Gatorland Animal Services SOPs

Canine Parvovirus Treatment

Effective Date: 11/1/2021 **Revised:**

Responsible Staff:

- Vet techs

Purpose: Dogs infected with CPV are selected for in-shelter treatment based on criteria associated with a good prognosis for recovery using a protocol that is a modification of the Colorado State University Outpatient Treatment Protocol. This SOP provides vet techs with the step-by-step treatment protocol.

CPV Facts

- Canine parvovirus is an unenveloped RNA virus that infects dogs without protective immunity
- Typical clinical signs include fever, hypersalivation and inappetance from nausea, vomiting, diarrhea, dehydration
- 90% of untreated dogs die from hypovolemic shock and/or septic shock
- CPV is **CONTAGIOUS** and spread by dog-dog contact and contact with virus-contaminated surfaces and staff
- CPV shedding in saliva and feces starts 3 to 4 days before onset of clinical signs, continues through the disease phase, and typically stops in conjunction with clinical recovery. The total shedding period from initial infection to clinical recovery is typically 2 weeks
- Since other gastroenteric diseases mimic CPV, the SNAP CPV antigen test must be performed on all dogs with vomiting and diarrhea
- Sick dogs with a positive SNAP CPV test must be promptly moved to Isolation.
- Selection of dogs to treat is based on body weight, body condition score, mental status, and % dehydration.
- CPV persists in the environment. The only effective disinfectants are bleach, Wysiwash, Rescue, and Trifectant.

Supplies Needed in Isolation

- Disposable exam gloves
- Tyvek suit and rubber boots
- Thermometer and stethoscope
- Weight scale
- LRS 1000 mL fluid bags and IV fluid administration lines
- IV catheters (20 gauge and 22 gauge)
- Tape and Vet Wrap
- 1cc tuberculin, 3cc, and 6cc syringes
- 20 gauge, 22 gauge, and 25 gauge needles
- KCl (2 mEq/mL)
- 50% dextrose
- Cerenia injectable
- Convenia injectable
- Baytril injectable
- Simbadol (burprenorphine) injectable (1.8 mg/mL)
- Karo syrup

- Tumil K powder
- Hill's Prescription Diet a/d canned

Procedures

Day 1

1. Select CPV-infected dogs for treatment based on the CPV Treatment Selection Flowchart.
   a. Veterinarian performs physical exam on dogs with positive CPV tests
   b. Euthanasia or treatment is determined by the body weight, BCS, mental status, and % dehydration according to the Flowchart
2. Move dogs selected for treatment to the Isolation Room.
   a. Wear PPE (exam gloves, Tyvek, boots) and follow biosecurity protocols
   b. Inform Kennel Manager of CPV-contaminated run or cage that the dog was in
3. Obtain body weight in kg and insert IV catheter in a cephalic vein.
4. Calculate amount of LRS fluids for IV administration in first 24 hours.
   a. Calculate volume of LRS required to correct dehydration:
      [% dehydration X BW (kg)] X 1000 = mL LRS for dehydration
   b. Calculate volume of LRS required for maintenance and to replace fluid losses in vomiting/diarrhea:
      120 mL X BW (kg) = mL LRS for fluid losses
   c. Calculate total volume of LRS to give over 24 hours
      Total LRS volume = mL LRS for dehydration + mL LRS for fluid losses
5. Supplement the LRS fluids with 50% dextrose for hypoglycemia and KCl for hypokalemia.
   a. Add 50 mL of 50% dextrose per 1000 mL LRS (1 mL 50% dextrose/20 mL LRS) for final concentration of 2.5% dextrose per liter
   b. Add 10 mL of KCl (2 mEq/mL) per 1000 mL LRS (1 mL KCL/100 mL LRS) for final concentration of 20 mEq KCL per liter
6. Administer the supplemented LRS IV at a maximum rate of 25 mL/kg body weight/hr.
   a. LRS fluids should be administered at body temperature for comfort and to increase absorption
   b. Warm the LRS fluid bag in the 37C water bath prior to use
7. Start injectable drugs for vomiting, bacterial infections, and abdominal pain.
   a. Cerenia (maropitant) (10 mg/mL) = 1 mg/kg [0.1 mL/kg] SQ SID X 3 days
   b. Convenia (cefovicin)(80 mg/mL) = 8 mg/kg [0.1 mL/kg] SQ once only
   c. Baytril (enrofloxacin)(2.27%) = 5 mg/kg [0.2 mL/kg] SQ SID X 3 days
   d. Simbadol (buprenorphine)(1.8 mg/mL) = 0.2 mg/kg [0.1 mL/kg] SQ SID X 3 days
8. Keep patient warm with warmed rice bags (no heating pads!)

Days 2 and 3

1. Remove IV catheter
2. Switch to SQ fluid therapy
   a. Calculate volume of LRS to give SQ TID for maintenance and fluid loss:
      40 mL X BW (kg) = LRS mL/dose
   b. DO NOT SUPPLEMENT LRS WITH DEXTROSE OR KCL for administration SQ
   c. Warm the LRS fluid bag in the 37C water bath prior to use

   d. If part of the previous dose of SQ fluids remains at the next treatment, only give a partial dose of SQ fluids or withhold additional SQ fluids until the next treatment
3. Cerenia (maropitant) (10 mg/mL) = 1 mg/kg [0.1 mL/kg] SQ SID
4. Baytril (enrofloxacin)(2.27%) = 5 mg/kg [0.2 mL/kg] SQ SID
5. Simbadol (buprenorphine)(1.8 mg/mL) = 0.2 mg/kg [0.1 mL/kg] SQ SID
6. Karo light syrup: apply 1-5 mL Karo syrup to gums TID until dog is eating voluntarily
7. Tumil-K powder:
   a. Measure out 0.5 teaspoons powder/4.5 kg body weight
   b. Dissolve in 5 mL water and administer orally
   c. Repeat TID until dog is eating voluntarily
8. Syringe-feed Prescription Diet a/d slurry:
   a. Mix a/d with warm water to form a slurry that can be pushed through an oral dosing syringe
   b. Give 1mL/kg orally TID until dog is eating voluntarily
9. Keep patient warm with warmed rice bags (no heating pads!)

Days 4 to 7

1. Karo light syrup: apply 1-5 mL Karo syrup to gums TID until dog is eating voluntarily
2. Tumil-K powder:
   a. Measure out 0.5 teaspoons powder/4.5 kg body weight
   b. Dissolve in 5 mL water and administer orally
   c. Repeat TID until dog is eating voluntarily
3. Syringe-feed Prescription Diet a/d slurry:
   a. Mix a/d with warm water to form a slurry that can be pushed through an oral dosing syringe
   b. Give 1mL/kg orally TID until dog is eating voluntarily
4. Keep patient warm with warmed rice bags (no heating pads!)

Patient Monitoring

1. Body weight SID
2. Physical exam SID
3. Rectal temperature BID
4. MM color/moisture and CRT BID
5. Heartrate and respiratory rate BID
6. Frequency of vomiting/diarrhea
7. Appetite
8. ***Alert veterinarian for any of the following:***
   a. 10% loss in body weight
   b. Persistent dehydration >5%
   c. T>104F or T<100F
   d. Shock (white MM, CRT>4 sec, low body temperature, rapid heartrate, rapid respiratory rate, cold legs/feet, recumbent, altered mentation)
   e. Protracted vomiting after 2 days and profuse diarrhea after 3 days

Recovery

1. Alert/active
2. Soft or normal stools
3. Eating voluntarily
4. Discontinue treatments
5. Give Strongid (1 mL/10 lb)
6. Perform CPV test
    a. Negative: bathe the dog with a shampoo (preferably Accel shampoo) to remove virus from coat and move out of Isolation
    b. Positive: keep in Isolation and repeat CPV test daily until negative status, then bathe in Accel shampoo and move out of Isolation