

## TEMPLATE- UWSMP CIRDC Protocol

### General - Overview

A standard protocol for treating Canine Infectious Respiratory Disease Complex (CIRDC) is recommended for multiple reasons:

- Allows for rapid response to illness by having medication started quickly.
- Allows veterinary staff to delegate tasks to staff based on an established protocol
- A standardized protocol is predictable and makes for easier follow up between DVMs
- Improves communication between medical staff, management, adoptions and rescue
- Simplifies staff's everyday job for dispensing meds, monitoring patients and reporting case progress to veterinarians.
- Allows for better tracking of disease prevalence in the shelter and rapid outbreak recognition
- Simplifies medical record keeping and data entry

The proposed protocol applies to most common cases of CIRDC. Veterinarians will supervise the implementation and use of this protocol as well as any changes to the standard treatment plan that would be required for any individual animal. Veterinarians are also responsible for monitoring response to treatment and adjusting treatment plans as necessary.

### Protocol for starting medication or changing medication

- 1) Assess patient and choose antibiotic (if needed) based on table provided below.
- 2) Enter medical notes in computer describing:
  - a) Clinical signs observed and severity
  - b) Treatment started, including dosage, frequency and length
  - c) Schedule re-evaluation based on clinical signs (see table below)
  - d) Add notes to adopters and rescues regarding respiratory disease
    - i) Include recommended course of treatment, necessary monitoring, expected case evolution, risk to other animals in the household
- 3) Change dog's [*status accordingly*]
  - a) **Available:** Uncomplicated CIRDC and/or receiving oral meds
    - i) If dog has complicated CIRDC or suspicion of mild or resolving pneumonia, but otherwise clinically stable, consider leaving status as **Available**
  - b) **Unavailable or Rescue:** Dog is receiving treatment at the shelter that cannot be provided in a home environment (e.g., injectables), or patient needs daily re-evaluations
- 4) Schedule medication in computer for the individual patient including dosage, frequency and length of treatment.
  - a) If changing medication, cancel previous prescription and schedule new medication in computer.
- 5) Start CIRDC monitoring sheet
- 6) Place dog on [*MOVE BOARD, or appropriate notation for moving location*]
  - a) Dogs with mild CIRDC that do not require treatment should stay in their current kennel with monitoring sheets.
  - b) Dogs with CIRDC that require antibiotic treatment should be separated from healthy population to avoid disease spread.
  - c) Arrange for dog to be moved into isolation ward.
  - d) Ensure that every dog with CIRDC has double-sided housing.

## CIRDC Re-evaluations

- 1) Animals under treatment should be monitored daily.
- 2) A veterinarian should reassess patient 5-7 days following start on antibiotic therapy, unless deterioration or lack of response are noted beforehand.
- 3) If first exam on patient, read previous DVM notes regarding clinical signs and severity.
- 4) Review monitoring sheet for evolution of clinical signs since implementation of therapy.
- 5) If patient has:
  - a. **No improvement or more severe clinical signs**
    - i. Consider change of antibiotic course to broader spectrum of coverage
    - ii. Consider more aggressive supportive care (fluid therapy, anti-nausea medication, etc.)
    - iii. Consider further diagnostic work-up if warranted (See Diagnostics section)
  - b. **Noted clinical improvement:** Finish prescribed antibiotic course
- 6) Enter notes in computer including:
  - a. Evolution of clinical signs
  - b. New treatment plan if applicable
  - c. Change status if applicable

## Clearing a Dog with CIRDC

- 1) A dog can be considered cleared from CIRDC if:
  - a. Nasal discharge / ocular discharge has resolved for 2 consecutive days
  - b. Cough has resolved or has become infrequent
    - i. Inflammation following resolution of clinical signs can cause an infrequent, residual cough in patients that should not preclude placement on the adoption floor.
  - c. Respiratory rate and effort are normal
  - d. Otherwise BAR and eating well
- 2) Place dog on move board to the appropriate ward.
- 3) If dog's status was unavailable, change status to available.

## Dogs selected while under treatment for CIRDC (Open Selection)

- 1) Dogs with mild to moderate CIRDC can be adopted out normally.
  - a. Discuss dog's medical status with adopters based on medical notes.
  - b. Dogs can be adopted out to a household with other animals with owner consent.
- 2) Place dog on surgery list for spay/neuter as needed
  - a. If no surgery is needed, place on [*VET CHECK LIST or appropriate notation to signal veterinary exam*] for a rabies vaccine and microchip.
- 3) If patient has uncomplicated, mild CIRDC (mild discharge or mild cough), consider proceeding with S/N surgery. In many cases, the benefits of moving the dog out of the shelter will surpass the mild increase in anesthetic risk.
  - a. Patient can be done at the end of surgery day to avoid exposure to other patients
  - b. Patient can be intubated as needed to ensure airway protection
- 4) Following recovery, send patient home with remaining course of antibiotics
  - a. Notes to adopters should be added in the medical file regarding monitoring and recommended follow-up.

## Use of Diagnostic Testing

Consider using diagnostic testing if any of the following are noted:

- 1) Increase in incidence of respiratory disease in the shelter
  - a) Either rapid or slow rise of the number of dogs with respiratory disease in the shelter
    - i) Consider respiratory panels
- 2) Increase of the morbidity related to respiratory disease
  - a) More animals are developing pneumonia, deaths, etc.
    - i) Consider respiratory panels or targeted PCR
- 3) Abnormal clinical signs or disease progressions
  - a) Bloody nasal discharge, neurologic disease, acute death, etc.
    - i) Consider respiratory panels, targeted PCR or case-dependent alternative
- 4) Diagnostic testing might change the treatment plan or shelter pathway for an individual or the population.
  - a) Suspect unusual pathogen requiring risk assessment (CDV, CIV, etc.)
  - b) Need to rule out other differentials (heart disease, tracheal collapse, etc.)
    - i) Consider respiratory panels, targeted PCR, radiographs or case-dependent alternative

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### CIRDC Protocol Cheat Sheet

*Dogs under medication should be monitored daily*

Clinical Signs	Treatment	Follow-up
Mild serous nasal discharge. Absence of or situational cough (leash pulling). Very occasional sneezing.	No treatment needed  Consider starting monitoring sheet	As needed.  Can be left in current kennel
Mucoid nasal discharge, moderate cough or sneezing, no increased respiratory rate.	Doxycycline 10mg/kg PO SID x 10 days	Follow-up in 5-7 days to assess clinical resolution or improvement unless deterioration or lack of response are noted beforehand.  If deterioration or absence of improvement, consider alternate approach.
Heavy mucoid nasal discharge and/or ocular discharge, chemosis, moderate to severe or productive cough  OR	<i>Veterinary exam needed</i> Consider discontinuing Doxycycline  AND	Follow-up daily to assess clinical resolution or improvement

CIRDC not responding to usual treatment or deteriorating	Consider starting Enrofloxacin at 10mg/kg PO SID x 10 days <i>At Veterinarian discretion</i>	Move to isolation ward.
Heavy mucoid, purulent or bloody nasal discharge and/or Ocular discharge, chemosis, moderate to severe, productive cough.  AND/OR  Tachypnea, increased respiratory effort, abnormal lung sounds (suspicion of pneumonia)	<i>Veterinary exam needed</i> Start Enrofloxacin at 10mg/kg PO SID x 10 days AND ONE OF  Start Clindamycin at 11mg/kg PO BID x 10 days or Start amoxicillin-clavulanic acid 12-15mg/kg PO BID x 10 days  AND Supportive care as needed	Follow-up daily to assess clinical resolution or improvement  Move to isolation ward.
Heavy mucoid, purulent or bloody nasal discharge and/or Ocular discharge, chemosis, moderate to severe, productive cough. AND/OR Tachypnea, increased respiratory effort, abnormal lung sounds AND/OR Patient is not eating, vomiting and/or dyspneic, etc.	<i>Veterinary exam needed</i> Start Enrofloxacin at 10mg/kg SQ or IM* x 10 days AND Start Clindamycin at 11mg/kg SQ BID x 10 days  AND Supportive care as needed  <small>*Enrofloxacin at 100mg/mL must be diluted at least at 1:2 with sterile saline prior to SQ or IM administration. Patient could otherwise be at risk of skin sloughing*</small>	Follow-up daily to assess clinical resolution or improvement.  When patient has stabilized, switch from injectable to oral protocol.  Move to isolation ward.

## Appendix A – Notes on Antibiotic Usage

- Doxycycline:** Recommended as the first line use of antibiotic for dogs with CIRDC due to good efficacy against common CIRDC pathogens, including *Bordetella* and *Mycoplasma*. Enamel discoloring is not expected in patients over 4 weeks of age.
- Enrofloxacin:** Recommended as a second line antibiotic for CIRDC. Has good overlap in coverage in regard to doxycycline and so treatment with both drugs is not usually indicated. Good coverage for *Mycoplasma*, *Bordetella*, Gram negatives and some Gram positives.
- Clindamycin:** Good, relatively cheap complimentary treatment. Some efficacy against *Mycoplasma*. Adds coverage of anaerobic and Gram positive pathogens

- **Amoxicillin-clavulanate (e.g., Clavamox®):** Is ineffective against *Mycoplasma* and many isolates of *Bordetella* have shown resistance. Good complimentary treatment for coverage of Gram positives, some Gram negatives and anaerobic pathogens. Relatively costly.

## Appendix B – Notes to Adopters

These are recommended notes or templates to put into the medical files of dogs currently or previously treated for CIRDC.

### Not starting treatments

Examined dog today after [*CLINICAL SIGNS*] was noted. No coughing/sneezing/discharge noted in kennel. No sensitivity to tracheal palpation noted. Please continue to monitor using monitoring sheet, and if signs worsen significantly, report this information to medical team via [*enter name of computer program*] so that appropriate action can be taken.

### When starting treatment

The following signs consistent with canine infectious respiratory disease complex (kennel cough) were noted: [*DESCRIBE SIGNS HERE*]

Per shelter protocol, start doxycycline @ 10 mg/kg by mouth once every 24 hours for 10 days. Move to [*XX WARD*] and recheck on [*XXXX DATE*]

### Notes to adopters

CIRDC or KENNEL COUGH: *Date*

This dog was showing symptoms of Canine Infectious Respiratory Disease Complex, commonly known as “kennel cough” during examination today. We have started a 10-day course of an antibiotic called [*DOXYCYCLINE or chosen antibiotic*] to treat these symptoms. This is a common illness in places that house many dogs, and we expect a full recovery with treatment. Please monitor your new dog at home to ensure these symptoms are resolving. Additional symptoms to look for would be yellow/green nasal discharge, increased frequency of sneezing or coughing, lack of appetite and sudden changes in energy level. If symptoms do not improve or worsen at home, or if you have any other concerns, please follow up with your regular veterinarian for additional care. Also note that even after symptoms resolve, the germs that cause “kennel cough” may still be shed for up to several weeks.