.1 kg - 15 kg	1 1/2 tbsp	3 tbsp
	15.1 kg - 20 kg	2 tbsp	4 tbsp
	Above 20 kg	3 tbsp	6 tbsp

## PARVO VIRUS

Parvo virus is the main concern for puppies with symptoms of vomiting and diarrhea. Parvo is highly contagious affecting primarily unvaccinated puppies under 5 months old and can be fatal, thus, IT IS ALWAYS recommended to bring a puppy to a vet. Full blown parvo is deadly in pups and can cause death within 2 days once symptoms have set in. Once a pup is exposed to Parvo virus, it takes around 3-7 days before symptoms are seen.

### SYMPTOMS

- Severe and/or bloody diarrhea
- Lethargy
- Loss of appetite
- Fever
- Vomiting
- Severe weight loss
- Anemia
- Dehydration

### HOW IS PARVO TRANSMITTED?

Parvo is transmitted feco-orally, meaning through contact of an infected feces while accidentally ingesting the virus.



Unlike other viruses, Parvo is very resilient and can survive without a host and within the environment for months on end. For this reason, contamination and infection of an area and a pet is not easily managed.

Because parvo attacks rapidly dividing cells, it first attacks the lymph nodes and spreads through the blood stream. Once in the blood, the virus then proceeds to attack the bone marrow which, in effect, causes the destruction of young immature white blood cells, thus, a drop in white blood cells (WBC) is seen in complete blood counts.

The attack on the bone marrow also causes a drop in immune system which makes it easier for the virus to attack the gastrointestinal tract. The rapidly dividing cells of the intestines make these also a perfect target for the virus. There the virus zeroes in on the crypt of Lieberkuhn (intestinal gland), where the damaged epithelial cells (cells lining the surface) of the gastrointestinal tract are created for replenishment.

Because the crypts are no longer able to create the replacement epithelial cells, the absorption capacity of the pup is then compromised. Nutrients and electrolytes are all in an imbalance during the disease period.

Occasionally, Parvo may also attack the heart and cause complications.

Although Parvo virus has been more commonly known to attack canines, it is not limited to this species. Parvo has been known to mutate and cause other diseases such as Panleukopenia virus in cats.

## HOW IS PARVO DIAGNOSED?

There are numerous test kits available in the Philippines to confirm Parvo in your pet. Some of the test kits detect **antigens** (molecules that induces an immune response from the host). Others kits test for **antibodies** (the assumption follows that if the virus is not present, then the animal will not produce antibodies for the disease).

Both test kits have the limitation of possibly being susceptible to **false positive** results in the event that a pet has been recently vaccinated for the disease. HOW? Antigen test detects molecules on the surface of the virus. These antigens are present in vaccines. Viruses in vaccines are inactivated, however, the antigens are still present and may be detected by the test.

At Pendragon, vets prefer to use the **ELISA** (Enzyme Linked Immunosorbent Assay) test kits over the more common lateral chromatography test kits. This test detects antibodies created from an exposure to Parvo virus, specifically the **Immunoglobulin M (IgM)**.

### ADVANTAGE OF THE ELISA TEST KIT TO OTHER TEST KITS

- Result is semi-quantitative
- Apart from simply indicating whether positive or negative, result gives vet an estimate of how long pet has been exposed to disease
- Immunoglobulin M (IgM) antibodies are tested for, not antigens

Because vaccinated pets will cause the same immune response as that of an actual disease, an IgM response is expected in newly vaccinated pups making diagnosis of Parvo in recently vaccinated pets extremely difficult.

In which case, Pendragon vets will usually advise clients that serial or multiple ELISA testing may be needed to properly establish the IgM levels as well as **Immunoglobulin G (IgG)** level to establish antibody titer protection, leading to more definitive diagnosis.

### RAPID (ANTIGEN) TEST KIT

- Simply indicates positive or negative result



**Immunoglobulin M (IgM)** - antibodies found mainly in the blood and lymph fluids that fight new infection  
**Immunoglobulin G (IgG)** - antibodies found in body fluids and protect against bacterial and viral infections

