

**Alphabetical Resource of Shelter Medicine Topics**  
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There is a great deal of information contained below. Shelters must be constantly seeking ways to improve the care and well-being of the animals they house and this is in no way a compilation of all relevant resources or topics.

We recommend that all shelters have access to a copy of the textbook “*Shelter Medicine for Veterinarians and Staff*” by Miller and Zawistowski, and be aware that websites such as ASPCA-Pro and the UC Davis Koret Shelter Medicine Program contain a great deal of comprehensive information.

In addition, the following websites have extensive resources for those responsible for the care and well-being of shelter animals:

- ASPCA-Professional  
<http://www.ASPCApro.org/>
- Shelter Medicine for Veterinarians & Staff  
<http://www.ASPCA.org>
- UC Davis Koret Shelter Program  
<http://www.sheltermedicine.com>
- Association of Shelter Veterinarians  
<http://www.sheltervet.org>

However the ASPCA can be of assistance to you, please let us know.

- **Aggression Assessments**

There is substantial liability for a facility in adopting animals with known bite histories or significantly aggressive behaviors. Professionally training staff members to use a standardized behavioral assessment system such as SAFER™ for evaluating animals on intake and serially during their stay is recommended. Having a standardized basis to determine adoption potential, and further if animals are improving during their shelter time or potentially deteriorating, is helpful in understanding what is working, what isn't, and allows a higher level of overall mental wellness to ensue.

Meet Your Match SAFER: Manual and Training Guide. (2008). ASPCA.

Dowling JM. Putting your Behavior Evaluation Program to the Test, Part I: Why Every Shelter Should have a Behavior Evaluation Program. *Animal Sheltering*, September-October 2003;14-25.

Dowling JM. Assess with Success Part Two: Evaluating Animals for Adoption. *Animal Sheltering* November-December 2003:15-26.

Reid, P., Goldman, J., Zawistowski, S., Animal Shelter Behavior Programs, In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:317-329

Sternberg, S. Great Dog Adoptions: A Guide for Shelters. Alameda, California: The Latham Foundation, 2002.: [www.suesternberg.com](http://www.suesternberg.com)

Weiss, E. SAFER: The Safety Assessment for Evaluating Rehoming.  
[www.emilyweiss.com/safer.html](http://www.emilyweiss.com/safer.html).

Evaluating Your Shelter: Are You Ready to Implement a Behavior Program?  
Humane Society University.  
[www.humanesocietyu.org/workshops\\_and\\_classes/evaluating\\_your\\_shelter.html](http://www.humanesocietyu.org/workshops_and_classes/evaluating_your_shelter.html)

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- **Enrichment**

Stress is an inevitable component of a shelter animal's life that can contribute to an immunocompromised state. Every effort to minimize physical, emotional and

environmental stressors should be made. Overcrowding in shelters is a frequent cause of stress, and should be minimized. Enrichment should be standard in shelters, minimally for animals in incoming areas and long-term holding areas, but ideally for all animals. Bedding/blankets, toys and exercise are components of basic enrichment. Proper noise and odor reduction, temperature and light control, human interaction, appropriate use of colony housing, and play groups are other examples of enrichment that can be of use. Enrichment can be defined as any addition to an animal's environment with which the animal voluntarily interacts and, as a result, experiences improved physical and/or psychological health.

In general, overall enrichment should include:

Canine:

Daily walks (controlled and monitored)

Social interaction (both human and canine when possible) – if dog chooses to engage

Food “games” (using food/treat dispensing toys such as Kong®, Tug-n-Jug™ etc)

Opportunities for sensory stimulation such as sound (classical music or sounds of prey animals) odor (lavender, spices, and even a bit of bedding from the cat area) and textures (brushes, soft bedding, hard boomer balls to push about)

Feline:

Social interaction (human) – if the cat chooses to engage

Food games (small Kongs™ or tricky treat balls™ with diet or treats inside)

Batting toys

Opportunities for sensory stimulation

Guidelines for Colony Cat Care:

<http://www.petfinder.com/journal/index.cgi?article=495>

<http://www.petfinder.com/journal/index.cgi?article=501>

<http://www.petfinder.com/journal/index.cgi?article=498>

Reid, P., Goldman, J., Zawistowski, S., Animal Shelter Behavior Programs, In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:321-328

- **Identification**

Many of the millions of animals that enter shelters are lost. More than 90% of lost pets are not reunited with their owner. With proper identification, many animals entering shelters could quickly be returned to their owner. A registered microchip and a collar with an identification tag placed by the shelter can be lifesaving.

- **Intake Examination**

Shelter health care should start with a brief physical exam by staff as soon as possible after admission. The exam should allow recognition and routing to isolation of animals with obvious illness and identification of animals requiring immediate further medical care. Intake exams help to limit widespread disease, group animals in the shelter, and initiate good data management. The intake exam should include a basic systems exam for any sign of injury or illness, as well as a quick check for identification (microchip/tattoo)

that could aid in owner reunification. Other things that can be accomplished as a part of intake exam include making certain animal's description is accurate by checking neuter status and age, preliminarily assessing the temperament, and starting an accurate medical record. Intake exams do not replace veterinary examinations, but are useful as screening evaluations. If health problems are noted, veterinary evaluation and consultation should occur.

Sample Animal Health Check Form, In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:313

[http://www.sheltermedicine.com/documents/performing\\_physical\\_exam.pdf](http://www.sheltermedicine.com/documents/performing_physical_exam.pdf)

Appel, L. Basic Physical Examination for Shelter Animals. PetSmart Charities Webinar, February 24, 2006 (recorded sessions).

<https://petsmartcharities.webex.com/mw03051/mywebex/default.do?siteurl=petsmartcharities>

- **Nutrition**

Feeding the right amount of a quality, consistent diet can help improve health, especially in animals who have not been receiving balanced nutrition prior to arriving at the shelter. Part of establishing good nutrition involves training staff in how to assess normal body condition and creating a feeding chart so that staff know how much food to measure and feed based on an animal's approximate weight and age on a regular basis. Some diseases can be caught early if there is a means of weighing animals on a regular basis and discovering loss or gain. Juvenile animals should be fed several meals throughout the day. There are brand name feeding programs that allow shelters to receive free high quality foods and feed consistently or simply using an AAFCO (American Association of Feed Control Officials) approved brands is advised as a minimum standard.

[Appendix 1. Sample Feeding Protocol \(LA-SPCA\)](#)

Case, L. and Fahey, GC., Nutritional Challenges for Shelter Animals. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:79-93

[http://www.sheltermedicine.com/portal/is\\_nutritional.shtml](http://www.sheltermedicine.com/portal/is_nutritional.shtml)

- **Parasite Treatment**

Internal and external parasites may not always be apparent, but they are often uncomfortable for animals, they are potentially contagious to other animals and humans, and they are draining to the immune system as a whole. In the shelter, it is not practical to test for every possible parasite, and so the main goals should be to prevent zoonotic disease, reduce overall immunocompromise, and prevent transmission to other animals. Deworming early in the course of animals' stay for the main zoonotic agents (roundworms and hookworms) may help with each of these goals.

[Appendix 2. ASPCA® Guide to Prophylactic Parasite Control](#)

Companion Animal Parasite Council

<http://www.capcvet.org/>

Center for Disease Control

<http://www.cdc.gov/healthypets/>

[http://www.sheltermedicine.com/portal/is\\_parasite\\_control.shtml](http://www.sheltermedicine.com/portal/is_parasite_control.shtml)

- **Population Management**

**Capacity** - how many *functional, permanent and appropriate* housing units per animal exist should be known. Hallway/lobby/office space/portable crates are not included in this calculation as it is intended to represent permanent spaces. Capacity can vary slightly based on factors like staff ability to care for animals, size of animals etc...but for the purposes of calculation, it is estimated conservatively.

**Actual observed population** should be known on a daily basis for each sheltered species. Systems that allow an efficient daily inventory need to be implemented.

**Intake and exit numbers** - calculating and understanding the number and breakdown of animals entering and exiting the shelter on average (day, month, year), can allow the shelter to work proactively versus reactively based on an expectation of what will occur on a regular basis to keep within capacity guidelines.

**Average length of stay that prevents overcrowding** can be calculated based on capacity.  $\text{Total cage spaces} \div \text{Total annual intake} \times 365 = \text{average stay that prevents overcrowding}$ . From here, the shelter can calculate the actual stay that animals are incurring, and work to decrease it on an everyday basis.

**Prompt evaluation** of every animal:

- Intake exam of animals on arrival
- Evaluate surrendered animals on arrival-24 hours
- Evaluate stray animals within 24 hours of the release date
- Make decisions and take action promptly after evaluation

**Monitor length of time to all possible outcomes by species**

1. Adoption
2. Reclaim
3. Transfer/Rescue
4. Euthanasia
5. Death

**Troubleshoot** – what could decrease average shelter time?

Resolution of legal cases?

Prompt reclaim?

Efficient transfer/rescue partner programs?

Providing spay/neuter efficiently so that adopted animals are not waiting for this service in order to leave the shelter?

Highlight adoptable animals with cage cards, signs and programs like “Meet Your Match” ?[http://www.asPCA.org/site/PageServer?pagename=aspcapromym\\_landing](http://www.asPCA.org/site/PageServer?pagename=aspcapromym_landing)  
Decreasing shelter illness?

### **Keep statistics – reflection of what is working and what might be changed**

Hurley, K., Implementing a Population Management Health Plan in an Animal Shelter. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:211-234

UC Davis Koret Shelter Medicine Program recorded lecture on shelter population dynamics <http://breeze.ucdavis.edu/p14469253/>

- **Sanitation**

Sanitation is a key part of keeping the environment healthy. Without proper cleaning and disinfecting, disease can quickly spread. Whenever there is a disease issue in a shelter, one of the first steps should be a thorough review of sanitation protocols and how they are being implemented. Often, a breakdown has occurred. Many shelters make the mistake of assuming that cleaning and disinfecting occur at the same time, when in fact, they require separate steps. Sanitizing thoroughly and well at set intervals is recommended, rather than frequent but cursory cleanings. Creating a written protocol is advantageous for an effective sanitation protocol and attached are several handouts that can be modified to your shelter’s use.

[Appendix 3. ASPCA® Sanitation 101](#)

[Appendix 4. ASPCA® Guide: Cleaning Dishes](#)

[Appendix 5. ASPCA® Guide: Cleaning Laundry](#)

[Appendix 6. ASPCA® Guide: Cleaning Dog Kennels](#)

[Appendix 7. ASPCA® Guide: Cleaning Cat Kennels](#)

[Appendix 8. ASPCA® Guide: Cleaning Communal Cat Rooms](#)

- **Segregating Subpopulations**

Having well designated areas to separate the animals most likely to spread infectious disease from those most likely to contract it can be helpful. Most older facilities are not well designed for this and some creativity in use of space is necessary. Ideally, separate areas should exist for dogs and cats, young animals and adult animals, and infectious or potentially infectious animals. Many shelters further segregate into stray and adoptable animals, aggressive and feral animals and other smaller groups. In general, the smaller the population, the less likely a large outbreak of disease is to occur.

Webinar on Shelter Caging/Housing

<http://petsmartcharitiesblog.org/webinars/?q=taxonomy/term/98>

[http://www.sheltermedicine.com/portal/is\\_shelter\\_design.shtml](http://www.sheltermedicine.com/portal/is_shelter_design.shtml)

Johnson, T. The Animal Shelter Building. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:55-66

- **Shelter Software**

Petfinder provides an updated spreadsheet comparing software programs.

[http://www.petfinder.com/admin/shelter\\_software/index.cgi](http://www.petfinder.com/admin/shelter_software/index.cgi)

- **Spay and Neuter Programs**

Spaying and neutering of shelter animals should be viewed as part of the basic wellness program. Ideally, all animals are altered prior to adoption, with few exceptions. This decreases the need for follow-up by the shelter and guarantees that adopters are in compliance. It also sets a great example for the community. Since shelters recognize that widespread sterilization of a community's animals often decreases their shelter intake, they often play a vital role in coordinating spay/neuter services for targeted animal populations within a given location.

Appel, L. and Hart, R., Spay and Neuter Surgical Techniques for the Animal Shelter. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:355-377

Appel, L. Shelter Outreach Services: High Volume High Quality Spay/Neuter for the Community. PetSmart Charities Webinar, September 1, 2006, (recorded session).

<https://petsmartcharities.webex.com/mw03051/mywebex/default.do?siteurl=petsmartcharities>

ASPCA Professional:

[www.aspcaprof.org/site/PageServer?pagename=aspcaprofn\\_landing](http://www.aspcaprof.org/site/PageServer?pagename=aspcaprofn_landing)

[www.aspcaprof.org/site/PageServer?pagename=aspcaprofl\\_feral](http://www.aspcaprof.org/site/PageServer?pagename=aspcaprofl_feral)

Feral Cat Spay/Neuter Project

<http://www.feralcatproject.org/default.aspx>

Humane Alliance

<http://www.humanealliance.org/HA2/ha-index.htm>

Jenkins, K. A Clinic's Best Client: Providing Spay/Neuter to Adoption Agencies In the Community. PetSmart Charities Webinar, February 29, 2008 (recorded session).

<https://petsmartcharities.webex.com/mw03051/mywebex/default.do?siteurl=petsmartcharities>

Looney, A. et.al. The Association of Shelter Veterinarians veterinary medical care guidelines for spay-neuter programs. JAVMA, July 1, 2008, Volume 233, Number 1.

<http://avmajournals.avma.org/toc/javma/233/1?cookieSet=1>

Shelter Outreach Services

<http://www.shelteroutreachservices.org>

Weedon, J., Strategies for Recruiting and Retaining Spay/Neuter Veterinarians

[http://www.aspcaprof.org/site/DocServer/Recruiting\\_SN\\_Veterinarians.pdf?docID=12401](http://www.aspcaprof.org/site/DocServer/Recruiting_SN_Veterinarians.pdf?docID=12401)

- **Standard Operating Procedures**

As you begin to develop standard operating procedures, the ASPCA has a template program available that may be of use to you. We would be happy to help you in this process and have included several generic protocols here that may serve as a starting point for your organization's written wellness procedures. It is suggested that an accessible central binder for all SOPs be kept, that SOPs be regularly reviewed and updated, that oversight of implementation is occurring, and that a clear process be implemented for communicating any changes to staff.

[http://www.animalsheltering.org/resource\\_library/magazine\\_articles/sep\\_oct\\_2004/smooth\\_operations\\_sep\\_oct04.pdf](http://www.animalsheltering.org/resource_library/magazine_articles/sep_oct_2004/smooth_operations_sep_oct04.pdf)

For guidelines and suggestions for setting up SOPs in your agency, refer to the Standard Operating Procedures pages of ASPCApro.org:

[http://www.aspcapro.org/site/PageServer?pagename=aspcapro\\_sops](http://www.aspcapro.org/site/PageServer?pagename=aspcapro_sops)

- **Treatment Protocols**

Although most shelter medical treatments are performed by staff, diagnosis, treatment protocols and oversight of these protocols should originate with a veterinarian. Protocols should describe how to recognize signs of illness in individual animals as well as the population. Plans need to provide step-by-step instructions for achieving a diagnosis, selecting for treatment, management, treatment, and what constitutes recovery versus failure. Medications, especially antibiotics, which are important in the management of many diseases including upper respiratory disease in both dogs and cats, need to be dosed based on accurate animal weights, to be given at proper intervals, and to be wisely selected. Use of long term single agent antibiotic therapy at substandard doses in a large population constitutes a significant risk for development of resistant bacteria. This can make treatment progressively more challenging and may become a public health concern. Veterinary guidance in judicious antibiotic selection and use is essential.

[Appendix 9. Sample URI Protocol](#)

Hurley, K., Implementing a Population Management Health Plan in an Animal Shelter. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:211-234

Infectious Disease Policy and Protocol Development

<http://www.sheltermedicine.com/portal/documents.php?start=41>

- **Vaccinations**

Vaccines are one of the most important and potentially lifesaving tools shelters have available. Vaccinating in the shelter requires some decision making and can be confusing. Shelters are such unique environments that different vaccine protocols from those used in small animal practice are now recommended by experts like the American Association of Feline Practitioners and the American Animal Hospital Association. Although these



documents provide reference guidelines, no single protocol works in every situation, and tailored strategies that weigh risks and benefits to individuals and populations are still important. In general, it is recommended to vaccinate animals as soon as possible, to vaccinate every animal (with few exceptions such as fractious/feral, severely ill, +/- pregnant) and to use modified live vaccines. Modified live vaccines take less time to induce immunity in animals. Shelters can adapt a vaccination protocol from the panel recommendations, which differentiate between vaccines recommended on intake, on intake or exit, and those not considered essential.

#### [Appendix 10. ASPCA® Guide to Shelter Vaccination for your use and adaptation](#)

Canine guidelines

[http://www.aahanet.org/About\\_aaha/About\\_Guidelines\\_Canine06.html](http://www.aahanet.org/About_aaha/About_Guidelines_Canine06.html)

Feline guidelines

[http://www.sheltermedicine.com/documents/vaccination\\_jul\\_aug06.pdf](http://www.sheltermedicine.com/documents/vaccination_jul_aug06.pdf)

[http://www.sheltermedicine.com/portal/is\\_vaccination.shtml#top3](http://www.sheltermedicine.com/portal/is_vaccination.shtml#top3)

Ford, R. Vaccination Strategies in the Animal Shelter Environment. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:285-305

- **Welfare and Euthanasia**

Criteria for euthanasia decisions are important to agree upon and to clearly document. In a community working to increase live release rate overall, before statistics can have any meaning, steps need to be taken to establish consistency in language and reporting. Staff training and support surrounding euthanasia is critical.

[http://www.aspcaproamo.org/site/PageServer?pagename=aspcaproamo\\_jamo\\_definitions](http://www.aspcaproamo.org/site/PageServer?pagename=aspcaproamo_jamo_definitions)

<http://www.asilomaraccords.org/>

<http://www.saverate.org/html/resources.html>

Sinclair, L. Euthanasia in the Animal Shelter. In Zawistowski, S., Miller, L., eds. *Shelter Medicine for Veterinarians and Staff*. Ames, IA: Blackwell Publishing, 2004:392-394

## **Appendix 1. Sample Feeding Protocol (from LA-SPCA)**

### **MORNING FEEDING**

#### **Dogs:**

- Using two large Rubbermaid containers mix up hard kibble with six cans of wet food for each container and add enough water to create appropriate moisture so the food is more appetizing to the dogs. Keep the area clean as you make the food; toss the cans and can tops into the trash.
- Using two carts place one full Rubbermaid food container on each cart along with both large and small clean dishes working in teams of two. Going down each row, one person takes one cart to the Healthy Adoption (first) and then the Isolation runs (last). The other person feeds Healthy Stray Hold (first), small dogs (second), and Quarantine (last).

**BE OBSERVANT – IF THERE IS A “DO NOT FEED” SIGN ON THE ANIMAL’S CAGE THEN DO NOT FEED THAT ANIMAL!! PLEASE REMEMBER ANIMALS THAT ARE FED BEFORE SURGERY CANNOT BE SPAYED OR NEUTERED THAT DAY AND WILL NOT BE ABLE TO BE MOVED TO ADOPTION AS FAST.**

**If the cage card indicates an animal should be fed twice a day that is because it is a puppy or a kitten or the animal needs to put on weight.**

#### **AMOUNTS PER SERVING ARE AS FOLLOWS**

X-Large dogs (90 lbs and over) = 5 cups of mix

Large dogs (60 - 90 lbs) = 4 cups (not heaping) of mix

Medium dogs (35 - 50 lbs) = 2 cups of mix

Small dogs (5 - 30 lbs) = ½ to 1 cup of mix, more wet than dry

Puppies = ½ cup of each with mostly canned food (FED TWICE A DAY)

If there is any food left over in the Rubbermaid bins then go back and give more food to the skinny dogs or the large dogs.

The Rubbermaid containers are then taken to the dish washing area and placed in the detergent to soak.

Staff assigned to clean puppies are responsible for feeding the puppies and the nursing mothers. Use puppy chow and wet food. If there is a mama nursing she would get puppy chow also. Puppies must be fed in a large flat bowl that allows all the puppies to eat easily. If necessary put in two bowls.

The food dishes are collected during clean up.

### **AFTERNOON FEEDING**

Puppies 6 months and younger are fed again at 3pm along with any animal that needs to gain weight. The indication that the animals need to be fed twice is indicated on their cage card. Kennel staff can mark on a cage card if they feel that animal should be fed twice a day.

## Appendix 2. ASPCA® Guide to Prophylactic Parasite Control

- Dogs and cats can carry a wide variety of internal and external parasites, some of which can be passed to humans, and some of which can cause significant disease and discomfort in their host.
- It is not possible or practical to test or treat for all possibilities.
- Shelters should create written guidelines for prophylactic parasite control tailored to regional and facility parasite prevalence and based upon the sheltering facility and mission
- The Center for Disease Control and the Companion Animal parasite council provide guidelines that can be used for shelters to reference

### General Recommendations

- There is no ideal product that will safely and cheaply treat for all parasites.
- Therefore, deworm animals on intake with a product that covers the main zoonotic agents of concern (hookworms and roundworms).
  - Example products include pyrantel pamoate, fenbendazole
- Animals with clinical signs should additionally receive individualized workup and treatment.
- It is strongly advised that all shelters provide written information explaining to adopters that adopted animals should have a physical examination and a stool sample checked by their regular veterinarian soon after adoption to check for parasites.

### Pyrantel Pamoate

- Pyrantel pamoate is labeled for use in dogs to eliminate *Toxascaris leonina*, *Toxocara canis* (roundworms), *Ancylostoma caninum* and *Uncinaria stenocephala* (hookworms). It is not labeled for use in cats, but is safe and effective to use for roundworms and hookworms in cats as well.
- Pyrantel pamoate comes in many brands. It is most important to understand the concentration (mg/ml) being administered in order to calculate a dose in mls.
- Creating a dosage chart is suggested
  - Dogs are dosed: Less than five pounds (2.2 kgs =1pound) - 10 mg/kg orally  
More than 5 pounds - 5 mg/kg orally
  - Cats are dosed: 10 mg/kg orally
  - Sample chart for Cats based on 50 mg/ml Concentration

<u>Weight in pounds</u>	<u>Dose (mls or ccs)</u>
0-5	0.5cc
5-10	1.0cc
11-15	1.5cc
16-20	2.0cc

- Adult dogs and cats are typically given one dose on admission to a shelter.
  - A second dose is recommended in 2 weeks.
- For animals less than 6 months of age, doses given two weeks apart are advised beginning at 2 weeks of age in puppies and three weeks of age in kittens.
- Nursing bitches, queens and pregnant animals can be safely dewormed.

## Appendix 3. ASPCA® Sanitation 101

### Introduction

Sanitation is the root of a healthy animal shelter environment and a key component in maintaining the health of the animals housed within. Proper sanitation involves thorough cleaning before appropriate disinfecting – *cleaning and disinfecting are not the same thing*. Without proper cleaning and disinfecting, disease can quickly spread. In animal shelters, there are many factors that can contribute to poor sanitation and spread of disease. Understanding these factors can help to prevent or detect problems in any sanitation program. Whenever the level of disease in a facility increases, reviewing sanitation procedures should be a priority.

### Program Goals

Animal shelters need thorough sanitation programs because disease transmission is always occurring on a low level. The animals, environment, pathogens and shelter operations themselves contribute to the spread of disease. Understaffing, lack of staff and volunteer training and overcrowding are key reasons why effective sanitation protocols may work in one shelter and fail in another. The goal of a good sanitation program should be to understand the interplay of all of these factors in an individual facility and strive to limit overall disease, prevent large outbreaks, and prevent zoonotic disease. There is not a universal sanitation plan that works well in every facility. It is very common to have a well designed written sanitation protocol that is not consistently implemented. Staff need to be carefully trained, and oversight must be provided to ensure a program's effectiveness. Plans should be continually reassessed and protocols readjusted to address new demands that arise from changes in shelter conditions

### Considerations

There are a number of factors to consider when designing a sanitation program for an animal shelter. The surfaces in need of cleaning, the common infectious agents, the expense of sanitizing agents, staff safety, ability and willingness to comply are just a few. Whenever possible, preplanning to create an environment that is easy to sanitize is best. Soil, grass, pebble gravel, and carpet are difficult to sanitize. Stainless steel, sealed concrete, non-porous plastic, and disposables are preferable.

### Sanitation

Sanitizing is a two-step process. In most shelters, sanitation is accomplished through cleaning and the application of a chemical disinfectant. Cleaning is the first step, and involves the manual removal of dirt and organic debris from all surfaces in addition to washing with hot water and soap. Cleaning does not kill pathogens, but mechanically removes them or reduces their presence. Disinfecting is usually a second step and inactivates the pathogens that were not removed in the cleaning process. Disinfecting is only effective if it is done properly. Effective chemical disinfection requires, among other things, application of the product after proper dirt and organic material removal, allowing sufficient contact time (usually 10 minutes), use of the correct agent to inactivate the pathogen, appropriate dilution, rinsing in some cases, and following label directions. It is essential to understand the pros and cons of the common products and their spectrum of activity and how each should be put into use when making protocol choices for a shelter.

- **Soaps and detergents** are cleaning agents which work by suspending dirt and grease and breaking up organic matter. Soaps do not necessarily kill germs. Dish soap is a common shelter detergent.
- **Degreasers** are strong cleaners formulated for removal of tough oils and greasy buildup. There are many brands of degreaser available for use in the shelter.
- **Disinfectants** are chemical solutions which kills germs. The particular germs killed depend on the ingredients. While some disinfectants serve a dual purpose and have some cleansing properties, many disinfectants do not effectively remove dirt and grease. Bleach, quaternary ammonium products ( like Roccal, A-33, Kennelsol), and Trifectant are examples of common shelter disinfectants.

### Common Shelter Disinfectants – Some Basics

Disinfectant Name	Common Name	Pros	Cons	Contact Time
<b>Sodium Hypochlorite</b>	5% Household Bleach	Inexpensive Effective against ringworm when used at 1:10 dilution Effective against parvo, panleuk at 1:32 dilution	Inactivated with organic material No detergent activity (cleaning step required) Irritating fumes and corrosive at higher concentrations Needs to be prepared fresh daily and protected from light	10 minutes
<b>Quaternary Ammonium</b>	Roccal Kennelsol A-33 Others	Some detergent activity Mild inactivation with organic material	Not reliable against parvo virus, ringworm, or panleukopenia  Inactivated by soaps	10 minutes
<b>Potassium Peroxymonosulfate</b>	Virkon-S Trifectant	Some detergent activity Stable for 7 days when mixed from powder Less inactivation with organic material Low tissue toxicity	Not reliable against ringworm More expensive	10 minutes

## **Appendix 4. ASPCA® Guide: Cleaning Dishes**

- Proper cleaning and disinfection is critical to shelter disease control and should occur on a regular basis along with tracking of disease to monitor whether a sanitation program is effective in an individual facility.
- Many facilities do not have the benefit of commercial dishwashers and wash dishes by hand. Either can be effective but following a basic protocol for dishwashing is essential for disease control.

### **General recommendations**

- Litter pans should be stored and cleaned separately from food and water bowls.
- A cleaning and disinfecting step are needed to properly sanitize dishes. Washing alone or bleach soaking alone are not sanitizing.
- Thorough rinsing and drying are important steps

### **Dirty dishes**

- Dirty food and water bowls should be removed from cages.
- All organic matter should be emptied into the garbage.
- Dirty litter pans should be removed from cages.
- All organic material and litter should be emptied into the garbage.
- Food and water bowls should be stacked and processed separately from litter pans in the dishwashing area.

### **Cleaning dishes:**

- a) Scrub by hand with hot soapy water and a scrub brush. Heavily soiled dishes or pans should be allowed to soak prior to scrubbing.
- b) Thoroughly rinse

OR – run through a commercial dishwasher detergent cycle

- c) After cleaning and rinsing, place into a 1:32 bleach rinse and soak for 10 minutes
- d) Rinse
- e) Allow to dry thoroughly
- f) Store dishes and litter pans in a clean area that is not open to the room air (cupboard or sealed container).

## **Appendix 5. ASPCA® Guide: Cleaning Laundry**

- Proper cleaning and disinfection is critical to shelter disease control and should occur on a regular basis along with tracking of disease to monitor whether a sanitation program is effective in an individual facility.
- Keeping up with shelter laundry can be a challenge. Without a basic laundry protocol, disease transmission can easily occur because bedding and toys are not properly sanitized.

### **General recommendations**

- Every washing machine and dryer will require slightly different protocols
- When possible, industrial washers and dryers should be used
- Hot water cycle will provide the best pathogen killing
- Follow the label directions for measuring amount of detergent and bleach per load
- A wash cycle that introduces detergent for cleaning, rinse cycle, introduces bleach for disinfection, rinse cycle will provide the best sanitizing. Alternately, laundry can be run through twice when heavily soiled (once with detergent and once with bleach).
- Hot air in the drier or allowing to dry in the sunlight is recommended

### **Dirty Laundry**

- Clearly designate an area for dirty laundry. Dirty laundry should be enclosed in plastic bags or bins until it is laundered.
- Staff handling dirty laundry should wear disposable gloves and protective smocks. Gloves should be discarded and smock changed when finished.
- Organic material should be removed from laundry before placing it into the machine. Heavily soiled articles should be pre-soaked.
- “When in doubt...throw it out”. If dealing with parvo, panleukopenia, ringworm or other hardy pathogens, consider discarding bedding or at minimum, running separate cycles.
- Washer or dryer machines should not be overloaded.

### **Clean Laundry**

- Designate a physically separate area for clean laundry. Ideally, clean laundry should be stored in closed containers or cupboards (not out in the open room).

### **Surgical Laundry**

- Surgical laundry should be handled, laundered and stored separately (ideally in separate machines but minimally separate loads) from any kennel laundry

## Appendix 6. ASPCA® Guide: Cleaning Dog Kennels

- Proper cleaning and disinfection is critical to shelter disease control and should occur on a regular basis along with tracking of disease to monitor whether a sanitation program is effective in an individual facility.
- General recommendations
  - All cleaning supplies and kennel supplies should be restricted to each room and should be stocked prior to initiation of cleaning. Closed containers should be used.
  - Items should not be stored on the floor or on top of cages.
  - Clean items should not be placed on the floor.
  - Dirty items should not be placed on clean surfaces.
  - A new set of disposable gloves should be worn or hands should be sanitized/ washed between touching or handling different animal groups.
  - Earplugs and goggles are aids for staff safety when cleaning dog kennels.
- At the beginning of cleaning, kennel staff will check each animal and its environment in their assigned section, including inside and outside of the animal's cage, to determine if immediate attention is needed.
- Always work in order of age and susceptibility to disease when cleaning
  - Start in the pediatric ward – vaccinated healthy adult – unvaccinated adult – sick ward
- Remove the dog from its kennel using proper stress reduction and safe handling techniques. If guillotine doors are present, place all dogs on one side of kennel and close door between dogs and kennel side needing cleaning.
- Remove contents of dirty kennels.
  - Remove food and water bowls. Empty organic material into garbage. Dishes should be cleaned following the dishwashing SOP.
  - Throw out any disposable items.
  - Remove dirty laundry/bedding. Shake organic material into garbage. Laundry can be placed in a plastic trash bag, and a laundry SOP should be followed.
  - Dirty toys should be removed and placed in a bin to go to the kennel kitchen or laundry as appropriate.
  - Remove any large organic material from cage using a pooper scooper and dispose of in garbage.
- Clean and disinfect the kennels (there are multiple appropriate ways to do this)
  - Rinse the kennels.
    - One time weekly, a degreaser should be used according to label directions along with manual scrubbing, then rinsed thoroughly prior to regular disinfecting.
  - Fill and attach a hose-end sprayer to properly dilute the disinfectant/detergent of choice. If bleach is used, soap/detergent cleaning and rinse steps are needed prior to this. Spray and thoroughly coat surfaces of kennels walls, gates, doors, fencing and aisle ways with the diluted disinfectant.
  - Scrub the surfaces of the kennels and floors with a stiff bristled brush to remove any particulate matter.
  - Allow 10 minutes of contact time.
  - Thoroughly rinse with water.
  - Squeegee dry
  - Drain covers and drains should be cleaned.
- Set up kennel with a clean bed, a clean toy, water bowl, appropriate food for the animal
- Open guillotine doors or place each dog into its same kennel
- Clean opposite sides of kennels with same method as above



## Appendix 7. ASPCA® Guide: Cleaning Cat Kennels

- Proper cleaning and disinfection is critical to shelter disease control and should occur on a regular basis along with tracking of disease to monitor whether a sanitation program is effective in an individual facility.
- General recommendations
  - All cleaning supplies and cage set-up supplies should be stored in closed containers that are restricted to each room and should be stocked prior to initiation of cleaning.
  - Items should not be stored on the floor or on top of cages.
  - Clean items should not be placed on the floor.
  - Dirty items should not be placed on clean surfaces.
  - A new set of disposable gloves should be worn or hands should be sanitized/ washed between touching or handling any animal.
  - Every kennel and all kennel items should be cleaned daily unless spot cleaning method is implemented.
- At the beginning of cleaning, kennel staff will check each animal and its environment in their assigned section, including inside and outside of the animal's cage, to determine if immediate attention is needed.
- Always work in order of age and susceptibility when cleaning
  - Start in the pediatric ward – vaccinated healthy adult – unvaccinated adult – sick ward
- Remove the cat from its kennel using proper stress reduction and safe handling techniques
- Remove contents of dirty kennels.
  - Remove and empty water bowls. Dishes should be cleaned following the dishwashing SOP.
  - Throw out all disposable items.
  - Remove dirty laundry/bedding. Shake organic material into garbage. Laundry can be placed in a plastic trash bag, and a laundry SOP should be followed.
  - Dirty toys are removed and placed in a bin to go to the kennel kitchen or laundry as appropriate.
  - Dirty litter boxes are completely emptied into the garbage and then stacked and collected to be washed. A paper towel can be used to remove and discard any organic material from the litter box.
  - Using a paper towel or glove, remove any large organic material from cage and dispose.
- Clean and disinfect the kennel
  - Dip a clean rag or paper towel in bucket of ½ tsp soap per gallon of hot water. If necessary use a scrub brush to loosen any particulate matter before wiping all surfaces. Include the doors/bars, walls and floor of the kennel.
  - Using clean rag/towels and clean water, wipe the cage thoroughly of the soapy water (rinse) and dry.
  - Using a clean rag/towel and properly diluted disinfectant, spray onto towel and wipe the kennel surfaces (or spray disinfectant directly onto kennel surfaces) and let stand for 10 minutes minimum.
  - Using a clean rag and clean water, rinse cage.
  - Using a clean towel or squeegee, dry cage well.
- Set up kennel with at least 2-3 layers of newspaper, a clean litter box, a clean bed, a clean toy, water bowl, hiding area.
- Place each cat into its same kennel

**The rest of the animal area (floors, garbage) etc should be cleaned as usual.**

## Appendix 8. ASPCA® Guide: Cleaning Communal Cat Rooms

- Proper cleaning and disinfection is critical to shelter disease control and should occur on a regular basis along with tracking of disease to monitor whether a sanitation program is effective in an individual facility.
- General recommendations
  - All cleaning supplies and cage set-up supplies should be stored in closed containers that are restricted to each room and should be stocked prior to initiation of cleaning.
  - Items should not be stored on the floor or on top of cages.
  - Clean items should not be placed on the floor.
  - Dirty items should not be placed on clean surfaces.
  - A new set of disposable gloves should be worn or hands should be sanitized/ washed between touching or handling different animal groups.
  - Daily cleaning is essential in a communal area. If a colony is stable and healthy, disinfection may occur less often but still should be a regularly scheduled event. In the event of disease outbreak, cleaning and disinfection should take place on a daily basis.

### Daily Group Cat Room Protocol:

- Enter room and observe cats for any signs of ill health. Fill out “daily observation sheet”
- Leave cats free in room while performing daily duties
- Cats should have free access to food and water at all times. Multiple bowls of food and clean potable water are provided daily in various locations throughout the room. To ensure availability, water bowls are to be checked twice daily and refilled as needed. If the water is dirty it should be discarded and replaced.
- If cat beds/towels are soiled, take them to the laundry for washing and replace them with clean ones.
- If disposable items are soiled or ruined, discard and replace
- Scoop litter pans daily, removing excreta and any soiled litter and replacing with clean litter.
- After scooping litter, sweep the floor.
- Wipe down soiled areas of the floor, walls, and doors with disinfectant solution if necessary. Stubborn areas, stains or materials that cling to surfaces should be addressed with a scrub brush.
- Remove room trash daily

### Weekly Group Cat Room Protocol (in addition to above duties)

- Remove cats from the room, using transport carriers, or other suitable temporary housing. Each cat should be assigned their own carrier that remains theirs for the duration of their stay and can be used whenever the cat needs to be removed from the group.
- Remove all litter pans, cardboard boxes, toys and food and water bowls.
  - Discard disposable items.
  - A bag for dirty laundry should be set out. Remove organic matter from laundry and empty into trash.
  - Water bowls should be emptied and collected for dishwashing.

- Food bowls should be emptied into garbage and collected for dishwashing
- Litter pans should be emptied into garbage and collected for dishwashing
- If there are cages in the colony room follow a traditional cage cleaning protocol
- Wipe down soiled areas of walls and doors with disinfectant solution if necessary.
- Sweep and mop entire room with detergent/disinfectant solution following floor cleaning protocol.
- Place clean food and water bowls and litter pans, bedding and enrichment items in various locations
- Before returning animals to the enclosure, weigh each cat and record weight on physical exam sheet.
- Return cats to room and release when floor is completely dry.

### **Monthly Group Cat Room Protocol**

- While cats are out of the room, if there are cage banks pull back from the walls.
- Tops and backs of cages should be wiped down with disinfectant Although they shouldn't be dirty they should be examined and if they are soiled and dirty, they should be washed with hot water and soap and rinsed before applying the disinfectant for the proper contact time
- Floors should be cleaned while banks of cages are pulled back.
- Trash barrels should be replaced or wiped down with detergent/disinfectant solution.
- Clean the exteriors and lids of feed barrels with disinfectant solution.
- Wipe interior of food barrels with disinfectant solution and allow to dry before placing new bags of feed into the barrel

## Appendix 9. ASPCA® Sample URI Treatment Protocol

### XXX Animal Shelter

#### Feline URI Protocol

#### **Background Information/Overview:**

Feline upper respiratory infections (URI) are an inherent problem in animal shelters. Feline URI usually is not a serious illness. However, if a high percentage of the cat population is ill, the public may not feel good about adopting from XXX. Additional costs, stress to the animals, and higher euthanasia rates result. It is thus essential to work to prevent the spread of URI among cats at XXX. The key to managing URI is prevention, not treatment. Because URI in cats is primarily viral, treatment should rely mainly on supportive care while allowing the cat's immune system to do its job.

The cornerstone of management of URI in shelters will always be limiting disease, not treating severely sick animals. Even a well-designed shelter isolation ward is a less than ideal place for a cat to recover from URI. The first priority should be to allocate resources to minimize the occurrence of URI - focusing on good husbandry, quarantine/health screening, and vaccination practices. This will be more rewarding than devoting large amounts of resources to caring for cats once they are ill. XXX has limited space to treat cats with URI and a limited number of adopters, and must therefore wisely choose candidates to invest time and resources into rehabilitating that have high chances of quick recovery and good adoption potential.

Every effort will be made to treat cats that are good candidates for adoption, using the guidelines below. If shelter resources are unavailable or too stretched to provide appropriate care, cats with upper respiratory infections may be fostered or euthanized to avoid substandard care and to prevent the spread of disease.

#### **Preventive Plan:**

##### **1. Cleaning-**

Standardized shelter cleaning protocols (including footbaths) are in place and strictly adhered to in order to minimize fomite contamination.

##### **2. Vaccination-**

Healthy cats > 4-6 weeks are vaccinated on intake with a SQ MLV FVRCP. Two to three weeks after entry, a booster MLV FVRCP vaccination is administered. Kittens are vaccinated every 2-3 weeks until 16 weeks of age

##### **3. Veterinary Care-**

Routine veterinary care is provided to maintain the best overall health of the population.

##### **4. Holding Periods-**

Stray cats are held for a 5 day period before processing to adoptions. Cats thought to be feral are separated from the surrender/stray population. Animals < 6 months and queens with litters are separated from adults. Group rooms are not overpopulated and cats of similar ages are grouped. Cats are placed into the groups and adopted out entirely before new additions are added. (all in – all out)

## 5. Supplies-

Animal care staff has sufficient detergent, disinfectant, smocks, coveralls, boots, gloves, etc. in case of an outbreak.

## 6. Behavioral Enrichment-

Routine behavioral and environmental enrichment is provided to minimize stress and decrease immunosuppression.

## Disease Monitoring:

1. Veterinary staff will monitor and track disease trends within the population.
2. Monitoring for URI is the responsibility of ALL staff – symptomatic animals should be noted on the veterinary board and the veterinary staff will check this board daily
3. Diagnosis will be based on the presence of typical symptoms.
4. Animals that are symptomatic for URI will be removed from the general population
5. FeLV/FIV testing is recommended on all cats prior to investing resources on treatment – will be performed at veterinary staff discretion

## Recognition :

Veterinary staff will perform BID surveillance of feline wards to identify cats with possible URI

Any one or combination of the following constitute URI symptoms:

- Clear or colored ocular discharge
- Sneezing with clear or colored nasal discharge
- Lethargy, anorexia
- Drooling
- Ulcerations of tongue/nose
- Fever

## Isolation:

Symptomatic animals will be promptly moved to Feline Quarantine by shelter staff as directed by shelter veterinary staff.

- Each cat is housed individually and treated as though infectious by staff following standard protocols
- Handling & traffic are minimized in the isolation area
- Wet food is offered BID to each cat with L-Lysine 500 mg adult, 250 mg kitten
- Each cat is treated individually by the veterinary staff

## Treatment:

\*\*\* Medical decisions at XXX are at the discretion of the shelter veterinarian. This includes when to start, change, and discontinue medications and supportive therapies. The following are standard guidelines\*\*\*

**Cats in the following categories may not be considered candidates for treatment for URI as prognosis is guarded. Some cats in these categories may be considered for foster care with approval by the shelter veterinarian**

Age: under 8 weeks

Geriatric

Nursing queens/late pregnancy

Health: Immune conditions (FeLV/FIV test prior to tx recommended – otherwise at vet discretion)

Skin conditions

Chronic urinary issues

Chronic diarrhea without medical reason identified

Other coexisting medical issues

Behavior: Cats must pass a behavior assessment prior to treatment

If cat's behavior declines during treatment, re-evaluation should occur

When space is a concern, those cats who have had minimal time for public viewing should be given priority for treatment versus those that have had > 2 weeks in adoption area and not found a home

Clinical signs: Initial severe signs – anorexia > 3 days

Fever > 105

Copious/bloody nasal discharge

Ulcerated tongue/nose/mouth

**Treatment is initiated based on clinical signs and overseen daily by the veterinary staff**

Basic antibiotic choice – Doxycycline, 10 mg/kg SID q 7-10 days

Ocular discharge – Terramycin or TABO OU BID – avoid steroid containing ointments

SQ fluids

**Each cat will have a brief physical exam performed daily by vet staff to evaluate progress.**

**i.** At 7 day isolation point, if improvement is noted, treatment may continue

**ii.** At 7 day isolation point, if cat is unresponsive, different treatment may be tried

**iii.** At 14 day isolation point, if cat is unresponsive, cat may be euthanized

**iv.** Treatment may continue up to 4 weeks as long as improvement is noted

**v.** Cats that require extensive supportive care (IV catheter, force feeding) may be euthanized

**vi.** Cats that have been through treatment and relapse after returning to adoption will generally not go through a second course of therapy

**vii.** Foster homes may be sought for cats in feline quarantine

**viii.** There is a maximum of 2 rooms available for quarantine and a balance must be maintained with the adoption population. If this capacity is exceeded and foster homes are not an option, cats may be euthanized.

Treatment of URI will not occur in the healthy adoption area. Criteria for adoptability and recovery from disease (age, S/N, prior history, vaccine status) will be considered.

## **Recovery:**

- Cats that are done with medications and free of symptoms for 3 days can move to the adoption floor (usually isolation day 10)
- Cats will generally be housed singly post-URI, or moved as a whole into a group room
- Handling and movement around the shelter should still be minimized, as shedding of infectious organisms is still likely occurring
- These cats should have a sign denoting “URI Recovered” on their cages and continue to be monitored for relapse
- Medical records should indicate the treatment dates and types for each patient
- Adoption counselors should be able to explain what URI is and have written materials on URI to provide to adopters of all cats
- Medical disclosures may be sent home with adopters at veterinary discretion

## Appendix 10. ASPCA® Guide to Shelter Vaccination

- **Vaccines are one of the most important and lifesaving tools available to shelters when protocols are appropriately developed and applied.**
- **The American Animal Hospital Association (AAHA) and American Association of Feline Practitioners (AAFP) have developed shelter specific panel guidelines that shelter professionals can refer to.**
- **Protocols must be customized for each facility recognizing that no universal protocol will apply to every situation and that shelter animals are unique from household pets.**
- **This protocol explains the basic care, administration and timing of vaccines.**
- **Vaccination is a medical procedure. Oversight of vaccine protocols and specific patient questions should be directed to a veterinarian.**

### Care & Handling of Vaccines

- It is essential that vaccines are properly cared for and handled. If a vaccine is mishandled, it cannot provide adequate immunity. It is extremely important to always read and follow the instructions provided by the vaccine manufacturer.
- **Storage of vaccines in a proper environment will allow them to remain effective until their expiration date. Vaccines should be stored in a refrigerator that is checked twice yearly for proper function, with a uniform temperature throughout. The refrigerator should be cleaned and defrosted regularly. Vaccines should never be frozen, as this can inactivate the adjuvant, or lessen the potency of the vaccine. Vaccines should be kept out of direct sunlight, as sunlight can be damaging to the components of a vaccine. Vaccines should be kept at 2-7 degrees C.**
- It is a good idea to rotate stocks of vaccines to ensure that those with a shorter expiration date are used first. Each time a new shipment is received, the older vaccines should be moved to the front of the refrigerator to be used first.
- Read and follow label instructions and problems will likely be avoided.

### Vaccination Preparation

- The way a vaccine is prepared is important. Reading and following the manufacturer's directions are best. Two vaccines should never be mixed together as this can inactivate their components. Accurate amounts of provided diluent need to be used. Sterile technique should be observed.

#### Lyophilized Vaccine (modified live)

- 1) Using a 3cc syringe with a 22 gauge needle, poke the needle into the center of the liquid diluent vial and draw the contents into the syringe. Draw up the entire contents (at least 1 cc).
- 2) Withdraw the needle from the vial and poke it into the center of the dry solid vaccine vial. The liquid may express on its own due to vacuum action.
- 3) Shake or gently roll the vial in your hand to mix the liquid with the solid completely.
- 4) Once the entire solid is dissolved, draw the contents back into your syringe. You will have 1 cc when the entire dose is drawn up.
- 5) Vaccines must be kept cold. If the vaccine is not administered immediately, write the date it was drawn up in a Sharpie on the base of the syringe, and place back into the refrigerator. Lyophilized vaccines are good for 24 hours post re-constituting.

#### Adjuvanted Vaccine (killed)

- 1) Using a 3cc syringe with a 22 gauge needle, poke the needle into the center of the vaccine vial and draw the contents into the syringe. Draw up the entire contents (at least 1 cc).
- 2) Vaccines must be kept cold. If the vaccine is not administered immediately, write the date it was drawn up in a Sharpie on the base of the syringe, and place back into the refrigerator for use at a later date.



\*Unrefrigerated vaccines should be discarded.

\*Vaccines should not be left out on ice-packs during the day.

## **Vaccine Administration**

- Proper administration of each vaccine is important.
  - Vaccines must be given by the proper route. Intranasal vaccines given subcutaneously or vice versa can cause life threatening reactions.
  - When injecting vaccine, using a sharp 22 or 25 gauge needle will allow proper delivery of the full dose of vaccine. Half doses may not provide adequate immunity and double doses increase the risk of reactions.
  - Administering a vaccine in the proper anatomical area is important as well. It is important that each animal is vaccinated in a location that is identified on a medical record so that if complications arise in the future, a veterinarian can take appropriate steps to help. Because of the potential for sarcoma development in cats, the space between the shoulder blades should be avoided as a vaccination site and the limbs should be used instead. For cats rabies is administered in the right rear, FeLV left rear, and FVRCP right forelimb. A similar strategy is used for dogs, with rabies in the right rear and DA2PP right forelimb. Separate injection sites also avoid the potential for vaccines mixing and inactivating each other, and allow the practitioner to identify which vaccine an animal has reacted to should a reaction occur.
  - Vaccination should be a two person task and safe animal handling should be practiced.
- 1) To inject the vaccine, pull up on the skin in the correct place and poke the tip of the needle in horizontally. Pull back on the syringe to ensure that you are not in a blood vessel. If you get a flash of blood, reposition the needle and pull back again. Once you are sure you are not injecting into a blood vessel, push in the plunger to express the vaccine.
  - 2) Record the date the vaccine was given, anatomical location, how administered (subcutaneous or intranasal etc) what type of vaccine and initials of person administering in the medical record. Most vaccines have a peel-off label that can be affixed to a medical record so that the serial number of the vaccine lot is recorded.

## **Types of Vaccines**

### **Modified Live Vaccines**

- Live agents in vaccines have to be changed (attenuated) so that they can create an immune response in the host but not create illness. Live vaccines are usually lyophilized and require diluent addition prior to administration. If a live vaccine has been reconstituted and is not administered, it should be discarded after 24 hours. If a live vaccine is administered incorrectly and gets onto an animal's fur or skin, the area should be cleaned with alcohol or dilute bleach water. If animals lick or ingest live vaccines, they can demonstrate symptoms of the disease.

### **Killed Vaccines**

- Noninfectious vaccines do not replicate in the host. They contain a critical amount of antigenic material. Two vaccines are usually required to produce adequate immunity. Adjuvants, or immunostimulatory drugs, are frequently added to killed vaccines to potentiate the level of immunity they produce.
- Other types of vaccines exist and are sometimes used in the shelter environment (recombinant)

## **Vaccines Recommended on Admission to Shelter**

### **DA2PP – (Canine Distemper, Hepatitis, Parvovirus, Parainfluenza)**

- Administration site: right shoulder or interscapular space subcutaneously
- Pups begin at 6 weeks of age

- Boost at 2-3 week intervals until 16 weeks of age, then annual booster
  - (Breeds like Rottweilers and Dobermans should be vaccinated until 24 weeks of age)
- Adult dogs should receive one vaccine on admit
  - Boost in 2-3 weeks
- Mildly ill or injured dogs and pups and nursing animals should be vaccinated
- Severely ill animals, injured animals should be isolated and consult veterinarian
- Pregnant animals – weigh risk:benefit and consult veterinarian

#### **FVRCP – (Feline Rhinotracheitis (herpes), Calici, Panleukopenia)**

- **Modified live vaccines induce more rapid immunity than killed vaccines and are the preferred type**
- **There are intranasal and subcutaneous forms of feline vaccines available. Intranasal vaccines induce immunity locally vs. systemically but sometimes can cause mild clinical signs. IN panleukopenia fraction is generally not relied upon in the shelter environment.**
- **Administration site: subcutaneous in the right shoulder or intranasal**
- **Kittens begin at 4-6 weeks of age**
  - **Boost at 2-3 week intervals until 16 weeks of age, then annual booster**
- **Adult cats should receive one vaccine on admit**
  - **Boost in 2-3 weeks**
- Mildly ill or injured cats and nursing animals should be vaccinated
- Severely ill animals, injured animals should be isolated and consult veterinarian
- Pregnant animals – weigh risk:benefit and consult veterinarian

#### **Bordetella, Parainfluenza +/- Adenovirus Type II – (Kennel Cough)**

- There are intranasal and subcutaneous kennel cough vaccines
  - The subcutaneous kennel cough vaccine contains Bordetella
  - Intranasal vaccines are available with just Bordetella, Bordetella and Parainfluenza, or Bordetella, Parainfluenza and Adenovirus II.
- Puppies & Adults: One intranasal or subcutaneous vaccine on admission
  - Booster subcutaneous in 2-3 weeks
  - The trivalent intranasal vaccine is generally recommended

#### **Vaccines Recommended on Admission or Exit**

##### **Rabies**

- Recommended either on intake or exit from the shelter.
- Some states require a veterinarian or veterinary supervision for this vaccine's administration
- Follow state legal requirements for age, administration and appropriate revaccination schedule
  - Kittens and puppies usually receive at 12 - 16 weeks
- Booster given in one year and then every 1- 3 year vaccination recommended. There are some vaccines that must be given annually.

##### **Other Vaccines**

There are many other available vaccines that may or may not be appropriate for a shelter program to incorporate. These include: Feline Bordetella, Feline Leukemia, Feline Immunodeficiency Virus, Giardia, Lyme Disease, Leptospirosis.

## **Vaccine Reactions**

- A vaccine reaction is either a hypersensitivity or an autoimmune response following immunization. Immunizations are supposed to stimulate the animal's immune system mildly in order to create protection from specific infectious diseases. This stimulation can create mild symptoms ranging from soreness at the injection site to fever and rarely, even allergic reactions.
- Any reaction suspected to be related to vaccination should be reported in the animal's medical record.
- The shelter's veterinary program should have a plan in place for responding to animals with reactions to vaccines.