How to Protect Your Shelter: No Small Task

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Introduction

• Maintaining a healthy shelter population is a CHALLENGE
  – Inherent risk
  – Exposure prior to entry
  – Animals without clinical signs

• Strain on shelter resources
Introduction

- So many FACTORS
  - Animals (host)
  - Disease (pathogen)
  - Environment
Overview

• STRATEGY
  – Population management
  – Vaccination
  – Cleaning and disinfection
  – Structured plan for sick animals
Objectives

- Healthy shelter population
- Healthy transports
- \( \uparrow \) number of lives saved
The Road to Transport

Alvin

Ariel
First Stop: INTAKE

- Physical Exam
- Vaccination
- Parasite control
- Microchip scan
INTAKE: Physical Exam

What are you looking for?

- diarrhea
- vomiting
- mentation
- parasites
- nasal discharge
- trauma
- coughing
- body condition score
- hair loss
- ocular discharge
Aging Puppies

Under 12 weeks

12 weeks

Photos courtesy of Dr. Brian DiGangi
Aging Puppies

12 weeks

14 weeks

Photos courtesy of Dr. Brian DiGangi
Aging Puppies

14 weeks

16 weeks

Photos courtesy of Dr. Brian DiGangi
Aging Puppies

20 weeks

Photo courtesy of Dr. Brian DiGangi
Why is it so important?
INTAKE: Vaccination
INTAKE: Vaccination

- Vaccination on intake
  - DA2PP/DHPP (dogs)
  - Schedule for puppies
    - If < 20 weeks: every 2 weeks until at least 20 weeks of age
    - < 6 months: on intake, day 14
    - > 6 months: on intake
- Bordetella: prevention versus mitigation
INTAKE: Vaccination

• Vaccine Storage and Handling
  – Inspect shipment, unload immediately
  – Refrigerate 35-45°F
  – Maintain appropriate temperatures
  – Use within 30 minutes of reconstitution
  – Mis-injection
  – Spills
INTAKE: Parasite Control

ZOONOTIC
INTAKE: Parasite Control

• Considerations for your deworming protocol

  - Spectrum
  - Dose
  - Dosing interval
INTAKE: Parasite Control

Don’t forget about...
Scanning for Microchips

- Universal scanner
- Proper technique
Animal Flow

- General population
- Quarantine
- Isolation
General Considerations:

• Housing capacity
• Segregated housing
  – Adults and juveniles
  – Dogs and cats
• Stress reduction
  – Crowding
  – Random co-mingling
• Daily rounds
Staff Flow

Healthy kittens/puppies → Healthy adults → Stray/Quarantine → Sick/Isolation
Now What?
Canine Parvovirus

• Highly contagious viral infection
• Clinical signs
  – Fever
  – Vomiting/Diarrhea
  – Dehydration
  – Death
• Transmission
  – Direct contact with animal or feces
  – Fomites (toys, bowls, staff)

Photos courtesy of Andrea Brower
Canine Parvovirus

• Diagnosis
  – Cannot diagnose based on clinical signs!
    o Intestinal parasites, dietary indiscretion, stress
  – Commercial tests available
    o IDEXX, Agen, Synbiotics
Now What?

Confirmed Diagnosis

Exposed
Canine Parvovirus

• Management
  – Decide: to treat or not to treat
  – Consider: available resources
  – Removal of clinically affected dogs
  – Isolation/quarantine
  – PPE for staff
Quarantine vs Isolation
Quarantine vs Isolation

Isolation doesn’t have to be fancy!
Cleaning and Disinfection

SO IMPORTANT!
Cleaning and Disinfection

• Goal: reduce dose of infectious agents in environment
• Staff training → order is important!
  – Healthy kittens/puppies
  – Healthy adults
  – Stray/Quarantine
  – Sick/Isolation
Cleaning and Disinfection

Proper cleaning and disinfection techniques

Clean THEN Disinfect

• Step 1: Clean
  – Remove organic material
  – Detergent activity—soap it up!
  – Elbow grease (mechanical cleaning)

• Step 2: Disinfect
Cleaning and Disinfection

- Considerations
  - Efficacy
  - Type of surface to be cleaned
  - Stability/shelf-life
  - Contact time
  - Number of steps involved
  - Cost $$$
  - Safety/toxicity
Cleaning and Disinfection

• Considerations
  – Inactivated by organic material
  – Inactivated by sunlight
Cleaning and Disinfection

Don’t forget the...

- Transport carriers
- Transport vehicles
- Windows/walls
- Doors/doorknobs
- Play yards
- Exam tables
- Bedding
- Toys

- Litter boxes
- Bowls
- Scoops, brushes
- Clothing
- Phones/keyboards
- HANDS!!!
## Cleaning and Disinfection

- **Enveloped or not?**

<table>
<thead>
<tr>
<th>Enveloped Viruses</th>
<th>Non-Enveloped Viruses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canine Distemper</td>
<td>Canine Parvovirus</td>
</tr>
<tr>
<td>Canine Parainfluenza</td>
<td>Canine Adenovirus</td>
</tr>
<tr>
<td>Canine Influenza</td>
<td>Feline Calicivirus</td>
</tr>
<tr>
<td>Feline Herpes</td>
<td>Feline Panleukopenia</td>
</tr>
</tbody>
</table>
Cleaning and Disinfection

• Make sure you are using a disinfectant that is effective against non-enveloped viruses
  – Bleach
    o Sodium hypochlorite
    o Wysiwash®
  – Oxidizing Agents
    o Trifectant®, Virkon®
  – Accelerated Hydrogen Peroxides
    o Accel®, Oxivir®
Cleaning and Disinfection

• Make sure you are using appropriate concentrations
  – Ex: Bleach
    o 1:32 for routine cleaning
      – ½ cup bleach with 1 gallon of water
    o 1:10 for ring worm
      – 1.5 cups bleach with 1 gallon of water

• Know your contact times

• Inappropriate concentrations can be hazardous
  – more is not better!
Cleaning and Disinfection

A word on **QUATERNARY AMMONIUM COMPOUNDS**...

**NOT** reliably effective against non-enveloped viruses!
Cleaning and Disinfection

• Separate cleaning supplies for different areas

• Designated staff
  – Quarantine
  – Isolation
  – No public

• Training is key!
Canine Parvovirus

• Control
  – Vaccination
  – Recognition
  – Quarantine/Isolation
  – Testing
  – Cleaning/Disinfection
  – Population Management
Diarrhea

• Oh the possibilities (its not always parvo!)
  – Viral
  – Bacterial
  – Intestinal parasites
  – Dietary indiscretion
  – Stress

Photo courtesy of Dr. Brian DiGangi
Day of Transport
Hair Loss Policy

“Areas of minor hair loss require that a veterinarian specifically examine the area(s) of hair loss at the time of health examination for Rescue Waggin’ transport health certificates. In order to be approved for transport, a veterinarian must determine to the best of their knowledge that the source of hair loss is not contagious and requires no additional treatment.”
Hair Loss Policy

The Transport List must specifically include a note in the “NOTES” section for the specific dog that identifies the following:

- date of veterinary exam
- name of veterinarian who has determined to the best of their knowledge that the area(s) of hair loss are not contagious and require no additional treatment
- name of dog
- location of hair loss
- explanation of hair loss
Hair Loss Policy

On (DATE) Dr. (DVM) determined that the observed hair loss on (NAME) located (LOCATION) is likely the result of (EXPLANATION) and that it is not contagious and requires no additional treatment.

“If a veterinarian confirms or has clinical suspicion of a condition that is contagious and/or requires additional treatment, the dog is not eligible for transport and must be removed from the Transport List.”
Hair Loss
Hair Loss

Photos courtesy of Dr. Natalie Isaza
Hair Loss
Hair Loss
Hair Loss

Photo courtesy of Dr. Natalie Isaza
What is it?
What is it?
Ring Worm

- Dermatophytosis “Ring Worm”
  - Fungal infection
  - Highly contagious
  - Zoonotic
  - Transmission
    - Direct contact
    - Contaminated environment

Photo courtesy of Dr. Amie Burling
Ring Worm

• Clinical Signs
  – Hair loss
  – Scabbing/crusting
  – Focal areas on face, ears, feet, or tail
  – Can look like anything!
  – Itchiness +/-
Ring Worm

• Prevention
  – Careful inspection of all incoming animals
  – Segregate affected animals
  – Good husbandry
Ring Worm

- Wood’s Lamp
  - Be aware of limitations
  - Not reliable
Ring Worm

Diagnosis

- Gold standard is a **fungal culture**

Positive culture
Ring Worm

- Management
  - Decide: to treat or not to treat
  - Consider: available resources
  - Removal of clinically affected dogs
  - Isolation/quarantine
  - PPE for staff
Ring Worm

• ISOLATE
• Environmental Decontamination: The 5 D’s
  – Diagnose → fungal culture
  – Discard → anything you can’t disinfect
  – Debulk → clear clutter
  – Disinfect → i.e. 1:10 bleach
  – Document → environmental culture
Ring Worm

Treatment

• Until negative culture achieved
Success!
Congratulations!
QUESTIONS?

THANK YOU!