SHELTER PRACTICES TO CONTROL INFECTIOUS DISEASE

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Objectives

- Intake practices
- Housing and cleaning
- Animal flow
- Welfare monitoring-rounds
Intake

- Before animal enters population
- Full exam – specially trained staff
- Woods lamp
- Vaccinations
- Parasite treatment
Exam
Catch those sneaky diseases before they enter your population!
Respiratory Signs-Dogs

- Coughing, sneezing, ocular/nasal discharge
- Canine Infectious Respiratory Disease Complex (Kennel cough)
  - Viruses: Parainfluenza, Adenovirus-2, Respiratory coronavirus (this is distinct from canine enteric coronavirus), Herpesvirus-1, Pneumovirus
  - Canine distemper and canine influenza (H3N8 and H3N2) may also be associated with upper respiratory signs, but can also cause more severe systemic disease in a proportion of infected dogs.
Respiratory Signs-Dogs

- Bacterial pathogens implicated in CIRDC include: Bordetella bronchiseptica, Mycoplasma spp., Streptococcus zooepidemicus (may cause severe fatal pneumonia)

- All need isolation!

- Can do a PCR to determine cause before treatment, BUT costly!
Respiratory Signs - Cats

- Sneezing, congestion, inappetance, ocular and nasal discharge
- Viral causes: Feline Herpesvirus-1 (FHV-1), Feline Calicivirus (FCV)
- Bacterial causes: *Chlamydophila felis* (C. felis), *Mycoplasma* spp., or *Bordetella bronchiseptica*.
- Can also get secondary bacterial infections
- Need low stress, if significant respiratory secretions need isolation
Feline upper respiratory disease is a syndrome that is usually caused by viruses. Bacterial infections can occur but most affected cats do not need antibiotics.

**IF IT’S JUST A SNEEZE, LET IT BE.**

Antibiotics are not needed or useful in most cases.

If nasal discharge is not mucopurulent or purulent, bacterial infection is unlikely. Even with mucopurulent or purulent discharge, treatment is not often needed.

Culture of nasal secretions is unlikely to be rewarding and may be misleading.

Unless fever, lethargy or anorexia develop, observe the cat for 10 days. Antibiotics are not needed.

If signs are still present after 10 days or if fever, lethargy or anorexia develop, antibiotics are likely indicated.

Prescribe doxycycline, 5 mg/kg PO q12h or 10 mg/kg PO q24h.

Treat for 7-10 days and monitor clinical response.

Test for FIV and FeLV infection.
Parvo....

- Canine parvovirus and feline panleukopenia
  - Vomiting
  - Diarrhea (+/- blood)
  - Dehydration
  - Lethargy
  - Inappetance
  - More common in young unvaccinated animals
  - Incubation period canine-3-14 days, feline 5-14 days
  - Shed for 3 days before see signs of disease!
Canine Parvo ELISA Tests

- In house canine parvo snap tests are fast and convenient! On intake or if symptoms noticed during rounds.

- Dogs: University of Wisconsin did a study of 64 vaccinated dogs with modified live CPV-2 vaccines, the IDEXX’s SNAP test did not detect CPV-2 in their feces.

Canine Parvo ELISA Tests

- IDEXX SNAP reports 100% sensitivity and specificity

- Other studies have shown slightly less numbers but still great cage side test!!!
Canine Parvo ELISA in Cats

- False negative for both canines and felines due to short shedding period of the virus

- Neuerer et al. showed a lower sensitivity of 60% and higher specificity of 100% (Positives are positive)
  

- Abd-Eldaim et al. 55 positive samples on IDEXX SNAP, 54 on PCR (1 false positive). 42 negatives on SNAP with only 39 negative on PCR
  
Canine Parvo ELISA in Cats

- Do snap test first and then can back up results with PCR (1-3 business days) and CBC

- Patterson et al. did a study in 2007 Showed vaccines can cause false positives (IDEXX Snap had least number of false positives)

Dermatophytosis

- Microsporum and Trichophyton
  - Signs: hair loss (alopecia) +/- crusting
    - Pinna, face and feet
- Highly infectious and zoonotic!
- Gold standard test is fungal culture that takes minimum 2 weeks!
Woods Lamp exam
Woods Lamp Exam

- Estimated 30-80% of M. Canis will fluoresce
- Trichophyton does not fluoresce
- Lots of false negative
- Unskilled workers may get false positives!
  - Doxycycline
  - Respiratory secretions
Sample Collection for Testing

- Ringworm PCR
  - 1-3 day turnaround
  - Toothbrush and hair pluck
- Study by Jacobson et al. showed 100% sensitivity and 88.5% specificity
- Does also test for trichophyton
- PCR not useful for testing during treatment (remain positive)
Vaccinations

- Vaccination prior to intake if possible
- Provide protection within hours to days depending on the pathogen
- Modified live vaccinations (except rabies) due to more rapid onset of immunity
- AAHA for dogs
- AAFP for cats
# Vaccinations-Dogs

<table>
<thead>
<tr>
<th>Dogs</th>
<th>Initial series</th>
<th>Revaccination</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Puppies</td>
<td><strong>DHPP</strong></td>
<td>Minimum age 4 weeks</td>
<td>After puppy series, revaccinate in 1 year, then every 3 years</td>
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<td></td>
<td>In shelter: Every 2 weeks until 20 weeks of age</td>
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<tr>
<td></td>
<td>If outside of shelter in foster home: Every 3-4 weeks until 20 weeks of age</td>
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<tr>
<td></td>
<td><strong>Bordetella (IN) (Usually with Parainfluenza)</strong></td>
<td>Minimum age 4 weeks</td>
<td>Revaccination only required if given at &lt; 6 weeks of age. Then annually. Never SQ, IN only. If given SQ can cause serious life threatening issues. Immunity as early as 48-72 hours</td>
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<tr>
<td>Adults</td>
<td><strong>DHPP</strong></td>
<td>Unvaccinated, not current: Vaccinate at intake</td>
<td>Revaccinate in 1 year, then every 3 years</td>
</tr>
<tr>
<td></td>
<td><strong>Bordetella (IN) (usually with Parainfluenza)</strong></td>
<td>Unvaccinated, not current: Vaccinate at intake</td>
<td>Revaccinate yearly</td>
</tr>
<tr>
<td></td>
<td><strong>Rabies</strong></td>
<td>Unvaccinated, not current: Vaccinate from 12 weeks of age</td>
<td>Revaccinate within 1 year and at that time if given 3 year vaccine can be given every 3 years</td>
</tr>
<tr>
<td>Cats</td>
<td>Initial series</td>
<td>Revaccination</td>
<td>Notes</td>
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| FVRCP kitten series | Minimum age 4 weeks  
In shelter: Every 2 weeks until 20 weeks of age  
On foster: Every 3 weeks until 20 weeks of age | After kitten series, revaccinate in 1 year, then every 3 years | Protection as early as 72 hours for kittens and adults  
| FVRCP adults     | Unvaccinated, not current: Vaccinate at intake, repeat after 2 weeks           | Revaccinate in 1 year, then every 3 years                |                                                                      |
| Rabies           | Unvaccinated, not current: Vaccinate from 12 weeks of age                     | Revaccinate within 1 year with 3-year vaccine; then every 3 years |                                                                      |
Parasite Treatment

• Tailored to prevalence and animal source
• Minimum roundworms and hookworms
• External parasite treatment

Housing

- Separate areas for different species
- Based on health status
  - Healthy adoptable puppies and kittens
  - Healthy adoptable adults
  - Stray healthy adoptable puppies and kittens
  - Stray healthy adults
  - Quarantine
  - Isolation
ASV Housing Guidelines

- “Primary enclosure must provide sufficient space to allow each animal, regardless of species, to make normal postural adjustments”

- Need over 2 feet of triangulated space between resting place, litter box and food for cats

- All species should have enrichment including toys, scratching surfaces for cats, things to chew on for dogs, a place to hide as well cats should have a place to perch
Housing and URI

- Study by Hurley et al. showed significantly lower URI if:
  - Intake floor space >8 ft²
  - Movement of cats in and out of the cage <2 times in the first 7 days


Stress-stay tuned!

https://www.pinterest.ca/pin/379850549791563842/
Cleaning Protocols

- Written and understandable
- Posted, signed off by staff to encourage responsibility
- Consistency
- Many great protocols out there that can be amended for your shelter
Cleaning Protocols

- Need to first clean, then disinfect
- Accelerated hydrogen peroxides are great because they have both detergent and disinfection properties
- For a disinfectant to work all debris must be removed
- Ensure surface are not only clean but dry as bacteria and viruses can live in pools of disinfectant.
Cleaning Protocols

- Consider if animal is coming back to cage
- More thorough if new animal to be put in cage
- It is never okay to spray out a dog run with the dog in it
- If no two sided runs for cleaning dogs can coordinate cleaning/walking times, may need to have special volunteers to be scheduled to walk during cleaning hours
Spot Cleaning Cats

- Stress reduction
- Less staff time
- Less animal movement
- Less laundry!

Spot Cleaning Cats

- Confine cat to one side of cage if cage portalized or put in hidey box
- Tidy cage, freshen water, provide a clean litter box, leave bedding unless heavily soiled
- If spots are dirty spray paper towel or single use washable rag outside of cage with accelerated hydrogen peroxide and wipe
Cleaning—not just enclosures

- Exam rooms/tables
- Door knobs
- Vehicles
- STAFF
Personal Protect Equipment

- Separate protective clothing should be worn depending on area of shelter

- In isolation areas you may need disposable gowns, gloves, booties and hairnets if you are dealing with ringworm

- Foot bathes not recommended
  - Disposable booties better!
  - Foot baths don’t significantly reduce bacterial load and in some cases increase transmission

https://www.sheltermedicine.com/library/resources/?utf8=u2713&search%5Bslug%5D=sanitation-in-animal-shelters
HOW I FEEL COMING OUT OF ISOLATION ROOMS

Hand hygiene

- Wash hands!!!!
- Wear gloves and change/sanitize them between cages
Capacity for Care

• Lecture on its own!
• Protocols only work if you have enough staff to care for the animals in your shelter
• Staffing is only one of the aspects of capacity for care
• https://millioncatchallenge.org/resources/capacity-for-care
Animal Flow

- Every animal needs a plan!!!

Intake → Surgery → Adoption

Intake → Foster-to-adopt → Surgery → Finalize adoption
Shelter Rounds

- Ensures every animal’s needs are met
- Should include representative from all departments included in animal flow
- Helps detect behavioural and medical welfare concerns
- Look for signs of previously discussed diseases
Conclusion

- Every animal needs:
  - Clean and comfy place to stay
  - Disease prophylaxis/treatment
  - PLAN!!!
  - Care/monitoring
References


